7. LETTERS FROM LOCAL AGENCIES

This section contains 150 letters received from the local agencies listed in Table D2-6. Please note that, for the reader's convenience, this table is sorted alphabetically by the agency name. However, comment documents are printed in numerical order by the comment identification number (first column). Responses to the comments coded (box with category and number) can be found grouped by categories in Section 4 of Volume VI, RDEIS Comments and Responses, Part 1.

Table D2-6. Summary list of comment documents received from local agencies, including response codes.

Comment ID	Agency Name	Sender's Name	Page Number	Response Number
L0600004		Riester, Andrew	D2-549	Miss-4,19; Nav-7,8,12; Hydro-17,18; Other-37,38,57
L0700007	Ag Co-Op Services	Heitman, Ronnie	D2-565	Nav-7,12,23; Other-70,193
L0500043	Ameren Corporation	Menne, Michael L.	D2-477	EnSp-3,4,12,26,47; WRH-6; Miss-4; Nav-37; MoPower-1,3,4,5,6,9; WS-13; Other-7,10,27
L0700010	American Farm Bureau Federation	Newpher, Richard	D2-567	Miss-1; Nav-7; Other-46
L0500003	Associated Electric Cooperative, Inc.	Bindel, Jerry E.	D2-429	EnSp-28; IntD-8; GW-7; FC-8,15; Miss-35; Hpower-21; Nav-7; MoPower-1,3; Other-10,15,172
L0100033	Atchison - Doniphan Levee District 15-45	Niemann, Eric	D2-353	EnSp-27; IntD-1; Nav-6
L0100022	Baltimore Bend Levee District	Lyon, William	D2-328	GW-2; FC-8; Other-48
L0500004	Basin Electric Power Cooperative	Harper, Ronald R.	D2-430	EnSp-28; Hpower-12,17,22; MoPower-1,3; WAPA-4
L0500024	Board of Public Utilities	Daggett, E. Leon	D2-454	MoPower-1; Other-3,10
L0100007	BOMMM Joint Water Resource Board	Mork, Andy	D2-311	Rec-15; ErSd-13; Other-52
L0500034	Bon Homme Yankton Electric Association, Inc.	Goehring, Merlin J.	D2-467	ErSd-5; Hpower-11,12,17; MoPower-1
L0500048	Cam Wal Electric Cooperative	Bonn, Jeff	D2-498	Hpower-11,17,26
L0200002	Carroll County Commission	Heil, Nelson	D2-356	GW-2
L0500030	Cavalier Rural Electric Cooperative, Inc.	Otto, Duane L.	D2-462	EnSp-28; Hpower-12,17,22; MoPower-1,3; WAPA-4
L0500025	Central Electric Cooperative	Noess, Loren	D2-456	Hpower-12,17,22; MoPower-1,3; WAPA-4
L0300005	City Council of North Sioux City	Hallwas, Liesel	D2-363	WQ-12; FC-8; Hpower-18; Nav-12,23; WS-11; WAPA-3; Other-10
L0300004	City of Akron	Martin, Lori	D2-362	WQ-12; FC-8; Hpower-12,18; Nav-12,23; WS-11; WAPA-3; Other-10
L0300008	City of Linton, Linton Industrial Development Corp	Bosch, Randy G.	D2-364	Rec-10,14,22; EnSp-3,8; Nav-9,42
L0300011	City of Madison	Hueners, Royce D.	D2-366	Hpower-18; WAPA-13
L0300018	City of Manning	Luensmann, Donald R.	D2-373	Hpower-12,18; MoPower-1; WS-4; WAPA-2,3; Other-67
L0300001	City of Pacific Junction	Prier, Marci L.	D2-360	WQ-12; FC-8; Hpower-18; Nav-12,23; WS-11; WAPA-3; Other-10
L0300002	City of Plattsmouth Water & Sewer Department	Hellwig, Gary A.	D2-361	WS-11
L0300003	City of Sioux City	Berenstein, Craig S.	D2-361	Miss-4
L0300013	City of Sioux City	Berenstein, Craig	D2-370	Rec-6,10; IntD-8; GW-4,7; WQ-12; FC-8; Hpower-18; Nav-12,23; WS-11; WAPA-3; Other-10

Comment ID	Agency Name	Sender's Name	Page Number	Response Number
L0300020	City of Sioux City	Berenstein, Craig S.	D2-375	Rec-5,6,10,28; EnSp-1,3,5,7,14,17,25,26,27,28,29,32,38,41,42,47,48,55,58,59; WRH-6,11,12,15,19; Fish-14; IntD-8; GW-3,7; WQ-12; FC-8; ErSd-15,18; Hpower-16,18; Nav-6,8,23,44; MoPower-1; WS-11; WAPA-3; Other-10,60
L0300023	City of Slater	Petersen, Andree	D2-419	WS-11; Other-20
L0300012	City of South Sioux City	McLarty, William I.	D2-367	Rec-6,10; IntD-1,8; GW-7; FC-8; Hpower-11,18; Nav-6,7,8,12,23; MoPower-1; WS-11; Other-10,66
L0300007	City of Springfield	Schelske, Norm	D2-364	Rec-14; ErSd-12; WS-11
L0600001	Coalition to Protect the Missouri River	Asbury, Randy C.	D2-501	
L0600002	Coalition to Protect the Missouri River	Asbury, Randy	D2-501	Rec-10,28; EnSp-3,4,9,17,20,24,27,28,29,37,53; Fish-14; IntD-1; FC-6,8; Miss-4,19,20,30; Hpower-17,18,21; Nav-5,6,7,8,12,47; MoPower-1,6; WS-4,5; Hydro-14,15; Legal-9; Other-3,6,10,70,167,168
L0500014	Codington-Clark Electric Cooperative, Inc.	Ward, Gene C.	D2-440	Hpower-12,17,18; Other-7
L0100006	Consolidated North County Levee District	Kluesner, Danny	D2-310	WRH-6,10; FC-8; Nav-3,6,12
L0500031	Cornhusker Public Power District	Hostetter, R.E.	D2-463	EnSp-28; Hpower-11; MoPower-1
L0500051	Council Bluffs Water Works	Elliott, John	D2-500	WQ-4,5; FC-8
L0500033	East River Electric Power Cooperative	Nelson, Jeffrey L.	D2-465	Hpower-12,17,24; MoPower-1; Other-7
L0700012	Elburn Coop	Alms, Ron	D2-568	Miss-4
L0300022	Elk Point	Trobaugh, Isabel	D2-419	FC-16
L0700011	Farm Service Company	Russman, James	D2-568	Nav-7
L0500038	Federated Rural Electric	Burud, Richard G.	D2-472	Hpower-12,17; WAPA-4; Other-7
L0300016	Fort Madison Economic Development Corporation	Gobble, Tim	D2-372	EnSp-3; Miss-1; Nav-12; MoPower-1
L0300019	Fort Peck Advisory Council	Pfau, Don	D2-374	Rec-21,22,24; EnSp-5,17; ErSd-22; Hpower-19,20; Nav-42; Other-61
L0600009	Friends of Blackwater	Rodd, Judith Holyoke Schoyer	D2-554	EnSp-3; WRH-6; Nav-6,7,31; Other-56
L0100019	Friends of the Kaw	Murphy, Dave	D2-326	WQ-17; Other-191
L0600006	Friends of the Nescopeck	Gregory, Alan C.	D2-553	EnSp-3; WRH-6; Nav-6,7,31; Other-56,57
L0100012	Great Lakes of South Dakota Association	Zander, Kathy	D2-314	Other-7
L0100014	Halls Levee District	Crockett, Virgil	D2-316	EnSp-27; WRH-6; IntD-1; GW-2; Other-12,21
L0100030	Harrison County Board of Supervisors	Smith, Robert V.	D2-352	Rec-6,10; IntD-1; GW-2; WQ-12; FC-8; Nav-12; MoPower-1; Other-10,93
L0500027	Heartland Consumers Power District	Westbrock, David C.	D2-458	Hpower-12,25; WAPA-4; Other-6,23
L0500018	Howell-Oregon Electric Cooperative	Singletary, Dan	D2-445	Hpower-12,21,22; MoPower-1
L0100005	Husch & Eppenberger, LLC	Human, David R.	D2-309	IntD-1; GW-2; FC-8,12,13
L0800003	Illinois Ag Women	Zimmerlein, Eleanor	D2-573	Miss-4; Nav-7,8,12; Other-6
L0800009	Illinois Corn Growers Association	Kelly, Paul	D2-579	Nav-7,49
L0700005	Illinois Farm Bureau, Illinois Agricultural Assoc	Rund, Kevin B.	D2-562	WRH-6; Miss-4,21,24; Nav-7,23; Other-10,14,70
L0800004	Illinois Soybean Association	Glenn, Brad	D2-574	WRH-6; IntD-1; FC-8; Miss-4; Other-6
L0500037	Iowa Association of Electric Cooperatives	Kading, Brian C.	D2-471	EnSp-28; Hpower-11,12,17,22; MoPower-1,3; WAPA-4
L0700003	Iowa Farm Bureau Federation	Eide, Emily	D2-559	IntD-1; GW-14; WQ-1; FC-8; Miss-4; Nav-12; MoPower-1,3; WS-11; Other-6,7,9,10,13,14
L0600008	Izaak Walton League of America	Wagner, Jr., Sidney	D2-554	ErSd-17; Other-7,14,70
L0700009	Jackson County Farm Bureau	Young, Charles W.	D2-566	FC-8; Miss-1; Nav-7,12
L0700006	Kansas Farm Bureau	Ahlerich, Stan	D2-564	Miss-1,5; Other-7,48

Comment ID	Agency Name	Sender's Name	Page Number	Response Number
L0500050	KEM Electric Cooperative, Inc.	Rudolph, Michael D.	D2-499	Rec-12,13,14; WS-9; WAPA-6; Other-7
L0500028	Kingsbury Electric Cooperative, Inc.	Kruse, Dennis	D2-459	Hpower-11,12,17,24; MoPower-1,3; Other-7
L0100028	Kirk Drainage District	Maguire, Larry	D2-351	Rec-4,6,10; IntD-1; GW-2; WQ-12; FC-8; Nav-12; MoPower-1; Other-10,60
L0100008	Lewis & Clark Natural Resources District	Moser. Tom	D2-311	ErSd-9; WS-11; Other-61
L0100031	Little River Drainage District	Fletcher, James L.	D2-352	Miss-28
L0100011	Little Sioux Intercounty Drainage District	Allen, Stephen W.	D2-313	FC-8; Nav-3,6,12; MoPower-4; WS-1
L0200006	Lyman County	Reuer, Richard E.	D2-359	FC-14
L0500036	Lyon-Lincoln Electric Cooperative	Swift, Dayle W.	D2-469	Hpower-11,12,24; MoPower-1; Other-7
L0100035	McCandless Intercounty Drainage District	Parker, Wallace	D2-354	IntD-1; FC-8; Nav-12,23; MoPower-1; Other-6
L0100003	McCandless Inter-county Drainage District	Taylor, Gary G.	D2-307	WRH-6; IntD-1; FC-12,13; Nav-3,12,40; MoPower-1; Other-10
L0500049	Meeker Cooperative Light and Power Association	Mergen, Tim	D2-498	Hpower-11,17; Other-7,20
L0100020	Metropolitan St. Louis Sewer District	Litzsinger, P.E., Bruce	D2-326	WQ-24,25; Miss-31; Nav-23; Other-14
L0500015	Metropolitan Utilities District	Wurtz, Thomas A.	D2-441	WQ-28; MoPower-1; WS-12,13
L0700013	MFA Incorporated	Thompson, Larry W.	D2-569	Other-48
L0500011	Midwest Consumers Electric Coop	Klein, Marvin	D2-437	Hpower-12,23; MoPower-1,3; WAPA-1,2,3; Other-7
L0500001	Mid-West Electric Consumers Association	Graves, Thomas P.	D2-426	EnSp-28; Hpower-12; MoPower-1,3; Other-7,171
L0100032	Mississippi Whitewater Development Corporation	Smith, MD, Stephen W.	D2-353	Rec-14,16
L0700002	Missouri Farm Bureau Federation	Kruse, Charles E.	D2-556	EnSp-18,27; FC-8,17; Miss-4; Nav-5,8,12,23; Legal-13; Other-6,9,10,13,46,48,70,165,190
L0100025	Missouri Municipal League	Markenson, Gary	D2-345	IntD-1; WQ-1,2; FC-8; Miss-4; Nav-12; MoPower-1; WS-11
L0400004	Missouri Port Authority Association	Overbey, Dan	D2-424	EnSp-18; WRH-6; FC-8; Miss-4; Nav-12; MoPower-1; WS-11; Other-10
L0100021	Missouri River Bank Stabilization Association	Peterson, J.M.	D2-327	ErSd-9; Other-14,169
L0100017	Missouri River Basin Association	Lowry, Sue	D2-318	EnSp-2,5,17,24; WRH-6; FC-8; Nav-21; Hydro-31; Other-10,13,14,69
L0500010	Missouri River Energy Services	Heller, PE, MBA, Thomas J.	D2-436	ErSd-2; Hpower-17; Other-3,10
L0600003	Missouri River Keepers		D2-544	Rec-4,6; EnSp-2,5,20,22,28,29,46,55,58; Fish-14; GW-12; WQ-12; FC-3,8; Miss-2,4; ErSd-18; Hpower-17,18; Nav-6,7,8,9,12,23; MoPower-1,3,6; WS-11; Hydro-35; Legal-10; Other-15,45,22,26,39,41,42,43,45,46,47,48,49
L0100018	Missouri River Natural Resources Committee	Schmitz, Brad	D2-323	EnSp-14,31,51,52; WRH-15,16; Fish-18,19; WQ-11; Nav-21,41; MoPower-1; WS-3,4; Other-7,14
L0100016	Missouri Sedimentation Action Coalition	Drewes, Gary	D2-318	ErSd-16; Hydro-34; Other-36
L0800008	Missouri Soybean Association	Callow, Jessica	D2-577	IntD-1; FC-8; Miss-4; Nav-3,12,48; Other-19,20
L0800010	Missouri Soybean Merchandising Council	Moreton, John	D2-579	FC-8
L0100002	Missouri Valley Drainage District	Woltemath, Ivan	D2-307	IntD-1; Other-51,51
L0200004	MO Assoc. of Counties & County Comm. Assoc. of MO	Burke, Dick	D2-357	FC-8; Nav-12,23,24
L0100001	MO-ARK Assoc & Missouri Levee & Drainage District	Vincze, Robert J.	D2-305	
L0100027	MO-ARK Association	Vincze, Robert J.	D2-346	EnSp-27; WQ-2,15,18
L0200003	Monona County Board of Supervisors	Merritt, Sr., Richard C.	D2-356	EnSp-12; WRH-6,7; IntD-2; Hpower-18; WAPA-3

Comment ID	Agency Name	Sender's Name	Page Number	Response Number
L0700001	Monroe County Farm Bureau	Mueller, Herb	D2-555	FC-8; Nav-7
L0100010	Nagel Drainage District	Blakely, Loren W.	D2-312	IntD-1
L0800002	National Corn Growers Association	Klein, Lee	D2-572	EnSp-5,9,17,20; WRH-6; FC-8; Miss-4,5; Hpower-12; Nav-8,12,47; MoPower-1
L0600005	National Waterways Conference	Marley, Patrick J.	D2-550	Rec-4,6,10; EnSp-2,3,4,5; Miss-4; ErSd-26; Nav-6,7,12; Legal-11,12; Other-6,15,53,54,55
L0500009	Nebraska City Utilities	Frana, Leroy J.	D2-436	WS-11
L0500016	Nebraska Electric Generation and Transmission Coop	Pontow, Bruce A.	D2-442	Hpower-12,17; Other-7
L0700008	Nebraska Farm Bureau Federation	Neidig, Bryce P.	D2-565	EnSp-5,18,27; WRH-6; IntD-1; FC-8; Nav-7,12; Other-6,61,87
L0500017	Nebraska Public Power District	Citta, Joe	D2-443	EnSp-5,46,54; ErSd-4; MoPower-1,3; Other-7,87,192
L0500045	Nebraska Public Power District	Horn, Guy R.	D2-483	EnSp-3,5,7,20,22,25,28,36,53; WRH-17,18; Fish-14,19; WQ-1,2,3; ErSd-4,8,9; Hpower-11,12,17; MoPower-1,3,5,6; WS-14,15; Hydro-15; Other-10,13,69,163,164
L0500023	Nebraska Rural Electric Association	Holmquist, Jay	D2-452	Hpower-11,12; MoPower-1,3
L0100004	New Farmers Drainage District	Mumm, Noel K.	D2-308	EnSp-1,26; IntD-1; Nav-3,6,12; Other-20
L0500041	Nobles Cooperative Electric	Burud, Richard G.	D2-474	EnSp-28; Hpower-11,12; WAPA-4
L0600007	Northeastern South Dakota Walleye Club	Imberi, Glenn	D2-553	Other-58
L0500022	Northwest Iowa Power Cooperative	Pauling, Kent D.	D2-451	Hpower-12,17,22; MoPower-1,3; WAPA-4
L0300009	NP Dodge Park Marina, Parks & Rec Dept., Omaha	Niksick, John	D2-365	Rec-23
L0500013	Oahe Electric Cooperative	Scott, Brad	D2-439	Hpower-12,17; MoPower-1; Other-7
L0500019	Oahe Electric Cooperative, Inc.	Scott, Brad	D2-446	Hpower-11,12,17,24; MoPower-1; Other-7
L0500046	Omaha Public Power District	Neal, W.L.	D2-495	EnSp-4; MoPower-1,3,5; Other-61
L0100015	Osage River Flood Control Association, Inc.	Thessen, William	D2-317	FC-8; Nav-6,7,23,31
L0400002	Pemiscot County Port Authority	Madison, David P.	D2-423	FC-8; Miss-4,29; Other-6
L0300015	Pierre Convention & Tourism Bureau	Kern, Karen	D2-372	Rec-8,14,16; EnSp-3,8; Fish-3; ErSd-21; Nav-19,20; Other-7
L0100013	Randall Resource Conservation and Development	Star, Don	D2-315	Tribal-9; Rec-14,17; WRH-11; Fish-12; ErSd 14,15; WS-9,10; Other-80,81
L0700004	Randolph County Farm Bureau	Guebert, Jr., Richard	D2-561	FC-8; Miss-4
L0500032	Renville Sibley Cooperative Power Association	Christensen, Dale	D2-464	Hpower-11,12,17,22; MoPower-1; Other-7
L0100023	Roosevelt County Conservation District	Mattelin, Buzz	D2-328	ErSd-5; Other-83
L0300017	Sioux City Parks and Recreation Advisory Board	Linquist, Lee	D2-373	Other-6
L0500029	Sioux Valley Southwestern	Marker, Don L.	D2-461	Hpower-11,12,17; MoPower-1
L0300021	Siouxland Chamber of Commerce	Smith, Garrett K.	D2-386	EnSp-1,3,5,7,14,17,25,26,27,28,29,32,38,41,42,47,48,55,58,59; WRH-6,11,12,15,19; Fish-14; IntD-8; GW-7; FC-2,8; ErSd-5,15,18,23; Hpower-1,11,12,17,18; Nav-3,6,7,8,12; MoPower-1; WS-4,11; Hydro-14; Other-6,10,68,69,70,71,72,73,74,86,87,88,336
L0400001	Siouxland Interstate Metropolitan Planning Council	McLarty, William	D2-420	EnSp-1,2,5,12,17,25,42,47,48; WRH-11; Fish-14; ErSd-17; Hpower-12,18,19; Nav-44,45,46; WS-11; Other-142,143
L0400005	Siouxland Interstate Metropolitan Planning Council	Hurm, DPA, James C.	D2-425	Rec-4,5; IntD-8; GW-7; FC-8; Hpower-11; Nav-7,11; MoPower-1; WS-11; Other-7,10,70,170
L0500008	Slope Electric Cooperative, Inc.	Niewsma, Lynette	D2-435	Hpower-12; MoPower-1; Other-7
L0800001	South Dakota Cattleman's Association		D2-569	WS-11; Legal-14,15,16,17,18,19; Other-7,16,17,22,194,196

Comment ID	Agency Name	Sender's Name	Page Number	Response Number
L0500044	South Dakota Municipal Electric Association	Marvin, Tom	D2-481	MoPower-26; WAPA-5; Other-10,36
L0500002	South Dakota Rural Electric Association, Inc.	Ricketts, Audry	D2-428	Hpower-12
L0300014	South Sioux City Area Chamber of Commerce	Quinn, Kristi	D2-371	Other-G
L0500020	Southeastern Electric Cooperative, Inc.	Schardin, Bradley J.	D2-448	Hpower-11,12,17,24; MoPower-1; Other-7
L0200005	St. Charles County	Ortwerth, Joe	D2-358	WRH-6; WQ-26; FC-8; Nav-7
L0500035	St. Joseph Light & Power, Lake Road Generating Sta	Smith, Mike	D2-468	MoPower-1,4; Other-6
L0500005	Stanton County Public Power District	Barth, Dale	D2-432	Hpower-12; MoPower-1
L0500006	Stanton County Public Power District	Johnson, William Duane	D2-432	Hpower-12; MoPower-1,3; WAPA-4; Other-7
L0100024	Stutsman County Wildlife Club	Kantrud, Hal	D2-345	Other-59
L0400003	Tri-City Regional Port District	Labit, James R.	D2-424	Miss-4,29
L0100034	Tri-County Drainage Dist.	Goode, John	D2-354	FC-8; Nav-6,13
L0500040	Tri-State Generation and Transmission Association	McInnes, Mike	D2-473	Hpower-11,12,17,21,22; Other-7
L0500026	Twin Valleys Public Power District	Johnson, Kenneth L.	D2-457	Hpower-12,17,22; MoPower-1,3; WAPA-4
L0200001	Union County	Boldenow, Roger	D2-355	FC-2; ErSd-9; Hpower-18; Nav-12,23; WAPA-3; Other-10
L0500021	Union County Electric Cooperative, Inc.	Cheney, Larry D.	D2-449	Hpower-11,12,17,24; MoPower-1; Other-7
L0100029	Upper Boyer Drainage District	Kersten, Ron	F2-351	Rec-6,10; IntD-1; GW-2; WQ-12; FC-8; Nav-12; MoPower-1; Other-10,93
L0800005	Upper Mississippi, Illinois & Missouri Rivers Asso	Hampton Knodle, Heather	D2-575	Other-228
L0800006	Upper Mississippi, Illinois & Missouri Rivers Asso	Hampton Knodle, Heather	D2-575	EnSp-26,56; GW-2; FC-8; Miss-4; ErSd-18; Nav-7,8,12; Other-5
L0800007	Upper Mississippi, Illinois & Missouri Rivers Asso	Hampton Knodle, Heather	D2-577	
L0500007	Valley Electric Cooperative, Inc.	Wallem, Ronald J.	D2-434	Hpower-12,17,22; MoPower-1,3; WAPA-4
L0500042	Villisca Municipal Power & Light	Johnson, Michael D.	D2-475	Rec-10; EnSp-5,28,29,46,58; WQ-2; Hpower-11,12; Nav-6,7,8,23,42,46; MoPower-1; WS-11; Other-7,46
L0500039	Western Iowa Power Cooperative	Reed, Louis	D2-473	Fish-1; GW-2; Hpower-11,12; WAPA-4
L0500047	Western Iowa Power Cooperative	Bean, Jeffery T.	D2-496	EnSp-28; Hpower-12,17,22; MoPower-1; WAPA-4
L0100009	Weston Bottoms Levee & Drainage Assoc	Anderson, Gary	D2-312	IntD-1; FC-8
L0300010	Whiting Commerical Development Corporation	Smith, Katy	D2-366	FC-11
L0500012	Woodbury Rural Electric Cooperative	Kunkel, CEcD, EDFP, Ronald A.	D2-438	EnSp-28; Hpower-12,17,22; MoPower-1,3; WAPA-4

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GREENBERG
ATTORNEYS AT LAW
TRAURIG

L0100001

This letter recieved a response dated 20 Mar 2002. See Response Section.

February 11, 2002

Via Certified Mail

Project Manager
Master Manual Review and Update
12565 West Center Road
Omaha, Nebraska 68144

Re: Missouri River--Request to Reinitiate Consultation on the Biological Opinion relating to the Northern Great Plains Population of the Piping Plover

Dear Sir/Madame:

The MO-ARK Association and the Missouri Drainage & Levee District Association respectfully request that the U.S. Army Corps of Engineers re-initiate formal consultation with the U.S. Fish & Wildlife Service on the Biological Opinion on the Operation of the Missouri Main Stem Reservoir System ("Biological Opinion"). As provided in 50 C.F.R. § 402.16, re-initiation of formal consultation under the Endangered Species Act is required where new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in the Biological Opinion, or when critical habitat has been designated. New census data is available that shows marked increases of the plover population. In addition, critical habitat has been and will be designated for the wintering and breeding populations respectively of the Northern Great Plains Piping Plover.

Field data for the 2001 International Piping Plover Census shows that plover numbers along the Missouri River have grown 470 percent in the last five years and 140 percent in the decade. In the U.S. Northern Great Plains, piping plover numbers increased 25 percent in five years. (Environment News Service: AmeriScan: January 25, 2002, article attached.) The census is scheduled for formal release in March 2002.

On the other hand, the Biological Opinion issued in December 2000 is based on "a substantial decline in population numbers" and model results that "indicated that the Great Plains plover population was undergoing a substantial decline." (BO, at pp. 90, 91.) The very significant and substantial increase in the plover population under the present Master Water Control Manual indicates that conclusions drawn in the Biological Opinion are erroneous and that the reasonable and prudent alternatives set forth therein may not be reasonable or prudent. The four GP options (modified Gavins Point dam releases) include lower summer releases. In each of the last five years, the summer flows have exceeded those in the GP options. In addition, the Modified Conservation Plan or

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SÃO PAULO FORT LAUDERDALE BOCA RATON WEST PALM BEACH ORLANDO TALLAHASSEE

MCP parameters were not in effect in any of the last five years. Indeed, by raising reservoir levels, the MCP may have eliminated habitat along the reservoirs for the piping plover having a negative effect on the piping plover population.

Furthermore, a final determination of critical habitat for wintering piping plovers was made on July 10, 2001, after the Biological Opinion was issued. (66 F.R. 36038). The U.S. Fish & Wildlife Service also published a proposed rule to designate critical habitat for the northern Great Plains breeding population of the piping plover on June 12, 2001. (66 F.R. 31760.) The final rule may be issued in the spring of 2002. Again, since the designations of critical habitat occurred and will occur after the issuance of the Biological Opinion, the Corps and the Service must re-initiate formal consultation.

For the foregoing reasons, the MO-ARK Association and the Missouri Levee & Drainage District Association respectfully request that the Corps and the Service reinitiate formal consultation on the Biological Opinion. The Service should revise the reasonable and prudent alternatives to reflect the positive effect of the current Master Water Control Manual on the population of the Northern Great Plains piping plover. Please place this request and information on the record for the Revised Draft Environmental Impact Statement.

Respectfully submitted,

Robert J. Vinze

Robert J. Vinze

Attorney for the MO-ARK Association and the Missouri Levee & Drainage District Association

attachment (two pages)

cc: The Honorable George W. Bush,
President of the United States
(via facsimile)

Secretary Gale Norton (via facsimile)

General David A. Fastabend (via certified mail)

Ralph Morgenweck, Regional Director USFWS (via certified mail)

Michael T. (Tom) Waters,
President of the MO-ARK Association (via U.S. mail)

GREENBERG TRAURIG, LLP

ANN ARBOR, Michigan, January 25, 2002 (ENS) - Populations of threatened and endangered piping plovers have plummeted in some areas of North America, but are growing in other regions, a new census shows.

Dramatic changes have occurred in the distribution and abundance of the rare shorebird, according to just completed census results presented Wednesday by U.S. Geological Survey (USGS) scientist Susan Haig at the North American Plover Species at Risk Meeting in Ann Arbor.

The piping plover needs dry sand bars for nesting (Photo courtesy Nebraska Game and Parks Commission)

The findings are based on results of species wide international breeding and winter censuses conducted in 1991, 1996 and 2001. The census shows that 5,938 breeding piping plovers are distributed across beaches from Alberta, Canada, to the Atlantic Coast. Of these, 1,465 birds occur in Canada and 4,473 birds occur in the central and eastern United States.

Piping plovers nest on open beaches, making them vulnerable to heavy beach use by people, pets and vehicles. Fluctuating water levels on rivers and during ocean storms can devastate chicks and nests.

"Although the overall population estimate has only increased eight percent in 10 years, changes in bird distributions are dramatic," Haig said.

Piping plover abundance in Canada has declined 31 percent in five years and 25 percent over the past decade. In the U.S., piping plovers have increased 17 percent in five years to their current estimate of 4,473 birds.

In the U.S. Northern Great Plains, piping plover numbers increased 25 percent in five years, although these numbers still represent a two percent decrease since 1991.

Haig, who is also the coordinator of the International Piping Plover Coordination Group, said the recent increase might be attributed to recent favorable habitat conditions along the Missouri River, where plover numbers have grown 470 percent in five years and 140 percent in the decade. Just over 1,000 birds now occur along the Missouri River.

Piping plovers are listed as endangered in the Great Lakes portion of

their range. The birds have increased in distribution and abundance, although numbers remain low, Haig said.

Numbers in Michigan have gone from 39 in 1991 to the current count of 65, and piping plovers again are breeding along the shores of Lake Superior in Wisconsin. Beach protection, captive rearing and release of young plovers, as well as record low water levels in the Great Lakes are possible explanations for these changes, said Haig.

The International Piping Plover Census is the only comprehensive shorebird census in North America and is one of the largest endangered species census efforts in North America. The 2001 census involved more than 1,400 biologists and volunteers, who spent more than 5,000 hours walking more than 745 miles of habitat.

* * *

POTATO STERILIZERS COULD COMBAT ANTHRAX

BOISE, Idaho, January 25, 2002 (ENS) - Researchers at the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) are teaming with a small business located in Aberdeen, Idaho, to experiment with destroying anthrax using ozone.

The same technology that helps deliver safe and healthy Idaho potatoes may be an effective tool against terrorism, the researchers believe.

The O3 Company has developed a patented process to deliver high concentrations of ozone - 300 to 800 parts per million - to potatoes as they travel along conveyor belts. Ozone destroys harmful bacteria such as Erwinia, responsible for soft rot, silver scurf, and pink rot, allowing farmers to store their potato crops for months.

INEEL researchers believe this same process can be used to sterilize mail. They are testing their theory with harmless surrogates for anthrax spores. The ozone tests are just one part of the ongoing research INEEL is conducting to combat terrorism in support of DOE's national security mission.

"We recognized the potential right after the first anthrax started showing up," said O3Co. president Lynn Johnson. "We were trying to contact the INEEL at the same time they were calling us. We've had such success with agricultural pests that we felt it would work on this."

Unlike chlorine dioxide, a hazardous chemical used to treat potatoes and disinfect anthrax contaminated facilities, ozone leaves no residue and for potatoes, takes just seconds to work.

Ozone can be created in nature by lightning, or through a high voltage system such as O3Co.'s patented Corona Discharge Ozone

L0100002

RDEIS COMMENTS

2/19/2002
IVAN WOLTEMATH
HAMBURG, IOWA 51640

Colonel Ulvelode
~~General Fastabend~~:

Thank you for your time to conduct this hearing tonight. I will speak to you tonight as a trustee of Missouri Valley Drainage District and as a farmer.

First as a trustee: Missouri Valley Drainage district has 78 miles of ditches to carry surface water that runs off from the bluffs and from within the districts' boundaries. These ditches have outlets to the Missouri River in two places, Nebraska City and Hamburg. Hamburg has pumps but Nebraska City does not. In the spring when the river rises above 14 feet at Nebraska City the gates have to be closed, the pumps at Hamburg are started, which costs taxpayers money to operate these pumps. At Nebraska City, if the gates are closed long enough the ditch breaks out of the embankments and causes damage. The cost of pumping and repair of the breaks have to be paid by tax money levied on the property within the district. I think it is unfair to levy taxes for costs that are incurred because of a man made spring rise. — Int D 1

Now as a Farmer: my farm is located along the Missouri River and I support mitigation as the preferred way to preserve the endangered species of the river, as a matter of fact I sold land along the river to the United States for such a project. I would ask that you persue mitigation further and give it time to prove that it can be a benefit to the endangered species and the whole river ecosystem. — Other - 50

I think the U.S. Fish and Wildlife Service in the Biological Opinion failed to consider the effect of cities along the river. Take Omaha, for example, the city applies tons of chemicals and salt to the streets in the winter and residents apply chemicals to their yards in the spring. During heavy rains these are washed directly into the river through the storm sewers and I believe this would have an effect on the rivers ecosystem. The USFWS did not choose to return Omaha back to what it was 60 years ago. It choose instead to place the burden of preserving the endangered species on the back of agriculture which needs the river as low as possible in the spring to complete planting in a timely manner. — Other - 51

I served my country in a tour of duty in the United States Navy aboard an aircraft carrier. I was proud of my country then, I am proud of my country now. I have been a farmer since I was discharged from the Navy and I would like to pass my farm on to my son who also wants to be a farmer. I think my country owes me and my son that opportunity rather then putting us out of business by a change in the way the river is controlled.

I think the current Water Control Plan is still the best for all and oppose any and all of the proposed alternatives.

Thank You,
Ivan Woltemath

I intended to speak and present these comments at the meeting at Council Bluffs last night. It got to late and I had to leave so I will mail them to you and ask that you please include them in the record. Thank You
Ivan Woltemath

L0100003

McCandless Inter-county Drainage District

610 Iowa Avenue
Onawa, Iowa 51040

January 16, 2002

United States Army Corps of Engineers, Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Re: Comment on proposed revisions of the Missouri River Master Water Control Manual

This letter is written at the direction of the Board of Trustees of the McCandless Inter-county Drainage District, which district drains approximately 42,000 acres in Monona County and Woodbury County in west central Iowa.

The Board is particularly concerned that the proposed changes in the Master Manual will have a very negative impact on the agricultural lands served by the District. The Missouri River is the ultimate outlet for agricultural drainage in the area served by the District, and any changes in the Missouri River that will negatively affect the ability to drain the agricultural lands within the district will cause economic damage to the owners and operators of the involved farmland. — IntD 1

The proposed spring rise every three years will reduce or eliminate the ability of the District's drainage system to remove water from District lands at the crucial planting time. If the water level in the River is too high when local drainage is needed due to heavy rainfall, the local system will not be able to drain the served areas and crops will be damaged or lost, causing economic damage to the affected farmers.

The proposed reduction in summer flows will also have negative effects on the agricultural economy because the reduced flows will not sustain navigation, thereby removing a crucial source of transportation of agricultural crops to market. The reduced flows will also negatively affect the power plants that use river water for cooling, causing additional environmental impact on the remaining river water, and increasing the cost of electricity. Reducing the flows in the summer will make it necessary to increase them at other times, thereby increasing the likelihood of flooding at those other times. — Nav 3, 12 / MoPower 1 / FC 12, 13

The same negative effects as will result from reduced summer flows will also occur from the plan to raise reservoir levels in the upper basin. In addition, the higher reservoir levels will reduce the ability to provide flood control, and will increase the likelihood of flooding in the lower basin.

The proposed plan to alter how the Missouri River is managed is bad public policy because it puts too much control in federal agencies by taking away the ability of the public to have input. With the loss of public input, landowners will not be able to have input on issues that will affect their property rights. — Other - 10

It is bad public policy to remove the bank stabilization structures that have stabilized the riverbanks and controlled the channel for decades. With the structures gone, the banks will erode, taking with them valuable farmland and the ability to maintain a safe navigable channel. Loss of bank stabilization will also increase pollution of the river water. — Nav 40

The portion of the proposed plan that deals with habitat restoration is misguided. While the Board supports efforts to improve habitat for wildlife, the Missouri River channel is not the best place to do it. Better habitat can be provided outside the channel by acquiring by voluntary sale suitable lands that can be developed into better habitat for threatened and endangered species. Habitat restoration should not take place in the river channel by flow control. — WRH 6

Respectfully submitted,

Gary G. Taylor
Attorney for the McCandless Inter-county Drainage District

GGT:ps

cc: Board of Trustees
Drainage Engineer
Drainage Clerk

L0100004

NOEL K. MUMM

Attorney at Law

507 E. Erie

MISSOURI VALLEY, IOWA 51555-1646

Telephone (712) 642-2775 Facsimile (712) 642-2776

February 15, 2002

U.S. Army Corps of Engineers
Northwest Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Ladies and Gentlemen:

I represent the New Farmers Drainage District, located on the Missouri River bottom in Monona County, Iowa. The trustees of this district have asked me to convey their concerns regarding the proposed changes to the Missouri River Master Manual.

The trustees and other landowners within the District are farmers who's livelihood depend on timely planting and harvesting of crops. Because of the topography of the Missouri River bottom lands, changes in the river level can have a profound effect upon drainage of lands within this district.

It is the Board's understanding that the Corps' plans call for a "controlled flood" once every three years between May 1st and June 15th which, of course, is the heart of the planting season. This additional release of water could result in an increase of up to four feet in the river level. If this additional water were released and it was combined with a significant rain down stream, the delay in proper drainage from District land and all other lands along the Missouri River bottom could have a catastrophic effect on farming operations. IntD 1

It is also the Board's understanding that the plan would call for a significant reduction in summer flow rates. This would essentially eliminate barge traffic for much of the time of year when shipping is feasible. The effect on freight rates for the movement of grain will have a direct effect on farmers who now benefit not only from direct grain shipment by barge, but also from the downward pressure it puts on alternative freight rates. Nav 3, 6,12

It would seem to the Board that the Corps is putting the welfare of endangered species ahead of the welfare of thousands of bottom land farmers who will possibly sustain substantial economic injury from these ill-considered changes in the present plan. Threatened and endangered species can be benefitted and nurtured more from off-channel habitat than from the flow changes found in the Corps' proposals. EnSp 26,1

Based on the above, it is the Board's request and fervent hope that the proposed changes in the Master Plan will not be implemented in their present form. Further study of ways to accomplish the goals stated as reasons for the change should be conducted before the economic welfare of so many farmers is sacrificed. Other - 20

Very truly yours,

Noel K. Mumm

NKM/sh

cc: New Farmers Drainage District Trustees
Monona County Drainage Clerk

L0100005

Husch & Eppenberger, LLC
Attorneys and Counselors at Law

314.290.9201 direct dial
david.human@husch.com

231 South Bemiston, 8th Floor
Clayton, MO 63105-1914
314.727.5822
314.727.2824 fax

February 27, 2002

Via Electronic Mail and U.S. Mail
Brigadier General David A. Fastabend
U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Re: Comments to the Missouri River Revised Draft Environmental Impact Statement

Dear General:

The undersigned and this law firm represent numerous levee and drainage districts along the Missouri and Mississippi Rivers. Along the Missouri River, these districts include Earth City Levee District, Howard Bend Levee District, Monarch-Chesterfield Levee District, Missouri Bottoms Levee District, Riverport Levee District, Tri-County Levee District and Sugartree Drainage District. We estimate that in the aggregate, these districts protect approximately 70,000 acres of land along the Missouri River from flooding.

These districts represent varying interests and areas from agricultural to urban. Land protected by urban levee districts provides strategic locations for manufacturing, distribution, retail and commercial industries and recreation and protect real and personal property worth over $5 Billion. These urban levee districts protect over 1,000 homes, over 1,400 businesses and over 40,000 jobs. The urban levee districts also protect vital facilities from flooding such as major municipal water and sewage treatment facilities, major interstate highways and the second busiest airport in the Midwest region, Spirit of St. Louis Airport.

We have reviewed the Missouri River Revised Draft Environmental Impact Statement ("EIS") and have the following concerns and comments:

1. **Impact of Spring Rise.**

a. Urban and Agricultural Levees

The impact of a spring rise is a concern for both our urban and agricultural levees, especially considering that the effects of weather conditions on river levels are, for the most part, unpredictable. Any increase in the amount of water during the spring rise correspondingly increases the risk of flooding. The danger under this scenario is that nobody can predict the weather and the occurrence of a flood. We acknowledge that the Corps has stated that they will not release water at Gavins Point should there be flooding downstream. However, releases from Gavins Point take approximately 10 to 12 days to reach downstream districts. As we saw in the flood of 1993, immediately preceding the flooding, the area was experiencing severe drought. Nobody was able to predict the devastating flood that would soon occur. Once water is released from Gavins Point, and should unpredicted rains occur, the risk of flooding is greatly increased and unpredictable. In light of the value of property (over $5 billion) protected, the individual safety issues (over 1,000 homeowners and 40,000 employees), any increase in the risk of flooding is unacceptable.

FC 8

b. Groundwater

The spring rise would increase groundwater levels during both the increased releases in the spring and fall. Any incremental increase in groundwater would substantially increase damages. The EIS states that the spring rise and the summer low flow create damages that are substantially higher than the status quo.

GW 2

c. Interior Drainage

The increase in releases resulting from the spring rise and summer low flow would also adversely impact interior drainage. Increases in releases would result in substantially increased flooding of the interior of levee protected areas which would lead to substantial crop damage.

IntD 1

2. **Main Stream Reservoir System.**

It is our understanding that the Main Stream Reservoir System currently has the capacity to store 73.4 million-acre feet (MAF) of water. Under the revised EIS, the total MAF capacity of the Main Stream Reservoir System would not change, however the capacity of the four zones within the Main Stream Reservoir System would be changed. Both the "exclusive flood control" zone and the "annual flood control and multiple use" zone will have decreased capacity under the revised EIS. By decreasing the capacity of these two zones, the Corps is substantially decreasing the amount of flexibility to respond to flood situations. If the capacity of these two zones is decreased, the Main Stream Reservoir System is not in as good a position to store floodwater. We believe that the Corps is losing flexibility to respond to flood situations by decreasing the capacity of the first two zones of the Main Stream Reservoir System.

FC 13

It is our understanding that the Corps is obligated to perform research and investigation on each component of the EIS and must be able to demonstrate that such research was performed. We have seen no analysis or study regarding the effects of the decreased capacity of the first two zones within the Main Stream Reservoir System.

3. **Summer Low Flow.**

It is our understanding that the summer low flow feature of the EIS would require increased reservoir storage which would expose more sand bar acres for wild life along the banks of the Missouri River. While we certainly support species habitat restoration and the goal of the U.S. Fish and Wildlife Service, the summer low flow feature would increase the risk of fall flooding because the reservoir storage would need to be released during the fall and early winter months. Increasing flood risk during a fall rain would be likely given that the Corps will release reservoir storage during fall months.

FC 12

Conclusion.

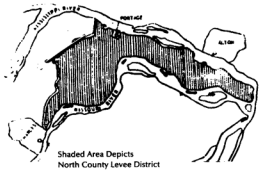
Thousands of people and substantial economic assets are located within urban flood protected areas along the Missouri River. We cannot under estimate the potential impact on people and property located in flood protected areas. There is no scientific certainty that we can manage the risk of flooding under the spring rise, summer low flow and new Main Stream Reservoir System capacity. For this reason, we believe there should be no spring rise, no summer low flow and we should maintain the current capacity of the flood control zones in the Main Stream Reservoir System. We further believe that the status quo should be maintained and the existing Master Manual should remain in full force and effect.

Sincerely yours,

HUSCH & EPPENBERGER, LLC

By: _____
David R. Human

L0100006



CONSOLIDATED NORTH COUNTY LEVEE DISTRICT
P.O. Box 186
Portage Des Sioux, MO 63373

November 13, 2001

U.S. Army Corps of Engineers
Northwest Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Re: Opinion and Comments of the Consolidated North County Levee District

Dear Sir or Madam:

I am the Secretary for the Consolidated North County Levee District. The Consolidated North County Levee District protects approximately 30,000 acres of farm land. In addition, several pipelines, railroads, and a power generation facility are contained within the District. There are also several county roads within the District.

The District opposes any spring rise in that this would substantially increase the risk of flooding and dramatically decrease the levee protection the District provides. The impact of a spring rise would likely include loss of crops, loss of property and possibly a loss of lives.

FC 8

Since our District protects so many valuable acres of crops, we oppose any reduced summer flow. Any decrease in the flow of water on the Missouri River would result in a loss of navigation which would result in a loss of transportation for crops and farm products.

Nav 3, 6, 12

The District opposes any plan to remove and modify rock dikes and structures along the Missouri River. Such changes would increase erosion of the riverbanks and erosion of farmland.

WRH 10,6

This letter is submitted on behalf of the Consolidated North County Levee District.

Sincerely,

Danny Kluesner

Danny Kluesner, Secretary

L0100007

B • O • M • M • M
JOINT WATER RESOURCE BOARD

Dedicated to Protect the Banks and Riparian Land along the Missouri River

December 19, 2001

U. S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Master Manual Comments
Erosion and Sedimentation

Sirs:

BOMMM Joint Board was organized under the laws of North Dakota and whose sole purpose is to prevent the loss of riparian land along the Garrison to Oahe reach of the Missouri River.

We are especially concerned with the proposal to unbalance the levels of Lake Oahe and Lake Sakakawea. This will result in higher than normal high flows and lower than normal flows low flows in the Garrison to Oahe reach. Since bank erosion is exponentially proportional to the rate of flows, it will cause increased overall bank erosion than which would have occurred with a balanced dam operation. ErSd 13

The increased loss of high bottomland and the unnecessary increase in the Oahe delta is unacceptable at this critical time. The negative effect on recreation and other river uses during the low flow cycle is also unnecessary and unacceptable. Rec 15

Therefore, at our December 17, 2001 meeting, the BOMMM Joint Board went on record opposing the unbalanced dam proposal until the necessary bank protection is installed in this reach. A 1997 ND Water Commission Study determined that only 10% more of the banks needed protection here at a cost of $13.8 million.

We do, however, support higher minimum Lake Oahe and Lake Sakakawea levels than the master manual now allows. Other - 52

Sincerely,

Andy Mork, Chairman

cc: BOMMM Joint Board
Ron Sando
Mike Dwyer/Angela Magstad

P.O. Box 2599 • Bismarck, ND 58502 • 701-223-4615 • Fax: 701-223-4645
BURLEIGH • OLIVER • MCLEAN • MERCER • MORTON COUNTY WATER RESOURCE DISTRICTS

L0100008

LEWIS & CLARK
Natural Resources District

608 N. Robinson
PO Box 518
Hartington, NE 68739
Phone (402) 254-6758
Fax (402) 254-6759

February 25, 2002

US Army Corps of Engineers Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha NE 68144-3869

Dear Sirs:

The Lewis & Clark NRD representing three counties in Northeast Nebraska wishes to offer comment on the revised draft Environmental Impact Statement published by the Corps of Engineers. We have two categories of concern:

Water Supply
Lewis & Clark Lake serves as a source of supply to the Cedar Knox Rural Water System, a project of the Lewis & Clark Natural Resources District that provides drinking water to over 660 homes and 4 towns. WS 11

Our water intake is in the Lake and is at elevation 1202. If any alternatives or emergency releases result in Lake elevations lowered to this level we would lose our source of water. We don't believe this is being proposed, but would like acknowledgement of awareness by US Army Corps of Engineers that this prospect is being considered in management of reservoir levels at Gavins Point Dam.

Erosion and Sedimentation
The Lewis & Clark NRD is concerned about excessive riverbank erosion below Gavins Point Dam that would result from high spring release flows. We believe the best alternative proposed, to be the Modified Conservation Plan (MCP). We strongly endorse the issues raised in the position paper prepared by the Papio-Missouri NRD (Dec 2001), but would consider accepting experimental flow change proposals suggested by the Missouri River Basin Association and supported by the six states. A try and see approach without being locked into rigid standards, should pacify the widely divergent interests concerned about flow changes. ErSd 9 Other - 61

Sincerely,

Tom Moser
General Manager

cc Roger Patterson, DNR
Papio Missouri NRD

Recycled Paper

L0100009

Feb 14, 2002

Gary Anderson, President
Weston Bottoms levee and Drainage Association
18310 pleasantview Dr Weston, Mo 64098

Dear General Fastabend

I am not going to waste much of your time with words that you have heard many many times.

Our farming area is about 10 miles north of KCI Airport in the river bottoms. We have had water problems in spurts for many years. Drainage is the one thing along with flood control that can be controlled to certain degrees with the Dam and water control system that we have in place.

IntD 1
FC 8

I always thought that the Dams were built with flood control the Number One interest. We would like to keep it that way. Our way of life and and our financial well being are tied to the River.

Please help the farmers and by doing so, you would be helping all of our citizens by keeping cheap food on everyones table. We do not want our farms growing up in trees for use by birds fish and hunters and fishermen.

P.S. (Sorry about the same words, I am sure that these words are exactly what you have heard all along)

Thanks for your Consideration,
Sincerely Gary Anderson

L0100010

February 7, 2002

U. S. Army Corps of Engineers/Northwestern Division
12565 West Central Road
Omaha, NE 68144-3869

ATTN: Missouri River Master Manual RBEIS

Dear Sir or Madam:

This letter is to state the opposition of the Nagel Drainage District to changes and modifications of the Missouri River Waste Water Control Manual as set forth in the Army Corps of Engineers Revised Draft. We feel that it is in the best interest of the Nagel Drainage District to maintain the current plan.

The Nagel Drainage District is located primarily in Monona County, Iowa. The Nagel Drainage District drains into the Little Sioux River and eventually the Missouri River. Acres and acres of farmland are drained by the Nagel Drainage District and permits many families to continue to make a living. We believe that control and stabilization of the Missouri River in the past 50 to 60 years has been advantageous to the cultivation of our land and maintenance of our lifestyle. We ask that you consider the interests of landowners and citizens who rely on the current drainage system to exist. We consider ourselves good stewards of the land and water and believe that the current system has been working well for years without noticeable degradation to our area.

IntD 1

Thank you for allowing us to express our viewpoint.

Respectfully submitted,

Loren W Blakely

LOREN W. BLAKELY
Chairman, Nagel Drainage District
27726 County Hwy. E-16
Hornick, IA 51026

2.ArmyCorpsNDD.ltr

L0100011

STEPHEN W. ALLEN
ATTORNEY AT LAW

906 NINTH STREET · P.O. BOX 45 · ONAWA, IOWA 51040

PHONE 712-423-2006 · FAX 712-423-2014 · E-mail: allenlaw@willinet.net

February 26, 2002

U.S. Army Corps of Engineers
Northwest Division
12656 West Center Road
Omaha, Nebraska 68144-3869

ATTN: Missouri River Master Manual RDEIS

Gentlemen:

I represent Little Sioux Intercounty Drainage District (hereinafter referred to as "Little Sioux") located in Harrison, Monona and Woodbury Counties, Iowa, serving the basins of Little Sioux River, Maple River, the Monona-Harrison Ditch, Wolf Creek, Woodbury – Monona Ditch and the West Fork, as well as many smaller laterals and tributaries, all located within the Missouri River flood plain in Western Iowa. (Please see the attached Map.) As you know the Little Sioux is a Corps of Engineers flood control project. The Board of Trustees, at their last regular meeting in February, 2002, authorized me to respond to the Revised Draft Environmental Impact Statement for the Missouri River Master Water Control Manual, January, 2002, (hereinafter referred to as the "Revised Draft").

The Little Sioux Trustees fully respect and appreciate the amount of time, study and work taken by the Corps in its careful consideration of Water Control on the Missouri River. The Trustees especially appreciate the opportunities for input before and after the public hearings the past several years and now.

The Little Sioux appreciates and understands the concern for environmental impact and recreation along a major waterway such as the Missouri River. After all, farmers are the greatest of all conservationists. They conserve good soil and water year after year.

The land area served by the Little Sioux would not be nearly as productive and environmentally sound without the flood control projects of the Flood Control Act of 1944 and the Little Sioux Intercounty Flood Protection Project begun in the 1950's. Together, for 50 years, these Corps projects have ensured a safe and environmentally stable area for agriculture, industry and recreation in Western Iowa.

The Trustees are, however, very concerned that if the Revised Draft is adopted, the master plan that has worked so well for so many for 50 years will be destroyed.

The "controlled flood" in the spring would drastically affect the ability of Little Sioux to prevent flooding. This would not only affect the farmers' ability to plant their crops, it would affect the quality of the soil and water along the Little Sioux for years to come, if flooding is allowed to occur.

FC 8

The present ecological balance achieved over 50 years along the Little Sioux would be damaged. People living along the banks of the Little Sioux on farms and in communities would be forced to disrupt their lives and businesses to deal with the flooding. We firmly believe artificially changing the spring and summer flow upstream on the Missouri would not only affect people, it would have a severe negative impact on the clean environment that we all presently enjoy here.

The trustees are further concerned about the economic impact to this area by the loss of navigation, reduction of irrigation water and water well supplies and reduction of cooling water for power plants. In short, the people who pay taxes and assessments to support flood control will be threatened and, in some cases, removed by controlled flooding.

Nav 3, 6, 12
WS 4
MoPower 1

The Little Sioux Board of Trustees urge that you maintain the present Master Water Control Manual, and that the Little Sioux continue to be included in the planning and revision process by the Corps of Engineers. Thank-you for your consideration.

Sincerely,
Little Sioux Intercounty Drainage District
Board of Trustees

By: _____
Stephen W. Allen, District Attorney

L0100012

GREAT LAKES
OF SOUTH DAKOTA ASSOCIATION

PO Box 786
Pierre, SD 57501-0786

(605) 224-4617
(605) 224-9913 Fax

MEMORANDUM

TO: US Army Corps of Engineers

FROM: Kathy Zander, Executive Director

DATE: November 1, 2001

RE: Missouri River RDEIS

The Great Lakes of South Dakota Association is a private, nonprofit corporation dedicated to promoting tourism and the best interests of public recreation along the Missouri River in South Dakota.

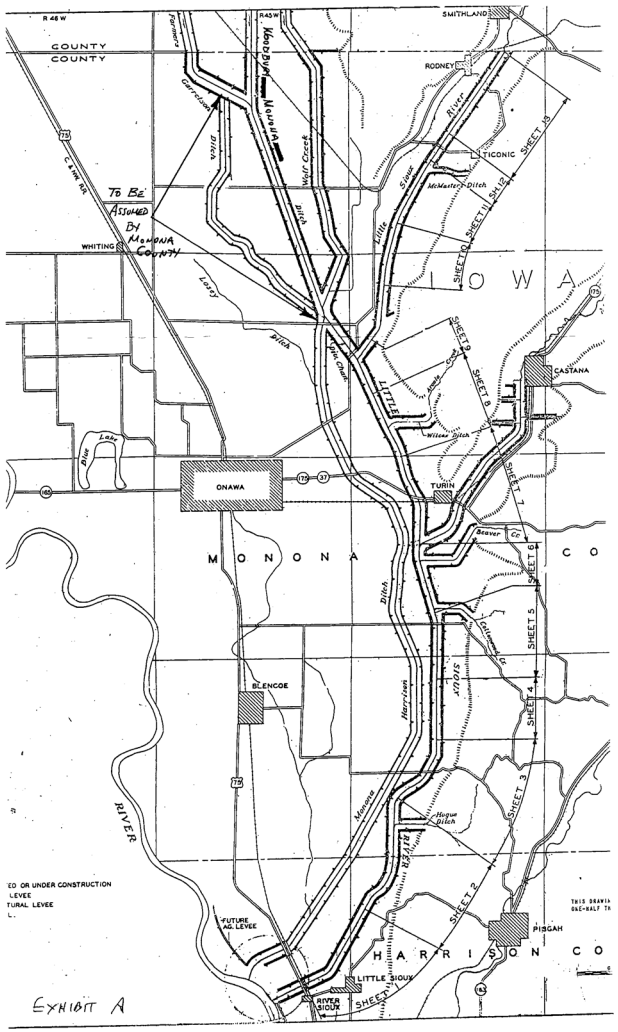
We support changes in the current master manual and operation of the Missouri River by giving the upper basin river uses more consideration in the management of the river.

Other - 7

The current water control plan no longer works and changes need to be made to address all the uses of the river, not just navigation. The Corps should be given the authority and flexibility to manage river flows to benefit fisheries and recreation.

Thank you for this opportunity to register these comments.

LAKE OAHE — LAKE SHARPE — LAKE FRANCIS CASE — LEWIS AND CLARK LAKE



L0100013

Randall Resource Conservation and Development

ASSOCIATION, INCORPORATED

BOX 247 • LAKE ANDES, SD 57356 • PHONE (605) 487-7077 • FAX (605) 487-7651

Sponsors Include: County Commissions, Conservation Districts, Irrigation Districts, Tribal Agencies, Non-Profit Organizations, and Communities located in Bon Homme, Brule, Buffalo, Charles Mix, Douglas, and Gregory Counties

February 25, 2002

Colonel David Fastabend, Division Commander
U.S. Army Corps of Engineers Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Dear Colonel Fastabend:

Thank you for the opportunity to share our concerns about the Revised Draft Environmental Impact Statement (RDEIS) for the Master Water Control Manual Review and Update. Randall Resource Conservation & Development (RC&D) Association, Inc., is concerned with: (1) Lake Francis Case (LFC); (2) Missouri River from Fort Randall Dam (FRD) to Lewis & Clark Lake (LCL) and; (3) Lewis & Clark Lake.

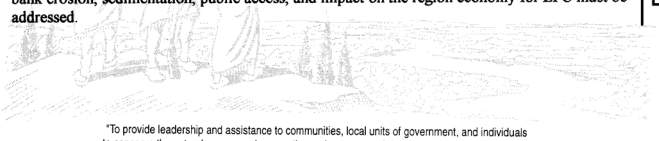
Randall RC&D is a 501 (c) 3 non-profit organization representing 6 county commissions, 5 conservation districts, 1 water development district (6 counties), and several rural communities. Yankton Sioux Tribe, Rosebud Sioux Tribe, and Crow Creek Sioux Tribe are included in the Randall RC&D Area.

Lake Francis Case:

Changes in operation of flows from Missouri River dams will affect location and amount of deposition of sediment from the White River and smaller tributaries in LFC. Proposed flow alternatives will increase frequency of low LFC lake levels. This will accelerate down cutting of tributary channels and accelerate deposition of sediments further into LFC. This negatively affects the regional economy, in particular, communities of Oacoma, Chamberlain, Platte, Bonesteel, Burke, Gregory, Geddes, Lake Andes, and Pickstown. — ErSd 14

Erosion and sediment in LFC affects water quality for Chamberlain, Oacoma, Aurora-Brule Rural Water, Randall Community Water, plus other public and private water supplies. These public systems have documented the affect of increased turbidity on their water treatment costs.

Changing lake level negatively affects public access areas, especially boat ramps. Management of LFC lake level to provide flood control, navigation and hydropower benefits is expected and communities have adjusted. Management of LFC to satisfy proposed alternative Gavins Point Dam releases and "unbalancing the upper 3 lakes" will affect LFC lake level. Fish spawning, bank erosion, sedimentation, public access, and impact on the region economy for LFC must be addressed. — Rec 14,17 Fish 12 ErSd 14 Other 81



"To provide leadership and assistance to communities, local units of government, and individuals to conserve the natural resources, improve the environment, and develop economic opportunities"

Several thousands of acres of prime and important irrigated farmland are affected by LFC lake level management. A lower lake level increases irrigation pumping costs – higher than normal level causes portable pump and pipe relocation costs. Irrigation systems are designed and maintained to meet maximum daily needs of crops. Irrigated crop varieties, fertilizer application, and pesticide application are determined based on expected stable irrigation water supply. Forced down time caused by lower lake level at critical crop growth periods (July-September) results in devastating yield losses. — WS 9

Missouri River – Fort Randall Dam (FRD) to Lewis & Clark Lake (LCL):

Not addressed in RDEIS:

High flow releases from Fort Randall Dam (FRD) to support proposed alternative releases at Gavins Point Dam (GPD) would greatly increase bank erosion. Soils at the several active erosion sites are mostly prime and important farm land and forest land as identified by USDA Natural Resources Conservation Service in compliance with the National Environmental Protection Act. These soils are described and location shown in the Charles Mix County Soil Survey. Note: These soils were created under conditions present hundreds and thousands of years prior to building the dams. **These rare soils cannot be recreated!** — ErSd 15

Yankton Sioux Tribe completed a thorough study in 1998 of tribal land loss due to Missouri River bank erosion – The value was over $11 million at that time. The proposed higher spring flows will add to this loss of important land resources for the Yankton Sioux Tribe. — Tribal 9

Private landowners and Yankton Sioux Tribe will be forced to install expensive bank protection to save their valuable bottomlands. — ErSd 15

Sediment resulting from bank erosion adds to the problem upstream of LCL.

Loss of tall, healthy cottonwood trees (native to the bottomlands) due to bank erosion and rising water tables (caused by sedimentation upstream of LCL). Bald eagles winter on this stretch and several adult pairs nest and produce young each year. They depend on the cottonwood forests for habitat. These forests are key to several other plant, mammal and bird species. — WRH 11

Low river flows create serious biological problems not adequately documented or made public.

Fishing below FRD dramatically affects economy of Pickstown, Yankton Sioux Tribe, Lake Andes, Wagner, Running Water, Springfield in SD, plus Niobrara and Verdel, NE. This past spring exceptionally low releases from FRD resulted in hundreds of thousands of dollars of economic loss to local businesses. The town of Pickstown was forced to hook up to Randall Community Water System to have dependable water supply – this is a more costly source than the town's own treatment plant that takes water from the flowing river. This is an indication of the negative economic and social impacts we foresee if the proposed alternative flow releases are implemented. — Rec 14; WS 10

L0100014

February 22, 2002

Halls Levee District
Virgil Crockett, President
12210 SW US Highway 59
St. Joseph, MO 64504

General David Fastabend
USACE Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Dear General Fastabend:

As officers and board members of the Halls Levee District which is a federal levee unit located in Southwestern Buchanan County we wish to state our opposition to a spring rise release from Gavens Point. Our levee unit protects 18,000 plus acres of farmland that would be very negatively affected by higher river levels that would result from the increased releases proposed in the GP alternatives.

Internal drainage problems would be compounded as at MO River levels above guage reading 13.0 feet at St. Joseph, MO our drainage discharge structures are closed to prevent MO River water from "backing up" and entering the protected side of our levee system. The potential of from three to four feet of added water from the releases would eliminate our normal drainage. The time frame of May 1 to June 15 would supposedly be when these releases are added to the MO River. This time frame is the primary spring planting time for our area and the drainage problems and higher MO River levels causing seepage would result in delayed or prevented planting, stunted crops, drowned crops, and the added threat of flooding. IntD 1

The proposed four to six week time frame of potential much higher than normal MO River levels would severely threaten the farming interests in our district. Halls Levee District has expenditured nearly $200,000.00 in the past few years by installing pumping systems to discharge internal waters at times when MO River levels

Lewis & Clark Lake (LCL):

Not adequately addressed in RDEIS:

The alternative flows proposed for Gavins Pt. Dam (GPD) will create serious problems for the Springfield, Niobrara, and Lazy Rivers Acres communities. The sedimentation issue for this area has been identified, quantified, and is the subject of several Corps of Engineers studies. Unless measures are put in place to remove sediment and improve river flow there should be NO INCREASE in Missouri River flow through this area. Likewise severe reductions in flow such as proposed through summer months will cause serious detrimental affects for fish and wildlife dependent on the back water areas of this section of the Missouri River. ErSd 15

The affect on the regional economy of the proposed alternatives is inadequately considered. There is no mention of economic and social impacts to Yankton, Springfield, Santee, Niobrara, and other communities who depend on the recreation and tourism industry centered on LCL and the Missouri River. Other - 80

The affect on sediment delivery from the Niobrara River, Ponca Creek, Verdigre Creek, and Bazille Creek with proposed flow releases from GPD is not mentioned. High Missouri River flows cause silt to drop out further upstream in each of these tributaries. Low Missouri River flows cause down grading of the stream channels in these tributaries. This will accelerate loss of economic and social benefits of LCL for the region. ErSd 15

Randall RC&D:

Randall RC&D Association, Inc., was established in 1964 and has been involved with numerous Missouri River issues. Our purpose is to help local people make things happen in natural resource conservation and development so that this 6-county area is a better place to live, work and play in. We act as a catalyst/facilitator to help bring financial and technical resources to locally led projects/issues. In this capacity over the past 37 years we have worked in partnership with several state and federal agencies, including the US Army Corps of Engineers. We appreciate the cooperation and consideration the Corps gives to local community concerns.

Thank you for the opportunity to share our thoughts and concerns.

Sincerely,

Don Star

Don Star, Chairperson

CC: Governor William Janklow, SD
Senator Tom Daschle
Senator Tim Johnson
Congressman John Thune

are to high to allow normal flow discharges through the structures in the levee system. Pumping internal waters is very costly and a short term solution as when MO River levels remain high for an extended period the problems of high ground table waters caused from seepage, local rainfall and run off from uplands result in a volume of water to enormous for our pumps and financial capabilities to endure. Added Gavens Point releases would negate our efforts.

GW 2

We believe that fish and wildlife habitat can be improved on current public lands and these proposed flow increases are unneccesary at proposed levels or alternatives. Conflicting reports cause us to question portions of the biological opinion as other reports are in existence stating increases in plover numbers under the current water control plan.

WRH 6
EnSp 27

In summary: Halls Levee District feels any proposed Spring Rises from Gavens Point would be detrimental to our area, taxpayers, and levee system. Humans and their livelihoods must take precedence over any unproven alternatives that may or may not be successful in improving fish and wildlife numbers.

Other- 12, 21

We thank you for the opportunity to express our comments and ask that the public be allowed to continue to have their views considered in any and all MO River Master Manual Issues.

Sincerely,

Virgil Crockett
Virgil Crockett, President
12210 SW US Highway 59
St. Joseph, MO 64504

Lanny Frakes
Lanny Frakes, Secretary
13371 SW State Route KK
Rushville, MO 64484

R.J. Blakley
8411 SW Blakley Road
Rushville, MO 64484

Jim Klawuhn
Box 177
Rushville, MO 64484

Jeff Gaskill
26160 JJ Highway
Weston, MO 64098

L0100015

OSAGE RIVER FLOOD CONTROL ASSOCIATION, INC.
4920 LAKE ROAD
JEFFERSON CITY, MISSOURI
TEL. 573/395-4383
February 26, 2001

U. S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Sirs:

These comments are being submitted as a private citizen for personal reasons of survival and on the behalf of about 400 to 500 members of the Osage River Flood Control Association and landowners along the Maries and Osage Rivers affected by the Missouri River when it rises to flood stage at Jefferson City, MO. These landowners are being affected over 20 miles up the Osage River now when the Missouri River is flooding.

There are many reasons the present plans on the Missouri River should not be changed:

1. The spring rise to be implemented by the Corps would create another flood for the aforementioned landowners on the Maries and Osage Rivers.
2. Farmers and businesses depend on navigation for the movement of farm commodities, fertilizer and construction materials.
3. Shipment of these products cost more by truck than by barge, which dips into our livelihood.
4. Less movement of products by barge on the river would add more trucks on our roads and highways. One barge transports as much as 53 eighteen wheelers. Missouri highways are in terrible condition already and additional truck traffic would only deteriorate the highway system more.

FC 8

Nav 9, 10, 23, 31

For these reasons and the survival of Missouri inhabitatants we urge the Corps not to change the present operations of the Missouri River. After all, the river has Missouri divided in half and our livelihood depends on the river in many ways. It only makes good sense to use this river for navigation and take the traffic burden off our highways.

Thank you for the opportunity to make these comments and let's use some good sense.

Sincerely,

William Thessen
William Thessen
President, ORFCA

L0100016

MISSOURI SEDIMENTATION ACTION COALITION (MSAC)
POST OFFICE BOX 1253
PIERRE, SOUTH DAKOTA 57501

November 17, 2001

Colonel Fastabend, Division Commander
U.S. Army Corps of Engineers Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Dear Sirs;

Thank you for the opportunity to comment on the Revised Draft Environmental Impact Statement (RDEIS) for the Master Water Control Manual Review and Update.

The Missouri Sedimentation Action Coalition (MSAC) was incorporated on June 8, 2001 for the sole purpose of alleviating the problems and economic losses created by the accumulation of silt deposits in the Missouri River main stem reservoirs impounded by the Gavins Point Dam, Fort Randall Dam, Big Bend Dam, Oahe Dam and Garrison Dam. Although it is a fledgling organization, MSAC membership is growing rapidly as the many diverse interests in the multitude of Missouri River uses understand that those uses are threatened and in some cases already impaired by the sedimentation of the Missouri River reservoirs. We have seen the negative impacts of this sedimentation in Pierre and Bismarck where rising bed elevations have led to groundwater flooding of residences and curtailment of power generation at the time of greatest need. Impacts at Springfield are painfully obvious where the river has become a marsh and the recreational facilities are abandoned. We have seen impacts to irrigation intakes, which have been moved further and further into the reservoirs to find adequate depth. Many places in the river system, recreational access has been impaired by the sediment accumulation. We believe that the problems that we can see now are just the harbingers of much more widespread and serious problems as we continue to lose reservoir capacity.

ErSd 16

The MSAC has not taken a position on any of the alternatives presented in the RDEIS and certainly does not want to delay a decision on the Master Manual. We are very concerned, however, that the analysis did not address the current and future decline of system facilities due to sedimentation. As silt continues to accumulate the amount of system storage declines and channels are diminished, system operation will be affected.

Hydro - 34

L0100017

MRBA

Missouri River Basin Association

February 12, 2002

BG David A. Fastabend
Commander, Northwestern Division
U.S. Army Corps of Engineers
P.O. Box 2870
Portland, OR 97208-2870

Dear General Fastabend:

The Missouri River Basin Association (MRBA) is pleased to submit the following amendments to the Missouri River Master Water Control Manual recommendations included in MRBA's November 19, 1999, letter to General Strock (See attached). MRBA continues to support its November 1999 recommendations. Where these amendments are in conflict with those proposed in November 1999, these amendments prevail as MRBA's official position.

MRBA's recommendations were developed with input from stakeholders throughout the Missouri River Basin and after much discussion among representatives of the basin's states, tribes, and federal agencies. MRBA appreciates the Corps including many of the recommendations we offered in November 1999 in five of the six alternatives listed in its recent Revised Draft Environmental Impact Statement (RDEIS). MRBA recommends the following two amendments to assist you in crafting a preferred alternative:

1. Gavins Point Demonstration Project:

MRBA believes there is a need for additional information on the benefits and impacts of specific lower river spring rises and low summer flows before deciding to include them in the new Master Manual. MRBA recommends that the Corps conduct a demonstration with the following two flow changes out of Gavins Point to help determine the role of flow changes in species recovery. First, MRBA recommends that the Corps release, approximately every third year, springtime flows of up to 15,000 cfs over what is required for full navigation service. These higher spring flows would last up to two weeks each cycle. Second, MRBA recommends that the Corps reduce annual flows to minimum navigation service for up to two-and-a-half months during the summer. The Corps should suspend the low summer flows in years when they may result in fall flooding in the lower river.

Other- 13,14,10
EnSp 2,5,17

This proposal for the higher spring and lower summer flows is roughly equivalent to the GP1528 alternative in the Corps' RDEIS. MRBA would like to see the demonstration project continue for three cycles of higher springtime flows, or

P.O. Box 301 Lewistown, Montana 59457-0301 406-538-4469 Fax 406-538-4369

approximately ten years after which time, the federal agencies and members of a multi-stakeholder group will determine whether to continue or modify the new release schedule. Linkages to the following restrictions are critical to MRBA's support of the demonstration project:

- ξ The demonstration project must be conducted according to the principals of adaptive management that were endorsed in the recent National Academy of Sciences study of the Science of the Missouri River. This would include the establishment of a multi-stakeholder group to apply and oversee the adaptive management approach prior to implementation of the demonstration project. — Other 13, 14, 10
- ξ The Corps should work with affected state agencies, tribes, and landowners to plan the demonstration project before initiating it. — Other 13, 14, 10
- ξ With the flow changes out of Fort Peck Reservoir and Gavins Point Dam, the Corps, MRBA, affected landowners, tribal representatives, river users, and Congress must first establish a program that would mitigate potential damages resulting from the flow adjustments. — Other 13, 14, 10
- ξ The Corps should have the flexibility to end the demonstration if it causes undue harm to landowners or prevents the Corps from maintaining authorized purposes of the river system. — Other 13, 14, 10
- ξ The demonstration project must be linked closely to continued habitat work in the basin and extensive monitoring. Because monitoring is such an important component of adaptive management, river flows should not be adjusted until there is sufficient monitoring in place to evaluate the success and impacts of the experiments. — WRH 6 EnSp 24
- ξ The springtime flow releases should not occur during wet periods, or when the additional risk of flooding or drainage problems can be reasonable anticipated. — FC 8
- ξ Impacts on other project purposes should be closely monitored and evaluated during the demonstration project period. This would include impacts on navigation, hydropower generation, floodplain farming and drainage, water supply, and temperature for power plant cooling. Appropriate mitigation of impacts should be implemented. — Other- 69
- ξ In the event the demonstration project does not produce the intended results or is not adopted, MRBA reminds the Corps of MRBA's November 1999 recommendations, including a low summer flow of 41,000 cfs at Kansas City. — Hydro 31

2. The Kansas River Basin Reservoir System:

During the Missouri River Master Manual Review, the Corps of Engineers has not studied how the various alternatives will affect the operation of the Kansas River Basin reservoirs. The Kansas River Basin reservoirs should not be used for Missouri River navigation support, at least until such time as the impacts on the reservoirs has been studied, and concerns resolved to the extent possible, nor should there be any additional restrictions on flood operations. — Nav- 21

Conclusion:

These recommendations represent the official position of the association and are supported by the MRBA representatives of the states of Kansas, Montana, Nebraska, North Dakota, South Dakota, and Wyoming. The states of Iowa and Missouri do not support the Gavins Point demonstration project. However, Iowa supports the restrictions to the use of the Kansas River Basin Reservoir System and all other elements of MRBA's November 1999 letter to General Strock. The Mni Sose Intertribal Water Rights Coalition abstained from voting until each Tribe has completed a thorough review of the MRBA recommendations.

We appreciate the difficulties associated with your rendering a decision on a new operating plan for the Missouri River. Again, we thank you and your staff for supporting our efforts to reach agreement on a new plan, and we hope you find these recommendations to be helpful.

Sincerely,

Sue Lowry
MRBA President

Encl.
cc: (with enclosure)
Mike Parker, ASA (CW)
Steve Williams, U.S. Fish and Wildlife Service
Missouri River Basin Congressional Delegation
Missouri River Basin Governors
Missouri River Basin Tribal Chairmen
MRBA State and Tribal Directors
MRBA Federal Agency Representatives
Ralph Morgenweck, U.S. Fish and Wildlife Service
William Hartwig, U.S. Fish and Wildlife Service
Missouri River Basin State Fish and Wildlife Agencies
MRNRC Executive Director

MRBA

Missouri River Basin Association

November 19, 1999

BG Carl A. Strock
Northwest Division
U.S. Army Corps of Engineers
P.O. Box 2870
Portland, OR 97208-2870

Dear General Strock:

The Missouri River Basin Association (MRBA) thanks you and your staff for supporting MRBA's efforts to develop recommendations for the preferred alternative in the Revised Draft Environmental Impact Statement (RDEIS) the Corps will publish early next year. On behalf of MRBA, we are pleased to provide the following recommendations to assist in your decision.

The submission of these recommendations does not constitute a waiver of rights by any of the Missouri River Basin States or Tribes nor does it constitute a river basin compact or equitable apportionment of the waters of the Missouri River Basin among the States. They are provided for the sole purpose of assisting the Corps of Engineers in making revisions to the Master Manual.

Although it has been difficult to balance the competing uses of the river system, MRBA believes our recommended changes to the management of the Missouri River allow both economic and environmental interests to prosper. To develop these suggestions, all the basin interests have had to make some difficult decisions in the spirit of compromise and general well being of the entire basin.

MRBA will continue to encourage input from the basin's constituents throughout the Master Manual review and update process. The Association urges the Corps and technical staff from the basin states to continue to work together to minimize adverse operational impacts in the basin.

MRBA recognizes the concerns of the Missouri River Basin Indian Tribes and supports ongoing consultations on the impacts of changes to the existing Master Manual on tribal cultural and economic resources. In addition, one basin state, Missouri, cannot support some of the recommendations in this letter. However, Missouri will continue to support the process and participate in the Missouri River Basin Association.

Flow Management Recommendations:

Water Supply:

The existing Master Water Control Manual emphasizes the importance of operating the reservoir system to provide sufficient river flows in reaches between reservoirs and in the lower river to meet water supply needs. The Corps' preferred alternative must continue to meet these critical needs.

P.O. Box 301 Lewistown, Montana 59457-0[illegible]

General Carl A. Strock
November 19, 1999

Page 2

Navigation Support Guidelines:

The flow management recommendations provided below have been revised from the draft recommendations MRBA submitted in its August 31 letter to you. These revisions reflect concerns MRBA heard from various river users, particularly navigators, and additional follow-up modeling by the Corps. Although the revised flow recommendations fall short of meeting all the needs of all river uses, they represent our best effort based on current information to find an acceptable compromise.

MRBA believes the Corps should endeavor to keep Missouri River navigation viable during a drought like the one experienced in the 1980s by:

1) avoiding when possible consecutive years of minimum (7.5 feet of draft) service level flows, and
2) maintaining when possible a navigation season length of at least 7.1 months

The MRBA also recognizes that droughts of greater intensity and duration have occurred (e.g. drought of the 1930's) and are likely to occur in the future. Further, we recognize that flow support for navigation would have to be suspended at some point (navigation preclude value) to ensure there is adequate water reserved to meet the other authorized purposes during such an extended drought.

. Using data provided by your staff, we believe the following set of water control plan guidelines would achieve the results we desire.

Navigation Service Level Check:

8 Feet of Draft
(Full service minus 3,000 cfs)

March 15	less than 54.5 MAF
July 1	less than 59.0 MAF

Season Length Check:
7.1 Month Season

July 1	less than 59.0 MAF

Severe Drought Year Service Level [1]

7.5 feet of draft (full service minus 6,000 cfs) July 1 to August 20 of following year

[1] A severe drought year is one in which there is no gain in total system storage between March 15 and July 1.

Navigation Preclude:

March 15 less than 31 MAF

Current model runs using the guidelines listed above result in a minimum System Storage level of 43 MAF during a drought similar to that experienced in the 1980's.

Evacuation of Flood Control Zone:

MRBA supports the release of excess summer and fall storage to meet the needs of downstream uses. A flow target would be added at St. Charles, Missouri to measure possible navigation impacts in the surrounding reaches. A maximum additional 5,000 cfs would be released from the Missouri River mainstem system if the St. Charles target indicates that navigation impacts will occur. The releases shall be subject to the following constraints:

1. Water shall not be drafted from the Carryover Multiple Use Zone.
2. The releases shall occur after the end of the Tern and Plover nesting period.
3. The releases shall stop at the conclusion of the Missouri River navigation season.
4. Excess storage shall be released prior to ice-in.
5. Downstream flood targets shall not be exceeded.

Given that the Corps has generally been in an evacuation mode since 1993, MRBA recommends that the Corps presents its flood storage evacuation guidelines in the RDEIS and discusses them during the public hearings that follow release of the document.

Water Depletions:

Changes to the current level of depletions of water from the Missouri River and its tributaries may have an impact on all mainstem project purposes. The MRBA Directors commit to exploring mechanisms to determine how to fairly share these impacts on project operations. The first step of this process is to establish baseline information on the current level of depletions. MRBA urges the basin's states, Indian tribes, the Corps, and other federal agencies to begin working on this task immediately

Environmental Recommendations:

MRBA recognizes the need to recover the basin's threatened and endangered species and to prevent future listings of such species. The key to MRBA's environmental recommendations is the development of an adaptive management process to help recover the basin's threatened and endangered fish and wildlife populations.

MRBA recommends an approach to species recovery that includes the four components listed below:

1. Recovery Committee:

MRBA recognizes the need for the basin's states, Indian tribes, water users, and other interested parties to be involved in discussions among federal agencies concerning the recovery of the basin's threatened and endangered species. Other river basins facing similar issues have formed committees comprised of diverse representation from state water and fish and wildlife managers, tribal representatives, and environmental and economic interests to assist federal agencies on species recovery plans. MRBA recommends that the Corps, the U.S. Fish and Wildlife Service, and other federal agencies work with MRBA, state fish and wildlife agencies, and other water users and interests to form such a committee in the Missouri River basin. Recommendations of the committee would be subject to requirements of the National Environmental Policy Act prior to their implementation.

2. River Flows:

Unbalancing of the Upper Basin Reservoirs:

To provide benefits to sports fisheries, recreation, and endangered species in the upper three reservoirs, MRBA recommends that the Corps implement when possible, without compromising downstream flood control, an intrasystem trading of stored water (unbalanced storage) among Ft. Peck, Sakakawea, and Oahe reservoirs. MRBA acknowledges the flood control concerns of downstream interests and encourages the Corps to avoid when possible increases in the use of the Exclusive Flood Control Pool, especially in Oahe Reservoir.

Lower River Habitat Improvement and Recreation Flows:

To evacuate excess water, river flows are often significantly above full service navigation targets. To enhance wildlife and recreation in the lower river, when practical and consistent with other project purposes, the Corps should reduce releases from August 1 to September 15 to full navigation service levels (41 kcfs at Kansas City).

Fort Peck Fish Enhancement Flows:

As part of the adaptive management program, the Missouri River Basin Association recommends trial fish enhancement flows from Fort Peck Reservoir. The enhanced flows will be coordinated with the unbalancing of the upper basin reservoirs, and thus will occur approximately every third year. These higher flows will be designed to enhance the recovery of the pallid sturgeon and to provide habitat improvements for the least tern and piping plover. MRBA will also work closely with officials from the Fort Peck Indian Reservation to ensure the protection of the Tribes' cultural resources there. The enhanced flows will adhere to the following criteria:

Flow Rates:	22,000 cfs
Timing:	Begin the first week in June
Duration:	Two weeks
Frequency:	Every third year, to coincide with scheduled low water year for Fort Peck Reservoir in the Corps' unbalancing of the upper basin reservoirs.

MRBA will work with state, tribal, federal, and local officials in the next few months to:

a) develop appropriate flood and drought control restraints to impose on the proposed Fort Peck spring rise,
b) b) estimate the cost of spilling water from the dam to increase river temperatures below Fort Peck Reservoir, and
c) develop a strategy to protect tribal cultural resources and various infrastructure developments below the dam. The effect of the enhanced flow trials will be closely monitored through the Missouri River Environmental Assessment Program (MoREAP) program (see #4 below).

MRBA also recommends that all modifications to the existing flow patterns throughout the river system be implemented on a trial basis of approximately seven years Throughout this period, extensive monitoring will determine the success of various approaches and the need to modify efforts to recover the basin's threatened and endangered species. In coordination with this experimental spring rise, winter releases will be modified as an adaptive management approach to minimize impacts during ice-up.

Gavins Point Releases:

MRBA recognizes the controversial nature of adjustments to releases from Gavins Point Dam. MRBA recommends that the Recovery Committee investigate the benefits and adverse impacts of flow adjustments to the existing uses of the river system.

3. Habitat Acquisition and Enhancement:

MRBA generally supports efforts to acquire land or easements from willing sellers as a means of enhancing fish and wildlife habitat in the basin. MRBA sees a need for continued funding of and coordination between programs that buy land or easements from willing sellers, compensation of counties and levee districts for lost taxes or fees, and enhancing the wildlife habitat value of those lands. The habitat acquisition and enhancement activities generally fall under the following programs:

- The Fish and Wildlife Mitigation Project: This program was originally authorized under the Water Resources Development Act of 1986 (WRDA). MRBA recommends that this project be adequately funded (at least $15 million per year) while keeping administrative costs to a minimum. The 1999 WRDA bill recently re-authorized the Mitigation Project and increased the acreage eligible for the program.

- Sec. 514 of WRDA 1999: This companion piece of legislation that was also authorized in the WRDA 1999 will develop projects between the banks of the river and will allow Montana and the Dakotas to participate in habitat enhancement activities in the basin. MRBA supports this program.
- The U.S. Fish and Wildlife Service Refuge System: The U.S. Fish and Wildlife Refuge System is a critical element in the recovery of the basin's endangered species, and MRBA recognizes its value and the need for its continued viability.

MRBA also recommends investigating opportunities to acquire and enhance off-channel habitat to support the basin's threatened and endangered species. Such a program might provide incentives to floodplain landowners willing to participate in fish and wildlife habitat enhancement. Other programs that help restore the basin's fish and wildlife habitat such as the Corps' 1135 Program also receive the enthusiastic support of MRBA.

4. Monitoring and Research:

MRBA recommends immediate funding and implementation of a basinwide biological and hydrologic monitoring and research program to improve overall river management and enhance the basin's fish and wildlife habitat and species recovery. The main monitoring component is the Missouri River Environmental Assessment Program developed at MRBA's request by the Missouri River Natural Resources Committee. The MoREAP program should be administered by the USGS-BRD office in Columbia, Missouri.

A related research activity is the National Academy of Sciences study of the Missouri River. This study will take approximately two years and has been designed to determine the status of scientific understanding of the Missouri River. The study will identify areas where additional research of the river system is needed and it will be used as a tool to focus MoREAP's research and monitoring activities.

Tribal Recommendations:

MRBA supports the following activities and principles regarding the Missouri Basin Indian Tribes:

- Access by the Missouri Basin Indian Tribes to low cost hydropower produced from the dams on the mainstem Missouri River.
- Funding and training to help the Tribes identify and protect their cultural resources.
- Adequate consultation with the Tribes on the Fort Peck Indian Reservation concerning the proposed spring rise from Fort Peck Dam.
- Inclusion in the Master Manual Revised Draft Environmental Impact Statement a narrative about tribal considerations.
- Continuing studies on the impacts of the selected new alternative on the Missouri Basin Indian Tribes, their respective economies, and their cultural resources.

Other Recommendations:

MRBA refers the Corps and others to the Association's Missouri River Planning Recommendations document published in April 1998. The document includes a variety of ideas designed to improve the basin's overall economic and environmental conditions and was developed with input and support of constituents throughout the basin.

MRBA is currently refining those recommendations and working towards their implementation. This work will be the central focus of MRBA over the next several years, and we look forward to cooperating with the Corps, other federal agencies, and Congress in that endeavor.

MRBA also recommends exploring the development of a financial relief and/or incentive program for river interests impacted by operational changes brought on by extreme climatological conditions:

* * * *

These constitute our recommendations for the preferred alternative that the Corps will publish in its RDEIS early next year. We encourage the Corps to proceed with its planned public review process following the release of its RDEIS. We recognize that there is still much work to be done before a new Master Water Control Manual for the Missouri River system is adopted, and we thank you for giving the states and Indian tribes this opportunity to develop and express our recommendations.

Sincerely,

Bud Clinch, President
Missouri River Basin Association

Cc: Missouri River Basin Governors
Col. Meuleners, Corps of Engineers
MRBA State and Tribal Directors
MRBA Federal Representatives
Missouri River Basin State Fish and Wildlife Agencies
Missouri River Natural Resources Committee Executive Director
MRBA Congressional Delegation

L0100018

MRNRC
MISSOURI RIVER
NATURAL RESOURCES
COMMITTEE

1434 316th Lane • Missouri Valley, Iowa 51555 • 712-642-4121 • Fax 712-642-2460

February 25, 2002

Ms. Rose Hargrave
U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual DEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Ms. Hargrave:

The Missouri River Natural Resources Committee (MRNRC) is pleased to present our comments on the Missouri River Revised Draft Environmental Impact Statement for the Master Water Control Manual Review and Update. The MRNRC is an organization with appointed representatives from the seven State fish and wildlife management agencies along the main stem river. Our agencies have statutory responsibilities for management and stewardship of river fish and wildlife resources held in trust for the public. One of the main objectives of the MRNRC is to facilitate a systems approach to managing the natural resources of the Missouri River. The MRNRC is concerned not only with federally listed species such as the pallid sturgeon, least tern, and piping plover, but other system fish and wildlife including, but not limited to, native river fish, waterfowl, shorebirds, and reservoir sport fisheries. As such, our focus is on operations which improve habitat for the greatest number of species throughout the system.

While each of the member agencies have resource management responsibilities, it is also true that each agency also has resource management issues that are somewhat unique to our respective reaches of the Missouri River. With that in mind, many of our state agencies will also be submitting comments independently, which address the specific challenges we face in managing the natural resources of the Missouri River. The following comments reflect the views of the majority of MRNRC representatives. The Missouri Department of Conservation is providing a separate analysis of flows and associated recommendations

GENERAL COMMENTS

All of the GP alternatives are a biological improvement over existing operations and could provide a starting point for adaptive management. Our review of the alternatives selected for detailed analysis indicates that GP 20/21 provides the greatest overall biological benefit based on key environmental value function results and other analyses in the DEIS, including tern and plover

Other- 7

habitat, wetland acres, young-of-the-year index, cold water reservoir habitat, native fish index, shallow-water habitat, floodplain connectivity, minimum reservoir storage, and recreation benefits. This alternative improves habitat for our public trust resources and associated recreation in the reservoirs, inter-reservoir reaches, and the open river below Gavins Point Dam. And, the negative impacts of water depletions to fish and wildlife resources (discussed in Section 7.19) are less for the GP 15/28 and GP 20/21 alternatives than for the CWCP.

The MRNRC supports the Corps' commitment to adaptive management. We have recommended that adaptive management be incorporated into system operations throughout the Master Manual process. The recently released National Research Council Report: *The Missouri River Ecosystem: Exploring the Prospects for Recovery*, has presented in great detail how adaptive management and stakeholder involvement should be adopted as part of Missouri River operations. The MRNRC endorses those recommendations and stands ready to assist the Corps and other Missouri River interests in implementing the National Research Council's recommendations. Adaptive management should incorporate a rigorous monitoring and assessment program that examines biotic response to operational changes.

Other- 14

We commend the Corps for designing environmental alternatives which improve main stem reservoir operations for fish, wildlife, and recreation while actually improving benefits to many of the other authorized purposes.

SPECIFIC COMMENTS

Chapter 2, page 2-12, Fort Peck Flow Modification and Chapter 6, page 6-6, Fort Peck Dam Flow Changes–The spawning release should be based on ambient temperatures in the reservoir and river and not strictly restricted to the mid-May to mid-June time frame. In some years, a mid to late June release may be required depending on reservoir surface temperatures. Furthermore, a June release may better match inflows into the reservoir lessening the potential for a drawdown of the reservoir.

EnSp 14,51

Following the spawning release, spillway releases should be tested through at least August. Otherwise, water temperatures may be too low for development of native fish eggs and larvae and production of food items such as smaller fish and invertebrates. The timing and duration of spillway releases can be modified depending on temperature and biotic monitoring results.

Chapter 7, page 7-1, Introduction–Although a Gavins Point Dam minimum navigation service release of 28.5 kcfs was modeled for the GP 15/28 and GP 20/28 alternatives, it is our understanding, based on Corps staff discussions, that this is within the upper range of the average minimum service targets and assures minimum service navigation depths at all downstream targets. If we understand correctly, summer releases during the lower flow period would actually fluctuate around the existing average minimum service target of 25 kcfs and that when tributary inflow is sufficient downstream of the dam to meet all downstream minimum service targets, releases will be lower than 25 kcfs. As an average, the 28.5 kcfs release provides

Nav 41

intermediate service. This point should be clarified in this section.

Chapter 7, page 7-30, Table 7.4-2–Whether existing thermal limits in NPDES discharge permits for once-through-cooled power plants are exceeded is a complex phenomena dependent on ambient river temperatures and river flows. Are there thermal modeling data or existing empirical data to validate the Gavins Point Dam release/power plant capacity at the risk curve shown in Figure 7.10-9? If so, this information should be used to clarify the magnitude of the impact (number of affected power plants, area of the affected river cross-section, and biological implications). We note that capacity is currently at risk (and standards potentially violated at full generation) over the range of existing minimum to full service navigation releases. Based on this curve, has power plant capacity been affected to date or have there been instances where existing thermal standards have been violated? Inclusion of such information would help the reader to better gauge the relative impact of other alternatives, including those with lower summer flows. An earlier, multi-year empirical study of thermal discharge impacts from two once-through-cooled nuclear power plants in the Nebraska reach of the river conducted by a consortium of Nebraska utilities, universities, consultants, and the Nebraska Game and Parks Commission (*The Middle Missouri River, A Collection of Papers on the Biology with Special Reference to Power Station Effects*, Missouri River Study Group, 1982), concluded that the thermal discharges of the two plants affected a small area of the river and had limited overall affects on river production or as thermal barriers to fish movement.

MoPower 1
WS 3, 4

Chapter 7, page 7-32, Table 7.4-2–The table concludes that none of the alternatives will affect hypoxia in the Gulf of Mexico from pollutant and nutrient loading relative to the Current Water Control Plan. This conclusion should be supported by additional discussion. Because wetlands retain and process nutrients, metals, and other pollutants, increases in wetland acres and retention of water in wetlands and backwaters from increased spring flows, which are features of the GP alternatives, suggest that delivery of some pollutants, especially nutrients, to the Mississippi River, would be less under these alternatives.

WQ 11

Chapter 7, page 7-35, Wetland Habitat and Page 7-38, Riparian Habitat–The discussions note that there is an inverse relationship between these two habitats–as wetlands increase, riparian habitat decreases. Are there data which show changes in wetland acres by wetland type (i.e., forested wetland, shrub-scrub wetlands, palustrine wetlands etc.)? This would help clarify whether there are any losses of usable riparian habitat or merely a conversion of dry forested and shrub-scrub habitats to wetter conditions. Furthermore, higher spring flows in low-lying areas could regenerate cottonwoods, which currently are senescent in most reaches in the Upper Basin and in the lower river above Omaha, Nebraska.

WRH 15

Chapter 7, page 7-45, Wildlife Resources–The discussion should clarify the differences in interior least tern and piping plover river habitat among alternatives within important historical nesting areas. The overwhelming majority of river nesting and production occur below Garrison Dam, Fort Randall Dam, and Gavins Point Dam. The GP alternatives significantly improve habitat relative to the Current Plan and the Modified Conservation Plan in these reaches, but have

EnSp 31

relatively low values in the Fort Peck reach which has historically had few birds and contributed little to tern and plover recruitment and production.

Chapter 7, page 7-54, Coldwater Fish Habitat in River Reaches–Table 7.7-3 indicates little difference among alternatives in the amount of average annual coldwater fish habitat in the reaches below Fort Peck and Garrison Dams. It is our view that the amount of coldwater fish habitat below Fort Peck and Garrison Dams is not an operational issue and therefore not as important to the Corps final decision as other biological issues. Most of the coldwater fishing effort occurs in the tailwaters and for a limited number of miles downstream of the dams. Sufficient coldwater habitat to support these fisheries will be present regardless of the alternative. Fish 18

Chapter 7, page 7-55, Warmwater Fish Habitat in River Reaches–Similar to river coldwater fish habitat, river warmwater fish habitat has little relevance biologically or to the Corps decision. Table 7.7-4 indicates that the GP alternatives will decrease the amount of warmriver habitat by about 2-3 miles below Fort Randall Dam and up to 6 miles below Fort Peck Dam. Adding or subtracting several miles of warmwater at the downstream end of coldwater reaches through release manipulations is biologically meaningless given that only 50-55 miles out of a possible 320 have suitable water temperatures. The value of this analysis is that it shows that to improve water temperatures for native fish, structural modifications to the dams, spillway releases or other methods will be necessary. Fish 19

Chapter 7, page 7-57, Missouri River Connectivity to Low-Lying Lands During the Spring Rise–This section concludes that there is relatively little gain in connectivity to low-lying floodplain lands from the GP alternatives. This is based on using a 2-day duration analysis and 25th percentile flow. WRH 16

The amount of connectivity seems unusually low. Figure 7.7-21 shows that even a run-of-the-river alternative only results in a 2-day inundation of roughly 3,900 acres or 450-600 acres more than any of the other alternatives including the CWCP. This seems odd given that run-of-river June flows are significantly higher than those of the CWCP. The differences among alternatives in average annual acres flooded, which can be arrived at using the flood control benefits and value of agricultural lands shown in Tables 7.8-1 and 3.9-1, respectively, also seem inconsistent with the connectivity results shown in Table 7.7-6.

In the past eight years more than 30,000 acres of floodplain lands have been purchased by the Corps, Fish and Wildlife Service, and Missouri Department of Conservation along the lower Missouri River for conservation purposes. Many of these lands are open to the river. Were such areas used in the connectivity analysis?

Further details of the analysis including a listing of sites selected, whether the sites used in the analysis are isolated by levees and other factors that may be influencing the outcome (use of the 25th percentile flow?) should be provided in the FEIS. We suggest running the analysis using the entire period of record for each alternative for the months of May and June to provide a clearer

picture of connectivity benefits or lack thereof for the GP alternatives. This analysis would also be beneficial for future habitat restoration efforts.

Finally, the discussion could be strengthened by including a brief description of other biological benefits of connectivity in addition to adding detritus to the river. These benefits include spawning habitat for floodplain spawners, refugia for larval and juvenile fish, production of zooplankton and invertebrates, and habitat for amphibians, aquatic turtles, and wading birds.

Chapter 7, Need for Awareness of Water Level Changes, page 7-225, last paragraph–It is stated that spring rises of the magnitude and duration of those proposed for the GP alternatives are insufficient to restore new sandbars similar to what occurred in 1997. Figures 7.2-18 and 7.2-19, page 7-17, and Figure 7.2-20, page 7-18, indicate that flows greater than the spring rise occur with more frequency and longer duration in the fall, especially the month of October, for the GP alternatives. We recommend that analyses be done for these higher fall flows to determine whether they are of sufficient magnitude and duration to restore sandbars. Even without restoration of new sandbar habitat, we expect that the stage change provided by the GP alternatives will significantly increase nesting habitat for interior least terns and piping plovers. EnSp 52

Kansas River Basin Reservoir System–The Corps has not evaluated the impacts of any of the alternatives on the Kansas River reservoirs. The Kansas River reservoir projects should not be used to meet flow targets as a part of the operation of the Missouri River system until a complete evaluation of the impacts has been completed and concerns are resolved. In addition, there should be no restrictions on flood operations until this issue has been resolved. Nav- 21

Thank you for the opportunity to comment. If you have any questions, please contact me at 406-232-0914.

Sincerely,

Brad Schmitz
MRNRC Chair

cc: MRNRC Delegates
MRNRC Technical Section Chairs
MRNRC Ex-Officio and Cooperating Agency Representatives
FWS Missouri River Coordinator
MRBA Executive Director

L0100019

Friends of the Kaw
Kansas Riverkeeper

November 1, 2001

The Missouri River Master Water Control Manual and Update Revised Draft Environmental Impact Statement

From: Friends of the Kaw/Kansas Riverkeeper

Other 191
WQ 17

We ask that the Corps of Engineers operate dam releases in Kansas and elsewhere to maximize benefits to threatened and endangered species, to protect the quality of our river water, and maximize the conservation and recreational pool in our reservoirs. Our comments today are restricted to operation of Kansas Reservoirs as reflected in the FWS Biological Opinion.

Least tern and the piping plover nesting sites have increased since the high water events of 1993. The high water scoured the shores and islands of vegetation and recreated nesting sites that should naturally exist if not for flow restrictions placed on our Kansas reservoirs for Missouri River navigation.

We ask that the corps take the following actions.

1. Provide maximum spring releases. This can be done with one synchronized release from one or more reservoirs, or it can be done with multiple releases. The high water release(s) should occur prior to the nesting period for these shore birds and should occur during the "normal", natural and historic high water season for the Kansas River. The release(s) should be high enough to restore point bars, scour islands and sandbars, and generally provide for good habitat maintenance, The releases can be timed when they will not interfere with the need for flood control.
2. Provide summer low flow releases that prevent destruction of nesting sites during the shorebird nesting season. These releases must never be allowed to allow water to cover the habitat needed for successful nesting of the least tern and piping plover, except as necessary to prevent failure of dams. While maintaining these nesting sites there must be enough flow to maintain water quality standards above maximum daily load limits within the Kansas River and its arms.
3. The amounts and frequency of these releases should be coordinated with all other uses, so as not to reduce those uses unnecessarily.

For decades the Kansas River watershed has paid a huge price to artificially support barge traffic on the Missouri. These costs include dollars, quality of life, and natural heritage and water quality. These costs are incurred through lost water resources, reductions in flood control effectiveness, threatened and endangered species, loss of general wildlife habitat, loss sustained in terms of recreation and the associated recreational industries, and decreases in water quality and those associated risks to human health and additional stresses to aquatic organisms. The above named costs are associated with the Kansas River, its feeder streams and its reservoirs.

In summary, the cost of operating Kansas Reservoirs far exceeds the regional or national economic benefit from barge traffic on the Missouri. Therefor please discontinue releases from Kansas reservoirs that prioritize Missouri River navigation above our other, greater needs. Although our comments focus on the Kansas River we fully support the Sierra Club's comprehensive position.

Dave Murphy, Kansas Riverkeeper P.O. Box 328, Shawnee Mission, Ks 66201
greenvalley@cs.com
913-406-2260

L0100020

Metropolitan
St. Louis Sewer
District

Office of Environmental Compliance
10 East Grand Avenue
St. Louis, MO 63147-2913
(314) 436-8710
FAX (314) 436-8753

February 27, 2002

U.S. Army Corps of Engineers, Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Sirs:

This letter provides comments on the Revised Draft Environmental Impact Statement (RDEIS) that addresses the Master Water Control Manual for the operation of the Missouri River System and the proposed alternatives. The Metropolitan St. Louis Sewer District (MSD) is responsible for sanitary sewer wastewater collection and treatment, and the management of stormwater in the St. Louis City and County. Our wastewater treatment plants discharge their effluent into the Missouri River and the Mississippi River below the confluence of the Missouri and Mississippi Rivers.

WQ 24

MSD has several concerns regarding the environmental and economic effects of the proposed alternatives to the current water control plan (CWCP), and the Corps use of the U.S. Fish and Wildlife Service's Biological Opinion as the basis for these changes. MSD facilities discharge into rivers under NPDES permits issued by the Missouri Department of Natural Resources (MDNR) as authorized by the Environmental Protection Agency (EPA). The water quality-based limits for pollutants under these permits are based on discharging into a river with a seven-day one-in-ten-year low flow condition (7Q10).

We are concerned about the accuracy of the RDEIS conclusion in section 7.4 (page 7-30) that there will be no change relative to the CWCP for POTW NPDES permits because the Gavins Point Dam releases will be adequate for 7Q10 flows. MSD attempted to determine what the 7Q10 flows would be under the various alternatives. We contacted the Corps representatives at the workshop in St. Louis, the USGS representative responsible for their Flow Visualization data, and the MDNR, and no one had any knowledge of what the projected 7Q10 flows would be under the various proposed alternatives. Also, part of the rationale provided stated that "No water quality problems associated with NPDES permits or water quality impacts were reported to the Corps". We do not think such a statement is conclusive, unless the availability and reporting of actual water quality data has been evaluated.

Section 7.4 of the RDEIS states that the water quality criteria for aquatic life may be temporarily exceeded due to reducing the Missouri River flows below Gavins Point Dam. Lower flows in the rivers will result in increased pollutant concentrations and therefore increased toxicity toward aquatic life. Lower flows and exceedances of water quality criteria will result in reduced water quality-based NPDES permit limits, which will negatively impact permit holders. In addition, MSD has a permit in which low river flows trigger a lower ammonia limit. Due to a continuous discharge from an industry, low flow conditions caused by the alternative control plans will potentially subject our facility to permit violations and increase the cost to industry.

Higher spring flow means flooding more farmland, which has obvious economic and human impacts that have been clearly identified in the public hearings. However, from an environmental perspective, we are concerned about additional sediment in the river below Gavins Point Dam. Sediment from flooding and erosion contains agricultural chemicals and low levels of toxic metals that could also contribute to exceedances of Missouri's proposed water quality standards for protection of aquatic life and drinking water sources. If water quality standards are exceeded, the result will be Total Maximum Daily Load (TMDL) allocations being determined for these rivers, and point sources will bear most of the burden for pollutant reductions despite contributing a lesser share of the pollutants than non-point sources. In addition, the increase in erosion and agricultural land flooding will undoubtedly increase the amount of nitrogen transported to the Gulf of Mexico, which increases the problem of hypoxia.

WQ 25
Miss 31

Another concern we have regards the environmental impacts on air quality. The St. Louis metropolitan area has been classified as a nonattainment area under the Clean Air Act, and significant efforts have been taken to address mobile source pollution, as a significant contributor to the nonattainment status. During the hearing in St. Louis, Mr. Horgan from Congressman Akin's office stated that barge transportation emitted 35 to 60 percent less pollution than rail or truck transportation. The Corps needs to consider the negative impact on the St. Louis region's air quality due to a reduction in barge traffic from lower river flows.

Nav 23

Our final concern is that the U.S. Fish and Wildlife's biological opinion, which is the basis for the alternative control plans, is based on data that has not been adequately synthesized to address the entire Missouri River ecosystem, according to the National Academy of Sciences report "The Missouri River Ecosystem: Exploring the Prospects for Recovery". Also, in a letter dated October 10, 2000, the MDNR stated that based on their analysis many of the supposed benefits of the alternative flow plans would not be achieved.

Other 14

In conclusion, MSD does not support changes to the Missouri River flow regimes that would create negative impacts from a more pronounced spring rise and low flow conditions in the summer and winter. We do not support the alternatives proposed by the Corps and U.S. Fish and Wildlife due to the many questions that remain and the potential for tremendous negative environmental and economic impacts when other solutions can be pursued. Thank you for the opportunity to comment.

Sincerely,

Bruce H. Litzsinger, P.E.
Civil Engineer

bv

Pc: Jeff Theerman
Bernie Rains
Bob Zeman

MASTERMANUAL NWD02 L0100021

From: James M Peterson

Sent: Sunday, February 10, 2002 12:05 AM

To: Mastermanual

Subject: Master Manual RDEIS

Ms. Rose Hargrave, Project Leader
U.S. Army Corps Of Engineers Northwestern Division Attention: Missouri River Master Manual RDEIS 12565 West Center Road
Omaha, Nebraska 68144-3869

Dear Ms. Hargrave, The Missouri River Bank Stabilization Assocviation, Newcastle, Nebraska, has previously expressed its strong opposition to the proposed "Spring Rise" on the Missouri River as well as to the proposed "low flow" following the "Spring Rise." The increased streambank erosion which would result from such an increase in the river's flow would impose an unconscionable burden on the riparian landowners. Insofar as we can determine, the proponents of the "Spring Rise" have not even mentioned the destruction which would result from a flow increase, let alone making any provision to prevent such erosion. In addition to the reasons stated in our previous letter opposing the proposed change in the flows, we also object because the increase in flows will inevitably accelerate the speed with which purple loosestrife, a noxious weed, is already spreading. A rise in the river will not only sweep the massive seed "crop" into every nook and cranny of the inundated wetlands, but it will also carry the seed to higher elevations all along the river's banks. Local weed control authorities have already noted this and brought it to the attention of our association (and others.) We are also concerned with the unseemly haste with which the proponents of a change in flows are pressing their agenda. In light of the recent revelation that the National Academy Of Science could find "no credible scientific evidence" for the debacle in the Klamath Basin last year, we seriously doubt if such evidence exists to change the flows on the Missouri. The continuing bottom degradation below Gavins Point Dam be accelerated by an increase in flows. (This may accomplish the creation of the new sandbars the U.S.F.&W. Service desires as the shallows of today become the emerged bars of tomorrow.)
The Missouri River Bank Stabilization Association (MRBSA) will likely again provide you with reasons we oppose the proposals referred to above.

ErSd 9

Other 169

Other 14

ErSd 9

J. M. Peterson, President, MRBSA

Jim Peterson
jmpeters@usd.edu
605 624 4211

MASTERMANUAL NWD02 L0100022

From: William Lyon [wlyon@greenhills.net]
Sent: Thursday, February 28, 2002 8:29
To: Mastermanual
Subject: Missouri River Master Manual RDEIS

Dear Sirs,

My name is Bill Lyon. I have lived and farmed next to the Missouri River for over 33 years and helped my father farm there while I was in Elementary and High School. I am also the president of Baltimore Bend Levee District. I can remember in the 1951 flood when my father was farming and the levees were not completed the terrible destruction and loss of livestock that occurred. We also suffered flooding from the 1993 flood which was even higher than the 1951 flood.

I want to urge you **not** to create a situation where the tragic events will happen even more often. I know that any additional rises in the spring flow will increase the possibility of major flooding. Even if we don't suffer through more floods the spring rise will make the ground in the river bottom to wet to plant in a timely manner. If this happens the crops will suffer because of late planting. FC 8 GW 2

We have worked our whole life developing a productive, valuable piece of property that benefits our school district (taxes) and also the economy of the county. If the proposed changes are made in the operation of the master manual our schools in Norborne would have to close because of the devaluation of the real estate in the county and lack of people living here to support it. It would also take away what my family has worked our whole life to develop so we would have something to live on when we grow older. Our payments for the property next to the river were our way of putting away what we thought would be our retirement equity. If the property is devalued due to the change in the operations of the main stem reservoirs than our retirement is stolen from us. This is true of many farmers along the river who developed and bought land thinking the river and reservoir's would be **operated for the benefit of people that pay the taxes not for some fish or bird.** Other 48

There have been many suggestions for other ways to preserve the fish and birds that do not involve the taking of peoples lives and property without compensation. I would urge you to consider these alternatives before you change the lives of many, many good people.

MASTERMANUAL NWD02 L0100023

From: Milo Mattelin [2mattlin@nemontel.net]
Sent: Thursday, February 28, 2002 7:28 PM
To: Mastermanual
Subject: RDEIS

Final Project Report1.doc | Attachment C.doc | Attachment E.xls | ATT85600.txt

This past summer the Roosevelt County Conservation District contracted with the C.O.E. to survey the punps sites below Fort Peck. The survey identified 143 pump sites between the spillway and the Montana, North Dakota border. These 143 pump sites represent 56,000 acres of irrigation, representing 20 to 25 million dollars of economic activity in NE Montana. THe 6800 acres of sugar beets on this reach, according to Holly Sugar, Sidney Montana, result in 6 million dollars in direct payments to farmers and another 4 million dollars in processing revenue. EnSd 5

Current water models estimate that 2/3 of these pump sites will be affected by the flows proposed for the full test, 23,000 C.F.S. from Fort Peck. Additionally the proposed flow modifications will have an adverse affect on, the federally authorized MRI Dry Prairie Rural Water project, which will provide water to 26,000 residents of NE Montana, and proposed irrigation development by the Fort Peck Tribes and individual irrigators.

Mitigation must be available to help in the transition from current flow management, to the new proposed flow modifications from Fort Peck. Other 83

Buzz Mattelin

Inventory of Pumps and Intakes on the Missouri River Between the Fort Peck Dam and the North Dakota Border

June 2001-August 2001

Conducted By: Roosevelt County Conservation District
PO Box 517
Culbertson, MT 59218
406-787-5232, ext. 101

FINAL REPORT SUBMITTED
February 19, 2002

Inventory of Pumps and Intakes on Missouri River Between Fort Peck Dam and the North Dakota Border

INTRODUCTION

The information included in this inventory of pumps and intakes along the Missouri River in Montana is intended to serve as baseline data as the Army Corps of Engineers considers changes in the operation of Fort Peck Dam. The inventory was conducted to assist in determining the potential impacts of proposed operational changes and to serve as a baseline for monitoring conditions in the event that operational changes are effected.

The Army Corps of Engineers' Revised Draft Environmental Impact Statement (RDEIS) for their review and update of the Master Water Control Manual for the Missouri River (issued in August 2001) describes six alternative operational schemes for the Missouri River system. Five of the alternatives include higher spring releases from Fort Peck Dam every third year to trigger pallid sturgeon spawning by increasing both flow and temperature in the river reach downstream from the dam. The inventory of pumps and intakes along the Missouri River between Fort Peck and the North Dakota border described in this report originated as a means of assessing concerns of pump owners with regard to the potential impacts of higher spring releases from Fort Peck proposed in the RDEIS.

Concurrent with its review and update of the Master Manual, the Corps has planned to conduct two test release exercises from Fort Peck to assess the integrity of the spillway and to investigate the impact of various combinations of power plant and spillway releases on river temperature. A "mini-test" and a "full test" are to be conducted in separate years when sufficient water is available. The tests should also allow the Corps to calibrate its models, which are used to estimate the relationship between river flows and stages at various points along the river. Maximum releases for the mini- and full tests are planned to be 15,000 cfs and 23,000 cfs, respectively. Environmental-analyses and documentation are required for each test to consider impacts to the physical and human environment that might be associated with these proposed operational changes. The environmental review for the full test is being combined with the RDEIS.
The Corps of Engineers contracted with the Roosevelt County Conservation District to conduct the inventory during the summer of 2001. This report is being submitted in partial fulfillment of that contract. The data gathered through the inventory is being provided separately for use in a Geographic Information System (GIS).

This report will describe the scope of the project, the process of gathering and preparing the data for use in GIS, and a brief description of results of the inventory.

SCOPE OF WORK

The project area encompasses the land surrounding the 175-mile stretch of the Missouri River in Montana between Fort Peck Dam and the headwaters of Lake Sakakawea, including parts of Roosevelt, Valley, McCone, and Richland Counties. The Fort Peck

Indian Reservation occupies a substantial portion of the northern part of the project area. A map of the area is provided as Attachment A.

The project area is rural and relies heavily on agriculture. Water pumped from the river in the area is used to irrigate hay, barley, sugar beets, oats, and beans. Wolf Point, Poplar, and Culbertson are the largest towns in the project area and are situated near the northern banks of the river. The Missouri River is the source of water for systems that serve these communities. A regional water system that would serve the Fort Peck Reservation and most of the non-tribal lands in Montana north of the Missouri and east of Glasgow is currently being developed. The intake for the regional water system would be located near Poplar.

The purpose of the pump inventory is to identify, locate, and characterize the pumps and intakes in the project area. Working with the Corps of Engineers, the investigators determined the relevant data to include in the inventory and the appropriate manner of collecting it. Two technicians were hired to conduct the survey and the four Conservation Districts in the project area were enlisted to identify pump sites and encourage participation in the project. The cooperation of water users and substantial involvement by local entities has been critical to the success of the project. It was important to inform pump owners when the inventory would occur, what information would be gathered and why.

Deliverables will include the data input forms used in the inventory as well as related photographs, AutoCAD products, and maps. The data was also prepared to conform to GIS requirements.

The following two sections describe how the data was collected and prepared for delivery. The final section summarizes some findings emerging from the data.

DATA COLLECTION

In June of 2001, the Roosevelt Conservation District hired two technicians to conduct the pump site surveys. The four Conservation Districts located in the project area (Roosevelt, Valley, McCone, and Richland) assisted with the gathering of information regarding location and ownership of potential survey sites. The Conservation Districts and the Natural Resource Conservation Service staff were instrumental in assisting the technicians in obtaining local support of the project.

The Corps of Engineers, Omaha District, along with the Montana Department of Natural Resources and Conservation, assisted the Conservation District with the development of a data input form that was used for each site. A copy of the data input form is attached (Attachment B).

A visit was made to each location and, whenever possible, the landowner was on hand to give details regarding his site. Ownership information--such as name, address, and phone number--was verified and recorded on the form. The owner was asked questions regarding his pump site stability and whether high water was a common problem.

Location of electrical power sources, buried doglegs, etc. was also noted with the owner's input.

A lap top computer linked to a Global Positioning System (GPS) and a GIS was used to locate the geographic coordinates of each site. A computer software program called "TOPO USA" was used to accomplish this part of the survey. This information was recorded both manually and in the computer. This program allows the information to be plotted on a topographic map.

Each site was cross-sectioned using a self-leveling level and survey rod. Lengths were determined with a common tape measure. The data forms are attached and can be examined to see all the information gathered during the survey.

Photographs were taken of each site. These included photographs of: the pump in the water; the pipeline route; and bank shots to verify slope and stability, and upstream and down stream angles. Attachment C shows examples of an electric and a diesel pump.

A Farm Service Agency map/photo was also taken to the site and each pump site location was marked and labeled on the map.

Using a Computer Assisted Drafting and Design Program (AutoCAD 2000), the survey team plotted the field survey cross-section and profile information. These were put on computer disks and hard copies printed with a color printer

DATA PREPARATION

Data from the completed data input forms were organized into a table in an Excel spreadsheet. The table contained 143 records and 58 fields. Attachment D displays the field names for the data table along with the corresponding field names on the data input form.

Fields for critical elevation and critical flow levels were added as well as a field containing an estimate of the water surface level at 23,000 cfs. Three fields (Crit_stat1, Crit_stat2, Crit_stat3) were added to indicate the vulnerability of each site to higher flows. In addition, fields for longitude and latitude were added to facilitate use in GIS.

Because there is no typical section data available for the different river reaches, this report used the following constant to determine water surface elevation at various flows: for each 5000cfs increase of flow, we estimated the river water surface would rise 1.5'. This can be adjusted to a more accurate estimate once the Army Corps of Engineers does more US surveys of the river.

The GPS point locations of pump sites were collected with a datum of WGS84 and recorded as latitude and longitude in decimal degrees. For purposes useful in display and analysis of the locations, these data were re-projected to Montana State Plane, North

American Datum 1983, with the map units converted to meters. A map of the Missouri River with the pump sites identified is included as Attachment A.

RESULTS

Participation by pump owners in the inventory was very strong. The one hundred forty three pumps surveyed are believed to comprise the vast majority of pumps being used in the project area. Of the 143 pumps, 55 were on the north side of the river and 87 were on the south side. These pumps are used to irrigate 56,415 acres of cropland. One hundred and one pump sites were found to be experiencing some degree of bank erosion and 62 pumps were expected to have problems operating when flows exceed 23,000 cfs. Further issues may be explored by querying the database through GIS. A chart showing the number of pumps affected by various releases from Ft. Peck is included as Attachment E.

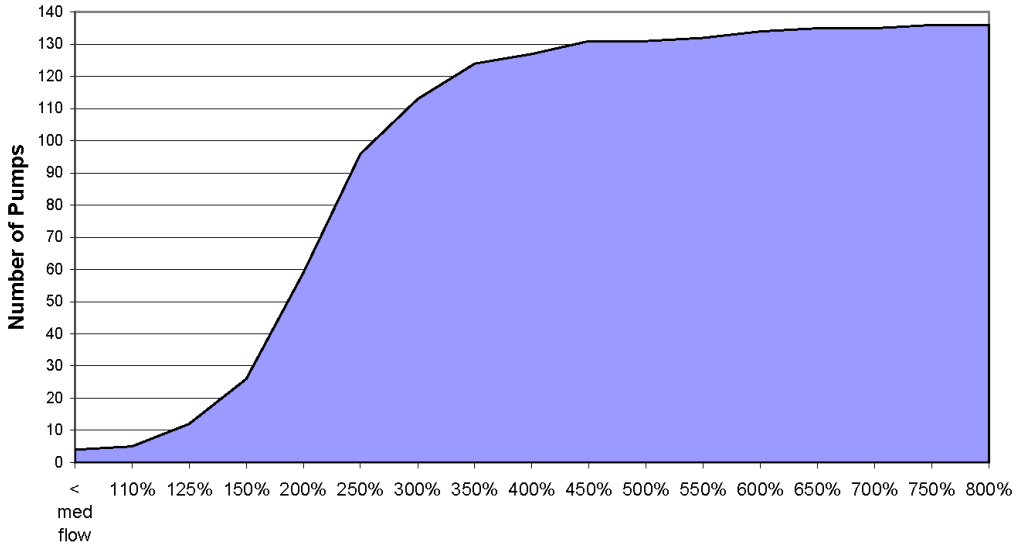
Attachment C

Example of an Electric Pump

Example of a Diesel Pump

Rec_num	Permit_num	DATE	Flow	Water_surf	Gage	Med_flow	Time	Crit_el
1	P-13498-00	7/3/2001	6,750	31.70	Culbertson	11,460	10:00 AM	41.35
2	P-13498-00	7/3/2001	6,750	39.90	Culbertson	11,460	1:00 PM	45.60
3	W-011957-00	7/17/2001	6,610	40.60	Culbertson	11,460	10:30 AM	44.70
4	P-001666-00	7/25/2001	6,730	34.50	Culbertson	11,460	2:00 PM	39.40
5	P-080553-00	7/25/2001	6,730	38.55	Wolf Point	11,110	2:00 PM	42.70
6	0	8/15/2001	6,105	36.20	Culbertson	11,460	7:00 AM	43.10
7	0	8/15/2001	6,105	32.00	Culbertson	11,460	7:00 AM	37.70
8	P-017166-00	8/15/2001	6,105	34.60	Culbertson	11,460	11:00 AM	34.60
9	W-0017166-00	8/15/2001	6,105	41.10	Culbertson	11,460	11:00 AM	46.00
10	P-011975-00	7/30/2001	6,410	29.90	Wolf Point	11,110	7:00 AM	48.00
11	W-189961-00	8/20/2001	6,120	31.10	Wolf Point	11,110	10:00 AM	41.80
12	W-189961-00	8/20/2001	6,120	15.20	Wolf Point	11,110	10:00 AM	40.90
13	P-061832-00	8/13/2001	6,210	35.30	Wolf Point	11,110	3:00 PM	28.00
14	B-215786-00	7/30/2001	6,410	40.40	Wolf Point	11,110	8:00 AM	47.00
15	W-163084-00	7/17/2001	6,610	37.50	Culbertson	11,460	10:00 AM	45.40
16	W-002400-00	7/23/2001	6,720	39.20	Wolf Point	11,110	2:00 PM	41.00
17	W-002400-00	7/23/2001	6,720	18.60	Wolf Point	11,110	2:00 PM	41.80
18	W-046465-00	7/23/2001	6,720	33.60	Wolf Point	11,110	10:30 AM	28.00
19	W-046465-00	7/23/2001	6,720	36.50	Wolf Point	11,110	10:30 AM	39.50
20	0	7/2/2001	6,690	31.90	Culbertson	11,460	8:30 AM	38.50
21	W-214922-00	8/6/2001	6,360	27.40	Wolf Point	11,110	7:30 AM	44.00
22	W-008745-00	8/6/2001	6,360	39.40	Wolf Point	11,110	4:00 PM	34.00
23	P-5328-00	8/1/2001	6,260	40.50	Wolf Point	11,110	4:00pm	47.40
24	0	7/18/2001	7,180	42.50	Wolf Point	11,110	2:00 PM	42.40
25	0	7/18/2001	7,180	35.20	Wolf Point	11,110	3:00 PM	45.90
26	P-077141-00	7/23/2001	6,720	41.80	Wolf Point	11,110	12:00 PM	38.55
27	P-071788-00	7/23/2001	6,720	26.70	Wolf Point	11,110	12:00 PM	49.60
28	P-071788-00	7/23/2001	6,720	31.60	Wolf Point	11,110	12:00 PM	31.30
29	P-091841-00	8/9/2001	6,466	35.20	Wolf Point	11,110	10:30 AM	35.00
30	P-091841-00	8/9/2001	6,466	37.50	Wolf Point	11,110	10:30 AM	40.00
31	P-091841-00	8/9/2001	6,466	25.50	Wolf Point	11,110	10:30 AM	40.00
32	M-077646-00	6/27/2001	7,100	30.10	Culbertson	11,460	9:00 AM	27.50
33	P-031900-00	7/31/2001	6,260	32.60	Wolf Point	11,110	12:00 AM	36.00
34	W-113898-00	7/31/2001	6,260	40.30	Wolf Point	11,110	8:00 AM	37.00
35	W-113898-00	7/31/2001	6,260	19.60	Wolf Point	11,110	8:30 AM	46.00
36	W-113898-00	7/31/2001	6,260	35.90	Wolf Point	11,110	3:30pm	29.00
37	W-001511-00	8/1/2001	6,260	29.00	Wolf Point	11,110	1:30 PM	37.60
38	P-017179-00	8/1/2001	6,260	33.80	Wolf Point	11,110	12:00 AM	33.10
39	W-046363-00	8/13/2001	6,060	28.00	Wolf Point	11,110	11:30 AM	39.50
40	P-035719-00	8/13/2001	6,060	30.20	Wolf Point	11,110	11:00 AM	44.30
41	W-172441-00	8/6/2001	6,380	37.20	Wolf Point	11,110	10:30 AM	37.10
42	W-178482-00	8/7/2001	6,040	45.60	Wolf Point	11,110	12:00 AM	42.80
43	W-172440-00	8/6/2001	6,380	34.50	Wolf Point	11,110	12:00 AM	46.75
44	B-214733-00	7/28/2001	7,400	17.80	Wolf Point	11,110	9:00 AM	39.90
45	0	8/15/2001	5,950	27.90	Wolf Point	11,110	12:00 PM	19.90
46	0	8/15/2001	5,950	No Info	Wolf Point	11,110	12:30 PM	38.40
47	W-010026-00	7/30/2001	6,410	38.40		0	5:30pm	43.40
48	P-066293-00	7/16/2001	6,920	26.00	Culbertson	11,460	11:00 AM	33.40
49	P-096357-00	7/12/2001	7,630	14.00	Culbertson	11,460	2:00 AM	25.70
50	P-099060-00	7/16/2001	7,630	38.70	Culbertson	11,460	1:00 AM	49.60

NUMBER OF PUMPS NOT OPERATIONAL AT VARIOUS FLOW LEVELS (Missouri River, Fort Peck to North Dakota)



51	P-066294-00	7/16/2001	6,920		27.70	Culbertson		11,460	12:00 AM	36.00
52	P-007775-00	7/16/2001	6,920		26.80	Culbertson		11,460	10:30 AM	30.00
53	W-005477-00	7/16/2001	6,920		36.90	Culbertson		11,460	9:30 AM	39.90
54	0	6/25/2001	9,030		30.70	Culbertson		11,460	2:00 AM	35.20
55	P-012708-00	6/25/2001	9,030		29.70	Culbertson		11,460	2:00 AM	36.50
56	P-109529-00	6/19/2001	8,680		39.90	Culbertson		11,460	1:00 AM	45.90
57	P-109529-00	6/19/2001	8,680		40.80	Culbertson		11,460	1:30 AM	46.70
58	P-109529-00	6/19/2001	8,680		39.50	Culbertson		11,460	3:30 AM	42.40
59	P-109529-00	6/19/2001	8,680		43.60	Culbertson		11,460	4:00 AM	48.50
60	P-084851-00	6/19/2001	8,680		40.30	Culbertson		11,460	5:00 AM	48.85
61	P-084851-00	6/19/2001	8,680		36.80	Culbertson		11,460	6:30 AM	40.10
62	W-171290-00	7/3/2001	6,750		34.70	Culbertson		11,460	3:00 PM	41.00
63	W-171290-00	7/3/2001	6,750		40.80	Culbertson		11,460	4:00 PM	48.90
64	B-215783-00	7/30/2001	6,410		25.80	Wolf Point		11,110	10:00 AM	30.60
65	0	8/1/2001	6,260		32.20	Wolf Point		11,110	10:00 AM	35.60
66	W-172353-00	8/1/2001	6,260		29.90	Wolf Point		11,110	2:00 PM	38.10
67	W-178504-00	6/28/2001	6,940		34.30	Culbertson		11,460	2:00 PM	42.20
68	B-214845-00	6/28/2001	6,940		41.00	Culbertson		11,460	12:00 PM	44.60
69	B-214845-00	6/28/2001	6,940		39.50	Culbertson		11,460	1:00 PM	43.40
70	A-178491-00	6/27/2001	7,100		39.90	Culbertson		11,460	1:00 AM	46.20
71	W-002834-00	8/14/2001	6,250		32.80	Wolf Point		11,110	12:00 AM	37.80
72	P-078203-00	6/28/2001	6,940		37.00	Culbertson		11,460	9:00 AM	41.60
73	P-019231-00	7/10/2001	6,500		28.40	Culbertson		11,460	9:30 AM	51.30
74	P-019231-00	7/10/2001	6,500		35.40	Culbertson		11,460	10:00 AM	47.50
75	W-171349-00	8/1/2001	6,260	No Info			0	0	12:00 AM	
76	W-171349-00	8/9/2001	6,460		43.10	Culbertson		11,460	9:00 AM	45.70
77	P-074573-00	8/9/2001	6,460		44.50	Culbertson		11,460	10:00 AM	47.30
78	P-101076-00	6/12/2001	8,740		37.00	CULBERTSON		11,460	10:00 AM	42.10
79	P-010761-00	6/12/2001	8,740		33.30	CULBERTSON		11,460	10:00 AM	40.80
80	P-015984-00	7/24/2001	6,150		35.60	Wolf Point		11,110	1:00 AM	41.60
81	P-015984-00	7/24/2001	6,150		35.60	Wolf Point		11,110	12:30 PM	42.50
82	R-111429-00	7/30/2001	6,410		43.00	Wolf Point		11,110	2:00 PM	45.90
83	W-171767-00	8/20/2001	6,120		30.70	Wolf Point		11,110	8:00 AM	49.50
84	P004929-00	8/13/2001	6,210		27.90	Culbertson		11,460	8:30 AM	33.20
85	W-026907-00	8/13/2001	6,120		26.30	Culbertson		11,460	9:00 AM	30.10
86	0	7/9/2001	6,520		31.80	Culbertson		11,460	9:00 AM	37.60
87	P-004947-00	7/9/2001	6,520		30.10	Culbertson		11,460	3:00 PM	41.70
88	P-004947-00	7/9/2001	6,520		35.30	Culbertson		11,460	2:30 PM	44.50
89	P-004947-00	7/9/2001	6,520		39.50	Culbertson		11,460	2:00 PM	41.70
90	W-170287-00	7/30/2001	6,410		37.10	Wolf Point		11,110	4:00 PM	44.50
91	P-084881-00	7/30/2001	6,410		39.60	Wolf Point		11,110	4:30 PM	45.10
92	0	6/20/2001	8,864		32.30	Culbertson		11,460	8:00 AM	35.30
93	P-077506-00	6/18/2001	8,530		39.70	Culbertson		11,460	11:30 AM	44.60
94	W-046358-00	8/6/2001	6,360		31.90	Wolf Point		11,110	5:00 PM	35.50
95	W-004249-00	8/1/2001	6,260		32.90		0	0	3:30pm	41.40
96	0	8/1/2001	6,260		33.20	Wolf Point		11,110	12:00 AM	38.80
97	0	8/1/2001	6,260		31.30	Wolf Point		11,110	12:00 AM	33.50
98	W-036976-00	8/1/2001	6,260		28.80	Wolf Point		11,110	11:00 AM	33.50
99	P-097742-00	7/2/2001	6,870		37.30	Culbertson		11,460	2:30 PM	43.90
100	W-171255-00	7/2/2001	6,870		37.40	Culbertson		11,460	3:30 PM	42.30
101	P-013878-00	7/18/2001	7,180		34.60	Culbertson		11,460	12:00 PM	35.50
102	W-130565-00	7/25/2001	7,180		31.25	Culbertson		11,460	9:00 AM	35.90
103	p-007532-00	8/13/2001	6,210		29.10	Culbertson		11,460	1:30pm	35.30
104	W-130478-00	8/13/2001	6,210		32.50	Culbertson		11,460	1:30pm	35.00
105	w-130479-00	8/13/2001	6,210		37.10	Culbertson		11,460	2:30pm	41.80
106	P-008354-00	8/13/2001	6,210		27.00	Culbertson		11,460	2:30pm	30.00
107	W-130481-00	8/13/2001	6,210		33.00	Culbertson		11,460	3:00pm	39.00
108	P-057388-00	8/13/2001	6,210		30.50	Culbertson		11,460	3:30 AM	37.30
109	R-106983-00	8/20/2001	6,120		36.40	Wolf Point		11,110	1:00pm	39.00
110	R-106983-00	8/20/2001	6,120		40.30	Wolf Point		11,110	2:00pm	42.70
111	0	7/2/2001	6,500		36.50	Culbertson		11,460	4:00 PM	42.80
112	P-00-9852-00	6/20/2001	8,840		36.80	Culbertson		11,460	8:30 AM	39.70
113	R-103563-00	7/3/2001	6,750		36.40	Culbertson		11,460	1:00 PM	40.10
114	P-018593-00	7/30/2001	6,260	high & dry		Wolf Point		11,110	11:00 AM	
115	P-070237-00	7/24/2001	6,150		30.60	Wolf Point		11,110	10:00 AM	39.10
116	0	8/6/2001	6,360		40.50	Wolf Point		11,110	8:30 AM	43.90
117	0	8/1/2001	6,260		38.10	Wolf Point		11,110	2:30 AM	43.90
118	W-171797-00	7/17/2001	6,660		32.80	Culbertson		11,460	8:30 AM	35.00
119	P-011394-00	7/24/2001	6,150		38.90	Wolf Point		11,110	12:00 PM	42.20
120	P-071190-00	8/3/2001	6,190		38.50	Wolf Point		11,110	4:00pm	42.10
121	0	8/7/2001	6,040		38.90	Wolf Point		11,110	8:00 AM	45.50
122	0	8/7/2001	6,040		39.60	Wolf Point		11,110	8:00 AM	45.40
123	0	8/7/2001	6,040		39.70	Wolf Point		11,110	8:00 AM	48.40
124	W-015087-00	7/30/2001	6,410		38.70	Wolf Point		11,110	1:00 PM	42.00
125	P-005421-00	7/18/2001	7,180		29.00	Culbertson		11,460	12:30 PM	33.40
126	P-005421-00	7/18/2001	7,180		44.90	Culbertson		11,460	1:00 PM	47.10
127	P-005421-00	7/18/2001	7,180		41.20	Culbertson		11,460	1:30 PM	46.00
128	W-178507-00	7/2/2001	6,870		30.30	Culbertson		11,460	1:00 PM	38.90
129	W-101309-00	8/6/2001	6,360		35.70	Wolf Point		11,110	11:30 AM	38.80
130	W-046546-00	8/6/2001	6,380		31.20	Wolf Point		11,110	7:00 AM	33.10
131	W-187311-00	8/7/2001	6,040		30.30	Wolf Point		11,110	12:00 PM	36.30
132	U-171575-00	8/7/2001	6,040		22.60	Wolf Point		11,110	1:00 PM	29.00
133	W-171571-00	8/7/2001	6,040		16.90	Wolf Point		11,110	1:30 PM	20.00
134	P-002799-00	8/15/2001	6,950	N/A		Wolf Point		11,110	2:30 PM	
135	W-008836-00	8/15/2001	6,950		33.50	Wolf Point		11,110	3:30 PM	39.40
136	P-002799-00	8/15/2001	6,950		36.10	Wolf Point		11,110	4:30 PM	36.90
137	P-011818-00	6/19/2001	8,608		43.80	Culbertson		11,460	10:30 AM	47.60
138	P-034798-00	7/24/2001	6,150		32.80	Wolf Point		11,110	8:30 AM	35.20
139	P-031832-00	6/25/2001	9,030		40.30	Culbertson		11,460	11:00 AM	45.10
140	W-005479-00	6/18/2001	8,530		30.30	CULBERTSON		11,460	9:00 AM	34.20
141	P-013878-00	7/18/2001	7,180		31.70	Culbertson		11,460	10:00 AM	39.80
142	P-013878-00	7/18/2001	7,180		37.60	Culbertson		11,460	10:30 AM	43.90
143	P-013878-00	7/18/2001	7,180	missing data		Culbertson		11,460	11:00 AM	

median flow--5/15-6/15 (based on CWCP 1898-1997)

fp	9900
wp	11110
cl	11460

Crit_flow	Crit_23k	Crit_stat1	Crit_stat2	Crit_stat3	Velocity	Long1	Long2	Lat1	Lat2
38,917	36.58	OK			10 sec. For 15 ft.	104	24.81	48	5.1068
25,750	44.78	OK	close		8 sec. For 30 ft.	104	25.6692	48	5.4939
20,277	45.52	Problem			11 sec. For 20 ft.	104	33.9225	48	6.955
23,063	39.38	OK	close		11 sec. For 30 ft.	104	55.3295	48	7.2527
20,563	43.43	Problem			11 sec. For 30 ft.	104	55.0776	48	8.4713
29,105	41.27	OK			11 sec. For 30 ft.	104	52.5052	48	8.8458
25,105	37.07	OK	close		9 sec. For 30 ft.	104	48.6798	48	7.4393
6,105	39.67	Problem			NONE	104	51.5293	48	7.8478
22,438	46.17	Problem			NONE	104	52.2361	28	8.3261
66,593	34.92	OK			9 sec. For 30 ft.	105	38.4317	48	3.0835
38,787	36.16	OK			10 sec. for 30 ft.	106	7.7411	48	1.1967
61,453	20.26	OK			10 sec. for 30 ft.	106	0.1882	48	2.0947
45,210	40.34	OK			10 sec. For 30 ft.	105	56.7651	48	0.778
23,077	45.38	OK	close		NONE	105	19.9518	48	35.7917
18,277	42.42	Problem			8 sec. For 30 ft.	104	34.1736	48	6.8176
15,387	44.08	Problem			None	105	3.3369	48	3.367
38,053	23.48	OK			None	105	3.1797	48	3.2368
26,387	38.48	OK			None	105	0.66261	48	4.4276
13,387	41.38	Problem			None	105	0.6943	48	3.9618
47,023	36.79	OK			7 sec. For 30 ft.	104	29.6583	48	6.8988
28,360	32.39	OK			8 sec. For 30 ft.	105	50.6455	48	0.517
33,027	44.39	OK			9 sec. For 30 ft.	105	32.9446	48	4.0552
12,593	45.52	Problem			10 sec 30ft	105	36.4829	48	4.4878
18,513	47.25	Problem			10 sec for 30Ft	104	45.453	48	7.2785
18,347	39.95	Problem			8 sec. For 30 ft.	104	49.2527	48	7.042
32,720	46.68	OK			7 sec. For 30 ft.	105	9.7935	48	4.3855
22,053	31.58	Problem			7 sec. For 30 ft.	105	11.1466	48	4.1768
18,053	36.48	Problem	no pump		7 sec. For 30 ft.	105	11.0478	48	4.3103
22,466	40.16	Problem	no pump		10 sec. For 20 ft.	105	4.3511	48	4.2666
14,799	42.46	Problem	no pump		None	105	3.5476	48	3.5476
13,133	30.46	Problem			7 sec. For 30 ft.	105	6.71	48	3.5113
26,767	34.87	OK	close		6 sec. For 30 ft.	104	28.5309	48	7.5051
20,927	37.62	Problem			None	105	35.0152	48	4.7742
25,260	45.32	OK	no pump		8 SEC 30FT	105	41.5719	48	3.1742
37,593	24.62	OK			None	105	32.6922	48	4.2495
11,927	40.92	Problem			8 SEC 30FT	105	43.6891	48	1.7932
19,927	34.02	Problem			9 SEC 30FT	105	41.5719	48	3.1742
25,260	38.82	OK	close		12 sec. for 30 ft.	105	33.3175	48	4.2837
60,393	33.08	OK			12 sec. For 30 ft.	106	19.6648	48	3.3431
29,060	35.28	OK			12 sec. For 30 ft.	106	22.0335	48	3.6823
25,047	42.19	OK	no pump		10 sec 30ft	105	55.3385	48	1.1699
9,873	50.69	Problem	easy move		9 sec. For 30 ft.	105	34.322	48	5.0716
24,380	39.49	OK	close		12 sec 20ft	106	5.0043	48	1.6434
14,400	22.48	Problem			10 sec. For 30 ft.	105	2.3785	48	3.2521
40,950	33.02	OK	no pump		9 sec. For 30 ft.	104	58.4505	48	4.8975
#VALUE!	#VALUE!	#VALUE!	no pump		9 sec. For 30 ft.	104	58.3491	48	5.3491
23,077	43.38	OK	close	2 pumps	15 sec. For 15 ft.	105	36.8645	48	4.3049
31,587	30.82	OK		2 pumps	8 sec. For 20 ft.	104	11.8179	48	2.4806
46,630	18.61	OK			6 sec. For 30 ft.	104	35.3332	48	6.3598
43,963	43.31	OK			8 sec. For 20 ft.	104	17.7386	48	2.9891
34,587	32.52	OK		2 pumps	9 sec. For 30 ft.	104	16.4115	48	2.3585
17,587	31.62	Problem		3 pumps	12 sec. For 30 ft.	104	9.857	48	2.2344
16,920	41.72	Problem			13 sec. 30 ft.	104	5.9713	48	1.6624
24,030	34.89	OK	close		None	104	19.8639	48	2.9539
31,697	33.89	OK			10 sec. For 30 ft.	104	21.3394	48	3.8489
28,680	44.20	OK			6 sec. for 30 ft.	104	13.6629	48	1.9112
28,347	45.10	OK			5 sec. For 30 ft.	104	14.4967	48	1.9362
18,347	43.80	Problem			6 sec. For 30 ft.	104	13.3167	48	1.9632
25,013	47.90	OK	close	no pump	None	104	12.0961	48	2.4748
37,180	44.60	OK			None	104	12.2158	48	4.1679
19,680	41.10	Problem			None	104	12.2158	48	4.1679
27,750	39.58	OK	no pump		None	104	4.1417	48	0.3101
33,750	45.68	OK	no pump		7 sec. For 30 ft.	104	4.7747	48	2.078
22,410	30.78	Problem	no pump		None	105	59.591	48	57.914
17,593	37.22	Problem			6 sec 30ft	105	29.0397	48	53.645
33,593	34.92	OK			9 sec 30ft	105	42.2462	48	2.6384
33,273	39.12	OK			6 sec. For 30 ft.	104	36.0096	48	8.0989
18,940	45.82	Problem			9 sec. For 30 ft.	104	35.6538	48	6.9056
19,940	44.32	Problem			Back water	104	35.5001	48	7.7172
28,100	44.67	OK			7 sec. For 30 ft.	104	31.4377	48	7.3857
22,917	37.83	Problem			10sec. For 30 ft.	105	53.623	48	0.7699
22,273	41.82	Problem			7 sec. For 30 ft.	104	29.4952	48	7.2883
82,833	33.35	OK			8 sec. For 30 ft.	104	5.3669	48	59.9164
46,833	40.35	OK			10 sec. For 30 ft.	103	57.9875	47	55.2061
#VALUE!	#VALUE!	#VALUE!			9 sec 30ft	105	36.2097	48	4.584
15,127	48.06	Problem			20 sec 15ft	105	6.8731	48	4.7885
15,793	49.46	Problem			20 sec 20ft	105	6.9952	48	4.811
25,740	41.28	OK	close	2 pumps	6 sec. For 30 ft.	104	50.9229	48	7.5924
33,740	37.58	OK			6 sec. For 30 ft.	104	51.2183	48	7.6977
26,150	40.66	OK	close		None	105	13.6827	48	4.2713
29,150	40.66	OK			12 sec. For 30 ft.	105	15.5888	48	5.1552
16,077	47.98	Problem	no pump		12 sec. For 30 ft.	105	24.6451	45	5.5987
68,787	35.76	OK			None	106	23.7817	48	4.1988
23,877	32.94	OK	close		None	106	18.1421	48	2.9997
18,787	31.36	Problem			10 sec. 30ft	106	16.7786	48	2.8919
25,853	36.74	OK	close		10 sec. For 10 ft.	104	27.4102	48	6.5676
45,187	35.04	OK			5 sec. For 30 ft.	104	37.5956	48	6.6554
37,187	40.24	OK			None	104	37.2071	48	7.0615
13,853	44.44	Problem			4 sec. For 30 ft.	104	37.089	48	7.773
31,077	42.08	OK			45 sec. For 30 ft.	105	36.9733	48	4.537
24,743	44.58	OK	close		None	105	35.6547	48	5.0316
18,864	36.54	Problem		2 pumps	None	104	10.9556	48	3.6305
24,863	44.04	OK	close		0	104	104	48	48
18,360	36.89	Problem	no pump		15 sec. For 30 ft.	106	5.0963	48	1.0766
34,593	37.92	OK			6 sec 20ft	105	36.5884	48	4.4025
24,927	38.22	OK			9 sec 30ft	105	33.3598	48	4.3273
13,593	36.32	Problem			10 sec 30ft	105	33.6457	48	4.4758
21,927	33.82	Problem			10 sec 30ft	105	42.8195	48	1.9897
28,870	42.14	OK			None	104	25.399	48	5.0835
23,203	42.24	OK	close	2 pumps	None	104	24.4154	48	4.6072
10,180	39.35	Problem			8 sec. For 30 ft.	104	51.5312	48	7.6642

GPS_el	Loc_yrs	Pump_type	Pump_cond	Bank_slope	Chan_main
1841.27	20	Floating Centrifugal	New	90 degrees	No
1830	New	Floating Centrifugal	New	90 degrees	Yes
1858.2	30	Floating/Suction Turbin	New	30 Degrees	Side Channel
1860	40	Centrifugal	good	No Bank	Yes
1855	15	Centrifugal W/ Floating Suction	good	No Bank	Back water
1851	4	Centrifugal - Floating/Suction	Good	90 degrees	Yes
1886	1	Centrifugal - Floating/Suction	Good	80 degrees	Yes
1910	31	Floating	Good	No Bank	Backwater
1899	17	Centrifugal -Floating/Suction	Good	50 degrees	Yes
1940	24	PTO/Crissafulli	Old	45 degrees	Yes
1992	50	Turbine	Good	40 degrees	Yes
1983	50	Turbine	Good	40 degrees	Yes
1971	18	Centrifugal	New	90 degrees	Yes
1910	3	Floating/Suction	New	90 degrees	Back water
1845	10	Centrifugal pump	Old	40 Degrees	Yes
1860	45	Floating/Centrifugal	Good	80 degrees	Side Channel
1890	15	Centrifugal/Suction	Good	80 degrees	Yes
1860	5	Floating/Centrifugal	Good	90 degrees	Backwater
1870	10	Floating/Centrifugal	Good	90 degrees	Backwater
1865	20	Floating/Suction	New	90 degrees	Yes
1952	31	Floating/Centrifugal	Good	90 degrees	Yes
1907	43	Crissafulli	Old	90 degrees	No
1934	15		0 Old	Vertical	Yes
1823	12	Centrifugal - Floating	good	40	Yes
1861	15	Centrifugal - Floating	Fair	30 degrees	Yes
1875	5	Centrifugal	New	90 degrees	Yes
1880	31	Crissafulli	Old	90 degrees	Yes
1880	10	PTO/Porma	Old	90 degrees	Yes
1906	10	PTO-Crissafulli	Good	90 degrees	Yes
1878	8	Centrifugal	Good	52 degrees	Back Water
1895	8	Centrifugal/Cornell	Good	90degress	Yes
1830	66		0 Fair	8 degrees	Yes
1919	20		0 Good	60	Backwater
1934	0		0 Old	90*	Yes
1956	0		0 Old	42*	0
1964	0		0 Good	40*	Side Channel
1934	0		0 New	42*	Yes
1929	2	Floating/Centrifugal	Good	90 degrees	Yes
1980	50	Centrifugal	Old	90 degrees	Yes
1975	54	Turbine	Old	90 degrees	Yes
1956	41		0 Old	Vertical	Side Channel
1892	29	4" Centrifugal	Good	NONE	Yes
1960	0		0 Good	Vertical	Yes
1892	3	Centrifugal - Trailer Mounted	Good	45 degrees	Yes
1886	51	Floating/Suction	Good	90 degrees	Yes
1878	51	Floating/Suction	Good	90 degrees	Yes
1922	5	Centrifugal - Floating	New	90 degrees	yes
1842	51	Centrifugal - Floating	Fair	40 Degrees	Yes
1854	0	Centrifugal - Floating/Suction	New	90 Degrees	Yes
1822	0	Centrifugal	Fair	30 Degrees	Yes

22,680	36.00	Problem			8 sec. For 30 ft.	105	21.3444	48	5.3612
26,877	34.14	OK	no pump		10 sec. For 15 ft.	106	0.655	48	0.3535
14,543	37.54	Problem	no pump		12 sec for 30ft	106	0.4985	48	0.8973
21,877	42.14	Problem	no pump		12 sec for 30ft	106	1.234	48	1.31
16,210	32.04	Problem	no pump		9 sec. For 15 ft.	105	58.8063	48	0.978
26,210	38.04	OK	no pump		9 sec. For 15 ft.	105	57.6053	48	0.6386
28,877	35.54	OK			10 sec for 30ft	105	8.4698	48	4.2568
14,787	41.46	Problem	no pump		7 sec. for 30 ft.	105	13.1759	48	4.4755
14,120	45.36	Problem			15 sec. for 30 ft.	105	14.6531	48	5.6199
27,500	41.45	OK			12 sec. For 30 ft.	104	22.4791	48	4.4277
18,507	41.05	Problem			6 sec. For 30 ft.	104	7.432	48	2.619
19,083	41.28	Problem	no pump		15 sec. For 20 ft.	104	7.5764	48	3.013
#VALUE!	#VALUE!	#VALUE!	no pump		0	105	31.2925	48	5.1988
34,483	35.66	OK			15 sec. For 30 ft.	104	58.6047	48	5.6413
17,693	45.49	Problem			NONE	106	2.9025	48	0.8414
25,593	43.12	OK	no pump	close	NONE	105	38.1826	48	3.6227
13,993	37.70	Problem	no pump		10 sec. For 30 ft.	104	55.6089	48	7.7119
17,150	43.96	Problem		3 pumps	12 sec. For 30 ft.	105	15.5662	48	5.1537
18,190	43.54	Problem			11 sec. 30ft	106	11.3178	48	1.8131
28,040	43.99	OK			8 sec. For 30 ft.	105	18.7796	48	4.8499
25,373	44.69	OK	close		7 sec. For 30 ft.	105	17.5053	48	5.0727
35,040	44.79	OK			8 sec. For 30 ft.	105	18.7796	48	4.8499
17,410	43.68	Problem	no pump		14 sec. For 30 ft.	105	35.5372	45	5.021
21,847	33.75	Problem	no pump		9 sec 30ft	104	48.5032	48	7.2483
14,513	49.65	Problem			7 sec. For 30 ft.	104	47.8041	48	7.4921
23,180	45.95	OK	close		10 sec for 30ft	104	16.1904	48	7.6997
35,537	35.14	OK		2 pumps	None	104	32.0864	48	7.5967
16,693	40.69	Problem			10 sec. For 30 ft.	106	2.7126	48	0.4222
12,713	36.19	Problem			10 sec. For 30 ft.	106	3.7777	48	1.7788
26,040	35.39	OK	no pump		6 sec. For 30 ft.	106	2.8	48	1.0783
27,373	27.69	OK	close		20 sec. For 30 ft.	106	3.3994	48	1.8254
16,373	21.99	Problem			8 sec. For 30 ft.	106	3.9604	48	2.0267
#VALUE!		OK			10 sec. For 30 ft.	105	53.6404	48	0.8562
26,617	38.32	OK			10 sec. For 30 ft.	105	53.7285	48	1.2529
9,617	40.92	Problem			9 sec. For 20 ft.	105	53.0848	48	1.6922
21,275	48.12	Problem			None	104	6.505	45	1.949
14,150	37.86	Problem		3 pumps	9 sec. For 30 ft.	105	18.4282	48	4.7001
25,030	44.49	OK	no pump		None	104	3.3723	48	0.2011
21,530	34.64	Problem			0	104	104	48	48
34,180	36.45	OK	no pump		9 sec. For 30 ft.	104	54.0841	48	8.8192
28,180	42.35	OK			10 sec. For 20 ft.	104	53.789	48	8.8898
#VALUE!	#VALUE!	#VALUE!			9 sec. For 30 ft.	104	51.6794	48	7257
138		62							

1820		26	Centrifugal - Floating	New		30 Degrees	No	
1848		31	Centrifugal - Floating	Good		34 Degrees	Yes	
1846		0	Floating/Suction Centrifugal	Good		45 Degrees	No	
1853.25		9			0 Fair	90 degrees	Back water	
1846.21		9			0 Fair	78 degrees	Side Channel	
1828		30	Centrifugal - Floating	Good		90 degrees	No	
1827		30	Centrifugal-Deisel Trailer Mount	Good/New		90 degrees	Yes	
1798.49		20	Centrifugal/Floating Suction	Good/New		90 degrees	Yes	
1823.79		20			0 Old	90 degrees	No, Back channel	
1823.79		45	Sump	Fair		60 degrees		0
1837.4		10	Float Suct. Trailer Mnt, Centri.	Good/New		45 degrees		0
1821		30	Centrifugal - Floating	Good		80 degrees	Backwater	
1817		30	Centrifugal - Floating	Good		90 degrees	No	
1941		15			0 Old	Vertical	Backwater	
1924		30			0 Old	40*	Yes	
1939		41	Centrifugal Floating	Good		90*	Yes	
1898		15			0 good	90 degrees	Yes	
1852		15	Crissifulli/PTO driven	Old		90 degrees	No	
1846		15	Centrifugal - Floating	Old		80 degrees	Backwater	
1857		35			0 Good	90 degrees		0
1944		26	Crissifuli	Fair		90 degrees	Yes	
1870		11			0 Good	Vertical	Yes	
1840		29	Vertical Turbine	Fair		90 Degrees	Yes	
1839		21	Vertical Turbon	Good		90 Degrees	Yes	
1953		0		0		0 vertical	side	
1887		10	Centrifugal-Trailer Mounted	good		vertical	side	
1890		3	Crissifulli - PTO	good		vertical	side	
0		25			0 GOOD,NEW		0	0
0		25			0 GOOD,NEW		0	0
1890		33	Centrifugal - Floating	Fair		30 degrees	Back Water	
1895		4	Centrifugal - Bank Mounted	New		90 degrees	Yes	
1905		1	Floating/Suction	Fair		90 degrees	Yes	
2002		51	Centrifugal	Good		40 degrees	Yes	
1981		31	PTO (Gormen Rupp) Centrifugal	Old		90 degrees	Backwater	
1972		71	PTO (Gormen Rupp) Centrifugal	Old		90 degrees	Yes	
1855		3	Floating/Suction	New		90 degrees	Side Channel	
1850		35	Floating/Suction	Good		90 degrees	Yes	
1863		35	Floating/Centrifugal	Good		90 degrees	Yes	
1858		35	Floating/Centrifugal	Good		45 degrees	Yes	
1932		37	Centrifical/Gormon Pump.	Fair		90 degrees	Side channel	
1917		8	Centrifugal	Fair		58 degrees	Back water	
1832.25		42	Centrifugal - Floating	Good		10 degrees	Back water	
1819		5			0 Good		0	0
1965	N/A		Centrifugal	Good			40 Yes	
1933		0			0 Good	Vertical	Yes	
1928		3			0 New		40 Yes	
1928		3			0 Old		40 Side	
1930		60	Cent. Floating	Good		54*	Yes	
1837.25		10	Floating/Suction	Good		90 degrees	back water	
1847		14	Floating/Centrifugal	Old		60 degrees	back water	
1875		5	Centrifugal - floating	New		90 degrees	No	
1895		18	Floating/Suction	New		90 degrees	Side Channel	
1935		25	PTO-Crissafulli	Old			40 Yes	
1931		40	PTO Crissafulli	Old			0.4 No	
1958		40	PTO	Old			0.4 Yes	
1961		30	Centrifugal Burkley	Old			50 Yes	
1951		15	PTO Crissafulli	Old			40 Side Channel	
1895		16	Cornell	Good			0.45 Yes	
1955		1	Centrifugal	Good		90 degrees	Yes	
1945		2	Centrifugal	Good		40 degrees	Side Channel	
1850		5	Floating/Suction	Good		90 Degrees	Side Channel	
1806.5		5	PTO -Centrifugal	good		90 degees	Yes	
1807		5			0 NEW	90 degrees	No	
1925		20	Floating/Cetrifugal	New		90 degrees	Back water	
1873		22	Floating/Cetrifugal	New		90 degrees	Side channel	
1960	N/A		Centrifugal Trailer Mounted	Old		90 degrees	No	
1927		0	PTO Crissafuli	OLD		45*	Backwater	
1885		35	Suction Line	Fair		40 Degrees	Yes	
1895		27	Floating/Cetrifugal	Good		90 degrees	Yes	
1950		15	Burkley	Good		90 degrees	Yes	
1899		5	Centrifugal/Cornell	Good		90 degrees	Yes	
1940		5	Centrifugal/Cornell	Good		90 degrees	Side channel	
1899		5	Centrifugal/Cornell	Good		90 degrees	Yes	
1965		36	Centrifugal/Gormon Rup	Old		90 degrees	Yes	
1882.3		15	PTO	Old		90 degrees	Side channel	
1834		16	Centrifugal - Floating	Good		90 degrees	Yes	
1845		12	Centrifugal - Floating	Fair		Vertical	Yes	
1869		3	Floating/Suction	New		90 degrees	Back water	
1957		25	Centrifugal-Trailer Mounted	Good		90 degrees	Yes	
1979		61	PTO/Crissafulli	Fair		90 degrees	Yes	
1951		61	Centrifugal	Old		90 degrees	Yes	
1973		61	Centrifugal/Suction	Old		90 degrees	Side channel	
1975		61	Suction/Centrifugal	Old		90 degrees	Yes	
1981		43	Turbine/Fairbanks Morse	Good		90 degrees	Yes	
1972		28	Centrifugal/Gorman Rupp	Fair		90 degrees	Yes	
1967		27	Centrifugal/Gorman Rupp	Fair		80 degrees	Yes	
1813		25	Centrifugal Pump	Good			0	0
1920		4	Centrifugal - Floating	New		90 degrees	Yes	
1815.75	N/A		Suction	New		Vertical	No	
1870		35			0 GOOD		0	0
1860		41	Floating Pump	New		80 degrees	Yes	
1862		5	Centrifugal - Floating	New		90 degrees	Yes	
1860		1	Floating-Centrifugal	New		80 degrees	Yes	

Rmile	Bank_side	Irrac_past	Irrac_pres	Irrac_fut	Tie_descr	Bend
1616.4	North	365	365	515	Fence Post	Inside
1617.3	North	260	260	400	Railroad tie	Outside
1625.9	South	110	110	260	Cable to Tree	Inside
1651.6	South	950	950	1150	No	Outside
1650	South	280	280	280	Cable to fence post	Inside
0	North	360	360	360	Fence Post	Outside
0	North	260	260	260	Tree	Outside
1646.3	South	90	90	125		0 Inside
1647.4	South	124	124	124	Fence Post	Inside
1710.7	South	135	135	135	No	Outside
1750.5	North	16000	16000	16000		0 Outside
1736.5	North	3000	3000	3000		0 Outside
1733.2	South	50	50	90	Old Car	Inside
1690	North	800	800	800	Cable	Outside
1626.1	South	66	66	66	None	Outside
1664.9	South	220	220	220	Cable	Outside
1664.8	South	30	30	30	Cable	Outside
1662.2	South	140	140	280	Tee Post	Outside
1662.5	South	150	150	240		0 Outside
1621.9	South	250	250	350	Dead Man	Inside
1724.8	South	1012	1012	1012	N/A	Outside
1702	South	115	115	115	N/A	Outside
1705.9	South	75	75	75	Cable to fence tree	Outside
1644.3	South	140	140	none	Cable to fence post	Inside
1640.8	South	80	80	None	Cable to tree	Outside
1674.1	South	300	300	300	Cable to tree	Outside
1679.9	South	100	100	100	Deadman	Outside
1679.7	South	80	80	80	Railroad Tie	Outside
1667.5	South	30	30	30		0 Inside
1665.1	South	20	20	20		0 Outside
1669.8	South	180	180	180	Cable to R/R Tie	Outside
1620.8	North	N/A	N/A	N/A	Steel T post	Outside
1704.4	South	270	270	30		0 Outside
1716.4	South	35	35	35		0 OUTSIDE
1702.1	North	100	100	0		0 Inside
1716.4	South	240	240	0		0 Inside
1713.9	South	0	0	0		0 Inside
1702.5	South	140	140	140		0 Inside
1761.9	North	300	300	0		0 Outside
1765	North	240	240	100		0 Outside
1731.4	South	80	80	None		0 Outside
1703.8	North	72	72	72	No	Outside
1745.1	South	0	0	0		0 Inside
1664.3	South	370	370	740	Pole Tied with Cable	Outside
1658	South	70	70	70	To post	Outside
1657.5	South	140	140	140	Fence Post	Outside
1706.2	South	120	120	120	Cable to stump	Outside
1603.7	South	270	270	270	Fence Post	Outside
1627.4	South	0	0	0	Railroad Tie	Outside
1609	South	600	600	600	No	Inside
1607.7	South	500	500	500	Railroad Tie	Outside
1597.6	South	600	600	600	Deadman	Outside
1592.9	South	800	800	800	Corner Post	Outside
1610.9	North	300	300	400		0 Back water
1613	North	200	200	0		0 Inside
1605.4	North	800	800	No		0 Inside
1606	North	N/A	1000	1500		0 Inside
1604.5	North	800	800	No		0 Inside
1603.9	North	800	800	No		0 Back water
1602.5	North	100	100	200		0 Back water
1602.5	North	100	100	200	Tree (dead man)	Backwater
1587.7	North	0	40	40	Railroad Tie	Inside
1587.3	North	40	40	40	Railroad Tie	Inside
1697.3	North	320	320	30		0 Outside
1698	SOUTH	0	100	150		0 Outside
1714.9	SOUTH	40	0	100		0 Outside
1629.5	South	140	140	no		0 Inside
1628.1	South	65	65	no	No	Inside
1628.8	South	140	140	no	No	Inside
1623.9	North	0	275	0	Dead Man	Inside
0	South	125	125	125		0 Outside
1621.5	North	260	320	380		0 Outside
1589	South	1500	1500	1500	N/A	Outside
2 m up Ystone	West in Ystone	2000	2000	2000	dead man	Outside
1700.5	South	0	0	0	R/R tie	outside
1672	North	250	250	150	Fence Post	outside
1672.1	North	39	39	50	n/a	outside
1646	NORTH	0	950	950	cable ANCH'D AT HI BANK	INSIDE
1646.5	NORTH	0	0	80	cable ANCH'D AT HI BANK	INSIDE
1682.3	South	135	135	265		0 Outside
1686.7	South	140	140	490		0 Inside
1693.2	North	0	435	535	Railroad Tie	Inside
1766.2	North	0	0	0		0 Outside
1761.9	North	400	400	40		0 Inside
1761	North	400	400	0		0 Outside
1619.1	South	310	310	310	No	Inside
1633.2	South	260	260	360	T post	Outside
1632.4	South	130	130	130	Railroad Tie	Outside
1631.2	South	500	500	500	Tee post	Outside
1704.9	North	140	140	?	No	Inside
1705.9	North	170	170	?	No	Outside
1600.1	North	600	600	700		0 N/A
0	North	550	550	600		0 Outside
1745.6	South	90	90	nonoe	n/a	Inside
1706.1	South	0	0	0		0 Outside
1702.5	South	120	120	20		0 Straight
1702.7	South	65	65	20		0 Outside
1715.8	SOUTH	0	220	900		0 Outside
1616.7	South	100	100	no	N/A	Inside
1615.9	South	350	350	350	Railroad Tie	Outside
1646.3	South	150	150	190	Cable to Railroad Tie	Outside

1991.4	South		175	175		325	Cable to tree		Outside	
1738.9	South		160	160	none		n/a		Outside	
1739.4	south		120	120	None		n/a		Outside	
1739.9	South		90	90	None		n/a		Inside	
1734.8	South		220	220	None		n/a		Inside	
1733.6	South		70	70	None		Fence Post		Outside	
1673.1	South		240	240		240	Cable to tree		Inside	
1682.9	North		200	200		240		0	Outside	
1684.7	North		500	500		630	Railroad Tie		Outside	
1613.8	South		400	400		400	Tree		Inside	
1594.8	North		18	18		28	N/A		Outside	
1595.3	North		33	33		33	No		Outside	
1699.9	North		30	30		30	No			0
1656.8	South		300	300		300	Fence Post		Ouside	
1741.7	South		60	60		60	No		Outside	
1709.8	SOUTH		0	0		0		0	Outside	
1650.9	North		200	200		550	Deadman		Outside	
1685.6	South		300	300		300	Cable to fence		Inside	
1754.2	North		13	13		30		0	Outside	
1686.6	North		860	860		1010	Cable to tree		Inside	
1687.4	North		1000	1000		1000	Cable to tree		Outside	
1688.3	North		860	860		1010	Cable to tree		Inside	
1704.8	North		109	109		149	Cable to Post		Outside	
1643.7	South		86	86	No			0	Inside	
1643	South		120	120	None		Cable to tree		Inside	
1643	South		120	120	No		Cable to tree		Inside	
1624.5	North		390	380		380	T Post		Outside	
1741.1	South		375	375		375	No		Outside	
1743	South		125	125		155	Dead man		Inside	
1741.9	North		300	300		300	No		Inside	
1742.9	North		300	300		300	No		Outside	
1743.3	North		300	300		300	No		Outside	
1720.7	South		140	140	?		To Auger		Outside	
1720.4	South		30	30		30		0	Inside	
1718.9	South		50	50	?			0	Inside	
1593.2	North		60	60		100		0	Back water	
1687.9	South		1000	1000		1300	Cable to corner post		Outside	
1587.4	North		0	0		45		0	Back water	
1613	NORTH		300	300		450		0	Outside	
1649	South		100	150		190	Cable to Fence		Inside	
1648.8	South		165	165		215	Cable to fence		Inside	
1646.4	South		68	68		121	Cable to Fence		Inside	
		55	53335	56415		54715				
		87								

Erosion_bank	Erosion_up	Erosion_dn	< medflo	0.1	0.25	0.5
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139

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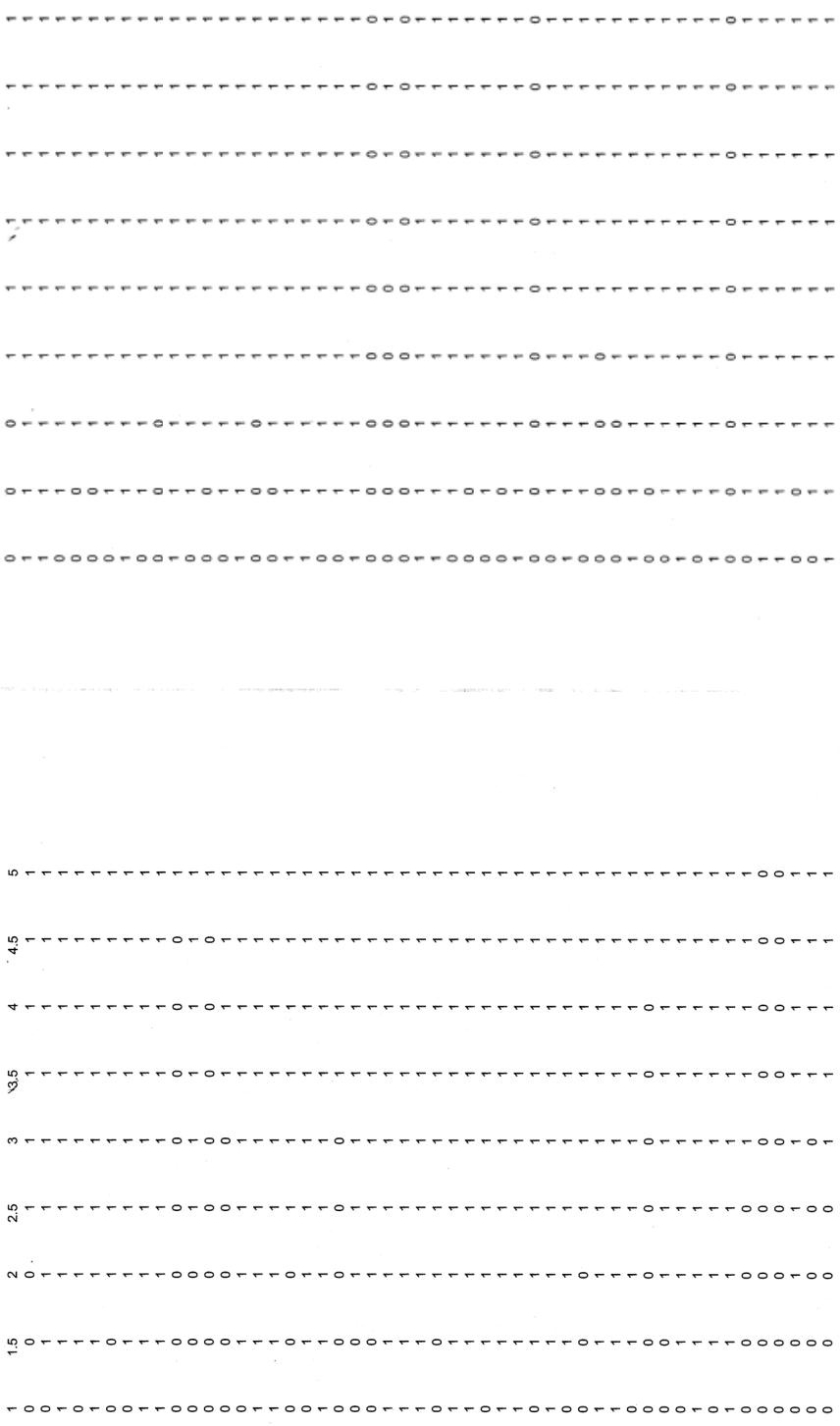
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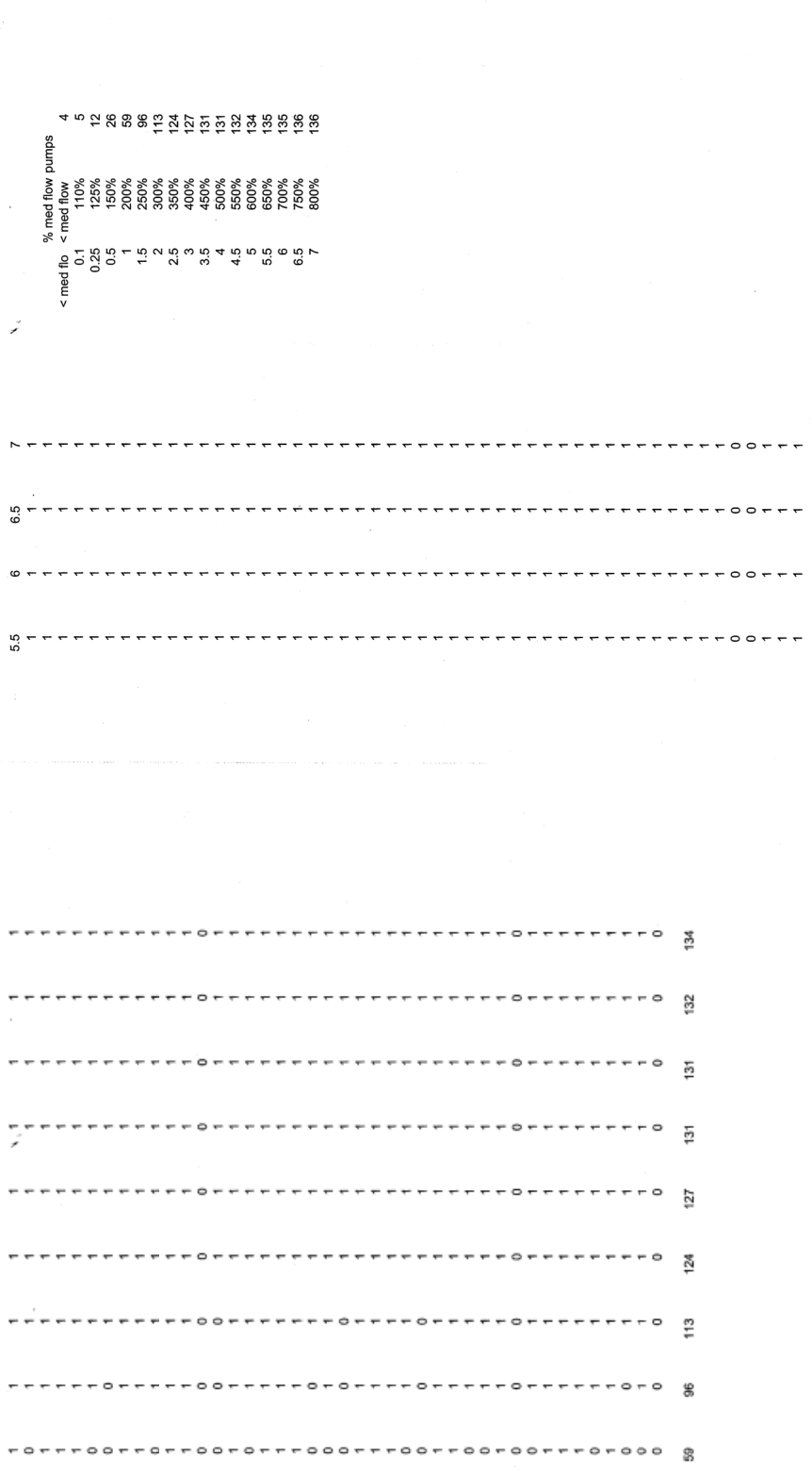
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< med flo < med flow
0.1 110%
0.25 125%
0.5 150%
1 200%
1.5 250%
2 300%
2.5 350%
3 400%
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4 500%
4.5 550%
5 600%
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6 700%
6.5 750%
7 800%
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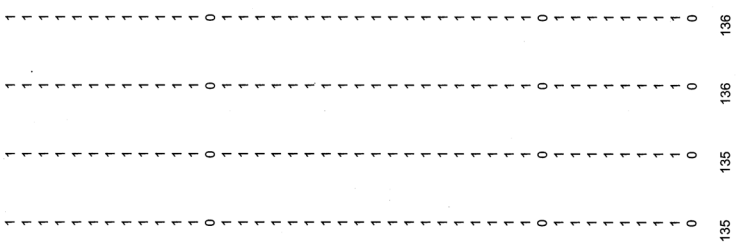
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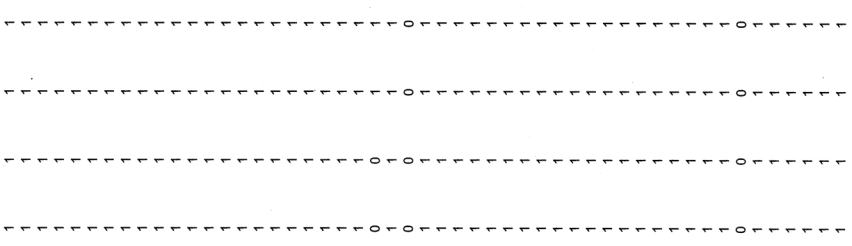
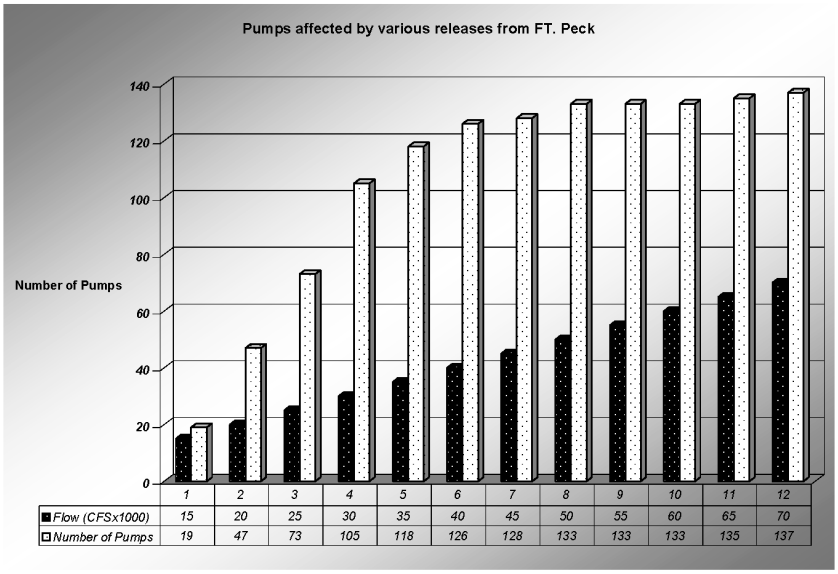
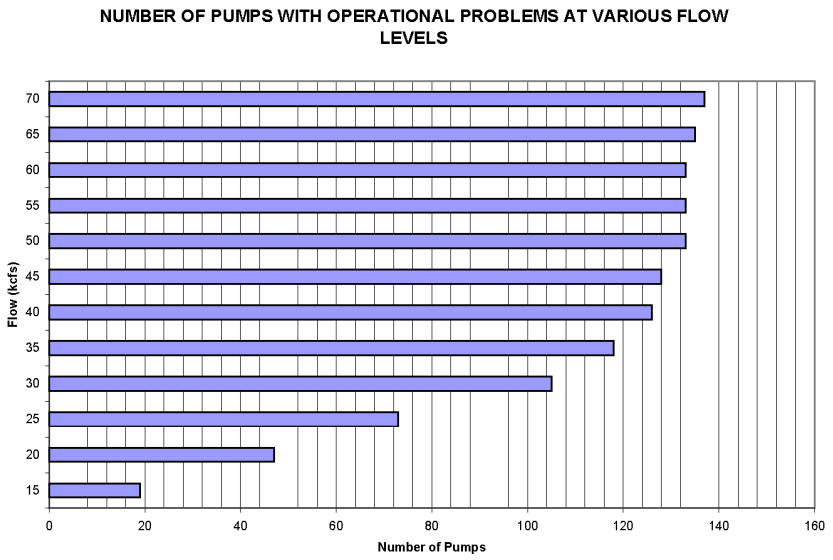


ATTACHMENT D



fp flow	wp flow	cl flow
9900	11,110	11,460
10,890	12,221	12,606
12,375	13,888	14,325
14,850	16,665	17,190
19,800	22,220	22,920
24,750	27,775	28,650
29,700	33,330	34,380
34,650	38,885	40,110
39,600	44,440	45,840
44,550	49,995	51,570
49,500	55,550	57,300
54,450	61,105	63,030
59,400	66,660	68,760
64,350	72,215	74,490
69,300	77,770	80,220
74,250	83,325	85,950
79,200	88,880	91,680

Flow (CFS:	Number of Pumps
15	19
20	47
25	73
30	105
35	118
40	126
45	128
50	133
55	133
60	133
65	135
70	137



MASTERMANUAL NWD02 L0100024

From: hal kantrud [halk995@daktel.com]
Sent: Wednesday, January 02, 2002 12:44 PM
To: Mastermanual
Subject: comment

The 300-member Stutsman County (North Dakota) Wildlife Club supports the Flexible Flow Alternative for the Master Manual.

other - 59

Sincerely,

Hal Kantrud
Secretary

02/28/02 THU 13:21 FAX 573 635 9009 MO MUNI LEAGUE L0100025 001

MISSOURI MUNICIPAL LEAGUE

1727 SOUTHRIDGE DRIVE
JEFFERSON CITY, MO 65109-5675
PHONE: (573) 635-9134
FAX: (573) 635-9009
www.mocities.com

February 27, 2002

Ms. Rose Hargrave
Master Manual Project Leader
U.S. Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, NE 68144-3869

Attn: Missouri River Master Manual RDEIS

Dear Ms. Hargrave:

On behalf of the Missouri Municipal League, I would like to express our desire that the current water control plan (CWCP) be maintained as the guidance plan for Missouri River Master Manual operations. Of the alternatives currently under consideration by the U.S. Army Corps of Engineers (Corps), we support the CWCP as the alternative of choice for the following reasons.

First, a man-made "spring rise" has the potential to adversely affect flood control and inland agricultural drainage. Any flood events or inland drainage problems resulting from the release of additional water from Gavins Point are "significant" to the individuals experiencing the event. The Corps admittedly does not have the ability to accurately forecast rain events or rain runoff and can, therefore, release water in advance of major rainstorm creating flood devastation to municipalities along the river.

FC 8
IntD 1

Second, higher reservoir levels reduce the water commitment to downstream states impacting future water supplies needed for irrigation, municipal drinking water, river commerce and water quality standard permitting.

WS 11

Third, summer flows reduced to "minimum" navigation levels or below from June 21 to September 1 will devastate congressionally authorized river commerce on the Missouri River and adversely impact Mississippi River operations in the "bottleneck" reach between Cairo, IL and St. Louis, MO. Interruption or cessation of Missouri River commerce will negatively impact transportation of agricultural commodities and inputs and industrial goods.

Nav 12
Miss 4

Fourth, flow reductions may also jeopardize the ability of utilities that draw Missouri River cooling water to meet the electricity needs of their customers during both the hot summer months when demand is at its highest and winter months when flows are normally the lowest. Water supply users and wastewater operations may also be affected by water quality issues as discharges are made into a lower flowing river.

MoPower 1

WQ 1, 2

02/28/02 THU 12:22 FAX 573 635 9008 MO MUNI LEAGUE 002

Ms. Rose Hargrave -2- February 27, 2002

For these reasons, I urge the Corps to continue using the CWCP as the guidance plan for Missouri River management.

Sincerely,

MISSOURI MUNICIPAL LEAGUE

Gary Markenson
Executive Director

GM/to

L0100027

GREENBERG
ATTORNEYS AT LAW
TRAURIG

February 27, 2002

Via FedEx (overnight delivery)

Project Manager
Master Manual Review and Update
12565 West Center Road
Omaha, Nebraska 68144

The MO-ARK Association, through its counsel, hereby respectfully submits additional written comments for the administrative record on the Revised Draft Environmental Impact Statement for the Missouri River Master Water Control Manual ("RDEIS"). The RDEIS is deficient in the following respects:

1. The scoping process was defective in that it failed to consider the environmental impacts of the alternatives on the Total Maximum Daily Load ("TMDL") Program set forth in Section 303 of the Clean Water Act. 33 U.S.C. § 1313(d); 40 C.F.R. § 1501.7(c) and § 1502.9(c). WQ 18, 15

2. The portion of the RDEIS on water quality and the impact of the alternatives on National Pollution Discharge Elimination System ("NPDES") permits issued pursuant to Section 402 of the Clean Water Act is "so inadequate as to preclude meaningful analysis" and therefore the United States Army Corps of Engineers ("Corps") "must prepare and circulate a revised draft of the appropriate portion." 40 C.F.R. § 1502.9(a). WQ 2

3. The Corps must prepare a supplement to the RDEIS since there "are significant new circumstances or information relevant to environmental concerns" that bear "on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(ii). New census data is available that shows marked increases of the piping plover population, and critical habitat has been and will be designated for the wintering and breeding populations respectively of the Northern Great Plains Piping Plover. EnSp 27

A. Scoping Process Defective for Failure to Consider TMDLs

The scoping process was defective in that it failed to consider the environmental impacts of the alternatives on the TMDL Program set forth in Section 303 of the Clean Water Act. 33 U.S.C. § 1313(d); 40 C.F.R. § 1501.7(c) and § 1502.9(c). The Corps does not give any consideration to the potential impacts the alternatives may have on the TMDL program implemented by the states. TMDLs are developed for those listed waters for which technology-based NPDES permit limits are not sufficient to provide attainment of water quality standards necessary to protect designated uses. Section 303(d) of the Clean Water Act requires TMDLs for all waters for which effluent limitations are not sufficient to meet water quality standards. 33

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SÃO PAULO FORT LAUDERDALE BOCA RATON WEST PALM BEACH ORLANDO TALLAHASSEE

U.S.C. § 1313 (d)(1)(A), (C). By design, TMDLs are more stringent than water quality-based criteria developed under Section 301 of the CWA.

In light of this distinction between technology-based criteria and TMDLs, the Corps should evaluate the potential impacts the alternatives may have upon both the ability of permitted entities to comply with TMDLs contained in NPDES permits, and the continuing viability of TMDLs that were developed based on assumptions and models under the Current Water Control Plan. The Corps' qualitative references to potential impacts on "water quality" associated with the alternatives ignores the potential impacts on more stringent and sensitive TMDLs.

In order to satisfy its obligations to review and address environmental impacts under NEPA, the Corps must revise the scope of issues identified for review in connection with the RDEIS and must further supplement the RDEIS to address these critical TMDL concerns raised by commenters. These TMDL concerns present significant environmental impacts, and should have been included in the scoping process.

A TMDL is the sum of those waste load allocations (WLAs) of a given pollutant from point sources, load allocations (LAs) from nonpoint sources, margins of safety (MOS) to reflect uncertainty in the calculations, and margins to accommodate discharges from future development (MFDs) that are necessary to reduce their total in order for the receiving water to meet a state water quality standard.[1]

TMDL = WLA + LA + MOS + MFD

Once established, waste load allocations derived through the TMDL process are incorporated into NPDES permits issued to entities discharging into affected water bodies.

TMDLs are developed through a process that relies upon mathematical modeling of pollutants based on data collected within a watershed, including the data characterizing the flow of individual bodies of water within the watershed. EPA, Guidance for Water Quality-Based Decisions: The TMDL Process, Introduction, at App. D. (Apr. 1991) [hereinafter the "1991 Guidance"]. States developing TMDLs must examine critical flow conditions, or reasonable "worst case" conditions, necessary to determine whether water quality standards will be attained. *Id.* These conditions will vary depending upon the type of pollutant for which the TMDL is formulated:

> In general, for point sources, continuous discharges present the greatest stress under low flow, dry weather conditions. For pollutants transported in runoff, critical conditions will be rainfall-related, but may occur under a variety of flow conditions. For

[1] Houk, Oliver A., *The Clean Water Act TMDL Program: Law, Policy, and Implementation,* Environmental Law Institute, Washington D.C. 1999.

> NPSs or intermittent point sources, generally, high flow, wet weather conditions need to be evaluated. For carcinogenic pollutants, harmonic mean flows may be appropriate.

Id. Logically, existing and planned TMDLs for point sources may be greatly impacted by lower than expected flows that provide less opportunity for dilution, and TMDLs for non-point sources may be greatly impacted by higher than expected flows that could increase runoff-related pollution.

According to the EPA, waste load allocations and load allocations derived through the TMDL process should incorporate information relating to variations or modifications in flow:

> Historically, the water quality-based pollution control program has focused on reducing the load of chemical contaminants (*e.g.*, nutrients, biochemical oxygen demand, metals) to waterbodies. EPA has defined the terms load, loading capacity, and load allocation in regulations and technical guidance documents so that wasteload allocations can be calculated. Chemical contamination problems will continue to constitute a major portion of pollution control efforts and the terms "load" and "load reduction" are used throughout this document. However, *it is becoming increasingly apparent that in some situations water quality standards – particularly designated uses and biocriteria – can only be attained if non-chemical factors such as hydrology, channel morphology, and habitat are also addressed.* EPA recognizes that it is appropriate to use the TMDL process to establish control measures for quantifiable non-chemical parameters that are preventing the attainment of water quality standards. Control measures, in this case, would be developed and implemented to meet a TMDL that address these parameters in a manner similar to chemical loads. As methods are developed to address these problems, EPA and the States will incorporate them into the TMDL process.

1991 Guidance, Introduction, at 5 (emphasis added). The EPA urges states to be sensitive to the fact that variations in flow or hydrology within a watershed or for a specific water body can inhibit efforts to attain water quality criteria, and also can substantially complicate efforts to comply with state and federal TMDLs. *Id.*

The EPA has approved 801 TMDLs submitted by the states participating in the Missouri River Basin Association ("MRBA"): Wyoming (153), Montana (209), North Dakota (13), South Dakota (112), Nebraska (2), Iowa (3), Kansas (286) and Missouri (23). EPA, *Total Maximum Daily Load (TMDL) Program, National Section 303(d) List Fact Sheet* (visited Feb. 12, 2002), <http://oaspub.epa.gov/waters/national_rept.control>. In order to address the potential impacts

of changing hydrology on TMDL compliance, some states, including Kansas, have begun to adopt TMDLs governing "flow alteration" for specific water bodies. EPA, *Total Maximum Daily Load (TMDL) Program, Section 303(d) List Fact Sheet for EPA Region 7* (visited Feb. 12, 2002), <http://oaspub.epa.gov/waters/region_rept.control/p_region=7> (providing link to Kansas flow alteration). In EPA Region VII, which consists of Iowa, Kansas, Missouri and Nebraska, TMDLs have been approved for the following pollutants: nutrients, fecal coliform, sulfate, dissolved oxygen, pH, chloride, noxious aquatic plants, sediment, chlordane, unionized ammonia, BOD, chlorides, chlorine, non-filterable residue, atrazine, ammonia, temperature, nickel, manganese, iron, aluminum, selenium, zinc, nitrite/nitrate, boron, fluoride, alachlor, turbidity and flow alteration. *Id.*

Many of these TMDLs are based on flows directly related to the Missouri River or its tributaries. For example, the EPA has approved TMDLs in Montana for stretches of the Missouri River near Great Falls (fecal coliform), Fort Benton (BOD_5, TSS, nitrogen and phosphorous) and Poplar (BOD_5, phosphorous, nitrogen and TSS). Montana Department of Environmental Quality, *Summary of TMDL Approvals in Montana* (visited Feb. 12, 2002) <http://www.deq.state.mt.us/ppa/mdm/TMDL/summary_of_tmdls.asp>. Many of these pollutants are concentrated under low flow conditions that are below those relied upon for dilution in models from which these TMDLs were derived. Similarly, EPA has approved a TMDL for chlordane in Missouri for the Creve Coeur Lake, a natural oxbow lake formed by the Missouri River and lying in the Missouri River floodplain, that calls for continuing studies to insure that chlordane levels remain below 0.3 mg/kg. Missouri Department of Natural Resources, *Total Maximum Daily Load for Creve Coeur Lake, St. Louis Count, Missouri* (approved Nov. 19, 2001), <http://www.dnr.state.mo.us/deq/wpcp/tmdl/creve_coeur_lake_final_tmdl.pdf>. In the event chlordane, which is present in soils and mobilized as a pollutant only through runoff in the Missouri River floodplain, is discovered in increased concentrations, this TMDL must be reopened and re-evaluated. *Id.* In this case, chlordane may be concentrated under high flow conditions that are above those relied upon in models from which the chlordane TMDL was derived.

B. Water Quality and NPDES Permit Impact Analyses are Inadequate

The portion of the RDEIS on water quality and the impact of the alternatives on National Pollution Discharge Elimination System ("NPDES") permits issued pursuant to Section 402 of the Clean Water Act is "so inadequate as to preclude meaningful analysis" and therefore the Corps "must prepare and circulate a revised draft of the appropriate portion." 40 C.F.R. § 1502.9(a).

The Corps considers some potential impacts that the alternatives to the Current Water Control Plan may have upon "water quality," *see* §§ 5.4 & 7.4 in the Revised Draft Environmental Impact Statement for the Missouri River Master Water Control Manual

("RDEIS"). Nevertheless, this analysis should not pass muster upon review by the EPA. Pursuant to NEPA and Section 309 of the Clean Air Act, the EPA is required to review environmental impact statements and rate them based on the environmental impacts of the proposed action(s) and the adequacy of the action agency's analyses. The EPA is required to comment in depth on those aspects of the EIS over which the EPA has jurisdiction, such as the Clean Water Act. The EPA assigned the 1994 Draft EIS a rating of EU-3. This rating indicated that the environmental impacts of the project as proposed were unacceptable and that the quality of the analyses was inadequate.[2] Unfortunately, the RDEIS does not provide a substantially more detailed water quality review.

In Table 5.4-2 of the RDEIS, covering effects of submitted alternatives on the river reaches of the Missouri River, the Corps states:

> There is a lack of available information to determine the critical summer flow at Gavins Point Dam that could cause aquatic life criteria to be exceeded below flows of 25 kcfs. It seems possible that Lower River flows in combination with lower tributary flows in combination with lower tributary flows could create conditions that cause aquatic life criteria to be temporarily exceeded. During drought conditions, there is the possibility that some water quality criteria with low values may be exceeded in the Missouri River. Chronic water quality standards may be exceeded in localized river segments. . . .

The analysis under Section 7.4.2 of the RDEIS covering water quality effects of the alternatives in the river reaches of the Missouri River is somewhat more detailed. It states, in part, as follows:

> Water quality in the Missouri River decreases under the GP1528 option, the potential starting point option, when the 15-kcfs spring rise and the minimum navigation service flat release at Gavins Point Dam are added to the MCP. Under the GP1528 option, the summer flows at Gavins Point Dam are lower than the MCP flows. This provides less downstream dilution of point and nonpoint pollutants. This lack of dilution may periodically affect aquatic life and recreational use water quality. . . .
>
> The GP2021 option has the 20-kcfs spring rise above full service navigation and 25/21-kcfs split summer release from Gavins Point Dam. The reduced summer release discharge relative to that of the GP1528 option causes less dilution of pollution entering

[2] *See, Policy and Procedures for the Review of Federal Actions Impacting the Environment*, EPA Office of Federal Activities, October 3, 1984, Appendix: "EU—Environmentally Unsatisfactory The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare of environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage this proposal will be recommended for referral to the CEQ. Category 3—Inadequate EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action . . ." *See also* Summary of Rating Definitions, 66 FR 27647 (May 18, 2001).

the river. Summer low-flow conditions may negatively affect aquatic life and recreational uses due to a loss of pollutant dilution and may require reduced powerplant thermal discharges to the river. The effects of a change to the GP1521 option are similar because the summer low flows are similar under both GP options. With a change in only the spring rise amount from 15 kcfs to 20 kcfs, as with the GP2028 option, no change in water quality is expected in the Missouri River relative to the GP1528 option.

Nevertheless, with 5,178 NPDES permits in the Missouri River Basin as of about the beginning of December 2001, the magnitude of the impacts of both low summer flows and spring rises must be analyzed in greater detail to meet the requirements of EPA policy. Further analysis is especially required since a significant portion of these permits relate to discharges directly to the Missouri River. (*See* the enclosed copies of NPDES permit data in response to Freedom of Information Act requests to EPA Regions 7 and 8, labeled "Freedom of Information Act Request Number 07-RIN-00053-02, EPA Region 7, volumes 1, 2 and 3; Freed om of Information Act Request 08-RIN-31-02, Ref: 8ENF-PT, volumes 1 and 2." The response letter from EPA Region 7 is dated December 4, 2001, and the response letter from EPA Region 8 is dated November 19, 2001.)

Appendix B of the RDEIS appropriately lists Tribal and State water quality standards,[3] but the RDEIS does not specifically evaluate whether such standards will be met under the alternatives. In letters sent to the states on or about May 2001, the EPA stated that one of the significant concerns that contributed to the adverse rating of the 1994 Draft EIS was the failure of it "to analyze compliance of the alternatives . . . with EPA-approved state water quality standards, including designated beneficial uses, water quality criteria, anti-degradation policy, and any applicable implementation procedures."

The EPA letters go on to state that, as the action agency, the Corps is required to perform such an analysis. "If a particular alternative violates state water quality standards, EPA would rate it as environmentally unacceptable." Even from the scant analysis provided in the RDEIS, it is apparent that the GP 1528 ("lack of dilution may periodically affect aquatic life and recreational use water quality"), GP 2021 ("may require reduced powerplant thermal discharges to the river"), and GP 1521 ("no change in water quality is expected in the Missouri River relative to the GP1528 option," which option may periodically affect aquatic life and recreational

[3] Since no Missouri River basin Tribes have been authorized to administer the NPDES program, the EPA issues NPDES permits for discharges to Tribal waters and enforces the standards for the State in which the Reservation is located (40 C.F.R. § 122.31); the Fort Peck Reservation has approved water quality standards; Montana Admin. Code 17.30.620 *et seq.*; North Dakota Admin. Code 33-16-02.1 *et seq.*; South Dakota Admin. Code, Article 74:51 *et seq.*; Iowa Admin. Code 567-61.2 *et seq.*—"For those waters of the state designated as high quality or high quality resource waters and the Mississippi and Missouri Rivers, any proposed activity that will adversely impact the existing physical, chemical, or biological integrity of that water will not be consistent with Iowa's water quality standards." 61.2 (1)(g); Nebraska Admin. Code tit. 117, Chap. 4: "For the Missouri River, from the South Dakota—nebraska state line near Ft. Randall Dam to Sioux City, Iowa, the maximum temperature limit is 85° F (29° C) with an allowable change of 4° F (2° C) from natural. 003.01B; Kansas Admin. Reg. 28-16-28b and 28c; Missouri, 10 CSR 20-7.031 and 10 CSR 20-7.015.

use water quality) options will violate state water quality standards.[4] Therefore, they are environmentally unacceptable and cannot be implemented.

With respect to water quality standards, please note that to determine a total daily load under an NPDES permit, one must calculate the amount of a pollutant that can be added to a given quantity of water, assuming a known amount of assimilation, without exceeding an overall concentration of the pollutant in the water body. Obviously, a significant change in the flow from that analyzed by the permit writer would affect compliance with the permit.

Moreover, the RDEIS does not correlate reduced water quality to impacts on the endangered pallid sturgeon. State water quality standards contain biological criteria for species (*see* footnote 3). For example, Nebraska regulations state that "[a]ny human activity causing water pollution which would significantly impact or displace an identified 'key species' shall not be allowed . . ."[5] "Key species" include the pallid sturgeon.[6]

Pollution is a likely threat to the pallid sturgeon over much of its range. Recovery Plan for the Pallid Sturgeon, USFWS, November 7, 1993, at p. 14.

> Pollution of the Missouri River by organic wastes from towns, packing houses, and stockyards was evident by the early 1900's and continued to increase as populations grew and additional industries were established along the river (Whitley and Campbell 1974). Due to the identified presence of a variety of pollutants, numerous fish-harvest and consumption advisories have been issued over the last decade or two from Kansas City, Missouri, to the mouth of the Mississippi River. This represents about 45 percent of the pallid sturgeon's range.
>
> Polychlorinated biphenyls (PCB's), cadmium, mercury, and selenium have been detected at elevated concentrations in tissue of three pallid sturgeon collected from the Missouri River in Norht Dakota and Nebraska. Detectable concentrations of chlordane, DDE, DDT, and dieldrin also were found (Ruelle and Keenlyne 1991). Abandoned landfills, mines, sewage treatment plants, and industries have a high potential to contaminate pallid sturgeon habitats in several States. . . .
>
> The prolonged egg maturation cycle of the pallid sturgeon (Conte et al. 1988), combined with an inclination for certain contaminants to be concentrated in eggs (Ohlendorf et al. 1981; Eisler 1986), could make contaminants a likely agent of adversely affecting developing eggs, development of embryos, or survival of fry, and thereby reduce reproductive success (Ruelle and Keenlyne 1991).

[4] Water quality-based criteria are narrative or numeric standards set at levels necessary to protect "designated uses" established by states for individual water bodies. 33 U.S.C. §§ 1281(b), 1314(b), 1316 & 1317.
[5] Nebraska Admin. Code, tit. 117, chap. 4—003.01G.
[6] *Id.* At 003.01G1.

Id. See also "Review of Missouri River Management Alternatives and Development of a Preferred Alternative," Missouri River Technical Committee of the Siouxland Chamber of Commerce, February 18, 2002, pages 23—26, placed on the administrative record for the RDEIS.

C. Significant New Information

The Corps must prepare a supplement to the RDEIS since there "are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(ii). New census data is available that shows marked increases of the piping plover population, and critical habitat has been and will be designated for the wintering and breeding populations respectively of the Northern Great Plains Piping Plover. Please see the letter from Robert J. Vincze of Greenberg Traurig, LLP, as attorney for the MO-ARK Association and the Missouri Levee & Drainage District Association to the Program Manager, Master Manual Review and Update, dated February 11, 2002, with an attachment, placed on the administrative record for the RDEIS. *See also* "Review of Missouri River Management Alternatives and Development of a Preferred Alternative," Missouri River Technical Committee of the Siouxland Chamber of Commerce, February 18, 2002, pages 8—12, placed on the administrative record for the RDEIS.

In summary, field data for the 2001 International Piping Plover Census shows that plover numbers along the Missouri River have grown 470 percent in the last five years and 140 percent in the decade. In the U.S. Northern Great Plains, piping plover numbers increased 25 percent in five years. (Environment News Service: AmeriScan: January 25, 2002, article attached.) The census is scheduled for formal release in March 2002.

The very significant and substantial increase in the plover population along the Missouri River under the present Master Water Control Manual indicates that conclusions drawn in the Biological Opinion are erroneous and that the reasonable and prudent alternatives set forth therein may not be reasonable or prudent. Furthermore, the resurgence of the piping plover in the last five years is not due to flows associated with the MCP or any of the GP alternatives set forth in the RDEIS. In support of the foregoing statement, I attach data from the U.S. Geological Survey, published daily mean streamflow data for the Missouri River at Sioux City, Iowa, at Nebraska City, Iowa and at Kansas City, Missouri for the period from March 1, 1997 through December 31, 2001.

Significant new information also is contained in the final determination of critical habitat for wintering piping plovers made on July 10, 2001, after the Biological Opinion was issued. (66 F.R. 36038). In addition, the U.S. Fish & Wildlife Service also published a proposed rule to designate critical habitat for the northern Great Plains breeding population of the piping plover on June 12, 2001. (66 F.R. 31760.) The final rule may be issued in the spring of 2002.

Respectfully submitted,

Robert J. Vincze
Attorney for the MO-ARK Association

attachment
enclosures

L0100028

KIRK DRAINAGE DISTRICT

Larry Maguire, Chairman
Carol Maguire, Trustee
Marion Maguire, Trustee

Resolution

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, The United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and — FC 8 Rec 4,6,10

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Harrison County well fields and result in a loss of public drinking water supplies and create a danger to public health; and — WQ 12

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and — FC 8 IntD 1 GW 2

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and — Nav 12

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and — MoPower 1

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans; and — Other - 10

WHEREAS, as trustees of the Kirk Drainage District, changes in water levels could damage the ditches and cause flooding of farmland and cities. — FC 8

NOW, THEREFORE, BE IT RESOLVED BY THE TRUSTEES OF THE KIRK DRAINAGE DISTRICT, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the draft implementation plan. — Other - 60

PASSED AND APPROVED this 21st day of February, 2002.

ATTEST: Elizabeth Lenz
Elizabeth Lenz, Clerk

Larry Maguire, Chairman

L0100029

UPPER BOYER DRAINAGE DISTRICT

Ron Kersten, Chairman
Larry Maguire, Trustee
Kenneth Sullivan, Trustee

Resolution

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, The United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and — FC 8 Rec 6, 10

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Harrison County well fields and result in a loss of public drinking water supplies and create a danger to public health; and — WQ 12

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and — FC 8 IntD 1 GW 2

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and — Nav 12

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and — MoPower 1

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans; and — Other 10

WHEREAS, as trustees of the Upper Boyer Drainage District, changes in water levels could damage the ditches and cause flooding of farmland and cities. — FC 8

NOW, THEREFORE, BE IT RESOLVED BY THE TRUSTEES OF THE UPPER BOYER DRAINAGE DISTRICT, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the draft implementation plan. — Other 93

PASSED AND APPROVED this 21st day of February, 2002.

ATTEST: Elizabeth Lenz
Elizabeth Lenz, Clerk

Ron Kersten, Chairman

L0100030

Harrison County
Board of Supervisors, 111 N Second Ave., Logan, IA 51546

Robert V. Smith, Chairman
Rolland A. Roberts, Member
Larry King, Member

Resolution

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, The United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and — FC 8, Rec 6, 10

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Harrison County well fields and result in a loss of public drinking water supplies and create a danger to public health; and — WQ 12

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and — FC 8, IntD 1, GW 2

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and — Nav 12

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and — MoPower 1

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans; and — Other 10

WHEREAS, as trustees of certain Harrison County drainage districts, changes in water levels could damage the ditches and cause flooding of farmland and cities. — FC 8

NOW, THEREFORE, BE IT RESOLVED BY THE HARRISON COUNTY BOARD OF SUPERVISORS, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the draft implementation plan. — Other 93

PASSED AND APPROVED this 14th day of February, 2002.

ATTEST: Susan Bonham
Susan Bonham, Auditor

Robert V. Smith
Robert V. Smith, Chairman

L0100031

JAMES L FLETCHER
P. O. Box 336
Gideon, MO 63848

U. S. Army Corps of Engineers
Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Gentlemen:

I thank you for letting me speak at this hearing on the future of the Missouri river, which also impacts on the Mississippi river.

My name is James Fletcher and I live at Gideon, Missouri. I am a farmer and a member of the Board of Supervisors of The Little River Drainage District, with offices here in Cape Girardeau.

Since the beginning of organized civilization rivers have played an important part in the devleopment and growth of the world.

This nation is blessed with one of the greatest systems in the world--the Mississippi, the Missouri, and the Ohio. This system drains flood waters from most of the land between the Rocky mountains and the Appalacian mountains. Not only is it the greatest storm drain system, but it furnishes this country with an irreplacable transportation system. — Miss 28

The railroads of the nation and particularly in my immediate area have apparently abdicated much of their responsibility to move our production from one place th another.

Our highways are not now capable of handling the overload that would result in the closing of our rivers as a means of handling the production of this nation. I recently heard a speaker tell how many hundreds of thousands of trucks that would be needed to handle the freight now being handled by our rivers.

In my own particular area, the Mississippi river is the only means of getting our farm production to the export markets.

Sincerely,

James L Fletcher

James L. Fletcher

L0100032

4653 Colfax Ave. S.
Minneapolis, MN 55409
February 15, 2002

Rose Hargrave
Master Manual Project leader
U.S. Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaho, NE 68144-3869

Dear Ms. Hargrave:

I am writing to urge you to change to was that the Corps manages the dams on the Missouri River. I am concerned that the river has been managed for the benefit of a few barges, but at the expense of wildlife, natural habitat, recreation, and tourism.

Rec 14, 16

I write as a citizen and also as a board member of the Mississippi Whitewater Development Corporation. We have had a very satisfying relationship with the Corps in our community. They have been enthusiastic about developing the recreational potential of the Mississippi in our city. In our case, of course, supporting recreation did not involve any change in the water levels between dams. The case of the Missouri may be much more contentious because we are asking to stop controlling the natural rise and fall of the river and I understand that there are commercial navigators that desire such control. Nevertheless, the Corps should consider the environment at least as much as commercial interests. The river belongs to everyone, not only those who navigate it.

Thank you,

Stephen W. Smith, MD
Board Member
Mississippi Whitewater Development Corporation

L0100033

General David Fastabend
USACE Northwestern Division: MO River Master Manual Review
12565 West Center Rd.
Omaha NE. 68144-3869

Dear General Fastabend,

My name is Eric Niemann and I am a farmer, and Chairman of the Atchison- Doniphan Levee District 15-45 at Atchison Kansas. I would like to make comments concerning the proposed changes in the flow of the Missouri river.

First of all, landowners, farmers, business owners, and municipalities have invested years of work and derive their livelihood from land that borders the river. My family cannot operate our farm when artificial influences affect the flow of the river that could magnify nature's events. I would ask that you would consider human lives and private property rights when considering your options.

Field data from the 2001 International Piping Plover Census shows that plover numbers along the Missouri have grown 470 percent in the last five years.

EnSp 27

Navigable waterways are an efficient way to move 2.3 billion tons of the nation's domestic and foreign commerce. According to the U.S. Department of Transportation, demands on the waterway system are expected to double by 2020. I would rather see a 15 barge tow than meet 900 semi's on our worn out highways.

Nav 6

At 17 feet river stage at Atchison Kansas we close our evacuation flood gates. A 4 foot rise would cause considerable problems for our levee district. A lot of rain can fall after a large release that cannot be taken back.

IntD 1

I would close in asking that common sense be used and consideration of human lives be used when planning for management of the Missouri River in the years ahead.

Thank you for your consideration.

Eric Niemann
796 Greeley Road
Nortonville Kansas 66060

MASTERMANUAL NWD02 L0100034

From: John Goode [Ritterauction@earthlink.net]
Sent: Sunday, November 25, 2001 7:05 PM
To: Master Manual Project Leader Rose Hargrave
Subject: Missouri River Master Manual RDEIS

John Goode
8403 N HWY
Orrick, , MO 64077

November 25, 2001

Master Manual Project Leader Rose Hargrave
U.S. Army Corps of Engineers, Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Master Manual Project Leader Hargrave:

Ms. Hargrave,
I commend the Corps for the work it has done the past 50 or more years. Matintaining a 12 foot channel for barges, and preventing spring floods is very important to farmers along the Missouri River.

FC 8
Nav 6, 13

Sincerely,

John Goode, Sec. Treas., Tri-County Drainage Dist.

U.S. Army Corps of Engineers
Northwestern Division

COMMENT Form
MISSOURI RIVER MASTER MANUAL RDEIS
L0100035

Contact Information:
Name: Wallace Parker - Chairman McCandless Interwoody Drainage
Address: 308 - Eastview Dr.
City, State, Zip: Sloan, Iowa 51055
e-mail address:

We welcome your mailed or faxed comments. Fax number: (402) 697-2504. Comment categories are provided in the newsletter.

Comments:

Choose a category/categories for each comment from the list provided in the newsletter.

1. **Category(ies):** Flood control - Interior Drainage Damage

Having a Spring rise in the Spring would flood some crop land and greater hamper our Interior Drainage as chairman of this 43,000 A Drainage District, I am very much opposed to a Spring rise.

I think the army corps has done a very good job. Keep it upas is.

FC 8
IntD 1

2. **Category(ies):** Missouri River Navigation & Power Plants

Dropping the river or low flow in the summer would greatly reduce Barge traffic. Forcing Barge goods on to trucks and onto our busy Hi Ways. at greater cost.
Low flow to Power Plants would greatly increase their cost & would increase our cost of Power.

Nav 12, 23
MoPower 1

3. Category(ies): I think the Missouri river should be controled very much as in the Past
1- Flood control - 1st
2 Hydropower Production - Second
3 Missouri River Navigation 3rd
4 Wildlife 4th
5 Recreation - last

Other 6

L0200001

Resolution #2002-02

A resolution urging the United Sates Army Corps of Engineers to reconsider its Draft Implementation Plan for the Final Biological Opinion on the Operation of the Missouri River Main Stem Reservoir System that proposes to release higher than normal flows in the spring and fall and release substantially lower flows in the summer.

Whereas, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and

Rec 6

Whereas, increased spring flows will cause undue bank erosion; and

Whereas, increased spring flows will result in further degradation; and

ErSd - 9

Whereas, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and

FC 2

Whereas, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the transportation infrastructure; and

Nav 12, 23

Whereas, reduced summer flows jeopardize electric power supply during peak usage months; and

HPower 18

WAPA 3

Whereas, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans;

Other 10

Now, therefore, be it resolved, by the County of Union County, South Dakota, that the United States Corps of Engineers be urged to address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

Vote of Commissioners: 5 aye, 0 nay.

Dated this 19th day of February 2002.

Attest: Carol Klumper
Carol Klumper, County Auditor
Union County

Roger Boldenow
Roger Boldenow, Chairman
Board of Commissioners

L0200002

CARROLL COUNTY COMMISSION

David Martin, Eastern Dist. *Nelson Heil, Presiding* *Donald Vantrump, Western Dist.*

*8 S. Main, Suite 6, Carrollton, MO 64633 * Phone: (660) 542-0615 * Fax: (660) 542-0621*

October 29, 2001

U.S. Army Corps of Engineers Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 W. Center Rd.
Omaha, NE 68144-3869

To Whom It May Concern:

The Carroll County Commission does hereby go on record as being in opposition to the spring rise - low summer and fall rise (split season) for the following reasons:

1. The increase releases most surely would put water against the levees regardless of normal run-off below Gavins Point.
2. The seep-water from this high river would prevent many fields from being planted.

GW 2

Sincerely,

Nelson Heil, Presiding Commissioner

David Martin, Eastern District Commissioner

Donald Vantrump, Western District Commissioner

CCC/hab

L0200003

MONONA COUNTY, IOWA

BOARD OF SUPERVISORS

Richard C. Merritt Sr., West District
Stanley Skow, N.E. District
Lester Nordaker, S.E. District

Monona County Courthouse 610 Iowa Ave., Onawa, IA 51040
Telephone (712) 423-1585

US ARMY CORP OF ENGINEERS NORTHWESTERN DIVISION
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha NE 68144-3869

Gentlemen:

We are opposed to the changes proposed in the RDEIS from the CWCP for the following reasons:

1. Adverse efforts on drainage in the critical spring period – raised ground water table and holding water back in local ditches and streams, does not appear research done in Monona County on its effects. IntD 2
2. Disruptive effect on power production in peak demand periods. HPower 18
3. Question beneficial effects on threatened and endangered species. To much questionable science has been used. WAPA 3 EnSp 12
4. High flow rates further degregate the channel, doing away with more local habitat. WRH 7,6
5. If the master plan would go into effect without any changes, you could add the family farm and related agricultural operations to the list of endangered species.

In conclusions some adaptive management might be tried to see if there is a basis for the claimed science.

Respectfully submitted,

Monona County, Iowa Board of Supervisors

L0200004

Missouri Association Of Counties
516 East Capitol Avenue, P.O. Box 234, Jefferson City, MO 65102-0234
Telephone: (573) 634-2120 Fax: (573) 634-3549 Web Site: www.mocounties.com
Ross D. "Dick" Burke, Executive Director

1972-2002

January 15, 2002

Brig. Gen. David Fastabend
U.S. Army Corps of Engineers
Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Brig. Gen. David Fastabend:

I am enclosing for your reference resolutions adopted by the memberships of both the Missouri Association of Counties, and the County Commissioners Association of Missouri regarding the United States Army Corps of Engineers proposed water flow control plan.

Our members share the concerns of many other Missourians who are fearful of the potential damage this plan would cause. Thank you for your consideration of our position with respect to this very critical issue.

Sincerely,

Dick Burke
Executive Director

enclosures

RESOLUTION IN OPPOSITION OF THE U.S. ARMY CORPS OF ENGINEERS' PROPOSED WATER FLOW CONTROL PLAN

WHEREAS, the United States Congress has assigned to the U.S. Army Corps of Engineers the responsibility of managing the inland waterway system of the United States for the primary purposes of flood control and navigation, and

WHEREAS, the U.S. Army Corps of Engineers has developed, and is currently considering, a management plan for the Missouri River which would include an increase in water flow levels during the spring and fall seasons, as well as restricting navigation by barge traffic to limited portions of the year, excluding summer and winter, and

WHEREAS, the Missouri Association of Counties is of the collective opinion that the Water Flow and Control Management Plan currently being considered for adoption by the U.S. Army Corps of Engineers will result in an increased threat to public safety by causing greater potential for flooding in communities adjacent to the Missouri River and its tributaries due the increased volumes of water during wet seasons and that such flooding will result in greater damage and costs to repair public infrastructure, as well as private property loss, and

FC 8

WHEREAS, the Missouri Association of Counties also believes that a shortened navigation season for barge traffic will result in an economic detriment to the state of Missouri by placing a greater burden on other modes of surface transportation, such as highway and rail, which are currently stretched to over-capacity, and

Nav 12, 23, 24

WHEREAS, the Missouri Association of Counties recognizes that as a matter of national interest and security, it is necessary to maintain a system of transportation venues that can capably move large volumes of materials and supplies over distance efficiently so as to ensure a strong national defense,

THEREFORE, BE IT RESOLVED, that the Missouri Association of Counties hereby states its opposition to the plan currently being considered by the United States Army Corps of Engineers for the future management of the Missouri River and further desires to respectfully encourage the Corps of Engineers to utilize the present plan for Missouri River Management which does not threaten the public safety, economic well-being, or national security, as does the currently considered plan with the elements of increased water flow during wet seasons and split navigation periods for barge traffic, and

BE IT FURTHER RESOLVED, that a copy of this resolution be provided to the U.S. Army Corps of Engineers, Missouri River District; to the Honorable Bob Holden, Governor of the State of Missouri; to Missouri Attorney General Jay Nixon; to all members of Missouri's United States Congressional delegation; and to all members of the Missouri General Assembly.

L0200005

Office of the County Executive

St. Charles County

Joe Ortwerth
County Executive

December 10, 2001

U.S. Army Corps of Engineers
Northwest Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Dear Sir or Madam:

As County Executive, I am writing on behalf of the citizens of St. Charles County, Missouri to state the concerns of this community on the U.S. Fish and Wildlife Service proposal to alter the flow of the Missouri River.

The spring rise called for in the Fish and Wildlife Service's plan would increase the river level by up to four feet. St. Charles County, at the confluence of the Missouri and Mississippi Rivers, has over 100,000 acres of prime farmland that would be seriously impacted by this increased flow and aggravated flooding. The reduced summer flow would also cause serious problems for farmers, as it will impact navigation on the River during harvest season. The serious loss of both productive capability and transportation for crops and farm products are of great concerns to our citizens.

FC 8

Nav 7

Whenever the Missouri River overtops the low level agricultural levees in St. Charles County, over 1/3 of the land mass of St. Charles County is inundated. Not only does this result in damage to major public infrastructure, but is also leaves entire communities like Portage Des Sioux isolated. It is then necessary for the National Guard to be called out to ferry stranded residents to and from essential services, medical needs and their business occupations. The U.S. Fish and Wildlife Service's proposed actions will increase the likelihood and frequency of these types of events.

FC 8

Additionally, there are two municipal sewer plants that would be adversely affected by the higher water stages. These plants will also be impacted by the reduced summer flow because the water intakes will be exposed, which may cause water quality problems.

WQ 26

I would like to request that the Corps of Engineers continue to research alternative methods to improve habitat for fish and wildlife that will not have the negative impact on the economic welfare and infrastructure of St. Charles County.

WRH 6

Executive Office Building • 100 North 3rd Street • Suite 318 • St. Charles, MO 63301
Telephone 636-949-7520 • Fax 636-949-7521
E-mail address: countyex@mail.win.org

RESOLUTION IN OPPOSITION OF THE U.S. ARMY CORPS OF ENGINEERS' PROPOSED WATER FLOW CONTROL PLAN

WHEREAS, the United States Congress has assigned to the U.S. Army Corps of Engineers the responsibility of managing the inland waterway system of the United States for the primary purposes of flood control and navigation, and

WHEREAS, the U.S. Army Corps of Engineers has developed, and is currently considering, a management plan for the Missouri River which would include an increase in water flow levels during the spring and fall seasons, as well as restricting navigation by barge traffic to limited portions of the year, excluding summer and winter, and

WHEREAS, the County Commissioners Association of Missouri is of the collective opinion that the Water Flow and Control Management Plan currently being considered for adoption by the U.S. Army Corps of Engineers will result in an increased threat to public safety by causing greater potential for flooding in communities adjacent to the Missouri River and its tributaries due the increased volumes of water during wet seasons and that such flooding will result in greater damage and costs to repair public infrastructure, as well as private property loss, and

FC 8

WHEREAS, the County Commissioners Association of Missouri also believes that a shortened navigation season for barge traffic will result in an economic detriment to the state of Missouri by placing a greater burden on other modes of surface transportation, such as highway and rail, which are currently stretched to over-capacity, and

Nav 12, 23, 24

WHEREAS, the County Commissioners Association of Missouri recognizes that as a matter of national interest and security, it is necessary to maintain a system of transportation venues that can capably move large volumes of materials and supplies over distance efficiently so as to ensure a strong national defense,

THEREFORE, BE IT RESOLVED, that the County Commissioners Association of Missouri hereby states its opposition to the plan currently being considered by the United States Army Corps of Engineers for the future management of the Missouri River and further desires to respectfully encourage the Corps of Engineers to utilize the present plan for Missouri River Management which does not threaten the public safety, economic well-being, or national security, as does the currently considered plan with the elements of increased water flow during wet seasons and split navigation periods for barge traffic, and

BE IT FURTHER RESOLVED, that a copy of this resolution be provided to the U.S. Army Corps of Engineers, Missouri River District; to the Honorable Bob Holden, Governor of the State of Missouri; to Missouri Attorney General Jay Nixon; to all members of Missouri's United States Congressional delegation; and to all members of the Missouri General Assembly.

Thank you for your consideration of my comments.

Sincerely,

Joe Ortwerth

Joe Ortwerth
County Executive

U.S. Army Corps of Engineers
Northwestern Division

COMMENT Form

MISSOURI RIVER MASTER MANUAL RDEIS

L0200006

Contact Information:

Name: _____

Address: _____

City, State, Zip: _____

e-mail address: _____

We welcome your mailed or faxed comments. Fax number: (402) 697-2504. Comment categories are provided in the newsletter.

Comments:

Choose a category/categories for each comment from the list provided in the newsletter.

1. **Category(ies):** _____

I am concerned. would it be feasible to change the high water level one foot. The extra depth is what is doing the damage to our camp grounds, parks, highways if necessary that it can't be changed then we need heavy rock rip rap for a number of these areas.

FC 14

Richard Reuer Lyman County Commissioner

Richard E. Reuer
33151 245th St.
Reliance, SD 57569-5917

2. **Category(ies):** _____

L0300001

PACIFIC JUNCTION PRIDE 2002

CITY OF PACIFIC JUNCTION
407 LINCOLN AVENUE, P.O. BOX 127
PACIFIC JUNCTION, IOWA 51561
(712) 622-8157

February 26, 2002

U.S. Army Corps of Engineers,
Northwest Division
Attention: Missouri River
Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

Re: Resolution 2002-02

To Whom It May Concern:

The City Council of the City of Pacific Junction, Iowa, passed the above-referenced resolution on February 18, 2002, during a regularly scheduled city council meeting. A copy of the resolution is enclosed for your consideration.

Resolution 2002-02 urges the Army Corp of Engineers to reconsider the Draft Implementation Plan for the Missouri River. The current proposed plan will cause considerable flood damage to the City of Pacific Junction, Iowa, along with other communities, if the Army Corp of Engineers does not address the issue of flooding along the Missouri River prior to implementation of the plan.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Marci L. Prier
City Clerk

MLP/mlp

C:\My Documents\Letters\Resolution 2002-02 Letter.doc

RESOLUTION 2002-02

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVIOR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall while releasing substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and recreational uses of the Missouri River in communities downstream from Gavin's Point Dam located in Yankton, South Dakota; and — Rec 6

WHEREAS, changes in the Missouri River water levels could move nearby contaminants to Sioux City's well field resulting in the loss of public drinking water supplies and creating a danger to public health; and — WQ 12, WS 11

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and — FC 8, IntD 8, GW 7

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting in higher transportation costs and straining the ground transportation infrastructure; and — Nav 12, 23

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and — HPower 18, WAPA 3

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans. — Other 10

NOW, THEREOFRE, BE IT RESOLVED
BY THE CITY COUNCIL OF THE
CITY OF PACIFIC JUNCTION, IOWA

That the United State Army Corps of Engineers be urged to reconsider, address, and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

ADOPTED AND APPROVED: February 18, 2002

Jim Lovely, Mayor

ATTEST: Marci L. Prier, City Clerk

L0300002

CITY OF PLATTSMOUTH
WATER & SEWER DEPARTMENT
P.O. BOX E
PLATTSMOUTH, NE 68048
(402) 296-2176

February 25, 2002

U. S. Army Corps of Engineers
North West Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Re: Missouri River Control Impact Statement

To Whom It May Concern:

This letter is in regard to the proposed changes of flow along the Missouri River near Plattsmouth. I feel that there needs to be more consideration to the effects that these changes could ultimately impact the City of Plattsmouths drinking water wells.

WS 11

The City of Plattsmouth is a growing community and sometimes struggles to maintain water needs during dry summer conditions. If the Missouri River levels are lowered in summer months this would lower static levels in the Citys Well Field which would cause a reduction in well capacity. Also higher levels in spring time could cause more flooding which can also effect the City of Plattsmouths Well Field Area.

The City of Plattsmouth strongly recommends taking a closer look at the possible impacts that these changes could do to our community.

Sincerely,

City of Plattsmouth
Water & Sewer Department

Gary A. Hellwig, W/WW Supt.
gah:lh

L0300003

Sioux City

February 27, 2002

Brigadier General David A. Fastabend
U.S. Army Corps of Engineers
12565 West Center Road
Omaha, NE 68144-3869

Dear Brigadier General Fastabend:

The City of Sioux City would like to have the following comments entered into the official record on "The Final Biological Opinion, Draft Implementation Plan For The Missouri River". The City opposes any change in the U.S. Army Corps of Engineers Missouri River Master Manual, as it exists on January 1, 2001, that will adversely affect our economy.

As mayors of cities along the Missouri and Mississippi Rivers, we are writing to express our concern about management changes proposed for the Missouri River. Seldom do we confront proposed major federal action as far-reaching and significant as amending the operations manual for this country's longest river. In addition to our concerns about the proposed changes to navigation and flood control operations on the Missouri River, we are equally disturbed that the U.S. Army Corps of Engineers (Corps) has given inadequate attention to the negative impacts these proposed changes would have to river commerce for states on the Mississippi River.

Miss 4

Citizens of our communities have long recognized the value of our nation's inland waterway system and flood control management. Billions of dollars worth of commodities move annually on the system, much of it bound for export from our deepwater ports. Flood control benefits have been estimated at $18 billion by the Corp. It is, therefore, inconceivable that the Corps would choose to move forward with proposed changes to Missouri River operations without having a clear and thorough understanding of the negative implications for the entire inland waterway system and the importance of flood control management.

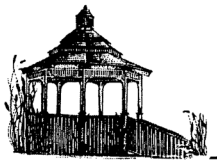
In closing, we assert that it is absolutely critical that the Corps not abandon its longstanding commitment to downstream flows on the Missouri and Mississippi Rivers. None of the new proposals currently being considered by the Corps would adequately support the continued viability of the entire inland waterway system nor do they address municipal concerns about potentially serious flooding. We ask that these proposals be withdrawn given these concerns.

Respectfully,

Craig S. Berenstein
Mayor of Sioux City

Office of the Mayor
405 6th St.
P.O. Box 447
Sioux City, IA 51102

L0300004



City of Akron

220 Reed Street
P.O. Box 318
Akron, Iowa 51001
Phone 712-568-2041
Fax 712-568-2122

February 27, 2002

US Army Corps of Engineers
Attn: Missouri River Master Manual RDEIS
12565 W. Center Road
Omaha, NE 68144-3869

Army Corps of Engineers

We have recently learned of the proposed changes are you planning to implement in regard to the Missouri River's level and flows from Gavin's Point Dam in Yankton, South Dakota. If the changes were implemented they would negatively impact our community on several levels.

The City of Akron owns and operates a municipal electric utility. Changes in the releases from Gavin's Point Dam affect the amount of hydropower produced for the Western Area Power Administration (WAPA). While the Corps report shows an overall national increase in the value of electric power produced under the various proposed river management changes, those increases come at great regional expense. Reductions in hydropower production during the summer, when electric usage is at its peak, could force WAPA to make "shortfall purchases". These purchases and the increased costs involved would be passed on to municipalities with price increases of up to 21%. With the current economic situation this would create yet another hardship for our citizens.

HPower 12, 18
WAPA 3

We would urge the Corps to reconsider its draft implementation plan on the operation of the Missouri River main stem reservoir system and ask that the Corp please take the time to address the identified problems.

Thank you for your attention to our request.

Sincerely,

City of Akron

Lori Martin

Lori Martin
City Clerk

CC: The President
The Vice President
The Honorable Donald H. Rumsfeld, Secretary of Defense
The Honorable Gale Norton, Secretary of the Interior
The Honorable Ann Veneman, Secretary of Agriculture
The Honorable Norman Mineta, Secretary of Transportation
Mike Parker, Assistant Secretary for Civil Works

RESOLUTION NO. 022602

RESOLUTION URGING THE UNITED STATES ARMY CORP OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS.

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and — Rec 6

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and — WQ 12, WS 11

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and — FC 8, IntD 8, GW 7

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting in higher transportation costs and straining the ground transportation infrastructure; and — Nav 12, 23

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and — HPower 18, WAPA 3

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans. — Other 10

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF AKRON, IOWA, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

PASSED AND APPROVED: 022602

Harold Higman, Mayor

ATTEST: Lori Martin

Lori Martin, City Clerk

L0300005

Alderman Merrill introduced and asked for the adoption of the following Resolution:

RESOLUTION NO. 2-2002

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS.

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and — REC 6

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and — WQ 12, WS 11

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and — FC 8, IntD 8, GW 7

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and — Nav 12, 23

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and — HPower 18, WAPA 3

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans. — Other 10

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF SIOUX CITY, IOWA, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

PASSED AND APPROVED: February 18, 2002

Liesel Hallwas, Mayor

ATTEST: Mike Priest

Mike Priest, City Finance Officer

Seconded by Alderwoman Semple, and on a roll call vote all voting "Aye", Mayor Hallwas declared the Resolution passed, would be published, and duly adopted.

L0300007

City of Springfield

P. O. Box 446 - Springfield, SD 57062-0446
Telephone (605) 369-2309

Only City on Lewis and Clark Lake

Oct. 31, 01

US Army Corps of Engineers
-Missouri River RDEIS
12565 W Center Road
Omaha, NE 68144-3869

Dear US Army Corps of Engineers officials,

The City of Springfield wishes to file comment regarding the management plan for the Missouri River. We feel the master manual should reflect the current state of the system rather than that of the time of the dam construction. Changes must be made in the operation of the river and dams with more attention focused on the upper basin needs.

Of primary importance to the city of Springfield is a stable and quality drinking water supply from the river. The city's water system serves an estimated 800 residents and 700 to 800 inmates at the Mike Durfee State Prison. It also serves two other large employers, CR Industries, which employs about 220 people from the region and YSI Springfield Academy, employing about 70 workers.

WS 11

Springfield area residents and out-of-state visitors utilize the river and Lewis and Clark Lake for a multitude of recreational uses. Fishing, boating, jet skiing, and hunting are very popular activities here. Lake/river levels have a highly visible impact on the quality of life here in Springfield. Moderately dry years should not create such low levels here throughout the summer as was the case in 2001.

Rec 14

Management of the Missouri River affects several states and many people. The way we manage should take into account the present conditions and we should be able to plan for the future. The current management plan reflects the past. Creation of the dams also has spawned sedimentation near Springfield that must be taken into account and addressed.

ErSd - 12

We urge the Corps implement a management practice that respects the need for a stable, adequate amount of water at Lewis and Clark Lake near Springfield that benefits our drinking water supply and recreational life for residents and visitors.

Sincerely,

Norman Schelske

Mayor Norm Schelske

An equal opportunity - affirmative action employer

L0300008

CITY OF LINTON

Linton Industrial Development Corporation

P.O. Box 433 • Linton, ND 58552-0433

Ph: 701-254-4267
Fax: 701-254-4382
E-mail:
lidcbek@bektel.com

Leading the Way

February 26,2002

U.S. Army Corp of Engineers Northwestern Division
Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: RDEIS Comments

MISSOURI RIVER NAVIGATION / RECREATION

By looking at the graphs (figure 9 & figure 14) you have provided, it is clear more people can benefit from the recreation industry than can benefit from the navigation industry. The average annual navigation benefits top out at 6.97 million dollars while the average annual recreation benefits top out 88.67 million dollars. The navigation industry is an old and dying industry which generates roughly 8% of what the growing recreation industry generates. It is time that the recreation industry receives as much, if not more consideration than the navigation industry.

Rec 10, 22
Nav 9, 42

ENDANGERED SPECIES

You must not disregard the recommendations made by the USFWS. You need to make the changes that are necessary to ensure the continued existence of the Interior Least Tern, Piping Plover and the Pallid Sturgeon.

EnSp 3,8

EFFECTS ON MY COMMUNITY

We are one of the many community's located along the Missouri River which relies heavily on recreation and tourism for our continued existence. Every business in our community relies on these industry's in one way or another to survive. Please give them the consideration that they deserve.

Rec 14, 22

Regards;

Randy G. Bosch

Randy G. Bosch
Coordinator

L0300009

Comments by

John Niksick,
Parks and Recreation Department, City of Omaha,
Manager, N.P. Dodge Park Marina

Public Hearing
Tuesday, February 19, 2002

I would like to give you a brief overview of the N.P. Dodge Park Marina. Where we've been and where we are. What is in doubt and why we are here tonight…is where we are going! The N.P. Dodge Park Marina is owned by the City of Omaha and operated by the Park and Recreation Department. As a member of the Parks Department, one of my duties is to manage the N.P. Dodge Park Marina. Now, the whole function and purpose of the Omaha Park and Recreation Department is to provide programs, activities and facilities for the enjoyment of the public. In other words to improve and uplift the quality of life for area residents. It is our mission.

Such was the case more than 25 years ago when area boaters met with park staff to discuss the possibility of constructing a marina at N.P. Dodge Park. The idea started slow but boater enthusiasm was high and interest built rapidly. The then Director, Art Bradley, conceived the idea of creating a Marina Enterprise Fund. The City of Omaha would issue a $600,000 Revenue Bond to construct six boat docks at the marina. They are still in use today. The revenue bond would be the sole responsibility of the marina. Principal and interest payments would be paid from revenue generated by the marina. The revenue bond would neither directly nor indirectly be an obligation of the City of Omaha and the City's AAA Bond rating would in no way be in jeopardy. This "original idea" has become a model for other cities to use ever since. Although there were many challenges and difficult times along the way, the marina did repay the bonds in December 1987, one year early!

Over the next ten years, the marina made many additional improvements out of its operating revenue, which totaled $1.3 million. In 1998, the marina met with boaters about expanding and significantly improving marina facilities. In 1999, the City of Omaha on behalf of the N. P. Dodge Park Marina issued $1.25 million of revenue bonds and the improvements were made. Once again, the revenue bond was a direct obligation of the N.P. Dodge Park Marina and not the City of Omaha. The bond is for ten years and $400,000 worth of interest payments for a total pay back of $1.65 million. By the terms of the bond, the marina is prohibited from adding any new debt. This is a standard feature of revenue bonds. The marina can do additional projects or improvements but they must be done for cash! At present, the marina has debt of $965,000 and eight years left to the term of the bond. This limits our options and places the financial integrity of the marina in doubt.

Since its inception, the marina has constructed an earth dam in the entrance channel at the end of each boating season. This has protected and allowed the boat docks to float over the winter months when water levels drop dramatically. If the Corps were to choose a worse case river plan, there wouldn't be enough water in the river to float the marina boat docks. Consequently, there would be no point in removing the dam at the beginning of a boating season.

Rec 23

On the other hand, if the Corps chooses a plan that barely allows the marina to open, then we would be forced into a full dredging of the marina. The cost is estimated at $400,000 to $500,000 with no funding source available. Even if money could be found, the decision to dredge is questionable. All of the proposed river level alternatives call for a spring rise or flooding every three years; however, if conditions are favorable, a spring rise and subsequent flooding could easily occur every year for several years in a row followed by an indefinite number of years of no spring rise. There is no set plan! Dredging the entire marina when there is a real possibility of spring flooding for 2, 3, 4 years in a row makes dredging a poor option.

Because of this, the N.P. Dodge Park Marina supports Mayor Fahey and the City of Omaha's position of a 16 to 16 ½ foot river level at the Omaha gauge. Hopefully, the Corps in making its decision will choose a plan that will not result in any fish, birds or marinas going extinct! Thank you.

L0300010

RESOLUTION

A RESOLUTION URGING ADOPTION OF ALTERNATIVE
CURRENT WATER CONTROL PLAN (CWCP) IN THE MATTER OF
THE MISSOURI RIVER MASTER WATER CONTROL MANUAL

WHEREAS, the Whiting Commercial Development Corporation believes that the Current Water Control Plan (CWCP), with the minor adaptive management variables is most beneficial for the Whiting Commercial Development Corporation (WCDC) and surrounding agricultural lands.

NOW THEREFORE, BE IT RESOLVED by the WCDC of Whiting, Iowa, at it's regular meeting, February 7, 2002, that in the matter of the Missouri River Master Water Control Manual review and update the WCDC believes that the management variables is most beneficial for the WCDC and surrounding agricultural lands. Therefore, the WCDC urges adoption of said alternative CWCP.

GW 11

Other reasons are:1) High river flows with the spring of the year tend to cause water in the basements in Whiting. Iowa, 2) Makes construction expensive and difficult.

Board member Jim Whiting introduced, caused to be read and moved the adoption of the foregoing resolution. All board members agreed to adopt this resolution.

Whereupon, the chairman of the board declared the foregoing resolution duly adopted on February 7, 2002.

Katy Smith, Administrator Katy Smith

We appreciate your consideration of our concerns.

L0300011

Office of the Mayor

THE CITY OF MADISON

116 W. Center • Box 308 • Madison, South Dakota 57042

February 26, 2002

U. S. Army Corps of Engineers, Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Gentlemen or Madam:

The City of Madison, South Dakota receives approximately 50% of the power and energy needs of the city from the hydro-generation marketed by the Western Area Power Administration. We have been advised that the proposed changes to the Current Water Control Plan may have a dramatic impact on the production of power and energy from the dams because of the changes in water releases and water storage during seasons to accommodate various interests on use of the river resources. Ultimately we see this change to increase our cost of power and possibly reduce our allocation of power and energy from Western Area Power Administration as a result of the proposed operating plan. This would be a major impact on our municipal electric system.

Hpower 18
WAPA 13

I am reminded that electric generation pays the major cost of the construction and operations of the Pick-Sloan Project. Any reduction in the volume of power and energy produced can only result in higher electric rates from Western Area Power Administration to pay debt service on the Pick-Sloan Project. If it is determined that recreation, environment and preservation of fowl, fish and plant species are of a greater value in our present time, then perhaps a means to increase the cost share of debt service by these entities must be included in the study.

Thank you for allowing me to comment on this issue.

Sincerely,

Royce D. Hueners, Mayor

Phone 605-256-7500 Fax 605-256-7508

L0300012

City of SOUTH SIOUX CITY

1615 First Avenue • South Sioux City, NE 68776-2245
Phone (402) 494-7500 • Fax (402) 494-7527 • TDD (402) 494-7500 ext. 339
URL: www.sscdc.net • email: cityhall@sscdc.net

January 21, 2002

U.S. Army Corps of Engineers
Northwestern Division
12565 West Center Road
Omaha NE 68144-3869

RE: Missouri River Master Manual RDEIS

I am writing this correspondence in regard to the proposed changes to the Missouri River Master Manual as it refers to the Current Water Control Plan (CWCP). I am also opposed to any adaptive management plan that circumvents the opportunity for public input. [Other - 66]

In my opinion, any change in the flow of the Missouri River will unfairly impact the downstream communities and downstream businesses. Allow me to enumerate my reasoning on this important issue, as it would affect the citizens of South Sioux City:

- Increasing spring the spring flow of water from the dams would adversely affect the farms along the Missouri River. Generally 1.4 million acres of valuable farmland would be exposed to potential flooding and drainage problems. People and communities like South Sioux City are heavily dependent upon the agricultural industry and can ill afford the risks associated with river flow that endangers the farmland along the Missouri River. [FC 8, IntD 1, 8, GW 7]

- Reduced summer flows would eliminate navigation on the Missouri River during the summer months. Without the summer availability of barge transportation the cost of transporting grain would increase and cause the price of the farmer's grain to decrease. This would cause a greater financial hardship on the agricultural industry and may cause many small family farms to fail. Failure of the small farms would be felt in loss of jobs and small businesses in this community. With the present economic conditions in this country we can ill afford to have the federal government bring about more economic chaos. [Nav 7, 12,]

- The reduced summer flow of the Missouri River would greatly affect the water supply of this community as we have established wells along the river. With the lower water level this city may be required to stand the expense of digging deeper wells for city water. [WS 11]

- The reduced summer flow of the Missouri River would bring a serious economic hardship on the electric power system along the Missouri River Basin. Less water flow would reduce the power output from the hydroelectric systems at the dams [HPower 18, MoPower 1]

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"Where the Good Life Gets Better."

along the Missouri River. It would also create an expense to the electric power plants along the Missouri River, as they would be required to go deeper into the river to obtain the water needed to run their power plants.

- While I can appreciate the desire to have water behind the dams for recreational use I can also see the need to have sufficient water along the river in South Sioux City and Sioux City to provide recreational activities for our citizens. It would appear to me that the lower water flow on the Missouri River during the summer months would be a benefit the population north of the river dams at the expense of the larger population south of the dams. [Rec 6, 10]

- I think that it is important to note that the dams on the Missouri River were put in place to control the water run off and eliminate the terrible floods of the past along the Missouri River. The current plan has been successful in reducing the loss of business, property and lives. The Siouxland area has been greatly affected by these floods in the past and I for one would not like to return to the former river control plan.

I urge you NOT to adopt any plan that would be detriment of downstream communities and to continue operating under the current water control plan.

Sincerely,

WILLIAM I. McLARTY
Mayor

City of SOUTH SIOUX CITY

1615 First Avenue • South Sioux City, NE 68776-2245
Phone (402) 494-7500 • Fax (402) 494-7527 • TDD (402) 494-7500 ext. 339
URL: www.sscdc.net • email: cityhall@sscdc.net

January 21, 2002

U.S. Army Corps of Engineers
Northwestern Division
12565 West Center Road
Omaha NE 68144-3869

RE: Missouri River Master Manual RDEIS

I am writing this correspondence in regard to the proposed changes to the Missouri River Master Manual as it refers to the Current Water Control Plan (CWCP). I am also opposed to any adaptive management plan that circumvents the opportunity for public input.

In my opinion, any change in the flow of the Missouri River will unfairly impact the downstream communities and downstream businesses. Allow me to enumerate my reasoning on this important issue, as it would affect the citizens of South Sioux City:

- Increasing spring the spring flow of water from the dams would adversely affect the farms along the Missouri River. Generally 1.4 million acres of valuable farmland would be exposed to potential flooding and drainage problems. People and communities like South Sioux City are heavily dependent upon the agricultural industry and can ill afford the risks associated with river flow that endangers the farmland along the Missouri River.

- Reduced summer flows would eliminate navigation on the Missouri River during the summer months. Without the summer availability of barge transportation the cost of transporting grain would increase and cause the price of the farmer's grain to decrease. This would cause a greater financial hardship on the agricultural industry and may cause many small family farms to fail. Failure of the small farms would be felt in loss of jobs and small businesses in this community. With the present economic conditions in this country we can ill afford to have the federal government bring about more economic chaos.

Recycled
Recyclable

"Where the Good Life Gets Better."

- The reduced summer flow of the Missouri River would greatly affect the water supply of this community as we have established wells along the river. With the lower water level this city may be required to stand the expense of digging deeper wells for city water.

- The reduced summer flow of the Missouri River would bring a serious economic hardship on the electric power system along the Missouri River Basin. Less water flow would reduce the power output from the hydroelectric systems at the dams along the Missouri River. It would also create an expense to the electric power plants along the Missouri River, as they would be required to go deeper into the river to obtain the water needed to run their power plants.

- While I can appreciate the desire to have water behind the dams for recreational use I can also see the need to have sufficient water along the river in South Sioux City and Sioux City to provide recreational activities for our citizens. It would appear to me that the lower water flow on the Missouri River during the summer months would be a benefit the population north of the river dams at the expense of the larger population south of the dams.

- I think that it is important to note that the dams on the Missouri River were put in place to control the water run off and eliminate the terrible floods of the past along the Missouri River. The current plan has been successful in reducing the loss of business, property and lives. The Siouxland area has been greatly affected by these floods in the past and I for one would not like to return to the former river control plan.

I urge you NOT to adopt any plan that would be detriment of downstream communities and to continue operating under the current water control plan.

Sincerely,

William I. McLarty

WILLIAM I. McLARTY
Mayor

RESOLUTION LL-42

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS.

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the Spring and Fall and release substantially lower flows in the Summer; and,

WHEREAS, the proposed changes will damage property, the economy, and the recreational use of the Missouri River in communities downstream from Galvin's Point Dam in Yankton, South Dakota; and, Rec 6,10

WHEREAS, changes in Missouri River water levels could move nearby contaminants to South Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and, WS 11

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and, FC 8 IntD 8 GW 7

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and, Nav 6, 8, 23

WHEREAS, reduced Summer flows jeopardize electric power supply during peak usage months; and, HPower 11

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans. Other - 10

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF SOUTH SIOUX CITY, NEBRASKA, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

PASSED AND APPROVED this 26th day of February, 2002.

MAYOR

ATTEST:

CITY CLERK

(SEAL)

L0300013

Sioux City

February 12, 2002

U.S. Army Corps of Engineers, Northwest Division
Attention: Missouri River Master Manual RDEI
12565 West Center Road
Omaha, NE 68144-3869

RE: Missouri River Control

Dear Sir or Madam:

Enclosed with this letter please find the resolution, which was unanimously passed by our City Council asking the Corps to Reconsider it's draft implementation plan for the Final Biological Opinion on the operation of the Missouri River, until such time as a thorough investigation of our concerns as addressed in the Resolution can be investigated.

The City of Sioux City and its citizens are dramatically impacted by fluctuations in the Missouri River, not only to our economy, our marina, and our agricultural industries; but to the health and well being of our citizens, by the rise and fall of the groundwater levels within our community. These fluctuations causes migration of chemical contaminants toward the river and thus into our well field. Loss of our public water supply could have catastrophic effects to our community, both from a health and financial standpoint.

Rec 6, 10

GW 4
WQ 12

We ask your assistance in helping us to protect the integrity of our water supply for our citizens by guaranteeing safe, potable water for our community.

Respectfully,

Craig Berenstein, Mayor
City of Sioux City

U:\CityEnvServices\Secure\MACHrmcc09.doc

Enclosure

Office of the Mayor
405 6th St.
P.O. Box 447
Sioux City, IA 51102

RESOLUTION NO. 2002- 000068

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and

Rec 6

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and

WQ 12
WS 11

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and

FC 8
IntD 8
GW 7

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and

Nav 12, 23

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and

HPower 18
WAPA 3

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans.

Other - 10

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF SIOUX CITY, IOWA, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

PASSED AND APPROVED: January 28, 2002

Craig S. Berenstein, Mayor

ATTEST: Robert K. Padmore, City Clerk

L0300014
Other G

SOUTH SIOUX CITY AREA
CHAMBER OF COMMERCE

2700 DAKOTA AVENUE SOUTH SIOUX CITY, NE 68776

Covington Society

- Dakota County State Bank
- Great West Casualty Co.
- IBP, inc.
- Hy-Vee South Sioux City
- Iowa-Nebraska State Bank
- Phillips Kiln
- ServiceMaster of Sooland
- Siouxland National Bank
- Siouxland Federal Credit Union
- South Sioux City Community Schools
- Tri-State Chiropractic

February 22, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Sir or Ma'am:

On behalf of the South Sioux City Area Chamber of Commerce Legislative Committee, I am writing concerning the proposed changes to the Missouri River Master Manual and to express our support for the Current Water Control Plan (CWCP). We are also opposed to any adaptive management plan that circumvents the opportunity for public input.

The Missouri River is essential to the economic development of our Siouxland area. Farmlands, barge traffic, recreation, and electric power supply would all be unfairly impacted by any changes to the CWCP.

We urge you not to adopt any plan that benefits upstream river users to the detriment of downstream communities and to continue operating under the Current Water Control Plan.

Thank you for your consideration in this matter.

Sincerely,

Kristi Quinn
President
South Sioux City Area Chamber of Commerce

PHONE: (402) 494-1626 FAX: (402) 494-5010

SOUTH SIOUX CITY AREA
CHAMBER OF COMMERCE

2700 DAKOTA AVENUE SOUTH SIOUX CITY, NE 68776

Covington Society

- Dakota County State Bank
- Great West Casualty Co.
- IBP, inc.
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- Iowa-Nebraska State Bank
- Phillips Kiln
- ServiceMaster of Sooland
- Siouxland National Bank
- Siouxland Federal Credit Union
- South Sioux City Community Schools
- Tri-State Chiropractic

February 22, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Sir or Ma'am:

On behalf of the South Sioux City Area Chamber of Commerce Legislative Committee, I wish to express our support of the Current Water Control Plan (CWCP) and express oppition to any adaptive plan that prohibits the opportunity for public input.

The Missouri River is essential to the economic development of our Siouxland area. Farmlands, barge traffic, recreation, and electric power supply would all be unfairly impacted by any changes to the CWCP.

We urge you not to adopt any plan that benefits upstream river users to the detriment of downstream communities and to continue operating under the Current Water Control Plan.

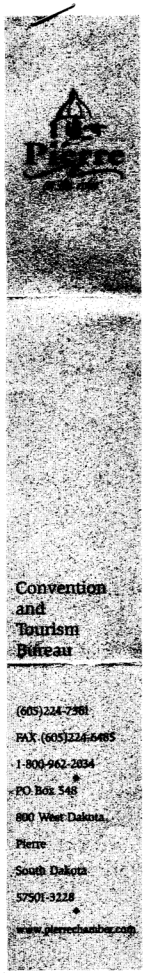
Thank you for your consideration in this matter.

Sincerely,

Kristi Quinn
President
South Sioux City Area Chamber of Commerce

PHONE: (402) 494-1626 FAX: (402) 494-5010

L0300015



11/02/01

US Army Corps of Engineers
Attention Missouri River RDEIS
12565 West Center Road
Omaha, NE 68144

To Whom It May Concern,

Having worked at the Pierre Area Chamber of Commerce for 15 years, I am amazed that the Master Manual is still being worked on! In that length of time I have seen the siltation of the river in the Pierre/Fort Pierre area become much worse, with nothing being done about it. — ErSd - 21

Each year I attend a sportshow in Kansas City, and for two years I have had people from Missouri come up and say, "don't listen to the barge traffic people, because there is little barge traffic anymore," and that we need to get the Corps of Engineers to watch the water levels on the river in South Dakota. Certainly what is being done now is not working! — Nav 19, 20

Our economy in this area is like a three-legged footstool. We have agriculture, state government and tourism. The current management practices tend to devastate the upper basin states during the dry years. Natural flows of the Missouri River are extremely important to improve fisheries, recreation use, and endangered species. — Rec 8,14,16, EnSp 3,8 Fish 3

The Upper Basin states have put up with great neglect in past years and I believe more consideration should be shown. I work with tourism daily and I know how important the Missouri River is to our economy and to the well being of many, many individuals in our area. — Other - 7

Sincerely,

Karen Kern

Karen Kern, Director
Pierre Convention & Tourism Bureau

01/29/02 18:00 FAX 1 319 372 7374 FM ECON. DEV. CORP 001

L0300016

Fort Madison Economic Development
CORPORATION

January 29, 2002

US Army Corps of Engineers
Northwestern Division
12565 West Center Road
Omaha, Nebraska 68144-3869

Attention: Missouri River Master Manual RDEIS

I am writing to you today to express our concern over the possible alternatives of US Army Corps of Engineers Water Control Plan for the Missouri River Flow. As stated in the *Missouri River Environmental Impact Statement, Revised Draft* "… the USFWS concluded that the Corps' current operation of the Mainstream Reservoir System jeopardizes the continued existence of three protected species…" but nowhere does it state that any of these plans will actually increase the three endangered species mentioned. We do support habitat restoration for specific species but in ways that will not have a negative impact, directly or indirectly, on landowners, communities or economic interests. — EnSp 3

Looking at these plans for altering the flow of the Missouri would in fact hinder the economic aspect of river navigation on the Mississippi. The idea of a reduced summer flow would result in a split navigational season and possible problems of water quality standard for utilities. For those of us who make our living on the ability to get our product to and from our customers by river, these are very risky plans. River traffic is too important, not only for our local economy but also for the nation economy. — Nav 12 Miss 1 MoPower 1

Sincerely,

Tim Gobble
Executive Director
Fort Madison Economic Development Corporation

P.O. Box 427
Fort Madison, IA 52627

Phone 319-372-9582
Fax 319-372-7374
E-mail: fortmedc@interl.net

MASTERMANUAL NWD02 L0300017

From: LDQUIST98@aol.com
Sent: Thursday, February 28, 2002 3:54
To: Mastermanual
Subject: Missouri River Flow Changes

U.S. ARMY CORPS OF ENGINEERS,
PLEASE LEAVE THE CURRENT RIVER FLOWS AS THEY ARE - DO NOT CHANGE THE CURRENT MISSOURI RIVER FLOW PLAN.
THANK YOU,
LEE LINQUIST,
BOARD MEMBER
SIOUX CITY PARKS AND RECREATION ADVISORY BOARD

Other 6

MASTERMANUAL NWD02 L0300018

From: Donald Luensmann [mancity@pionet.net]
Sent: Friday, February 22, 2002 11:56 AM
To: Mastermanual
Cc: Harvey Dales; Kent Hilsabeck
Subject: Revised Draft Environmental Impact Statement (RDEIS) of the Missouri River Master Manual Review

Dear Friends;

It has come to my attention that the Army Corps of Engineers is taking public comment regarding the Revised Draft Environmental Impact Statement (RDEIS) of the Missouri River Master Manual Review. In taking time to read the information provided by both sides in this on-going issue, I have come to a number of conclusions, most of which should be painfully obvious:

- Flow changes in the Missouri River will affect all interests both upstream and downstream. The Corps' solution should be one that minimizes the impacts for both groups. While environmental concerns are important, the economic and human losses should also be weighed when considering solutions. With an increase in power costs, which are a reasonable concern if you take the time to review the information provided by the Western Area Power Administration, it is plainly evident that residences, businesses and industry affected by lower flows, and higher energy costs, will take a financial beating. Not only will this lead to economic losses tied to the aforementioned higher energy costs, it will also lead to the eventual loss of businesses, jobs and residents as those entities gravitate toward areas more conducive to conducting business. Don't take this argument lightly. Many small, rural communities in Western Iowa rely on their WAPA allocations to provide 30% to 100% of their power. Increased costs in a WAPA allocation would be a crippling and devastating blow for rural communities attempting to create jobs and compete for industry. Simply put, the National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP). In fact, the Western Area Power Administration should be required to provide additional input to more adequately address these concerns.

HPower 12, 18
WAPA 2

- Beyond the question of electric generation and economic impacts, the lowering of flows would harm the environment below hydro generating plants and thermal electric plants that use Missouri River water for cooling. If we are committed to providing jobs, building tax base, and assisting people in increasing their quality of life, it stands to reason that a balance must be struck between electric generation and environmental concerns. Any solution in RDEIS must take both issues into account. Lowering river flows in peak power generating months is not good policy, either economic or environmental. If the Corps' believes that environmental impacts take precedence, it also assumes that the transmission capabilities are in place to import the power needed for homes and businesses. Unfortunately, this isn't so, and doesn't address regional power pricing issues. Both Iowa and Nebraska would be adversely affected due to these problems. Perhaps the best course of action is to incorporate all information relating to power supply in the region is the hydropower analysis. I would also suggest that the Corps' visit individually with power generators to determine impacts.

WS 4
MoPower 1
WAPA 3

- Environmental concerns must also be addressed in the RDEIS but, again, this must be a balanced approach, one that takes into account the issues on both sides and minimizes the impacts. No doubt this is a task worthy of Solomon. On the other hand, humans have a rather poor track record when its comes to "preserving" habitat and protecting threatened and endangered species. Government has an even poorer track record in this regard. The RDEIS appears to be a function of the government picking "winners" and "losers" in a way that is neither logical nor equitable to all parties. It takes a great deal of effort to devise a proper environmental management strategy. However, after the sham forced on the farmers in the Klamath River Basin in Oregon in 2001, I think it behooves the Corps' to more clearly define its environmental goals based on competent science rather than emotional and irrational arguments regarding endangered species. This can only be accomplished through a management plan that considers all impacts, both economic and environmental.

Othr -67

In Manning, we continue to address the same issues as those listed above. While Manning is committed to attracting additional business and industry, our community has also worked with the Corps' to preserve and improve habitat in the flood plain along the West Nishnabotna River, and to pursue strategies that reduce future possibilities of flood damage while enhancing the natural beauty of Manning. Will the City of Manning be adversely affected if power generation is reduced in peak generating months? I believe, undoubtedly, that the answer is yes. Do I also believe that we can have both economic and environmental benefits by balancing both concerns regarding Missouri River flows? The answer is also yes. I implore the Corps to continue to work toward compromises that will address the concerns of those on all sides of this issue without picking "winners" and "losers".

/d/

OCT-03-2001 WED 09:45 AM SPORTS INC FAX NO. 1 800 227 7207 P. 01

L0300019

Comments on the Missouri River Master Manual RDEIS

Name: Don Pfau, Chairman, Fort Peck Advisory Council

Address: P.O. Box 780

City, State Zip: Lewistown, MT 59457

e-mail address: dpfau@lewistown.net

Category 1 -- Recreation:
Recreation is a much more economically important use of the river than is navigation, yet navigation considerations have guided the Corps' operation of the Missouri River mainstem dams for over forty years. The new Master Manual must place more importance on the management of the dams for recreational uses of the river system, particularly reservoir-based recreation, and give less weight to navigation. Otherwise the whole effort to produce a manual that reflects the contemporary economic and social conditions of the basin would be a failure. The best way to do this is to ensure that the new Master Manual includes additional water conservation measures that will keep more water in the reservoirs during a drought.

Rec 21, 22, 24
Nav 42

Category 2 -- Fort Peck Spring Rise:
We recognize that a spring rise out of Fort Peck may help recover pallid sturgeon in the Missouri/Yellowstone river stretch between Fort Peck and Garrison reservoirs. However, we still do not know the economic consequences of such a move. Clearly, there will be lost hydropower revenues and additional erosion of lands adjacent to the river. Before experimenting with flow adjustments from Fort Peck Dam, these impacts should be quantified, and a contingency fund must be in place to compensate farmers for lands lost to erosion and also to compensate ratepayers for any increase in electricity rates that result from lost hydropower revenues.

HPower 19
ErSd - 22

Also, Montana is willing to make some sacrifices (i.e. the Fort Peck spring rise) for the benefit of endangered species, as long as we are not the only state to do so. The U.S. Fish and Wildlife Service has said in its Biological Opinion that the Missouri River below Gavins Point Dam is more critical to the survival of the pallid sturgeon than is the stretch of river below Fort Peck Dam. Therefore the Corps should follow the science and ignore the state of Missouri's exaggerated claims of potential damages and conduct experimental spring rise/low summer flow experiments out of Gavins Point Dam. This would not only share the impacts of recovering the species throughout the basin, it would avoid jeopardy to the species.

EnSp 5,17

Category 3 -- Hydropower:

OCT-03-2001 WED 09:46 AM SPORTS INC FAX NO. 1 800 227 7207 P. 02

Recovering the Missouri River Basin's threatened and endangered species and improving the basin's overall economic condition is going to take a lot of money. We need to fund additional habitat restoration activities, a monitoring program, compensation for business impacted by flow changes, recreation improvements, additional channel maintenance, and a Missouri River Recovery Committee. It is time to designate a portion of the revenue stream from hydropower produced by Missouri River dams to the recovery of the basin. This must be done in a manner that is rate-neutral for ratepayers. The federal government can do this by writing off a portion of the debt owed to it for construction of the dams. The Missouri River dams have already paid for themselves many times over through hydropower revenues, flood control, and other benefits. Hydropower revenues are the only logical source of revenues for such needed activities. They are revenues produced in our basin, and at least some of them should be used in our basin to accomplish the federally mandated task of recovering our threatened and endangered species.

HPower 20

Conclusion:
If the Corps wants to select the alternative that is the absolute worst for the economics and environmental conditions of the Missouri River Basin, it should stick with the current water control plan. However, the Corps should pick an alternative that provides additional water conservation, and support for basin's threatened and endangered species. The alternatives proposed by the Missouri River Basin Association and the Corps' Northwestern Division in 1999 and 2000 respectively, came close to this. I think the Corps should use these alternatives as a base but modify them in two ways: 1) add additional water conservation in droughts, and 2) experiment with a spring rise and low summer flows out of Gavins Point Dam.

Other - 61

Don Pfau Chr.
Fort Peck Advisory Council
Oct 3, 2001

L0300020

Sioux City

February 26, 2002

U.S. Army Corps of Engineers
Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Ladies and Gentlemen:

The City of Sioux City requests that this letter and the corresponding attachments be entered into the official record on "The Final Biological Opinion, Draft Implementation Plan For The Missouri River". The City opposes any change in the U.S. Army Corps of Engineers Missouri River Master Manual as it exists on January 1, 2001, that will adversely affect our community.

Transmitted here within is a technical document reflecting the City of Sioux City's serious concerns over water quality, recreation, tourism, and its impact on our economy through proposed changes of the current operating plan. Also included are reports presented by the Siouxland Chamber of Commerce Technical Committee, the Missouri River Keepers Group, and the legislative positions of both the State of South Dakota and Iowa.

We as a City Council have unanimously passed a resolution requesting the Corps to function under its current operating guidelines and make no changes to river operation. We hope you take the time to review the documentation that we have gathered and concur with our opinion that the Missouri River as currently operated by the Master Operating Plan functions well for all parties involved.

Thank you for your assistance. Please do not hesitate to contact City Manager Paul Eckert or myself at 712-279-6102 for additional information.

Sincerely,

Craig S. Berenstein
Mayor

Office of the City Council
405 6th St.
P.O. Box 447
Sioux City, IA 51102

CITY OF SIOUX CITY

Response to the Corps of Engineers Missouri River Proposed Changes

The City of Sioux City opposes any change in the U.S. Army Corps of Engineers Missouri River Master Manual that will adversely affect our economy, navigation season, flood control efforts, water quality, agricultural industry, recreational interests, and electrical generating capacity. The following report provides information on how the proposed plan will adversely affect Sioux City and our Siouxland community.

CITY OF SIOUX CITY

Mayor Craig Berenstein
Mayor Pro-tem Marty Dougherty
Council Member Tony Drake
Council Member Karen Fomeris
Council Member Dave Ferris
City Manager Paul Eckert

Phone: 712-279-6102
Fax: 712-279-6105
Email: pauleckert@sioux-city.org

Sioux City

Index

Appendices

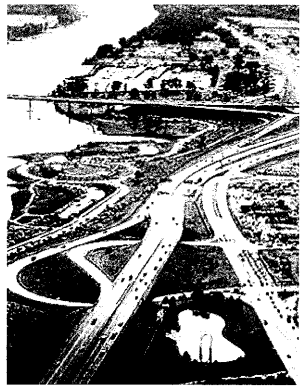
Sioux City

Executive Summary

Sioux City

The City of Sioux City has been greatly dependent on the Missouri River since our inception. In August of 1804, Lewis and Clark, on their famous expedition to find a route for the transportation of goods and services across our country, came through the Siouxland area. The Missouri River proved to be beneficial for the construction of a community, which utilized the river for both water supply and transportation. In the hay day of the stockyards area, the Missouri River was both a blessing and a curse to our community. Frequent flooding of the Missouri River caused mass devastation to our downtown/stockyards communities and prompted federal action through the Pick-Sloan Act for creation of dams to protect from downstream flooding.

Since the inception of the main stem dams, Sioux City has been able to weather the course of the Missouri River's ebbs and tides. In the drought of the late 80s/early 90s, Sioux City, like other communities along the full reach of the Missouri River, suffered due to low water levels with impacts to our recreation industry, transportation industry, agricultural interests, water quality and supply. We where forced to implement water rationing during that period. However, we, like other communities, weathered that storm.



Once again we are seriously threatened by the Missouri River. The proposal as outlined by the Corps of Engineers for flexible flow would be devastating to our community. Our riverfront master plan and improvements has stimulated our economy and encouraged growth within our community. We have seen an increase in our population, our water demand, our industries and our tax base. These advances are directly attributed to the quality of life enhancements brought about by the improvements to the riverfront.

In the attached document, we have outlined the adverse impacts caused by the Missouri River Master Manual changes to our water supply due to river bottom degradation and contamination of the ground water table. We have also projected these changes which will have a significant financial impact on our community due to the increased gradient caused by lower river levels. We believe the Corps has failed to recognize these and other areas of concern during their review on the impacts of changing the Missouri River. We have also listed our concerns over any changes projected in the river, which could impact our tourism and recreation industries, both key ingredients to the national celebration of the Lewis and Clark Expedition. And lastly, we are providing you with a glimpse of our economic revitalization and the effect that changes to the river will have on that revitalization.

WS 11
ErSd 17

Included with this report is documentation provided by our Siouxland area Chamber of Commerce, The Missouri River Keepers Group, and legislation from both Iowa and South Dakota, all suggesting that the Corps of Engineers maintain the current operation of the Missouri River. The attached appendixes are fully endorsed and adopted as our own for the purposes of submittal for your consideration.

Water Quality

Sioux City

Issue: The City of Sioux City, including many communities and private wells located along the banks of the Missouri River, utilize the Missouri River's bed formation for water supply. This formation is dependent upon the quantity and quality of water in the Missouri River. Changes in the water levels as proposed in the Master Manual revisions will cause a loss of public drinking water supplies and create a danger to public health.

WQ 12
WS 11

Due to the change in ground water availability caused by falling river levels, the City of Sioux City will need to construct additional water supply. The City has undertaken the development of a comprehensive Water Master Plan to address our concerns. Black & Veach developed the plan with assistance from Olsson Associates in March of 2001. The plan tracks population trends and plots population versus water demand showing an increase in demand requiring the City to increase the expansion of well fields without any change in groundwater availability. Sioux City's current

population is approximately 86,000 with an average daily demand of 13.5 million gallons per day (MGD) and a peak day demand of 23 MGD.

ErSd - 18

The Corps needs to take a closer look at river bottom degradation, not only from the standpoint of a falling river, but from the standpoint of the lost hydraulic interconnect with the Missouri alluvium groundwater formation. This interconnect allows the Missouri alluvium to supply water to the City of Sioux City and many of the private and industrial wells located around our community.

In recent studies conducted by the Army Corps of Engineers utilizing the artificial drop of the Missouri River during the month of December, the City of Sioux City tracked river elevations and found a corresponding reduction in the Missouri alluvium matching the reduction in the Missouri River on a foot-by-foot basis. This same study undertaken by the City of Sioux City indicated a drop in the Dakota sandstone formation wells not only in the riverfront well field but also in the Cook Park wells. The study shows a hydraulic interconnect between the Missouri River, Missouri alluvium and Dakota sandstone formation. The recharge of the Dakota sandstone showed a quicker recovery, whereas the Missouri alluvial formation stayed on the same grade as river elevation. The results of these studies change the hydraulic characteristics and increase the hydraulic gradient information presented in the Burns & McDonald, report entitled "Riverfront Well Field and Zenith Water Treatment Plant for the City of Sioux City, dated July 1984". This report concluded that because of pumpage from the well field along with the coincidental rise in river staging, contours of water level show a grade interslope from the river indicating recharge from the river to the aquifer.

Sioux City

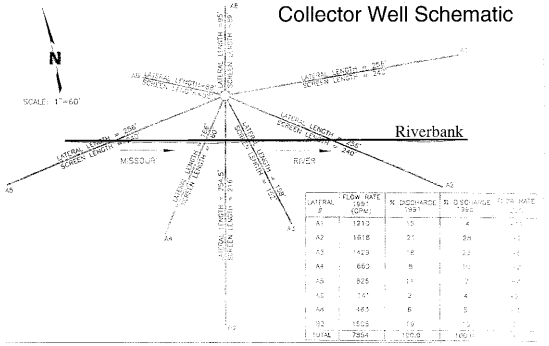
Conversely, the Bennett & Williams study conducted in 1989 concluded that the Missouri River is currently recharging the aquifer. However, this is a variable relationship. Groundwater flow direction is toward the Missouri River when river water level elevation is lowered.

A study presented to the Environmental Protection Agency and the U.S. Geological Society entitled "Groundwater Under The Influence of Surface Water Investigation" by the City of Sioux City indicated a corresponding relationship between water temperature. One can see that the water temperature in the collector well does correlate with changes in the Missouri River water temperature, supporting the information presented in the Bennett & Williams study. Further investigation to determine the amount of log credit removal through natural filtration of the riverbank for the removal of giardia and cryptosporidium led the City to investigate river turbidity versus collector turbidity.

This information was beneficial to the City of Sioux City in receiving log removal credits for their classification as groundwater under the direct influence of surface water. As regulations change and the proposed enhanced surface water treatment regulations move forward, these log credits and the corresponding riverbank filtration mechanism will prove to be most crucial to Sioux City's water operation. The artificial spring rises proposed in the Corps' plan will further increase river bottom degradation

and remove this barrier layer currently protecting our community's water supply. Improvements would then need to be made to the water treatment plant that could approach up to $1 million if direct filtration must be incorporated to meet the groundwater under the direct influence of surface water regulation.

Collector Well Schematic



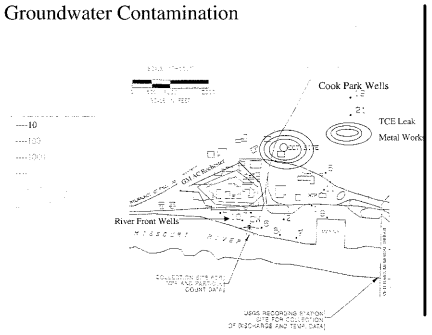
LATERAL #	FLOW RATE 1997 (GPM)	% DISCHARGE 1997	% DISCHARGE 1998	FLOW RATE
A1	1212	15	4	
A2	1818	23	24	
A3	1429	18	23	
A4	660	8	10	
A5	825	11	7	
A6	741	9	4	
A7	681	8	5	
A8	1606	19	23	
TOTAL	7954	100.0	100.0	

The maximum capacities have dropped off in almost all of our wells due to degradation of the river bottom from rain events or high-flow events that scour the river bottom and drop river elevation. As a means of addressing the degradation and any subsequent changes to the water flow proposed by the Corps of Engineers, the City will need to look at construction of additional wells to stay abreast with current demands for water. The City is in the process of constructing a conventional well in the Dakota sandstone formation in Cook Park. The cost of construction for that well exceeds $500,000 for an additional 2 MGD of supply. If one totaled the current capacity versus the maximum capacity of Sioux City's wells, we have lost 9,850 gallons of water supply.

Groundwater Contamination

GW 3

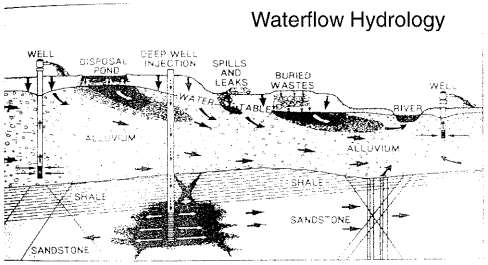
A further concern of the City of Sioux City is the degradation of the river, which has exposed and damaged the sewer connection between South Sioux City, Nebraska, and Sioux City, Iowa's regional Wastewater Treatment Plant. This same river degradation could, if allowed to continue, expose lateral B-2 of the collector well. Having to shut off lateral B-5 to eliminate this potential direct interconnect would cause the City of Sioux City to lose a corresponding flow equivalency of 1,500 GPM which equates to about 2.1 million gallons per day. That exposure has a real possibility with the proposed artificial increases in spring rise, which will increase the scouring of the river bottom. A financial cost to consider would be a conventional well equaling the 2 MGD at a cost of $500,000.



The City of Sioux City is looking to the future through its Water Master Plan and has identified several areas for potential well field expansion. Due to the wonderful soil characteristics of our community, the south riverfront well field, festival grounds and Riverside park all appear to be potential areas for construction of a new well field. The riverfront and Cook Park well fields, built to support the community, have been surrounded by commercial, industrial and residential activities as the community has grown. Protecting these vital interests from those industrial and commercial activities, such as filling-station operation and industrial solvent disposal, proves to be challenging.

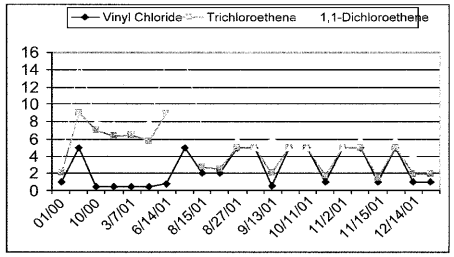
Waterflow Hydrology

A typical waterflow hydrology for groundwater movement under a charging river is depicted. As you can see, the spills and leaks are moving toward the river with the natural groundwater flow. For the same reasons that Sioux City is using the Missouri alluvium for its water supply, because of wonderful conductivity and hydraulic characteristics, the same ease of movement of these constituents in the groundwater table is accentuated by the soil conditions available in the Missouri alluvium.



Several industrial and commercial activities have caused groundwater contamination in and around our existing well fields. The City of Sioux City is working with various contributing parties, the Iowa Department of Natural Resources and the Iowa Underground Storage Tank Financial Responsibility Program to mitigate contamination of our water supply and protect the public health. Dropping Missouri River levels accentuates the movement of groundwater and pulls the contaminants further into our well field.

Well #3



The most telling data is from well 3. This data shows tests taken in 1998 with low levels of contaminants.

As the Missouri River has continued to drop, the concentration of these contaminants has increased in our wells. This movement has caused the City to curtail operation of wells 3 and 4. The City has kept a watchful eye on the maximum contaminant levels for all compounds. Wells 3 and 4 were shut down due to exceeding the maximum contaminant level. This is a lost supply of between 3 and 4 MGD to our community. Replacement cost for this lost supply is $1,500,000.

Another concern is the increased hydraulic gradient established by the drop in the river coupled with a larger cone of depression created by the added pumping in a lower water table, bringing the constituents into our collector well. This is the major water supply for our community. Trace elements of these compounds are showing up at the Zenith Water Treatment Plant in our finished water. We cannot afford to have these concentrations continue to increase. This is not in our public's best interest.

Sioux City is investigating the cost of an air stripper, which can remove some of the volatile organic compounds, as a means of addressing these increasing concentrations. The problem is that air stripping will not remove all of the contaminates threatening our water supply. The cost of an air stripper to treat our peak day demand is estimated at $1.5 million.

The City of Sioux City also realizes higher electric costs for electricity being utilized to move a gallon of water caused by drops in groundwater table elevations. Thus, more energy is being used to lift, as opposed to pump this water, causing wear and tear on pumps and motors and increasing our energy costs. While all the proponents of changes to the Missouri River indicate that it is an issue of recreation versus navigation, information has been presented by The Missouri River Keepers Association, appendix #6, and the National Transportation Association, indicating that with the loss of barge traffic, increased rail and road traffic would need to be utilized. This increased truck and rail transportation will lead to increased fuel emissions into the atmosphere, which is not good for water quality. This increased traffic accelerates the potential for spills on Interstate 29 adjacent to our riverfront well field. The potential for spills also increases our concerns for groundwater contamination and water quality issues.

WS 11
Nav 8, 23

Summary:
For these and many other reasons, the City of Sioux City urges the Corps of Engineers to reconsider the final biological opinion draft implementation plan for the Missouri River.

Sioux City

Economic Impact

Issue: The City of Sioux City benefits from navigable seasons on the Missouri River that allow for significant savings in barge transportation as well as savings in truck and rail transportation costs because of the competiveness of barge transportation. Additionally, electric generating plants along the Missouri River rely on the waters of the Missouri River in their generation processes. Changes to the river flows and levels will adversely impact the community's businesses' abilities to remain competitive because of the loss of barge transportation and increased alternative transportation costs. Drops in electric generation will increase costs to consumers.

Nav 8
MoPower 1

Navigation
The availability of water transportation plays a significant role in the economic vitality of several major industries. Many of our industries are agriculturally based and export millions of tons of raw and value-added products from Sioux City. Major industries such as *ADM, /Growmark, AGP, Big Soo Terminal, C & F Industries, Cargill, Inc., Jebro, Inc., Kind & Knox Gelatin, Inc., Mid-American Energy Company, Nutra-Flo Company, Sioux City Compressed Steel, Terra Industries, Inc.,* and *Terminal Grain Corp.* rely on the availability of barge transportation. These industries alone account for approximately *10 million ton* of cargo shipped annually, either directly by barge or by other transportation services at a discounted rate because of barge availability.

Nav 6

According to an independent study conducted by the Tennessee Valley Authority and commissioned by the United States Army Corps of Engineers, transportation costs increase by 20% if barge transportation is not available. Such an increase would equate to an average of $10 per ton added costs to Siouxland industries. Such an impact could adversely affect our existing industries and act as a disincentive to any new industries looking at our community.

Sioux City has invested millions of dollars in infrastructure improvements to a major industrial area bordering the Missouri River. The Bridgeport Industrial Area represents a majority of the community's industrial investment. Without the advantage of barge traffic to serve the users, many of whom are listed above, properties will devaluate, jobs will be lost to offset increased transportation costs, and Sioux City will compete unfavorably with communities with more options for cost conscious industries.

Additionally, recognizing the strengths of the area as an agricultural product producer, the City has invested over $11 million to attract biotech and value-added food industries back into the City's traditional 200-acre stockyards area. Such industries have heavy transportation requirements. Barge traffic offers them a reasonable, cost effective means to move their product.

Nav 43

Navigation and Riverboat Casinos
In addition to the benefits of a navigable river to the community's industrial base, the ability to navigate on the Missouri River is paramount to the operation of the local riverboat casino. The floating riverboat casino has been an anchor to the community's riverfront development for nearly ten years. During 2001, the boat had approximately 852,000 passenger boardings, equating to $1,606,300 in direct revenue to the City of Sioux City and $252,000 to Woodbury County. The riverboat contributed approximately $1,200,000 to Missouri River Historical Development, Inc., a private not for profit organization

Sioux City

created to use riverboat revenues to better the community. This group has a $3,500,000 Lewis and Clark Interpretive Center under construction on the riverfront today.

Gross gaming receipts from the riverboat in 2001 were approximately $37,600,000. Using a conservative indirect multiplier of 2.5 , we can assume that for every $1 spent at the riverboat, an additional $2.50 is being spent in our community for fuel, gas, lodging, food, entertainment, or other goods. Using those numbers, the riverboat's presence contributes over $94,000,000 annually to our local economy.

Iowa's riverboat casinos are required to navigate the river on a periodic basis. Without that provision, they may not exist. With reduced water flows and the inability to navigate; the State of Iowa would have to legislatively determine if the riverboats may continue to exist. The alternative is the loss of this significant economic and tourism contributor.

Power Generation

Electric generating plants on the Missouri River rely on its water as a coolant in their generating process. Lower flows on the Missouri River will result in higher water temperatures and the inability of the generating plants to produce energy during those periods. Lower flows on the Missouri River during summer months directly jeopardizes the generating plants' abilities to provide power during peak demand.

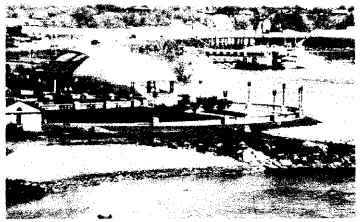
MoPower 1

Additionally, without consistent availability of the water, the power plants must rely on other sources to provide the electrical power sources at increased costs. Costs are passed on to the consumer. The largest consumers also represent the same industries that will be adversely impacted by the disappearance of barge transportation. Thus, reducing the flows on the Missouri River will provide the Sioux City community with at least "two strikes" in competing for industry in the area: transportation and energy costs.

Summary

Sitting on the western edge of Iowa with only north-south interstate access, and marginal east-west connectors, Sioux City struggles to be competitive to industries that rely on favorable transportation. The benefit of barge traffic often offsets other limited transportation alternatives. The ability to navigate the Missouri River assures the continued presence of the revenue-generating riverboat casino. Limiting the availability of a reliable water resource in the Missouri River to the electric generating plants ensures the power generating companies will need to rely on alternative sources. Such sources will be more costly and those energy costs will be passed on to consumers. Barge traffic, a navigable river, and reliable energy production are basic to the economic vitality of the Sioux City community.

MoPower 1
Nav 8, 43



Sioux City

Tourism & Recreation

Sioux City

Issue: Sioux City's commitment to provide quality recreational opportunities along the banks of the Missouri River has resulted in an investment of over $15 million in the past ten years. Future plans call for an additional $18 million in recreational improvements along the riverfront to enhance boating opportunities and to develop additional river's edge attractions. The proposed reduction in river flows will jeopardize the benefits of those investments made to date and will have an adverse impact on future plans to provide additional recreation opportunities for those who live in and visit our community.

Rec 5, 6,10

Signature Park

Since the adoption of the Riverfront Master Plan in 1990, Sioux City has aggressively undertaken the transformation of its riverfront into what is now considered to be Sioux City's signature park. As a result, this riverfront park has become a community focal point and source of overwhelming community pride. In a recent survey, citizens identified the continued development of recreational opportunities along the riverfront as one of the highest recreational priorities for this community. Additionally, this linear park is located adjacent to Interstate 29 and through the investment made by Sioux City, it now provides a positive and lasting image of our community to the nearly 6 million vehicles per year that utilize this route for business and pleasure travel. The historic Sergeant Floyd Welcome Center, located in the heart of the riverfront park, attracts 35,000 visitors annually.

The attraction of the riverfront improvements and recreational opportunities offered are now attracting and encouraging tourists traveling this route to spend time site seeing, picnicking, camping, hiking, and nature walking in this park.

Activities and Attractions

The riverfront park hosts weekly summer concerts and provides a setting for weddings, family reunions, school outings, and photo opportunities. The hard surfaced recreational trail that winds its way through this linear park provides a recreational experience to a significant number of bicyclists, runners, inline skaters and the casual walkers that enjoy the numerous amenities offered along the Missouri River. In addition, many of the City's premier festivals are now being held along the banks of the Missouri River, including Rivercade, Art Splash, Mardis Gras parade, Walk America, and Cinco de Mayo.

Sioux City Marina

Plans are currently under development to revitalize Sioux City's marina facility. Plans call for improvements to the marina facility to accommodate slips for 300 boats. Access to this marina from the Missouri River has been an ongoing challenge due to river bottom degregation. Any plans to reduce flows and lower elevations will make access to and from this marina even more difficult during the normal boating season. The closest marina that offers a similar boating facility is located over 100 miles south of Sioux City. At a public meeting conducted February 27, 2002, the Sioux City boating community unanimously voiced their opposition to plans to change the operations of the Missouri River.

Public Boat Launch Facility

Sioux City recently completed the construction of a new public boat launch facility within the riverfront park. Access to the river has been enhanced through these improvements. However, this investment would be in jeopardy should river flows be reduced during the normal boating season. The City of Sioux City is currently responsible for maintaining the public boat launch facility through annual dredging and other maintenance costs, including sediment control devices. Any plans that call for the lowering of river elevations during the normal boating season will dramatically impact the usability and cost to maintain the boat launching facility.

Riverboat Gambling

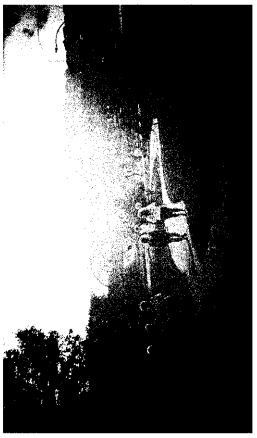
Sioux City is the home to the Belle of Sioux City riverboat casino. This casino attracts 852,000 visitors annually and has become a vital component to the success of attracting tourism dollars into

Sioux City

Appendix I

City Of Sioux City's Resolution

our community. Access to the riverboat casino is dramatically impacted by the rising and falling elevations of the Missouri River. Any plans to reduce flows will adversely impact access to and operations of this facility. Additionally, exciting plans are currently being developed to relocate this facility upstream, adjacent to the marina area. These plans call for the development of a hotel, restaurant, new landing, and represent a significant investment in our community. Here again any plan to modify flows would endanger the opportunities to see this project through to fruition.



Trails
Quality recreational trails have and continue to be in great demand. Sioux City has responded by investing in the construction of riverfront trails that link three major parks. The trails within Chris Larsen Park and the connections north to Riverside Park and south to Chautauqua Park are the heaviest used recreational trails in our community. This trail has also been designated as a segment of the Lewis and Clark National Historic Trail. Popularity of this trail system is directly linked to the aesthetic beauty offered by the nearby river.

Lewis and Clark Interpretive Center
This project involves the construction of an 8,750 square foot interpretive center celebrating Meriwether Lewis and William Clark's Corps of Discovery exploration of the Louisiana Purchase between 1804 and 1806. Located on the banks of the Missouri River adjacent to Interstate 29 and the Sergeant Floyd Riverboat Museum / Iowa Welcome Center, the Interpretive Center will offer visitors unique, hands-on experiences in order to provide a sense of the daily challenges meeting the explorers. This project will have significant economic impact throughout the SiouxLand region, the state and the nation. It is estimated that between 15 and 20 million people will travel the Lewis and Clark Trail between 2003 and 2006. Sioux City's Lewis and Clark Interpretive Center will be a significant visitation site for those tourists participating in this bicentennial commemoration.

The construction of the Lewis and Clark Interpretive Center is expected to cost $3.5 million. The Center will be built by the Missouri River Historical Development, Inc., a not-for-profit organization, and will be run by the City of Sioux City.

It is likely that lower river flows during the tourism season will represent a major obstacle in fulfilling all of the educational opportunities planned to be offered by this facility.

Summary
The investments made to date and the plans that call for the continuation of Sioux City's riverfront renaissance have been made based on the historic operations of the Missouri River. Sioux City relied upon this information when making this significant investment and any modification of the operations of the Missouri River that would lead toward lower flows would dramatically and adversely impact those investments and the desirability of future investments and recreational opportunities. Such quality recreational resources like the ones created in Sioux City along the banks of the Missouri River are truly a rare and precious commodity in the Midwest.

Rec 10

12

Sioux City

Appendix II

Iowa Senate File Bill #2052

RESOLUTION NO. 2002-000068

RESOLUTION URGING THE UNITED STATES ARMY CORPS OF ENGINEERS TO RECONSIDER ITS DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON THE OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM AND ADDRESS IDENTIFIED PROBLEMS

WHEREAS, the United States Army Corps of Engineers has proposed to release higher than normal flows down the Missouri River in the spring and fall and release substantially lower flows in the summer; and — Rec 6, 10

WHEREAS, the proposed changes will damage property, the economy, and the recreational uses of the Missouri River in communities downstream from Gavin's Point Dam in Yankton, South Dakota; and — WS 11 WQ 12

WHEREAS, changes in Missouri River water levels could move nearby contaminants to Sioux City's well fields and result in a loss of public drinking water supplies and create a danger to public health; and — FC 8 IntD 8 GW 7

WHEREAS, valuable farmland will be exposed to potential flooding, drainage problems and adverse groundwater conditions; and — Nav 12, 23

WHEREAS, the elimination of navigation on the Missouri River would shift transportation to rail and trucks, resulting higher transportation costs and straining the ground transportation infrastructure; and — HPower 18 WAPA 3

WHEREAS, reduced summer flows jeopardize electric power supply during peak usage months; and — Other - 10

WHEREAS, vaguely defined adaptive management plans could circumvent opportunities for public review and input regarding river management plans.

NOW, THEREFORE, BE IT RESOLVED, BY THE CITY COUNCIL OF SIOUX CITY, IOWA, that the United States Corps of Engineers be urged to reconsider and address and solve the aforementioned problems before implementing the proposed changes in the Draft Implementation Plan.

PASSED AND APPROVED: January 28, 2002

Craig S. Berenstein, Mayor

ATTEST:

Robert K. Padmore, City Clerk

AGRICULTURE
FILED JAN 24 2002

SENATE FILE 2052
BY HOUSER, BEHN, REDWINE, BOETTGER, VEENSTRA, KING, ANGELO, FREEMAN, FRAISE, and KIBBIE

Passed Senate, Date _____ Passed House, Date _____
Vote: Ayes _____ Nays _____ Vote: Ayes _____ Nays _____
Approved _____

A BILL FOR

An Act relating to changes in the Missouri river master manual of the United States army corps of engineers.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

SF 2052 AGRICULTURE

TLSB 6009XS 79
tj/cls/14

S.F. 2052 H.F. _____

Nav 44
FC 8
IntD 8
GW 7
HPower 16, 18

Section 1. NEW SECTION. 7D.16 MISSOURI RIVER MASTER MANUAL -- MODIFICATIONS -- COMMENTS.

1. DECLARATION. The state of Iowa opposes any changes in the Missouri river master manual of the United States army corps of engineers as it exists on January 1, 2001, that will change the navigation season from Sioux City, Iowa, to St. Louis, Missouri, that will imperil flood control, that will adversely affect the generation of electrical power, or that will adversely affect the drainage of farmland.

2. PETITION CONSIDERED. Upon receipt of a petition relating to a proposed change in the Missouri river master manual from a citizen of this state, the executive council shall receive and consider the petition. The executive council, upon its own motion, shall transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers, or shall submit the petition to the state department of agriculture and land stewardship, the state department of transportation, the state department of natural resources, or other state department or agency which may be interested in or affected by the petition or proposed change. The affected state department or agency shall consider the petition and transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers.

3. RECORD MAINTAINED. The executive council or state department or agency, which received and considered the petition, shall retain a copy of the petition and any comment made concerning the proposed change to the Missouri river master manual. The copy of the petition and any comment shall be filed in the office of the Iowa secretary of state and maintained as a permanent record for public review.

4. ANNUAL REPORT. The Iowa secretary of state shall review annually the petitions and comments received relating to proposed changes in the Missouri river master manual of the

S.F. 2052 H.F. _____

United States army corps of engineers and prepare a summary report for the executive council. The summary report shall be submitted to the executive council not later than March 1 for petitions and comments received during the preceding calendar year.

EXPLANATION

This bill provides that the state of Iowa opposes any changes in the Missouri river master manual of the United States army corps of engineers as it exists on January 1, 2001, that will change the navigation season from Sioux City, Iowa, to St. Louis, Missouri, that will imperil flood control, that will adversely affect the generation of electrical power, or that will adversely affect the drainage of farmland.

The bill provides that upon receipt of a petition relating to a proposed change in the Missouri river master manual from a citizen of this state, the executive council shall receive and consider the petition. The executive council shall transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers, or shall submit the petition to the state department of agriculture and land stewardship, the state department of transportation, the state department of natural resources, or other state department or agency which may be interested in or affected by the petition or proposed change. The affected state department or agency shall consider the petition and transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers.

The executive council or the state department or agency, which received and considered the petition, shall retain a copy of the petition and any comment made concerning the proposed change to the Missouri river master manual. The copy of the petition and any comment shall be filed in the office of the Iowa secretary of state and maintained as a permanent record for public review.

S.F. 2052 H.F. _____

Annually, the Iowa secretary of state shall review the petitions and comments received relating to the proposed changes in the Missouri river master manual of the United States army corps of engineers and prepare a summary report for the executive council. The summary report shall be submitted not later than March 1 for the petitions and comments received during the preceding calendar year.

LSB 6009XS 79
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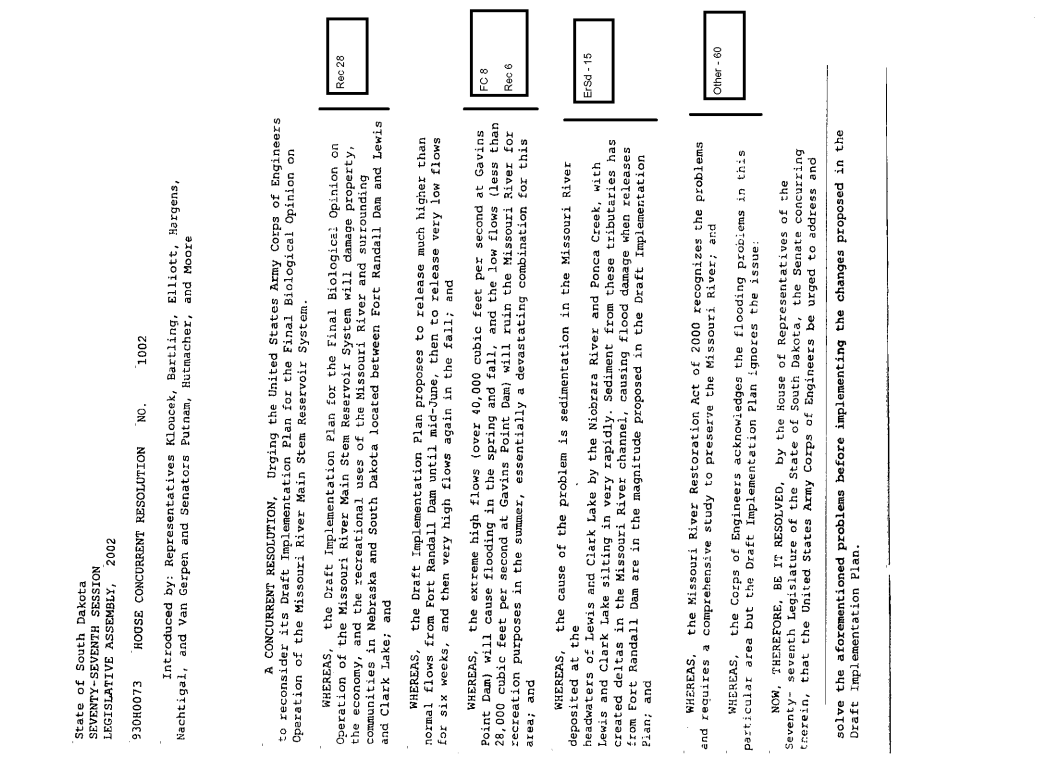


State of South Dakota
SEVENTY-SEVENTH SESSION
LEGISLATIVE ASSEMBLY, 2002

930H0073 HOUSE CONCURRENT RESOLUTION NO. 1002

Introduced by: Representatives Kloucek, Bartling, Elliott, Hargens, Nachtigal, and Van Gerpen and Senators Putnam, Hutmacher, and Moore

A CONCURRENT RESOLUTION, Urging the United States Army Corps of Engineers to reconsider its Draft Implementation Plan for the Final Biological Opinion on Operation of the Missouri River Main Stem Reservoir System.

Rec 28

WHEREAS, the Draft Implementation Plan for the Final Biological Opinion on Operation of the Missouri River Main Stem Reservoir System will damage property, the economy, and the recreational uses of the Missouri River and surrounding communities in Nebraska and South Dakota located between Fort Randall Dam and Lewis and Clark Lake; and

FC 8
Rec 6

WHEREAS, the Draft Implementation Plan proposes to release much higher than normal flows from Fort Randall Dam until mid-June, then to release very low flows for six weeks, and then very high flows again in the fall; and

WHEREAS, the extreme high flows (over 40,000 cubic feet per second at Gavins Point Dam) will cause flooding in the spring and fall, and the low flows (less than 28,000 cubic feet per second at Gavins Point Dam) will ruin the Missouri River for recreation purposes in the summer, essentially a devastating combination for this area; and

Er&d -15

WHEREAS, the cause of the problem is sedimentation in the Missouri River deposited at the headwaters of Lewis and Clark Lake by the Niobrara River and Ponca Creek, with Lewis and Clark Lake silting in very rapidly. Sediment from these tributaries has created deltas in the Missouri River channel, causing flood damage when releases from Fort Randall Dam are in the magnitude proposed in the Draft Implementation Plan; and

Other - 60

WHEREAS, the Missouri River Restoration Act of 2000 recognizes the problems and requires a comprehensive study to preserve the Missouri River; and

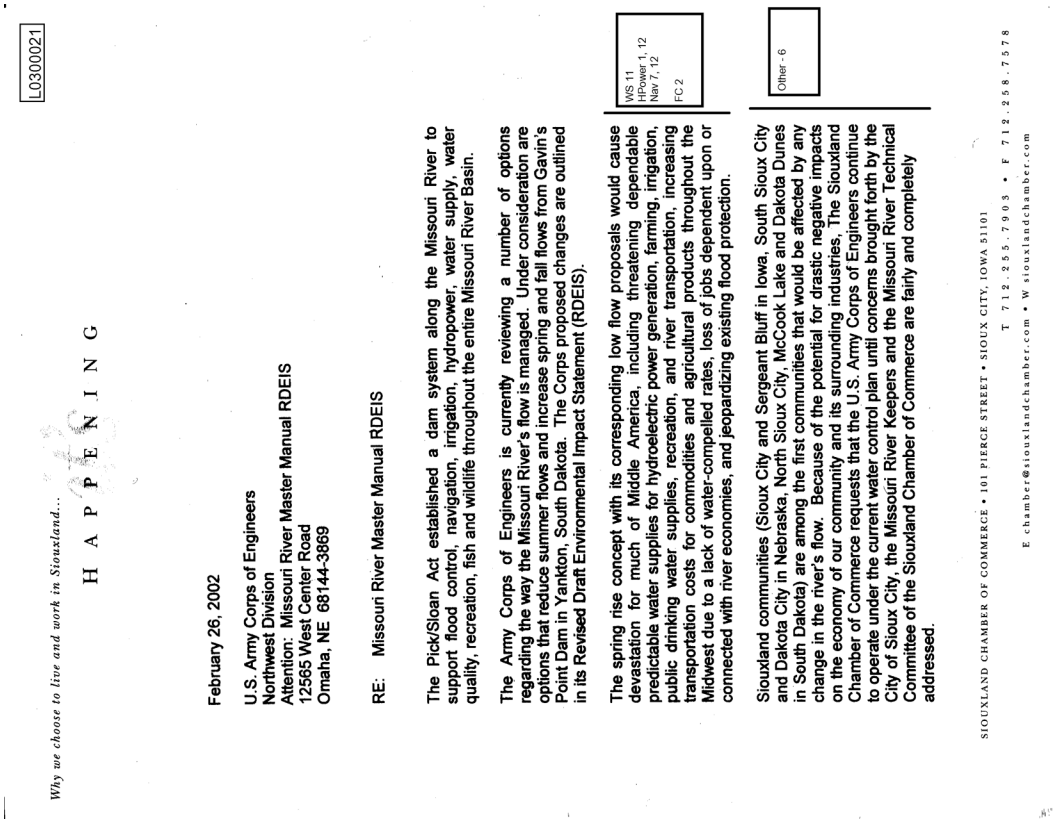
WHEREAS, the Corps of Engineers acknowledges the flooding problems in this particular area but the Draft Implementation Plan ignores the issue.

NOW, THEREFORE, BE IT RESOLVED, by the House of Representatives of the Seventy- seventh Legislature of the State of South Dakota, the Senate concurring therein, that the United States Army Corps of Engineers be urged to address and solve the aforementioned problems before implementing the changes proposed in the Draft Implementation Plan.

Sioux City

Appendix III

South Dakota House Concurrent Resolution #10



L0300021

Why we choose to live and work in Siouxland...

H A P P E N I N G

February 26, 2002

U.S. Army Corps of Engineers
Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Missouri River Master Manual RDEIS

The Pick/Sloan Act established a dam system along the Missouri River to support flood control, navigation, irrigation, hydropower, water supply, water quality, recreation, fish and wildlife throughout the entire Missouri River Basin.

The Army Corps of Engineers is currently reviewing a number of options regarding the way the Missouri River's flow is managed. Under consideration are options that reduce summer flows and increase spring and fall flows from Gavin's Point Dam in Yankton, South Dakota. The Corps proposed changes are outlined in its Revised Draft Environmental Impact Statement (RDEIS).

WS 11
HPower 1, 12
Nav 7, 12
FC 2

The spring rise concept with its corresponding low flow proposals would cause devastation for much of Middle America, including threatening dependable predictable water supplies for hydroelectric power generation, farming, irrigation, public drinking water supplies, recreation, and river transportation, increasing transportation costs for commodities and agricultural products throughout the Midwest due to a lack of water-compelled rates, loss of jobs dependent upon or connected with river economies, and jeopardizing existing flood protection.

Other - 6

Siouxland communities (Sioux City and Sergeant Bluff in Iowa, South Sioux City and Dakota City in Nebraska, North Sioux City, McCook Lake and Dakota Dunes in South Dakota) are among the first communities that would be affected by any change in the river's flow. Because of the potential for drastic negative impacts on the economy of our community and its surrounding industries, The Siouxland Chamber of Commerce requests that the U.S. Army Corps of Engineers continue to operate under the current water control plan until concerns brought forth by the City of Sioux City, the Missouri River Keepers and the Missouri River Technical Committee of the Siouxland Chamber of Commerce are fairly and completely addressed.

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Appendix IV

Siouxland Chamber of Commerce Technical Committee Paper

The Siouxland Chamber of Commerce fully endorses and adopts as its own:

1. The attached report, *Review of Missouri River Management Alternatives And Development Of A Preferred Alternative,* prepared by the Missouri River Technical Committee of the Siouxland Chamber of Commerce, Sioux City, Iowa
2. The attached position paper from the City of Sioux City
3. The attached Missouri River Keepers paper, *Missouri River Management Alternatives - Issues and Concerns*

Thank you for your consideration.

Respectfully yours,

Garrett K. Smith
Chair

Debi Durham
President

REVIEW OF MISSOURI RIVER MANAGEMENT ALTERNATIVES
And
DEVELOPMENT OF A PREFERRED ALTERNATIVE

Dawn at Lakota Landing

Missouri River Technical Committee
of the
Siouxland Chamber of Commerce
Sioux City, Iowa

Review of Missouri River Management Alternatives and Development of a Preferred Alternative
By
Donald G. Jorgensen[1], Donald M. Meisner[2], Bill Beacom3, and Rod E. Tondreau[4]

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February 20, 2002

Cover Photo:

The scene shown is dawn on a segment of the channelized river near mile 747. The photo emphasizes the serene beauty of the Missouri River. The Missouri River is a beautiful and prized resource whether it is the channelized reaches, the unchannelized reaches, or the reservoirs. The photo shows well-established forests on the bluffs adjacent to the river in the background and newer forests of cottonwood, ash and willow in the darkened foreground.

EXECUTIVE SUMMARY

Review of Missouri River Management Alternatives and Development of a Preferred Alternative

By

Donald G. Jorgensen, Donald M. Meisner, Bill Beacom, and Rod E. Tondreau

Conditions in the Missouri River Basin have changed since the last Missouri River Water Control Manual was developed. Not the least of these is the increased concern for endangered and threatened species as reflected by the Endangered Species Act (ESA). Additionally, there is increased interest in recreation including fishing and hunting. These changes and concerns have been the impetus for the U.S. Army Corps of Engineers' (USACE's) efforts to reevaluate the present Water Control Manual and to formulate a new Manual that will reflect present conditions. It should be remembered that the purpose of the Pick Sloan program was to change the damaging natural hydrograph.

In reference to ESA, the U.S Fish and Wildlife Service (USFWS) has judged that the present operation of the river system puts in jeopardy the pallid sturgeon, least tern and piping plover and has submitted a plan for the management of the Missouri River system in its Biological Opinion (BO). The plan would cause many positive and negative environmental and economic effects. Neither the RDEIS (Revised Draft Environmental Impact Statement) nor the BO has a complete discussion of environmental and economic impacts. The RDEIS includes very useful comparisons of the six alternatives. However, several important environmental impacts are not listed. The BO does not discuss in any detail the negative environmental impacts in reference to the "Rational and Prudent Alternative".

Other - 67

The USFWS has proposed a multifaceted plan. The most contentious element is the modification of flow from Gavins Point. USFWS states that flow from the dam must create a hydrograph that mimics the natural hydrograph (which assumes that the natural hydrograph is best for the least tern, piping plover, and the pallid sturgeon). USFWS states a spring rise is critical to cue spawning of the pallid sturgeon.

EnSp 28

The assumption that the natural hydrograph is best for the piping plover and least tern is not logical. The spring rise on the Missouri River typically occurs from April through July. The least tern and piping plover arrive, court, and nest from May through July. Higher flows can scour vegetation from the sandbars but this scouring could best be done anytime other than May through July.

Least terns have been rare on the Missouri River since at least 1917. Comparison of their range in 1917 with the present indicates the present tern range has been extended hundreds of miles upstream. The least tern population in the Missouri River Basin has significantly increased since the first census in 1991. These observations are not consistent with the USFWS's judgment that existing management of the river is causing jeopardy.

A comparison of the distribution of the piping plover from 1917 with present indicates that the distribution of this bird is stable. The piping plover can be found over a wide portion of the Great Plains of North America. The piping plover, in general, will nest on any vegetation free stream bank or shore, irrespective of the soil type. In its ranges there are tens of thousands of lakes and wetlands not considering the miles of river shorelines. The exact population is not known but is likely to be significantly larger than observed. *Because the range of the piping plover is basically stable since 1917 or before, and because the data for the 1991-2001 period show a marked increase in the Missouri River piping plover population, the strength of the USFWS's conclusion that the operation of the present Missouri River system is causing jeopardy to the piping plover is questionable.*

In reference to the least tern and piping plover, the USFWS has recommended the spring rise to scour the sandbars clean of vegetation. However, a more complete evaluation of the serious environmental and economic effects of this proposed action is needed. For example virtually no evaluation of the effects of degradation is given in the BO or in the RDEIS. It should go without saying that any water flood that would clean the sand bars would of course erode the stream bottom (degradation). Degradation has already completely eliminated numerous lakes and wetlands, and damaged others. The worst affected area is between Gavins Point and Omaha. The proposed spring flow would exacerbate an already bad situation. In the Gavins Point to Ponca reach and the Fort Randall Dam to Lewis and Clark Lake reach, the spring rise would cause extra bank erosion. Streambed degradation is occurring below all the reservoirs. The proposed spring rise below Gavins Point would require high flows from all the reservoirs and result in additional degradation. The eroded material (sediment) would be deposited in the next downstream reservoir. The spring rise would in addition increase the potential for flooding in the reaches below Omaha, and retard farmland drainage in the spring.

Other - 68

ErSd - 15, 18

The USFWS states that the spring rise below Gavins Point is essential to cue the pallid sturgeon to spawn is not well founded on observations and existing research. Data from a comprehensive study of sturgeon spawning in the Marias River indicates that water temperature not flow volume is the dominant cue for sturgeon spawning. The statement that the sturgeons are not spawning is not accurate. For example, shovelnose sturgeons have been collected in the Missouri near Vermillion both prior to and after spawning. Several persons have observed sturgeons spawning in tributary streams. If most of the sturgeons spawn in the tributaries, the need for spring rise is of course moot. Sturgeons are spawning; unfortunately the spawning is not successful in recruitment of pallid sturgeon. (However, the shovelnose sturgeon does successfully reproduce to a limited degree.) If a spring rise were the critical factor to the successful reproduction of pallid sturgeon, then the population of the pallid sturgeon would be much greater in the river reaches below St. Joseph. Furthermore, numerous tributary streams in the lower river have natural spring rises and yet pallid sturgeons are not reproducing in these streams either. Observations on the conditions of the pallid sturgeon in the Missouri River suggest that hormonal disruption is the major cause of lack of recruitment.

EnSp 5

The proposed summer low flow is the second element of the proposed Gavins Point Flow Modification. Summer low flow would lower ground water levels near the river. The lower ground water levels would lower water levels in wetlands, lower pumping levels and increase pumping costs in municipal and irrigation wells. The lower stream

levels would reduce connectivity of the river to the limited number of chutes, backwaters, and adjacent lowlands.

Reduced discharges at the dams to create the summer low flow would reduce hydroelectric production during the summer peak load period resulting in an estimated $30,000,000 annual cost. Lower river levels during the summer low flow would also affect cooling water use. The reduced flow plus increased cooling water need could result in shutdown of several power generating plants during the period when electric use is the highest. Summer low flows if severe enough could eliminate barge traffic during that period and may eliminate commercial river navigation to Sioux City.

HPower 12, 18
MoPower 1

The USFWS believes that a spring rise as a "flood pulse" is needed for the biologic health of aquatic species in the river. However, this theory requires that there be large areas accessible for flooding adjacent to the river for a "transient littoral zone". *Large floodable areas are not present along the channelized reaches. Thus, actions based on the "flood pulse concept" approach would fail.*

EnSp 5

The effects of nonnative fish on the native fish community are not adequately discussed in the BO and the RDEIS, and no actions are proposed in the alternatives. The effects of continued stocking of nonnative species needs further study.

Adaptive management has a large potential for better management of the Missouri River system. However, management by federal biologists as is presently proposed in the BO and RDEIS is dangerous and not acceptable. Comprehensive participation by representatives of all stakeholders is essential.

Other - 10

Drought conservation measures have merit but would be accomplished at the expense of the commercial navigation industry. Trial Fort Peck flow changes to create temperature-spawning cues for the pallid sturgeon and to enhance the "warm" water fisheries have merit. *Gavins Point flow modifications cannot be justified because the validity of the stated purpose is questionable and because the proposed flow modification would result in a myriad of negative environmental and economic impacts and would fail to improve conditions for the threatened and endangered species as well as for fish and wildlife in general.*

Nav 3

EnSp 5,7,3

RECOMMENDED MANAGEMENT ALTERNATIVE

The elements of the alternative for management are:

Adaptive Management: Adaptive Management should include complete stakeholder involvement in line with the recommendations of the National Academy of Sciences and follow the procedures in place under the National Environmental Policy Act to ensure that a hard look is taken at alternatives and that the public is informed.

Other - 10

Monitoring: A comprehensive and well-designed monitoring program is essential for effective and efficient management.

Independent Science: Most of the data and science today dealing with alternative management plans has come from USACE and the USFWS and has been essential. However, these two agencies cannot be considered independent from the process or unaffected by the results. Much of the science has been done by the USFWS or closely associated colleagues or cooperators. Independent science is an essential part of the total effort. Independent science should include investigations by local groups or individuals.

Indemnity for Losses: If it is necessary to make a change in the operation of the system that results in harm or loss of rights to an identity, fair compensation should be given to that identity. Other - 69

Drought Conservation Measure: Improved water conservation for drought conditions should be considered.
Fort Peck Flow Changes: Trials of flow modification to cause a temperature cue for the pallid sturgeon would be useful if the required substrate for spawning is available.
Unbalancing of the "big three" reservoirs: Unbalancing of the three upstream reservoirs would create more habitat for the least tern and piping plover as well as improve the fishery of the reservoirs. Hydro-14

Habitat improvement: Habitat improvement, especially in the channelized reaches should be aggressively pursued. Backwater areas should be created. New slow water-velocity areas should be designed and initiated by the USACE. Programs to develop habitat adjacent to the river in tributary streams should be initiated. Existing programs to improve habitat should be expanded.
Other elements: Other elements include improving sediment and turbidity characteristics, increasing the supply of carbon and other nutrients, elimination of snagging, predator fish management, predator management for the least tern and piping plover, public information, expansion of existing USACE tern and plover program, and expansion of the existing USFWS pallid sturgeon hatchery program. Other - 70

CONTENTS

A. INTRODUCTION

A1. PURPOSE: This study has two purposes. One purpose of this study is to evaluate the information including the six alternatives presented in the U.S. Army Corps of Engineer's (USACE*) Missouri River Revised Draft Environmental Impact Statement* (RDEIS) of August 2001. The second purpose is to select and enhance the best alternative. The results of our study will be presented to the USACE and other interested parties.

A2. SCOPE: The scope of this study is to review existing data, interpretations, and pertinent information that were used to develop the RDEIS and the summary of the RDEIS (SRDEIS). A major source of data used in the RDEIS was the Biologic Opinion (BO) prepared by the U.S. Fish and Wildlife Service (November 2000). The information, interpretations and data presented will be reviewed. Notwithstanding the extensive information in the RDEIS and BO, new information and data will be used also and new interpretations made if needed. The scope of the review will be limited because of the lack of resources and time. Emphasis is given to negative impacts that were not addressed or adequately addressed in the BO and RDEIS.

A3. APPROACH:

1) Review and evaluate the data, information and interpretations in the RDEIS and BO.
2) Identify data and information shortcomings.
3) Search for and or collect additional data and information.
4) Review and evaluate scientific and technical information from the RDEIS and BO.
5) Review and evaluate economic and environmental strength and weaknesses of the alternatives presented in the RDEIS.

6) Develop an alternative that will most likely produce the best results in reference to social, economic, and environmental factors.

A4. OBJECTIVES: The objectives of the alternative are:
1) To develop a fair and balanced alternative that optimizes beneficial use of the resource. These uses include flood control, recreation, hydroelectric production, navigation, bank stabilization, water supply, water quality, irrigation, and fish and wildlife.
2) Assist and not cause jeopardy to the threatened and endangered species as per the Endangered Species Act.

Although not a stated objective, a guiding principle will be that any course of action for any plan should not result in loss to a party if that party is not to receive indemnity.

B. GENERAL COMMENTS ON THE BIOLOGIC OPINION AND REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

Other - 67

Conditions in the Missouri River Basin have changed since the last Missouri River Water Control Manual was developed. Not the least of these is the increased concern for endangered and threatened species as reflected by the Endangered Species Act (ESA). Additionally, there is increased interest in recreation including fishing and hunting. These changes and concerns have been the impetus for the USACE's efforts to reevaluate the present Water Control Manual and to formulate a new Manual that will reflect present conditions.

In reference to ESA, the USFWS has judged that the present operation of the river system puts in jeopardy the endangered pallid sturgeon, the endangered least tern, and the threatened piping plover.

Neither the RDEIS nor the BO has a complete discussion of environmental and economic impacts. The RDEIS includes very useful comparisons of the six alternatives. However, several important environmental impacts are not listed. The BO does not discuss in any detail the negative environmental impacts in reference to the "Rational and Prudent Alternative" (RPA); although, the report discusses in great detail any negative impacts associated with the CWCP (Current Water Control Plan). The BO contains extensive references, especially general references; however, virtually none of the references are specific as to page or pages where the quoted or referenced information comes from. This is a serious shortcoming of the BO and makes checking or reviewing the report impossible in a reasonable time.

C. SPECIFIC COMMENTS

EnSp 28,47

C1. USFWS Assumption that the " Natural" Hydrograph Is Best For Piping Plover and Least Tern Is Unfounded: USFWS states in the BO (2000, p. 264):
"The Service concludes that implementation of all elements of the RPA, and those described above as applicable to and benefiting multiple species, is necessary to avoid jeopardy to the least tern, piping plover, and pallid sturgeon." The Service professes that

the science clearly supports the combination of needs identified through the elements of the RPA to change the current hydrograph to one which more closely mimics some semblance of the natural hydrograph…" The USFWS in the BO (2000, p. 242) state in reference to Gavins Point: " Flow modifications that include higher spring rise and declining summer flows than now exist would provide the necessary biological cues and habitat to benefit terns, plover, and pallid sturgeon, as well as other fish and wildlife".

The above statement is mostly inaccurate or unsubstantiated at best. The statement may reflect a preconceived view of the USFWS that the "natural" hydrograph (unmodified by man) is inherently better for the piping plover and least tern than the present hydrograph. The USFWS has used figures 12 – 20 to show the presently existing or CWCP hydrograph and the "natural" or FWOP hydrograph. The USFWS hydrographs should have been presented as bar graphs for accuracy; however, the graphs are useful. The hydrographs are reproduced in Appendix A of this report. Figure C1-1 shows both the "natural" spring rise as well as the typical mating and brooding season for piping plovers and least terns. As can be seen the timing of the spring rise and the brooding and mating season very nearly coincide. The spring rise floods the nests of the plovers and terns and otherwise is a detriment to the birds. *Accordingly, the natural hydrograph is not the best hydrograph for the least tern and piping plover. This contradicts the USFWS' basic assumption on which they have devised the flow modification scheme.*

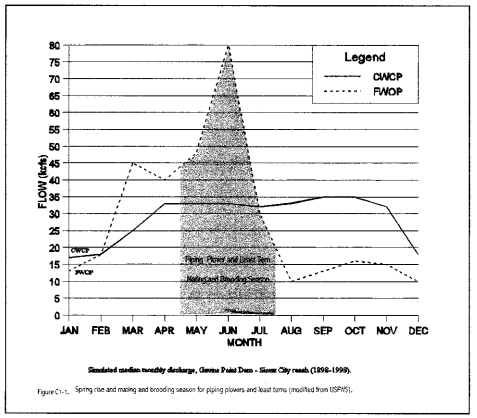

Figure C1-1. Spring rise and mating and brooding season for piping plovers and least terns (modified from USFWS).

EnSp 5,32

C2. Spring Rise Would Flood Piping Plover and Least Tern Nesting Habitat: The USFWS' RPA recommends that a "spring rise" below Gavins Point be initiated on the average of once every three years. The purpose of this is to clean the sand bars of

vegetation. The proposed USFWS spring rise once every three years during June, like the natural spring rise, would flood the sand bar habitat of the least tern and piping plover at the time they are mating and nesting. It is obvious that the flooding during mating and nesting is harmful to the birds. It should be remembered that occasionally the USACE is forced to have high flows in order to minimize flooding. This process results in cleaning of the sandbars. It also should be remembered that during the winter when flows are greatly reduced that large expanses of sandbars are exposed. During this period wind erosion cleans the sandbars and also creates new sand forms. (The preferred solution would be to clean the sandbars without creating abnormally high flows. Creative and inexpensive ways to remove vegetation other than flooding can be easily implemented.)

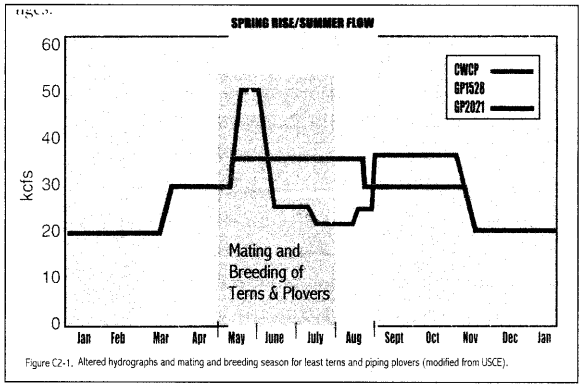

Figure C2-1. Altered hydrographs and mating and breeding season for least terns and piping plovers (modified from USCE).

C3. Least Tern Were Rare on Missouri River in 1917: T. Gilbert Pearson, President of the National Association of Audubon Societies, reported in 1917 (Pearson, 1917 p. 65) that the least tern were rare everywhere. Pearson stated the range of habitat was from Texas to northwest Nebraska and has occurred in Wisconsin and South Dakota. This distribution is not consistent with the distribution shown in figure 3 of the Biological Opinion (USFWS, 2000). Apparently the range of the least tern has extended northward along the Missouri River since 1917. It seems that the least tern has extended its range several hundred miles northward on the present Missouri River. *Based on the above information it is unclear how USFWS concluded that the present Missouri River system jeopardizes the least tern. The opposite question should be posed: if the operation of the existing Missouri River system is changed, will it cause jeopardy to the least tern?*

EnSp 28

C4. Least Tern Population Is Increasing: Nationally the least tern population is increasing. Specifically, the population increase is most dramatic along the Gulf of Mexico. Data presented by USFWS in the BO (2000, pp. 137-142) concerning the population of least tern since 1991 strongly suggests that the population is increasing. However, if the data are adjusted for the missing data, the adjusted population increases for the least terns from 7,806 in 1991 to 10,133 in 1999 or an estimated 23 % increase. Adjusted data for the Missouri River population show an increase of the tern population from 391 in 1986 to 572 in 1999 or an increase of 38 %. Thus, the data do indicate that the operation of the Missouri River System is not harmful to the least tern. *The reverse question should be posed: would significant changes in the operation of the present river system cause jeopardy to the least tern?*
Another concern is that little information is presented in the Biological Opinion about wintering conditions. It is possible that if a nationwide reduction of least tern population is occurring, it may be due to practices, events, or conditions outside of the Missouri River Basin. For example, destruction of wintering habitat may be happening outside the United States.

EnSp 28

C5. Distribution of Piping Plover: Pearson (1917, p. 264) reports the piping plover "breeds locally from southern Saskatchewan, southern Ontario, Magdalen Islands, and Nova Scotia south to Central Nebraska, northwestern Indiana, Lake Erie, New Jersey (formerly), and Virginia; winters on the coast of the United States from Texas to Georgia and in northern Mexico; casual in migration to Newfoundland, the Bahamas, Greater Antilles, and Bermuda". This distribution matches quite well with the distribution of international survey of 1991 (Haig and Plissner, 1993, figure 1.) and with figure 4 of the BO. Thus, in the last 80 years there seems to be little change in the distribution. This would be the case for a well-established population.

EnSp 28

C6. Population of Piping Plover: The piping plover can be found along all types of water bodies in a wide area in the mid-continent of North America (Northern Great Plains). Plover nest along lakes, ponds, wetlands and streams; however, they will also nest away from water bodies on relatively bare ground, such as mud flats and gravel flats. Also, piping plover are opportunistic nesters. They seemingly will nest close to nearly any water body that has an open beach area. In 2001 piping plover were observed nesting and reproducing on a dry clay shore adjacent to an abandoned oxbow wetland distant from the Missouri (Don Jorgensen, 2001, pers. comm.).

Data presented in the Biologic Opinion (USFWS, 2000, pp. 150-152) concerning the population of the piping plover along the Missouri River since 1991 is inconclusive in showing if the population is increasing or decreasing. A 1991 international census counted 5,482 adults in the summer habitat and 3,451 in the winter habitat. A 1996 census counted 5,913 adults in summer and 2,515 in winter. The data does suggest that not enough is known about conditions (e.g. wintering conditions) of the plover. The most recent data from the 2001 international census indicates piping plover population is up 10 percent in the last 10 years. Preliminary information from the 2001 census (Haig, ENS, 2002) reports that the population of the piping plover along the Missouri River has increased 470 percent in the last 5 years and 140 percent in the last decade. The exact

EnSp 27

population of the piping plover is not known but is larger than observed because the Northern Great Plains area contains thousands of lakes and numerous streams. The Biologic Opinion reports on the reduction of sand bar habitat on the Missouri River (USFWS, 2000, p. 93); however, the report fails to emphasize or evaluate the greatly enhanced shoreline available for nesting on the reservoirs that has been created. The conditions of the piping plover piping plover in the Northern Great Plains except along the Missouri River apparently have not been carefully evaluated. It is likely that changes of conditions in this large area have been non trivial. The BO does not report on any credible evaluation of the non-riverine environment.

Another shortcoming is that little information is given in the BO about wintering conditions. If the population is being reduced, it is possible that it is being reduced as the result of conditions and events that occur outside of the Missouri River Basin. For example, it is reported from other sources that the piping plover have been hunted as game food in parts of their wintering range.

Because the range of the piping plover is basically stable since 1917 or before, and because the data since 1991 show an increase in the Missouri River plover population, the strength of the USFWS conclusion that the operation of the present Missouri River system is causing jeopardy to the piping plover is questionable.

C7. Spring Rise Would Result in Streambed Degradation and Numerous Negative Environmental Impacts: The RPA in the BO advocates a spring rise. However, the proposed spring rise to clean the sandbars would cause increased streambed degradation below the affected dams. *It should go without saying that any water flood that would clean the sand bars would of course also erode the stream bottom.* Degradation has many negative environmental and economic impacts. The BO does not discuss degradation except in an incidental way. *Neither the BO nor the RDEIS evaluates the effects of degradation.* This is a serious shortcoming in both the BO and the RDEIS.

ErSd - 18

Streambed degradation has severe negative environmental and economic impacts. The waters released from the dams are deficient in sediment. Accordingly, these waters "pick up" sediment from the streambed, which results in streambed degradation and lowers the water levels in the river. In general, most reaches of the Missouri River under normal conditions are gaining reaches (Hedman and Jorgensen, 1990). That is, these reaches typically gain ground water from the floodplain. The lowering of the water level in the stream as the result of streambed degradation would cause ground-water levels to decline because the ground water drains to the streams. For example, the lowering of the ground-water levels resulting from streambed degradation has already lowered water levels to some degree in all the wetlands in the Missouri River floodplain from Gavins Point to south of Omaha. Water-level declines in lakes near the Missouri River have been dramatic. (See figures C7-1 through C7-8.) For example, water levels in McCook Lake, South Dakota, and Crystal Lake, Nebraska have been lowered about 10 feet. These lakes would be dry today except for expensive dredging and for the water pumped into the lakes from high capacity wells pumping ground water or pumping from the Missouri. Unfortunately, numerous other lakes and other wetlands have dried up completely as the result of streambed degradation. Degradation and further environmental damage would be caused by every spring rise. Degradation is causing the river to incise and is reducing

stream connectivity to shallow water bodies, such as in the reach from Gavins Point to below Omaha.

Existing Missouri River data show that streambed degradation has followed high flow events in the Missouri River. (See figure C7-9.) The same data show that degradation is attenuated or even reversed during durations of normal flow.

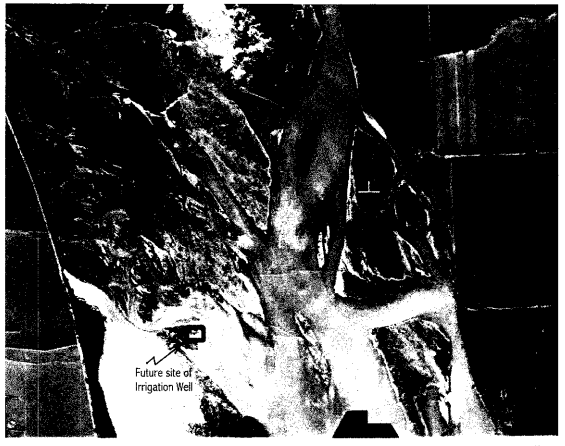

Figure C7-1. 1962 USDA photo of recently cut off oxbow along the Missouri River. Note future site irrigation well located in shallow water.

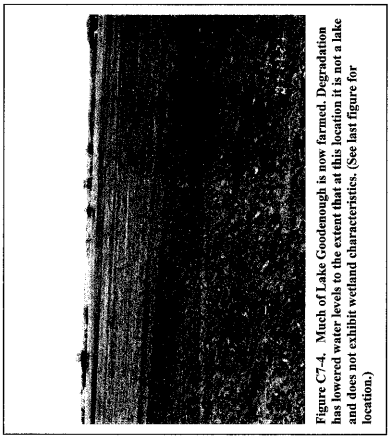

Figure C7-4. Much of Lake Goodenough is now farmed. Degradation has lowered water levels to the extent that at this location it is not a lake and does not exhibit wetland characteristics. (See last figure for location.)

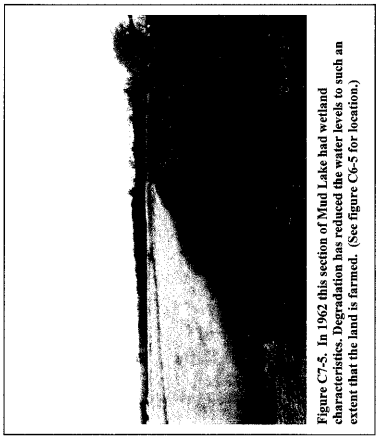

Figure C7-5. In 1962 this section of Mud Lake had wetland characteristics. Degradation has reduced the water levels to such an extent that the land is farmed. (See figure C6-5 for location.)

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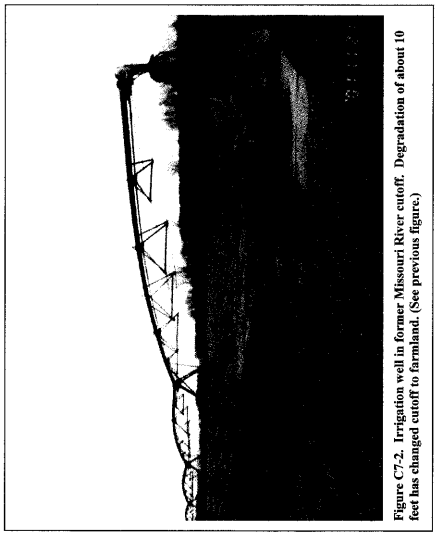

Figure C7-2. Irrigation well in former Missouri River cutoff. Degradation of about 10 feet has changed cutoff to farmland. (See previous figure.)

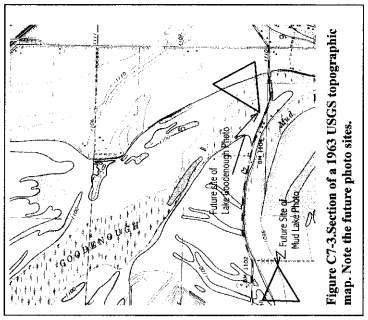

Figure C7-3.Section of a 1963 USGS topographic map. Note the future photo sites.

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Figure C7-7.. McCook Lake South Dakota. The lake is an oxbow lake. Degradation has lowered supporting ground-water levels to such an extent the lake has been dredged numerous times. Presently the water level is maintained by large wells. Plans in 2002 are to pump water from the Missouri River as well as ground water into the lake.

Figure C7-8. The low land shelf shown is between wing dikes. The shelf once was the site of shallow water and sand bars. Degradation of about 10 feet has resulted in the river incising. The incising has resulted in a shallow backwater being transformed into a land shelf, which did not even flood in the high 1997 river flows. Perhaps careful notching of the wing dikes can restore some slow velocity water areas below some wing dikes.

Figure C7-9. Stage at Sioux City, Iowa. Difference of stage for the same discharge is a function of degradation. Note the drop of stage of more than 2 feet from 1995 through 1998. The drop is the degradation at Sioux City due to the high flows of 1996, 1997, and 1998. Data from USACE.

C8. The Gavins Point Spring Rises Would Not Significantly Increase Floodplain Connectivity Nor Would They Result In A Successful "Flood Pulse":

EnSp 5,38

The USFWS (2000, p. 236) has endorsed the "timed pulse concept" (spring rise) of Junk and others (1989) and has made it an integral part of its RPA. USFWS (2000, p. 236) states: "The principal driving force for extensive productivity and other biotic interactions of the river – floodplain ecosystem is flooding". Junk and others (1989, p. 110) states that this concept requires a " moving" littoral zone. The moving littoral zone requires a large area adjacent to the stream that the pulse of water can flood. The channelized reaches do not have large areas adjacent to the river that can be easily flooded. (The "connectivity" for each alternative is shown figure C8-1 (SRDEIS, USACE, 2001, Fig. 20)). *Because there are no large areas to flood in the channelized river, the spring rise would most likely fail. The question arises then why would the USFWS propose a spring rise when it would most likely fail? Assuming the "flood pulse concept" to be technically viable as discussed, it would require that bank stabilization, navigation, flood control and several other project uses be essentially discontinued for it to succeed.* Perhaps the USFWS believes that even though the timed pulse concept will fail, that if the spring rise were initiated, future application of adaptive management would allow other project uses to be subjugated?

Additionally, it should be considered that most of the minimal benefit from the spring rise connectivity would be offset by the reduction of conductivity during the summer low flow.

EnSp 59

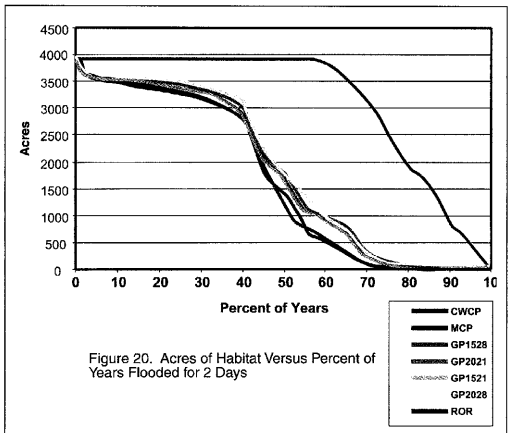


Figure 20. Acres of Habitat Versus Percent of Years Flooded for 2 Days

Figure C8-1. Floodplain connectivity. (From USACE SRDEIS.) GP indicates Gavins Point Flow Modification alternatives. CWCP is the "Current Water Control Plan" alternative. MCP is the "Modified Current Water Control Plan" alternative. ROR refers to "run of the river", which represents the river running through the existing reservoirs without additional flow modification.

Junk and others (1989, p.1) report that a predictable pulse (such as a spring rise) would result in rapid recycling of organic matter and high productivity if there exists a moving littoral zone. Because of the very small moving littoral zone in the channelized river, the proposed spring rise would not significantly increase productivity. Junk and others (1989, p. 112) state that large rivers act as a 'highway' for fish to move to different feeding zones. Because of the paucity of backwaters in the channelized Missouri River, the river is likely acting as a "highway" for the fish to travel feeing areas, such as tributary streams where slower waters and nutrients are more likely.

C9. Existing Information Does Not Support Assumption That Spring Rise Would Increase Pallid Sturgeon Population: The proposed spring rise as promoted in the USFWS's RPA in the BO (USFWS, 2000) and the GP alternatives in the RDEIS is

EnSp 17

reported to be beneficial to the pallid sturgeon in the Missouri River including the lower reaches below Gavins Point. This is in contradiction to the statement on p. 22 of the SRDEIS: "Corps and USFWS biologists agree that there are no data to support the definition of a spawning cue that would result in spawning on the Lower River". *Based on the previous statement, the question arises: on what basis can the USFWS contend that a spring rise would cause sturgeons below Gavins Point to spawn?*

EnSp 47

A spring rise condition presently exists about one year out of three on some of the lower reaches of the Missouri River (USACE, 2001b, figure 22). For example, the reach between Jefferson City and St. Louis typically has a rise from March to mid June (USFWS, 2000, figures 19 and 20, see attachment for hydrographs at various reaches of the river). Figure C9-1 shows a spring and summer rise followed by a period of relatively low flow that extends into February. Thus, the reach should contain numerous pallid sturgeons as compared to other reaches in the Missouri. However, according to population trends reported by USFWS in the Draft Biologic Opinion, this reach does not have above average pallid sturgeon population nor is there information to suggest any significant successful recruitment of sturgeon in the reach or in the tributaries to the reach. *The above information shows that the spring rise is not the critical factor that controls the pallid sturgeon (or shovelnose sturgeon) population.*

EnSp 29

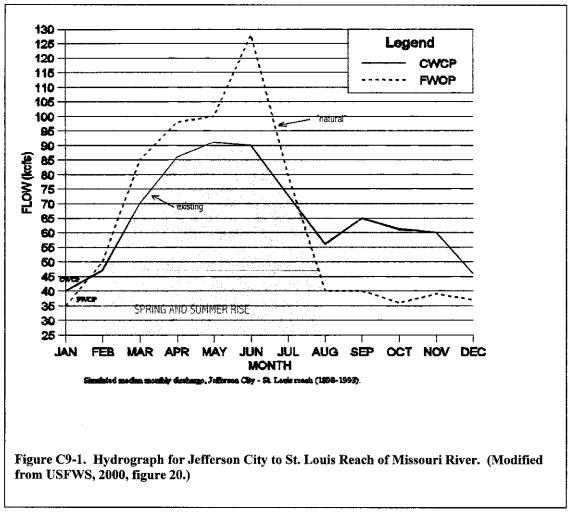


Figure C9-1. Hydrograph for Jefferson City to St. Louis Reach of Missouri River. (Modified from USFWS, 2000, figure 20.)

C10. Sturgeons Are Presently Spawning in Missouri River And Or Tributary Streams Without a Spring Rise: The USFWS contends that a spring rise below Gavins Point would result in pallid sturgeon spawning. The sturgeons below Gavins Point are spawning; however, it is not known if the spawning is occurring in the River or in the tributaries or both. Moos (1978, p. 184) concluded that shovelnose sturgeons were spawning in the Missouri River near Vermillion, South Dakota (and without a spring rise). Thus, a spring rise in the Missouri River mainstream is not a critical factor in increasing the pallid sturgeon population. If the sturgeons are spawning in the tributaries there is no need for a spring rise on the Missouri. Keenlyne (1997, p. 291) states that spawning of the shovelnose sturgeon is at 63 to 70° F over rock or gravel substrate downstream from dams, rear rock structures, or in tributaries. Unfortunately most spawning is not successful in the Missouri River below Gavins Point or tributaries as is evidenced by the nearly complete absence of larvae or young of the year. *The question is not whether the sturgeons are spawning; the question is why aren't the sturgeons spawning successfully?*

EnSp 17

Many tributary streams of the Missouri River, such as the lower Platte River, have a spring rise or otherwise have hydrographs that respond to rain events. However, spawning resulting in recruitment of the pallid sturgeon is limited to nonexistent, especially for those streams below Gavins Point.

No definitive study is available in regards to spawning of the pallid sturgeon in the Missouri River. However, a substantive study by R.K. Berg for the Montana Department of Fish, Wildlife & Parks (1981) discusses in detail the spawning of the closely related shovelnose sturgeon in the Marias River. Flow in the Marias River, which is a major tributary of the Missouri, is controlled to some degree. This results in modified spring rises in many years. The data in figure 22 of Berg's, reproduced herein as figure C10-1, show that the shovelnose sturgeons do not spawn initially during the spring rise but instead largely after the rise. However, the data do show that the sturgeons start spawning when the water temperature reaches about 65° F (18° C). Temperature not flow was the cue for the sturgeon spawning. Berg (1981, p. 94) reported that the shovelnose sturgeon use the Missouri River upstream form Fort Benton for spawning.

Data from Bramblett (1996, figures 3 and 5) indicate the spring rise on the Yellowstone River in 1993 occurred in early May; whereas aggregations of pallid sturgeons did not become intense until June (Bramblett, 1996, figure 17). This infers that high flow isn't a significant cue for spawning. Water temperatures reached 65 °F in early June (figure 3), which was coincidental with intense aggregation. Data from this study similar to the Berg study indicates that temperature is likely the dominant cue that initiates sturgeon spawning. Photic effects may also be a major factor to cue spawning.

Relation of water temperature and discharge to spawning of sauger and shovelnose sturgeon in the lower Marias River from 1976 through 1979.

Figure C10-1. Spawning of shovelnose sturgeon in Marias River. (From Berg 1981)

Berg and most researchers report that spawning substrate should be gravel, cobble or rock. With the exception of rock revetments, there is very little substrate suitable for sturgeon spawning in the Missouri River proper (Galat and others, 2001, figure 13, see Appendix 2.) except above Fort Peck Lake. Below Gavins Point Dam there is very little gravel (Sando and Neitzert, 1999, figure 7). (See figure C10-2.) The temporary " streambed armoring was dispersed by the high flows of 1997. There is little basis for the USFWS supposition that continued streambed degradation would "create" suitable substrate for the pallid sturgeon in the reach between Gavins Point Dam and Ponca, Nebraska. Extensive data collected for the construction of the Missouri River bridge at Vermillion reveals no suitable substrate in the riverbed, nor do the logs of the test hole borings indicate that degradation would encounter other than trivial amounts of gravel and rock beneath the present streambed. (See Appendix 3.) Although the lower river has very little rock and or sand and gravel substrate, many tributary streams have some reaches with gravel, rock or cobble beds. In general, even though the sturgeons may live most of their lives in the Missouri River, most, especially in the upper River, are likely to spawn in the tributaries. It is interesting to note the remarks of Bean stated 110 years ago (1892, p.22) in reference to the shovelnose and "white" sturgeon "Nothing is recorded of its habitat, except that it runs up in small streams in May for the purpose of spawning." *If spawning is dominantly in tributary streams, then the existence or the absence of a spring rise in the main stream (the Missouri River) is largely irrelevant.*

EnSp 58, 17

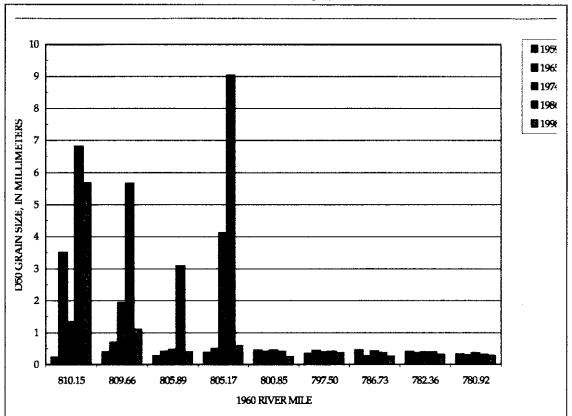


Figure 7.—D50 grain size for bed material of the Missouri River at selected ranges.

Figure C10-2. Bed material below Gavins Point Dam. (From Sandos and Neitzert, 1999)

There are several factors that limit but do not necessarily control the pallid sturgeon population. Lack of habitat is likely one of the limiting factors. "Sport fishing" for shovelnose sturgeons is likely a factor because it is extremely difficult to differentiate between immature pallid sturgeons and the very closely related shovelnose sturgeons. Illegal snagging of pallid sturgeons is likely another factor. All states on the Missouri River mainstem allow snagging for paddlefish. Paddlefish and large pallid sturgeons (the breeding stock) are commonly found in the same deep pools. Thus, large pallid sturgeons are likely being taken illegally by snagging. Because the breeding stock of pallid sturgeon is limited, the illegal take of pallid sturgeon is likely a significant factor in the decrease of pallid sturgeon population. Illegal take of sturgeons for their eggs also occurs. The sturgeons are butchered to harvest the eggs, which are used to make caviar. Fish feeding on eggs, larvae or young of the year could be a factor. *However, endocrine disruption and not habitat could be the critical factor in the present inability of the pallid sturgeon to successfully recruit.*

Fish 14

C11. Endocrine Disruption in Pallid Sturgeons: Scientists have proposed for more than 40 years that chemicals might be disrupting the endocrine (hormonal) systems of wildlife. Endocrinal disruption has many effects: it can result in cancer, harm male and female reproductive systems, cause thyroid damage, and cause birth defects (EPA, 1997, p.1). The "Wingspread Consensus" of 21 nationally recognized scientists (Colburn and others, 1996, pp 259-267) included the following statements:

> The patterns of effects (of endocrine disruption) vary among species and among compounds. Four general points can nonetheless be made: (1) the chemicals of concern may have entirely different effects on the embryo, fetus, or perinatal organism than on an adult; (2) the effects are most often manifested in offspring, not in the exposed parent; (3) the timing of exposure of the developing organism is crucial in determining its character and future potential; and (4) although critical exposure occurs during embryonic development, obvious manifestations may not occur until maturity.

Endocrine disruption can be much more harmful and widespread than acute toxicity to a species as it can occur as the result of exposure to concentrations in the order of one tenth to one thousandths of the concentrations that cause acute toxicity. PCBs in concentrations as low as 0.5 ppb have been reported to stop the reproduction of shrimp.

Colburn and others (1996, p. 165) states "With the growing amount of evidence and theories that link wildlife problems to hormone disruption, there is now good reason to regard endocrine-disrupting chemicals as a major long-term threat to the world's biodiversity and perhaps an immediate threat to certain endangered species..."

Chemicals known to disrupt the endocrine system include DDT and its metabolites, and hexachlorocyclohexane congeners, triazine herbicides, chlorodane, certain fungicides, certain elements, PCBs dioxins, furans, modified polystyrene and PVCs, synthetic

EnSp 28

estrogens, soy products, and some animal and pet foods (Colburn and others, 1996, p. 261).

DDT came into widespread use after World War II (USFWS, 2000, p. 77). DDT was initially used to control mosquitoes in wetland areas. The effects on wildlife were soon noticed. For example, many birds experienced thinning of the eggshell and reduced recruitment. DDT was banned in the United States in1972. However, DDD and DDE, which are metabolites of DDT, are still wide spread in the environment. Numerous other organic compounds that caused endocrine disruption were introduced in the 1950s through the early 1970s and banned in the mid 1970s. PCBs were introduced in the 1930s and were restricted in 1977 and phased out in the 1980s. Most of the banned compounds are very persistent in the environment and still can be found in the food chain. Significant quantities of endocrine disruptors can still be found in sediments in streams, lakes and the soil. Many fish have been found susceptible to endocrine disruptions. Some are far more susceptible than others. Sturgeons have been found to be especially susceptible. Endocrine disruption of sturgeons has been reported worldwide. For example, sturgeons in San Francisco Bay, sturgeons in the Miramichi River in New Brunswick, Atlantic and the short nose sturgeons in the Hudson River, Lake sturgeons in the Great Lakes, white sturgeons in the Columbia River, the shovelnose and pallid sturgeons in the Missouri River in South Dakota, and the Gulf Sturgeons in the Apalachicola River (Clugman, J.P. and others, 1995) are likely victims of hormonal disruption.

As stated above the contaminants causing endocrine disruption are still present in the food chain and in sediments and are still causing endocrine disruption. Those in sediments are, in general, only in temporary storage and can be released back into the water column easily. A significant amount of quantitative data on the concentrations of contaminants in pallid sturgeons from the Missouri and Mississippi Rivers was reported by Ruelle and Henry (1994). They analyzed for and detected 23 organic contaminants, which included DDT and its metabolites, chlordane, dieldrin, toxaphene, and PCBs, were detected in pallid sturgeons from the Missouri and Mississippi Rivers. Organochlorine contaminants were usually highest in gonads and lowest in muscle. There was a strong positive correlation between pallid sturgeon age and DDD in livers and between pallid sturgeon age and DDE in livers. A very strong correlation was found between pallid sturgeon age and concentration of DDE (Ruelle and Henry, 1994, p. 12.) Concentrations of dieldrin, chlordane, toxaphene, DDE, and PCBs were elevated in pallid sturgeon tissues and could impact fish health and reproduction. Concentrations of DDT and its metabolites were nearly always higher than NCBP concentrations in fish from the Missouri and Mississippi Rivers. PCBs detected in ovaries of the pallid sturgeon sampled ranged from 4 to about 95 times higher than what is considered normal. The State of Missouri reports that high levels of chlordane and PCBs are present in sturgeons from the Missouri and Mississippi Rivers. In Missouri the Department of Health has issued an advisory against consumption of sturgeon because they have found levels of chlordane and PCBs to be excessive for sturgeon from both the Missouri and Mississippi Rivers (Noyes, Randy L., 2001, pers. com.) Although, the Ruelle and Henry report emphasized acute toxicity, the data they collected fits the model for endocrine disruption because of the high concentrations of known disrupters in the liver, fat, and sexual organs.

EnSp 28

Endocrine disruption studies generally have been related to 'long lived' pesticides and herbicides. Endocrine disruption to fish is ubiquitous near sewage treatment outfalls. As stated previously, in general, the use of many of the long-lived hormonal disrupters has been phased out. The long-lived products that are known hormonal disrupters have been, in general, replaced by products that have shorter half-lives. However, this is not likely to have reduced hormonal disruption because hundreds of new chemicals including herbicides are entering the environment each year. A study of transport of herbicide in the Cedar River, Iowa, indicates that large quantities of herbicides, in excess of 50 micrograms per liter, were transported by overland flow to the Cedar River (Squillace and Thurman, 1992, p. 538). The largest concentrations occurred in the spring, which is a time when many fish are spawning and when other aquatic life is in immature stages. It is probable that these concentrations are causing hormonal disruption. Immediate research on this topic is needed.

Inadequate information is available to define with precision the spawning and recruitment of the pallid sturgeon. However, significantly more information is available on the closely related and more numerous shovelnose sturgeons. These sturgeons, which are smaller than the pallid sturgeons, are also experiencing decline of population. Moos (1978, p.190) studied shovelnose sturgeons in the Missouri River in 1968 and 1969 downstream of Gavins Point Dam and upstream of Vermillion, South Dakota. He reported: "In conclusion, the occurrence of gravid and spent shovelnose sturgeon in the unchannelized Missouri River indicated that some sturgeon are spawning, but the paucity of youth-of-the year and immature sturgeon suggests that annual recruitment to the population is probably low". It is of value to note that his observations were for sturgeons in the Missouri River for a controlled flow condition that did not include a spring rise. He also studied the conditions of the reproductive organs. He noted that there was a larger than expected percentage of hermaphroditic shovelnose sturgeons. Moos' observations and data are consistent with the symptoms and affects of endocrinitic disruptions. Keenlyne (1997, p. 291) reports that water contamination is a factor in the decline of the shovelnose sturgeon population.

The USFWS in 1990 reported that there was no recruitment of pallid sturgeons for 10 years. They assumed this to largely be the effect of the physical changes of the river, which has been large (USFWS, 1990, 2000). However, it is more likely that endocrine disruption is the critical factor in non-recruitment.

The data collected on sturgeons corroborate the following:

* Endocrine disruption is common in many species of sturgeon globally.
* Pallid sturgeons in the Missouri River have high concentrations of contaminants that are known endocrine disrupters in their reproductive system.
* Concentrations of DDT and other hormone disrupters in pallid sturgeons increase with age.
* Recruitment of pallid sturgeon in the channelized Missouri River as well as its tributaries is nearly nonexistent even though some rock substrate is present in revetment and wing dikes.
* Shovelnose sturgeons in the Missouri and or its tributaries are spawning; however, recruitment is limited.
*Shovelnose sturgeons in the Missouri River have an unusually large percentage of hermaphrodites.

EnSp 28

* Pallid sturgeons are especially susceptible to biological amplification of endocrinal disruptors as compared to shovelnose sturgeons.
* USFWS fish hatcheries have successfully hatched pallid sturgeon (and or hybrids) under ideal conditions; however, the hatched sturgeons are susceptible to viruses (Tews, 1997).

The above observations strongly imply that the pallid sturgeon is not reproducing because of the severe affects of endocrine disruption. The shovelnose sturgeon also suffers from the same affects but not to the same degree because they spawn at a younger age, they spawn more often, and they are not as piscovorious. All of which result in the shovelnose sturgeons probably not accumulating as much endocrine disrupting contaminants. *Because shovelnose sturgeons are able to recruit to a limited extent, it is most probable that the existing habitat in the Missouri River and or its tributaries would allow pallid sturgeon recruitment if contaminants were not causing hormonal disruption.*

EnSp 28

C12. Spring Rise Would Retard Drainage From Agricultural Land: Higher river stages associated with a spring rise have been observed to retard drainage from agricultural land in the spring. The MCP and the CWCP have the least damages due to retarded drainage and excessively high ground water levels (USACE, 2001b, p. 14 -15.) The proposed Gavins Point alternatives would increase spring stream levels 2.8 to 5.0 feet at Sioux City and from 2.0 to 2.7 feet at Hermann near St. Louis (USACE, 2001b, p. 11). The increased river level would decrease the entrance water-surface gradients of the drainage ditches and also reverse the normal ground-water gradient to the river, which would result in raising the ground-water levels near the river, and retard or "dam" the normal ground-water drainage more distant to the river at crop planting times.

FC 8
IntD 8
GW 7

C13. Spring Rise Would Increase Sedimentation Into Lewis and Clark Lake And Other Reservoirs: To create the spring rise below Gavins Point would require high releases from all upstream main-stem dams. Most degradation occurs during periods of high flows. Specifically degradation is a function of fluid drag on the streambed. All factors being equal the drag increases as the square of velocity. Thus, the rate of degradation increases proportional to the velocity squared. The sediment removed during degradation is washed into the next downstream reservoir. This is a problem to all the reservoirs but more so to Lewis and Clark Lake, which also is the depository for the sediment from the Niobrara River. *Sediment loads to the reservoirs can be reduced by minimizing high releases and by reducing sediment from tributary streams. Sediment from streams can be reduced by dams or by soil conservation practices.*

ErSd - 15

C14. Spring Rise Would Increase Bank Erosion: The water below a dam is deficient of sediment. Thus, during periods of increased flow, the water picks up sediment not only from the bottom of the stream but also from the banks. The removal of bank material results in excessive bank erosion. It goes without saying any flow that would wash the sandbars clean would enhance bank erosion and streambed degradation. *(It is hard to believe that a water management plan would be designed to increase bank erosion, especially since bank stabilization is one of the purposes of the Missouri River System.)*

ErSd - 15

It is often stated that meandering and bank erosion brings in large quantities of organic material. Hesse and others (1988) report that soils adjacent to the river are low in organic material.

C15. Spread of Purple Loosetrife and the Spring Rise. A non-native plant "Purple Loosetrife" has been introduced into the Missouri River Basin ecosystem (Tondreau, pers. com., 2002). Skinner (1996, p. 43) states:

> Purple loosestrife *Lythrum salicaria L.* is a perennial plant of European origin that is invading and degrading wetland habitats all across North America. Purple loosestrife forms dense monotonic stands that replace native plant species in wetland and lakeshore habitats, degrading food shelter, and nesting sites for native wildlife… The negative effects on aquatic ecosystems caused by purple loosestrife far outweigh its attributes as an attractive ornamental or honey plant. Unlike in Europe, the growth of purple loosestrife in North America is so vigorous that native wetland species are displaced. Purple loosestrife's high speed production produces large seedbanks that can remain viable for years.

The plant is established in some locations, such as along the Missouri River in Dixon County, Nebraska. Dixon County officials believe that the weed is spread as the result of flooding. Further study is needed to evaluate if a spring rise would result in further spreading of this plant.

WRH 11
EnSp 55

C16. Spring Rise Would Increase Flooding Especially Between Mouth of the Platte River And St. Louis: The stream below St. Joseph is especially susceptible to spring flooding. The USFWS proposed RPA would exacerbate at least to some degree the already bad situation. Significant overbank flooding could result if runoff from local large rainfall events reaches the river concurrently with the "spring rise". The SRDEIS (USACE, 2001b, p.14) states, "Overall, impacts to flood control benefits resulting from any of the alternatives are considered insignificant" (USACE, 2001b, p.14). Most people would disagree with the statement, especially if you are one of the farmers flooded (potentially more than one million acres of farmland are subject to flooding) or if you live in a home that is flooded (potentially more than 30,000 homes could be flooded), or if you own a nonresidential building that is flooded (potentially more than 5,000 nonresidential buildings are subject to flooding). *It is hard to believe our government would deliberately promote a plan to cause flooding, grief, and hardship to its citizens, especially because flood control is one of the project's founding purposes.*

FC 8

C17. Summer Low Flow Would Negatively Impact Wetlands: The USFWS's RPA in the BO and the GP Alternatives in the SRDEIS propose a period of low flow from mid June and ending in late August. It is proposed to lower Missouri River discharges from 21,000 to 28,000 cfs (cubic feet per second) depending on which alternative is being evaluated. Water levels in the river would be reduced from 1.5 to 3.4 feet at Sioux City and 0.8 to 1.8 feet at Hermann (USACE, 2001b, p.11). Each of these alternatives would lower both water levels in the river as well as ground-water levels in the floodplain. The net result would be a lowering of the supporting ground-water levels to some degree in the wetlands, especially from Gavins Point to south of Omaha. The lowering of the water

WRH 19,15

levels during the summer would be especially harmful, as this is the period of maximum biologic activity in the wetlands.

C18. Summer Low Flows Would Negatively Impact Chutes And Other Water Bodies Connected To The River. The summer low flow would cause many of the shallow water bodies normally connected to the river to lose connection to the Missouri. This would happen during July and August when biologic activity is at a maximum in these environmentally important resources. *It should go without saying that if the spring rise would increase "connectivity" of the channelized river, the summer low flows would decrease "connectivity".* (This point was not addressed in the RDEIS.)

There are already several mitigation efforts, such as the Big Muddy, Lisbon Bottoms, and Hamburg, as well as other initiatives that have been completed on the Missouri River to create backwater areas or to create slow water velocity areas. These environmentally valuable (and expensive) projects may be severely impacted if summer river stages are lowered significantly.

WRH 12

C19. Summer Low Flows Increase the Cost Of Electricity: The amount of hydroelectricty generated in the summer due to the reduction of water released from dams to effect the summer low would be about 40 percent less than present. This happens at the time when electricity use is the highest. Electric suppliers would have to buy expensive electricity on the open marked to make up the shortfall. Studies by the USACE estimate this cost on the average would be about $30 million per year (USACE, 2001b, p. 17). Part of these costs would be passed on to the consumers, a large segment of which live in the Missouri River Basin. In the Pick-Sloan Missouri River Basin Program, power is supplied through Western Area Power Administration (WAPA) directly to 47 municipalities in Iowa, 46 in Minnesota, 50 in Nebraska, 10 in North Dakota, and 32 in South Dakota. Hydroelectric power is also directly supplied to 24 rural electric cooperatives as well as 18 power suppliers who in turn distribute to numerous rural electric cooperatives and municipalities in the basin. Additionally, hydroelectric power is supplied to four federal agencies, 42 state agencies, and three public utility districts (WAPA, 2001, p.111).

HPower 11, 12, 17, 18

C20. Summer Low Flow Would Increase Cost of Water To Municipalities, Water Districts, And Industries That Use Missouri River Water: Summer low flows would result in slightly higher power costs to pump water from the river. Other increased costs would result from relocation of water intakes. Some Missouri River water is used by industries, such as power plants, for cooling. Low summer flows would result in increased temperature of streamflow. This could seriously affect the suitability of the river water in reference to its allowed use for cooling water.

WS 11, 4
MoPower 1

C21. Summer Low Flows Would Increase Costs of Ground Water To Municipalities, Farmers, And Irrigators: The long summer low flow would result in lowering of ground-water levels in the floodplain to some degree. The lowering would be more pronounced adjacent to the river. Ground water users in the Missouri River floodplain would be adversely affected to some degree by lower water levels and corresponding greater pumping levels during the critical summer period when maximum

WS 11

ground water is needed. Electrical motors are used on nearly all pumps. Thus, electricity demand would be the greatest during the period when electricity supply is most limited and cost per unit electrical power can be expected to be the greatest. (This point was not addressed in the RDEIS.)

C22. Summer Low Flows Would Impact River Navigation: In general, the period of summer low flows would severely impact river navigation. River transportation is characteristically more economical than rail and truck transportation. Although, river transportation is not a large industry, it still provides important competitive transportation and holds down transportation costs overall. The GP alternatives would reduce annual navigation benefits from $ 2 million to $6 million dollars annually (USACE, 2001b, fig. 9). This reduction is minimum in that it does not include the benefits of lower transportation costs caused by a viable river navigation option. Also, benefits that are achieved by the interrelated effects of transportation in the combined navigation system of the Missouri River, the Mississippi River and the inter-coastal waterways are not included.

Nav 12, 8, 6

C23. Nonnative Fish Species and Predation: The danger of introducing nonnative fish, such as the walleye, has long been recognized. For example the 9th Edition of the Encyclopedia Britannica 1890 states in reference to the walleye: "Their acclimation therefore in waters intended for the culture of valuable food fishes is not advisable, though they compensate in some measure for their destructiveness by the excellent flavour of their flesh." Nonnative fish have been responsible for the extinction of numerous native species (USGS, 1999). A 1994 Report to Congress based on Millers work (Miller and others, 1989) indicates that of the 27 known fish species that have become extinct from introduction of nonnative species, in 19 cases the nonnative species were intentionally introduced. Further, 10 species became extinct as the result of introduction of other species related to sportfishing.

Fish 14

Predation of native fish in the Missouri River is a problem. USFWS warns that predation by sight feeding predators, such as the northern pike, walleye, and smallmouth bass can be expected to significantly impact native species, such as the pallid sturgeon (USFWS, 1993, 12.) Predation by nonnative walleye and northern pike has been studied in the Northwest (Mahon and Bennett, 1996 p.11):

> Purposeful introductions or unplanned invasions of walleye and northern pike have been a "boost" to Northwest fisheries by creating popular sport fisheries and enhancing local economics, but they have also been a "bane" due to difficulties of sustaining adequate prey base for these top predators, the potential for significant reduction of existing salmonid fisheries and native species, and the colonization of new waters well beyond the point of release.

Many fishery biologists in the Missouri River Basin have stated that they do not believe that walleye would eat sturgeon. This conclusion is reported to be based on inspection of stomach material from walleyes. In other basins walleye are eating sturgeon. For example, Seyler (1997, p. 20) writing about the Moose River Basin in Ontario reports:

> There have been no specific studies to describe walleye diet in large rivers in the Basin, however, a number of investigators have made

observations regarding stomach contents. The following food items are listed in order of most to least frequently reported: crayfish, mayfly larva, stonefly larvae, dragonfly larvae, walleye, YOY sturgeon, northern pike, longnose dace, and Johnny darters.... Walleye feed by sight, usually near or at the bottom in shallow water... Feeding activity is believed to be greatest during the night and early morning.... In the more turbid waters such as the Frederick House and Abitibi Rivers it is possible that feeding is throughout the day.

Fish 14

The absence or scarcity of the YOY sturgeons in the stomachs of Missouri River Basin walleye is probably due to the following:
1) Stomach contents of walleyes from reservoirs would not likely contain YOY sturgeon because pallid sturgeons have been absent from the reservoirs for decades.
2) USFWS reported in 1990 that there was no successful recruitment of pallid sturgeons for 10 years in the Missouri River.
Items 1 and 2 reflect the past "success" of the nonnative predator fish in both the reservoir and river environment at the expense of native fish including the sturgeon. The items emphasize the need for predator control in any future management alternative for the Missouri.

The National Academy of Science review (NRC, 2002, p. 2) states:

> In many reaches of the river, nonnative sport fishes exist in greater abundances than native species. The nonnative species are often more tolerant of altered conditions of temperature, turbidity, and habitat. Although some nonnative fish produce substantial economic benefits, nonnative species may also contribute to the declining abundance of native fish.

For example, walleye and other nonnative predator fish are found in many reaches of the channelized and nonchannelized Missouri even though USFWS and state fish agencies report that most predator species, which are extensively stocked in the reservoirs, are not escaping from the reservoirs. Further, it is commonly stated if they did escape to the tailwaters that they could not survive in the downstream reaches. It is only logical that these predator fish will eat fry and young of the year of all species including the native species, such as the pallid sturgeon. Small nonnative fish, such as chubs and minnows are also introduced in huge numbers each year. The purpose of these fish is to provide food for the larger nonnative predator fish. For example, rainbow smelt are stocked for food for the nonnative predator fish. Rainbow smelt, which is considered a forage fish, is itself a predator for eggs, larvae, and small fish. This fish, which was supposed to stay in the reservoirs, is now found in small numbers in the lower river. It is not known if these fish might significantly proliferate in backwaters, such as in mitigation projects, and feed on native fish eggs and larvae. USFWS in the Federal Register (January 18, 1995, p. 4) in relation to declining sturgeon chub and sicklefin chub states:

> Pressures on both species likely resulted from competition created by stocking large numbers of numerous species of nonnative fish into the reservoirs that were created and the remaining riverine sections of historical habitat. This perceived competition is likely still occurring and will continue in the future. .... The Service believes that the reduced distribution of the two chubs is due mainly to the destruction and modification of habitat and predation and competition from nonnative fish....

Fish 14

The USFWS reports in the BO (USFWS, 2000, p. 122): "As turbidity decreases, predation by sight-feeding predators, such as northern pike (Esox lucius), walleye (Stizostedion vitreum), and smallmouth bass (Micropterus dolomieui), are expected to impact native species, including the pallid sturgeon". It is interesting to note that none of the three mentioned predator species are native to the Missouri River; however, the northern is native to inland lakes of much of the Missouri River Basin. The RDEIS contains extensive information on the fisheries and considers coldwater fish in the reservoirs as well as warm-water fish in the river reaches. However, the effect of nonnative fish, especially predator fish, on the native fish is not discussed in the RDEIS. The Biologic Opinion (USFWS, 2000, p. 122) does discuss the problem of predator fish eating young-of-the-year pallid sturgeon. *Notwithstanding the extensive information available on nonnative predator fish, no predator fish control measures are included in the USFWS's RPA.*

D. EVALUATION OF MANAGEMENT ALTERNATIVES

The SRDEIS (USACE, 2001b, p. 9) states:

> The RDEIS contains six alternatives that are addressed in detail, one of which is the CWCP. A second alternative, the MCP, contains four of the features discussed on the following pages: adaptive management, increased drought conservation measures, Fort Peck Dam release changes, and unbalancing the upper three lakes. The four other alternatives referred to as the four GP Options include a fifth feature, Gavins Point Dam release changes to insure that Mainstream Reservoir System operations will not likely jeopardize the continued existence of the three listed species or result in destruction or adverse modification of critical habitat.

Other - 10

D1. Adaptive Management: SDREIS (USACE, 2001b, p. 9) states:

> Adaptive management is an overall strategy for dealing with change and uncertainty. This strategy could be incorporated in any water control plan for the Mainstem Reservoir System. This strategy would be to test different items of river management and to monitor the results. After which the results would be evaluated and if not satisfactory, a new scheme will be tested.

The evaluation as reported in the BO, and RDEIS will be made by an Agency Coordination Team made up of Federal biologists, reportedly USFWS and USACE biologists. The result of Adaptive Management as written in the BO would be that the Missouri River Mainstem Management would be managed by Federal biologists who decide based only on environmental criteria that they themselves have created whether the river system is being managed correctly. The following difficulties would result if this were enacted:
1) Stakeholders and State Governments would be disenfranchised as all important flow decisions would be made by the federal biologists.

2) Congressional directives and legislation as to the management purposes of the Missouri River system would all be subjugated to the decision of the Federal biologists based on criteria that they themselves have created and some of which are questionable. Adaptive Management as presently proposed will fail because without popular support, especially stakeholder support, cooperation will not be forthcoming and public sentiment is likely to turn against the project.

The USACE and USFWS are not unaware of the problems that would result without meaningful participation and support of the stakeholders and states. Along that line the Missouri River Basin Association has taken an active stance in developing a "recovery committee" that would include stakeholders, Indian tribes, as well as USFWS and USACE. The National Academy of Sciences (NAS) recognized the need for meaningful adaptive management (NRC, 2002, p. 7):

> Missouri River mainstem reservoir operation objectives and means, including adaptive management actions, should be set by a formal multiple-stakeholder group that includes but is not necessarily limited to, the U.S. Army Corps of Engineers, the U.S. Department of Energy, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the U.S. National Park Service, Indian tribes, the Missouri River basin states, floodplain farmers, navigation groups, municipalities, and environmental and recreational groups. The stakeholder group should review other adaptive management efforts to learn about successes, failures, and potential management actions that could be usefully implemented on the Missouri. To help resolve scientific uncertainties and to assure progress in considering some level of ecosystem recovery, a scientific peer-review process that includes an independent interdisciplinary scientific panel should provide solicited input to the stakeholder group.

The importance of stakeholder involvement and independent science in adaptive management was discussed by the NAS (NRC, 2002, pp. 113-115). This information is repeated herein as Appendix 5. Adaptive management should be used if the adaptive management protocol is similar to that suggested by NAS.

D2. Drought Conservation Measures: Except for CWCP all the alternatives include the drought conservation measure. The measure allows releases for navigation to be reduced earlier than is allowed under the CWCP. This would allow some additional water to remain in the reservoirs during droughts but at the expense of curtailing navigation.

Other - 71

D3. Fort Peck Flow Changes:

The SDREIS (USACE, 2001b, p. 10) states

> Increased releases of 23 kcfs for 3 weeks from the Fort Peck Dam in mid-May through June time frame approximately every third year were recommended as a starting point in the USFWS BO. The USFWS recommended a range of 20 to 25 kcfs, which is small enough range that further modeling and EIS documentation are not required to go up to 25kcfs. This change is necessary to ensure that operation of the Mainstem Reservoir System does not jeopardize the continued existence of the endangered sturgeon. The increased release would be split between the spillway (warmer water) and the powerhouse to trigger pallid sturgeon spawning by increasing both flow and temperature in the river downstream from the dam.

Other - 72

Other - 72

The USACE estimates that the cold and warm water would be completely mixed 6 miles downstream of Fort Peck Dam. As discussed previously, data collected by Berg (1981) indicate that temperature not flow is the important cue. It is not in the RDEIS if a significant area of the required substrate for pallid sturgeon is available. It is also known that high discharges cause degradation below the dam. It is known that degradation has negative impacts on stream connectivity and on water levels in wetlands and lakes. It is also known that the streambed material removed by degradation will ultimately be deposited in Lake Sakakawea.

It is suggested that if adequate information is not available that further information be collected and analyzed before initiating flow change. If Fort Peck releases are effective in controlling temperature below the dam, the USACE could evaluate the feasibility of using variable level water intakes. This would reduce the spillway discharge and increase hydroelectricity generation. Additionally, complete mixing of water would occur in just a trivial distance downstream of the dam ideally resulting in improved conditions in the six-mile reach that is required for spillway discharges to mix.

EnSp 5, 41

D4. Gavins Point Dam Releases. The Gavins Point options for flow modifications refer to different options of flow releases at Gavins Point to create a spring flow on the average of once every three years and an annual low flow. As stated previously, a spring rise during the mating and nesting period cannot be considered beneficial to the piping plover and or least tern. A spring rise that would "clean" the sandbars below Gavins Point would result in increased degradation and cause a myriad of negative environmental and economic affects.

HPower 18
MoPower 1
Nav 7

A summer low flow would result in increased cost of electricity up to $30,000,000 annually. The cost would be passed on to the consumer many of which are Missouri River Basin residents and industries. Lower flows during summer have the potential to jeopardize cooling water for industries and power plants. The summer low flows would not only lower stream levels and reduce connectivity but would lower ground-water levels and dewater at least to some degree the wetlands and lakes in the floodplain. Summer low flow would severely impair or possibly eliminate river navigation to Sioux City and potentially terminate navigation to Sioux City. The economic loss to the area, especially to the farmers would be large.

Other - 73

Because the original assumptions that a spring rise and summer low flow are essential and beneficial to the pallid sturgeon, piping plover, and the least tern are at least in part error or at best questionable and because of the environmental and economic damage that would result, the Gavins Point alternatives should be removed from consideration as an active management alternative at this time. This is, in part, consistent with NAS recommendation (NRC, 2002, p. 7) that a moratorium on further revision of the Master Manual should be implemented until such revisions reflect the collaborative, scientific based approach based on adaptive management to improve the condition of the Missouri River ecosystem.

E. CONCLUSIONS AND MANAGEMENT ALTERNATIVE

E1. General Comments: In its most general terms the alternative should:
1) Be fair, balanced and optimize beneficial use of the resource. These uses include flood control, recreation, hydroelectric production, navigation, bank stabilization, water supply, water quality, irrigation, and fish and wildlife.

2) Should not overall be harmful to or jeopardize the threatened and endangered species as per the Endangered Species Act.

The alternative presented herein does not include the controversial Gavins Point flow modifications. The spring rise was not included primarily because of the numerous serious environmental impacts. "The cure is worse than the disease". Although, the spring rise would clean the sand bars for the tern and plover, it cannot be construed that the spring rise is the best hydrograph for the birds.

EnSp 3,5

The proposed spring rise as reported in the Biologic Opinion is not needed to cue spawning of the pallid sturgeon below Gavins Point Dam as the sturgeon are already spawning. The problem is that the sturgeons are not successfully spawning. The dominant spawning cue is temperature. There are many likely reasons that spawning is not successful, they include lack of suitable substrate as well as predation from native and non-native fish. Hormonal disruption may be the critical factor in unsuccessful spawning.

The suggested summer low flow, like the spring rise, would result in a series of negative environmental and economic impacts. The summer low flow would not help or hinder piping plover or least tern recruitment. The summer low flow would not help the pallid sturgeon to successfully spawn, which is the critical factor in recruitment. The spring rise and summer low flow would not reduce the effects of hormonal disruption on the pallid sturgeon. Additionally, the spring rise would not significantly increase stream connectivity with the limited number of chutes and backwaters in the channelized river. A spring rise would not significantly increase nutrient supply because the channelized river has a very limited potential for a 'moving littoral zone'. The lower river acts in many ways as a 'highway' for fish to move from one tributary to another. The tributary streams, in general, have slower water velocities, and likely more nutrients. *The tributary streams are good candidate sites for creating mitigation backwaters and would not require a flood pulse in the Missouri River.* This option was not explored in the BO or RDEIS.

Although the proposed flow modifications are not critical to recruitment of the pallid sturgeon, piping plover, and least tern, the need to address the plight of these species is not removed and should be addressed and included in any alternative. Additionally wildlife in general must be considered.

E2. Proposed Alternative

E2a. Monitoring: A comprehensive and well-designed monitoring program should be implemented. Monitoring is obviously needed for the Missouri River system to evaluate the success of management activities. However, additional monitoring will be required to support adaptive management. Special efforts should be made to encourage local groups and identities to do monitoring. This would tend to ensure that persons familiar with local conditions are involved in the monitoring. Local involvement is likely to increase local interest and to generate local support. Monitoring by local identities may help ensure that the data are not being collected only by the organizations that are part of the existing 'network'. Often monitoring is awarded to large universities to the exclusion of smaller local colleges and universities and local identities. Large universities have an inherent advantage because they employ large staffs to write proposal and grants. Because small universities and other identities do not have such support, local qualified persons and groups may not have the opportunity to participate even though they may be well qualified. Baseline conditions established by monitoring should be in place before changes are enacted or tested.

Other - 74

E2b. Adaptive Management: Adaptive management recognizes that uncertainties exist and unforeseen changes are inevitable. It recognizes that inadequate data is the norm and that action may be warranted if strong guiding principles are available to gather information and test the veracity of the principle. Adaptive management should apply to all aspects of river management not just environmental concerns. *Adaptive management must include complete stakeholder involvement largely in line with the NAS recommendations (see Appendix 5.) and it must follow procedures in place under the National Environmental Policy Act ("NEPA") to ensure that a hard look is taken at alternatives and that the public is informed.*

Other - 10

E2c. Independent Science: Independent science is critical to successful management of the Missouri River. Four of the six alternatives presented in the RDEIS are driven by the USFWS statement that the current operation of the Missouri River is causing jeopardy to three species, which have historically been considered rare. The classification of an endangered species has been done by the USFWS, the decision of jeopardy was made by the USFWS, and the adaptive management as presented in the RDEIS will be by USFWS and USACE, and the decision whether the USACE is responding adequately will be made by the USFWS. Many of the scientific studies, which USFWS has used extensively in its BO, were conducted by USFWS or were sponsored or supported to some degree by USFWS or close cooperators with the USFWS. This process of "networking" is susceptible to "inbred" science. Independent science is needed to be certain prejudices are not operating, and more importantly, robust science is essential. Special effort should be made to include local groups or identities to conduct scientific investigations. If a scientific study is needed for a specific reach, an effort should be made to seek out competent scientists who are familiar with that reach.

Other - 86

E2d. Indemnity for Stakeholder Losses: If it is necessary to make a managerial change that would cause damage to property rights, or financial hardship to a person or identity, fair compensation should be given to that identity.

Other - 87

E2e. Drought Conservation Measures: The drought conservation measures were devised by the MRBA for the purposes of alleviating to some degree the very low water levels in the reservoirs during extended droughts. This measure like most will have both positive and negative impacts. This measure is reported to be beneficial to the fisheries in the reservoirs. The higher water levels in the reservoirs should also be favorable to most recreation on the reservoirs. However, there will be negative impacts associated with these measures. Warm water fisheries downstream from the reservoirs could be impacted. Cooling water for electric power generating plants could be seriously affected to detriment of the nation. Navigation as well as lower river recreation will be adversely affected. Notwithstanding the negative affects, some improvement to the present drought conservation measures probably can be made. However, a review is needed of the presently proposed drought conservation measures to ascertain if the proposed measures can be improved.

Hydro-14

E2f. Fort Peck Flow Changes: It is believed that the cold-water releases below Fort Peck Dam are not conducive to pallid sturgeon spawning. It is proposed to make releases of cold water through the penstock and warm water over the spillway of about 20 to 25 kcfs in late May or early June approximately once every three years. The mixed water some distance downstream should provide a cue for spawning (SDREIS, 2001b, p. 10). Monitoring plus adaptive management approach should be utilized. This effort should be done as a trial effort. Even if trials are successful in relation to sturgeon recruitment, the program would trigger more streambed degradation and the resulting deposition of sediments in Lake Sakakawea. If the trial releases are successful and result in successful spawning (spawning that results in recruitment to the pallid sturgeon), the trial should be repeated using variable elevation water intakes to draw water for the penstocks at the appropriate temperature. (The data of Berg (1981) indicates that the dominant cue for the pallid sturgeon is temperature not increased flow.) A temperature cue can be obtained without a flow pulse with its accompanying negative impacts.

EnSp 14
ErSd 5

E2g. Unbalancing the "Big Three" Reservoirs: Presently releases from Fort Peck Lake, Lake Sakakawea, and Lake Oahe are balanced so that effects are shared equally. USACE states (USACE, 2001b, p.12):

> Unbalancing consists of purposely lowering one of three lakes approximately 3 feet to allow vegetation to grow around the rim, and then refilling the lake to inundate the vegetation. The unbalancing would rotate among the three lakes on a 3-year cycle. Movement of water among the lakes as they are lowered, held constant, and refilled benefits species in both the intervening river reaches and the lakes. Higher spring releases in some years are intended to trigger spawning of the pallid sturgeon and scour vegetation on sandbars so that suitable bare sandbar habitat is available for nesting terns and plovers.

Hydro-14

USFWS requests the USACE is to implement "unbalancing" of the reservoirs as part of the RPA. This process will create more nesting and foraging habitat for the least tern and piping plover as well as better fisheries for the three reservoirs in addition to better conditions for the pallid sturgeon below Fort Peck Dam (USFWS, 2000, p.246).

E2h. Habitat Improvement and Creation: Habitat creation should be both riparian and riverine. The size of slow water areas in the channelized reaches should be enlarged. Selected wing dikes should be notched. (Some initial candidate sites for wing dike modification are listed in Appendix 4.) Both wing dikes and revetment have been shown to be good habitat for numerous fish species and macro-invertebrates in the channelized river. Surprisingly the revetments (outer bends) were found to be more productive than the wingdikes (inner bends) (Galles and others, 1989, p. 17.). The program of reclamation of abandoned chutes and the mitigation projects should continue and be expanded.

WRH 6
EnSp 48

A new program of creating artificial backwaters should be studied. In addition to creating habitat in the river, a program of creating habitat in tributary streams should be started. Tributary "mitigation" type habitat would have the advantage of initial slower water velocities and more nutrients as compared to the Missouri River and does not necessitate a flood pulse in the Missouri River.

The channels created for navigation should be reevaluated by USACE in conjunction with navigators to determine if the width of the navigation channel can be narrowed in selected reaches. If dikes can be modified to create more shallow water adjacent to the selected reaches, the result will be increased shallow areas with reduced velocities.

A program to purchase land and create shallow backwaters similar to chute restoration projects should be evaluated. The program to evaluate potential of artificially created habitat for the least tern should be implemented. (In general, habitat suitable for the lest tern nesting would also be suitable for the piping plover.) Non-flood methods of removing vegetation are available and can be expanded. Creative mechanical methods should be developed. The use of volunteers to clean some limited areas should be investigated.

E2i. Improvement of Sediment and Turbidity Characteristics: The lower three reservoirs, Lewis and Clark, Francis Case, and Sharp are all being filled with sediment at a rapid rate in reference to their design capacity. The usefulness of these reservoirs in the next 10 to 100 years will be greatly reduced. A detailed analysis of using dredges to remove and transport sediment from the headwater of a reservoir to downstream to the dam tail waters should be initiated. A pilot-dredging program could be implemented. This would not only be a demonstration but also would allow "concrete" performance and cost data to be collected. A preliminary study by Coker (2000, p.3730) indicates that pipeline transport of silt and clay for the three reservoirs would require about 3 % of the hydroelectricity generated by the system. The dredged material would increase turbidity below the dam, would reduce degradation, and would introduce organic matter and would create a more sustainable reservoir system for more than 200 years.

ErSd - 23

Sediment load to the reservoirs can also be affected by sediment reducing programs on tributary streams. However, this may also decrease carbon feed to the River. Additionally, such programs themselves may have many negative environmental effects. Sediment load to the lower five reservoirs can be reduced by minimizing high flows in the headwater reaches.

E2j. Improvement of Beneficial Nutrients, Such As Organic Carbon: The deficiency of nutrients including carbon is believed to be an important element in the "fertility" of the Missouri River. Hesse and others (1988, p.15) report that organic carbon has been reduced to the Missouri River by at least 80 percent and this results in low larvae and fish survival even in the unchannelized reaches. Present agricultural practices have greatly reduced the availability of organic carbon to the river. However, Junk and others (1989, p. 115) relate that the impacts to the river of carbon production in the floodplain are not well known. *The timed pulse concept (spring rise) will not be successful method of introducing carbon in the channelized river because of the sparsity of adjacent lowlands that are needed for a significant transitional littoral zone. Creative ways to introduce carbon into the river without introducing pesticides and herbicides are needed.*

EnSp 26,1

E2k. Elimination of Snagging and Elimination of Sportfishing and Commercial Fishing for Shovelnose Sturgeon: Snagging for paddlefish is allowed in Missouri, North Dakota, Montana, Nebraska, South Dakota, and Iowa. Paddlefish and pallid sturgeon commonly congregate together in deep pools in the River. It is likely that illegal take of pallid sturgeon is occurring with snagging for the paddlefish. Paddlefish themselves are not plentiful and, in general, their population has been significantly reduced. A program in cooperation with the states to eliminate snagging should be implemented.

Shovelnose sturgeon numbers are down and are considered extirpated in three states (Keenlyne, 1997, p. 291). Because immature pallid sturgeon very difficult to differentiate from shovelnose sturgeon and because the numbers of shovelnose are sparse, commercial fishing and sportfishing for shovelnose sturgeon should be suspended.

Fish 14

E2l. Predator Management: Management programs should be developed and implemented for predator fish control and for land based predators. In general, non-native and native predator fish are harming many native fish including the pallid sturgeon. Herein fish that eat larvae, such as the rainbow smelt, are considered predators. This program should enlist the cooperation of the state fishery organizations.

Predator control plans for animals that kill or otherwise harm the piping plover and least tern should be developed. These plans would ideally be developed with the state game agencies.

EnSp 28,55

E2m. Public Information: The USACE should expand their existing public information plans in relation to the least tern, piping plover, and the pallid sturgeon.

EnSp 25

E2n. Hatchery and nesting programs: The successful USACE nesting program for the least tern and piping plover should be enhanced. Similarly, the successful USFWS hatchery program for the pallid sturgeon should be enhanced.

EnSp 26,42

F. REFERENCES CITED

Bean, Tarleton H., 1892, Report of (Iowa) State Fisheries.

Berg, Rodney K., 1981, Fish populations of the wild and scenic Missouri River, Montana: Montana Department of Fish, Wildlife and Parks Restoration Project FW-3-R, Job 1-A, 242 p.

Bramblett, Robert G., 1996, Habitats and movements of pallid and shovelnose sturgeon in the Yellowstone and Missouri Rivers, Montana and North Dakota: Ph. D. dissertation, Montana State University, Bozeman, 210 p.

Britannica, 1890, Encyclopedia, 9th Edition.

Clugman, J.P., Foster, A.M, and Carr, S.H., 1995, Gulf sturgeon, *Acipenser oxyrinchus desotoi*, in the Suwannee River, Florida: Proceedings of the International Symposium on Sturgeons, VNIRO Publications, Moscow, pp 215-224.

Colburn, Theo; Dumanoski, Dianne; and Myers, John P., 1966, Our stolen future: Are we threatening our fertility, intelligence, and survival? :Dutton Pub., New York, 306 p.

Coker, Howard E., 2000, Conversion of a flood control system to a sustainable system; the energy requirements of pipeline transport of silt: Environ. Sci.& Tech., v. 34, no. 17, pp. 3730-3736.

Galat, David L.; Wildhaber, Mark L; and Dieterman, Douglas J., 2001, Spatial patterns of physical habitat in population and habitat use of benthic fishes along the Missouri and Yellowstone Rivers, Vol. 2: U.S. Army Corps of Engineers, Omaha, Nebr., 91 p.

Galles, Suzanne: Hettinger, James; Claflin, Joseph, Tondreau, Rod, 1989, Population dynamics and habitat preference in the Missouri River, near Sioux City, Iowa:

Haig, Susan M., 2002, Piping plover populations fluctuating: ens-news.com/ens/jan2002.

Haig, Susan M., and Plissner, J.H., 1993, Distribution and abundance of piping plover: Results and implications of the 1991 international piping plover census: The Condor, v. 95, pp 135-156.

Hedman, E. R. and Jorgensen, D. G., 1990, Surface- and ground-water interaction and hydrologic budget of the Missouri River Valley Aquifer between Yankton South Dakota, and St. Louis, Missouri: U.S. Geological Survey Hydrologic Investigation Atlas, HA-721.

Hesse, Larry W., Wolfe, Carl W., and Cole, Nancy K., 1988, Some aspects of energy flow in the Missouri River ecosystem and a rationale for recovery, in Missouri River Resources their uses and values (N. G. Benson, ed.): North Central Div. Am. Fish. Soc. Special Pub. No. 8, pp. 13-27.

Jorgensen, Donald G (pers. comm.), 2001, Hydrologist, Jefferson, So. Dak.

Junk, Wolfgang J., Bayley, Peter B, and Sparks, Richard E., 1989, The flood pulse concept in river-floodplain systems, in D.P. Dodge (ed) Proceedings of the International Large River Symposium: Can. Spec. Publ. Fish. Aquat. Sci., pp.110-127.

Keenlyne, Kent D., 1997, Life history and status of the shovelnose sturgeon, *Scaphirhynchus platorynchus*: Environmental Biology of Fishes, v. 48, pp 291-298.

Mahon, Thomas E., aand Bennett, David H, 1996, Walleye and northern pike: Boost or bane to the Northwest fisheries: Fisheries, v. 21, no. 8, pp 5 –13.

Miller, R.R.; Williams, J.D.; and Williams, J.E., 1989, Extinction of North American fishes during the past century: Fisheries, v. 14, no. 6, pp 22-38.

Moos, Richard E., 1978, Movement and reproduction of shovelnose sturgeon, *Scaphirynchus Platorynchus*, in the Missouri River, South Dakota: Ph. D. dissertation, university of South Dakota, Vermillion, 216 p.

Noyes, Randy L (pers. comm.), 2001, Fisheries Editor, Missouri Department of Conservation.

NRC, 2002, Gloss, Steven P. ed., The Missouri River ecosystem: exploring the prospects for recovery: National Resource Council of the National Academy of Sciences, National Academy Sciences, prepublication copy, 149 p.

Pearson, Gilbert T., ed., 1917, Birds of America, Garden City Publ. Co., Garden City, N.Y., 289 pp.

Ruelle, Richard, and Henry, Catherine, 1994, Life history and contamination evaluation of pallid sturgeon, final report: U.S. Fish and Wildlife Service Contaminants Program, Pierre, South Dakota, 23 p.

Sando, Steven K., and Neitzert, Kathleen M., 1999, Characteristics of the Missouri River channel downstream from Gavins Point Dam, South Dakota: U.S. Geological Survey Open File Report for USACE, 22 p.

SDHD, 1997, Logs of test holes for SD 19 Bridge over the Missouri River near Vermillion, South Dakota: for South Dakota Highway Department by Maxim Technologies, Sioux Falls, South Dakota.

Seyler, John, 1997, Biology of selected riverine fish species in Moose River Basin: UMNR, Timmins, Ontario, Northeast Science and Technology, Rept. IR-024, 100 p.

Skinner, Luke, 1996, Biological control of purple loosestrife—A new control method for a tough wetland invader: Aquatic Nuisance Species Digest, v. 1, no. 4, pp 43-45.

Squillace, Paul J, and Thurman, E.M., 1992, Herbicide transport in rivers: Importance of hydrology and geochemistry in nonpoint-source contamination: Environmental Science & Technology, by the American Chemical Society, pp. 538 – 545.

Tews, Anne, 2001, Status of pallid sturgeon in Montana, American Fisheries Society, Montana Chapter, 6 p.

Tondreau, Rod E., pers. comm., 2002, Biology Instructor, Western Iowa Technology College, and Missouri River investigator.

USACE, 2001a, Missouri River master water control manual review and update, Revised draft environmental impact statement: U.S. Army Corps of Engineers, Northwestern Division, Omaha, Nebraska.

USACE, 2001b, Summary of Missouri River water control manual review and update, Revised draft environmental impact statement: U.S. Army Corps of Engineers, Northwestern Division, Omaha, 29 p.

USEPA, 1997, EPA Fact Sheet, EPA special report on endocrine disruption: U.S. Environmental Protection Agency Office of Research and Development, Washington, DC, 4 p.

USFWS, 1995, Proposed Rules, Federal Register, v. 60, no. 11, (January 18, 1995), 4. p.

USFWS, 1993, Recovery plan for the pallid sturgeon, USFWS Region 6, Denver Colorado, 55 p.

USFWS, 1990, Endangered and threatened wildlife and plants; determination of endangered status for the pallid sturgeon: U. S. Fish and Wildlife Service, Federal Register, pp. 55:36641-36647.

USFWS, 2000, Biological Opinion of the operation of the Missouri River main stem reservoir system, operation and maintenance of the Missouri River Bank stabilization and navigation project, and operation of the Kansas River reservoir system: U.S. Fish and Wildlife Service.

USGS, 1999, USGS Assesses Nation's biological resources at century end: News Release U.S. Geological Survey (Biologic Resources Division), Reston, VA, (June 17, 1999). 15 p.

WAPA, 2001, Operations summary 2000: Western Area Power Administration, Lakewood, Colorado, 173 p.

APPENDIX 1. Hydrographs of Selected Reaches of the Missouri River. From: U.S. Fish and Wildlife Service Biological Opinion for the Missouri River, 2000.

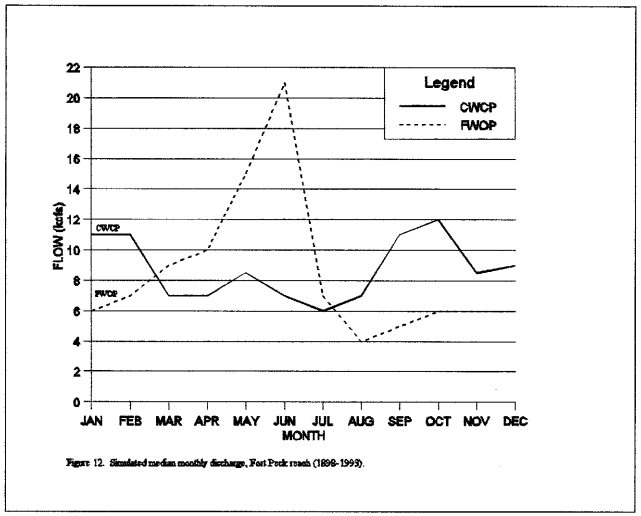
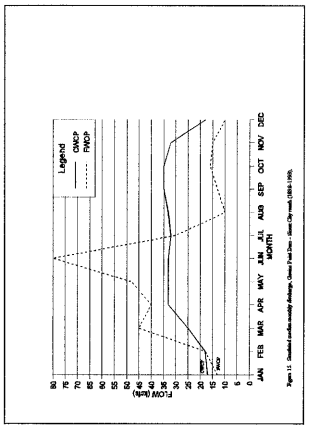
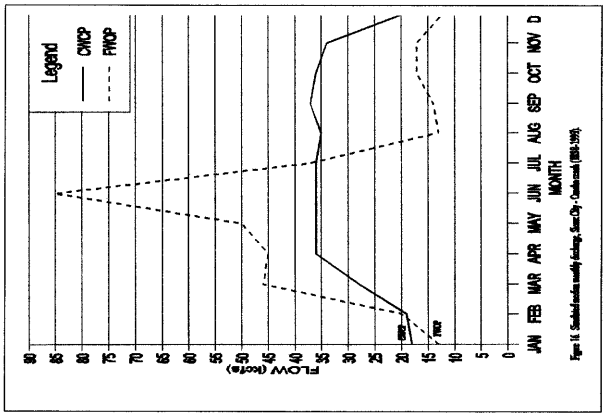


Figure 12. Simulated median monthly discharge, Fort Peck reach (1898-1993).


Legend
CWCP
FWOP
FLOW (kcfs)
MONTH
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC


Legend
CWCP
FWOP
FLOW (kcfs)
MONTH
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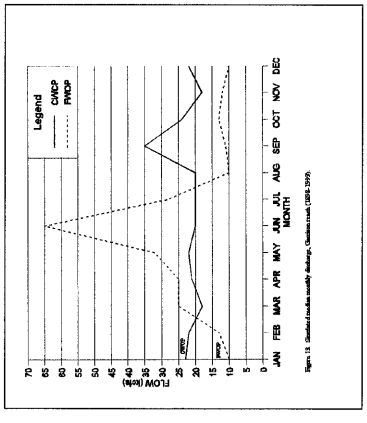
45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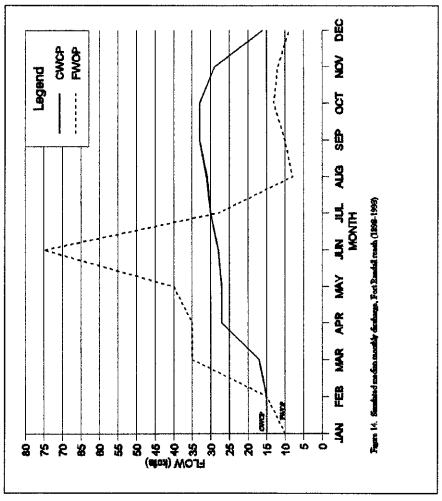
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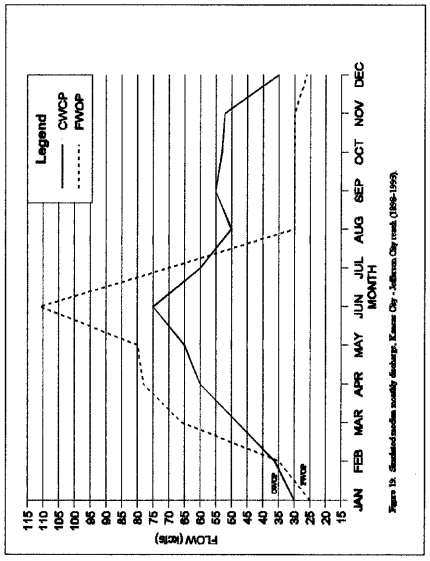
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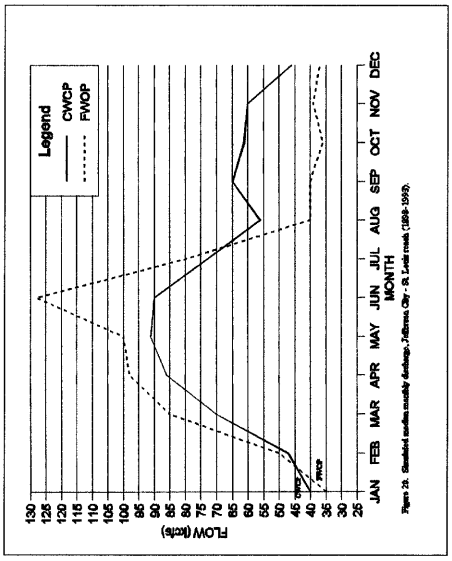
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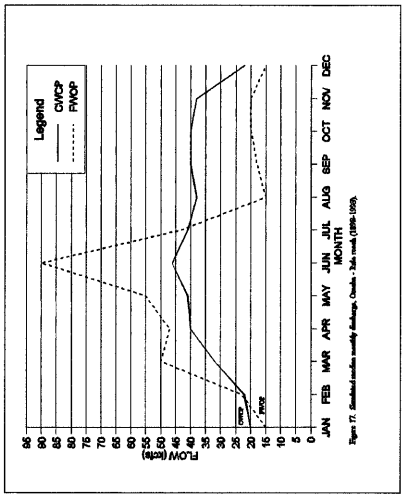
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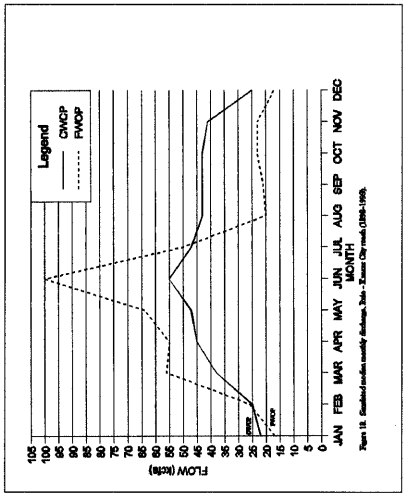
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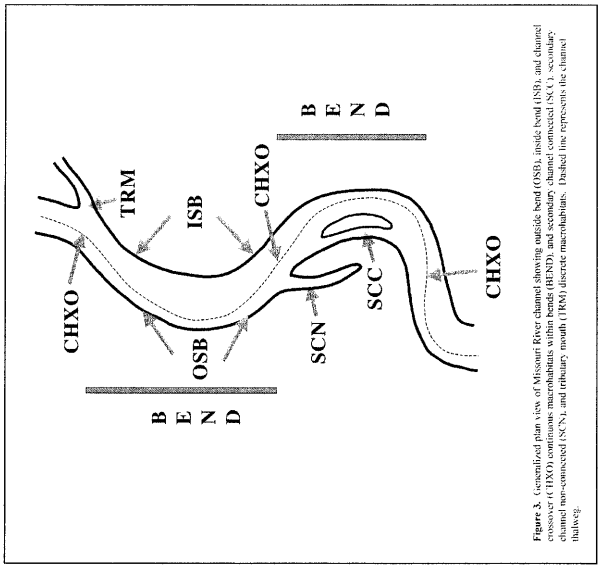

Figure 3. Generalized plan view of Missouri River channel showing outside bend (OSB), inside bend (INB), and channel crossover (CHXO) continuous macrohabitats within bends (BEND), and secondary channel connected (SCC), secondary channel non-connected (SCN), and tributary mouth (TRM) discrete macrohabitats. Dashed line represents the channel thalweg.

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APPENDIX 2. Physical Characteristics of the Missouri River. From: Galat, David L.; Wildhaber, Mark L.; and Dieterman, Douglas J., 2001, Spatial patterns of physical habitat in population and habitat use of benthic fishes along the Missouri and Yellowstone Rivers: U.S. Army Corps of Engineers, Omaha, Nebr., v. 2., 91 p.

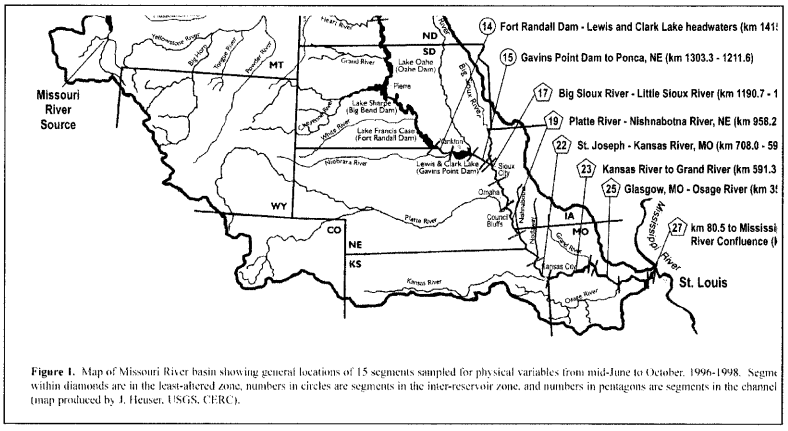
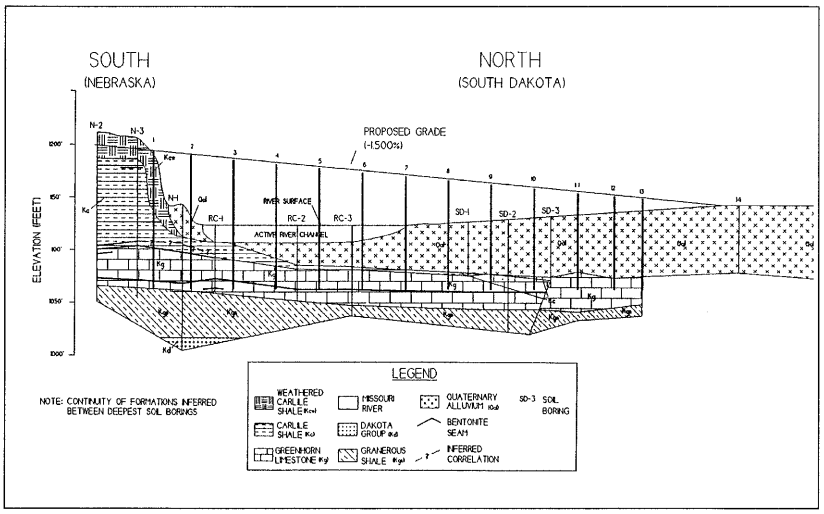


Figure 1. Map of Missouri River basin showing general locations of 15 segments sampled for physical variables from mid-June to October, 1996-1998. Segme within diamonds are in the least-altered zone, numbers in circles are segments in the inter-reservoir zone, and numbers in pentagons are segments in the channel (map produced by J. Heuser, USGS, CERC).



APPENDIX 3. Logs of Test Holes for SD 19 Bridge over Missouri River Near Vermillion, SD. 1995-1997. (Maxim Technologies, 1997).

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Table 19. BEND physical variable means (from transformed data) for pairwise Missouri River inter-reservoir contrasts and percent of overall ANOVA variance each pairwise contrast accounted for. Similar suffix letters denote pairwise contrasts within rows that were not significantly different at $P \leq 0.0024$. Significantly different contrasts where percent variance was ≥2.0% are shown in **bold**. Macrohabitats CHXO, ISB, and OSB compose the BEND model.

	Location/segment														
	Above Ft. Peck Lake	Below Ft. Peck Lake		Below Ft. Peck Lake to above YSR	Below YSR, to above Lake Sakakawea		Below YSR to above Lake Sakakawea	Below Lake Sakakawea		Above Lewis & Clark Lake	Below Lewis & Clark Lake		Below Lewis & Clark Lake	First channelized segment	
Physical variable	5	7	%v	7, 8	10	%v	10	12	%v	14	15	%v	15	17	%v
Depth (m)	1.74	2.43	0.74	2.67	3.58	0.83	3.58	2.45	1.28	3.50a	3.12a	0.14	3.12	4.29	1.21
Velocity (m/s)	0.66a	0.74a	0.18	0.72a	0.78a	0.08	0.78a	0.77a	0.01	0.66	0.84	0.81	0.84	1.07	0.90
Turbidity	24.9	16.1	0.38	65.6	171.5	1.98	171.5	7.0	**18.22**	4.9	25.4	**4.61**	25.4	43.5	0.53
Temperature (°C)	21.6	13.1	**10.11**	17.5	20.8	1.64	20.8	14.8	**4.75**	23.0a	24.1a	0.21	24.1	25.3	0.30
Conductivity (μS/cm)	402	598	**5.45**	603	468	**2.27**	468a	494a	0.09	864a	834a	0.08	834a	827a	<0.01
Gravel (%)	29.2	10.8	1.72	1.4a	2.7 a	0.07	2.7a	9.2a	0.55	4.2a	7.1a	0.15	7.1a	3.8a	0.20
Sand (%)	58.8	84.2	**2.13**	93.1a	89.2a	0.14	89.2a	84.5a	0.14	80.4a	82.4a	0.02	82.4a	91.3a	0.45
Silt (%)	5.1a	1.6a	0.41	2.9a	4.8a	0.11	4.8a	1.9 a	0.18	9.5	2.9	0.91	2.9a	1.7a	0.05
Geometric mean (mm)	4.55	1.97	1.01	1.19a	1.06a	0.02	1.06	2.28	0.83	1.27a	1.96a	0.23	1.96	4.88	1.14

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Boring N-1
Surface Altitude: 1,144.0 feet. Date: 5-18-95 to 5-19-95, Total Depth: 140.0 feet.

Depth (ft)	Description
11.5	Lean Clay, dark brown, medium to soft, ferrous staining, organic fragments (CL) (Alluvium, overbank deposits)
30.0	Silty Clay, brown to gray mottled, ferrous staining, organic fragments (CCL-ML) (Alluvium overbank deposits)
46.0	Shale, dark gray, very stiff, fissile, thin, horizontal bedding, calcareous, abundant white carbonate specks, trace pyrite, 1/8" bentonite seam at 37' 4", pyrite concretion at 42' 4", ½" bentonitic clay seam at 46'. (Carlile Shale)
83.0	Shale, dark gray, fissile, interbedded with calcareous white carbonate bands (marl), calcareous abundant white carbonate specks, abundant Mytiloides, sp., trace pyrite. (Greenhorn Limestone)
107.0	Shale, dark gray fissile, thin horizontal bedding, calcareous, occasional white carbonate bands, trace pyrite. (Greenhorn Limestone)
128.0	Shale, dark gray, fissile, calcareous, interbedded with thin (<3") very fine grained sandstone (carbonate cement), sandstone shows some cross bedding, trace pyrite in shale and sandstone, mostly calcareous from 115'. (Granerous Shale)
130.0	Shaly Sand, fine grained, medium to dark gray, subrounded, loose to moderately cemented, trace pyrite. (Dakota Group)
140.0	Shaly Sand, medium to dark gray, moderately cemented interbedded with thin (<1") shale, dark gray, pyrite and glauconite in sand. (Dakota Group)

Boring N-2
Surface Altitude: 1212.16 feet. Date: 5-22-95 to 5-24-95, Total Depth: 160 feet

Depth to (ft)	Description
10.5	Silty Clay, brown, medium to soft, dry, root hairs, trace pyrite (CL--ML) (weathered Carlile Shale)
22.5	Shale, light gray, soft to medium to very stiff, oxidized, ferrous staining, calcareous, abundant calcite and selenite crystals, trace pyrite. (Weathered Carlile Shale)
109.0	Shale, dark gray, fissile, thin horizontal bedding, calcareous, abundant white carbonate specks, trace pyrite, fossil imprint at 60' 4.5", becoming greasy, core samples are broken along bedding planes, betonitic clay seam at 106', bentonitic at 109'. (Carlile Shale)
121.0	Shale, dark gray fissile, interbedded with white carbonate bands (marl), calcareous, abundant white carbonate specks, abundant Mytiloides, sp. (Greenhorn Limestone)

135.0	Shale, same as above, except decreased amount of white carbonate bands. (Greenhorn Limestone)
140.0	Shale, same as above, except increased amount of white carbonate bands, bentonitic clay seam at 137' 5". (Greenhorn Limestone)
145.0	Shale, same as above, except decreased amount of white carbonate bands. (Greenhorn Limestone)
160.0	Shale, dark gray, fissile, thin horizontal bedding, calcareous occasional white carbonate bands, abundant white carbonate specks, trace pyrite. (Granerous Shale)

Boring N-3
Surface altitude: 1206.4 feet. Date:_____. Total Depth: 150 feet.

Depth to (ft)	Description
9.0	Lean Clay, brown, root hairs, calcareous, trace pyrite (CL). (Weathered Carlile Shale)
11.5	Fat Clay, light brown, calcareous, trace pyrite (CH). (Weathered Carlile Shale)
20.	Shale, light gray, oxidized, ferrous staining, calcareous, abundant calcite and selenite crystals, trace pyrite. (Weathered Carlile Shale)
101.0	Shale, dark gray, fissile, thin bedded, apparent dip of approximately 3 degrees, calcareous, occasional white carbonate bands, abundant white carbonate specks, trace pyrite, 3.5" bentonitic clay layer at 27' 4", .5" bentonitic clay seams at 100' 5" and 100' 9". (Carlile Shale)
122.0	Shale, dark gray, hard fissile, interbedded with white carbonate bands (marl), calcareous, abundant white carbonate specks, abundant Mytiloides, sp., trace pyrite. (Greenhorn Limestone)
131.0	Shale, same as above, except decreased amount of white carbonate bands from 122' to 131'. (Greenhorn Limestone)
136.0	Shale, same as above, except increased amount of white carbonate bands from 134' 6". (Greenhorn Limestone)
140.0	Shale, same as above, except decreased amount of white carbonate bands from 136' to 140'". (Greenhorn Limestone)
142.0	Shale, same as above, except increased amount of white carbonate bands from 140' to 142'. (Greenhorn Limestone)
160.0	Shale, dark gray, fissile, thin horizontal bedding, calcareous, abundant white carbonate specks, occasional white carbonate bands, trace pyrite. (Granerous Shale)

Boring N-4
Surface Altitude:____. Date:_____. Total Depth: 155 feet.

Depth to (ft)	Description
11.5	Silty Clay, brown, root hairs, dry, calcareous, trace pyrite (CL-ML).

	(Weathered Carlile Shale)
25.0	Shale, yellow gray, oxidized, calcareous, abundant calcite and selenite crystals, trace pyrite. (Weathered Carlile Shale)
105.0	Shale, dark gray, fissile thin horizontal bedding, calcareous, occasional white carbonates bands, abundant white carbonate specks, trace pyrite, 0.25 " clay seams at 101' 4" and 104' 5". (Carlile Shale)
121.0	Shale, dark gray, fissile, interbedded with white carbonate bands (marl), calcareous, abundant white specks, abundant Mytiloides, sp., trace pyrite. (Greenhorn Limestone)
130.0	Shale, same as above, except decreased of white carbonate bands from 121' to 130', bentonite clay seam at 125'. (Greenhorn Limestone)
135.0	Shale, same as above, except increased amount of white carbonate bands from 130' to 135'. (Greenhorn Limestone)
138.0	Shale, same as above except decreased amount of white carbonate bands from 135' to 138'. (Greenhorn Limestone)
141.0	Shale, same as above, except increased amount of carbonate bands from 138' to 141'. (Greenhorn Limestone)
155.0	Shale, dark gray, fissile, thin horizontal beddings, occasional white carbonate specks, trace pyrite. (Granerous Shale)

Boring N-5
Surface Altitude:_____. Date:_____. Total Depth: 121.0 feet.

Depth to (ft)	Description
6.5	Lean Clay, brown, root hairs, dry, calcareous, trace pyrite. (Weathered Carlile Shale)
22.0	Shale, yellow-gray, oxidized, calcareous, abundant calcite and selenite crystals, trace pyrite. (Weathered Carlile Shale)
105.5	Shale, dark gray, fissile, thin horizontal bedding, calcareous, occasional white carbonate bands, abundant white carbonate specks, trace pyrite, 2" bentonitic clay seam at 30', 0.5" to 1" bentonitic clay seams at 102', 104' 8" and 105' 4 ". (Carlile Shale)
121.0	Shale, dark gray, hard, fissile, interbedded with white carbonate, bands (marl), calcareous, abundant white carbonate specks, abundant Mytiloides, sp., trace pyrite, bentonitic clay seam at 110' 6". (Greenhorn Limestone)

Boring RC-1
Surface Altitude: 1125.6 feet. Date: 5-25-95. Total Depth: 62.5 feet.

Depth to (ft)	Description
17.0	Water (Missouri River)

32.5	Shale, dark gray, very stiff, fissile, thin horizontal bedding, calcareous, abundant white carbonate specks, trace of pyrite, increasing pyrite at 27', 0.25" bentonitic clay seam at 29' and 32.5 feet. (Carlile Shale)
47.5	Shale, dark gray, interbedded with white carbonate bands (marl), abundant white carbonate specks, trace pyrite, abundant Mytiloides, sp. (Greenhorn Limestone)
57.5	Shale, same as above, except decreased amount of white carbonate bands from 48.5' to 57.5', 0.5" bentonitic clay seam at 52'. (Greenhorn Limestone)
62.5	Shale, same as above, except increased amount of white carbonate bands from 57.5' to 62.5'. (Greenhorn Limestone)

Boring RC-2
Surface Altitude: 1125.8 feet. Date: 5-23-95. Total Depth: 72.0 feet.

Depth to (ft)	Description
17.0	Water. (Missouri River)
28.0	Sand, medium grained (1.5-2.0 0), brown, water bearing, loose, rounded, quartzose, trace of granular pebbles, (-0.5-1.0 0) (SP) (Alluvium)
40.0	Sandy lean clay, gray, soft to medium, trace of muscovite, trace of reworked shale at 36.5', increasing sand at 37' (CL). (Alluvium)
43.5	Shale, dark gray, stiff, fissile, thin, horizontal bedding, calcareous, abundant white carbonate specks. (Carlile Shale)
57.0	Shale, dark gray, interbedded with white carbonate bands (marl), trace of pyrite, abundant Mytiloides, sp. (Greenhorn Limestone)
67.0	Shale, same as above, except decreased amount of white carbonate bands from 57' to 67', some vertical fractures, bentonitic clay seam at 63'. (Greenhorn Limestone)
72.0	Shale, same as above, except increased amount of carbonate bands from 67', increasing pyrite. (Greenhorn Limestone)

Boring RC-3
Surface Altitude: 1125.5 feet. Date: 5-24-95. Total Depth: 87.0 feet.

Depth to (ft)	Description
16.5	Water (Missouri River)
26.5	Sand, medium grained (1.5-2.0 0), brown, water bearing, loose to medium dense, rounded, quartzose, trace granular pebbles (-0.5 to –10.0) (SP). (Alluvium)

27.0	Sand, medium to coarse, brown, water bearing, loose, rounded to subangular, quartzose, with angular shale and limestone fragments (SP). (Alluvium)
38.0	Fat clay, gray, medium, trace muscovite (CH). (Alluvium)
41.0	Gravel, with sand and silt, brown, water bearing, angular grains consist of quartz, limestone, chert, granite. (Outwash)
44.5	Shale, dark gray, very stiff, fissile, thin horizontal bedded, calcareous, abundant white carbonate specks, trace pyrite. (Carlile Shale)
57.0	Shale, dark gray, fissile, interbedded with white carbonate bands (marl), abundant white carbonate specks, trace pyrite, Inoceramus, sp. And abundant Mytiloides, sp. (Greenhorn Limestone)
71.0	Shale, same as above, except decreased amount of white carbonate bands from 57' to 71', 1" bentonitic seam at 63'. (Greenhorn Limestone)
75.0	Shale, same as above, except decreased amount of white carbonate bands . (Greenhorn Limestone)
78.0	Shale, same as above, except decreased amount of white carbonate bands from 75' to 78'. (Greenhorn Limestone)
87.0	Shale, dark gray to black, fissile, greasy, occasional white carbonate bands, core samples, broken along bedding lanes. (Granerous Shale)

Boring SD-1
Surface Altitude:_____. Date: 7-12-95. Total Depth: 54.4 feet.

Depth to (ft)	Description
39.0	Sand, fine grained, light brown, moist to 4.9', then water bearing, loose to medium dense to medium dense to loose, a 1" lens of silty clay at 15', a 3" lens of coarse grained sand at 33' (SP). (Alluvium)
52.0	Sand with silt, medium to fine grained, with gravel, gray, water bearing, dense to loose to very dense, lenses of gravel and cemented sand, a lens of gray fat clay at 44.5' (SP-SM). (Alluvium)
54.4	Sandy lean clay, dark gray, very stiff, pieces of shale (CL). Weathered Carlile Shale)

Boring SD-2
Surface Altitude:_____. Date: 7-12-95. Total Depth: 110.0 feet.

Depth to (ft)	Description
16.5	Sand, fine to medium grained, (+30 to +20), brown, moist to 5.2', then water bearing, loose subrounded to rounded (SP). (Alluvium)
36.5	Sand, medium grained, (1.0 0 to 0.5 0), brown, water bearing, loose to dense to loose, subrounded to rounded (SP). (Alluvium)
45.0	Sandy lean clay, gray, medium (CL). (Alluvium)

49.0	Fat clay, dark gray, medium (CH). (Alluvium)
53.5	Silty gravel, with cobbles, brown, water bearing, very dense, angular to subangular (GM). (Glacial Outwash)
56.5	Sandy lean clay, with cobbles, dark gray, very stiff (CL). (Weathered Greenhorn Limestone)
67.0	Shale, dark gray, hard, fissile, interbedded with white carbonated bands (marl), calcareous, abundant white carbonate specks, abundant Mytiloides, sp. (Greenhorn Limestone)
78.0	Shale, dark gray, hard, fissile, interbedded with white carbonate bands (marl), calcareous, abundant Mytiloides, sp., decreasing banding, 0.5" bentonite seam at 71.5'. (Greenhorn Limestone)
83.0	Shale, dark gray, hard fissile, interbedded with white carbonate bands (marl), calcareous, abundant white carbonate specks, abundant Mytiloides, sp. Increasing white bands, 0.5' pyrite lens at 78.5 '. (Greenhorn Limestone)
86.0	Shale, dark gray, hard, fissile, interbedded with white carbonate bands (marl), calcareous abundant white carbonate specks, abundant Mytiloides, sp. decreasing bands. (Greenhorn Limestone)
89.0	Shale, dark gray, hard, fissile, interbedded with white carbonate bands (marl), calcareous abundant white carbonate specks, abundant Mytiloides, sp. increasing white bands. (Greenhorn Limestone)
110.0	Shale, dark gray, fissile, thin horizontal bedding, calcareous, abundant white specks, occasional white carbonate bands, trace pyrite, cones broken up along bedding planes. (Granerous Shale)

Boring SD-3
Surface altitude:_____. Date: 6-20-95. Total depth: 59.7 feet.

Depth to (ft)	Description
3.0	Silty sand, fine grained, brown, moist (SM). (Alluvium)
17.0	Sand, fine grained, dark brown, wet to 5.5', then water bearing, very loose, (SP) (Alluvium)
22.0	Sand with silt, fine-grained, light brown, water bearing, medium to dense (SP-SM). (Alluvium)
27.0	Sand, fine to medium grained, light gray, water bearing, loose (SP). (Alluvium)
33.0	Silty sand, fine-grained, dark brown, water bearing, loose, (SM). (Alluvium)
44.0	Sand, fine grained, brown, water bearing, dense, coarse grained sand and gravel at 43' (SP). (Alluvium)
54.0	Fat Clay, gray, medium, pieces of gravel from 53' to 54' (CH). (Alluvium)

59.7	Sandy lean clay, dark brown, stiff to very stiff, pieces of gravel sized shale (CL). (Weathered Carlile Shale)

Boring SD-4
Surface altitude:_____. Date: 7-14-95. Total depth: 54.5 feet.

Depth to (ft)	Description
24.0	Sand, fine grained, brown, moist to 5.8' then water bearing, loose, a 1" lens of black sand a lens of clay at 198.5' (SP). (Alluvium)
34.0	Sand, fine to medium grained, light brown, water bearing, loose to medium dense (SP). (Alluvium)
38.0	Silty sand, fine to medium grained, with a little gravel, gray, water bearing, loose, lenses of lean clay (SM). (Alluvium)
44.0	Sand, fine grained, gray, water bearing, dense, a lens of coarse-grained gravel at 43.5' (SP). (Alluvium)
53.0	Fat clay, gray, medium, a 0.5' of coarse gravel at 52.5' (CH). (Alluvium)
54.5	Sandy, lean clay, dark brown, very stiff, pieces of shale (CL). (Weathered Carlile Shale)

Boring SD-5
Surface altitude:_____. Date: 6-21-95. Total depth: 26 feet.

Depth to (ft)	Description
2.0	Silty sand, fine grained, brown, moist, (SM). (Topsoil_)
14.0	Silty sand, fine grained, brown, medium dense (SM). Alluvium)
15.0	Silty sand, fine grained, water bearing, very loose (SM). (Alluvium)
16.5	Silty sand, fine-grained, brown, water bearing, loose, (SM). (Alluvium)
26.0	Sand, fine to medium grained, light gray, water bearing, loose (SP). (Alluvium).

Boring SD-6
Surface altitude:_____. Date: 6-21-95. Total depth: 26 feet.

Depth to (ft)	Description
2.0	Silty clay, brown (ML-OL). (Topsoil)
14.0	Silty sand, fine grained, brown, moist, loose (SM). (Alluvium)
22.0	Silty sand, fine grained, gray, water bearing, loose (SM). (Alluvium)
26.0	Sand, fine grained, brown, water bearing, medium dense (SP). (Alluvium)

APPENDIX 4. Selected locations for habitat improvement.

WRH 6

The Corps should utilize existing resources for restoration of fish and wildlife habitat. We propose utilizing existing structures and reclaimed riprap in flexible notching projects and restoration of off-channel habitat. These projects should create shallow off-channel areas with considerable water surface area. These areas will have lower water velocities if properly located on the inside of river bends. These projects will enhance many indigenous species by increasing appropriate habitat. Several high environmental benefits per dollar projects could result in significant benefits for fish and wildlife. The projects would divert water through a system of notched wing dams designed to allow creation of shallow water habitat. The upper part of the project would be designed to divert some water from the main channel inward to a notched dike. Each succeeding down river dike could be notched to a greater width. This would allow the water to decrease in velocity and increase in surface area and thereby improve fish and other aquatic and semi-aquatic habitats.

These projects could be undertaken with current Corps authority. The participation of area biologist must be included in the project to insure their success. Funding must include monitoring efforts by area biologists and other scientists. We ask for your serious consideration of these recommendations. We are committed to the improvement of the Missouri River and environs.

Areas that are appropriate for this type of development are in the Sioux City reach include:

Benefit Level	Bend	Location	Mile
High	Ponca Bend	left bank	750.1
High	McCook Lake	right bank	741-738.5
Lower	Upper Dakota	left bank	725
Lower	Lower Omaha	left bank	720.5
Oxbow	Omaha	right bank	722
High	Brewer	right bank	719-717
High	Blackbird	left bank	696-693.6
High	Upper Omaha	right bank	708

APPENDIX 5. PRINCIPLES FOR STAKEHOLDER INVOLVEMENT

Other - 88

Material from: NRC, 2002, Gloss, Steven P. ed., The Missouri River ecosystem: exploring the prospects for recovery: National Resource Council of the National Academy of Sciences, National Academy Sciences, prepublication copy, 149 p.

Recovery efforts must include significant stakeholder participation and input. With appropriate incentives and thorough trust building, there may be greater stakeholder willingness to engage in ecosystem recovery efforts than anticipated. Without stakeholder input, there is a high risk of litigation and further gridlock that will limit progress toward improved ecological conditions. Stakeholder involvement must be carefully developed and should adhere to the following principles in order to improve the chances of success (Larry Spears, North Dakota Consensus Council, personal communication, 2000). The order of listing should not be misconstrued as representing a hierarchy of any sort, and all of the following recommendations are important to ensure the stakeholder group's effectiveness:

PARTICIPATION BY A BROAD SPECTRUM OF INTEREST GROUPS.
Many groups have legitimate interests in shaping improvements of the Missouri River ecosystem. It would not be feasible for every group to participate in every activity. Some groups will have greater resources than others, and some groups may be more active (and vocal) than others. The challenge will be to ensure that the voices of all sectors of the public are heard—not just those of the most vocal or most influential sectors. Environmental groups, businesses, farmers, municipal and regional governments, and citizens from across the basin must be at the table for discussions.

INCLUSION OF TRIBAL INTERESTS.
Native Americans have a special place on the Missouri River and bring a unique perspective to discussions. As with participation by other groups, given the large number of tribes along the river, the tribes must select those who will represent the interests and knowledge of all tribes along the river and who will share what they learn with their larger community.

CONTINUOUS TWO-WAY COMMUNICATION WITH THE PUBLIC.
Too often in public-involvement processes, participation by select groups is seen as providing adequate contact with the citizenry of the basin, expecting that these groups will keep the public informed and accept their comments. This does not always work. Provisions must be made for formal input from the public, as individuals or groups, and for dissemination of information to the public. Ongoing exchange between decision makers and the public should aim to build a relationship of mutual respect and trust.

VISIBLE PARTICIPATION BY FEDERAL, STATE, AND TRIBAL GOVERNMENTS AND NONGOVERNMENTAL ORGANIZATIONS.
Participation in the process must not become onerous to the participants. They must see that those they represent and those that sponsor the process value their efforts. This may be demonstrated by the participation of key government personnel and non-governmental

personnel, by formal recognition of the work of participants, and by agencies that actively support the concept of public involvement.

SUPPORT FROM AN INDEPENDENT, INTERDISCIPLINARY SCIENTIFIC PANEL.

In its activities, the stakeholder group will be presented with considerable scientific information developed by technical personnel representing government agencies, other organizations and individuals. Although some of this material will be clear and uncontroversial, other material may be confusing and contradictory to other information, or it may contain significant scientific uncertainties. Therefore, an independent and interdisciplinary scientific advisory panel is necessary to help clarify and resolve scientific inconsistencies and to provide scientific knowledge to the stakeholder group. An independent advisory panel can also help resolve legitimate differences regarding scientific studies, structure adaptive management experiments, interpret the results of management actives, and measure progress toward ecosystem recovery goals.

A challenge to both the scientific group and to the stakeholder group is to determine an appropriate set of environmental indicators, or actions and progress of adaptive management efforts. A useful initial effort of the independent science group would be to identify a set of indicators to be used in developing an assessment of ecological status and trends in the Missouri River ecosystem.

PROVISION BY THE FEDERAL GOVERNMENT, WITH SUPPORT FROM THE STATES AND TRIBES, OF SECURE FUNDING FOR STAKEHOLDER INVOLVEMENT EFFORT OVER THE LIFETIME OF THE ACTIVITY.

If the effort is continuous, financial support to the effort must be continuous. Funds will provide administrative support to the process and to its participants, will support travel expenses in connection with stakeholder participation, and will support activities of the independent scientific advisory panel and the facilitation group.

PARTICIPATION BY REPRESENTATIVES OF CONGRESS AND OF THE STATE LEGISLATURES OF MISSOURI BASIN STATES.

Staff members from the offices of basin representatives and senators at the national level and their equivalents at the state level must remain in contact with stakeholders and provide them with information at the political level and reinforce legislative support for the efforts of the stakeholder groups.

CONSENSUS DECISION MAKING BY THE STAKEHOLDER GROUP.

In developing positions on key issues, the stakeholder groups must operate in a consensus mode. Operating under a majority-rule system would leave some parties perpetually unsatisfied with the outcome. Although developing consensus positions requires more time and experience than does majority rule, consensus decision making provides more sustainable and more widely acceptable results.

BOUNDING THE PROCESS WITH DEFINED GOALS AND WITH TIMELINES FOR THEIR ACHIEVEMENT.

Other - 88

The stakeholder group must define its expected outcomes and develop the plans to move toward them so that progress can be measured and problems identified. Participating governmental bodies should review and concur with these goals and timelines.

CONDUCT OF THE ACTIVITIES OF THE GOVERNMENTS IN AN OPEN AND TRANSPARENT MANNER.

To many, the very presence of a stakeholder group would indicate openness. To others, however, openness and transparency require that the government agencies and the stakeholder group conduct their activities in a manner that enables the public to observe these activities. Modern communications system, the Internet, and the availability to the media can enhance this process.

AUTHENTICATION OF THE STAKEHOLDER INVOLVEMENT PROCESS BY GOVERNMENTS IN A FORMAL DOCUMENT WITH ALL PARTICIPATING AGENCIES AS SIGNATORES.

Full understanding of the process and the level of commitment to the process must be clear to all participating agencies. A Memorandum of Understanding among the agencies serves to eliminate misunderstandings and provides the public a summary of what stakeholder involvement entails.

PROVISION OF FORMAL, INDEPENDENT FACILITATION FOR STAKEHOLDER GROUP ACTIVITIES

When any broadly based group gathers to conduct business, the success of the meeting depends largely on the manner in which the meeting is conducted. Stakeholder group participants will have neither the time nor the expertise to consistently lead all discussions. Facilitation by sponsoring government agencies raises questions of conflict of interest. Independent facilitation by experts would provide for efficient and unbiased discussion of the issues that must be considered.

This committee is aware of the history of efforts to enlist stakeholder participation in river system policymaking, both in the Missouri and in other U. S. river basins, and does not labor under the illusion that its recommendations represent the final answer to resolving differences of opinion between stakeholders. Because previous, similar efforts in the Missouri may not have yielded results that are satisfactory to all parties, however, does not mean that stakeholder cooperation is not possible in the Missouri. Moreover, several of this committee's recommendations—an independent science advisory body, formal facilitation, adequate and sustained resources from and participation by the federal government, mandate and formal input into Missouri River management decisions, equal participation by a spectrum of users that includes tribal and environmental interests—have not been adequately tested as part of Missouri River management decisions. This committee cannot predict the outcomes of its recommendations, but if implemented, they would represent the most vigorous and comprehensive effort to date to formally incorporate a range of stakeholder perspectives into Missouri River and dam management decisions.

Other - 88

MASTERMANUAL NWD02 L0300022

From: Isabel Trobaugh [itrobaugh@dtgnet.com]

Sent: Wednesday, February 27, 2002 11:11

To: Mastermanual

Subject: Missouri River Master Manual RDEI

Dear Sir: When the dams were built on the Missouri River, one of the reasons was to control the river and keep it from it from destroying homes and farm land and everything else in its path every or most every spring when it flooded. I lived not to far from the Big Sioux in Sioux City and every spring when the rivers started to rise it was very heartbreaking to see the water start coming into our yard after my family had worked night and day to keep the dikes from breaking. Causing a spring rise on the Missouri creates a natural barrier so that the Big Sioux, the James, and others but especially the Big Sioux River to back up because it can't get out and it floods farmland, North Sioux City, and SiouxCity. Please look back at the history of this river and review at all the damage this river caused before the dams were built. This is a very wicked river. Remember the flood of 1952 when you could stand on the bluff where War Eagle's grave is and all you could see of South Sioux City was the peaks of peoples' homes and nothing but water everywhere. I know some people are worried about the Least Tern, Piping Plover and Pallid Sturgeon, but when are we going to consider people as an endangered species. Shouldn't we consider the danger to people and are homes this river can cause as a top priority. Please leave the river the way it has been and keep the currant river flow plan. Its not only better for people and their homes but also for our hydro power. Thank you, Mayor Isabel Trobaugh P.O Box 411, Elk Point S.D. 57025

FC 16

3/9/2002

U.S. Army Corps of Engineers
Northwestern Division

COMMENT Form
MISSOURI RIVER MASTER MANUAL RDEIS
L0300023

Contact Information:

Name: Andree Petersen, Mayor City of Slater

Address: 232 N. Main

City, State, Zip: Slater, MO 65349

e-mail address:

We welcome your mailed or faxed comments. Fax number: (402) 697-2504. Comment categories are provided in the newsletter.

Comments:

Choose a category/categories for each comment from the list provided in the newsletter.

1. **Category(ies):** Water Supply - Slater has 3 wells (65' deep) in the Missouri River Bottom near Glasgow, MO. From Wells pumped to plant for purifying, than into storage tanks in Slater (7 or 8 miles) New line from plant to Slater. What effect will the rise and fall of water flow have on the demand for water by about 5000 people?

WS 11

2. **Category(ies):** Recreation: With the building of recreational facilities, such as dams, lakes, hunting areas, etc. Who is going to feed the millions of people in the U.S.A. and in some other Countries? The constant tilling of our soil will deplete it to the condition of some of the African Countries. Isn't it time to Prioritize our needs? Recreation should be last on the list.

Other 20

L0400001

SIOUXLAND INTERSTATE METROPOLITAN PLANNING COUNCIL
is Action
507 - 7TH STREET, SUITE 401
P.O. BOX 447
SIOUX CITY, IOWA 51102-0447
TELEPHONE (712) 279-6286
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E-MAIL simpco@simpco.org

October 11, 2001

Col. David Fastabend
Northwestern Division Engineer
U.S. Army Corps of Engineers
220 NW8th Avenue
Portland, Oregon 97208-2870

Subject: Missouri River Revised Draft Environmental Impact Statement

Dear Col. Fastabend:

The Siouxland Interstate Metropolitan Planning Council (SIMPCO), our tri-state regional council of governments, and its members are vitally interested in the operation of the Missouri River main stem dams. The main stem projects have provided flood control, power, navigation, recreation and water supply to Siouxland. The operation of the system has been satisfactory and is not in need of major alteration.

Yet there have been problems with the Missouri River in Siouxland. The major problem has been the loss of water surface area and adjacent habitat. We have lost many wetlands, oxbows and chutes. These losses are largely the result of the degradation of the Missouri River and the lowering of the water surface. Much of this area, as a result, has been converted to agriculture and other uses.

ErSd 17

We have studied the various documents and studies that have been produced to date relative to management of the Missouri River. We have conducted Missouri River studies, participated in many meeting and commented at previous meetings and hearings. Attached is an earlier statement on the *Draft Implementation Plan for the Final Biological Opinion on Operation & Maintenance of the Missouri River Bank Stabilization & Navigation Project, & Operation of the Kansas River Reservoir System.*

We believe some improvements can be made in Missouri River Management. We favor the Current Water Control Plan (CWCP) with the Modified Conservation Plan (MCP) as our second choice, if it does not shorten the navigation season. The Current Water Control Plan (CWCP) provides the most flood control for the Siouxland area. The MCP (and CWCP) provides better interior drainage, protects navigation, and minimizes streambed degradation and lateral bank erosion. The CWCP and MCP are superior for the timing of power generation. The other alternatives are inferior in these respects. We doubt that any of the other alternatives would provide desirable environmental improvements.

Nav 44

We are convinced that we must provide changes to the river to create habitat for endangered and other indigenous species. The various habitat restoration authorities need to be adequately funded. A monitoring program should be established so that we can measure the impacts of operational changes and habitat improvements. This monitoring program should use the abilities of regional scientists and experts to determining impacts and future changes and improvements. These actions could result in a process of adaptive management as envisioned Revised Draft Environmental Impact Statement.

Other 143

Thank you for this opportunity for input.

Sincerely,

William McLarty, Chairman, SIMPCO Board of Directors

The following comments and recommendations are in response to the "*DRAFT IMPLEMENTATION PLAN FOR THE FINAL BIOLOGICAL OPINION ON OPERATION OF THE MISSOURI RIVER MAIN STEM RESERVOIR SYSTEM, OPERATION & MAINTENANCE OF THE MISSOURI RIVER BANK STABILIZATION & NAVIGATION PROJECT, & OPERATION OF THE KANSAS RIVER RESERVOIR SYSTEM* BY THE U.S Army Corps of Engineers, Northwestern Divisions.

The general comments and recommendations are both system wide for the Missouri River and specific for the Sioux City reach of the Missouri River.

The Biological Opinion of the U.S. Fish and Wildlife Service contains useful information. The data contained in Biological Opinion, however, does not support recommendations in many instances. Some of the recommendations appear to be policy and control oriented and not directed to improving the habitat for the endangered and other indigenous species.

EnSp 47

The Pick-Sloan Plan and related Missouri River projects have greatly altered the Missouri River Basin. In the Sioux City reach most of the changes have been positive because the project purposes have generally been met. The positive changes include flood control, navigation, water supply, recreation, power generation, and bank stabilization and others. The negative changes have been the loss of native habitat, water surface area, backwaters, and resultant loss of fish and wildlife. Bed degradation is in part responsible for these negative changes.

ErSd 17

We have special concern about streambed degradation. We know that impacts of bed degradation have been very negative on wetlands, marinas, boat ramps, oxbows, water supplies and indigenous species. There is head-cutting occurring on tributaries. This head cutting is causing the streams to deepen, which requires bridge replacements and other public road repairs. The USFWS biologic opinion does not address in any depth the many negative aspects of degradation. USFWS proposes a spring flood on the average of once every three yeas. They justify this extreme action because it will scour the sand bars clean and create better nesting habitat for Least Tern and Piping Plover. They largely ignore the streambed degradation that will result. They ignore that a flood event that will scour clean the streambanks

ErSd 17

will obviously also scour the bottom of the streambed (streambed degradation). They report that streambed degradation is inevitable. Unfortunately, USFWS has ignored that the data show that under normal flow conditions streambed degradation is minimal and may even be reversed.

On a basin wide perspective, the spring floods will result in a two percent loss of hydropower generation. This would be a loss of $140,000,000 in a decade. The loss is especially disturbing because it is a loss of renewable and environmentally friendly hydroelectricity. It is recommended that the Corps continue to develop plans to increase hydropower generation not decrease it.

HPower 12, 18

Restoration and management of reproductive habitat for the endangered Pallid Sturgeon and Least Tern as well as the threatened Piping Plover should be a high priority in the non-channeled river reaches such as Ponca to Yankton and in selected tributaries such as the Platte River. These areas contain habitats suitable for the listed species for reproduction and protection from predators.

The problems that exist on the Sioux City reach of the river are not limited to the endangered and threatened species. The loss of habitat has led to the dramatic decrease in population of many species. Habitat restoration in the channeled portions in the Sioux City reach should be directed towards the benefit of other indigenous species whose habitat requirements can be provided. Greater numbers of species could be aided with this strategy (as outlined below) and having more beneficial impact upon the entire river ecosystem.

EnSp 1

The flow modification element of the Draft Implementation Plan is far superior to the recommendations in the Biological Opinion. A spring rise, as recommended in the Biological Opinion, does not appear to have any merit in the Sioux City reach. Such a rise would not result in increased habitat or significant increase water surface area in the Sioux City reach. The rise has potential for increased flooding, interior drainage and groundwater problems. The recommended low summer releases from Gavins Point Dam would lower water levels in riparian wetlands during the critical summer months. The low flows would seriously impact navigation and the businesses that depend on it. The low flows will also be very negative to marinas, boaters, recreation and water supply. The current flow regimen has worked well in the Sioux City reach. Any modification should be analyzed both before and during the changes. The impacts of current operations and changes should be understood before they are implemented. Congress needs to authorize and the Corps needs to implement a scientific study process to forecast change impacts and understand results. This study process should utilize regional and local scientists as partners.

EnSp 5,2

Nav 12, 45, 46 WS 11

EnSp 12

pesticides?

- The effect of commercial fishing on the Pallid Sturgeon. Commercial fishing is likely to be having an adverse affect on the Pallid Sturgeon? It is likely that Pallid Sturgeons are being removed incidentally or otherwise by commercial fishing. Elimination of all commercial fishing for all types of sturgeon should be evaluated because it is nearly impossible to tell Pallid Sturgeon from small shovelnose sturgeon. The importance of this item cannot be overstated. — Fish 14
- Snagging of Pallid Sturgeon. The possibility of eliminating snagging for fish in the River and its tributaries should be evaluated. Large Pallid Sturgeons, which are the breeding stock, are most likely being illegally removed. The importance of this single item cannot be over stated because of the extreme scarcity of breeding size stock. — Fish 14
- Expanded public awareness program in relation to the pallid sturgeon is strongly recommended. — EnSp 25
- The effect of stocking of predator fish on the pallid sturgeon should be made. It is likely that the predator fish are eating the Pallid Sturgeon fry. Because the predator fish are now common below the dams as well in the reservoirs, it is probable that stocked predator fish are adversely affecting the Pallid Sturgeon over the entire river length. It should be noted that many of the stocked species are believed not indigenous to the Missouri River. — Fish 14
- Expanded public awareness program on the Least Tern and Piping Plover is recommended. A study to determine the best methods to increase public awareness, especially on the detrimental effects of disturbing least tern and piping plover nests, should be made. — EnSp 25
- Quantitative research on the magnitude a spring "rise" (not a flood) that is required to cue the spawning of the Pallid Sturgeon and to enhance clean sand bars is needed. Unsupported statements that a spring flood" is needed in the USFWS "Biologic Opinion are not research and if acted upon may be harmful. — EnSp 17
- A study on methods to reduce vegetation on the sand bars in lieu of the "split season" or the "spring flood" is needed. — WRH 11
- Stocking of Pallid Sturgeon by the USFWS should be expanded. This alone could increase the Pallid Sturgeon population above the "endangered" level. — EnSp 42
- Corps program to increase the fledgling population of the Least Tern and Piping Plover should be increased. This program has been very successful. — EnSp 42
- Additional research on increasing the Least Tern and Piping Plover Populations by the use of hatcheries should be conducted. (Acquiring eggs should not be a large problem because both birds have a tendency to re-nest one or more times if disturbed during their nesting season.) — EnSp 42
- A study on innovative methods to reduce the number of predator animals near least tern and Piping Plover nests should be made. — EnSp 25
- A study on how best to induce intake water for the turbines to be

We concur with the unbalanced system regulation element of the upper reservoirs.

We need to create additional habitat both on channel and off channel. The current mitigation measures are worthwhile but do not increase channel or near channel water surface area expansions and improvements. — EnSp 48

The Corps should utilize existing resources for restoration of fish and wildlife habitat. We propose utilizing existing structures and reclaimed rip-rap in flexible notching projects and restoration of off-channel habitat. These projects should create shallow off-channel areas with considerable water surface area. These areas will have lower water velocities if properly located on the inside of river bends. These projects will enhance many indigenous species by increasing appropriate habitat. Several high environmental benefits per dollar projects could result in significant benefits for fish and wildlife. The projects would divert water through a system of notched wing dams designed to allow creation of shallow water habitat. The upper part of the project would be designed to divert some water from the main channel inward to a notched dike. Each succeeding down river dike could be notched with a greater width. This would allow the water to decrease in velocity and increase in surface area and thereby improve fish and other aquatic and semi-aquatic habitats. — EnSp 1,48

These projects could be undertaken with current Corps authority. The participation of area biologist must be included in the project to insure their success. Funding must include monitoring efforts by area biologists and other scientists. — Other 142

Areas that are appropriate for this type of development are in the Sioux City reach include:

Benefit Level	Bend	Location	Mile
High	Lower Ponca	left bank	750.1
High	McCook Lake	right bank	741-738.5
Lower	Upper Dakota	left bank	725
Lower	Lower Omadi	left bank	720.5
Oxbow	Omadi	right bank	722
High	Brower	right bank	719-717
High	Blackbird	left bank	696-693.6
High	Upper Omaha Mo.	right bank	708

Although not part of our proposal, we also suggest study or action on the following:

- The Missouri River lacks nutrients. A plan for increasing nutrients to the river should be made. One question is can the nutrients be added to the stream from tributaries with out increasing herbicides and — WRH 11

taken from the shallow water instead of the deep water is needed. (It is probable that from an engineering standpoint this can be easily be done but not with out some construction expense.)

HPower 19

L0400002

619 Ward Avenue
Caruthersville, MO 63830

PEMISCOT COUNTY PORT AUTHORITY
Year Round Ice-Free Channel • 3500' Slackwater Harbor

Phone: (573) 333-4125
Fax: (573) 333-4216

January 21, 2002

U.S. Army Corps of Engineers
Project Manager
Master Manual Review and Update
12565 West Center Road
Omaha, NE 68144

Dear Madam or Sir:

I regret that I am unable to attend the public meeting on the Revised Draft Environmental Impact Statement for the Missouri River Water Control Manual in Cape Girardeau tonight. Nevertheless, I wish to enter the following comments on behalf of the Pemiscot County Port Authority, a public port located at mile 849 on the Lower Mississippi River.

My board of commissioners and I have reviewed available materials on the six alternatives presented in the RDEIS. We are convinced that all proposed alternatives to the Current Water Control Plan would have an adverse effect on navigation and flood control on the Missouri River. Moreover, we believe that all these alternatives would also adversely impact navigation and flood control on the Upper Mississippi south of St. Louis and on the Lower Mississippi.

FC 8
Miss 4

In addition to annual maintenance dredging at our port and other ports on the Lower Mississippi, periodic emergency dredging has been required to maintain adequate draft depths in our harbors more frequently in recent years. Proposed alternatives to the CWCP would reduce flows downstream, further exacerbating this serious situation.

Miss 29

We also believe that the environmental arguments in favor of other alternatives are merely smokescreens for the usurpation of water rights by a variety of interests in upstream states. Rejection of the CWCP cannot be justified on any but blatantly political grounds.

Other 6

We urge the Corps of Engineers to reject the proposed alternatives and support operation of the Missouri under the Current Water Control Plan.

Sincerely,

David P. Madison

David P. Madison
Executive Director

L0400003

Tri-City Regional Port District
2801 Rock Road, Granite City, Illinois 62040-6839
(618) 877-8444 - (618) 452-3337
FAX (618) 452-3402
http://www.tricityport.com

December 13, 2001

U. S. Army Corps of Engineers
Northwest Division
12565 West Center Road
Omaha, NE 68144

Attn: Missouri River Master Manual RDEIS

Dear Sirs:

Once again the Corps has sought citizen comments concerning possible changes to the Missouri River Master Manual. After review and consideration of the proposed alternatives for change the Port must recommend that no change be made.

It appears that the Corps does not wish to offer an alternative that increases and improves navigation, and better manages potential flooding. Rather, the Corps only offers one alternative with variations. That alternative clearly will degrade all of the economic vitality downstream of the dam system. Our Port's operations will surely be harmed if any of the proposed changes are initiated.

Miss 4, 29

Sincerely,

James R. Labit
Director of Engineering and Planning

L0400004

SEMO PORT
Southeast Missouri Regional Port Authority • 10 Bill Bess Drive • Scott City, MO 63780
573-264-4045 Fax 573-264-2727

November 20, 2001

U. S. Army Corps of Engineers, Northwestern Division
Missouri River Master Manual RDEIS
12565 West Center Road
Omaha NE 68144-3869

Dear Sir or Madam:

On behalf of the Missouri Port Authority Association (MPAA), representing thirteen local port authorities in the State of Missouri, I would like to convey our position on certain elements that might be contained in the proposed master plan for the Missouri River.

1. We are opposed to higher reservoir levels in the Upper Basin lakes. Increased reservoir levels reduce the water commitment to Lower Basin states including Missouri. Irrigation, navigation, drinking water, and utility operations can be negatively impacted by this reduced commitment.

WS 11

2. We are opposed to a spring rise that can result in flooding and inland drainage problems.

FC 8

3. We are opposed to reduced summer flows that will result in a split navigation season (likely ending Missouri River navigation altogether), negative impacts on Mississippi River navigation, and water quality standard problems for utilities.

Nav 12
Miss 4
MoPower 1

4. We believe adaptive management creates too much leeway for the Corps to adjust river management, and specifically flow management, without input from the general public.

Other 10

5. We support species habitat restoration, but it should not place people or their livelihood in jeapordy. There are mitigation projects and proposals which offer substantial benefits without the adverse consequences associated with flow management proposals.

WRH 6
EnSp 18

Thank you for the opportunity to comment.

Sincerely,
MISSOURI PORT AUTHORITY ASSOCIATION

Dan Overbey
Vice President

MASTERMANUAL NWD02 L0400005

From: Jim Hurm [JHurm@simpco.org]
Sent: Wednesday, February 27, 2002 11:20 AM
To: Mastermanual
Subject: My comments on the Missouri River Manual

Missouri R letter.doc

Please accept the attached letter as my comments on the proposed changes to the Missouri River Master Manual.

1

SIOUXLAND INTERSTATE METROPOLITAN PLANNING COUNCIL

507 - 7TH STREET, SUITE 401
P.O. BOX 447
SIOUX CITY, IOWA 51102-0447
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E-MAIL simpco@simpco.org

February 27, 2002

U.S. Army Corps of Engeners, Northwest Divesion
Missouri River Master Manual RDEI
12565 West Center Road
Omaha, NE 68144-3869

Dear Corps Representatives,

You have surely received many communications relating to the potential devistating effects of the proposed changes to the Master Missouri River Management Manual. From my position I know there is great concern for this attempt to atone for the actions of our forefathers. Containing the river to a narrow area may seem like a mistake now, but a quick study of our history will remind us of the devistating floods that hit this area every few years before the dam project. I would like to suggest a more practical approach.

At this time environmental, economic, and human concerns can best be addressed by careful, longterm, balanced study of environmental and other issues. In addition we can be proactive by establishing a program of utilizing conservation tools to work in partnership with land owners as well as local and regional governments to mitigate the devistating loss of wetlands over the decades.

Other 7,10

The proposed changes to the Missouri River Management Plan would likely result in many millions of dollars spent by the federal government either in damages or in attorneys fees in attempting to avoid payments for damages. If the changes take effect there will be many situations facing the federal government with potentially high price tags:

Other 7

- Nearly a million and a half acres of farmland will be affected by potential flooding and drainage problems from increased spring flow.

FC 8
IntD 8
GW 7

- Farmers will pay increased transportation costs for rail and truck as the barge industry closes down partially or fully.

Nav 7, 12

- Drinking water from city and private wells that utilize the Missouri River's bed formation for their water supply may be affected as water levels affect groundwater and contaminants near well fields.

WS 11

L0500001

MID-WEST ELECTRIC CONSUMERS ASSOCIATION

To: U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

From: Thomas P. Graves

Re: RDEIS Master Manual

Date: Thursday, February 28, 2002

I am writing on behalf of the Mid-West Electric Consumers Association to provide comments on the Revised Draft Environmental Impact Statement (RDEIS) for the revision of the Missouri River Water Control Manual (Master Manual).

Mid-West was founded in 1958 as the regional coalition of consumer-owned electric utilities (rural electric cooperatives, municipal electric utilities, and public power districts) that purchase hydropower generation at federal multi-purpose projects in the Missouri River basin under the Pick-Sloan Missouri Basin Program.

Mid-West and its members recognize the daunting task the Corps faces in attempting to revise the Master Manual to address threatened or endangered species on the Missouri River while serving authorized project purposes. However, the RDEIS relies upon an analytic methodology – National Economic Development (NED) – that does not accurately portray the impacts of proposed flow changes proposed in the RDEIS.

HPower 12

We understand that the scope of the NED focuses on national benefits and costs. However, in so doing, the NED apparently does not recognize statutory mandates of the Western Area Power Administration (Western). Western is not authorized to construct power plants. It is responsible for the marketing and transmission of power generated at federal facilities. Absent construction of new federal power resources in the region, generation lost as a result of new flow regimes on the Missouri River is lost forever to Western.

4350 WADSWORTH BLVD., SUITE 330, WHEAT RIDGE, COLORADO 80033, TEL 303-463-4979, FAX 303-463-8876

- Local governments and private individuals have significant interest in recreation areas such as docks and in an appealing river front to attract economic development. These will be effectively shut down with a low flow summer.

Rec 4 & 5

- Low summer flows will result in a reduction in generation of electricity from Missouri River dams. River levels that are too low in the summer, resulting in high river temperatures, will cause the shut down of electric generating facilities. Electric rates will rise… as will the likelihood of a class action suit.

HPower 11
MoPower 1

- During high rise in the spring, cities will need to contend with stormwater backup which will likely result in localized flooding and lawsuits.

FC 8

My suggestion is to estimate how many tens of millions, or more likely, hundreds of millions of federal dollars will be spent on paying damages or legal fees over the coming years. Then plan to spend all or part of that amount on wetland restoration and mitigation projects. This would be a much more productive way to spend those dollars. It will actually mitigate some of the damage humans have caused over the decades since the federal government took on the task of taming the Missouri.

Other 70

As the Executive Director of SIMPCO, the Council of Governments serving counties in Iowa, Nebraska and South Dakota, I offer our assistance. We could partner with the Army Corps of Engineers to do a survey of property owners in the Missouri River valley in our region to determine their interest in the use of conservation easements or other conservation tools to restore much of the land to near its original state. We would be able to identify those areas with the greatest potential. Then let the mitigation and restoration begin, using dollars diverted from damage claims and lawsuits that the proposed changes would surely cause.

Other 170

Thank you for this opportunity to comment of the proposed changes to the Missouri River Plan.

Sincerely,

James C. Hurm, DPA
SIMPCO Executive Director

Western's only alternative will be to spread costs of generation, transmission and marketing over much lower generation levels.

While the NED may be a valuable tool in making long-term assessments of impacts, it fails to capture the near and mid-term very real effects of proposed flow regimes in the RDEIS. HPower 12

Many of the proposed flow changes would shift generation of hydropower from the summer to the spring. This shift in generation has immediate financial consequences for federal firm power customers. During the spring, energy prices are typically low, since that is not a peak demand period. In the summer, demand for power is at peak, and energy prices are at their highest. HPower 12

The NED does not capture this difference, in part because it does not evaluate impacts based upon market conditions. The NED assumes construction of new generation as the alternative to reduced generation at Missouri River main stem dams. However, the NED does not recognize the availability or cost of transmission. This is a critical component to a realistic assessment. HPower 12

While construction of new generation to offset lost hydropower generation may occur in the long term, that generation will be built by parties other than the Corps, the Bureau of Reclamation or Western. In any event, construction of new power plants is simply not possible in the near to mid term. Bringing a new power plant online is a five to ten year process; in the meantime, the energy market is the only alternative. Furthermore, the Western Area Power Administration (Western) is not authorized to construct thermal generation; and would not do so in any case, since the hydropower lost by shifting generation patterns from summer to spring is primarily surplus sales on the "spot" market to electric utilities in the region. The effect of the changed generation pattern on Western is an immediate loss of revenues, which will mean, in turn, an immediate increase in the firm power rate for federal power customers that cannot be mitigated. The NED does not recognize the real differences in the seasonal value of hydropower. By ignoring any marketplace analysis, the NED vastly overstates hydropower benefits under proposed new flow regimes. HPower 12

The NED analysis does not properly analyze the hydropower capacity impacts, further distorting the issue noted above. The magnitude of capacity changes should be based on the nature of capacity needs of the region. A meaningful analysis of capacity must be based upon the ability to generate during the peak summer months (July and August). The value of that capacity must be assessed upon the amount of energy that is available during that same period. HPower 12

It is also not clear whether or not the NED takes into account generation lost to greater water impoundment in upper basin reservoirs (when compared to the CWCP) – water that would have been used for hydropower generation. HPower 12

The NED does not recognize that the Western Area Power Administration – the federal agency responsible for marketing federal generation under the Pick-Sloan Missouri Basin Program – does not have the same mandate as many electric utilities. Western can only market federal generation. It has no responsibility for meeting load growth, etc. Thus, in establishing its marketing plan, Western has taken a very conservative approach in determining power allocation levels that Missouri River hydrology can support. That conservative marketing approach has meant that in normal or good water years there is substantial hydro generation available for sale on the spot market to electric utilities in the region. The generation surplus to Western's firm power contracts is an important resource to all electric utilities in the region and a significant part of Western's Pick-Sloan revenues, which determine the firm power rate for Western's customers. The absence of Western's surplus sales during the summer will probably have an impact on power costs during those months. HPower 12

Given the inadequacies of the NED in its ability to accurately analyze hydropower impacts, the Corps should give greater weight to the analysis of the Western Area Power Administration in assessing impacts on hydropower generation. We believe that Western, as a cooperating agency, would be willing to provide additional input to more accurately determine the real impacts of proposed changes to the Master Manual. HPower 12

The RDEIS must look at impacts of proposed flow regimes (most notably, Gavin's Point) on regional power supply. The impact on regional power supply is not limited to lost hydro generation during peak summer months, but extends to thermal power plants along the Missouri River that use river water for cooling. Low river stages downstream of Gavin's Point could have serious consequences for thermal power plants, which may be forced to curtail generation to meet environmental temperature restrictions on discharge back into the river. MoPower 1

While Mid-West recognizes the standards for analysis that are imposed on the Corps for evaluating the alternatives, we believe that the existing evaluation is simplistic, and does not address realistic thermal alternatives. For this reason, Mid-West would ask that a financial/regional impact analysis be presented in the RDEIS with equal emphasis to disclose the full impacts on those within the basin. MoPower 1

Reduced generation from existing thermal power plants, along with a loss of Western Area Power Administration surplus sales during summer months could significantly tighten availability of resources and put upward pressure on market prices. MoPower 3

In attempting to meet requirements of the Endangered Species Act (ESA), the Corps does not appear to have considered some mitigation measures that would provide equal or greater benefits than proposed mitigation measures. We EnSp 28

understand that there are lands along the Yellowstone River under the jurisdiction of the United States Bureau of Reclamation that could provide benefits to the pallid sturgeon at a lesser cost than the Corps' proposed spill at Ft. Peck (intended to raise water temperatures in the river for the pallid).

EnSp (con't) 28

We understand the difficult task confronting the Corps in dealing with ESA concerns. Mid-West and its members share the concern of others about threatened and endangered species on the river. However, the Endangered Species act does permit consideration of economic impacts in deciding upon mitigation measures. The spills at Ft. Peck will result in lost generation at Ft. Peck. Improving habitat on the Yellowstone, where the pallid sturgeons are known to be, would appear to offer a lower cost alternative with a higher probability of success.

EnSp 28

From the perspective of federal power customers, the Modified Conservation Plan (MCP) appears to be the best alternative. However, if that would result in a jeopardy opinion by USFWS, no purpose is served. However, it may be that with some modifications, the MCP would meet the concerns USFWS and avoid adverse impacts to other beneficiaries. We would urge the Corps to conduct further discussions with USFWS to see if some minor variations on the MCP would meet USFWS's concerns. In any event, whatever alternative is selected by the Corps should include a stated policy to minimize spills at main stem dams.

Other 7, 171

Thank you for considering these comments.

Sincerely,

Thomas P. Graves

Thomas P. Graves
Executive Director

P.001/002
L0500002

FEB-28-2002 13:29 FROM:SD REA 16052244430 TO:402 697 2673 P.002/002

SOUTH DAKOTA RURAL ELECTRIC ASSOCIATION, INC.

SDREA Lighting the way for you

February 25, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of its 31 rural electric member systems, the South Dakota Rural Electric Association (SDREA) submits our comments concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS).

SDREA transmission and distribution member systems rely on Missouri River hydroelectric power supplied through firm power contracts with the Western Area Power Administration. Although the allocations differ for each system, on average this power represents over 40% of the requirements of customers served by our members. Obviously, any decisions regarding the future management of the Missouri River system will have a direct and potentially significant impact on customers served by our member systems. Those customers represent approximately 40% of the population of South Dakota and span the entire state.

HPower 12

We are concerned about the Corp's use of the National Economic Development (NED) model to assess the impacts of proposed flow changes to the main stem dams. The application of the national model fails to adequately quantify the regional and capacity changes and also fails to accurately assess the economic impacts of shifting generation to different times of the year. While the NED analysis suggests minimal economic consequences, an impact assessment conducted by the Western Area Power Administration (WAPA) indicates a dramatic revenue impact that would require an increase in power rates. The disparity between the data contained in the NED and that in Western's analysis should serve as justification to question the applicability of the national model data. Certainly, data extracted from a region specific analysis should be given greater weight than that extracted from a national model.

HPower 12

Although we understand the difficulty the Corps is faced with in attempting to balance competing interests, we do not believe power related issues have been adequately evaluated. Ultimately, the public interest will only be served if the management plan balances the benefits and burdens among all project purposes.

HPower 12

Sincerely,

Audry Ricketts

Audry Ricketts
General Manager

222 WEST PLEASANT • P.O. BOX 1138 • PIERRE, SD 57501-1138
PH: (605) 224-8823 • TELEFAX (605) 224-4430

Your Touchstone Energy® Partner

MASTERMANUAL NWD02 L0500003

From: Bindel, Jerry [jbindel@aeci.org]
Sent: Thursday, January 10, 2002 3:14 PM
To: 'mastermanual@usace.army.mil'
Subject: Comments on Missouri River Master Manual


Mo. River Master Manual Commen...

Please find attached comments prepared by Associated Electric Cooperative, Inc., P.O. Box 754, Springfield, MO 65801. Contact: Jerry E. Bindel, 417-885-9272, or jbindel@aeci.org.

<<Mo. River Master Manual Comments.doc>>

Comments prepared by Associated Electric Cooperative, Inc. on the August 2001 Missouri River Master Manual –Revised Draft Environmental Impact Statement

The Missouri based three-tier system of generation, transmission and distribution cooperatives serve almost 1.5 million people primarily in rural Missouri. As cooperatives, our customers are also our owners. Our sole mission as an integrated non-profit system is to supply reliable electric power to our member-owners at the lowest cost possible.

Associated Electric, headquartered in Springfield, Missouri, operates electric generation facilities that would be affected by changes in the Missouri River Management Plan. Both this water supply from, and ability to discharge to, the Missouri and Mississippi Rivers are potentially jeopardized by alternatives to the Current Water Control Program. Additionally, as an integrated system we are dependent on the regional power supply grid to effectively supply our members' electric power needs. There are numerous power plants, from north of Kansas City to south of St. Louis, owned by other companies that could be adversely affected by changes in the Missouri River flow, especially during the high demand summer months. As such, changes in the Missouri River Management Plan that adversely affect these other generating plants on the river indirectly affect our members and us.

MoPower 1, 3

Additionally, as members of the rural community of Missouri, we are concerned about the general adverse economic impact on our members who farm and earn their livings along and in the vicinity of the Missouri River. Reduced or eliminated barge operations for the shipment of grains is a concern. Increased potential for flooding during the spring planting and early summer growing seasons is a concern. Even in years of minimal flooding, high spring releases and river flows can cause drainage problems making it difficult or impossible to work and plant fields.

Nav 7
FC 8
IntD 8
GW 7

The cooperative systems of Missouri are concerned about the potential adverse affects alternative river management plans would have on our ability to supply reliable power to rural Missouri, as well as the potential impacts to our member owners along the Missouri River. The following briefly discusses some of our more specific policy and operational concerns in greater detail.

The primary issue underlying all of our concerns is the shift in benefits of water to the upstream Missouri River Basin states. Upstream states have, and continue to, encourage increased total system storage in the upper lakes to support primarily recreational uses. With this increased storage, increased dependency for other uses develops, such as new and expanded water supplies and agriculture uses. These increased dependencies will restrict the use by, and impact the future welfare of downstream states. Further, we oppose any out-of-basin transfers, such as the Garrison Diversion. These transfers negatively impact all designated uses of the Missouri River and have the potential for significant environmental impact in the basin to which the transfers are made.

Other 15, 172

We are in disagreement with the Corp's analysis methodology of their vatious alternative management plans. The Corps has averaged Missouri River flows over very long periods of time. This approach "averages out" extremes, both floods and droughts. Indeed, it is our understanding that the 1993 flood event doesn't even show up in the Corps analysis. Unfortunately, it is the extremes, not the averages that affect people's lives. The Corps should thoroughly consider the potential extreme events under each of its alternative scenarios.

FC 15

The Current Water Control Plan should not be abandoned because of the Biological Opinion prepared by the U.S. Fish and Wildlife Service. The Opinion is flawed in that the Fish and Wildlife Service failed to consider economic impacts before designating critical habitat. We are not opposed to protection of threatened or endangered species and we support habitat restoration. However, we must realize that the Missouri River has been significantly modified to a highly regulated water body that provides enormous benefits to the economy of the United States. These benefits must be considered when evaluating biological impacts on the Missouri River.

EnSp 28

The concept of Adaptive Management on the Missouri River is unjustified and goes well beyond the Corp's authority. The concept offers political opportunity for modification to the Master Manual without proper and required public review.

Other 10

President Bush instructed federal agencies, through issuance of Executive Order 13211, to review the potential energy impacts of regulatory actions under their jurisdiction. The Missouri River management Plan alternatives have not been evaluated and we request the Corps to conduct a review of the energy impacts of each alternative as required by Executive Order 13211. Any plan that hinders electric power generation, either hydroelectric, fossil fuel, or nuclear, is contrary to President Bush's Energy Policy and should be rejected.

HPower 21

The electric cooperatives own and operate two electric generating plants that are dependent on water from the Missouri River. Chamois Power Plant is located east of Jefferson City, Missouri on the Missouri River and New Madrid Power Plant, located on the Mississippi River below St. Louis. These facilities are dependant on river water for condenser cooling. Low flows not only impact operations by the limited water level available for intake but also low river stages during late summer and early fall coincide with elevated river temperatures decreasing the efficiency of the plant and increasing the likelihood of effluent temperature violations.

MoPower 1

New Madrid Power Plant, constructed in 1972 had operated for 28 years without the need to limit or curtail operations due to low Mississippi River levels. Since January 1, of 2000 the plant has had to implement low water operations for 33 days. Associated Electric has spent over 4.6 million dollars for low water operations. These low water measures will however, only assure plant operations to a river stage two and a half feet below the original critical elevation.

Miss 35

L0500004

BASIN ELECTRIC POWER COOPERATIVE

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503-0564
PHONE 701-223-0441
FAX: 701/224-5336

February 27, 2002

Ms. Rose Hargrave
U.S. Army Corps of Engineers, Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Attn: Missouri River Master Manual RDEIS

Dear Ms. Hargrave:

Basin Electric Power Cooperative appreciates the opportunity to submit comments about impacts of the set of six alternative operating plans for the Missouri River Master Water Control Manual – the Current Water Control Plan (CWCP), a modified conservation plan (MCP), and four alternatives that add various Gavins Point Dam release changes to the MCP. Basin Electric's comments will focus on the impacts to the federal hydropower plants, as well as the impacts to the thermal power plants that use Missouri River water for cooling.

First, the National Economic Development (NED) model used in the Corps' analysis does not adequately assess the impacts of the potential flow changes to the CWCP.

The NED analysis, which shows a greater benefit from potential flow changes to the CWCP, contrasts with the impact assessment conducted by the Western Area Power Administration, which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment does not fully recognize this, noting that those impacts would only take place "[I]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP . . ." The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. WAPA does not have discretion to change repayment schedules because of different river operations.

HPower 12
WAPA 4

The NED analysis appears to incorrectly quantify the capacity impact of changes to the Missouri River mainstem dams because of an over-estimation of the *magnitude* and the *value* of the capacity. The *magnitude* should be based upon the nature of capacity requirements of the region, as well as the nation as a whole, and these requirements are primarily based on summer time peaks. Any meaningful capacity must be based upon the ability to generate during the peak summer months of July and August. Additionally, the *value* of the capacity should be based upon the amount of energy that is available with the July and August capacity, and since the energy availability actually decreases in July and August, the valuation should be based upon the cost of combustion turbines which are a "pure peaking" resource. Please refer to Table 7.10-2 and Table 7.10-3 of the Revised Draft Environmental Impact Statement for verification of the nominal amount of increased July and August hydropower capacity and the *reduced* amount of energy in those months.

HPower 12

Additionally, the higher average reservoir levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the

During this past summer of 2001 river water temperatures during August, at the Chamois Power Plant, approached a point at which plant operations would have been restricted in order to comply with the NPDES Permit effluent limitation. During the second week of August river conditions changed which decreased the ambient river temperature. This issue is an annual one that potentially limits generation at this facility. Chamois Power Plant is dependent on a consistent water supply from the Missouri river to assure continued operations. Due to the age and small size of Chamois Plant, modifications for low water operations, such as cooling towers and a groundwater water supply system would be cost prohibitive and result in permanent closing of this facility.

MoPower 1

A lower basin water commitment is necessary to protect the present uses of the Missouri River for electric generating facilities, including those located on the Mississippi River below St. Louis, and assure a resource for future necessary electric generating capacity. The electric cooperatives support neither a reduced summer flow below 40,000 cfs nor a split navigation season.

MoPower 1
Miss

Missouri's rural electric cooperatives and our rural members rely on the Missouri River. Any changes in the management plan for the river must consider not only ecological impacts, but also the impacts on families that will be affected by these changes. We concur with and support the comments submitted to these proceedings by the State of Missouri and the Coalition to Protect the Missouri River.

MoPower 3

greater generation efficiency at the higher head levels. It does not appear that the NED analysis considers this impact. HPower 12

Secondly, the Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We believe that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices. HPower 12

Nebraska Public Power District's (NPPD) work on the potential impact to regional power supply is the basis for our third point. Basin Electric believes that the Corps' analysis does not adequately address impacts on regional power supply, specifically in this case, the impact on thermal electric plants that use Missouri River water for cooling. MoPower 3

The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District analysis indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. It is important to note that the Cooper Nuclear Station is only one of many thermal units on the Missouri River that depend upon cooling water from the river. MoPower 1

We recognize this is a difficult issue to analyze, but the NED analysis assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year, particularly in the critical summer months of July and August. This is particularly concerning because of the coincidence of high summer loads (due to high ambient air temperatures) and the increased probability of extreme water temperatures in the Missouri (again due to high ambient air temperatures). This coincidence of high electrical usage with reduced availability of thermal generation does not bode well for reliability of electrical power supply. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, the probability of occurrence, as well as where additional generation might be available. HPower 12 MoPower 1

The NED analysis ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition, the impact on regional power pricing resulting from reduced water flows is absent. HPower 12

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source. HPower 17

Basin Electric shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes. EnSp 28

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower is the "loser" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable. HPower 22

The Endangered Species Act does permit consideration of economics in making decisions about remedies for threatened and endangered species. The Corps apparently did not look at lands on the Yellowstone River under the jurisdiction of the United States Bureau of Reclamation in evaluating actions to assist the pallid sturgeon. It has been suggested that a nominal investment in improving habitat there would provide greater benefits to the pallid sturgeon than spilling water at Fort Peck and other habitat activities that might be conducted on the Missouri. In short, the Corps appears to have selected an alternative that is more expensive and has less certainty of improved conditions for the pallid sturgeon than other possible alternatives. EnSp 28

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Sincerely,

Ronald R. Harper
CEO and General Manager

tsc/dz
cc: Tom Graves
Class A Managers
Board of Directors

FEB-27-02 WED 14:42 S.C.P.P.D. FAX NO. 1 402 439 7000 P.01 L0500005

STANTON COUNTY PUBLIC POWER DISTRICT
807 Douglas Street, P.O. Box 319
Stanton, Nebraska 68779-0319
— For —
Emergency Service or Trouble Call

Call Telephone Number 402-439-2228
Toll Free Number 1-877-439-2300
Holidays, Weekends and After Hours
Call Telephone Number 402-439-2300

February 27, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Gentlemen:

As a consumer and a Public Power District Director, I am very concerned about the effect of the proposed flow changes on the Missouri River.

The National Ecomonic Development (NED) model appears to have failed to take into account the impact of reduced flows at the times specified. The lakes would be holding back water that has been used for power generation in the summer at a time when power demand is at its highest. The reduced flows could, also, have a devastating effect on generating plants along the river that use river water for cooling.

HPower 12
MoPower 1

We realize the concern for the endangered species. We, also, realize we are not the only interests involved, but we are one of the few that actually pays for the water use.

We hope the Corp could develop a better balanced, more economical plan that would better serve our Missouri River Basin.

Sincerely,

Dale Barth

Dale Barth
President, Stanton County Public Power District

FEB-27-02 WED 15:30 S.C.P.P.D. FAX NO. 1 402 439 7000 P.01/03
L0500006

STANTON COUNTY PUBLIC POWER DISTRICT
807 Douglas Street, P.O. Box 319
Stanton, Nebraska 68779-0319
— For —
Emergency Service or Trouble Call

Call Telephone Number 402-439-2228
Toll Free Number 1-877-439-2300
Holidays, Weekends and After Hours
Call Telephone Number 402-439-2300

February 26, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Gentlemen:

The Stanton County Public Power District (SCPPD) serves approximately 3,000 rural end-use customers with a total annual energy usage in excess of 50,000-megawatt hours. These requirements are purchased through the Nebraska Electric Generation and Transmission Cooperative, Inc. (NEG&T) from Western Area Power Administration and the Nebraska Public Power District.

SCPPD has been following the Missouri River Master Manual Review process for sometime, and we had members of our Board of Directors participate in the meeting held in Omaha on January 22, 2002, which was arranged by the Mid-West Electric Consumers Association.

Because of the potentially large impact on our end-use customers, SCPPD is very apprehensive and concerned that the analysis of the Missouri River cooling of both hydro generation and thermal generation is not adequately being addressed.

MoPower 3

The National Economic Development (NED) model, used in the Corps' analysis, is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP). The National Economic Development (NED) model does not thoroughly or properly assess the impacts in this region. It fails to identify lost hydro energy generation in the summer during times when costs for electric energy are the highest. In addition, the thermal generation cooled by the Missouri River, may suffer reduced or even total loss of capacity if the reduced summer flows occur during a time when temperatures are high and flows are already limited. If the loss or reduction in

HPower 12

hydro and thermal generation should occur simultaneously with other generation or transmission problems in the region (caused by summer storms or equipment failures due to high loading times that are normal for this region), the results could be significant both financially and from the actual inability to serve electric loads. The NED does not recognize these factors.

The NED appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels. The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration, which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment barely recognizes this. The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. WAPA does not have discretion to change repayment schedules because of different river operations. The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than does the NED. It is our understanding that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices. I would urge the Corps to use them as a resource.

HPower 12
WAPA 4

The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition, the impact on regional power pricing resulting from reduced water flows is completely absent.

HPower 12

The Corps analysis does not adequately address impacts on regional power supply – both hydro generation and thermal electric plants that use Missouri River water for cooling. The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages, sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source.

MoPower 1, 3

While it is a difficult issue to analyze, the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the

HPower 12
MoPower 3

year. That being the case, it is important to know how <u>much</u> generation might be affected by proposed flow changes on the Missouri, as well as where <u>additional</u> generation would be available.

SCPPD shares the concerns of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes. I realize it is a difficult task to balance the various functions desiring benefits from the flows in the Missouri River. Obviously hydropower and navigation are the losers in the current RDEIS proposal, whereas others experience a net gain in benefits. I am concerned about habitat for threatened or endangered species and recognize the strength of the Endangered Species Act. However, I feel that the Corps would be extremely unfair by providing protection for endangered species without properly regarding the serious economic impacts on other project purposes. The Corps seems to have selected a method that is more expensive and has a greater uncertainty of improved survival conditions for the pallid sturgeon than other more economic alternatives.

Other 7

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes. In our opinion, hydropower users, and potential thermal plant users, will receive an undue burden under the current proposal when considering that we are among the very few who actually contribute funds which ultimately provide the benefits received, and SCPPD respectfully requests that the Corps develop a management plan that better balances the burdens and benefits for <u>ALL</u> of the project purposes.

Other 7

Sincerely,

William Duane Johnson, General Manager
Stanton County Public Power District

Copies: U.S. Senator Chuck Hagel
U.S. Senator E. Benjamin Nelson
U.S. Congressman Douglas Bereuter
U.S. Congressman Tom Osborne
U.S. Congressman Lee Terry
Bruce Pontow, NEG&T
Tom Graves, Mid-West Electric Consumers Association

02/28/02 THU 10:59 FAX 14063679306 VALLEY ELECTRIC COOP 001/003

L0500007

VALLEY ELECTRIC COOPERATIVE INC.
P.O. BOX 951
GLASGOW, MONTANA 59230
PHONE: (406) 367-5315
FAX (406) 367-9306

FAX TRANSMITTAL

Date: 2-28-02 402-697-2504

TO: USCOE - Missouri River Master Manual RDEIS

From: Ronald Wallem

Subject: Comments

Number of Pages: 3
(Including cover sheet)

Remarks:

A Touchstone Energy® Cooperative

02/28/02 THU 11:00 FAX 14063679306 VALLEY ELECTRIC COOP 002/003

US Army Corps of Engineers
ATTEN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3860

February 28 ,02

Dear General Fastabend:

I would like to submit the following comments as potential impacts on federal hydropower plants and thermal plants that use Missouri River water. I serve as a trustee on the following ; Boards, Midwest Electric Consumers Association, Denver, Colorado; Central Montana Electric Power Cooperative, Great Falls, Montana and Valley Electric Cooperative Glasgow, Montana. My responsibility as a board member include fiduciary and is the reason for my submitting comments. The impacts to hydropower will adversely effect power generation and most likely increase the cost of power due to manipulating the flows, which brings me to the reason for my concern as a board member.

HPower 22

Increasing power costs to the consumers that I represent as a trustee of the boards cited above, could have devastating impacts due to the extreme drought conditions in several states served by these cooperatives. Spring runoff projections for the Missouri River Basin could mean record low flows are likely to occur and with low reservoir levels, do not paint a very rosy picture for the farmers and ranchers that are not in financial condition to absorb higher power costs, which could occur for replacement power due to the volatility of power market. They are already in financial trouble due to the low prices for their commodities, which benefits our nation by having the lowest food costs in the world. Therefore, I believe it is absolutely essential to keep our Pick Sloan Power, at cost based rates set under the present operation of the dams.

I would respectfully like to submit the comments in the attachments along with my comments above for the RDEIS.

Respectfully,
Ronald J. Wallem
PO Box 216
Fort Peck, MT 59223

02/28/02 THU 11:00 FAX 14063679306 VALLEY ELECTRIC COOP 003/003

Issues for Inclusion in RDEIS Comment Letter

- **The National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP).** | HPower 12

The NED, appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels. | HPower 12

The NED is not able to adequately recognize the impacts of shifting generation to different times of the year. The NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is low and can be met with other resources. | HPower 12

The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration, which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "[I]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP . . ." The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. WAPA does not have discretion to change repayment schedules because of different river operations. | HPower 12 WAPA 4

The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices. | HPower 12

- **The Corps analysis does not adequately address impacts on regional power supply – both hydro generation and thermal electric plants that use Missouri River water for cooling.** | HPower 12 MoPower 3

We recognize that this is a difficult issue to analyze, but the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, as well as where additional generation is available. | HPower 12 MoPower 3

The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition the impact on regional power pricing resulting from reduced water flows is completely absent. | HPower 12

The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. | MoPower 1

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source. | HPower 17

L0500008

Slope Electric Cooperative Inc.
P.O. Box 338
New England, ND 58647-0338
Telephone: (701) 579-4191

February 27, 2002

U.S. Army Corps of Engineers, Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Attention: Missouri River Master Manual RDEIS

Slope Electric Cooperative management and directors would like to comment on the Environmental Impact Statement of the Missouri River Master Manual Review.

We have several areas of concern, most strongly concerned with hydropower and the effect of the proposed flow regimes in the Environmental Impact Statement.

WAPA rates will have to be raised

WAPA has conducted an impact assessment that is quite different form the National Economic Development model. What is questionable is the impacts of shifting generation to different times of the year. In the summer, the system has peak demand and the value of power produced is at its highest. Shifting generation from the summer to the spring will have a dramatic revenue impact, and higher rates for WAPA power will have to be set.

We would like to see the Corps of Engineers give greater weight to the WAPA input on hydro generation on the river, as well as electric utility practices that have impact. | HPower 12

Regional power supplies will be affected

Hydro generation and use of Missouri River water for cooling of thermal electric plants are both complex issues that are inadequately addressed. Consulting with each generation source along the river and understanding there power supply and discharge temperature needs will incorporate all the necessary data into the study. | MoPower 1

Better balance in the benefits and burdens to all parties

A management plan for the Missouri River has an impact on habitat for threatened and endangered species. I t also has an impact on the economics of a large region. Balancing the needs of all is preferable to creating undue burdens on one segment of those who depend on the Missouri River for basic needs. | Other 7

In summary, Slope Electric's board and management would like to see a wider scope of information considered in preparing this Environmental Impact study, and a philosophical stance on the part of the Corps of Engineers that balances the needs of all.

We put Value on the line

SENT BY: N C UTILITIES; 10-27- 2 10:05; 4028735397 => 402 697 2673; #1/1

L0500009

NEBRASKA CITY UTILITIES
100 CENTRAL AVENUE NEBRASKA CITY, NE 68410-0670
LEROY J. FRANA, Manager
Telephone: (402) 873-3353
Fax: (402) 873-5397
Email: ncu@alltel.net

February 26, 2002

U.S. Corp of Engineers
Northwest Division
ATTN: Missouri River Master Manual RDEIS

RE: Missouri River Master Operation Plan

Dear Sirs:

I am writing in regards to the purposed changes in the operational flows of the Missouri River as proposed with the new Master Plan being considered by the U.S. Army Corp of Engineers. The City of Nebraska City through it's Municipal Utility Department, Nebraska City Utilities, provides water to the City of Nebraska City and Otoe County Rural Water District 1 from nine wells located just north of the Nebraska City Marina operated by the Nebraska Game and Parks Commission. The flow levels of the Missouri River affect the groundwater depth of each of our wells in this wellfield. Altering the flows on the Missouri River during different periods will adversely affect the gallons per minute available from each of these wells.

WS 11

Nebraska City Utilities would like to take this opportunity to go on record opposing any change in operation of the Missouri River since it would adversely affect the water supply of the City. We would appreciate any additional information as it becomes available through any of the decision making processes undertaken by the Corp of Engineers. I can be reached at (402) 873-3353 or by E-mail at nculeroy@alltel.net.

Thank you for considering the City of Nebraska City and the surrounding area and the affect that the operation plan would have on it.

Sincerely,

Leroy Frana
General Manager
Nebraska City Utilities

LF:tmr

L0500010

MISSOURI RIVER ENERGY SERVICES℠
3005 West Russell
PO Box 84610
Sioux Falls, SD 57118-4610
Telephone: 605.338.4042
Fax: 605.334.9753
www.mrenergy.com

February 25, 2002

U.S. Army Corps of Engineers (USCOE)
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Gentlemen:

Missouri River Energy Services (MRES®) is providing comments on the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS) for your consideration. Please consider these comments while identifying a Selected Plan to be included in the Final Environmental Impact Statement (FEIS) to be released in May of 2002.

MRES provides power supply for 55 member cities in the states of Iowa, Minnesota, North Dakota and South Dakota. All of its 55 member cities have hydropower allocations from the Western Area Power Administration (WAPA). Collectively, these 55 MRES member cities receive over 310 MW of firm hydropower allocations and purchase nearly 20 percent of the firm energy marketed by WAPA in the Eastern Division of Pick-Sloan. On average, nearly 55 percent of a member cities power supply requirements are provided by WAPA hydropower. The remaining 45 percent is supplied by MRES through its power supply.

MRES has reviewed the USCOE RDEIS on the operations of the Missouri River. Although MRES and its members would rather see no reduction in the hydropower availability or no increase in the hydropower rates, it recognizes the conflicting goals of the multiple interests impacted by the operation of the river. Even the four states where MRES provides power to member cities take differing views of the proposed changes in river operation.

MRES can support changes to the Master Operating Manual (MOM) that include the Modified Conservation Plan (MCP) features outlined in the Revised Draft Environmental Impact Statement. Three of the four features of the MCP are acceptable to MRES including the drought conservation measure, Fort Peck flow changes, and unbalancing the upper three lakes.

MRES has concerns over the forth feature of the MCP which is the adaptive management. MRES understands that adaptive management is an overall strategy for dealing with change and scientific uncertainty. The concept promotes the testing of possible changes that may have a positive impact upon the river system. Operational changes could be made annually based upon new information available. MRES has a concern that changes in the operation of the river will take place without input from the hydropower users. The hydropower users need to be a part of the decision making process.

Other 10

The adaptive management approach has been implemented on the Colorado River system. The Grand Canyon Monitoring and Research Center (GCMRC) was established to implement the adaptive management and ecosystem science approaches called for in the 1992 Canyon

Other 10

Protection Act (GCPA), the Glen Canyon Environmental Impact Statement (GCEIS, 1995), and the Record of Decision (ROD, 1996). If an approach similar to this is undertaken for the Missouri River hydropower users need to be part of the decision making process. Decisions to be made include development of a clear mission statement and establishment of specific measurable goals.

ErSd 2

One issue not adequately addressed in the RDEIS is sedimentation. Increased sedimentation deposits in the river already are affecting generation availability during the coldest winter months. Eventually the increase in sedimentation will have a major impact upon the annual availability of hydropower generation, as well as recreation and other uses. Changes in river flows will undoubtedly have impacts upon where sedimentation deposits in the river. The Physical Resources Monitoring Program of the GCMRC on the Colorado River system includes monitoring of sedimentation. The Colorado River program recognizes that stream flow and its direct association with transport and deposition of fine and course sediments are clearly linked to dam operations. Dam releases and sedimentation storage in the river influence recreation activities, cultural resources, and power generation. The future operating plans of the Missouri River must also take sedimentation into consideration.

HPower 17

MRES is also willing to support changes to Gavins Point Dam releases requested by the U.S. Fish and Wildlife to avoid jeopardizing the continued existence of the pallid sturgeon, interior least tern, and the piping plover; three species that are protected under the Endangered Species Act (ESA). MRES only supports the Gavins Point Dam release option outlined in the RDEIS that will have the least negative impact upon the hydropower customers of WAPA (GP1528). Changes to flows at Gavins Point will have a direct impact upon power costs of MRES member cities. As noted in the RDEIS, reduced flows in the summer will require WAPA to purchase replacement power to meet its firm power contract obligations.

Other 3

However, if Gavins Point changes are part of the Selected Plan in the FEIS there needs to be a limit on how much change can be made through the adaptive management process without further public input. If no limits are placed upon the extent to which adaptive management changes can be made, the Selected Plan will have no meaning. A bandwidth should be set as a limitation on the extent adaptive changes can make without going through another environmental impact statement process.

MRES and its members look forward to reviewing the Selected Plan in the FEIS this summer. MRES will provide comments on the FEIS after our review.

Sincerely,

Thomas J. Heller, PE, MBA
Chief Executive Officer

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L0500011

U.S. Army Corps of Engineers, Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE. 68144-3869

February 25, 2002

Dear Sirs,

I want to address some issues about the Missouri River Master Manual Review of the revised draft environmental impact statement.

HPower 23

The higher lake levels proposed by the flow alternatives will mean loss of storage of water needed for generation of electricity. Even though a greater efficiency at the higher head level is projected, a loss of generation will exist.

HPower 12

This shifting of generation to different times of the year will have tremendous impacts on generation and cost.

HPower 12
WAPA 1

The National Economic Development analysis shows a greater benefit from the proposed flow than the Current Water Control Plan (CWCP) but the Western Area Power Administration (WAPA) assessment shows revenues severely affected by the higher power rates. The corps assessment states that "if" WAPA were to continue to pay the Federal Treasury at the rate it would under CWCP, those rates or repayment obligations are fixed by the statute and regulation WAPA can't change those rates.

MoPower 1

The changing of water flows on the Missouri will impact regional power supply, both hydro-generation and thermal electric plants that use the water for cooling.

MoPower 3
WAPA 2

It is being assumed that additional power generation will be needed at certain times of the year to offset loss of generation when the flows are controlled. It is a real concern for us to know how much additional generation is needed/where it will come from and at what price.

MoPower 3
WAPA 3

Transmission of electricity, if it's available, is another factor that needs to be addressed. Regional power pricing with reduced water flows has not been addressed. Nuclear power stations in Nebraska and Iowa will be severely impacted with lower river flows and may be shut down completely. With power contracts and uncertainty of power supply, or power costs, it's difficult to project these damages.

Other 7

We are concerned about providing a better habitat for the threatened and endangered species. The proposals considered by the corps seem unfairly directed toward the protection of threatened and endangered species without proper regard for serious economic consequences to the Missouri basin and the negative impacts on project purposes.

Other 7

Both hydropower and navigation are "losers" in the RDEIS. It seems to be an expensive way to provide uncertain remedies to improve conditions for the pallid sturgeon. We need to look for other ways to improve their habitat and balance the benefits for all.

Sincerely,

Marvin Klein, Director
Midwest Consumers Electric Coop
805 Eaton Street
Dunlap, Ia. 51529

L0500012

Woodbury

WOODBURY
RURAL ELECTRIC COOPERATIVE

RONALD A. KUNKEL, CED, EDFP
CEO/General Manager

1495 Humbolt Ave.
P.O. Box AG • Moville, Iowa 51039
Telephone: (712) 873-3125 • 800-469-3125
Fax: (712) 873-5377

February 22, 2002

E-Mail: mastermanual@usace.army.mil

FAX: 402-697-2504

U.S. Army Corps of Engineers, Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Attention: Missouri River Master Manual RDEIS,

Gentlemen:

Woodbury REC, headquartered in Moville, Iowa provides Missouri River hydro power via the Western Area Power Administration to approximately 2800 customers in Woodbury County, Iowa. We are providing comments to the Corp of Engineers on the RDEIS as follows:

- The National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP). — HPower 12

The NED, appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels. The NED is not able to adequately recognize the impacts of shifting generation to different times of the year. The NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is low and can be met with other resources. — HPower 12

The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration, which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "[I]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP . . ." The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. WAPA does not have discretion to change repayment schedules because of different river operations. — HPower 12, WAPA 4

The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices. — HPower 12

- The Corps analysis does not adequately address impacts on regional power supply – both hydro generation and thermal electric plants that use Missouri River water for cooling. — HPower 12, MoPower 3

We recognize that this is a difficult issue to analyze, but the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, as well as where additional generation is available. — HPower 12, MoPower 3

The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition the impact on regional power pricing resulting from reduced water flows is completely absent. — HPower 12

The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. — MoPower 1

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source. — HPower 17

- Mid-West shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes. — EnSp 28

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower and navigation are the "losers" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable. — HPower 22

The Endangered Species Act does permit consideration of economics in making decisions about remedies for threatened and endangered species. The Corps apparently did not look at lands on the Yellowstone River under the jurisdiction of the United States Bureau of Reclamation in evaluating actions to assist the pallid sturgeon. It has been suggested that a nominal investment in improving habitat there would provide greater benefits to the pallid sturgeon than spilling water at Fort Peck and other habitat activities that might be conducted on the Missouri. In short, the Corps appears to have selected an alternative that is more expensive and has less certainty of improved conditions for the pallid sturgeon than other possible alternatives. — EnSp 28

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Sincerely,

Ronald A. Kunkel, CEcD, EDFP
CEO & General Manager
Woodbury REC
1495 Humbolt Ave.,
Moville, Iowa 51039

RAK/rk

L0500013

Oahe Electric Cooperative, Inc.

102 S. Canford • PO Box 216 • Blunt, South Dakota 57522
Phone (605) 962-6243 • FAX (605) 962-6306

February 15, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of Oahe Electric Cooperative, Inc. (Oahe), I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). We ask this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps).

Oahe provides distribution services to 2,300 meters in central South Dakota. On Oahe's behalf, East River holds a contract with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem system. This portion of East River's bulk power supply constitutes approximately 40% of the total requirements of the customers served by the rural distribution systems associated with East River. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on the rural interests served by East River and its member systems.

For several years, East River has actively participated within the broader group of the region's non-profit utilities, which are associated through Mid-West Electric Consumers Association (Mid-West), in discussions with the Corps. Specifically, East River met with then Division Commander General Carl Strock on February 14, 2001, in Omaha and again with Corps officials in Omaha on February 22, 2002. In each of these forums, East River, along with other non-profit utilities which rely on the Missouri River for a substantial portion of bulk power supply, provided comments to the Corps on this issue.

Generally, we believe the Corps has not given adequate consideration to the consequences of the several options it is considering in relation to the effects on the customers of non-profit utilities, which rely on hydropower from the mainstem system. Further, we do not believe the Corps has given appropriate consideration to the repeated recommendations offered by East River and other non-profit utilities in the

HPower 12

Serving Hughes and Sully County

region concerning the regional impacts on power supply, which may occur as a result of the potential actions by the Corps.

We offer the following comments related to these concerns:

1. **NED Analysis versus Regional Obligations**: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as East River. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. We are mystified by the use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We request the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation.

HPower 12

2. **NED Power Value Analysis**: For alternate power supply options, it is our understanding the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. We strongly recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods.

HPower 12

3. **Impacts on Downstream Power Plants**: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. The current Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period.

MoPower 1

L0500014

Codington-Clark Electric Cooperative, Inc.

P.O. Box 880
Watertown, South Dakota 57201-0880
Telephone: (605) 886-5848

February 15, 2002

U.S. Army Corps of Engineers
Northwestern Division
12565 West Center Road
Omaha, Nebraska 68114-3869

Subject: Missouri River Master Manual RDEIS

Greetings:

On behalf of Codington-Clark Electric Cooperative Inc. (Codington-Clark), I submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS).

Codington-Clark is a non-profit electric cooperative that provides retail electric service to approximately 2,800 member-consumers in the rural areas of primarily two counties located in northeastern South Dakota. Approximately 40 percent of the electricity needed by these consumers is supplied by Western Area Power Administration (WAPA) and generated at the Missouri River dams. Accordingly, the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct impact on the availability and cost of electric service for our electric cooperative's membership.

Generally, we believe the Corps has not given adequate deliberation to the consequences of the several options under consideration, especially as to the effects on customers of non-profit utilities, which rely on hydropower from the Missouri River system. Further, we believe the Corps has basically ignored the repeated recommendations offered by the non-profit utilities in the Upper-Missouri River Basin concerning the regional impacts on power supply, which are most certainly driven by actions of the Corps. HPower 12

Consequently, we offer the following comments:

- Codington-Clark's customers will pay significantly more for electric service if the Corps ignores WAPA's analysis which projects an average increase in WAPA's rates of $30 million if the Corps implements "spring rise" options.
- The Corps must work with WAPA and consider WAPA's input, which more accurately reflects the realities of hydro generation on the Missouri River and electric utility practices. HPower 18

The Power of Human Connections A Touchstone Energy® Cooperative

4. **Regional Power Impacts**: We have joined with Mid-West in requesting the Corps address impacts on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region. The Corps has at best offered only a cursory evaluation of this issue. HPower 17

Taken together, we do not believe the Corps' RDEIS has adequately evaluated or taken into consideration key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on full consideration of all of the impacts. HPower 12, 17

We acknowledge the difficulty the Corps faces in balancing the various competing interests in the region. However, before final decisions are reached, we believe all of the stakeholders' interests, including the obligations that are associated with power users which rely on the Missouri River for power supply, and the public must be satisfied that consequences of any Corps' decision are fully understood. HPpower 12

The options offered by the Corps in our view impose heavy burdens and risks on hydropower interests and substantially shift benefits to other interests. This significant unbalancing of benefits and burdens is not in the public interest and should not be the outcome of this process. Other 7

Sincerely,

Brad Scott
General Manager

- The Corps fails to evaluate or define the power availability and price volatility risks associated with implementing the proposed flow regimes, which result in reduced summer energy production and the likely loss of thermal generation by downstream power plants. HPower 17
- The Corps' options impose heavy burdens and risks on hydropower interests and substantially shift benefits to other interests, which should not be the outcome of this process. Other 7

We acknowledge the difficulty the Corps faces in balancing the competing interests in the region. However, before final decisions are reached, we believe the Corps and the public must fully understand the consequences of any decisions by the Corps and the effect on stakeholder interests, including the obligations associated with power users who rely on the Missouri River for affordable power supply.

Sincerely,

Gene C. Ward
General Manager

L0500015

METROPOLITAN UTILITIES DISTRICT
1723 HARNEY STREET
OMAHA, NEBRASKA 68102

THOMAS A. WURTZ
GENERAL MANAGER
(402) 449-8155
FAX: (402) 449-8166
e-mail: Tom_Wurtz@mudnebr.com

February 20, 2002

U.S. Army Corps of Engineers,
Northwestern Division
ATTENTION: Missouri River
Master Manual RDEIS
12465 West Center Road
OMAHA, NE 68144-3869

The Metropolitan Utilities District makes the following comments on the RDEIS for the Missouri River Master Water Control Manual update:

The Metropolitan Utilities District supplies potable water to over one-half million people in the Omaha metropolitan area. Two-thirds of our production capacity is provided by our Florence Water Treatment plant, which draws water out of the Missouri River at river mile 626. The management of the river affects us in many ways, both directly and indirectly.

Although not addressed specifically in the RDEIS, one of our biggest concerns is the formation of ice and ice jams during minimum winter flows. Ice jams upstream from our intakes could potentially lower the river level enough to make the intakes inoperable. We have spent several million dollars over the past decade to improve our low flow capabilities, but this still remains a concern of ours. All of the Gavins Point alternatives use the same minimum winter flows and the Corps in the past has done a good job of monitoring the river and increasing flows when required to break up these jams. We would like the Master Manual to allow the Corps to continue to have this flexibility regardless of the mainstem reservoir storage levels. We request that specific wording be included in the new Master Manual to ensure this practice continues. WS 12

As a major user of electrical power we also share the concerns that have been expressed by the electrical power utilities that have plants using the river for cooling. Last summers events in the California power industry highlight the fact that apparently minor problems can mushroom into widespread problems. A reduction in these plants outputs, coupled with the reduced hydropower generation could precipitate a crisis that would adversely affect the entire region. MoPower 1

From a water quality standpoint, the releases at Gavins Point dam have a direct influence on many of the water quality parameters, such as turbidity and hardness, which we use to guide our treatment process. Steady releases from Gavins Point Dam help us by dampening any abrupt changes that occur on the lower tributaries. An example of this would be a large rain event that produces WQ 28

L0500016

Nebraska Electric Generation and Transmission Cooperative, Inc.

Phone: (402) 564-8142
FAX: (402) 563-4272

2472 18th Ave. • P.O. Box 548
Columbus, NE 68602-0548

February 21, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Gentlemen:

The Nebraska Electric Generation and Transmission Cooperative, Inc. (NEG&T) represents 22 rural power districts and cooperatives in Central and Eastern Nebraska that ultimately serve 160,000 end-use customers by purchasing their electric power and energy requirements. These requirements total over 850 megawatts of power and 3,800,000 megawatt hours of energy annually. These purchases are made from the Western Area Power Administration and the Nebraska Public Power District.

We have been following the Missouri River Master Manual Review process for some time and participated in the meeting held in Omaha January 22, 2002, that was arranged by the Mid-West Electric Consumers Association.

Because of the large impact on our membership, we are concerned that the analysis on both hydro generation and thermal generation cooled using the Missouri River is not being adequately addressed.

The National Economic Development (NED) model used does not thoroughly or properly assess the impacts on our region. It fails to identify lost hydro energy generation in the summer during times when costs for electric energy are the highest. In addition, the thermal generation cooled by the Missouri River may suffer reduced or even total loss of capacity if the reduced summer flows occur during a time when temperatures are high and flows are already limited. If the loss or reduction in hydro and thermal generation should occur simultaneously with other generation or transmission problems in the region

HPower 12, 17

significant runoff. If Gavins Point releases are at one of the proposed lower flow levels the dilution factor would be much lower than when at full service navigation flows. This would magnify the impact of the event, which could potentially cause treatment problems.

Because of these factors we are in favor of the Modified Conservation Plan (MCP). This would maintain the status quo on releases from Gavins Point which have adequately served our needs in the past. We would urge that if required by environmental concerns to adopt one of the GAVINS POINT alternatives that the GAVINS POINT1528 be adopted as it would have the least amount of negative impact on the above stated concerns. Additionally we request that this alternative be implemented on a trial basis to allow assessment of the positive and negative impacts before the Master Manual changes become final.

WS 13

If I can be of further help to you in explaining or clarifying our position, please feel free to contact me.

Thank you for the opportunity to comment on this issue which is very important to the District and its 173,000 customers.

Very truly yours,

Thomas A. Wurtz
General Manager

/bj

gavinspointeis

(caused by summer storms or equipment failures due to high loading times that are normal for this region), the results could be significant both financially and from the actual inability to serve electric loads. These factors are not recognized by the NED.

We realize it is a difficult task to balance the various functions desiring benefits from the flows in the Missouri River. We feel, however, that hydro power along with navigation are the losers in the current RDEIS proposal, whereas others experience a net gain in benefits. We are concerned about habitat for threatened or endangered species and recognize the strength of the Endangered Species Act. We feel, however, that the Corps would be extremely unfair by providing protection for endangered species without properly regarding the serious economic impacts on other project purposes.

Other 7

In our opinion, hydro power users, and potentially thermal plant users, will receive an undue burden under the current proposal when considering we are among the very few that actually contribute funds that ultimately provide the benefits received.

We respectfully request the Corps to develop a management plan that better balances the burdens and benefits among all project purposes.

Sincerely,

Bruce A. Pontow
General Manager

Copies: NEG&T Member Managers
Tom Graves, Mid-West Electric Consumers Association
Brian Barels, NPPD

L0500017

Nebraska Public Power District
Nebraska's Energy Leader

November 8, 2001

Rosemary Hargrave
U. S. Army Corps of Engineers
Project Manager
Missouri River Master Manual Update

RE: Nebraska Public Power District's Initial Comments Relating to the RDEIS. Presented at Public Meeting – Nebraska City, NE, Thursday, November 8, 2001.

Attached, please find Nebraska Public Power District's (NPPD) comments relating to the Revised Draft Environmental Impact Statement (RDEIS) on the Missouri River, Master Water Control Manual Review and Update. The comments express a general overview of the concerns that NPPD has with the RDEIS. NPPD plans on making comments in greater detail, prior to the close of the public comment period on February 28, 2002.

NPPD appreciates the efforts the Corps has shown in attempting to address concerns however, we believe there continues to be areas which have not been adequately evaluated.

Please feel free to contact us for any additional information or assistance.

Sincerely,

Joe Citta
Environmental Policy Manager

General Office
1414 15th Street / P.O. Box 499 / Columbus, NE 68602-0499
***Telephone:** (402) 564-8561 / **Fax:** (402) 563-5551*
www.nppd.com

Nebraska Public Power District's
Preliminary Comments Missouri River Master Manual RDEIS
Public Meeting – Nebraska City
November 8, 2001

1. Impacts to Power Generation/Supply Below Gavins Point Dam – Cooper Nuclear Station.

   ✧ It appears the Corps analysis does not identify or adequately address the impacts to the thermal power generation in the region. Both potential generation loss and financial impacts are not adequately represented or evaluated. — MoPower 1

   - Impacts indicated for the Nebraska City River Reach (3 MW to 50 MW) really do not appear to recognize the amount of generation capacity present or potential generation losses i.e. Cooper Nuclear Station – 758 MW of generation loss. — MoPower 1
   - Water Quality Impacts (thermal limits) do not appear to be evaluated although language in text alludes to that factor. — MoPower 1
   - NPPD calculated the following thermal impacts for Cooper Nuclear Station.
     - o Potential 50 MW loss per 1 degree change in ambient river temperature over 85 degrees F. This results in a potential financial loss of approximately $4 million per degree change per year (including fuel savings, based on a 10 week summer period) — MoPower 1
     - o Potential 758 MW loss if ambient river temperature is 90 degrees F or greater. This results in a potential financial loss of approximately $50 million per year (including fuel savings, based on a 10 week summer period). — MoPower 1
   - The RDEIS indicates that only 387 MW capacity will be impacted in the region. This does not adequately represent the potential capacity losses for the region. — MoPower 3
   - Concerns about increase sedimentation at CNS intake during low flows in the summer time, and adverse impacts upon plant operation. — ErSd 4

   ✧ Corps Analysis of Power Impacts is somewhat incorrect from a power planning prospective.
   - A power supplier should not plan for new capacity based on average – worst case scenarios have to be accounted for due to obligation to serve customers. — MoPower 3

2. Hydropower

   ✧ We believe the Corps could better address Regional power replacement costs during the summer peak period by accounting for the following costs that do not appear to be included:
   - Transmission path costs or losses for replacement capacity & energy.
   - Ancillary service costs (as provided by hydro & replacements). — MoPower 1, 3
   - Hydro is considered a renewable resource, so there is value associated with the potential of lost renewable credits if capacity & energy changes.
   - Only the July peak period is quantified, the flows affect a 10-week period in the summer months, so all 10 weeks should be considered.
   - Only average historical flow conditions compared, worst case & best case (drought & plentiful rainfall) should be provided to properly determine potential effects.

3. ✧ How are decisions between alternative environmental effects determined for different species and habitats?
   - What are significant levels of difference between factors? — Other 7
   - How will factors be combined?
   - Will they be weighed? How?

4. ✧ Summer Low Flow
   - What evidence does the Corps have that the low flow will achieve the T & E benefit? — EnSp 46,54
   - Will you identify the specific species habitat goal to be achieved?

5. ✧ Spring Rise – for Pallid Sturgeon

   - Alternatives indicate no distinct benefit from spring rise to Pallid Sturgeon.
   - Where is the evidence the Pallid Sturgeon will benefit from any spring rise?
   - The Corps must predict achievable benefit and if it is not achieved by adaptive management go back to today's operation.

   EnSp 5

6. ✧ Adaptive Management

   - Requires upfront defined species habitat goals to be achieved.

   EnSp 54

7. ✧ Public Infrastructure has developed around congress mandates and Corp MM operation.

   - If the Corp – because of congress (ESA) is to cause changes to public – the mitigation costs should be funded by the Corp (Congress).

   Other 87

8. ✧ The RDEIS does not describe or evaluate the flows that may be allowed above or below the target release amounts.

   Other 192

L0500018

Howell-Oregon Electric Cooperative, Inc.
P.O. Box 649, West Plains, Missouri 65775-0649
Phone (417) 256-2131 Fax (417) 256-4571
1-888-HOE-POWER 1-888-463-7693

November 28, 2002

U.S. Corps of Army Engineers
Northwestern Division
ATTN: Missouri River Master Manuel RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Sir:

As a Missouri electric cooperative whose customers are the ones who own us, our purpose is to act on a non-profit basis to supply reliable electric power to our members-owners at the lowest cost possible. Associated Electric Cooperative is our generation cooperative which serves almost 1.5 million people primarily in rural Missouri. Associated operates electric generation facilities that would be affected by the changes in the Missouri River Management Plan as well as other power plants from North of Kansas City to South of St. Louis who are owned by other companies. Therefore, changes in the Missouri River Management Plan could indirectly affect our members on both their cost for electricity and on the income of those members who farm and make their living along and in the vicinity of the Missouri River.

We oppose the increased total system storage in the upstream Missouri River basin states. We also oppose any out of basin transfers such as the Garrison Diversion. These transfers negatively impact all designated uses of the Missouri River and have the potential for significant environmental impact in the basin to which the transfers are made.

HPower 22

Through the issuance of executive order 13211, President Bush instructed Federal Agencies to review the potential energy impacts of regulatory actions under their jurisdiction. Missouri River Management Plan alternatives have not been evaluated and we request that the Corps of Engineers conduct a review of the energy impacts of each alternative as required by the executive order. Any plan that could adversely affect electric power generation either hydroelectric, fossil fuel or nuclear is contrary to President Bush's energy policy and should be rejected.

HPower 21

The electric cooperatives in Missouri own and operate two electric generating plants that are dependent on water from the Missouri River. The Chamois Power Plant is located East of Jefferson City, Missouri on the Missouri River and the New Madrid Power Plant is located on the

L0500019

Oahe Electric Cooperative, Inc.

102 S. Canford • PO Box 216 • Blunt, South Dakota 57522
Phone (605) 962-6243 • FAX (605) 962-6306

February 25, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of Oahe Electric Cooperative, Inc. (Oahe), I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). We ask this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps).

Oahe provides distribution services to 2300 members in central South Dakota. East River Electric Power Cooperative Inc. holds a contract on Oahe's behalf with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem system. This portion of East River's bulk power supply constitutes approximately 40% of the total requirements of the customers served by the rural distribution systems associated with East River. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on the rural interests served by East River and its member systems.

For several years, East River has actively participated within the broader group of the region's non-profit utilities, which are associated through Mid-West Electric Consumers Association (Mid-West), in discussions with the Corps. Specifically, East River met with then Division Commander General Carl Strock on February 14, 2001, in Omaha and again with Corps officials in Omaha on February 22, 2002. In each of these forums, East River, along with other non-profit utilities which rely on the Missouri River for a substantial portion of bulk power supply, provided comments to the Corps on this issue.

Generally, we believe the Corps has not given adequate consideration to the consequences of the several options it is considering in relation to the effects on the customers of non-profit utilities, which rely on hydropower from the mainstem system. Further, we do not believe the Corps has given appropriate consideration to the repeated recommendations offered by East River and other non-profit utilities in the

HPower 11

Serving Hughes and Sully County

Howell-Oregon Electric Coop., Inc.
November 28, 2001
Page #2

MoPower 1

Mississippi River below St. Louis. These facilities are dependent on river water for condenser cooling. Low flows not only impact operations by the limited water levels available for intake, but also low river stages during late summer and early fall co-inside with elevated river temperatures decreasing the efficiency of the plant and increasing the likelihood of affluent temperature violations.

MoPower 1

The New Madrid Power Plant has operated for 28 years without the need to limit or curtail operations due to Mississippi River levels. Since January 1, 2000 the plant has had to implement low water operations for 33 days at a cost of over 4.6 million dollars. At the Chamois Power Plant this past summer, river water temperatures reached a point at which plant operations were close to being restricted in order to comply with the NPDES permit affluent limitations. This issue is an annual one that potentially limits generation at this facility. The Chamois Power Plant is dependent on a consistent water supply from the Missouri to assure continued operation.

HPower 12

Before any changes in the management plan for the river are made, we must be sure to take into consideration the impact on rural electric cooperative members and their families that will be affected by these changes.

I appreciate your considerations and review of the submitted comments.

Yours truly,

HOWELL-OREGON ELECTRIC COOP., INC.

Dan Singletary
General Manager

DS/jh

region concerning the regional impacts on power supply, which may occur as a result of the potential actions by the Corps.

We offer the following comments related to these concerns:

1. **NED Analysis versus Regional Obligations**: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as East River. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. We are mystified by the use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We request the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation. HPower 12

2. **NED Power Value Analysis**: For alternate power supply options, it is our understanding the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. We strongly recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods. HPower 12

3. **Impacts on Downstream Power Plants**: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. The current Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period. MoPower 1

4. **Regional Power Impacts**: We have joined with Mid-West in requesting the Corps address impacts on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region. The Corps has at best offered only a cursory evaluation of this issue. HPower 17

Taken together, we do not believe the Corps' RDEIS has adequately evaluated or taken into consideration key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on full consideration of all of the impacts. HPower 11

We acknowledge the difficulty the Corps faces in balancing the various competing interests in the region. However, before final decisions are reached, we believe all of the stakeholders' interests, including the obligations that are associated with power users which rely on the Missouri River for power supply, and the public must be satisfied that consequences of any Corps' decision are fully understood. HPower 24

The options offered by the Corps in our view impose heavy burdens and risks on hydropower interests and substantially shift benefits to other interests. This significant unbalancing of benefits and burdens is not in the public interest and should not be the outcome of this process. Other 7

Sincerely,

Brad Scott
General Manager

L0500020

Southeastern Electric Cooperative, Inc.

PO Box 388 • 501 South Broadway Avenue • Marion, SD 57043-0388
Telephone: 605-648-3619 • Facsimile: 605-648-3778 • E-mail sec@sunrisenet.com

Alcester Office
PO Box 105
605 SD Highway 11
Alcester, SD 57001-0105
Telephone: 605-934-1961
Facsimile: 605-934-1964
Toll-Free in SD: 1-800-333-2859

February 22, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

We would like to submit this letter relating to the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). We would also ask that this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps).

Southeastern Electric Cooperative, Inc., (Southeastern) provides electric distribution service to 10,389 electrical services in southeastern South Dakota. We purchase our wholesale power through East River Electric Power Cooperative, Inc., (East River) of Madison, South Dakota, which also provides wholesale power and delivery services to 21 other rural distribution systems in eastern South Dakota and western Minnesota.

Southeastern currently holds a long-term power contract with East River through the year 2038. East River, representing Southeastern and 21 other distribution systems, holds a contract with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem system. This portion of our bulk power supply constitutes approximately 40% of the total requirements for our members. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on all of our members.

It has been brought to my attention that East River and Midwest Electric Consumers Association (Mid-West), which represents a broader group of this region's non-profit utilities have had several discussions with the Corps over the past year. In each of these forums, East River, Mid-West and the other non-profit utilities, which rely on the Missouri River for a substantial portion of bulk power supply, provided comments to the Corps on this issue. It is also my understanding that the comments and concerns stated by East River, Mid-West and the other impacted non-profit utilities have not been given adequate consideration in relation to the consequences these options will have on our members, which have a significant reliance on hydropower from the mainstem system.

HPower 11

A Touchstone Energy® Cooperative

The areas of concern that were mentioned at our recent Managers meeting are as follows:

1. **NED Analysis versus Regional Obligations**: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as East River and therefore, Southeastern. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. We are mystified by the use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We request the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation.

HPower 12

2. **NED Power Value Analysis**: For alternate power supply options, it is our understanding the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. We strongly recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods.

HPower 12

3. **Impacts on Downstream Power Plants**: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. The current Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period.

MoPower 1

4. **Regional Power Impacts**: We have joined with Mid-West in requesting the Corps address impacts on the region's electric power supply taking into

L0500021

Union County Electric Cooperative, Inc.

POST OFFICE BOX 459
ELK POINT, SOUTH DAKOTA 57025
TELEPHONE: 605-356-3395
FAX 605-356-3397
e-mail: uncoelec@sd.cybernex.net

February 22, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of Union County Electric Cooperative, Inc., I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). We ask this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps).

Union County Electric provides wholesale power to over a thousand rural electric consumers is southeastern South Dakota and at the same time Union County Electric rely's on East River Electric Power Cooperative, Inc. located in Madison, South Dakota for transmission services and retail power delivery services.

East River holds a contract with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem system. This portion of East River's bulk power supply constitutes approximately 40% of the total requirements of Union County Electric's customers. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on the rural interests served by East River and its member systems.

On behalf of our members, East River has actively participated within the broader group of the region's non-profit utilities, which are associated through Mid-West Electric Consumers Association (Mid-West), in discussions with the Corps. Specifically, East River staff did meet with then Division Commander General Carl Strock on February 14, 2001, in Omaha and again with Corps officials in Omaha on February 22, 2002. In each of these forums, East River, along with other non-profit utilities which rely on the Missouri River for a substantial portion of bulk power supply, provided comments to the Corps on this issue.

A Touchstone Energy® Cooperative

consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region. The Corps has at best offered only a cursory evaluation of this issue. HPower 17

In relation to these issues high lighted above, it is my understanding that the Corps' RDEIS has not adequately evaluated or taken into consideration these key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on the full consideration of all the impacts. HPower 11

There is no doubt that the Corps faces difficulty in balancing the various competing interests in this region. However, before any final decisions are reached, we believe all of the stakeholders' interests, including the obligations that are associated ~~with the~~ power users that rely on the Missouri River for power supply, and the public must be satisfied that the consequences of any Corps' decision are fully understood. HPower 24

The options offered by the Corps in our view impose heavy burdens and risks on hydropower interests, our members, and substantially shift benefits to other interests. This significant unbalancing of benefits and burdens is not in the public interest and should not be the outcome of this process. Other 7

Sincerely,

Bradley J. Schardin
General Manager

Cc Jeffrey L. Nelson, EREPC General Manager

Generally, we believe the Corps has not given adequate consideration to the consequences of the several options it is considering in relation to the effects on the customers of non-profit utilities, which rely on hydropower from the mainstem system. Further, we do not believe the Corps has given appropriate consideration to the repeated recommendations offered by East River and other non-profit utilities in the region concerning the regional impacts on power supply, which may occur as a result of the potential actions by the Corps. HPower 11

We offer the following comments related to these concerns:

1. **NED Analysis versus Regional Obligations**: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. **Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as East River**. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. We are mystified by the use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We request the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation. HPower 12

2. **NED Power Value Analysis**: For alternate power supply options, it is our understanding the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. We strongly recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, **we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods**. HPower 12

3. **Impacts on Downstream Power Plants**: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. The current Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. MoPower 1

Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period.

5. **Regional Power Impacts**: We have joined with Mid-West in requesting the Corps address impacts on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region. The Corps has at best offered only a cursory evaluation of this issue. HPower 17

Taken together, we do not believe the Corps' RDEIS has adequately evaluated or taken into consideration key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on full consideration of all of the impacts. HPower 11

We acknowledge the difficulty the Corps faces in balancing the various competing interests in the region. However, before final decisions are reached, we believe all of the stakeholders' interests, including the obligations that are associated with power users which rely on the Missouri River for power supply, and the public must be satisfied that consequences of any Corps' decision are fully understood. HPower 24

The options offered by the Corps in our view impose heavy burdens and risks on hydropower interests and substantially shift benefits to other interests. This significant unbalancing of benefits and burdens is not in the public interest and should not be the outcome of this process. Other 7

Sincerely,

Larry D. Cheney
Manager

L0500022

NIPCO
THE POWER NETWORK
NORTHWEST IOWA POWER COOPERATIVE
P. O. Box 240, 31002 C38
Le Mars, Iowa 51031-0240
PHONE 712-546-4141
Fax 712-546-8795

February 26, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Gentlemen:

SUBJECT: Missouri River Master Manual Review

Northwest Iowa Power Cooperative (NIPCO) is a generation and transmission electric cooperative that provides wholesale electric service to much of western Iowa. This wholesale service is provided to seven Class "A" member cooperatives that provide retail electric service to approximately 30,000 consumers. NIPCO's power supply consists of hydropower from Missouri River dams through the Western Area Power Administration along with coal-fired generating plants in North Dakota and Wyoming operated by Basin Electric Power Cooperative and part ownership in the Neal 4 generating station located near Sioux City, Iowa.

NIPCO offers the following comments regarding the Revised Draft Environmental Impact Statement (RDEIS) of the Missouri River Master Manual Review.

The National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP). HPower 12

The NED appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels. HPower 12

The NED is not able to adequately recognize the impacts of shifting generation to different times of the year. The NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is low and can be met with other resources. HPower 12

The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration, which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "[I]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP . . ." The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. Western Area Power Administration does not have discretion to change repayment schedules because of different river operations. WAPA 4

The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices. HPower 12

The Corps' analysis does not adequately address impacts on regional power supply – both hydro generation and thermal electric plants that use Missouri River water for cooling. HPower 12 MoPower 3

We recognize that this is a difficult issue to analyze, but the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, as well as where additional generation is available. HPower 12 MoPower 3

The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition, the impact on regional power pricing resulting from reduced water flows is completely absent. HPower 12

The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. MoPower 1

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source.

HPower 17
MoPower 1

NIPCO shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act. However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes.

EnSp 28

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower and navigation are the "losers" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable.

HPower 22

The Endangered Species Act does permit consideration of economics in making decisions about remedies for threatened and endangered species. The Corps apparently did not look at lands on the Yellowstone River under the jurisdiction of the United States Bureau of Reclamation in evaluating actions to assist the pallid sturgeon. It has been suggested that a nominal investment in improving habitat there would provide greater benefits to the pallid sturgeon than spilling water at Fort Peck and other habitat activities that might be conducted on the Missouri River. In short, the Corps appears to have selected an alternative that is more expensive and has less certainty of improved conditions for the pallid sturgeon than other possible alternatives.

EnSp 28

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Sincerely,

NORTHWEST IOWA POWER COOPERATIVE

Kent D. Pauling
Executive Vice President
and General Manager

KDP:mrs

cc: Iowa State Governor's Office - Dusky Terry

MASTERMANUAL NWD02 L0500023

From: Jay Holmquist [jholmquist@nrea.org]
Sent: Thursday, February 28, 2002 4:21
To: Mastermanual
Subject: Comments on RDEIS

Please accept the attached comments on the Draft Revised EIS for the mater manual.

Jay Holmquist
General Manager
Nebraska Rural Electric Association
Box 82048, 800 S. 13th St.
Lincoln NE 68501
PH. 402/475-4988
FAX 402/475-0835

3/8/2002

Nebraska Rural Electric Association
800 S. 13th Street P.O. Box 82048
Lincoln, Nebraska 68501
(402) 475-4988 Fax: 475-0835

February 28, 2002

U. S. Army Corp of Engineers – Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Sir or Madam:

These comments on the Revised Draft Environmental Impact Statement (RDEIS) for the Missouri River Master Manual Review are submitted on behalf of the members of the Nebraska Rural Electric Association, the trade association for thirty-five rural public power districts and electric cooperatives serving electric consumers in the State of Nebraska.

I want to start by acknowledging the difficult task that revision of the Missouri River Water Control Manual has presented to the Corps of Engineers. However, to be able to fully understand what the proposed changes in flow regimes will mean for the Missouri Basin region and the State of Nebraska, the RDEIS must contain a more thorough and honest analysis of impacts based on the realities of the region. The current analysis does not do that, particularly in the case of hydropower impacts and impacts on electric generation from thermal plants.

HPower 11
MoPower 1

The RDEIS and the Corps Summary brochure of the RDEIS would lead one to believe that every proposed flow regime provides greater hydropower benefits than the current water control manual. However, the Western Area Power Administration (Western) analysis summarized in the brochure states there will be a loss of almost $30 million in revenues which in fact would result in a significant rate increase for firm power customers. This impact is not properly acknowledged in the RDEIS. We request that the Corps address the discrepancy between the National Economic Development (NED) model analysis and the impact analysis conducted by Western and provide an explanation of the differences in the impact assessment.

HPower 12

It is obvious that the NED analysis is not the proper tool for measuring impacts on hydropower in the region. The NED analysis misrepresents the real

HPower 12

impacts of proposed changes in the current master manual and the Corps needs to revisit this issue.

We are especially concerned over the inadequate analysis of impacts of the proposed Gavin's Point environmental flow regimes on existing thermal plants. Even with adequate river stages for water intakes, thermal plants along the Missouri River may be forced to curtail generation because of limitations on discharge temperatures and compliance with environmental permits. The Corps analysis of this issue has been placed in the "Water Supply" section of the RDEIS and is clearly inadequate.

MoPower 1

The Nebraska Public Power District presented the Corps with a preliminary study on the impact of changes in the flow regimes on Cooper nuclear power plant on the Missouri that showed a potential $43 million annual impact and loss of roughly 700 megawatts of generation. The RDEIS does not show this impact. Curtailment of existing generation facilities that rely on the Missouri River would have a devastating impact on regional power supply and have a dramatic effect on electric rates for Nebraska's, and the region's, electric consumers. There are 15 thermal plants along the Missouri River that could be affected. This issue must be addressed in the RDEIS and these potential impacts taken into consideration by the Corps.

MoPower 1, 3

Yours truly;

Jay Holmquist
General Manager

L0500024

Board of Public Utilities 700 MINNESOTA AVENUE • KANSAS CITY, KANSAS 66101 • (913) 573-9000

February 26, 2002

US Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68114-3869

Subject: **Comments on the Corps' Missouri River Master Water Control Manual Revised Draft Environmental Impact Statement Water Supply and Missouri River Power Plants**

Dear Sirs:

Thank you for the opportunity to respond to the Corps' Revised Draft Environmental Impact Statement (RDEIS) regarding proposed changes to Missouri River flows. Please accept this letter and enclosures as our comments to the proposal.

The Board of Public Utilities (BPU) is a municipal utility owned by the Unified Government of Wyandotte County/Kansas City, Kansas. BPU makes and distributes both electricity and drinking water in Wyandotte County and beyond. We operate three power stations and two drinking water plants to serve more than 65,000 electrical customers and 55,000 water customers. Water drawn from the Missouri River is critical to BPU and our community because it is the raw water source for drinking water and for cooling water at our power stations.

BPU has been a consistent, dependable source of power and water for this community since the early 1900s. Our community and our utility have grown up, in part, because of the consistent, dependable controls the Corps has methodically applied to the Missouri River. For many decades, the Corps' evolving flow and flood controls have stabilized the Missouri River, and we have come to depend on these controls.

Please review the enclosed two photographs taken at BPU's Nearman Creek Power Station (river mile: 378.4) during different flow conditions in the Missouri River. Nearman is one of many power stations located on the Missouri River between Gavin's Point and St. Louis. These are examples, based on our experience, of what BPU will be forced to routinely prepare for if the Corps abandons its mission of flood and flow controls on the Missouri River.

Photo No. 1 – 1993 Flood, Aerial View at the Nearman Creek Power Station
During the flood of 1993, BPU's Nearman Creek Power Station was completely surrounded by the Missouri River that overflowed its banks. Our operators were literally ferried by pontoon boats to work at the station. The total damage, repair, and replacement costs for all BPU facilities, including Nearman, was approximately $23.5 million.

"EQUAL OPPORTUNITY EMPLOYER"

Photo No. 2 – 2000 and 2001 Low Winter Flows, Intake at the Nearman Creek Power Station
For the past two winters, low river flows in the Missouri River forced BPU to design, install, and maintain emergency pumps at Nearman Creek Power Station's cooling water intake. The total cost has been just under one million dollars. If low summer flows occur on a routine basis, BPU's NPDES Permit (wastewater discharge) limits will also be artificially lowered and require further expenditures for treatment facilities. In addition, low river levels cause hardness levels to increase in the raw water supplied from BPU's horizontal collector well to the Nearman Drinking Water Plant. BPU estimates that the capital investment (without operation and maintenance expense) to install softening facilities to reduce hardness levels will be approximately $9.7 million.

MoPower 1

BPU believes it is not in the best interest of our community to go back to the days of flooding and low summer flows in the Missouri River. BPU will be forced to construct and maintain facilities necessary to ensure power and water in response to controlled droughts and floods. Although we applaud efforts to protect aquatic habitats, BPU believes that the "adaptive management" Missouri River control strategy will become an endless experiment without regard to real-world impacts; a strategy that runs counter to the Corps' mission.

Other 3, 10

BPU requests that there be no changes to the Corps' current Missouri River Master Control Manual.

Sincerely,

E. Leon Daggett
General Manager

PJC/pjc

Photographs Enclosed

c: US Senator Pat Roberts, US Senator Sam Brownback, US Representative Dennis Moore, UG Mayor/CEO Carol Marinovich

Environmental Records/Wastewater/NPDES/Missouri River
D:\NPDES\General NPDES\CORPS RESPONSE TO MO RIVER.doc

(River Mile: 378.4)

Photo No. 1 - 1993 Flood, Aerial View at the Nearman Creek Power Station

Example of Missouri River Flood Conditions

During the 1993 Missouri River Flood, BPU's Nearman Creek Power Station was literally surrounded by water. Note that the "small" object, just left of center in this photo, is the cooling water intake for the power station. The intake is located on the south bank of the Missouri River.

The total 1993 flood damage, repair, and replacement costs for all BPU facilities, including Nearman, was approximately 23.5 million dollars.

Board of Public Utilities, Kansas City, Kansas

(River mile: 378.4)

Photo No. 2 - 2000 and 2001 Low Winter Flows, Intake at the Nearman Creek Power Station

Example of Low Missouri River Flow Conditions

During recent, low Missouri River winter flows, BPU was forced to install emergency pump systems at the cooling water intake serving the Nearman Creek Power Station. This photograph shows some of the portable barges, submersible pumps, and pipes inserted into the river to push water up into the intake. Without this equipment the power station would have shut down. If the Corps' Missouri River Water Control Manual is changed, BPU will be forced to routinely install, operate, and remove this equipment during low flow conditions. The equipment is considered a navigational hazard and therefore cannot remain in the river during the barge traffic season. The total 2000 and 2001 costs incurred by BPU due to low river levels at Nearman Creek were just under one million dollars.

In addition, low river levels cause hardness levels to increase in the raw water supplied from BPU's horizontal collector well to the Nearman Drinking Water Plant. BPU estimates that the capital investment (without operation and maintenance expense) to install softening facilities to reduce hardness levels will be approximately $9.7 million.

Board of Public Utilities, Kansas City, Kansas

L0500025

CENTRAL ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

February, 26, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

Central Electric Cooperative appreciates the opportunity to submit comments about impacts of the set of six alternative operating plans for the Missouri River Master Water Control Manual – the Current Water Control Plan (CWCP), a modified conservation plan (MCP), and four alternatives that add various Gavins Point Dam release changes to the MCP. Central Electric comments will focus on the following points.

***The National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CCWCP).**

HPower 12

The NED, appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels.

HPower 12

The NED is not able to adequately recognize the impacts of shifting generation to different times of the year. The NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of power is low and can be met with other resources.

HPower 12

The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment

HPower 12
WAPA 4

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605-996-7516 • 1-800-477-2892 • Fax: 605-996-0869
www.centralec.com • cec@centralec.com

barely recognizes this, noting that those impacts would only take place "[I]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP…" The repayment obligations of the Western Area Power Administration are fixed by statue and regulation. WAPA does not have discretion to change repayment schedules because of different river operations.

The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices.

HPower 12

***The Corps analysis does not adequately address impacts on regional power supply – both hydro generation and thermal electric plants that use Missouri River water for cooling.**

HPower 12
MoPower 3

We recognize that this is a difficult issue to analyze, but the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, as well as where additional generation is available.

HPower 12
MoPower 3

The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition the impact on regional power pricing resulting from reduced water flows is completely absent.

HPower 12

The analysis of impacts of proposed Gavins Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavins Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results.

MoPower 1

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source.

HPower 17

***Central Electric shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the**

EnSp 28

Endangered Species Act (ESA). However, the proposal considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes.

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower and navigation are the "losers" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable.

HPower 22

The Endangered Species Act does permit consideration of economics in making decisions about remedies for threatened and endangered species. The Corps apparently did not look at lands on the Yellowstone River under the jurisdiction of the United States Bureau of Reclamation in evaluating actions to assist the pallid sturgeon. It has been suggested that a nominal investment in improving habitat there would provide greater benefits to the pallid sturgeon than spilling water at Fort Peck and other habitat activities that might be conducted on the Missouri. In short, the Corps appears to have selected an alternative that is more expensive and has less certainty of improved conditions for the pallid sturgeon than other possible alternatives.

EnSp 28

In Summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Sincerely,

Loren Noess,
Manager

Cc: Jeff Nelson, East River

L0500026

Kenneth L. Johnson
General Manager

308-697-3315
kljohns@twinvallysppd.com

TWIN VALLEYS
PUBLIC POWER DISTRICT

P.O. Box 160
1145 Nasby Street
Cambridge, Nebraska 69022

February 21, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Re: Revised Draft Environmental Impact Statement (RDEIS)

To: U.S. Army Corps of Engineers,

I am writing to you out of concern over the proposed flow regimes in the Revised Draft Environmental Impact Statement (RDEIS). Twin Valleys Public Power District is a full requirements customer of Nebraska Public Power District which includes an allocation of WAPA power. Most importantly is the summer time WAPA allocation for irrigation pumping. It is my understanding of the current Revised Draft Environmental Impact Statement, that hydropower and other generation resources requiring cooling water from the Missouri River will be adversely affected by most of the flow regimes proposed in the RDEIS.

The National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP). The NED, appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels. The NED is not able to adequately recognize the impacts of shifting generation to different times of the year. The NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is low and can be met with other resources. The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration, which clearly show a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment barely recognized this, noting that those impacts would only take place "if WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP..." The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. WAPA does not have discretion to change repayment schedules because of different river operations.

HPower 12

HPower 12

HPower 12

WAPA 4

It is Twin Valleys suggestion that The Corps of Engineers should give greater weight to the regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices.

HPower 12

The Corps analysis does not adequately address impacts on regional power supply - both hydro generation and thermal electric plants that use Missouri River water for cooling. We recognize that this is a difficult issue to analyze, but the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be

HPower 12
MoPower 3

HPower 12
MoPower 3

L0500027

HEARTLAND CONSUMERS POWER DISTRICT

February 22, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

To whom it may concern:

Heartland Consumers Power District is a wholesaler of electric power and energy to twenty-two public entities in a three-state region. Each of these Customers has a hydro-electric power allocation through the Western Area Power Association. We feel compelled, because of our concern for their allocation and future power costs, to comment on the proposed flow changes to the Current Water Control Plan. The National Economic Development model used in the Corps' analysis appears to inadequately quantify the impact to the Missouri River main stem dams and, ultimately, the public power Customers relying on this power. It has taken a national "look", not a regional one. — HPower 12

The model is not able to adequately recognize the impacts of shifting generation to different times of the year. The model doesn't address the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is lowest and the resources are more abundant. — HPower 25

The Western Area Power Administration has conducted an impact assessment, which clearly shows a dramatic negative impact of the proposed actions of the Corps. This impact will have to be offset by a small user group compared to the total impact of the changes in proposed flows. The model used by the Corps also assumes that adequate transmission and generation is available during peak summer demand for resources from other generation. This is not a valid assumption. We do not agree with that assessment. — WAPA 4, HPower 17

(605)256-6536
P.O. Box 248
Madison,
South Dakota
57042

Fax
(605)256-2990

affected by proposed flow changes on the Missouri, as well as where additional generation is available.

The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition the impact on regional power pricing resulting from reduced water flows is completely absent. — HPower 12

The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. — MoPower 1

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source. — HPower 17

Twin Valleys Public Power District shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes. — EnSp 28

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower and navigation are the "loser" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable. — HPower 22

The Endangered Species Act does permit consideration of economics in making decision about remedies for threatened and endangered species. The Corps apparently did not look at lands on the Yellowstone River under the jurisdiction of the United States Bureau of Reclamation in evaluating actions to assist the pallid sturgeon. It has been suggested that benefits to the pallid sturgeon than spilling water at Fort Peck and the habitat activities that might be conducted on the Missouri. In short, the Corps appears to have selected an alternative that is more expensive and has less certainty of improved conditions for the pallid sturgeon than other possible alternatives. — EnSp 28

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Sincerely,

Kenneth L. Johnson
General Manager
Twin Valleys Public Power District

HEARTLAND CONSUMERS POWER DISTRICT

U.S. Army Corps of Engineers, Northwestern Division
February 22, 2002
Page Two

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower, flood control and navigation are the "losers" in the Revised Draft Environmental Impact Statement. Other related potential beneficiaries' experience a net gain from the proposed actions of the Corps. It is imperative that the economic impact analysis be comprehensive and include all aspects of the proposed actions. Heartland appreciates the opportunity to share with you its concerns regarding this matter.

Other 6,23

Sincerely,

David C. Westbrock, General Manager
Heartland Consumers Power District

kl

Copy: Senate Majority Leader Tom Daschle
Senator Tim Johnson
Representative John Thune
Governor William Janklow

L0500028

KINGSBURY Electric COOPERATIVE, INC.

TELEPHONE (605) 854-3522
DRAWER E DE SMET, SOUTH DAKOTA 57231

DENNIS KRUSE
MANAGER

February 22, 2002

U.S. Army Corp of Engineers - Northwestern Division
ATTN: Missouri River Master Manual REDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of Kingsbury Electric Cooperative, (Kingsbury), I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). We ask that this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps).

Kingsbury provides retail power and other services to 750 consumer owners in east central South Dakota. Our distribution system provides retail service to 950 residential, agricultural and commercial interests.

East River Electric Power Cooperative Inc. holds a contract for Kingsbury and 21 other distribution systems with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem system. This portion of East River's bulk power supply constitutes approximately 40% of the total requirements of the member owners of Kingsbury Electric. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on the rural interests served by Kingsbury.

For several years, Kingsbury through East River has actively participated within the broader group of the region's non-profit utilities, which are associated through Mid-West Electric Consumers Association (Mid-West), in discussions with the Corps. Specifically, our representatives met with then Division Commander General Carl Strock on February 14, 2001, in Omaha and again with Corps officials in Omaha on February 22, 2002. In each of these forums, our representatives, along with other non-profit utilities that rely on the Missouri River for a substantial portion of bulk power supply, provided comments to the Corps on this issue.

Generally, we believe the Corps has not given adequate consideration to the consequences of the several options it is considering in relation to the effects on the consumer owners of non-profit utilities, which rely on hydropower from the mainstem system. Further, we do not believe the corps has given appropriate consideration to the repeated recommendations offered by Kingsbury and other non-profit utilities in the region concerning the regional impacts on power supply, which may occur as a result of the potential actions by the Corps.

HPower 11

We offer the following comments related to these concerns:

1. NED Analysis versus Regional Obligations: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as Kingsbury. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. We are mystified by the use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We request that the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation. HPower 12

2. NED Power Value Analysis: For alternate power supply options, it is our understanding that the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. We recommend that the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods. HPower 12

3. Impacts on Downstream Power Plants: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows on the thermal operating limits of downstream power plants during summer periods. The current Corps' analysis of this issue is apparently based on water supply assumptions that do not consider available ambient air and water temperature data. Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period. MoPower 1

4. Regional Power Impacts: We have joined with Mid-West in requesting that the Corps address impacts on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region. The Corps has at best offered only a cursory evaluation of this issue. HPower 17

Taken together, we do not believe that the Corps' RDEIS has adequately evaluated or taken into consideration key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on full consideration of all of the impacts. HPower 11

We acknowledge the difficulty that the corps faces in balancing the various competing interests in the region. However, before final decisions are reached, we believe all of the stakeholders' interests, including the obligations that are associated with power users that rely on the Missouri River for power supply, and the public must be satisfied that the consequences of any Corps' decision are fully understood. HPower 24

The options offered by the Corps in our view impose heavy burdens and risks on hydropower interests and substantially shift benefits to other interests. This significant unbalancing of benefits and burdens is not in the public interest and should not be the outcome of this process. Other 7

Sincerely,

Dennis Kruse

Dennis Kruse, Manager
Kingsbury Electric Cooperative

L0500029

SIOUX VALLEY SOUTHWESTERN ELECTRIC
P.O. Box 216 • Colman, SD 57017-0216
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Office Fax: 605-256-1693 • Dispatch Fax: 605-256-1690

February 22, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Gentlemen/Ladies:

Please accept this letter as comments from Sioux Valley Southwestern Electric Cooperative (SVSW) to the Corps of Engineers regarding the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS) concerning changes to the operation of the Missouri River main stem system.

Sioux Valley Southwestern Electric serves 19,000 homes, farms, businesses and industries within a seven-county service area of east-central South Dakota and southwestern Minnesota. The Cooperative purchases power from East River Electric Power Cooperative of Madison, South Dakota and L&O Power Cooperative of Rock Rapids, Iowa. Both East River Electric and L&O Power are preference customers of the Western Power Administration and purchase supplemental power from Basin Electric Power Cooperative at Bismarck, North Dakota.

We believe the Corps of Engineers has not given adequate consideration to the consequences of the options it is considering relative to their effects on our electric customers. The outcome of the Corps of Engineers decisions concerning revisions to the operation of the Missouri River could likely result in higher electric rates for our customers, and consequently, would have a negative impact on the regional economy and on economic development opportunities. HPower 11

Sioux Valley Southwestern Electric, on behalf of its 19,000 electric customers, urges the Corps of Engineers to consider the following:

- Address the discrepancy between the National Economic Development (NED) model analysis and the impact analysis conducted by the Western Area Power Administration and provide an explanation of the differences in impact assessment. HPower 12

A Touchstone Energy® Cooperative

PIPESTONE OFFICE
P.O. Box 336, Pipestone, MN 56164-0336
Phone: 507-825-3341 • Fax: 507-825-4835

BRANDON OFFICE
P.O. Box 857, Brandon, SD 57005-0857
Phone: 605-582-2185 • Fax: 605-582-3165

- Give proper consideration to the fact that the NED does not recognize the fact that shifting hydro production from the summer to spring time periods would negatively impact the economic value of hydropower generation. HPower 12
- Reevaluate its analysis of the impact of revised flows downstream from Gavin's Point and the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. MoPower 1
- Address the negative impact on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the likely loss of generation from downstream power plants. HPower 17

We would appreciate consideration of these comments in future Corps decisions regarding the Missouri River Master Manual Revised Environmental Impact Statement and the impact of changes in the operation of the Missouri River main stem system on customers of rural electric cooperatives and the regional economy.

Sincerely,

Don L. Marker
General Manager/CEO

L0500030

CAVALIER RURAL ELECTRIC COOPERATIVE, INC.

1111 Ninth Avenue • P.O. Box 749 • Langdon, ND 58249
Phone: 701-256-5511 Fax: 701-256-5513

February 22, 2002

U.S. Army Corps of Engineers, Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

ATTN: Missouri River Master Manual RDEIS

Cavalier Rural Electric Cooperative, Inc. (CREC) is a distribution electric cooperative and is a member of Minnkota Power Cooperative, Inc. of Grand Forks, the G & T Cooperative for northeastern North Dakota and northwestern Minnesota.

Any increase in the wholesale power received by Minnkota from the Bureau system would in effect, be passed along to this cooperative and others of the Minnkota system in the form of higher electric rates.

We, therefore, encourage the Corps to not make changes that would result in higher Bureau electric rates.

- **The National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP).** — HPower 12

  The NED, appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels. — HPower 12

  The NED is not able to adequately recognize the impacts of shifting generation to different times of the year. The NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is low and can be met with other resources. — HPower 12

  The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration, which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "[i]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP…" The repayment obligations of the Western Area — HPower 12 WAPA 4

Your Touchstone Energy® Partner

Power Administration are fixed by statute and regulation. WAPA does not have discretion to change repayment schedules because of different river operations.

The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices. — HPower 12

- **The Corps analysis does not adequately address impacts on regional power supply – both hydro generation and thermal electric plants that use Missouri River water for cooling.** — HPower 12 MoPower 3

  We recognize that this is a difficult issue to analyze, but the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, as well as where additional generation is available. — HPower 12 MoPower 3

  The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition the impact on regional power pricing resulting from reduced water flows is completely absent. — HPower 12

  The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. — MoPower 1

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source. — HPower 17

- **CREC shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes.** — EnSp 28

  We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower and navigation are the "losers" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable. — HPower 22

  The Endangered Species Act does permit consideration of economics in making decisions about remedies for threatened and endangered species. The Corps apparently did not look at lands on the Yellowstone River under the jurisdiction of the United State Bureau of Reclamation in evaluating actions to assist the pallid sturgeon. It has been suggested that a nominal investment in improving habitat there would provide greater benefits to the pallid sturgeon than spilling water at Fort Peck and other habitat activities that might be conducted on the Missouri. In short, the Corps appears to have selected an alternative that is more — EnSp 28

expensive and has less certainty of improved conditions for the pallid sturgeon than other possible alternatives.

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Your truly,

Duane L. Otto, Manager
CAVALIER RURAL ELECTRIC COOPERATIVE, INC.

L0500031

Cornhusker Public Power District
P.O. BOX 9 • NORTHWEST HIGHWAY 81 AND 78 AVENUE • COLUMBUS, NE 68602-0009
402-564-2821 • FAX: 402-564-9907 • E-MAIL: cppd@megavision.com

February 22, 2002

U. S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear Corps Official:

I am writing to get comments from our public utility, regarding proposed modifications to the Missouri River Master Manual, into public record. Proposed modifications to the Missouri river flow will have severe financial consequences to the citizens of Nebraska.

Cornhusker Public Power District is a 60 year old public utility that distributes power to the rural areas of six Nebraska counties. We are headquartered in Columbus, Nebraska, and purchase our wholesale power from Nebraska Public Power District and Western Area Power Administration.

A major item of concern is that the National Economic Development (NED) model used does not properly assess the impacts on our region. It fails to identify the true financial hydro energy losses because electricity costs are much more expensive in the summer time. Also, fossil fuel plants that use Missouri river water for cooling, will suffer reduced outputs because of the proposed lower summer river flows. In some cases a plant may not be able to operate at all. Again, this would be at a time when replacement power would be very expensive, if it would even be available.

HPower 11
MoPower 1

We feel that the Corp of Engineers is not putting the proper importance on economic considerations, when looking at the Endangered Species Act. The Act specifically allows consideration for economic impact. We also feel that the Corp would be extremely unfair by providing protection for endangered species without properly applying the true economic impacts for other project purposes.

EnSp 28

We respectfully request that the Corp develop a management plan that better balances the river flow needs for all involved parties.

Sincerely,

R. E. Hostetter
General Manager

REH/md

SERVING IN PLATTE, COLFAX, BOONE, NANCE, GREELEY AND WHEELER COUNTIES

L0500032

Renville Sibley Cooperative Power Association

P.O. Box 68 • Danube, MN 56230-0068
(320) 826-2593 • (800) 826-2593
Fax: (320) 826-2679

February 15, 2002

U. S. Army Corps of Engineers
Northwest Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114 – 3869

Dear Sirs:

On behalf of Renville-Sibley Cooperative Power Association (Renville-Sibley), I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS).

Renville-Sibley provides retail electric energy services to 2,000 residential, agricultural, commercial and industrial customers in west central Minnesota. Renville-Sibley is one of twenty-two members of East River Electric Power Cooperative, Inc. (East River) and we purchase all our power requirements from East River. East River holds the contract with the Western Area Power Administration for a significant allocation of power supply provided by the Missouri River mainstem system. Consequently, Western provides for approximately 40% of Renville-Sibley's power supply requirements. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on the rural interests served by Renville-Sibley that is ultimately, our membership.

We believe the Corps needs to reconsider the consequences of several options proposed to this point and the potential impacts to customers of non-profit utilities, like Renville-Sibley. Appropriate consideration should be given to recommendations offered by non-profit utilities in the region concerning the regional impacts on power supply that may occur as a result of these proposed actions by the Corps.

HPower 11

Your Touchstone Energy ®Cooperative

We offer the following comments related to these concerns:

1. **NED Analysis versus Regional Obligations:** The Corps' Summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime and provides greater benefits to hydropower than the current water control manual. Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenue would result in a significant increase for firm power customers like East River and ultimately, Renville-Sibley. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning regional consequences to the non-profit utilities like Renville-Sibley that rely on the federal hydro system. The use of the NED as an analytic tool for measuring impacts on hydropower is disturbing, especially in light of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We recommend the Corps reconciles the vastly different NED model and the regional impacts based on Western's findings before finalizing the EIS and reaching a conclusion.

HPower 12

2. **NED Power Value Analysis:** For alternate power supply options, it is Our understanding the Corps has assumed a 50% split between base load and peaking in its NED analysis. We are aware of the Western opinion that offered other value factors between base load and peaking, which would likely have a material affect on the results. We recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analysis using other factors. We also do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods.

HPower 12

3. **Impacts on Downstream Power Plants:** We believe the Corps' impact analysis of the revised flows downstream from Gavins Point are severely understated and inadequately evaluate the impact lower flows will have on the thermal operating limits of downstream power plants, especially during summer months. The Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. We understand the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, which strongly suggest a loss of up to 700 MW of generation for that plant alone during the projected summer lower flow period. Obviously, curtailment of existing generation would have a dramatic impact on the available regional power supply. We are told there

MoPower 1

L0500033

EAST RIVER
ELECTRIC POWER COOPERATIVE
121 Southeast First St. Post Office Drawer E
Madison, SD 57042 Telephone (605) 256-4536

EAST RIVER 50 1950-2000

February 13, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of East River Electric Power Cooperative, Inc. (East River), I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). We ask this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps).

East River provides wholesale power and delivery services to 22 rural distribution systems in eastern South Dakota and western Minnesota. The distribution systems that rely on East River for wholesale power and delivery services in turn provide retail service to residential, agricultural, commercial, and industrial interests directly affecting over 250,000 consumers.

East River holds a contract with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem system. This portion of East River's bulk power supply constitutes approximately 40% of the total requirements of the customers served by the rural distribution systems associated with East River. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on the rural interests served by East River and its member systems.

For several years, East River has actively participated within the broader group of the region's non-profit utilities, which are associated through Mid-West Electric Consumers Association (Mid-West), in discussions with the Corps. Specifically, East River met with then Division Commander General Carl Strock on February 14, 2001, in Omaha and again with Corps officials in Omaha on February 22, 2002. In each of these forums, East River, along with other non-profit utilities which rely on the Missouri River for a substantial portion of bulk power supply, provided comments to the Corps on this issue.

Generally, we believe the Corps has not given adequate consideration to the consequences of the several options it is considering in relation to the effects on the

are some fifteen thermal power plants along the Missouri River that may be affected similarly. We recommend the Corps re-examine this issue.

4. **Regional Power Impacts:** Together with East River and Mid-West, Renville-Sibley is requesting the Corps address impacts on this entire region's electric power supply taking into consideration the significant loss of energy production during summer months and the risks associated with the potential reduction of thermal generation downstream. We believe these factors are a serious risk of volatility in the availability and pricing of wholesale and retail electricity in this region. We recommend the Corps seriously re-evaluate the implications and potential impacts to our rural economy.

HPower 17

We truly do appreciate the difficult task the revision of the Missouri River Water Control Manual has presented to the Army Corps of Engineers and we recognize the process has taken over ten years to date.

Full consideration and potential impacts to all stakeholders and the public is critical, in our view. The options offered to date by the Corps impose very significant burdens and risks on the hydropower interests and future power supply in our region and are based on questionable or incomplete data. In order for the public to understand fully the impact of what the proposed changes mean for our region, a solid analysis based on the region's realities must be used. We do not see the present analysis as doing that.

HPower 22
Other 7

Thank you for your consideration.

Sincerely,

Dale K Christensen

Dale Christensen – CEO

Cc: file

customers of non-profit utilities, which rely on hydropower from the mainstem system. Further, we do not believe the Corps has given appropriate consideration to the repeated recommendations offered by East River and other non-profit utilities in the region concerning the regional impacts on power supply, which may occur as a result of the potential actions by the Corps. HPower 11

We offer the following comments related to these concerns:

1. **NED Analysis versus Regional Obligations**: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as East River. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. We are mystified by the use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We request the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation. HPower 12

2. **NED Power Value Analysis**: For alternate power supply options, it is our understanding the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. We strongly recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods. HPower 12

3. **Impacts on Downstream Power Plants**: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. The current Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, MoPower 1

which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period.

4. **Regional Power Impacts**: We have joined with Mid-West in requesting the Corps address impacts on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region. The Corps has at best offered only a cursory evaluation of this issue. HPower 17

Taken together, we do not believe the Corps' RDEIS has adequately evaluated or taken into consideration key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on full consideration of all of the impacts. HPower 11

We acknowledge the difficulty the Corps faces in balancing the various competing interests in the region. However, before final decisions are reached, we believe all of the stakeholders' interests, including the obligations that are associated with power users which rely on the Missouri River for power supply, and the public must be satisfied that consequences of any Corps' decision are fully understood. HPower 24

The options offered by the Corps in our view impose heavy burdens and risks on hydropower interests and substantially shift benefits to other interests. This significant unbalancing of benefits and burdens is not in the public interest and should not be the outcome of this process. Other 7

Sincerely,

Jeffrey L. Nelson
General Manager

JLN/sl

L0500034

Member Owned

RELIABLE EFFICIENT SERVICE

BON HOMME YANKTON ELECTRIC ASSOCIATION, INC.

P.O. BOX 158 · TABOR, SOUTH DAKOTA 57063
PHONE (605) 463-2507 · TOLL FREE 1-800-925-2929 · FAX (605) 463-2419

February 19, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of Bon Homme Yankton Electric Association, I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). I ask this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps). Bon Homme Yankton Electric Assn., Inc. provides retail electric power distribution in Bon Homme and Yankton counties in southeastern South Dakota. We provide retail service to over 3,200 meters and this includes residential, farms, irrigation systems, commercial accounts and industrial service loads.

Our wholesale power supplier, East River Electric Power Cooperative holds a contract with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem dam system. This portion of East River's bulk power supply constitutes approximately 40% of the total requirements of our distribution system. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on our members and the rural interests served by our system and the other member distribution system that receive their power supply through facilities of East River Electric

Generally, we believe the Corps has not given adequate consideration to the consequences of the several options it is considering in relation to the effects on the customers of non-profit utilities, which rely on hydropower from the Missouri River power system. Further, we do not believe the Corps has given appropriate consideration to the repeated recommendations offered by our power supplier and other non-profit utilities in the region concerning the regional impacts on power supply, which may occur as a result of the potential actions by the Corps.

HPower 11

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The following comments related to these concerns are being offered for consideration:

1. **NED Analysis versus Regional Obligations**: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as East River Electric. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. The use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis may be questionable. We understand the Corps concurs with Western's regional analysis as well. We request the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation.

HPower 12

2. **NED Power Value Analysis**: For alternate power supply options, it is our understanding the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. Western's analysis which projects an average annual increase in its rates of $30 million, which results in about a $2 million charge for East River Electric and our share would be about $84,000 annually. We strongly recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods.

HPower 12

3. **Impacts on Downstream Power Plants**: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. The current Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant,

MoPower 1

L0500035

Lake Road Generating Station
P.O. Box 998
St. Joseph, MO 64502

February 26, 2002

ST. JOSEPH LIGHT & POWER
ENERGYONE.

General David Fastabend
U.S. Army Corps of Engineers,
Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Attn: Missouri River Master Manual RDEIS

Dear Sir:

UtiliCorp United Inc. (UCU) is an international energy provider and in addition serves over 1,774 million customers in North America. UCU respects the efforts the Corps has expended in properly managing the complicated Missouri River Basin flow. UCU also appreciates the opportunity to provide the following written comments in addition to the verbal comments we supplied at the Corps Public Hearing held in St. Joseph, MO.

UCU currently operates two coal- fired power plants in Sibley and St. Joseph Missouri. Both plants' operations are dependent on adequate Missouri River flow for their continued operation. Each plant has an NPDES permit, which limits the thermal discharge temperature. On several occasions, the St. Joseph Plant has been required to limit load to comply with the thermal discharge limits. This normally occurs during the hottest days of the summer when power demand is highest. The higher ambient temperature also has a greater impact on the Missouri River water temperature as the flow is reduced. Since the St. Joseph Plant's current NPDES limit is based only on the discharge temperature, lower flow increases the probability of load restrictions at a time when power is at the highest demand.

UCU is also concerned that the proposed updates to the Missouri River Master Manual will result in lower flows, which will increase the probability of unit outages. In February 1989 the St. Joseph Plant's largest unit was taken off line for three days due to low river flow. As part of President Bush's issued Executive Order 13211, we believe all Federal Agencies are required to review the potential energy impacts of regulatory actions. As such, UCU requests the Corps gives further consideration of the economic and reliability impacts of the Master River Manual Alternatives on the electric supply grid.

MoPower 1, 4

With the current options available UCU supports extension of the Current Water Control Plan (CWCP) and recommends continuing studies to reduce the significant

Other 6

which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period.

4. **Regional Power Impacts**: As members of Mid-West, we join with them in requesting the Corps address impacts on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region.

HPower 17

5. **Member Impact**: The impact to our members could be substantial if the results of 40% of their wholesale power is increased by the numbers shown in the proposed NED models. At a time when rural people are struggling to maintain ~~their~~ businesses and farms the last thing that they can afford is additional power costs to run their homes or businesses. If the estimated costs are correct and the net effect to the wholesale power costs are as shown above, this would increase our members monthly fixed cost nearly 11% if this was spread to all meters equally. Another item that has an effect in our area is the Lewis & Clark Lake sedimentation that is taking place. What steps if any will be taken to prolong the use of the hydro power and also what will be done to insure that water intakes will have proper water flow to them?

HPower 12

ErSd 5

Taken together, we do not believe the Corps' RDEIS has adequately evaluated or taken into consideration key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on full consideration of all of the impacts. While we understand the difficult decisions that the Corps must make, we also believe that one segment of the public should not be burdened with the negative outcome of the results of the operation of the mainstem dam system on the Missouri River.

HPower 11

We appreciate the opportunity to list our concerns and hope that you take these matters into consideration when making your final proposals. We know a fair and reasonable solution is possible as long as everyone is treated fairly. Thank you.

Very truly,

Merlin J. Goehring

Merlin J. Goehring
General Manager

scientific unknowns in the Missouri River ecosystem and how the ecosystem will respond to management actions. We believe a multi-dimensional view, which takes into account all costs to society including potential property damage from flooding and reduction of power supply reliability be assessed in an unbiased manner as a part of the ecosystem review.

Sincerely,

Mike Smith

Mike Smith
Manager, Lake Road Generating Station

L0500036

Lyon-Lincoln
Electric Cooperative

PO Box 639 • Tyler, MN 56178-0639
Telephone: (507) 247-5505 • (800) 927-6276
Fax: (507) 247-5508

February 25, 2002

U.S. Army Corps of Engineers
Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68114-3869

Dear Sirs:

On behalf of Lyon-Lincoln Electric Cooperative, Inc. (Lyon-Lincoln EC), I wish to submit this letter of comment to the Corps of Engineers concerning the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). We ask this letter be considered as part of the official record of proceedings and given due consideration in the decision making process applied by the Corps of Engineers (Corps).

Lyon-Lincoln EC provides retail service to residential, agricultural, and commercial interests directly affecting over 3,850 consumers in Southwestern Minnesota.

Lyon-Lincoln EC, through its power supplier, East River Electric Power Cooperative (East River), holds a contract with the Western Area Power Administration (Western) for a significant allocation of power supply furnished from the Missouri River mainstem system. This portion of Lyon-Lincoln EC's power supply constitutes approximately 40% of the total requirements of the customers we serve. Accordingly, the outcome of the Corps' decisions concerning revisions to the operation of the Missouri River will have a direct effect on the rural interests served by Lyon-Lincoln EC.

For the past several years, East River has actively participated within the broader group of the region's non-profit utilities, which are associated through Mid-West Electric Consumers Association (Mid-West), in discussions with the Corps. Specifically, East River met with then Division Commander General Carl Strock on February 14, 2001, in Omaha and again with Corps officials in Omaha on February 22, 2002. In each of these forums, East River, along with other non-profit utilities which rely on the Missouri River for a substantial portion of bulk power supply, provided comments to the Corps on this issue.

Generally, we believe the Corps has not given adequate consideration to the consequences of the several options it is considering in relation to the effects on the customers of non-profit utilities, which rely on hydropower from the mainstem system. Further, we do not believe the Corps has given appropriate consideration to the repeated recommendations

HPower 11

offered by East River and other non-profit utilities in the region concerning the regional impacts on power supply, which may occur as a result of the potential actions by the Corps.

We offer the following comments related to these concerns:

1. **NED Analysis versus Regional Obligations**: The Corps' summary brochure of the RDEIS (August 2001, pages 16-17) shows every proposed changed flow regime provides greater benefits to hydropower than the current water control manual. Concurrently, Western's analysis summarized in the brochure describes a loss of about $30 million annually in revenue but does not indicate that such a loss of revenues would result in a significant increase for firm power customers such as East River and Lyon-Lincoln EC. The impression presented by the summary brochure, which emphasizes the use of the National Economic Development (NED) model, does not reconcile the stark contrast between the impact analysis offered by Western concerning the regional consequences to the non-profit utilities which rely on the federal hydro system and hold contracts with Western and the NED. We are mystified by the use of the NED as an analytic tool for measuring impacts on hydropower, especially in view of Western's analysis. We understand the Corps concurs with Western's regional analysis as well. We request the Corps reconcile the vastly different picture presented by the NED and the regional impacts based on Western's work before finalizing the EIS and reaching its recommendation. HPower 12

2. **NED Power Value Analysis**: For alternate power supply options, it is our understanding the Corps has assumed a 50/50 split between base load and peaking in its NED analysis. We are aware that Western has offered other opinions concerning the split of the value factors between base load and peaking, which would likely have a material affect on the results. We strongly recommend the Corps consult with and take into consideration Western's views on this matter or at a minimum provide sensitivity analyses using other scenarios. Additionally, we do not believe the NED captures the significant economic differences that will occur as hydro generation is shifted from summer to spring time periods. HPower 12

3. **Impacts on Downstream Power Plants**: We believe the Corps' analysis of the impacts of revised flows downstream from Gavins Point has grossly understated and inadequately evaluated the impact of lower flows during summer periods on the thermal operating limits of downstream power plants. The current Corps' analysis of this issue is apparently based on water supply assumptions and does not consider available ambient air and water temperature data. Accordingly, we believe the assessment method used by the Corps is fundamentally flawed and significantly understates the impacts and risks of lower summer flows on downstream power plants. We are specifically aware that the Nebraska Public Power District has prepared information concerning the Cooper Nuclear Plant, which strongly suggests loss of up to 700 MW of generation for that plant alone for multiple periods during the projected summer lower flow period. MoPower 1

4. **Regional Power Impacts**: We have joined with Mid-West in requesting the Corps address impacts on the region's electric power supply taking into consideration the significant loss of energy production during the summer period and the risk of loss of thermal generation downstream. Cumulatively, we believe these factors present a potentially serious risk of substantial volatility in the availability and pricing of wholesale electric power in this region. The Corps has at best offered only a cursory evaluation of this issue. HPower 17

Taken together, we do not believe the Corps' RDEIS has adequately evaluated or taken into consideration key issues related to power. We believe these deficiencies must be corrected and taken into consideration if the Corps is to offer a decision based on full consideration of all of the impacts. HPower 11

We acknowledge the difficulty the Corps faces in balancing the various competing interests in the region. However, before final decisions are reached, we believe all of the stakeholders' interests, including the obligations that are associated with power users which rely on the Missouri River for power supply, and the public must be satisfied that consequences of any Corps' decision are fully understood. HPower 24

The options offered by the Corps in our view impose heavy burdens and risks on hydropower interests and substantially shift benefits to other interests. This significant unbalancing of benefits and burdens is not in the public interest and should not be the outcome of this process. Other 7

Sincerely,

Dayle W. Swift

Dayle W. Swift
President

DWS/rl

L0500037

Iowa Association of Electric Cooperatives
A Touchstone Energy® Partner

February 26, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

SUBJECT: Missouri River Master Manual Review

Gentlemen:

The Iowa Association of Electric Cooperatives (IAEC) is a statewide association representing electric cooperatives in Iowa, including generation and transmission cooperatives that provide wholesale electric service to much of western Iowa. This power is provided to the distribution cooperatives, which sell the electricity at retail to their Iowa consumers. This power supply consists of hydropower from Missouri River dams through the Western Area Power Administration and coal-fired generating plants in North Dakota, Wyoming and Iowa.

IAEC offers the following comments on the Revised Draft Environmental Impact Statement (RDEIS) of the Missouri River Master Manual Review.

1. We believe that the National Economic Development (NED) model, used in the Corp's analysis, appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for electric generation. That lost energy most likely will not be made up from the greater generation efficiency at the higher head levels. HPower 12

The NED model does not adequately recognize the impacts of shifting generation to different times of the year. It has not fully captured the potential impact of shifting generation from the summer, when our systems have peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is low and can be met with other resources. HPower 12

The NED analysis, which shows a greater benefit from proposed flows than the Current Water Control Plan (CWCP), stands in stark contrast to the impact assessment conducted by the Western Area Power Administration. The WAPA assessment clearly shows a dramatic revenue impact that will have to be offset WAPA 4

8525 Douglas, Suite 48 • Des Moines, Iowa 50322-2992 • 515/276-5350 • 800/798-7037 • FAX 515/276-7946

by higher electric rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "[I]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP . . ." The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. Western Area Power Administration does not have discretion to change repayment schedules because of different river operations.

2. The Corps of Engineers' analysis does not adequately address the impacts on regional power supply – both hydro generation and thermal electric plants that use Missouri River water for cooling. We recognize this is a difficult issue to analyze, but the NED model assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, as well as where additional generation is available. HPower12 MoPower 3

Furthermore, the NED model completely ignores transmission issues related to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition, the impact on regional power pricing resulting from reduced water flows is completely absent. HPower 12

The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results. MoPower 1

3. IAEC shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act. However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri EnSp 28

Basin and the negative impacts on other project purposes. The Endangered Species Act does permit consideration of economics in making decisions about remedies for threatened and endangered species. However, this consideration was apparently not given.

EnSp 28

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower and navigation are the "losers" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable.

HPower 22

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Sincerely,

Brian Kading

Brian C. Kading
Executive Vice President
and General Manager

Cc: Kent Pauling, NIPCO

MASTERMANUAL NWD02 L0500038

From: Andrea Christoffer [christoffer@federatedrea.com]
Sent: Thursday, February 28, 2002 5:04 PM
To: Mastermanual
Cc: Rick Burud
Subject: Concerns on Missouri River Master Manual

lecorpsengnrs.doc

Attached is a letter from our general manager voicing our co-op's concerns.

Federated Rural Electric
77100 Hwy. 71 S., P.O. Box 69
Jackson, MN 56143-0069
507-847-3520 or 507-728-8366 • FAX 507-728-8366
E-mail address: info@federatedrea.com

February 28, 2002

US Army Corps of Engineers, Northwestern Division
ATTN: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha NE 68144-3869

Dear Corps of Engineers:

I would like to point out a few concerns that I have with the Revised Draft Environmental Impact Statement on the Missouri River Master Manual Review. As a general manager for a rural electric cooperative we receive 32 percent of our wholesale power from the river. We are would like you consider the potential impacts any changes you make will have on our 4,800 rural customers.

1. The National Economic Development (NED) model is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP). HPower 12
2. The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area Power Administration (WAPA) would gladly provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices. HPower 12 WAPA 4
3. The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source. HPower 17
4. As a board member of Mid-West Electric Consumers Association, we share the concern of many parties to provide better habitat for threatened and endangered species. We recognize the supremacy of the Endangered Species Act. However, the proposal considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and negative impacts on other project purposes. Other 7

In conclusion, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Thank you for considering these points.

Cooperatively,

Richard G. Burud

Richard G. Burud
General Manager

RGB/amc

MASTERMANUAL NWD02 L0500039

From: Western Iowa Power Cooperative
Sent: Wednesday, December 19, 2001 4:22 PM
To: Mastermanual
Subject: Master Water Control Plan for the Missouri River

Mr. Kelly Ryan
CENWK-PM-CJ
U.S. Army Corps of Engineers
Kansas City District
601 East 12th Street
Kansas City, MO 64106-2896

Dear Sir:

Western Iowa Power Cooperative is opposed to the changes in the Master Water Control Plan for the Missouri River. The Board of Directors and its 3,517 Members are concerned about the possible negative effects of the changes to the river on the hydropower we currently receive from the Missouri River. The proposed changes in the Master Water Control Plan will also affect the electric rate we receive during peak demand periods with the spring and fall rise of the river. HPower 11,12 WAPA 4

Western Iowa Power Cooperative is opposed to the changes in the Master Water Control Plan for the Missouri River also for its effects on our Members ability to earn a living from farming along the river. We feel it will affect the ability of the local farms to plant and harvest crops. We also have a concern as to the effects the changes will have on the local water table and the ability of the local farms to irrigate their crops during the summer months. IntD 1 GW 2

Thank you for your consideration.

Sincerely,

Louis Reed
Western Iowa Power Cooperative Board President

3/9/2002

L0500040

TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.
HEADQUARTERS: P.O. BOX 33695 DENVER, COLORADO 80233-0695 (303) 452-6111

February 28, 2002

U. S. Army Corps of Engineers, Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Attention: Missouri River Master Manual RDEIS

To Whom It May Concern:

Tri-State Generation and Transmission Association is pleased to submit these recommendations to the Missouri River Master Water Control Manual which has been the subject of extensive evaluation by the Corps and review with stakeholders.

As a member of Mid-West Electric Consumers Association, Tri-State supports the comments submitted by Mid-West which raise serious concerns with respect to the Corps ability to properly evaluate power impacts resulting from any of the proposed flow regimes. Regional hydropower impacts and thermal loading from power plants along the river need to be re-evaluated in consultation with Western Area Power Association and with owners of each generation source along the river below Gavins Point Dam. The Corps needs to comply with the intent of President Bush's May 18, 2001 Executive Order, which requires "agencies" to prepare a "Statement of Energy Effects" when undertaking certain agency actions. HPower 11, 12, 17, 21

Notwithstanding the need for more accurate data to evaluate the flow options presented, Tri-State believes that the Modified Conservation Plan (MCP) is the preferred alternative of those presented in the RDEIS. If the MCP however, would result in a jeopardy opinion by the Fish and Wildlife Service, the "Gavins Point Demonstration Project" proposed by the Missouri River Basin Association (MRBA), which is a variation of GP 1528, has merit provided that certain safeguards and modifications are incorporated. HPower 22

A key component of the demonstration proposal is the requirement that damages from the flow adjustments be mitigated. This needs to specifically include hydropower impacts. In an effort to reduce the mitigation that would be required, we recommend that the demonstration project specifically include the minimization of spills as a stated goal. In addition, the Corps should evaluate, as part of its demonstration, the needed summer flows to provide power plant cooling if the GP 1528 is not adequate. This proposal recognizes the uncertainty of the science with respect to biological impacts as well as impacts to power generation and regional power issues. If the Corps decides to proceed with experimentation of new flow release patterns in line with the MRBA proposal, it is necessary to mitigate damages resulting from the experiments. The National Academy of Science has also supported experimental flow releases. Other 7

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L0500041

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Nobles Cooperative Electric

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Facsimile: (507) 372-5148

February 26, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Subject: Comment to Corps of Engineers on RDEIS

Nobles Cooperative Electric is an electric utility in southwest Minnesota serving approximately 4,900 members. We are concerned about the potential impacts of federal hydropower and thermal power plants that use Missouri River water for cooling.

From what I've seen the National Economic Development (NED) model used by the Corps' analysis is inadequate. It appears to be a "national" representation, not a regional one.

The NED fails to address the impacts of shifting generation to different times of the year. For example, the NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is at its highest, to the spring, when demand and value of power is low and can be met with other resources. HPower 12

The NED analysis stands in stark contrast to the impact assessment made by the (WAPA). WAPA clearly shows a dramatic revenue impact that would be offset by higher power rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "if WAPA were to continue to pay the Federal Treasury at the rate it would under the Current Water Control Plan (CWCP)…". However, WAPA has no discretion to change repayment schedules due to different river operations. They are fixed by statute and regulation. WAPA provides more information to adequately reflect the realities of hydro generation on the river, as well as electric utility practices. WAPA 4

Although this is a difficult issue to analyze, too many assumptions are made. The NED assumes availability of additional power resources to offset the loss of generation from reduced power flows. It is important to know how much generation is affected by proposed flow changes on the Missouri, as well as where additional generation is available. HPower 11, 12

The Corps should re-examine the data and incorporate all information relating to power supply in the region in the analysis. The Corps should examine each generation source on thermal plants along the river. HPower 11

We appreciate the opportunity to comment on the Corps RDEIS for the Missouri River Master Water Control Manual.

Sincerely,

Mike McInnes

Mike McInnes for
Frank R. Knutson
Executive Vice President/
General Manager
Tri-State Generation and
Transmission Association, Inc.

FRK/MM/cm

Nobles Cooperative Electric shares the concern of many parties to provide better habitat for threatened and endangered species, and the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward this protection without regard for serious economic consequences. We feel the Corps should develop a management plan for the Missouri River that balances the benefits and burdens among all project purposes.

EnSp 28

If my comments leave any questions unanswered, please do not hesitate to call.

Sincerely,

Richard G. Burud
General Manager

RGB/tah

MASTERMANUAL NWD02 L0500042

From: JOHN CASADY [casady@netINS.net]
Sent: Thursday, February 21, 2002 11:17
To: Mastermanual
Subject: Corps of engineers CWCP

U.S. Army Corps of Engineers, Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869
E-mail: mastermanual@usace.army.mil

To whom it may concern:

Villisca wishes to voice its concerns over the RDEIS proposal. The impact that this proposal has on the residents of the entire area below the Gavin's Point Dam far outweigh the, in our opinion, inflated benefits the proposal would seem to suggest.

The Tennessee Valley Authority (TVA) prepared a study: "Rail Rates and the Availability of Barge Transportation: The Missouri River Region", in Feb. of 1997. Water-compelled rate savings during the study amounted $45 million for corn shipments, $56 million for wheat shipments, $35 million for soybeans, and $12 million for fertilizer shipments. A total of $148 million for these 4 items alone, far outweighing the $7 million in supposed benefits. In May of 1998 the TVA reduced the benefit to $80 million.

The report also stated: "As with the original estimates, the updated results reflect a measurable relationship between available navigation and railroad rates." The report also stated: "What remains clear, however, is the irrefutable conclusion that available commercial navigation on the Missouri River can provide necessary competition to rail carriage under a wide array of historically observed economic conditions."

Villisca believes the REDIS claims of $7 million in benefits between rail and barge is flawed because it doesn't take into affect that the rail rates are presently "water-compelled" the affect of the river navigation is already in place. Villisca believes the cost of alternative transportation will increase dramatically and the effect of the loss of navigation will be felt by 99% of the Missouri River region. It is our belief that the split navigation season will kill navigation by causing it to be economically unfeasible.

Nav 6, 8

Villisca believes the collateral impact will be enormous. The additional 60,000 trucks pounding interstate 29 will shorten the life of the interstate; create a negative fuel efficiency, safety issues and environmental impacts. Water based freight on a ton-mile basis is by far the most efficient form of transportation.

Nav 23

The Corps numbers show an increase in recreation of $4 million in the best case with a loss of $7 million in navigation. But the TVA study of February 1997, commissioned by the Corps, shows a navigation's impact between $80 million and $203 million. So the GP alternatives trade $4 million in recreational benefit for $80 million or more in lost benefits.

Nav 42

The Current Water Control Plan (CWCP) offers the most benefits for flood control. Increased spring flows increase the risk of flooding and drainage problems on nearly 1.4 million acres of some of the most productive farmland in Iowa, Nebraska, and Missouri. Depriving farmers of the current competitive transportation structure effects us all. And will have a lasting detrimental effect on farm income, farm output products and farm input products such as fertilizer.

Nav 7

Villisca also believes that the reduced summer flows could affect municipal drinking water

3/9/2002

supplies as there is less dilution effect dispersing the contaminants that go into the river on a regular basis. Changes in river water levels move groundwater and could move nearby contaminants into municipal and private well fields. Possibly creating a danger to public drinking supplies. WQ 2

Villisca's main concern is the effect the REDIS will have on its own economy. Villisca is a Municipal Electric Utility and purchases the majority of its power from the dams along the Missouri River, Western Area Power Administration. When determining the potential impact of low summer flows on electric generating plants along the Missouri River, the Army Corps of Engineers used 100-year averages. The problem with averages is that they minimize the impact of bad years. During "average" years, impacts can be minimized...but on year's that fall below "average", the impacts are dramatic and potentially devastating. Decreased summer flows impact the amount of hydropower available from the Missouri River dams. Villisca's purchase power rates could see price increases of 12-20% according to the Corps of Engineers figures. HPower 12

The decreased summer flows will have affects on other power generated along the Missouri River. According to the Nebraska Public Power District (NPPD), the ambient river temperatures will be critical in the summer. With the possible low flows in the GP alternatives, it is very conceivable that NPPD will have to shut down part or all of its generating capacity during hot periods so as not to exceed discharge permits criteria. Electric generating facilities along the Missouri River utilize water from the river as a coolant during the generating process. If the river levels are to low and corresponding river temperature are too high, a generating plant is unable to use river water and will be forced to shut down. Lower summer flows along the Missouri River jeopardizes electric power supply during the months when customers' demand for electricity is at its highest. MoPower 1

Proponents of increased spring and fall flows will cite an increase in the value electric power production from Missouri River dams. While on the surface the overall national increase may look appealing, it comes at great regional expense... especially to Villisca and the other 258 municipalities, rural electric cooperatives, federal and state agencies, irrigation districts and public utility districts that purchase power from Western Area Power Administration. HPower 11

Electric generation is only one of the many industries that utilize the Missouri River water in their production process. Industries that utilize river water will experience increased pumping costs that will correlate to the reduced river levels during the summer months. WS 11

The proposed alternatives to the management of the Missouri River only benefit recreation above the Gavin's Point dam and will have a detrimental affect to economies in the downstream states. Proponents of the reduced summer flows in the Missouri River cite astronomical numbers for the recreational benefits of the proposed alternatives. Up to nearly $89 million! What they don't tell us is that under the current river flow plan recreational benefits are estimated to be approximately $85 million, therefore the net increase is only $4 million dollars (5%). And that that $4 million is for recreation upstream, where they already enjoy the tremendous recreational and tourism benefits of the Missouri River dam system. Downstream river users do not reap additional recreational benefits. Our ability to use the river for recreational purposes actually decreases dramatically! For example Marinas and boat ramps will be high and dry. Oxbow lakes, chutes and current downstream wetlands will be left above the river level and will dry out. Lower summer flow will also mean increased sandbars and shallower water depth making recreational boating next to impossible. Rec 10

Proponents of the GP plans claim the river will be slow and gentle moving, suitable for canoes and kayaks, etc. This is simply not true. River velocity is primarily dependent on river gradient, the change in elevation as the river travels, the river velocity will remain fast at any of the flow amounts the Corps is proposing. Nav 46

It is Villisca's belief that that there are uncertain benefits to the three species of fish. The U.S. Fish and Wildlife Draft Biological Opinion states that the least tern population has grown to the point that it is actually above the endangered species threshold number. Therefore the changes in flow to create habitat is not needed. EnSp 28

Increasing spring and fall flows and reducing summer flows creates, at best, 164 acres of tern and plover habitat, of which only 40 acres being below Gavin's Point Dam, along 2431 miles of

3/9/2002

EnSp 46

Missouri River. Purchasing a field along the river and creating a suitable habitat for these two species could achieve the same results.

Below the Platte River mouth, the river already has a substantial seasonal change in water flow with spring rises and summer lows. Obviously above the dam system there are also seasonal flow fluctuations. The main impact of the split season will be in the 200- mile stretch between Gavin's Point and the Platt River. If the river contains 2,000+ miles of potential sturgeon habitat and much of that already has a natural flow fluctuation, why will 200 additional miles in the Sioux City area make any difference? EnSp 29

Tests on endocrine levels of pallid sturgeon taken from the Missouri River indicate that a hormonal imbalance may actually be what is preventing the species from thriving after it spawns. EnSp 28

The pallid sturgeon typically spawns in areas with a substrate of gravel, cobble or rock. This substrate is not common along the area of the Missouri River that will be affected by the artificial spring rise that is being proposed. Even though the pallid sturgeon is listed as endangered, the upstream states continue to stock the reservoirs with predatory game fish (walleye and bass) that feed on small fish such as sturgeon fry. EnSp 28,58 Fish 14

The upstream states allow snagging of catfish and shovelnose sturgeon in the river. The pallid sturgeon occupies the same environment as the shovelnose. The only certain way to tell a shovelnose from a pallid sturgeon is a genetic test. Probably not many river fishermen (snaggers) will go to that effort. EnSp 28 Fish 14

The Army Corps of Engineers and the United States Fish and Wildlife Service acknowledge that there is no data to support a definition of a spawning cure that would successfully result in sturgeon spawning on the lower Missouri River. With this being the case, the proposed artificial spring rise is merely and costly and risky scientific experiment. EnSp 5

Contrary to media reports, the National Academy of Science (NAS) report released on January 9, calls for a moratorium on revisions to the Missouri River Master Manual. "A moratorium on current efforts to revise the Master Manual should be enacted." (NAS report, page 116, Recommendations.) Other 46

Villisca believes that all the alternatives only provide benefits to upstream reservoirs with detrimental affects to downstream stakeholders. This is an unfair distribution, particularly in light of population density and economic effects of the alternatives. Villisca believes the only sensible conclusion would be to stay with the Current Water Control Plan. Other 7

Thank you
Michael D. Johnson Electrical Distribution Mgr.
Villisca Municipal Power & Light

3/9/2002

L0500043

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February 28, 2002

Project Manager – U. S. Army Corps of Engineers
Missouri River Master Manual RDEIS
Northwestern Division – U.S. Corps of Engineers
12565 West Center Road
Omaha, NE 68144-3869

Ameren

Dear Sir or Madam:

Re: Comments on the Master Water Control Manual Review and Update
Revised Draft Environmental Impact Statement (RDEIS)

Ameren appreciates the opportunity to provide the following comments on the proposed revisions to the master manual. As an electric utility that depends upon the river to meet the energy needs of our customers, we have a strong vested interest in this critically important issue.

Ameren is the parent of two utility companies – AmerenUE, formally known as Union Electric Company, and AmerenCIPS, once Central Illinois Public Service Company. AmerenUE is the largest electric utility company in Missouri. Together the two companies provide power to 1.5 million customers and natural gas to 300,000 customers in Illinois and Missouri.

Ameren's Interest in the Corp Proposal

Two of Ameren's largest power plants are located on the Hermann reach of the Missouri River – our Callaway Nuclear Plant and the Labadie coal fired plant. The Callaway Plant produces approximately 1200 megawatts of electricity, and Labadie Plant produces roughly 2400 megawatts. These two plants account for nearly 65% of the energy needs of our Missouri customers. Both plants rely on the continuous availability of an adequate water supply for cooling and other purposes to meet the energy needs of the St. Louis metropolitan area and the eastern portion of Missouri.

Ameren operates other major coal fired generating facilities on the Mississippi River downstream from the mouth of the Missouri, i.e., the Rush Island, Meramec, and the Venice power plants. These plants provide another 2600 megawatts of electrical generation and represent additional base, intermediate, and peak load capacity within our system.

The majority of electricity generated within the AmerenUE system originates from coal- fired power plants. Ameren recently invested millions of dollars for

barge unloading facilities at Rush Island and Sioux plants as an alternate means to deliver fuel. Barge loading facilities were also installed at Meramec to compliment existing barge unloading facilities. Movement of coal by barge is the most energy efficient and often the lowest cost method of transportation. The ability to deliver coal to our plants by barge helps to keep electric rates competitive through the availability of alternative transportation options.

All combined, 85% of AmerenUE's generating capacity is dependent, in one way or another, on the availability of adequate water supplies in the Missouri River.

Water Supply Impacts

As a water supply user Ameren's only choice is to support the extension of the Current Water Control Plan (CWCP) since it is the only alternative that would not reduce Missouri River flows, and subsequently, Mississippi River flows. MoPower 4

Ameren plants located on both the Missouri and Mississippi Rivers rely on the rivers for cooling and other purposes in the continuous production of electricity. The alternatives presented by the Corps will increase, to varying extent, the likelihood and expected duration of full and partial outages during critical winter and summer operation for at least two of our largest power plants, Labadie and Callaway. Plans other than the CWCP, also have the potential to adversely impact navigation on the Mississippi River that will hinder our ability to provide alternative, cost effective fuel transportation to our power plants. MoPower 1 Nav 37

In the event generating capacity is lost as a result of reduced river flows, Ameren will be forced to look for replacement power. If that power is not available, or if it cannot be imported to our area due to transmission constraints, our customers will face an increased likelihood of blackouts. Even if power is available in our region, it will be more expensive than the power we generate. Under Missouri's ratemaking process, this added cost would ultimately be borne by our customers. MoPower 3

Ameren requests the Corps ensure adequate water is released from Gavins Point to sustain water supply operations during low-flow periods.

Ameren has noted channel degradation in the Hermann reach of the river where the Callaway and Labadie plants are located. This has resulted in lower water elevations at our intakes. Data collected by the Corps confirms that the Hermann reach of the river has experienced a downward shift in stage trends at low-flow conditions. The DEIS Volume 3A technical report, dated July 1994, implies that hydrographic surveys from 1988 and 1990 were used by the Corps to determine impacts on power plant water intakes. Use of thirteen-year-old data to develop rating curves is fraught with uncertainty since the effect of the 1993 flood would not be represented. At the very least, the Corps should complete a comparative analysis on several key cross-sections to determine if conclusions based on earlier data are still valid today. MoPower 9

The winter low-flow condition is of particular importance to Ameren because of the combination of lower releases from Gavins Point and potential for ice jams. Although our water intakes have been carefully designed to accommodate low water situations, significant reductions in flows can jeopardize those intakes and our ability to provide electric service during periods of extreme weather. MoPower 12

Low river conditions can create regional power shortages that could preclude Ameren's ability to secure additional power since several of our interconnected, neighboring utilities also operate power plants on the Missouri River. Their generating capacity could also be at risk and unavailable to support our system. MoPower 3

Since our Labadie and Callaway plants are critical in supplying voltage support to the system, the sudden loss of these plants could severely endanger the stability of the electric grid. Worst-case conditions would involve a voltage collapse, which would result in a full or partial blackout of the system. Our ability to secure power from either internal or external sources would be further comprised since many generating units are typically out of service for routine scheduled maintenance during this time period. MoPower 6

During the winter of December 2000/January 2001, both our Labadie and Callaway Plants were forced to implement emergency procedures to help ensure continued plant operation during a low water event. Extremely cold temperatures during December 2000 created ice jams on the river that significantly reduced river flows. Water levels were at their lowest point since December 1989. Several power plants within the Kansas City area were forced to come off-line or operate at a reduced generating capacity during this event. Had the river dropped much farther, Ameren would have been forced to temporarily cease operations. This could have left thousands of families without heat during that unusually harsh winter. It is absolutely vital to Ameren, and to the welfare of our customers, that adequate water flows be maintained in the Missouri River year-round. WS 13

Spring-rise
Ameren opposes the spring-rise due to the potential for increased channel degradation associated with higher river flows, and the subsequent reduction of water storage that may jeopardize the Corps' ability to meet water supply needs later in the year. MoPower 9

An increased spring-rise may adversely affect Ameren's ability to access water during low-flow periods due to accelerated deepening and widening of the channel from higher spring flows. The deepening and widening of the channel will reduce surface water elevations, thereby increasing the likelihood of loosing pump suction at our river intakes. A decrease, or loss of pump suction, will result in either a reduction in power generation or a complete loss of the plant. Potential effects of increased channel degradation on water supply users due to increased spring flow were not evaluated in either the Biological Opinion (B.O.) or the RDEIS. MoPower 9

The higher spring-rise will also decrease the amount of water available for release during the historical low-flow period later in the year for navigation support and water supplies.

Summer Low-flow
Ameren opposes the reduced summer flow condition that is incorporated into the various alternatives.

Compared to the CWCP, the other alternatives would, to varying degrees, decrease the summer river flows below the Gavins Point Dam. The number of years with flows below 35,000cfs will almost double from 21 to 40 during the months of July and August under the GP1528 plan for the 100-year period evaluated by the Corps. At low-flows, Labadie Plant would be forced to limit operation due to water quality discharge permit limitations and/or install off-stream cooling. MoPower 6

During the summer peak the ability to secure excess generation or transmission is more difficult since these systems are typically operating at or near maximum capacity. Any loss in generation will occur at a time when replacement power is typically at its highest cost due to the demand for energy. MoPower 3

A major capital expenditure would be required to retrofit Labadie Plant with cooling towers for off stream cooling. Moreover, space limitations and infrastructure restrictions may limit Ameren's ability to install adequate cooling capacity. Any energy deficits would need to be made up through purchased power (if available) or new generation. MoPower 6

We remind the Corps that the Congress and the President have placed a high priority on the energy needs of our country. Consequently, we urge the Corps to carefully consider the negative consequences of reduced summer flows on energy production. MoPower 6

Ameren believes the Corps has understated the actual capacity loss and resulting economic impact to utilities. MoPower 7

Communications with Corps personnel indicate that average flows, rather than daily flows, have been used in models to assess operational and economic impacts to utilities. Ameren believes the use of average flows is inappropriate because it will under estimate the effect of actual low-flow conditions on plant operations. The daily low-flow conditions as they relate to water availability, and water quality based permit limits, represent the most critical operational and economic impacts to utilities.

State water quality standards include both a temperature rise and maximum temperature limit. These standards require that the thermal discharges not raise the temperature in the mixing zone by more than 5 degrees Fahrenheit. The standards also have a maximum temperature of 90 degrees Fahrenheit that must not be exceeded. Corps documents indicate that the 5-degree temperature rise was assumed to be the critical criteria, in all cases, when

evaluating thermal impacts to utilities. With this assumption, the Corps ignored the 90 degree maximum temperature limitation that may vary well be the controlling factor under reduced summer flows.

MoPower (cont.) 7

Lower summer releases from Gavins Point will result in decreased downstream water velocities, longer travel times and increased river temperatures. Consequently, river temperature may approach 90 degrees more frequently, thereby reducing the allowable temperature rise to a value less than 5 degrees. The Corps use of the 5-degree assumption is flawed, and under estimates thermal impacts to power plants.

Higher Reservoir Levels in Upper Basin

Ameren opposes the Corps plan to increase reservoir levels in the upper basin.

MoPower 5

This reduces the commitment of water to all the lower basin states and raises serious concerns regarding the Corps ability to meet "congressionally authorized project purposes".

Adaptive Management

Ameren opposes the use of the "adaptive management" process within the broad context proposed by the Corps, i.e., significant alteration of flows within the basin.

Other 10

The adaptive management process, whether embodied as an element of any specific Corps plan or implemented on a short-term trial basis, would be very disruptive to the farmers, businesses, and the water supply users as a result of the significant flow alterations proposed. In addition, the process would create an unmanageable situation from a planning perspective due to the uncertainty associated with future flow alterations.

MoPower 3

Businesses and individuals that rely on the Missouri River would be placed at significant economic and regulatory risk. For example, the uncertainty for utility operations would derive from the need to potentially spend millions of dollars to comply with environmental regulatory requirements and/or secure outside purchased power to meet system energy demands in light of the potential loss of available generating capacity during a particular experiment. This may conceivably be required as a result of a relatively short term, low-flow test that ultimately may prove to be unsuccessful regarding the desired biological outcome.

EnSp 4

The NAS confirmed that we do not have fundamental scientific information to understand how the ecosystem will respond to flow management actions designed to improve conditions. Certainly, the prudence of the expenditures and actions noted above cannot be justified as a result of such uncertainty, especially when one considers the more practical ecological alternatives that have been suggested by others.

Ameren supports the concept of smaller scale approaches for experimentation in ecological enhancement.

EnSp 26 WRH 6

The Corps should look to alternative approaches to create and improve fish and wildlife habitat as a means of pursuing a balanced, common sense approach that addresses species needs without adversely affecting social and economic interests. The Corps action should focus on the creation of appropriate habitat adjacent to the river and within existing tributaries and chutes as a means of species enhancement.

Other 10

Ameren does not support the adaptive management process as presented by the Corps due to the one-dimensional representation of the Agency Coordination Team that limits opportunity for stakeholder involvement.

Other 7

Any significant action taken by the Corps to alter the Master Manual should reflect a balanced approach that takes into consideration all "congressionally authorized purposes", as well as the need to enhance biological criteria. Prescriptive biological considerations should not be the sole factors that dictate action while other basic economic considerations are ignored. The public participation and decision-making process should be open to all stakeholders.

Biological Opinion

Ameren contends the Biological Opinion is flawed in technical content and fails to adequately address prudent and reasonable alternatives. Consequently, the alternatives and plans as proposed by the Corps in the RDEIS are flawed and should not be implemented.

EnSp 47

Information provided throughout the comment period by various stakeholders has thoroughly documented shortcomings in the Biological Opinion.

NRC Report

Ameren agrees with comments expressed within the NRC report regarding the scientific uncertainty and unknowns of the Missouri River ecosystem, the inadequate experience with the adaptive management process, and the recognition that management goals, other than ecosystem goals, need be taken into consideration.

EnSp 12

Comments within the NRC report clearly underscore the questionable nature of the one-dimensional, prescriptive approach brought forward by the Fish & Wildlife Service in their B.O. Consequently, the alternatives expressed within the RDEIS that reflect the Services' plan should be rejected on the basis of the highly speculative ecological benefits compared to the significant adverse social and economic impact that would occur with their implementation.

EnSp 3

Mississippi River Impacts

Ameren urges the Corps to act responsibly and refrain form selecting any Missouri River management option that could also hinder Mississippi River navigation.

Miss 4

The stretch of the Mississippi River between St. Louis and Cairo is often referred to as the bottleneck reach. During periods of low-flow in the Mississippi River, the Missouri River provides as much as two thirds of the

Miss 4

water in this reach to support river commerce and other beneficial uses. Ameren relies on this reach of the Mississippi River to support operation of three power plants and for navigation support for fuel deliveries to four power plants.

Ameren purchases 32 million tons of coal annually for electrical generation at nine coal-fired power plants. Considering the large volume of coal that Ameren moves every year, fuel transportation cost is one of our largest expenses. Ameren recently invested millions of dollars for barge unloading facilities at our Rush Island and Sioux power plants, in addition to barge loading facilities at Meramec Plant. These barge facilities provide us with an additional means to bring fuel into our plants to improve the overall reliability of our generation system. The construction of the barge facilities at our three power plants will help keep transportation costs as low as possible and allow us to continue to offer competitive electricity prices to our customers.

MoPower 6

The summer heat of the Midwest demands maximum availability and operation of all generating units in addition to adequate fuel supplies to meet peak loads. The summer peak demand for electricity combined with low summer flows on the Mississippi River could have adverse affects on our ability to fuel our plants or comply with water quality discharge permit limits. Since the Missouri River provides essential flows to support beneficial uses on the Mississippi, equal consideration needs to be given to navigation and other beneficial uses on the Mississippi River before any definitive decisions are made on re-regulation of Missouri River flow.

Miss 4

Depletions

Ameren supports further analysis of the impacts of future depletions on both the Missouri and Mississippi River with careful and serious consideration given to the Corps ability to maintain "congressionally authorized project purposes".

Other 27

Additional depletions clearly have the ability to significantly influence both biological and beneficial uses of the river. The Corps has not analyzed the impacts of future depletions on all of the proposed plans. Depletions increase the adverse impacts of the alternative on downstream reaches of the Missouri and Mississippi River and will exacerbate water availability issues associated with utilities and other water supply users.

Other 27

Summary

Ameren appreciates the effort put forward by the Corps to assimilate and present the complex elements associated with the Master Manual revision. We urge the Corps to take advantage of the common sense, independent thinking that has been generated during this comment period through an assessment of the information provided in the RDEIS. This independent thinking has appropriately challenged the validity of the positions outlined by the U. S. Fish and Wildlife in their Biological Opinion, while suggesting practical alternatives to protect and enhance fish and wildlife that will not extract the severe social and economic toll that is inherent in the alternative plans.

Other 7

In closing we urge the Corps to continue to operate under the current water control plan to provide "congressionally authorized project purposes" while pursuing alternative means to enhance and protect endangered species.

Thank you for your consideration.

Sincerely,

Michael L. Menne
Manager – Environmental Safety & Health

L0500041

Serving Nobles and Murray Counties

Nobles Cooperative Electric

22636 US Hwy. 59 - P.O. Box 788
Worthington, MN 56187-0788
Telephone: (507) 372-7331
Facsimile: (507) 372-5148

February 26, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Subject: Comment to Corps of Engineers on RDEIS

Nobles Cooperative Electric is an electric utility in southwest Minnesota serving approximately 4,900 members. We are concerned about the potential impacts of federal hydropower and thermal power plants that use Missouri River water for cooling.

From what I've seen the National Economic Development (NED) model used by the Corps' analysis is inadequate. It appears to be a "national" representation, not a regional one.

The NED fails to address the impacts of shifting generation to different times of the year. For example, the NED has not fully captured the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is at its highest, to the spring, when demand and value of power is low and can be met with other resources. HPower 12

The NED analysis stands in stark contrast to the impact assessment made by the (WAPA). WAPA clearly shows a dramatic revenue impact that would be offset by higher power rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "if WAPA were to continue to pay the Federal Treasury at the rate it would under the Current Water Control Plan (CWCP)…". However, WAPA has no discretion to change repayment schedules due to different river operations. They are fixed by statute and regulation. WAPA provides more information to adequately reflect the realities of hydro generation on the river, as well as electric utility practices. WAPA 4

Although this is a difficult issue to analyze, too many assumptions are made. The NED assumes availability of additional power resources to offset the loss of generation from reduced power flows. It is important to know how much generation is affected by proposed flow changes on the Missouri, as well as where additional generation is available. HPower 11, 12

The Corps should re-examine the data and incorporate all information relating to power supply in the region in the analysis. The Corps should examine each generation source on thermal plants along the river. HPower 11

We appreciate the opportunity to comment on the Corps RDEIS for the Missouri River Master Water Control Manual.

Sincerely,

Mike McInnes

Mike McInnes for
Frank R. Knutson
Executive Vice President/
General Manager
Tri-State Generation and
Transmission Association, Inc.

FRK/MM/cm

Nobles Cooperative Electric shares the concern of many parties to provide better habitat for threatened and endangered species, and the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward this protection without regard for serious economic consequences. We feel the Corps should develop a management plan for the Missouri River that balances the benefits and burdens among all project purposes.

EnSp 28

If my comments leave any questions unanswered, please do not hesitate to call.

Sincerely,

Richard G. Burud
General Manager

RGB/tah

MASTERMANUAL NWD02 L0500042

From: JOHN CASADY [casady@netINS.net]
Sent: Thursday, February 21, 2002 11:17
To: Mastermanual
Subject: Corps of engineers CWCP

U.S. Army Corps of Engineers, Northwest Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869
E-mail: mastermanual@usace.army.mil

To whom it may concern:

Villisca wishes to voice its concerns over the RDEIS proposal. The impact that this proposal has on the residents of the entire area below the Gavin's Point Dam far outweigh the, in our opinion, inflated benefits the proposal would seem to suggest.

The Tennessee Valley Authority (TVA) prepared a study: "Rail Rates and the Availability of Barge Transportation: The Missouri River Region", in Feb. of 1997. Water-compelled rate savings during the study amounted $45 million for corn shipments, $56 million for wheat shipments, $35 million for soybeans, and $12 million for fertilizer shipments. A total of $148 million for these 4 items alone, far outweighing the $7 million in supposed benefits. In May of 1998 the TVA reduced the benefit to $80 million.

The report also stated: "As with the original estimates, the updated results reflect a measurable relationship between available navigation and railroad rates." The report also stated: "What remains clear, however, is the irrefutable conclusion that available commercial navigation on the Missouri River can provide necessary competition to rail carriage under a wide array of historically observed economic conditions."

Villisca believes the REDIS claims of $7 million in benefits between rail and barge is flawed because it doesn't take into affect that the rail rates are presently "water-compelled" the affect of the river navigation is already in place. Villisca believes the cost of alternative transportation will increase dramatically and the effect of the loss of navigation will be felt by 99% of the Missouri River region. It is our belief that the split navigation season will kill navigation by causing it to be economically unfeasible.

Nav 6, 8

Villisca believes the collateral impact will be enormous. The additional 60,000 trucks pounding interstate 29 will shorten the life of the interstate; create a negative fuel efficiency, safety issues and environmental impacts. Water based freight on a ton-mile basis is by far the most efficient form of transportation.

Nav 23

The Corps numbers show an increase in recreation of $4 million in the best case with a loss of $7 million in navigation. But the TVA study of February 1997, commissioned by the Corps, shows a navigation's impact between $80 million and $203 million. So the GP alternatives trade $4 million in recreational benefit for $80 million or more in lost benefits.

Nav 42

The Current Water Control Plan (CWCP) offers the most benefits for flood control. Increased spring flows increase the risk of flooding and drainage problems on nearly 1.4 million acres of some of the most productive farmland in Iowa, Nebraska, and Missouri. Depriving farmers of the current competitive transportation structure effects us all. And will have a lasting detrimental effect on farm income, farm output products and farm input products such as fertilizer.

Nav 7

Villisca also believes that the reduced summer flows could affect municipal drinking water

3/9/2002

supplies as there is less dilution effect dispersing the contaminants that go into the river on a regular basis. Changes in river water levels move groundwater and could move nearby contaminants into municipal and private well fields. Possibly creating a danger to public drinking supplies. WQ 2

Villisca's main concern is the effect the REDIS will have on its own economy. Villisca is a Municipal Electric Utility and purchases the majority of its power from the dams along the Missouri River, Western Area Power Administration. When determining the potential impact of low summer flows on electric generating plants along the Missouri River, the Army Corps of Engineers used 100-year averages. The problem with averages is that they minimize the impact of bad years. During "average" years, impacts can be minimized...but on year's that fall below "average", the impacts are dramatic and potentially devastating. Decreased summer flows impact the amount of hydropower available from the Missouri River dams. Villisca's purchase power rates could see price increases of 12-20% according to the Corps of Engineers figures. HPower 12

The decreased summer flows will have affects on other power generated along the Missouri River. According to the Nebraska Public Power District (NPPD), the ambient river temperatures will be critical in the summer. With the possible low flows in the GP alternatives, it is very conceivable that NPPD will have to shut down part or all of its generating capacity during hot periods so as not to exceed discharge permits criteria. Electric generating facilities along the Missouri River utilize water from the river as a coolant during the generating process. If the river levels are to low and corresponding river temperature are too high, a generating plant is unable to use river water and will be forced to shut down. Lower summer flows along the Missouri River jeopardizes electric power supply during the months when customers' demand for electricity is at its highest. MoPower 1

Proponents of increased spring and fall flows will cite an increase in the value electric power production from Missouri River dams. While on the surface the overall national increase may look appealing, it comes at great regional expense... especially to Villisca and the other 258 municipalities, rural electric cooperatives, federal and state agencies, irrigation districts and public utility districts that purchase power from Western Area Power Administration. HPower 11

Electric generation is only one of the many industries that utilize the Missouri River water in their production process. Industries that utilize river water will experience increased pumping costs that will correlate to the reduced river levels during the summer months. WS 11

The proposed alternatives to the management of the Missouri River only benefit recreation above the Gavin's Point dam and will have a detrimental affect to economies in the downstream states. Proponents of the reduced summer flows in the Missouri River cite astronomical numbers for the recreational benefits of the proposed alternatives. Up to nearly $89 million! What they don't tell us is that under the current river flow plan recreational benefits are estimated to be approximately $85 million, therefore the net increase is only $4 million dollars (5%). And that that $4 million is for recreation upstream, where they already enjoy the tremendous recreational and tourism benefits of the Missouri River dam system. Downstream river users do not reap additional recreational benefits. Our ability to use the river for recreational purposes actually decreases dramatically! For example Marinas and boat ramps will be high and dry. Oxbow lakes, chutes and current downstream wetlands will be left above the river level and will dry out. Lower summer flow will also mean increased sandbars and shallower water depth making recreational boating next to impossible. Rec 10

Proponents of the GP plans claim the river will be slow and gentle moving, suitable for canoes and kayaks, etc. This is simply not true. River velocity is primarily dependent on river gradient, the change in elevation as the river travels, the river velocity will remain fast at any of the flow amounts the Corps is proposing. Nav 46

It is Villisca's belief that that there are uncertain benefits to the three species of fish. The U.S. Fish and Wildlife Draft Biological Opinion states that the least tern population has grown to the point that it is actually above the endangered species threshold number. Therefore the changes in flow to create habitat is not needed. EnSp 28

Increasing spring and fall flows and reducing summer flows creates, at best, 164 acres of tern and plover habitat, of which only 40 acres being below Gavin's Point Dam, along 2431 miles of

3/9/2002

EnSp 46

Missouri River. Purchasing a field along the river and creating a suitable habitat for these two species could achieve the same results.

Below the Platte River mouth, the river already has a substantial seasonal change in water flow with spring rises and summer lows. Obviously above the dam system there are also seasonal flow fluctuations. The main impact of the split season will be in the 200- mile stretch between Gavin's Point and the Platt River. If the river contains 2,000+ miles of potential sturgeon habitat and much of that already has a natural flow fluctuation, why will 200 additional miles in the Sioux City area make any difference? EnSp 29

Tests on endocrine levels of pallid sturgeon taken from the Missouri River indicate that a hormonal imbalance may actually be what is preventing the species from thriving after it spawns. EnSp 28

The pallid sturgeon typically spawns in areas with a substrate of gravel, cobble or rock. This substrate is not common along the area of the Missouri River that will be affected by the artificial spring rise that is being proposed. Even though the pallid sturgeon is listed as endangered, the upstream states continue to stock the reservoirs with predatory game fish (walleye and bass) that feed on small fish such as sturgeon fry. EnSp 28,58 Fish 14

The upstream states allow snagging of catfish and shovelnose sturgeon in the river. The pallid sturgeon occupies the same environment as the shovelnose. The only certain way to tell a shovelnose from a pallid sturgeon is a genetic test. Probably not many river fishermen (snaggers) will go to that effort. EnSp 28 Fish 14

The Army Corps of Engineers and the United States Fish and Wildlife Service acknowledge that there is no data to support a definition of a spawning cure that would successfully result in sturgeon spawning on the lower Missouri River. With this being the case, the proposed artificial spring rise is merely and costly and risky scientific experiment. EnSp 5

Contrary to media reports, the National Academy of Science (NAS) report released on January 9, calls for a moratorium on revisions to the Missouri River Master Manual. "A moratorium on current efforts to revise the Master Manual should be enacted." (NAS report, page 116, Recommendations.) Other 46

Villisca believes that all the alternatives only provide benefits to upstream reservoirs with detrimental affects to downstream stakeholders. This is an unfair distribution, particularly in light of population density and economic effects of the alternatives. Villisca believes the only sensible conclusion would be to stay with the Current Water Control Plan. Other 7

Thank you
Michael D. Johnson Electrical Distribution Mgr.
Villisca Municipal Power & Light

3/9/2002

L0500043

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February 28, 2002

Project Manager – U. S. Army Corps of Engineers
Missouri River Master Manual RDEIS
Northwestern Division – U.S. Corps of Engineers
12565 West Center Road
Omaha, NE 68144-3869

Ameren

Dear Sir or Madam:

Re: Comments on the Master Water Control Manual Review and Update
Revised Draft Environmental Impact Statement (RDEIS)

Ameren appreciates the opportunity to provide the following comments on the proposed revisions to the master manual. As an electric utility that depends upon the river to meet the energy needs of our customers, we have a strong vested interest in this critically important issue.

Ameren is the parent of two utility companies – AmerenUE, formally known as Union Electric Company, and AmerenCIPS, once Central Illinois Public Service Company. AmerenUE is the largest electric utility company in Missouri. Together the two companies provide power to 1.5 million customers and natural gas to 300,000 customers in Illinois and Missouri.

Ameren's Interest in the Corp Proposal

Two of Ameren's largest power plants are located on the Hermann reach of the Missouri River – our Callaway Nuclear Plant and the Labadie coal fired plant. The Callaway Plant produces approximately 1200 megawatts of electricity, and Labadie Plant produces roughly 2400 megawatts. These two plants account for nearly 65% of the energy needs of our Missouri customers. Both plants rely on the continuous availability of an adequate water supply for cooling and other purposes to meet the energy needs of the St. Louis metropolitan area and the eastern portion of Missouri.

Ameren operates other major coal fired generating facilities on the Mississippi River downstream from the mouth of the Missouri, i.e., the Rush Island, Meramec, and the Venice power plants. These plants provide another 2600 megawatts of electrical generation and represent additional base, intermediate, and peak load capacity within our system.

The majority of electricity generated within the AmerenUE system originates from coal- fired power plants. Ameren recently invested millions of dollars for

barge unloading facilities at Rush Island and Sioux plants as an alternate means to deliver fuel. Barge loading facilities were also installed at Meramec to compliment existing barge unloading facilities. Movement of coal by barge is the most energy efficient and often the lowest cost method of transportation. The ability to deliver coal to our plants by barge helps to keep electric rates competitive through the availability of alternative transportation options.

All combined, 85% of AmerenUE's generating capacity is dependent, in one way or another, on the availability of adequate water supplies in the Missouri River.

Water Supply Impacts

As a water supply user Ameren's only choice is to support the extension of the Current Water Control Plan (CWCP) since it is the only alternative that would not reduce Missouri River flows, and subsequently, Mississippi River flows. MoPower 4

Ameren plants located on both the Missouri and Mississippi Rivers rely on the rivers for cooling and other purposes in the continuous production of electricity. The alternatives presented by the Corps will increase, to varying extent, the likelihood and expected duration of full and partial outages during critical winter and summer operation for at least two of our largest power plants, Labadie and Callaway. Plans other than the CWCP, also have the potential to adversely impact navigation on the Mississippi River that will hinder our ability to provide alternative, cost effective fuel transportation to our power plants. MoPower 1 Nav 37

In the event generating capacity is lost as a result of reduced river flows, Ameren will be forced to look for replacement power. If that power is not available, or if it cannot be imported to our area due to transmission constraints, our customers will face an increased likelihood of blackouts. Even if power is available in our region, it will be more expensive than the power we generate. Under Missouri's ratemaking process, this added cost would ultimately be borne by our customers. MoPower 3

Ameren requests the Corps ensure adequate water is released from Gavins Point to sustain water supply operations during low-flow periods.

Ameren has noted channel degradation in the Hermann reach of the river where the Callaway and Labadie plants are located. This has resulted in lower water elevations at our intakes. Data collected by the Corps confirms that the Hermann reach of the river has experienced a downward shift in stage trends at low-flow conditions. The DEIS Volume 3A technical report, dated July 1994, implies that hydrographic surveys from 1988 and 1990 were used by the Corps to determine impacts on power plant water intakes. Use of thirteen-year-old data to develop rating curves is fraught with uncertainty since the effect of the 1993 flood would not be represented. At the very least, the Corps should complete a comparative analysis on several key cross-sections to determine if conclusions based on earlier data are still valid today. MoPower 9

The winter low-flow condition is of particular importance to Ameren because of the combination of lower releases from Gavins Point and potential for ice jams. Although our water intakes have been carefully designed to accommodate low water situations, significant reductions in flows can jeopardize those intakes and our ability to provide electric service during periods of extreme weather. MoPower 12

Low river conditions can create regional power shortages that could preclude Ameren's ability to secure additional power since several of our interconnected, neighboring utilities also operate power plants on the Missouri River. Their generating capacity could also be at risk and unavailable to support our system. MoPower 3

Since our Labadie and Callaway plants are critical in supplying voltage support to the system, the sudden loss of these plants could severely endanger the stability of the electric grid. Worst-case conditions would involve a voltage collapse, which would result in a full or partial blackout of the system. Our ability to secure power from either internal or external sources would be further comprised since many generating units are typically out of service for routine scheduled maintenance during this time period. MoPower 6

During the winter of December 2000/January 2001, both our Labadie and Callaway Plants were forced to implement emergency procedures to help ensure continued plant operation during a low water event. Extremely cold temperatures during December 2000 created ice jams on the river that significantly reduced river flows. Water levels were at their lowest point since December 1989. Several power plants within the Kansas City area were forced to come off-line or operate at a reduced generating capacity during this event. Had the river dropped much farther, Ameren would have been forced to temporarily cease operations. This could have left thousands of families without heat during that unusually harsh winter. It is absolutely vital to Ameren, and to the welfare of our customers, that adequate water flows be maintained in the Missouri River year-round. WS 13

Spring-rise
Ameren opposes the spring-rise due to the potential for increased channel degradation associated with higher river flows, and the subsequent reduction of water storage that may jeopardize the Corps' ability to meet water supply needs later in the year. MoPower 9

An increased spring-rise may adversely affect Ameren's ability to access water during low-flow periods due to accelerated deepening and widening of the channel from higher spring flows. The deepening and widening of the channel will reduce surface water elevations, thereby increasing the likelihood of loosing pump suction at our river intakes. A decrease, or loss of pump suction, will result in either a reduction in power generation or a complete loss of the plant. Potential effects of increased channel degradation on water supply users due to increased spring flow were not evaluated in either the Biological Opinion (B.O.) or the RDEIS. MoPower 9

The higher spring-rise will also decrease the amount of water available for release during the historical low-flow period later in the year for navigation support and water supplies.

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MoPower (cont.) 7

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MoPower 5

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Other 10

The adaptive management process, whether embodied as an element of any specific Corps plan or implemented on a short-term trial basis, would be very disruptive to the farmers, businesses, and the water supply users as a result of the significant flow alterations proposed. In addition, the process would create an unmanageable situation from a planning perspective due to the uncertainty associated with future flow alterations.

MoPower 3

Businesses and individuals that rely on the Missouri River would be placed at significant economic and regulatory risk. For example, the uncertainty for utility operations would derive from the need to potentially spend millions of dollars to comply with environmental regulatory requirements and/or secure outside purchased power to meet system energy demands in light of the potential loss of available generating capacity during a particular experiment. This may conceivably be required as a result of a relatively short term, low-flow test that ultimately may prove to be unsuccessful regarding the desired biological outcome.

EnSp 4

The NAS confirmed that we do not have fundamental scientific information to understand how the ecosystem will respond to flow management actions designed to improve conditions. Certainly, the prudence of the expenditures and actions noted above cannot be justified as a result of such uncertainty, especially when one considers the more practical ecological alternatives that have been suggested by others.

Ameren supports the concept of smaller scale approaches for experimentation in ecological enhancement.

EnSp 26 WRH 6

The Corps should look to alternative approaches to create and improve fish and wildlife habitat as a means of pursuing a balanced, common sense approach that addresses species needs without adversely affecting social and economic interests. The Corps action should focus on the creation of appropriate habitat adjacent to the river and within existing tributaries and chutes as a means of species enhancement.

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Any significant action taken by the Corps to alter the Master Manual should reflect a balanced approach that takes into consideration all "congressionally authorized purposes", as well as the need to enhance biological criteria. Prescriptive biological considerations should not be the sole factors that dictate action while other basic economic considerations are ignored. The public participation and decision-making process should be open to all stakeholders.

Biological Opinion

Ameren contends the Biological Opinion is flawed in technical content and fails to adequately address prudent and reasonable alternatives. Consequently, the alternatives and plans as proposed by the Corps in the RDEIS are flawed and should not be implemented.

EnSp 47

Information provided throughout the comment period by various stakeholders has thoroughly documented shortcomings in the Biological Opinion.

NRC Report

Ameren agrees with comments expressed within the NRC report regarding the scientific uncertainty and unknowns of the Missouri River ecosystem, the inadequate experience with the adaptive management process, and the recognition that management goals, other than ecosystem goals, need be taken into consideration.

EnSp 12

Comments within the NRC report clearly underscore the questionable nature of the one-dimensional, prescriptive approach brought forward by the Fish & Wildlife Service in their B.O. Consequently, the alternatives expressed within the RDEIS that reflect the Services' plan should be rejected on the basis of the highly speculative ecological benefits compared to the significant adverse social and economic impact that would occur with their implementation.

EnSp 3

Mississippi River Impacts

Ameren urges the Corps to act responsibly and refrain form selecting any Missouri River management option that could also hinder Mississippi River navigation.

Miss 4

The stretch of the Mississippi River between St. Louis and Cairo is often referred to as the bottleneck reach. During periods of low-flow in the Mississippi River, the Missouri River provides as much as two thirds of the

Miss 4

water in this reach to support river commerce and other beneficial uses. Ameren relies on this reach of the Mississippi River to support operation of three power plants and for navigation support for fuel deliveries to four power plants.

Ameren purchases 32 million tons of coal annually for electrical generation at nine coal-fired power plants. Considering the large volume of coal that Ameren moves every year, fuel transportation cost is one of our largest expenses. Ameren recently invested millions of dollars for barge unloading facilities at our Rush Island and Sioux power plants, in addition to barge loading facilities at Meramec Plant. These barge facilities provide us with an additional means to bring fuel into our plants to improve the overall reliability of our generation system. The construction of the barge facilities at our three power plants will help keep transportation costs as low as possible and allow us to continue to offer competitive electricity prices to our customers.

MoPower 6

The summer heat of the Midwest demands maximum availability and operation of all generating units in addition to adequate fuel supplies to meet peak loads. The summer peak demand for electricity combined with low summer flows on the Mississippi River could have adverse affects on our ability to fuel our plants or comply with water quality discharge permit limits. Since the Missouri River provides essential flows to support beneficial uses on the Mississippi, equal consideration needs to be given to navigation and other beneficial uses on the Mississippi River before any definitive decisions are made on re-regulation of Missouri River flow.

Miss 4

Depletions

Ameren supports further analysis of the impacts of future depletions on both the Missouri and Mississippi River with careful and serious consideration given to the Corps ability to maintain "congressionally authorized project purposes".

Other 27

Additional depletions clearly have the ability to significantly influence both biological and beneficial uses of the river. The Corps has not analyzed the impacts of future depletions on all of the proposed plans. Depletions increase the adverse impacts of the alternative on downstream reaches of the Missouri and Mississippi River and will exacerbate water availability issues associated with utilities and other water supply users.

Other 27

Summary

Ameren appreciates the effort put forward by the Corps to assimilate and present the complex elements associated with the Master Manual revision. We urge the Corps to take advantage of the common sense, independent thinking that has been generated during this comment period through an assessment of the information provided in the RDEIS. This independent thinking has appropriately challenged the validity of the positions outlined by the U. S. Fish and Wildlife in their Biological Opinion, while suggesting practical alternatives to protect and enhance fish and wildlife that will not extract the severe social and economic toll that is inherent in the alternative plans.

Other 7

In closing we urge the Corps to continue to operate under the current water control plan to provide "congressionally authorized project purposes" while pursuing alternative means to enhance and protect endangered species.

Thank you for your consideration.

Sincerely,

Michael L. Menne
Manager – Environmental Safety & Health

MASTERMANUAL NWD02 L0500044

From: Tom Marvin [tomsdmunicipalleague@pie.midco.net]
Sent: Thursday, February 28, 2002 11:17 PM
To: Mastermanual
Subject: COMMENTS ON MISSOURI RIVER RDEIS

Comment.doc

TO WHOM IT MAY CONCERN:

The attached word document contains comments on the RDEIS from the south Dakota Municipal Electric Association. Please see that these comments are included for the CORPS' review.

I also would appreciate receiving confirmation of receipt of the comments, as they are being submitted at approximately 11:10 p.m., CST, February 28, 2002.

Sincerely,

Tom Marvin, Director
Electric Services
South Dakota Municipal Electric Association

SOUTH DAKOTA MUNICIPAL ELECTRIC ASSOCIATION

An Affiliate of the South Dakota Municipal League

Electronic Comments to: **The U. S. Army Corps of Engineers**
Northwestern Division
Mastermanual@usace.army.mil

On the
Missouri River Master Manual
Revised Draft Environmental Impact Statement

Comments by: **The South Dakota Municipal Electric Association**
214 East Capitol
Pierre, SD 57501

February 28, 2002

Comment Summary. The South Dakota Municipal Electric Association (SDMEA) is commenting on the RDEIS due to concerns over the proposed increased costs of Western Area Power Association (WAPA) hydropower or subsequently needed higher-cost replacement power, and the negative impacts from those costs. Projected rate increases for WAPA-supplied power as a result of implementing several alternatives in the RDEIS could also be detrimental to specific populations within municipalities.

SDMEA. The South Dakota Municipal Electric Association (SDMEA) is an organization representing its thirty-four non-profit South Dakota member municipal electric utilities. The member municipal electric utilities serve approximately 100,000 South Dakota citizens. The SDMEA is also affiliated with a statewide non-profit association representing South Dakota municipalities, called the South Dakota Municipal League.

Firm Hydropower Purchases. The majority of the South Dakota municipal electric utilities, twenty-eight to be exact, receive firm hydropower allocations from the Western Area Power Administration (WAPA). Two other member municipalities have 100% requirements firm power contracts with South Dakota rural electric cooperatives, and receive blended rates as a result of rural electric cooperative hydropower allocations.

In year 2000, these utilities purchased in excess of 141 MW of firm hydropower, which represents approximately 9% of the total WAPA Eastern Division's firm energy sales. For South Dakota's municipal WAPA customers, the total hydropower purchases average 59% of full power requirements. Except for five municipal members that derive supplemental power from investor-owned utilities, all SDMEA members have supplemental power contracts with one of the two wholesale public power providers. They are Missouri River Energy Services and Heartland Consumers Power District.

Drought Conservation Measures. SDMEA supports inclusion of the drought measures for the (Modified Conservation Plan) MCP, and supports the Fort Peck triennial flow changes. SDMEA supports the unbalancing of the river to improve riparian and sandbar habitat for the interior least tern, piping plover and pallid sturgeon.

Gavins Point Dam Releases. SDMEA recognizes the significance of the spring rise in addressing the USFWS measures related to protected species under the Endangered Species Act. The Association further recognizes the diversity of concerns among state, tribal and local governments, regional coalitions, recreational users, agriculture and other affected parties. However, the membership is mindful of the importance of controlling costs and maintaining price stability for the ratepayers. Nevertheless, if a change is imperative, SDMEA would only support that which has the least impact on WAPA allocations and rates.

Adaptive Management Plan. The Adaptive Management plan is intended for integration with any of the water control plans, and relies on the NAS report on the Missouri River Ecosystem for future direction. That report, which the RDEIS indicated should have been available in the fall of 2001, is only now available in prepublication manuscript form, subject to editing. Nevertheless, the NAS report and NAS related press releases emphasize the need for future combined efforts of a number of governmental agencies, municipalities, stakeholders and others in "forging agreement" and "reaching a compromise" on an Adaptive Management Plan. SDMEA anticipates that it will, along with other affected utilities have an opportunity to be heard in the process recommended by NAS.

Other 10

Sedimentation. SDMEA questions why the RDEIS does not adequately address sedimentation issues, which are of concern to some members. Although tributaries to the Missouri contribute significantly to the extant sediment problems, future sediment loading will affect power generation capacity and a variety of other river uses. Despite the RDEIS conclusions to the contrary, it is arguable by others that alternative operations of the mainstem reservoir system have been contributory and will continue to be instrumental in sedimentation characteristics and increasing problems throughout the system. Other sources of data and further analyses and discussion of sedimentation issues should be considered.

Other 36

Hydropower Economic Issues. The majority of SDMEA municipalities are micro trade areas and county seats, and have economic implications beyond their city limits. Small town businesses are very often vulnerable to increases in overhead, which not only affects cost of goods in the trade area, but also can result in key business failures. When small community trade areas lose businesses, the cost of acquiring goods and services can increase dramatically, The three largest municipalities served entirely by public power have an average population is 17,539 (excludes Sioux Falls, which has multiple service territories). The other 30 municipalities have an average population is 1,486.

Fluctuations in WAPA hydropower generation capability due to seasonally enhanced flows for the Gavins Point Dam Release options would drive up electricity costs for WAPA customers on two fronts. Lost WAPA revenue estimates in the RDEIS range from about $8 million to $30 million annually due to spot market purchases and lost peak season sales. Furthermore, the assumption is made that WAPA will easily be able to acquire power on the open market, although at a higher rate. Under certain conditions, some which have already been recently demonstrated around the nation, adequate power is not always available due to any number of factors.

WAPA 5

Proposed increases in electrical rates resulting from any of the RDEIS proposed GP options would impact all municipal customers, but particularly those people in the age group 65 and over, and those in the lower household income range. The U. S. Census Bureau 2000 census data shows that one out of every seven South Dakotans are 65 or over, representing a 15% higher percentage in that age group than the national average. As often is the case, this aging population lives on fixed incomes. In addition, due to the rural nature of the state, this age group experiences higher costs for medical treatment, transportation and a number of other critical costs. Census data also indicates that one out of seven South Dakotans is living below the poverty level, which is also above the national average by more than 5%.

HPower 26

Furthermore, Census Bureau figures reveal that South Dakota homeownership is over 68%, or approximately 3% higher than the national average. Therefore, a substantial number of older homeowners would be directly impacted from loss of WAPA hydropower and/or increased cost of replacement power. In addition, being that

South Dakota is a very rural state, electric residential heating is often quite prevalent in many of the member municipalities, further exacerbating the ability for these same residents to meet subsistence costs.

One segment of further analyses of 2000 census data by Dr. James Satterlee and colleagues at South Dakota State University (SDSU) offers more insight into this increasingly older South Dakota population. SDSU's "New Community Project" established a ratio called *General Dependency Ratio* (GDR). The GDR ratio identifies the proportion of the population in age groups that tend to be economically dependent, relative to the proportions of the population that tend to be economically productive.

The economically dependent age group includes those over the age of 65 or under the age of 15. The economically productive portion of the population is in the age group 15 to 65. The entire state of South Dakota has a 2000 GDR of 56.71. Therefore, statewide there are 56.71 dependent age persons for every 100 productive persons. In SDMEA municipal counties the average GDR number jumps to about 61.00.

One further indicator identified in Dr. Satterlee's project is the Index of Aging, which measures the age of the population by comparing the old to the young of a population by dividing the number of people age 65 and over by the number of children under 15. For SDMEA municipal counties the average Index of Aging is 82, meaning there on average 82 elderly people for every 100 children.

Conclusions.

Increased power costs to WAPA customers could directly impact local rural economies.

SDMEA municipalities have a significant number of elderly citizens with limited or fixed resources, and a substantial number of residents living below the poverty level .

Price stability is an important factor for municipal utilities. The RDEIS is less than reassuring in its view that WAPA customers can readily and consistently obtain adequate and reasonably priced makeup power.

SDMEA supports several measures in the RDEIS.

SDMEA recognizes the value of improving the Missouri River Ecosystem, and the importance of a compromise in establishing the Adaptive Management Plan.

The Management Plan needs to establish a range of parameters within the strategy for water control options.

Manual revisions should provide flow and environment provisions with the least impact to rates and allocations.

Comments submitted on behalf of the South Dakota Municipal Electric Association by

Tom Marvin

Tom Marvin, Director
Electric Services
SDMEA

214 East Capitol • Pierre, South Dakota 57501 • 605.224.8654 • FAX 605.224.8655

MASTERMANUAL NWD02 L0500045

From: Pflasterer, Rita L. [rlpflas@nppd.com]
Sent: Thursday, February 28, 2002 4:47 PM
To: 'mastermanual@usace.army.mil'
Cc: Citta Jr., Joseph L.; Campbell, Barry; Barels, Brian L.; Plettner, Rockford G.; Overhue, David P.
Subject: Formal Comments on the Revised Draft Environmental Impact Statement - Missouri River Master Water Control Manual - Review and Update Issued August 2001

Importance: High

MMRcorpLtr2_27.d MMRcorpRpt2_28.d Missouri River Flow
oc oc Impact DET...

Please disregard the previous e-mail submittal that was sent at 4:18pm today. The cover letter contained an error and has been corrected on the attached.

> <<MMRcorpLtr2_27.doc>> <<MMRcorpRpt2_28.doc>> <<Missouri River Flow Impact DETAILED INFO 02.28.02R.ppt>>
>
> The originals mailed to the attention of Missouri River Master Manual
> RDEIS do contain the corrected letter.
>
If you have any questions regarding the attached, please advise.

We apologize for the inconvenience this may have caused.

> Thank you,
>
> Rita Pflasterer
> Nebraska Public Power District
> Environmental Policy Department
> phone: 402-563-5894
> fax: 402-563-5168
> e-mail: rlpflas@nppd.com
>

1

Guy R. Horn
Sr. VP of Nuclear & Enterprise Effectiveness
Phone: 402-563-5518
Fax: 402-563-5145

February 27, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha NE 68144-3869

RE: ***Formal comments on the Revised Draft Environmental Impact Statement – Missouri River Master Water Control Manual – Review and Update Issued August 2001***

Dear U. S. Army Corps of Engineers:

This letter and the enclosed attachments represent the Nebraska Public Power District's (NPPD) formal comments on the Revised Draft Environmental Impact Statement (RDEIS) for the Missouri River Master Water Control Manual Review and Update issued in August 2001.

NPPD recognizes that the United States Army Corp of Engineers (COE) has conducted many analyses and held many workshops on the RDEIS, which includes no preferred alternative. The COE is to be commended on their efforts to work with the many stakeholders to evaluate alternatives for the Missouri River Project Master Manual. However, due to the minimal, if any, benefits identified for the Gavins Point (GP) release alternatives provided, the Current Water Control Plan (CWCP), additional water conservation measures, along with implementation of on- and off-channel habitat restoration, may be the best alternative for future Missouri River Operations. This is because the GP alternatives evaluated cause potentially large and widespread economic impacts on Nebraska and the region. The following summary comments and those of the attached detailed comments need to be considered thoroughly by the COE in preparation of the Final Environmental Impact Statement.

1. Impacts to Power Generation.

NPPD has identified that the change in Operations caused by the GP alternatives can cause a $6 -$32M per year financial impact to Cooper Nuclear Station (CNS) operations due to high river temperature thermal discharge effects and regulatory limitations resulting from high thermal inlet temperatures. NPPD also estimates that the potential financial impact from thermal discharge limitations to the generating facilities along the Nebraska-Iowa border could be as high as $78M per year. In addition, the reduction of hydropower generation by the Missouri River Dams will increase NPPD's expected costs of power from its Western Area Power Administration (WAPA) contract. NPPD is also concerned about the cumulative effects of changes to regional power costs that result from the potential thermal-related impacts to the over 11,000 MW of generation along the

MoPower 1

Missouri River below Gavins Point Dam which could be over $200M. Therefore, NPPD is strongly opposed to any modifications in flows that would reduce the generating capability of those facilities dependent on the river for cooling.

2. The alternatives in the RDEIS provide minimal, if any, benefits to the endangered and threatened species, and could be harmful in some cases.

EnSp 3

Review of the RDEIS finds that most of the GP alternatives provide no significant benefit for least terns, piping plovers, or pallid sturgeons (see attached comments). In fact, findings such as reduced reservoir shoreline nesting, planned pulse flows during the tern and plover nesting season, increased cold water releases and non-guaranteed benefits of spring pulses to pallid sturgeons does not justify changes in the present flow regime. Also, habitat restoration activities of chutes, oxbows, flooded areas, etc., might actually benefit from the present flow regime.

3. Any GP flow changes could have far reaching economic impacts to Nebraska and the region.

HPower 11, 17

Modeling and analyses indicates that application of the National Economic Development (NED) model to determine regional costs and benefits may tend to underestimate actual regional economic impacts of the proposed alternatives. In addition to power generation impacts, economic impacts such as, transportation, agriculture, county and state tax income, do not appear to be fully evaluated in the RDEIS.

4. Missouri River Basin Association Demonstration Project Proposal.

NPPD is aware that the Missouri River Basin Association (MRBA) has supplemented their recommendations with a proposal to conduct a Gavins Point flow demonstration project of the GP 1528 alternative.

NPPD, also has concerns with the potential impacts of the GP 1528 alternative to Cooper Nuclear Station operations. NPPD believes that the following conditions would be necessary as part of any demonstration project.

- Flows at Nebraska City should be at least 35 kcfs during the proposed low flow periods. — WS 14
- There would need to be a mechanism in place where, if CNS operation is threatened as a result of water temperature or flows, the State, NPPD and the COE would implement a process to adjust flow releases at Gavins Point to relieve the threat. — WQ 1
- NPPD would need an NPDES variance from the NDEQ for at least 108 F in place throughout the demonstration project. — WQ 1

NPPD would also encourage the Demonstration Project Process be incorporated with the monitoring and habitat restoration components as follows:

- Objectives and outcomes of the Demonstration Project need to be identified before implementation.
- Monitoring needs to be initiated immediately to establish baselines.
- Habitat enhancements through the Missouri River Fish and Wildlife Mitigation Project should be implemented immediately.
- Monitoring would then be conducted to determine the effects of habitat enhancements under the present operations. — Other 13
- The Gavins Point flow modification demonstration project be implemented.
- Monitoring would then be conducted, for a minimum of 10 years, to determine the benefit of the flow modification demonstration project.
- Determinations on the benefits to the species are identified before and changes in operations or additional demonstration projects be conducted.
- A governance format for decisions on the River that includes the states, stakeholders and federal agencies with appropriate input into all future decisions.

Other 10

An extensive public infrastructure has been established along the Missouri River as a result of the Congressional authorization of the projects, the project purposes and the resultant operations. Those infrastructures include, but are not limited to, municipal development, transportation corridors, public water supplies, regional power generation, natural gas and electricity distribution as well as many private activities. During the habitat development phase and any flow demonstration project, monitoring of the socio-economic impacts must be conducted to adequately document the expected impacts of any flow changes.

Other 69

If the COE subsequently decides to make permanent flow changes to the Master Manual, the COE should include in their plans and funding, implementation of mitigation activities to the socio-economic impacts identified by the studies above.

5. The final preferred alternative chosen by the COE, if different from the present CWCP will need full public review.

The RDEIS does not include a preferred alternative. The COE present schedule calls for a Final EIS (FEIS) by June 2002 and implementation of a selected plan by March 2003 – approximately one year from now. It is imperative that the public be afforded the opportunity to thoroughly review the FEIS should a different alternative to the CWCP be chosen. Until we are able to focus on one plan, the full impacts/benefits will not be known and discussed by those effected as provided for by the National Environmental Policy Act. NPPD also requests that should the preferred alternative be other than the present operation plan, CWCP, the COE look at a gradual and phased in approach for the transition. This transition should include: baseline, biological monitoring, habitat

Other 13, 163

restoration, followed by monitoring to document species reaction, followed by a "study period" of any flow changes during which an evaluation of key economic and biological factors are evaluated to identify any true benefits and impacts. Any new Master Manual flow operations would then need to be implemented with impacts being mitigated and with enough operational flexibility to respond to unforeseen impacts.

These represent NPPD's comments on the RDEIS, based on currently available information, however, additional comments may be required pending final COE decisions and the official FEIS alernative.

Once again, thank you for the opportunity to comment on the RDEIS, and if you should have any questions regarding our comments, or need any additional information about our concerns, please advise.

Sincerely,

Original signed by:

Guy R. Horn
Sr. V.P. of Nuclear & Enterprise Effectiveness

cc: The Honorable Governor Johanns
R. Patterson (NDNR)
W. R. Mayben

Nebraska Public Power District's Comments on
Revised Draft Environmental Impact Statement
Missouri River Master Water Control Manual
Review and Update

A. Nebraska Public Power District Economic Review of the Missouri River Draft Environmental Impact Statement Power Related Impacts

The Army Corps of Engineers (COE) has proposed modifications to the Water Control Plan for the Missouri River main stem dams and reservoirs. The Missouri River is the source of cooling water for Cooper Nuclear Station (CNS). An adequate level (a license requirement of 865' mean sea level) and proper temperature of the Missouri River is essential for the safe, reliable, and regulatory compliant operation of CNS. The amount and timing of the releases can have an impact on the amount of hydropower available to Nebraska Public Power District (NPPD) from Western Area Power Administration (WAPA) and a significant impact on the operation of CNS.

NPPD has performed a review of the economic studies performed by the COE for flow regimes of the Current Water Control Plan (CWCP), the Modified Control Plan (MCP), the Gavins Point release of 15 kcfs above navigation flow spring rise and 28.5 kcfs release from Gavins Point in the summer (GP1528) and the Gavins Point release of 20 kcfs above navigation flow spring rise and 21 kcfs release from Gavins Point in the summer (GP2021). The flow options that best reflect a comparison of the Gavins Point Release current conditions (CWCP and MCP) with the effect of the options that impart the most significant departure from current conditions (GP1528 and GP2021).

1. Impacts to the Operation of Cooper Nuclear Station

The COE Modeling indicates an impact to power generation facilities below Gavins Point of approximately 387 MW, which is not reflective of the true impacts.

In order to compare the impact of changes in flow in the Missouri River on the operation of CNS, it was necessary to model historical data to construct a mathematical model that would predict Missouri River water temperatures at CNS for flows reflected in GP1528 and GP2021. The historical data necessary to construct the mathematical model included the daily average temperature at CNS from June 21 to August 31 for the years 1996 – 2001. The Missouri River water temperature measured at CNS and the Missouri River water flow measured at Nebraska City were also included. The historical information provided the basis for developing a three-dimensional equation that was utilized to predict water temperatures for flows that would result under the CWCP, MCP, GP1528 and GP2021 options.

The results of this analysis indicate that CNS would experience higher water temperature more frequently in the summer under the GP1528 and the GP2021 than under the CWCP and MCP. In this analysis, the CNS discharge temperature limit of 103 F was utilized. This limit would require that CNS would need to reduce load any time the Missouri River

water temperature reaches 85 F or higher. CNS will need to shed approximately 50 MW of output for every 1 F of Missouri River water temperature increase in addition to 20 MW of capacity lost due to high cooling water temperatures affect on CNS output. Additionally, all 758 MW of CNS would need to be removed from service any time the Missouri River water temperature reaches 90 F or higher under the current operating license requirements. The CNS operating license also contains a limit on river water level, requiring that it be greater than or equal to 865-foot mean sea level. This limit is important in ensuring that pumps used for accident mitigation have an adequate supply of water available at the suction. As with the limit on temperature, the operating license requires that CNS be removed from service if the level drops to below this license limit.

The peaking capacity and summer energy costs, utilized by the COE, was applied to determine relative cost impact differences associated with the flow alternatives identified above. NPPD developed an 'Expected Water Temperature Case' derived by multiplying the percent of time for high daily average air temperatures by the percent of time of low Missouri River flows. NPPD also developed a 'High Water Temperature Case' for the same parameters by comparing the percentage of time for high average daily temperature with the percentage of time for low river flows for each option. The lower of the two percentages was then assumed as the percent of time that the flow would experience high average daily temperatures. The results of NPPD's analysis yield incremental, annual financial impacts to CNS operations of approximately:

MoPower 1, 3, 6

	MCP	GP1528	GP2021
Expected Case	$425,000	$3,750,000	$14,900,000
High Case	$5,600,000	$8,700,000	$32,000,000

NPPD has considered the potential financial impact of installing a cooling tower as a means of avoiding capacity/energy curtailments at CNS. Preliminary investigation indicates a cost of $25 million to $50 million per year. Since replacement generation is a lower cost option, NPPD does not consider installation of cooling towers applicable.

NPPD realizes there are other methods for modeling the Missouri River's response to high ambient air temperatures, cooling water discharge from thermal plants on the Missouri River and lower flows in the river. However, our analysis indicates there is a definite basis for our concern of much higher costs due to lower flows than stated by the Revised Draft Environmental Impact Statement (RDEIS), and indicates that lower flows will increase CNS cooling water temperatures. Detailed modeling information is attached for reference. (See Attachment 1)

Another factor that NPPD could not include in the above analysis was operational requirements of the Nuclear Regulatory Commission should CNS water temperature approach 90 F. If this condition occurs, it is possible that CNS would be off-line until the entire temperature concern period was past, then the cost impacts would be significantly greater than projected by NPPD's mathematical water temperature and financial modeling.

2. Impact to NPPD WAPA Power

The RDEIS indicates the alternatives to the present operation would cause an increase in hydropower. This is largely due to increased storage and greatly misses a very significant impact. The GP alternatives move flow releases to the spring and fall, which reduces power available from the hydros at a very critical time. Those GP alternatives also evacuate water from the reservoirs in the fall causing increased power at a non-beneficial time. These impacts on the power available to WAPA customers, including NPPD, can be significant.

Lower releases from Gavins Point during the summer would also have some effect on the generation available from the mainstem dams on the Missouri River. The COE predicts that the hydro generators will still be able to meet peak generation four hours per day for five days of the week most of the time during summer peak. The COE also states "…. analysis of the hydropower benefits alone does not reflect potential impacts to WAPA and its firm power customers." The RDEIS states that WAPA determined that the greater the dependence on hydropower for energy, the greater the impact on the purchase power cost to each customer. According to the information provided and based on NPPD receiving 6% - 7% of its energy from WAPA, NPPD would experience approximately a 0.25% increase in its cost of power from WAPA under GP1528 and approximately a 1% increase in NPPD's cost of power from WAPA under GP2021.

HPower 1, 3, 6

	Increased Cost of WAPA Power	
	2002	2007
GP1528	$44,600	$51,400
GP2021	$178,350	$205,780

Based on both analyses, obviously NPPD's customers would be significantly impacted by the GP alternatives in the Missouri River by the COE.

From a customer perspective, replacement for loss WAPA power should account for the total, true costs to replace at the customers' meter. For example, delivery charges & losses associated with market purchases should be included which can add an incremental $4 - 7 / MWH to the customers' cost. If ancillary services (spinning reserves, voltage control, etc.) are required, then an additional $2-4 / MWH could be incurred, over and above the transmission delivery impact. Another consideration would be the customers' load factor as compared to a market product load factor. Since the customer load factor is usually less than 100%, which is a typical market product load factor (when sold as a block), the customer has to spread the additional cost of a higher load factor product over fewer MWH, thereby increasing the cost per MWH to the customer. Even at an 85% customer load factor, this could still increase the cost to the customer by 12%. Therefore, the total, true cost to replace a loss of WAPA power at the customers' meter should be included in any impact analyses.

3. Impacts to Other Thermal Generation along the Missouri River below Gavins Point.

The detailed modeling performed by NPPD regarding the potential financial impacts of lower discharges at Gavins Point could be considered the "Regional High Water Temperature Scenario" for the Nebraska-Iowa region as a whole. This is because Cooper Nuclear Station (CNS) is the thermal generating station furthest south along the Missouri River, within the Nebraska-Iowa region.

With this " Regional High Water Temperature Scenario" assumption, then it is not unreasonable to assume that a proxy for the potential financial impacts to the other thermal generation stations in the Nebraska – Iowa region (North of CNS, along the Missouri River, and South of Gavins Point) would be some reduced percentage of the CNS estimate. The detailed CNS estimate is founded on Army Corps of Engineers' Replacement Pricing & NPPD water temperature modeling (June-August). MoPower 1, 6

Based on this description, the CNS estimate, the "Regional High Water Temperature Scenario", would be represented by the 100% mark, therefore 30% to 50% of this "Regional High Water Temperature Scenario" could represent a proxy for potential financial impacts associated with the thermal generation stations in the Nebraska- Iowa region, over & above the detailed estimate provided for CNS. With this 30% to 50% assumption, then it is estimated that a proxy for the potential financial impacts for the Nebraska – Iowa region is as described in the table below, along with an extrapolation that includes the entire thermal generation South of Gavins Point, but North of St. Louis, Missouri (except CNS). These represent potential financial impacts for possible consideration over & above the CNS estimated impact.

Capacity (MW) on Missouri River		High Water Temp. Events Impact ($M)	
Iowa Nebraska	Assumed % of Impact on CNS	Low	High
3,697	30%	$8.78	$46.82
3,697	50%	$14.63	$78.04
Gavins Point to St. Louis			
10,269	30%	$24.39	$130.06
10,269	50%	$40.64	$216.76

4. Cumulative Impacts to Power Generation and Power Costs in the Missouri River Basin.

Overall, at least subjective consideration should be given to the cumulative impacts to regional power generation from both a physical supply & market price perspective.

Since the RDEIS applies a 100-year average flow methodology as a basis for its impact analyses, spikes in energy supply & price associated with required capacity & energy replacement are not captured. This severely dilutes the assessment of costs associated with the regional utilities obligation to serve customers under stressed electric system

conditions, and can cause major underestimation of financial impacts to the electric consumers within the region.

5. Inadequacy of the COE NED Analysis.

The above-described modeling & analyses, indicates that application of the National Economic Development (NED) model to determine regional costs & benefits may tend to underestimate actual regional economic impacts of proposed alternatives. These economic impacts include, but are not limited to, transportation, agriculture and local tax income. These socioeconomic considerations do not appear to be fully evaluated in the RDEIS. If such regional impacts can be quantified in a reasonable, fair & unbiased manner, then these additional, identified impacts should be taken into consideration when weighing the options associated with the various water control plans. HPower 11, 12

B. <u>Endangered and Threatened Species and Other Environmental Considerations</u>

1. Terns and Plovers

a. The RDEIS information on terns and plovers indicates there is no GP alternative that is better for terns and plovers.

Decisions regarding which, if any, of the alternative flow scenarios would be helpful to terns and plovers cannot be made without biological data. There is no biological data presented which would indicate that any alternative would be preferred to benefit terns and plovers. The basic assumption that more acres of habitat result in more birds has no supporting documentation and may not be true. The amount of habitat created every three years during a spring rise may not even make up for habitat lost on lake shores currently used by nesting terns and plovers. There needs to be a concentrated effort to conduct research prior to the selection of any alternative flow scenario before the change can be called beneficial to the population. Selecting one alternative as preferred for terns and plovers based on the information presented in the RDEIS with no information regarding riverine processes (i.e. sedimentation) may actually result in worse conditions for the tern and plover populations. EnSp 7,20

b. Changes in Reservoir operations may be detrimental to terns and plovers by reducing reservoir shoreline habitat.

The COE needs to evaluate impacts of all alternatives on Reservoir shoreline habitat for plovers. There has been no evaluation of the impacts of alternatives on shoreline habitat for nesting plovers. The COE has missed a significant potential impact on the plover when 16 percent (758 of 4,824) nest on Lake Oahe and 15 percent (735 of 4,824) nest on Sakakawea and 13 percent (606 of 4,824) nest on Fort Peck Lake, the Missouri River below Fort Peck Dam, the Missouri River below Fort Randall Dam, and on Lewis and Clark Lake (page 3-85). Nearly one-half the nesting population of adult plovers on the Missouri River nest on these three reservoirs and no impacts are accessed? "*These birds also nest on bare sand exposed when the lakes drop during droughts; however, this analysis does not include that habitat.*" (Page 5-47). According to the information EnSp 20

provided in the International Piping Plover survey 1991 the majority of plovers in the Northern Great Plains nest on shorelines.

c. Review of the RDEIS Tern and Plover Habitat Simulation Model indicates it is likely ineffective in predicting the impacts to terns and plovers from changes in operation.

Upon review of the Volume 7H: Environmental Studies – Least Tern and Piping Plover, it appears that the tern and plover habitat simulation model is empirical in nature, is based on little data (1991 and 1992 growing seasons), does not consider geomorphologic processes that affect sandbar creation and movement, does not adjust for historic changes in river cross-section and resultant changes in flow/stage relationships, and remains to be tested. The habitat simulation model establishes a set of vegetation succession and erosion rules, which basically determine the suitability of the tern and plover habitat estimated. Information gathered, is limited, collected 10 years ago, from the river in a static state, a snapshot in time is used to formulate the amount of habitat at a given flow. A more accurate prediction would be made if it were based on several years worth of data. The model is based on static physical conditions, which are the result of multiple processes (i.e. bare sand, vegetation, sediment, geomorphology, etc.). These conditions, if measured, provide information regarding the results of past processes. Sedimentation needs to be considered in the model in order to accurately predict the creation of sand bars.

EnSp 22,36

ErSd 8

d. The vegetation rules in the tern and plover habitat simulation model does not consider geomorphological processes.

The tern and plover habitat simulation model rules for vegetative changes have not been tested. There is a basic assumption regarding scouring, that as woody vegetation becomes better established, it is more difficult to remove through scouring. The vegetation rules do not consider major geomorphological processes that affect channel morphology, erosion of islands, and island creation through sediment deposition. While the processes are assumed to be relatively equal among scenarios the results may be totally different without any test data.

ErSd 8

e. The GP alternatives call for a high spring release for May 15 – June 15 that will make much of the river unsuitable nesting habitat for terns and plovers.

The COE needs to examine all potential spring rise impacts to the timing of nest initiation for both terns and plovers. In Nebraska on the lower Platte River median nest initiation for both species occurs the first week in June. The annual state survey is usually conducted the second week of June to identify nesting pairs. On the sand pit habitats along the central Platte River NPPD has monitored plovers on nests with full clutches of eggs by the first week in May while terns are usually nesting by the first week in June. Terns and plovers may actually nest on the Missouri River prior to May 15 and thus risk being flooded by the spring rise. During the spring rise most available habitat will be inundated during a time of the year when the birds are looking for a place to nest. This could significantly impact the nesting chronology and should be further examined.

EnSp 53

d. Habitats for terns and plovers not associated with river processes may provide far more benefits than any flow alternative.

For the last ten years NPPD has been developing, managing, and monitoring six tern and plover habitats on the central Platte River (three islands and three sand pits). NPPD's three managed sand pits have produced nearly seven times as many birds as the three island sites. In the last 10 years, the three sand pits have produced 329 terns and 150 plovers versus 51 terns and 19 plovers on the three islands. The cost of developing a river island was about twice as expensive as a sand pit, approximately $130,000 for an island and only $65,000 for a sand pit. NPPD also conducted a four-year study that monitored reproductive success at managed and unmanaged sand pits. We determined that our management techniques (i.e. fences, controlled access, and signs) produced about three times as many birds as those areas where no management was implemented. The COE may be able to benefit from some of the work conducted by NPPD on their riverine and sand pit habitats in the central Platte River. NPPD would be glad to provide more details on these activities.

EnSp 25

The RDEIS indicates some alternatives could provide up to 164 acres of additional habitat; however, based on NPPD's experience with non-riverine habitats, NPPD urges the COE to consider off-channel alternative tern and plover nesting sites as part of its off river fish and wildlife mitigation projects

EnSp 25

2. Pallid Sturgeon and Other Fish Species

The RDEIS provides four alternatives that modify the Gavins Point release with spring rises and low summer flows. While it is recommended by the United States Fish and Wildlife Service (USFWS) that a spring rise is intended to benefit pallid sturgeon, there is no scientific evidence that the pallid sturgeon spawn below Gavins Point, that a spring rise will benefit the species, or that this reach of the Missouri River has ever been important for pallid sturgeon reproduction.

EnSp 5

The Gavins Point releases may not provide any benefit for endangered species, especially native fish species. The small percentage (1%), in improved habitat (physical habitat for native fishes), which would include the pallid sturgeon, is negligible, the results would be hard to measure in the river and no preference can be realized.

EnSp 5

The subject of spawning cues for pallid sturgeons is also discussed as a benefit of the Gavins Point alternatives; however, the biological profession (including COE and USFWS biologists) is still at odds as to whether a spawning cue would result in increased spawning downriver during certain years. There are many other factors that induce spawning of fish that have not been addressed in the RDEIS. In addition, spawning cues without the presence of spawning habitat will provide no benefits to the pallid sturgeon.

EnSp 5

The effects of recreational fishing and commercial fishing, coupled with introductions of exotic species have been cited as continuing perturbations to community population structures of indigenous endangered fish such as the pallid sturgeon. An evaluation of new fishing restrictions and habitat rehabilitation projects should be outlined and conducted before implementing any modified release schedules.

EnSp 28
Fish 14

Another observation made, is the Gavins Point alternatives actually reduce warm water fish habitat in the river. These release scenarios may not benefit an already stressed ecosystem and the warm water fish community down river from Gavins Point.

Fish 19

3. Fish and Wildlife Habitat

a. Wetlands

Other environmental benefits associated with the GP alternatives, such as an increase in wetland acreage, are marginal at best. The RDEIS states that there will less then a 2% increase in wetland acreage between the CWCP and the GP1521 (the option with the greatest wetland increase). It is stated that the GP alternatives will increase wetland acreage in the riverine reaches and that there will be a reduction of wetlands in the delta areas of the mainstem reservoir headwaters. Basically, wetland resources will just be moved from delta areas to riverine areas.

WRH 17

b. Habitat Restoration

The COE needs to thoroughly implement the Missouri River Fish and Wildlife habitat mitigation projects and monitor the species response to these changes before implementing changes to the Gavins Point releases. Habitat restoration both on-channel and off-channel may provide adequate habitats for all the species. In fact, it may be that the restoration of chutes, shallow slow water areas, enlarging backwater areas, notching dikes and flooding other habitat areas can actually be accomplished easier with the present flow releases than under any of the GP alternatives. NPPD would recommend that by not knowing how the Missouri River ecosystem will respond to management actions, that the COE should immediately begin documenting the environmental basis of goals, objectives, and expected outcomes to the fish and wildlife of the Missouri River ecosystem. Following this, the COE Missouri River Fish and Wildlife Mitigation Project, needs to continue to completion. The COE should then monitor the reaction of the species to the increased habitat for at least 10-15 years. If the COE then decides to make any changes to the Gavins Point release, it should be on a "study basis" only with appropriate biological monitoring to determine what benefits, if any, occur to the species Additionally, the COE needs to conduct socio-economic monitoring during any such flow "study period". Future more permanent changes need to occur over an extended period of time with the COE providing mitigation funding to those who will be impacted by the COE decision to make flow release changes from Gavins Point a part of the new Master Control Manual.

WRH 18

4. Water Quality

Reduced flows in the Missouri River exacerbate the problem of sediment deposition in the CNS river water intake structure increasing the degree to which this is an operational problem. When deposits accumulate in the intake structure the efficiency of the pumps to move water through the facility for power plant cooling is diminished.

ErSd 4

Power plants and industrial water users are required to comply with the Clean Water Act (CWA) and those with water discharges to the Missouri River have National Pollutant Discharge Elimination System permits governing discharges which generally cover

WQ 2

compliance with Nebraska Water Quality Standards (e.g., temperature; pH, TSS, etc.) and have mixing zone requirements. The RDEIS does not evaluate the impacts of the alternatives to these CWA water quality requirements for all permitted point source impacts. The COE needs to include this analysis in the Final Environmental Impact Statement as reduced summer flows can greatly impact these discharge requirements and the costs to the permitted point source discharges for compliance.

The Nebraska Water Quality Standards for warm waters, which include the Missouri River, set a maximum limit of 90 F. The reduced summer flows from the GP alternatives may cause this Nebraska Water Quality Standard to be exceeded. The COE must recognize such potential impacts and be responsible for insuring these standards are not exceeded.

WQ 3

5. Water Supply

The RDEIS contains no analysis of what impact spring pulses will have on downstream riverbed and fish and wildlife habitats. In fact, review of the literature indicates additional releases of "silt hungry water" can actually cause more harm to habitats than benefits. The COE needs to thoroughly analyze this before implementing any of the GP alternatives.

ErSd 9

In the Missouri River, traditionally high flows occurred in June with July being the 2nd highest flows and then a gradual decline through the rest of the year. The proposed spring rise and summer reduction followed by dumping the reservoirs in the fall is not a natural hydrograph on the river.

Hydro-15

The GP alternatives cause evacuation of storage from the main stem reservoirs in the fall (Sept. - Nov.) so the pools are available for flood flow storage in the spring. This is a waste of water, is not wise river management, produces power at time of little value to the customers, and creates a non-realistic type hydrograph.

The effects of the different alternatives on fish and wildlife and other interests are masked by an analysis that uses the 100-year period average flow. There should be additional information on variations in the flows and frequencies to better determine the impacts (good and bad). This is especially true in looking at water supply impacts, for example, to power generating stations.

WS 15

C. <u>Determination of Preferred Alternative</u>

The COE has not identified in the RDEIS the process to be used in determining the preferred alternative. The COE has not indicated how it will evaluate the comments received on the RDEIS and use of the RDEIS, Biological Opinion, comments and other information available to the COE to determine the preferred alternative. It is important that the COE from a National Environmental Policy Act perspective, give the public the opportunity to thoroughly review a preferred alternative, and the methodology the COE utilizes to determine the preferred alternative – before any changes are made in operation of the Missouri River projects as a result in a change to the Master Manual.

Other 163, 164

Attachment 1

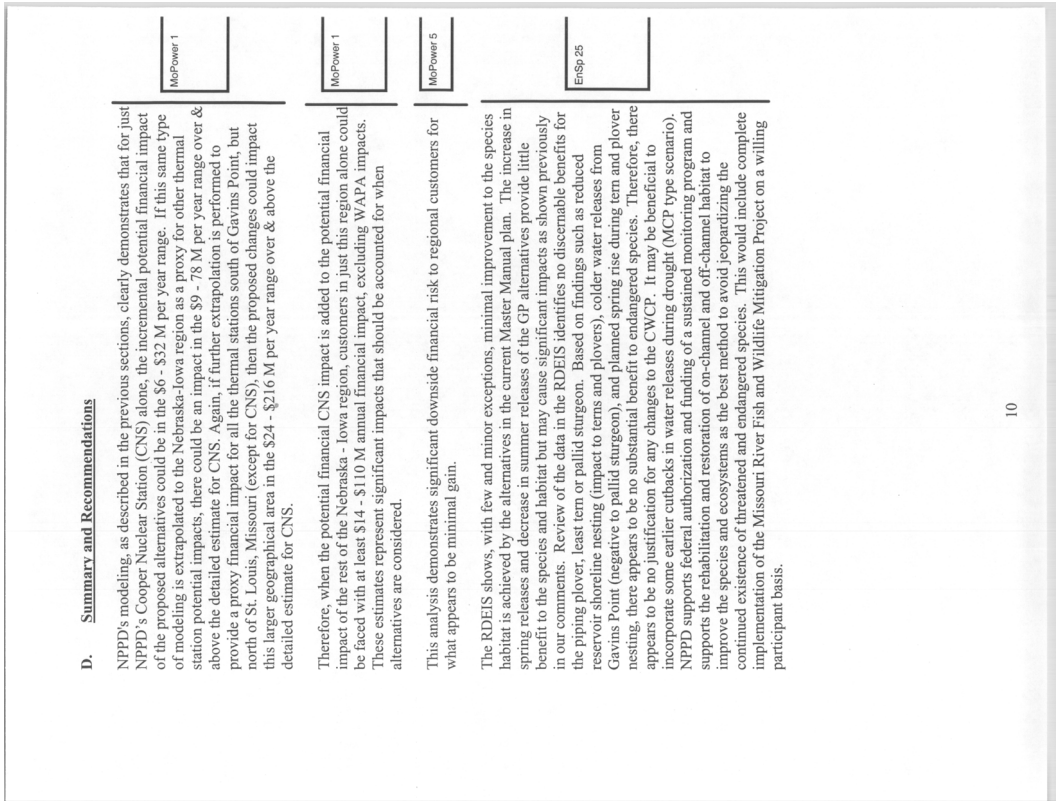
Missouri River Revised Draft Environmental Impact Statement (RDEIS)

Nebraska Public Power District (NPPD)

Detailed Modeling Information

(For discussion purposes only)

February 28, 2002



D. Summary and Recommendations

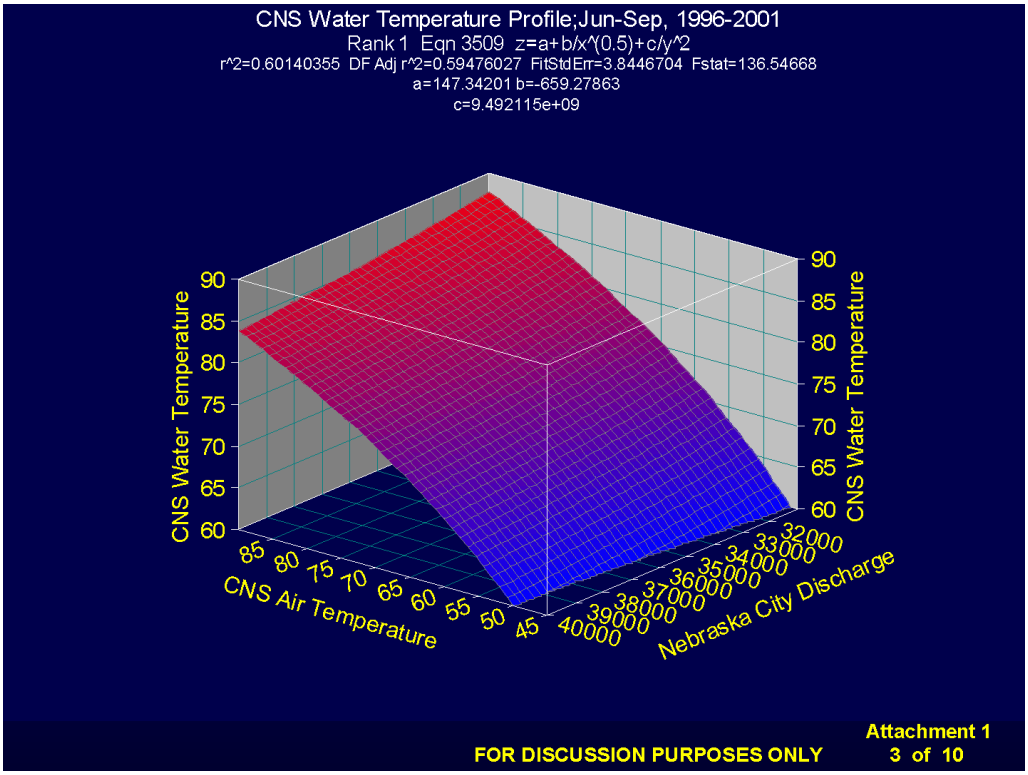
NPPD's modeling, as described in the previous sections, clearly demonstrates that for just NPPD's Cooper Nuclear Station (CNS) alone, the incremental potential financial impact of the proposed alternatives could be in the $6 - $32 M per year range. If this same type of modeling is extrapolated to the Nebraska-Iowa region as a proxy for other thermal station potential impacts, there could be an impact in the $9 - 78 M per year range over & above the detailed estimate for CNS. Again, if further extrapolation is performed to provide a proxy financial impact for all the thermal stations south of Gavins Point, but north of St. Louis, Missouri (except for CNS), then the proposed changes could impact this larger geographical area in the $24 - $216 M per year range over & above the detailed estimate for CNS. MoPower 1

Therefore, when the potential financial CNS impact is added to the potential financial impact of the rest of the Nebraska - Iowa region, customers in just this region alone could be faced with at least $14 - $110 M annual financial impact, excluding WAPA impacts. These estimates represent significant impacts that should be accounted for when alternatives are considered. MoPower 1

This analysis demonstrates significant downside financial risk to regional customers for what appears to be minimal gain. MoPower 5

The RDEIS shows, with few and minor exceptions, minimal improvement to the species habitat is achieved by the alternatives in the current Master Manual plan. The increase in spring releases and decrease in summer releases of the GP alternatives provide little benefit to the species and habitat but may cause significant impacts as shown previously in our comments. Review of the data in the RDEIS identifies no discernable benefits for the piping plover, least tern or pallid sturgeon. Based on findings such as reduced reservoir shoreline nesting (impact to terns and plovers), colder water releases from Gavins Point (negative to pallid sturgeon), and planned spring rise during tern and plover nesting, there appears to be no substantial benefit to endangered species. Therefore, there appears to be no justification for any changes to the CWCP. It may be beneficial to incorporate some earlier cutbacks in water releases during drought (MCP type scenario). NPPD supports federal authorization and funding of a sustained monitoring program and supports the rehabilitation and restoration of on-channel and off-channel habitat to improve the species and ecosystems as the best method to avoid jeopardizing the continued existence of threatened and endangered species. This would include complete implementation of the Missouri River Fish and Wildlife Mitigation Project on a willing participant basis. EnSp 25

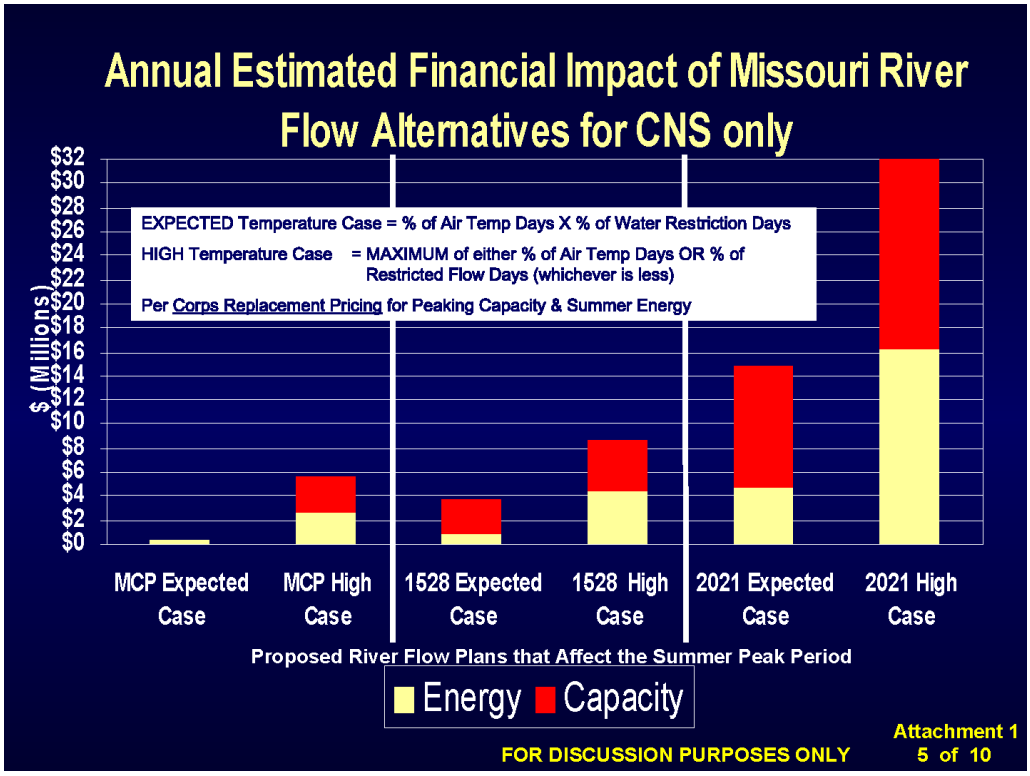
10

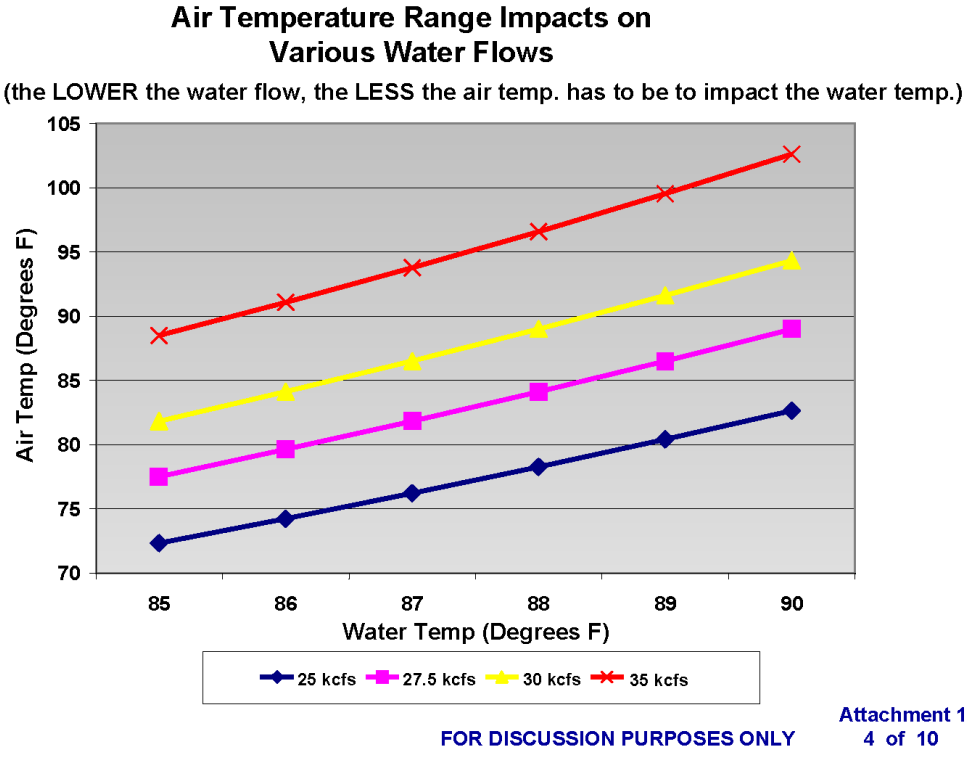


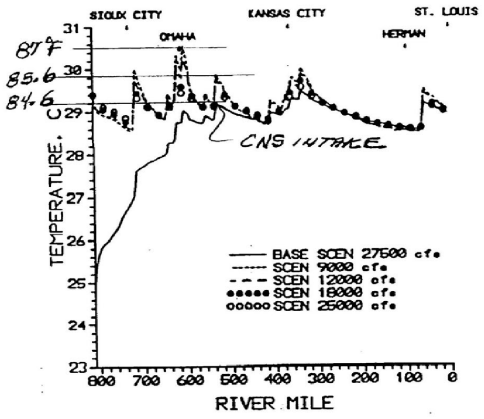
River Flow & Temperature Modeling

- Based on almost 200 historical data points of :
  - water flow discharges
  - air temperatures
  - water temperatures
- A three-dimensional model was developed to determine potential water temperature impacts associated with the proposed Master Manual flow changes
  - clearly demonstrates that as water flow decreases, water temperature increases below Nebraska City

FOR DISCUSSION PURPOSES ONLY
Attachment 1
2 of 10


Annual Estimated Financial Impact of Missouri River Flow Alternatives for CNS only
$ (Millions)
$32
$30
$28
$26
$24
$22
$20
$18
$16
$14
$12
$10
$8
$6
$4
$2
$0
EXPECTED Temperature Case = % of Air Temp Days X % of Water Restriction Days
HIGH Temperature Case = MAXIMUM of either % of Air Temp Days OR % of Restricted Flow Days (whichever is less)
Per Corps Replacement Pricing for Peaking Capacity & Summer Energy
MCP Expected Case
MCP High Case
1528 Expected Case
1528 High Case
2021 Expected Case
2021 High Case
Proposed River Flow Plans that Affect the Summer Peak Period
Energy
Capacity
FOR DISCUSSION PURPOSES ONLY
Attachment 1
5 of 10


Air Temperature Range Impacts on Various Water Flows
(the LOWER the water flow, the LESS the air temp. has to be to impact the water temp.)
Air Temp (Degrees F)
105
100
95
90
85
80
75
70
85
86
87
88
89
90
Water Temp (Degrees F)
25 kcfs
27.5 kcfs
30 kcfs
35 kcfs
FOR DISCUSSION PURPOSES ONLY
Attachment 1
4 of 10



Attachment 1
FOR DISCUSSION PURPOSES ONLY 7 of 10

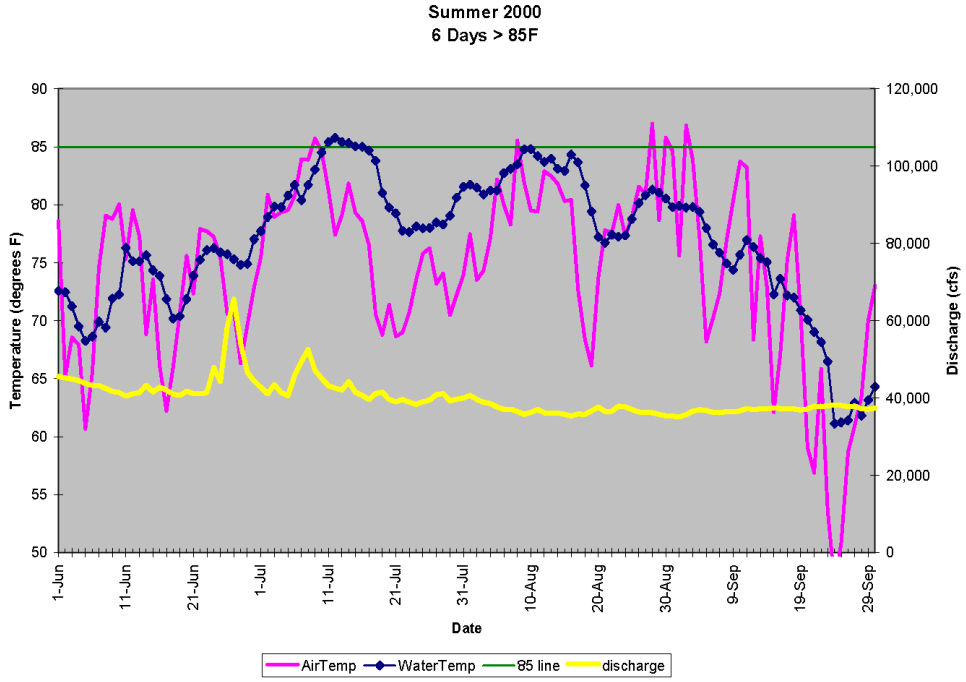
Historical Data Supporting Thermal Plant Impact Concern

- Reviewed worst case scenario modeled by COE - Scenario 5 w/ 29.4C temperature of release; maximum met conditions; maximum water quality concentrations on tributaries; 2-year tributaries flows; maximum permit limits from point sources; power plants operating fully loaded.

- According to graphics on page B31, river water temperature @ Cooper Nuclear Station (CNS) is at or just below 85 F for all flows (25, 18, 12, 9 KCFS)

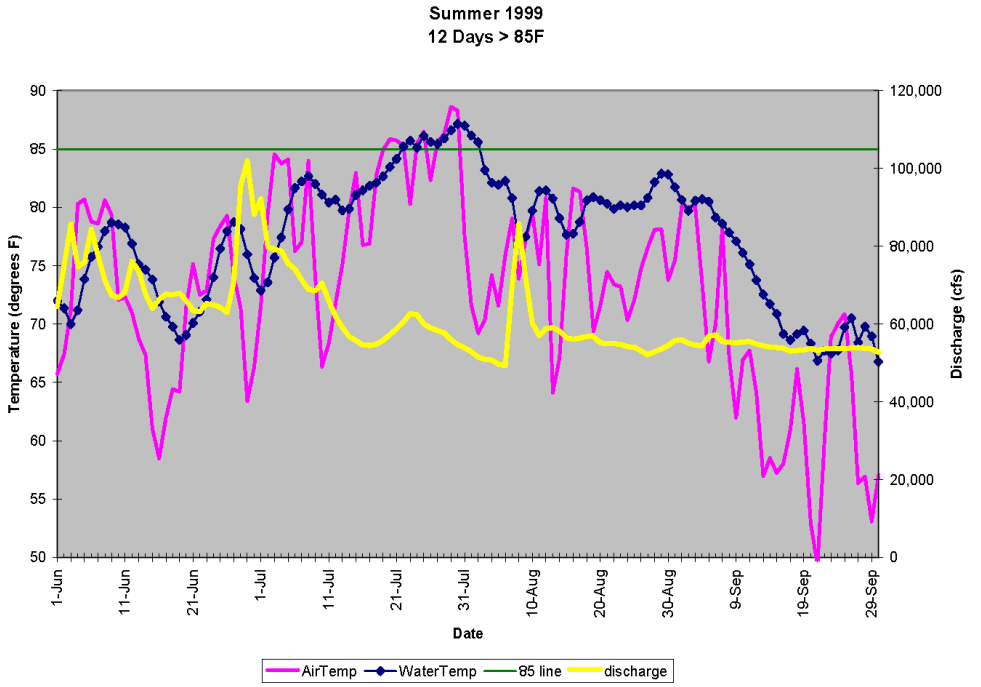
- Data from measurements at CNS for 1999, 2000, 2001 indicate Missouri River temperature is > 85F for 12 days in 1999, 6 days in 2000 and 12 days in 2001 in the time period of June 21 – August 31 when flows are 35 KCFS and greater in all cases.

Attachment 1
FOR DISCUSSION PURPOSES ONLY 6 of 10



Attachment 1
9 of 10

FOR DISCUSSION PURPOSES ONLY



Attachment 1
8 of 10

FOR DISCUSSION PURPOSES ONLY

L0500046

MASTERMANUAL NWD02

From: SKILES, SHAWN E [sskiles@oppd.com]
Sent: Tuesday, February 26, 2002 11:06 AM
To: Mastermanual
Cc: NEAL, WILLIAM L
Subject: Missouri River Basin

02ERA013.doc

Please find the attached letter regarding our comments about the management of the Missouri River Basin.

<<02ERA013.doc>>

Shawn E. Skiles
Division Secretary
Environmental & Regulatory Affairs
402-636-2306
402-636-3972 - FAX

February 25, 2002

02-ERA-013

BG David A. Fastabend
Commander, Northwestern Division
U.S. Army Corps of Engineers
P.O. Box 2870
Portland, OR 97208-2870

Dear General Fastabend:

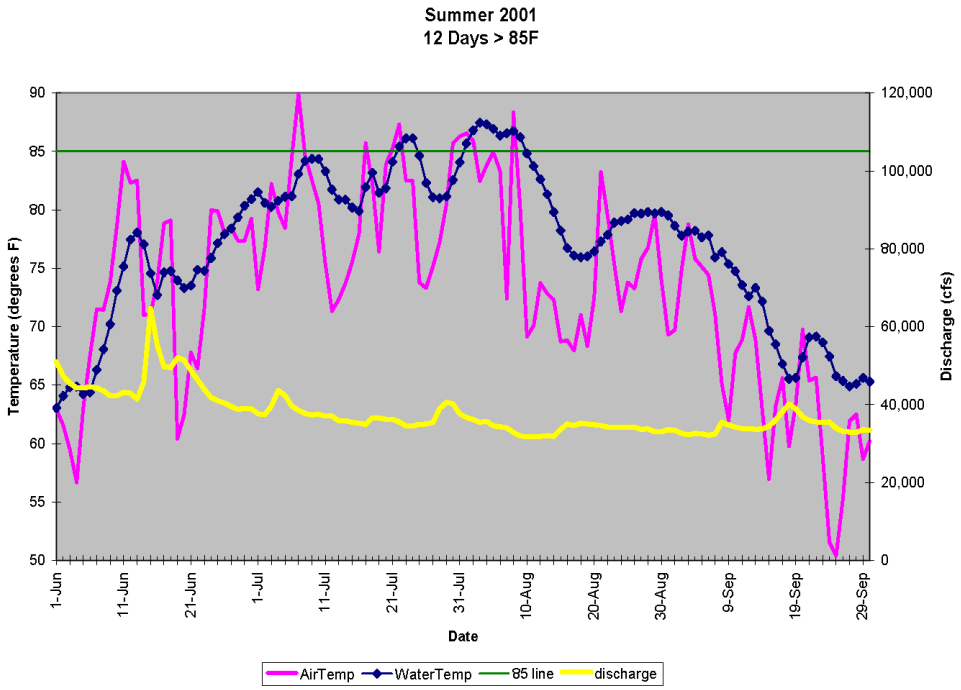
Over the past 12 years, stakeholders representing varied and often competing interests, have participated in studies and offered their views on how the Corps should manage the waters of the Missouri River Basin.

MoPower 1, 3

Throughout this process the electric power generating stakeholders, including OPPD, have consistently expressed their deep concern with any new plan that would reduce summer flows and subsequently increase ambient Missouri River temperatures. Specifically, OPPD has identified that any plan increasing river temperatures by as little as 2°F would necessitate derating our plants by as much as 200MW in order to comply with Federal Clean Water Act permits. Such a derate would also likely occur during the hottest part of the summer season and coincide with peak electrical demand of our customers. Furthermore, since other Missouri River thermal plants would likely be faced with similar derates, OPPD would at best be forced to purchase very expensive replacement energy, or at worst, such energy might not be available at any price.

MoPower 5
EnSp 4

While we hope such an adverse scenario as described never occurs, unfortunately the Corps is unable to predict or model the effect of lower summer flows on temperature. OPPD is not alone, however, in facing such uncertainties. Biologists cannot predict if a spring rise downstream of Gavins Point will serve as a spawning que for the endangered pallid sturgeon, let alone when and at what release levels. Nor can accurate predictions be made as to the success of newly created sand bar habitat for least terns and piping plovers. As a result of such uncertainties, many stakeholders have now come to believe that any plan (with the support of the recent National Academy of Sciences Report) must serve as a starting point, be carefully monitored for benefits and impacts, utilize adaptive management principals for future adjustments, and provide for stakeholder oversight.



FOR DISCUSSION PURPOSES ONLY

Attachment 1
10 of 10

February 25, 2002
02-ERA-013
Page 2

OPPD, after careful review of alternatives presented in the Revised Environmental Impact Statement, believes the alternative identified as GP1528, with modifications, best represents just such a plan. It is our understanding the Missouri River Basin Association (MRBA), including the State of Nebraska, have also backed such a Gavins Point Demonstration Project. In a letter dated February 12, 2002, the MRBA listed a number of conditions or restrictions necessary for their endorsement and OPPD fully agrees with those conditions.

Other 61

In closing, OPPD appreciates the difficulties associated with your selection of a new operating plan. We would also like to extend our thanks to your fine staff here in Omaha, and we hope you find our comments and recommendations helpful.

Sincerely,

W. L. Neal
Division Manager
Environmental & Regulatory Affairs

WLN/ses

MASTERMANUAL NWD02 L0500047

From: Jeff Bean [jbean@pionet.net]
Sent: Wednesday, February 27, 2002 3:51
To: Mastermanual
Subject: Comments

Western Iowa Power Cooperative

P.O. Box 428
Denison, IA 51442
Phone 712.263.2943

February 27, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

SUBJECT: Missouri River Master Manual Review

Gentlemen:

Western Iowa Power Cooperative (WIPCO) is a distribution electric cooperative that provides electric service in nine counties in western Iowa. Our electric service provides power to a system with 5,200 electrical consumers. Northwest Iowa Power Cooperative (NIPCO) supplies all of our purchased power. NIPCO's power supply consists of hydropower from Missouri River dams through the Western Area Power Administration along with coal-fired generating plants in North Dakota and Wyoming operated by Basin Electric Power Cooperative and part ownership in the Neal 4 generating station located near Sioux City, Iowa.

WIPCO offers the following comments regarding the Revised Draft Environmental Impact Statement (RDEIS) of the Missouri River Master Manual Review.

The National Economic Development (NED) model used in the Corps' analysis is an inadequate tool to assess the impacts of proposed flow changes to the Current Water Control Plan (CWCP).

HPower 12

The NED, appears to inadequately quantify the regional and capacity impact changes to the Missouri River main stem dams since it is a "national" representation, not a regional one. The higher lake levels proposed in the flow alternatives will mean the loss to permanent storage of several million acre-feet (MAF) of water that would otherwise have been used for generation. That lost energy probably will not be made up from the greater generation efficiency at the higher head levels.

The NED is not able to adequately recognize the impacts of shifting generation to different times of the year. The NED has not fully captured

HPower 12

3/9/2002

the potential impact of shifting generation from the summer, when the system has peak demand and the value of the power produced is highest, to the spring, when demand and the value of power is low and can be met with other resources.

The NED analysis, which shows a greater benefit from proposed flows than the CWCP, stands in stark contrast to the impact assessment conducted by the Western Area Power Administration, which clearly shows a dramatic revenue impact that will have to be offset by higher power rates. The Corps' assessment barely recognizes this, noting that those impacts would only take place "[I]f WAPA were to continue to pay the Federal Treasury at the rate it would under the CWCP . . ." The repayment obligations of the Western Area Power Administration are fixed by statute and regulation. WAPA does not have discretion to change repayment schedules because of different river operations.

WAPA 4

The Corps of Engineers should give greater weight to regional assessments of hydro generation impacts than the NED. We feel certain that the Western Area Power Administration would be willing to provide input that would more accurately reflect the realities of hydro generation on the river, as well as electric utility practices.

HPower 12

The Corps analysis does not adequately address impacts on regional power supply - both hydro generation and thermal electric plants that use Missouri River water for cooling.

HPower 12
MoPower 3

We recognize that this is a difficult issue to analyze, but the NED assumes availability of additional power resources to offset the loss of generation from reduced water flows at certain times of the year. That being the case, it is important to know how much generation might be affected by proposed flow changes on the Missouri, as well as where additional generation is available.

HPower 12
MoPower 3

The NED completely ignores transmission issues relating to importing power from replacement resources, both as to availability of transmission paths for other generation and the cost of transmission for that generation. In addition the impact on regional power pricing resulting from reduced water flows is completely absent.

HPower 12

The analysis of impacts of proposed Gavin's Point environmental flow regimes on existing thermal plants is incomplete. The Corps has buried information on this issue in the "Water Supply" section of the RDEIS. River stages sufficient to service water intake structures are only one part of the issue. Given the low flows proposed by some of the Gavin's Point releases, thermal plants on the river may find themselves forced to curtail generation to meet discharge temperatures dictated by environmental permits. The Nebraska Public Power District has conducted an analysis that indicates the potential for significant cost impacts to Cooper Nuclear Station due to lower river flows, which is not recognized in the RDEIS impact results.

MoPower 1

The Corps should incorporate all information relating to power supply in the region in the hydropower analysis. The Corps should re-examine its data and analysis of impacts on thermal plants along the river through consultation with each generation source.

HPower 17

Mid-West shares the concern of many parties to provide better habitat for threatened and endangered species, and recognizes the supremacy of the Endangered Species Act (ESA). However, the proposals considered by the Corps seem unfairly directed toward protection of threatened and endangered species without proper regard for the serious economic consequences to the Missouri Basin and the negative impacts on other project purposes.

EnSp 28

We recognize the difficult task confronting the Corps of Engineers, but it appears that hydropower and navigation are the "losers" in the RDEIS. Other functions experience a net gain in benefits. This seems neither just nor equitable.

HPower 22

The Endangered Species Act does permit consideration of economics in making decisions about remedies for threatened and endangered species. The Corps apparently did not look at lands on the Yellowstone River under the jurisdiction of the United States Bureau of Reclamation in evaluating actions to assist the pallid sturgeon. It has been suggested that a nominal investment in improving habitat there would provide greater benefits to the pallid sturgeon than spilling water at Fort Peck and other habitat activities that might be conducted on the Missouri. In short, the Corps appears to have selected an alternative that is more expensive and has less certainty of improved conditions for the pallid sturgeon than other possible alternatives.

EnSp 28

In summary, the Corps should develop a management plan for the Missouri River that better balances the benefits and burdens among all project purposes.

Sincerely,

Western Iowa Power Cooperative
Jeffery T. Bean
Executive Vice President
And General Manager

L0500048

MASTERMANUAL NWD02

From: Jeff Bonn [camwal@cam-walnet.com]
Sent: Tuesday, February 26, 2002 4:01 PM
To: Mastermanual
Subject: Proposed flows for the Missouri River

Dear Sirs:
I would like to comment on the master manual flows. The proposed flow changes will hamper WAPA from efficient generation of hydroelectricity at peak times of the year. WAPA power has become a staple in rate stabilization and efficient use of the main stem dam's hydroelectric resourse greatly enhance our wholesale power costs. Coming from a rural area in north central South Dakota we are well aware of the efforts of Corp to balance the tasks of the dam's level and flow management with all factions involved. Please consider stable discharges throughout the summer as it greatly enhances our power costs to area farms, residences and businesses.

HPower 26

Traditionally July and August are quite taxing times of the year for electricity generation. I urge you to consider using hydroelectric power as part of the solution to stable power and generation costs. Please review the economic impact that the generation offsets by using hydroelectricity from the dams during high demand periods for electricity.

HPower 11

Basin Electric works closely with WAPA and would have some insight on how to quantify the financial impact that hydro generation at peak times versus non peak times. Please reconsider the total financial impact to the electric industry when deciding on flow regimes.

HPower 17

Thanks for your time and consideration

Jeff Bonn
General Manager of Cam Wal Electric Cooperative

1

MAR-26-02 TUE 12:46 PM MCLP+++++ Press 320 693 2980 P.02

L0500049

Meeker Cooperative
A Touchstone Energy® Partner

503 East Highway 12 - PO Box 522
Litchfield MN 55355-0522
320-693-3231 or 1-800-232-6257
Fax 320-693-2980

March 26, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Dear United States Corps of Engineers:

Meeker Cooperative Light and Power Association serves approximately 7,500 members in an agriculture based area in south central Minnesota. The Cooperative receives power from Western Area Power Administration, which produces power from federal hydropower plants that use the Missouri River. As a rural electric cooperative serving a sparsely populated agriculture based rural economy, it is vitally important to continue to receive adequate supplies of electric power at rates that continue to make electricity affordable for our rural members.

To ensure adequate power production, I ask that you reexamine the flow regimes proposed in your Revised Draft Environmental Impact Statement (RDEIS). Namely, the Corps of Engineers should give additional consideration to regional assessments of hydro generation impacts as it develops its data and analysis.

HPower 11, 17

Understanding that habitat and animals of all species must be taken into its analysis, the Corps of Engineers seems to be forgetting about the most endangered species in America today - the family farm and the rural tradition it has fostered. Again, I ask that you ensure hydropower will not be adversely affected by proposed flow regimes.

Other 7, 20

Thank you for your attention in this matter.

Sincerely,

Tim Mergen, General Manager
Meeker Cooperative Light and Power Association
Litchfield, Minnesota
Ph. 320-693-3231

U.S. Army Corps of Engineers
Northwestern Division

COMMENT FORM
MISSOURI RIVER MASTER MANUAL RDEIS

L0500050

Contact Information:

Name: Michael D. Rudolph, General Manager/CEO

Address: KEM Electric Cooperative, Inc., PO Box 790

City, State, Zip: Linton, ND 58552

e-mail address: mrudolph@kemelectric.com

We welcome your mailed or faxed comments. Fax number: (402) 697-2504. Comment categories are provided in the newsletter.

Comments:

Choose a category/categories for each comment from the list provided in the newsletter.

1. **Category(ies):** (See attached sheet.)

2. **Category(ies):**

COMMENTS ON RDEIS

I. ECONOMIC USES (MISSOURI RIVER)

A. Hydropower Production

i. The ever-changing water levels make hydropower production a very difficult task. This inconsistency makes Western Area Power Administration function in a situation of never knowing what the next year's water level will be to meet their contractual obligations to provide electricity. WAPA 6

B. Recreation

i. Recreation is one of the largest economic activities on the Missouri River. The changing water levels can make or break a recreation business dependent on stable water levels--everything from boat ramps becoming unstable to sand bars making boating a safety issue. Rec 12, 13

C. Water Supply

i. The irrigation systems that utilize the water from the Missouri River are forced to chase the water in order to keep their pumps in the water. This can be very expensive and frustrating for the irrigation system operators. It can impact the ability to water at critical times for crop production and to meet all the regulations of all the governmental agencies. WS 9

2. Social/Economic Impacts.

A. Economic Impacts

i. The impacts have been major to the agricultural businesses that utilize the Missouri River water and also to the businesses that operate recreation activities that are dependent on consistent water levels. Rec 14

3. General Comment

A. Consistency is the key. Balancing all the various categories or uses of the Missouri River is difficult at best, but consistency is the key. Having water levels change up and down to meet the multitude of activities have not met the needs of the majority of them. Has this been a good plan or bad plan? It seems it is one that has not worked well. Find the balance point. Other 7

U.S. Army Corps of Engineers
Northwestern Division

COMMENT
MISSOURI RIVER MASTER MANUAL

L0500051

Contact Information:

Name: Council Bluffs Water Works Attn: John Elliott

Address: P.O. Box 309

City, State, Zip: Council Bluffs, IA 51502

e-mail address: h2omancbww@neonramp.com

We welcome your mailed or faxed comments. Fax number: (402) 697-2504. Comment categories are provided in the newsletter.

Comments: The Council Bluffs Water Works does not support changes in releases from Gavins Point Dam.

Choose a category/categories for each comment from the list provided in the newsletter.

1. Category(ies): Water Quality

Typical hardness in the Missouri River at the Council Bluffs Water Works runs from about 250 to 280 milligrams per liter (mg/l) when the blend is 80% of the water from Gavins Point and 20% from the tributaries. Hardness from the Vermillion, James and Big Sioux rivers can run from 400 to 500 mg/l. At the Council Bluffs Water Works we use lime and soda ash to reduce the hardness to 160 to 170 mg/l.

Options GP2021 and GP1528 would raise Gavins Point releases up to 50,000 and 45,000 cubic feet per second (cfs) respectively. During this high release the flows from the tributaries would decrease. The rapid decrease in releases from Gavins Point in June and July and the low flow in August would change the 80/20% blend dramatically causing an increase in the total hardness in the river.

We experienced a situation similar to the proposed releases in the spring of 1999. Gavins Point release was dropped from about 35,000 cfs to 17,000 cfs. Total hardness in the river went from about 280 mg/l to nearly 400 mg/l. Our water treatment chemical cost went from $65 per million gallons to over $120 per million gallons. This nearly doubling of our chemical cost would occur during our peak demand months of June, July and August. We average nearly 320,000,000 gallons per month during our peak months and our chemical treatment cost would go from about $21,000 per month to nearly $40,000.

WQ 4

2. Category(ies): Water Quality

During the peak releases of GP 1528 and GP2021 the tributaries would back up as stated before. Any runoff into the tributaries during peak releases would concentrate any contaminants. Some of the contaminants would include coliform bacteria, cryptosporidium, ammonia nitrogen, nitrates, fertilizers, herbicides, pesticides and volatile organics. New Environmental Protection Agency regulations reduce maximum contaminant levels of disinfection by products and turbidity. The concentrated contaminants, low Missouri River levels, and high demand during June, July, and August could make it extremely difficult to meet EPA maximum contaminant levels.

WQ 5

Return after 5 days to
Council Bluffs Water Works
P.O. Box 309 Council Bluffs, Iowa
51502

U.S. Postage 0.34

U.S. Army Corps of Engineers Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Missouri River Master Ma

3. Category(ies): Flood Control

The intake building for the Council Bluffs Water Works sets on the Missouri River on the wet side of the levy. During the spring rise proposed in GP 1528 and GP 2021 combined with a hard fast rain upstream could flood our intake building, pump motors and electrical controls. This could put our water plant out of service for days. We have a little more than one day of finished water storage in our reservoirs and towers. The loss of our intake pumps would leave the Council Bluffs residents without drinking water and fire protection.

FC 8

MASTERMANUAL NWD02 L0600001

Please see response to S0200003

From: Coalition to Protect the Missouri River [moriver@socket.net]
Sent: Thursday, February 28, 2002 5:00 PM
To: Mastermanual
Subject: FW: Missouri River Master Manual Comments

Follow Up Flag: Follow up
Flag Status: Flagged

COMMENT 2002.pdf

Attention: Missouri River Master Manual RDEIS

Rose,

On behalf of the Coalition to Protect the Missouri River, I would like to have the attached comments of the Missouri Attorney General's Office included as a supplement to our final RDEIS comments and note that we concur with their legal assessments.

Sincerely,

Randy C. Asbury
Executive Director
Coalition to Protect the Missouri River
Rt. 1, Box 47
Higbee, MO 65257
660-273-9903

1

MASTERMANUAL NWD02 L0600002

From: Coalition to Protect the Missouri River
Sent: Thursday, February 28, 2002 5:02 PM
To: Mastermanual
Subject: Final RDEIS Comments

Rose,

The following text was mailed today, February 28, 2002 along with its supplements. I am submitting this also, not to be redundant, but to be safe in case the U.S. Mail system fails to do its job. Thanks to all of the Omaha staff your professionalism and friendship. Even though I'm happy the hearings are completed, it was always good to see everyone's smiling face. Hope to see you soon.

Sincerely,

Randy Asbury
Executive Director
Coalition to Protect the Missouri River
Rt. 1, Box 47
Higbee, MO
660-273-9903
660-273-2124 fax

Coalition to Protect the Missouri River
Final Comments
Missouri River Master Manual Public Comment Period
Revised Draft Environmental Impact Statement (RDEIS)
February 26, 2002

The Coalition to Protect the Missouri River (CPR) represents a diverse group of thirty-three agricultural, navigational, utility, industrial and business-related entities all of which are, or represent, Missouri River stakeholders. We support responsible management of Missouri River resources and the maintenance of congressionally authorized purposes of the river including flood control and navigation. We also support habitat restoration for endangered or threatened species. The purpose of this paper is to discuss the impacts of RDEIS alternatives on agriculture, navigation and energy and our belief that the current water control plan (CWCP) is the only feasible management option of the six proposed alternatives.

Other 6, 70

Drought settled over the Upper Basin states in late 1987 and throughout 1988. It eventually spread to the Lower Basin states and lasted until 1992. Upper Basin Governors lobbied the U.S. Army Corps of Engineers (Corps) to change its Missouri River management plan calling for the release of less water, thereby keeping lake levels higher to support lake infrastructure and recreational interests. The Corps responded with a Master Manual review that culminated in the release of its Draft Environmental Impact Statement and Preferred Alternative (including spring rise and split navigation flows) in 1994. Lower Basin States voiced great opposition to the Corps' Preferred Alternative citing adverse flood control, inland drainage and navigation consequences that were unacceptable. As a result of oral and written testimony, the Corps reconsidered the Preferred Alternative and went back to the drawing board.

In December, 2000 a jeopardy Biological Opinion released by the U.S. Fish and Wildlife Service (FWS) stated that three species (interior least tern, piping plover and pallid sturgeon) were threatened or endangered and demanded Missouri River Master Manual changes to address their needs. This set in motion a formal consultation between the FWS and Corps to develop ways to avoid species jeopardy

navigation are maintained and tells the Corps that it may consider and propose additional alternatives. Minimally, the Corps should be required to explain why it has chosen one alternative over another and how this choice will ensure that other congressionally authorized purposes are maintained. Legal 9 (cont)

Another significant failing of the FWS Biological Opinion is that many of its rigorous mandates have not undergone the important crucible of scientific review and examination. In many instances, the Biological Opinion relies on unsupported assertions or simply ignores information in its possession. Such failings rise to the level of arbitrary and capricious.

The most glaring information disconnect in the FWS Biological Opinion is the oft-repeated FWS assertion that the "spring rise and summer draw down" will closely approximate the natural hydrology of the Missouri River. This FWS assertion, characterized by its goal of returning historical "form and function" to the river system, was not based on any empirical research and is flat wrong according to studies performed by the Missouri Department of Natural Resources. From late May through early August, the FWS alternative would decrease in lockstep fashion the quantity of water allowed to pass through the Gavins Point dam in almost direct contradiction with historic natural flow. Hydro-15

In short, one of the bedrock principals guiding the actions of the FWS – a plan that would impose a mandatory alternative on the Corps and have draconian impacts on the flow of the Missouri River from the Gavins Point dam downstream for hundreds of miles and increase the risk of downstream flooding – is based on inaccurate historic flow patterns. FC 8

In another shortcoming, the FWS, while noting that habitat restoration is a key factor in its plan to protect the endangered species, utterly fails to review or account for the negative consequences that will result from Corps' implementation of the FWS plan. In short, if the reservoirs are raised as envisioned by the FWS alternative, this will destroy significant prime habitat of the piping plover – a species it seeks to protect. EnSp 20

Finally, the FWS selectively ignored public input. Early on, the agency indicated that only it and the Corps should have any input into the process. However, while the FWS ignored the efforts of many groups to provide input, it appears that one organization, the Missouri River Basin Association, was provided access to the process at precisely the same time that others were told to stand on the sidelines. If fully substantiated, such selective input decisions are entirely inappropriate as well as arbitrary and capricious. Legal 9

In summary, the Coalition and its business association allies hold that the Biological Opinion is legally flawed and incompatible with the intent of Congress. A more thorough analysis follows:

Analysis of FWS Biological Opinion

1. The Secretary has failed to perform a non-discretionary duty by implicitly designating "critical habitat" in the final Missouri River Biological Opinion without considering economic impacts and other relevant impacts as required by 16 U.S.C. § 1533(b)(2) and by failing to consider the best scientific and commercial data available as required by 16 U.S.C. § 1533(b)(1)(A). Legal 9

The Biological Opinion implicitly determines critical habitat in contravention of Section 1533(b)(2) which requires the Secretary to "tak[e] into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat." 16 U.S.C. § 1533(b)(2).

through river management changes. Originally, it was thought that another "spring rise/split navigation" Preferred Alternative would be released on August 31, 2001. Under pressure from Congress and citizens, the Corps instead released a range of six alternatives rather than a "Preferred Alternative" in their Revised Draft Environmental Impact Statement (RDEIS). A six-month public comment period began August 31, 2001 and runs through February 28, 2002. The Corps will accept oral, written and electronic comments during this time. The selection of a water control plan and the final Environmental Impact Statement (FEIS) is scheduled for May 31, 2002. The current timeline established by the Biological Opinion calls for a 30-day public comment period to follow the FEIS release. A Record of Decision is to occur in October 2002 with Master Manual changes implemented by spring of 2003.

On August 20, 2001 CPR filed a 60-day Notice of Intent to Bring Citizen Suit against the FWS. The purpose of the notice was to foster discussion with the FWS about their final Biological Opinion. Unfortunately, CPR had no meaningful discussions with the FWS or the Department of Interior. CPR's specific claims under the Endangered Species Act (ESA) are set out in substantial detail below. In summary, however, we assert that the Secretary of Interior failed to perform a non-discretionary duty when she implicitly designated critical habitat without considering economic impacts and other relevant impacts as required by the ESA, and further, that she failed to consider the best scientific and commercial data available before implicitly designating critical habitat in the Biological Opinion. The failure to consider economic impacts or other relevant impacts such as flood control or navigation violates the ESA and will impose significant burdens on members of CPR. Legal 9

We also assert that the Secretary has acted in direct contravention of the ESA by essentially ignoring the requirement to issue "reasonable and prudent alternatives" that would avoid jeopardy and achieve species recovery. Instead, the FWS plan requires the U.S. Army Corps of Engineers (Corps) to restore virtually the entire Missouri River ecosystem with absolutely no consideration given to other reasonable alternatives that would protect the endangered least tern and endangered pallid sturgeon.

Indeed, rather than list a true alternative, the Biological Opinion proposes a "package" of prescriptive management actions which include a requirement that the Corps implement the so-called "spring rise and summer draw down" from the Gavins Point dam, restore shallow water habitat, hold back more water in upper basin reservoirs, and alter its own internal management system.

In essence, the FWS has read the plural "alternatives" out of the statute thereby restraining the Corps from considering any options for species recovery other than the plan mandated by the FWS. Such a narrow interpretation is constrained not only by the ESA itself but was rejected unanimously this summer in a U.S. Senate Appropriations Amendment. Though not final, this Amendment would level the playing field and provide the Corps with the explicit legal authority to reject the "alternative" specifically mandated by the FWS in its Biological Opinion and propose an entirely different alternative. Importantly, the U.S. House of Representatives on four different occasions has taken even more restrictive action by prohibiting the expenditure of federal funds to implement the so-called "spring rise." Legal 9

The Senate Appropriations Amendment unambiguously tells the Corps that it "shall consider the views of other Federal agencies, non-federal agencies, and individuals to ensure that other congressionally authorized purposes are maintained." In addition, the Amendment holds that the "Secretary [of the Corps] may consider and propose alternatives for achieving species recovery other than the alternatives specifically prescribed by the United States Fish and Wildlife Service in the biological opinion of the Service."

The Amendment does not dictate an alternative, but it clearly mandates a review of additional information to ensure that other congressionally authorized purposes such as flood protection and Legal 9

Judicial review of Section 1533 falls within the scope of the citizen suit provision of the Endangered Species Act, 16 U.S.C. § 1540(g)(1)(C). *Bennett v. Spear*, 520 U.S. 154, 163 (1997). According to the U.S. Supreme Court in *Bennett*, "the terms of § 1533(b)(2) are plainly those of obligation rather than discretion." *Bennett*, 520 U.S. at 172.

The Endangered Species Act citizen suit provision authorizes judicial review under Section 1540. According to that provision:

> "any person may commence a civil suit on his own behalf— …
> (C) against the Secretary [of Interior] where there is alleged a failure of the Secretary to perform any act or duty under section 1533 of this title which is not discretionary with the Secretary." 16 U.S.C. § 1540 (g)(1).

Section 1533(b)(2) categorically requires that the Secretary "shall designate critical habitat … on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat." *Bennett*, 520 U.S. at 172. While the Secretary retains significant discretion as to its ultimate designation, such broad discretion simply does not include an ability to ignore the statutory framework that congress put in place for the Secretary to follow in making this determination.

The designation of critical habitat is always pivotal. It is not only the central issue in protecting endangered species, but also crucial for those private and public entities that will be burdened by a FWS designation of a particular area as critical habitat. The least tern and the pallid sturgeon were listed in 1985 and 1990 respectively. *See* 50 Federal Register 21784 and 55 Federal Register 36641. The FWS had 11 and 16 years respectively to designate critical habitat in a procedurally acceptable manner.

Section 1533(a)(3) makes it clear that critical habitat designations are to be made "concurrently" with the listing decision "to the maximum extent prudent and determinable." 16 U.S.C. § 1533(a)(3). The failure to designate critical habitat is justified only in "extraordinary" circumstances. *Northern Spotted Owl v. Lujan*, 758 F.Supp. 621, 626 (W.D. Wash. 1991). *See also Natural Resources Defense Council v. Dept. of Interior*, 113 F.3d 1121 (9th Cir. 1997).

Moreover, with respect to economic impact and other relevant impacts, the canons of statutory construction compel the Secretary to give effect to this congressional directive at the time of critical habitat designation. *New Mexico Cattle Growers v. U.S. Fish and Wildlife Service*, 248 F.3d 1277, 1285 (10th Cir. 2001). In essence, courts will not construe a statute in a way that renders the words or phrases meaningless, redundant, or superfluous. Indeed, "Congress intended that the FWS conduct a full analysis of all of the economic impacts of a critical habitat designation, regardless of whether those impacts are attributable co-extensively to other causes." *New Mexico*, 248 F.3d at 1285.

Here, the FWS Biological Opinion paints with a broad brush and implicitly designates great stretches of the Missouri River system as critical habitat. The Biological Opinion imposes severe mandates on the Corps and those who perform other traditional congressionally authorized uses. Remarkably, this pervasive effort to alter the dynamics of the Missouri River has been imposed without so much as lip service to economic impacts or other relevant impacts such as flood control or navigation. As noted, ignoring these impacts is prohibited under the ESA. Legal 9

Finally, the Secretary has failed to meet her statutory obligation to perform a non-discretionary duty to consider the best scientific and commercial data available when designating critical habitat. Again, the Secretary must give effect to this congressional directive. Failure to do so not only contravenes the intent of the ESA, but renders any FWS designation arbitrary and capricious. While the Secretary has broad discretion to make final determinations of critical habitat, she simply cannot take such action without adhering to the statutory process.

2. The Secretary has violated 16 U.S.C. § 1536(b)(3)(A) which requires the FWS to identify specific "reasonable and prudent alternatives." Legal 9

Section 1536(b)(3)(A) of the ESA requires the biological agency [FWS] to identify specific "reasonable and prudent alternatives" that can be taken by the implementing federal agency to avoid actions that would likely "jeopardize the continued existence of any endangered species …." 16 U.S.C. § 1536(b)(3)(A); 16 U.S.C. § 1536(a)(2).

As noted, the FWS Biological Opinion, instead of listing alternatives, proposes a "package" of required management actions requiring restoration of much of the Missouri River ecosystem including a demand that the Corps implement the "spring rise" from the Gavins Point dam.

The FWS mandate to the Corps fails on several fronts. First, the Secretary failed to provide alternatives as required by the ESA but instead skipped directly to Section (b)(4)(c)(ii) by specifying "those reasonable and prudent measures … necessary or appropriate to minimize such impact." [emphasis added]. There simply is no alternative. Such a move by the FWS, as noted, not only ignores the intent of congress but also provides a meaningless consultation with the Corps. It also rises to the level of arbitrary and capricious for the FWS to pre-ordain an assessment that the Missouri River ecological system must be restored rather than propose "alternatives" to avoid jeopardy in the first instance. Legal 9

Moreover, according to public and private accounts, there are literally dozens of reasonable and prudent alternatives that were never considered and which would protect the species at issue. The absence of such an inquiry by the FWS renders the congressional requirement to offer such "alternatives" meaningless.

In addition, the Biological Opinion goes far beyond the congressional requirement to assist the Corps in avoiding actions likely to jeopardize the "continued existence of endangered species" and, as noted, shifts the discussion to a much higher threshold of river restoration. This is tantamount to designating the entire system as critical habitat without any of the required consideration of the economic impacts and other impacts.

Agency decision-making under the ESA is governed by the Administrative Procedure Act (APA) which requires an agency action to be upheld unless it is found to "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *Pacific Coast Federation of Fishermen's Associations, Inc. v. National Marine Fisheries Service*, 253 F.3d 1137 (9th Cir. 2001).

Agency action should be overturned only when the agency has "relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view of the product of agency expertise." *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29 (1983).

The failure of the FWS to propose a "true" alternative or, in fact, any reasonable and prudent alternatives ignores clear congressional intent and rises to the level of "arbitrary and capricious." It also places the Corps in the very awkward legal position of either adopting a plan that is not a true alternative or risk that its actions would be found not in compliance with Section 1536(a)(2). *Village of False Pass v. Watt*, 565 F.Supp. 1123, 1160-61 (D. Alaska 1983)(an agency that deviates from Reasonable and Prudent Alternative recommendations does so "subject to risk" that it has not complied with Section 1536(a)(2)). Legal 9

In essence, the Corps has been put in the position of doing "whatever it takes" to avoid a jeopardy

determination – a position that Congress never contemplated for a federal agency. Indeed, as drafted, this section of the ESA simply does not require an open-ended duty to "do whatever it takes" to protect threatened and endangered species. *Platte River Whooping Crane Trust v. F.E.R.C.*, 962 F.2d 27, 34 (D.C. Cir. 1992). In addition, such action by the FWS usurps the Corps' legally authorized role in managing the Missouri River for other congressionally mandated uses. Legal 9 (cont)

Surprisingly, not a single document in the vast array cited in the Biological Opinion performs the critical analysis of the proposed flow and its consequences despite FWS pronouncements that drastic flow alteration is essential to the protection of the identified endangered species. As noted elsewhere, the Biological Opinion is required to use the best scientific and commercial data available as part of its statutory duty to consult under Section 1536(a)(2). EnSp 37

Moreover, the use of the plural in "alternatives," in the ESA, if nothing, indicates a congressional desire to have the biological agency [FWS] offer more than one avenue for the implementing agency [Corps] to avoid jeopardy. At a minimum, the FWS should be expected to offer a reasonable number of alternatives that would allow the Corps some measure of flexibility in determining the appropriate path. This is particularly true when the subject matter is a complex river system that has a myriad of congressionally authorized uses. Legal 9

3. The Secretary has violated 16 U.S.C. § 1536(a)(2), § 1536(c)(1), and § 1533(b)(1)(A) by failing to use the best scientific and commercial data available in the consultation process, biological assessment, designation of critical habitat, and data to support the FWS Biological Opinion.

The FWS is obligated to make its jeopardy evaluations, designations of critical habitat and biological assessments on the basis of the "best scientific and commercial data available." 16 U.S.C. § 1536(a)(2), § 1536(c)(1) and § 1533(b)(1)(A). Generally courts take a "hard look" at this obligation and the agency's action to comply. *See e.g., Green Peace Action v. Franklin*, 14 F.3d 1324, 1336-37 (9th Cir. 1992)

The "best data" test typically prohibits the biological agency from disregarding available scientific evidence that is better information than what it has in its possession. *See Roosevelt Campobello Int'l Park Comm'n v. U.S. EPA*, 684 F.2d 1041, 1049-55 (1st Cir. 1982)(arbitrary and capricious where Coast Guard did not use best scientific data because it did not perform a "real time simulation"); *Conner v. Burford*, 848 F.2d 1441, 1453-54 (9th Cir. 1988)(agency cannot ignore available biological information).

Generally, judicial review of the Biological Opinion would fall within the legal ambit of "arbitrary and capricious." *See Pyramid Lake Paiute Tribe of Indians v. United States Department of Navy*, 898 F.2d 1410, 1444 (9th Cir. 1990). Review under this standard is "searching and careful" but "narrow." A court will not substitute its judgment for that of the agency. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 378 (1989).

The most obvious scientific shortcoming in the FWS Biological Opinion is the FWS assertion that its flow enhancement plan will closely approximate the natural hydrology of the Missouri River. One of the overarching goals of the FWS, in fact, has been to return historical "form and function" to the river system. However, the FWS "spring rise and summer draw down" simply does not match historic flow patterns nor does it appear to be based on any empirical research. Hydro-15
From late May through early August, the FWS alternative would decrease the quantity of water allowed to pass through Gavins Point in complete contravention of studies conducted by the Missouri

Department of Natural Resources which indicate that summer historically had the highest natural flow. Hydro-15 (cont)

The FWS Biological Opinion also disregards or ignores scientific data. The FWS, for example, notes that habitat restoration is a key factor in its plan to protect the endangered species but utterly fails to review or account for the negative consequences that will result from Corps implementation of the FWS plan. As noted, raising the level of the upper basin reservoirs as envisioned by the plan will destroy considerable habitat of the piping plover. EnSp 20

Likewise, the Biological Opinion completely ignores the deleterious impact that commercial and recreational fish harvests have on the pallid sturgeon. There are conservation and other regulatory controls that, if enforced, could prevent the need to radically alter the river for flood control, navigation and other activities. Fish 14

In addition, the Biological Opinion concludes without supporting data or authority that the loss of high spring runoff is a major impediment to pallid sturgeon spawning success. Such a conclusion without support is contrary to the best scientific data which suggests that other factors trigger fish spawning. The FWS also ignores information that the pallid sturgeon continues to thrive in other streams despite similar loss of high spring runoff and omits current studies of pallid sturgeon populations, relying instead on speculation based on a flawed analysis of historical Missouri River flow as discussed above. EnSp 37

With respect to the least tern, the Biological Opinion ignores the possibility that pollution may be responsible for impacting this population. In fact, studies noted in the Biological Opinion suggesting that pollution may well be an important factor are virtually ignored. EnSp 28

The FWS offers largely unsupported conclusions about the importance of the "ecosystem functions" but fails to include any meaningful scientific information or analysis on this issue. Similarly, there is no data or authority to conclude that the loss of high spring runoff is a major impediment to pallid sturgeon spawning success. While the FWS is only required to use the best available data, the absence of any supporting information is arbitrary and capricious. Legal 9

Likewise, the Biological Opinion's reliance on the importance of shallow water habitat is not documented nor is there any discussion as to whether or not the vastly altered hydrology could ever be re-established in a meaningful way (absent removal of the upstream dams). EnSp 24 Hydro-15

The failure of the Secretary acting through the FWS to rely on the best scientific and commercial data available is, for all of the reasons outlined above, arbitrary and capricious. At a minimum, the Secretary must be required to explain her conclusions. Such a satisfactory explanation of agency action is essential for adequate judicial review because the focus of judicial review is not on the wisdom of the agency's decision, but on whether the process employed by the agency to reach its decision took into account all the relevant factors." *Defenders of Wildlife v. Norton*, (2001 WL 856080 (9th Cir. Cal.) *citing Asarco, Inc. v. EPA*, 616 F.2d 1153, 1159 (9th Cir. 1980). Legal 9

Additional concerns regarding the Biological Opinion are outlined in the "Critique of Missouri River Biological Opinion" by The Huffman-Broadway Group, Inc. (Supplement 1). Further reasoning for our concerns with FWS recommendations are discussed in correspondence drafted by the State of Missouri and directed to the previous Assistant Secretary for Civil Works and the Director of the U.S. Fish and Wildlife Service on October 10, 2000 (Supplement 2) and in the Attorney General of Missouri sixty-day notice of intent to bring suit against the Secretary of the U.S. Department of Interior dated August 16, 2001 (Supplement 3).

Biological findings presented in the "Review of Missouri River Management Alternatives and

Development of a Preferred Alternative" (Supplement 4) completed by the Missouri River Technical Committee (MRTC) provide scientific documentation that questions many of the FWS assumptions and recommendations. For instance, FWS demands a more "natural" hydrograph (i.e. spring rise) for the piping plover and least tern. Research completed by the MRTC term this assumption "unfounded." They report, "…the timing of the spring rise and the brooding and mating season very nearly coincide… The proposed USFWS spring rise once every three years during June, like the natural spring rise, will flood the sand bar habitat of the least tern and piping plover at the time they are mating and nesting… Accordingly, the natural hydrograph is not the best hydrograph for the least tern and piping plover. This contradicts the USFWS' basic assumption on which they have devised the flow modification scheme." MRTC's specific comments addressed in pages 9 to 31 discuss numerous assumptions and recommendations made in the Biological Opinion that are either disputed or refuted by this research. Consequently, CPR again reiterates the grave concern our members have with the scientific basis for the proposed changes in Master Manual management.

L0300021

EnSp 53,28

L0300021

Floodplain farmers till some of the most productive land in the world. They also face natural risks of flooding and inland drainage problems. Too much moisture is as detrimental to crop production as too little moisture. For this reason, there is great concern with the spring rise alternatives. Man-made river flows that will increase the risk of flooding or inland drainage problems along the Missouri or its tributaries are unacceptable. In today's difficult agricultural economy, farmers can't withstand man-made events that compound the natural risk inherently a part of farming. And, with proposals that would ultimately affect the navigation channel, flood potential increases. A "Study of Flood Control Provided by Missouri River Navigation Channel" provides an analysis of the extent of this flood potential (Supplement 5). Overwhelming species benefits would have to occur for these risks to even merit review. Corps' data indicates just the opposite will transpire.

FC 6

EnSp 3

The latitude given the Corps by the adaptive management feature creates the realization that Lower Basin states must prepare for the eventuality of the highest spring rise… 20,000 cubic feet per second (20 kcfs) released from Gavins Point. This increased flow is recommended to scour vegetation from sandbars to increase nesting habitat for terns and plovers and as a spawning cue for the pallid sturgeon. Corps' analysis shows a net sandbar habitat gain of 164 acres throughout the mainstem reservoir system. Conversations between the Missouri Department of Natural Resources and the Corps indicate that the CWCP combined with unbalancing of lakes contributes an additional 58 acres not credited to the CWCP in Corps' information. This lowers the overall habitat gain to 106 acres rather than 164. In addition, only 37.4 acres will occur below Gavins Point by increasing river flows to 20,000 cfs over CWCP releases and reducing summer flows to 21,000 cfs. This minuscule gain will occur in a Missouri River watershed that drains one-sixth of the United States over an eight state area.

EnSp 9

The Environmental News Service stated on January 25 that USGS estimates in their 2001 International Piping Plover (IPP) Census show the plover population has increased "470 percent in five years and 140 percent in the decade" along the Missouri River (Supplement 6). This increase has occurred under the current water control plan. The IPP census contradicts the December 2000 Biological Opinion's plover recommendations that were based on "a substantial decline in population numbers."

EnSp 27

The Fish and Wildlife Service's Biological Opinion also demands a spring rise as a spawning cue for the pallid sturgeon. The RDEIS Executive Summary states, "Corps and USFWS biologists agree that there are no data to support definition of a spawning cue that would successfully result in spawning on the Lower River."(Page 22) The Corps affirms in the RDEIS Master Manual Review that, "This lack of information supported the general understanding between the Corps and USFWS staffs that the required spawning cue is basically unknown at this point in time. Corps staff understood that the aforementioned criteria were hypothetical, and they did not have supporting data, analysis, and documentation of associated spawning success." (Page 7-61)

EnSp 17

Corps' records demonstrate there is a natural spring rise on the Missouri River beginning at the mouth of the Platte River (Missouri river mile 595) and moving downstream. There is no definitive indication that pallid are naturally spawning at any greater levels where this natural spring rise occurs even though shallow water habitat is closest to ideal in this portion of the river.

EnSp 29

Corps' data shows a Gavins Point release of 20 kcfs will raise river levels in St. Joseph and Omaha by 4.4 feet and in Sioux City by 5.0 feet on average once every three years. It takes 10-11 days for releases from Gavins Point to travel to St. Louis. The Corps admittedly does not have technical capability to forecast a rain event or rain runoff. In spite of this, Lower Basin States are expected to trust that once an additional 4.4 to 5.0 feet of water is released from Gavins Point no major rain event will occur that will combine with the artificial rise to create the flood conditions or inland drainage problems envisioned. Any flood event is a significant event to those who experience it. The inadequate benefits to species improvements do not justify the far-reaching risk of these proposals. It is apparent that a cost-benefit analysis of these proposals shows the threat of financial catastrophe to agricultural interests far outweighs any species' benefits.

Hydro-14

FC 6, 8

Accordingly, no logical justification exists for the increased exposure for flooding and inland drainage problems that may occur on 1.4 million acres of prime farmland. Federal agencies can not rationalize that potentially affecting approximately 30,400 residential and nonresidential buildings worth approximately $17.6 billion in rural and urban communities to create 37.4 acres of bird habitat below Gavins Point and a fish-spawning cue that may or may not help the pallid is reasonable and prudent.

FC 6, 8
EnSp 17

Only two percent of the U.S. population is farmers. Therefore, farmers must be more efficient to continue producing an affordable and plentiful food supply. Depriving farmers in the Missouri River Basin of the competitive transportation structure that includes the river, railroads and trucks will directly impact the price paid for every bushel of grain. According to The Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri, prices paid for corn could be reduced 19 cents per bushel or 10 percent of the current market value if river commerce ceases (Supplement 7). Lower prices will reflect the higher transportation costs the river terminals will be forced to pay to get the grain on to market.

Nav 7

Moving grain by barge is much more cost effective than by truck or rail. "According to the TVA/UT (Tennessee Valley Authority and University of Tennessee) study, rail rates in water competitive areas are lower due to historically low barge rates for grain, fertilizers and other bulk commodities in the Missouri River Basin…The TVA analysis cites UT findings that "the barge alternative significantly affects rates for the movement of grain up to a distance of at least 100 miles." (Supplement 7)

Nav 6

Water-compelled rates result when railroad routes that run parallel to the rivers are forced to compete with the lower-priced barge rates. There is little doubt that without river navigation, the price of transporting by rail will be even less attractive than it is currently. Simply put, savings result from water-compelled rates. Rail rates in North and South Dakota where the only options are truck or rail are much higher than where there is competition from barge transportation. This is because of a lack of transportation competition.

Nav 8

The original mission of the Corps of Engineers, in relation to the Missouri River, was to support and promote navigation. Marian E. Ridgeway stated in The Missouri Basin's Pick-Sloan Plan that, "transportation was vital to the country's growth and the streams were the easiest and most dependable means for transporting large quantities of goods and services over great distances." Today, this statement still rings true.

The Flood Control Act of 1944 provides that the reservoirs function for greatest benefit to fish, wildlife and recreation, only to such degree that flood control, irrigation, water supply, power and navigation are not seriously affected. It is ironic that the original mission of the Corps is the least protected in the current RDEIS and that recreation and wildlife have trumped navigation. Navigation is the key river resource that bears the distinction of "most significantly impacted" by the five alternatives proposed in lieu of the CWCP. Other 167

With the broad flexibility in river management created by adaptive management, we must assume the worst-case scenario will occur for both the spring rise and summer flow alternatives…the GP2021 option. The RDEIS Executive Summary states that flows "would be adjusted…if monitoring and data analysis indicate this measure is necessary for the species." The summary goes on to state, "The GP1528 and GP2021 options represent the full range of NEPA coverage for the Gavins Point Dam release changes." This statement indicates we are not approving a specific flow option but a range of flow options. To approve any Gavins Point flows is equivalent to approving all the flows. Under this scenario the GP2021 can occur just as easily as the GP1528. From an economic perspective, this is impossible for navigation to accept. Other 3

The GP1528 flow is not feasible for navigation because channel changes resulting from the '93 flood have altered them to the detriment of navigation effectiveness. What were once minimum service level flows before '93 are no longer minimum service levels today. Approximately 100 dikes destroyed by the '93 flood have never been repaired. This eliminates GP1528 as a viable flow option since flows at or below minimum navigation levels are not economically justifiable. Nav 5

Gavins Point summer flows below minimum navigation will cause navigation to cease altogether on the Missouri River. It must be understood that navigators can not withstand an annual reduction of 72 days or 30% of their operating season and remain economically viable. This operating season reduction would be equivalent to asking Wal-Mart to close their doors from September 14 to December 31. This contradicts congressional language that requires navigation to be maintained as a congressionally authorized purpose of the river. Nav 12

Summer flows reduced to below minimum navigation levels on the Missouri River will also negatively impact river commerce on the Mississippi River. The MCP alternative decreases flow support to the Mississippi 40 out of 100 years. Missouri Department of Natural Resources analysis indicates that 75 percent of the time or 30 out of 40 years, these cutbacks in flow coincide with low water on the Mississippi. The current water control plan decreases flow support 9 percent of the time and coincides with low water on the Mississippi about 78 percent of the time (Supplement 8). Flow reliability contributed to the Mississippi by the Missouri is undoubtedly greater with the current water control plan than with any other. Miss 19

GP2021 is often promoted as the best option for the Mississippi by conservation groups. According to Paul Werner, American Waterways Operators, "What is not said is that the cost data for one year, 1939, dramatically skews the entire 65-year average and portrays the current Missouri River operating plan as having a far more negative impact on Mississippi River navigation than modern-day experiences would indicate…The Corps knows that Mississippi River navigation will be affected, just as it knows there will be periodic floods on the Missouri River. The two worst modern-day drought years on the Mississippi River were 1976 and 1988. Low summer flows as recommended in four of its six Missouri River alternatives would have increased Mississippi River navigation costs by nearly 50 percent during the drought of 1976, and by 33 percent during the drought of 1988. Meaningful decision-making information such as this is lost in multi-year averaging." Miss 30

Approximately 2/3 of the flow in the 'bottleneck reach" of the Mississippi between Cairo, IL and St. Louis is provided by Missouri River flows in dry years. Lower summer flows advanced in the Corps' proposals would not be sufficient to meet navigation needs in the bottleneck reach. Over 151 million tons of farm products, coal, sand, chemicals and other products were transported on the Upper Mississippi and Illinois River System in 1999. Any Missouri River management changes detrimental to this commercial transport artery so critical to our nation's defense and economy should be avoided. Concerns about future flow changes and depletions prompted nine Governors of states along the Mississippi River to express their concerns to President Bush by letter on March 22, 2001 (Supplement 9). The State of Missouri has conveyed other concerns about depletion issues and has adamantly opposed any flow changes or reservoir level changes that would adversely impact the Mississippi River (Supplements 10 & 11). Miss 4 Miss 20 (Memphis and Cape Girardeau Hearing)

In regard to energy, President Bush's goal of supplying reliable and affordable energy to our nation's electric consumers cannot be overemphasized and, therefore, must not be overlooked or under analyzed. In fact, any recommendation that merits inclusion in the final environmental impact statement should be analyzed heavily in regard to the President's May 18, 2001 Executive Order 13211 that concerns regulations significantly influencing energy supply, distribution and use. Any alternative that is in direct conflict with the President's Comprehensive Energy Policy should be rejected. HPower 21

There is great concern among Lower Basin utilities that such a conflict may exist with alternatives other than the CWCP. It is also obvious that consumers receiving electricity from hydropower plants in Upper Basin states may experience an increase in electric rates if these alternatives are implemented. Energy suppliers, distributors and consumers may experience unnecessary and unjustified impacts resulting from lower summer flows that in the end may cost millions of dollars in new infrastructure investment or rate increases. HPower 17

Lower Basin States have several energy generating plants that use Missouri River water to cool their plants and supply energy for both rural and urban customers. Ameren, Utilicorp, and Associated Electric Cooperatives serve several million customers who are dependent on their ability to supply reliable and affordable electricity in the heat of summer or debt of winter. Lower summer flows increase the likelihood of full or partial outages. Such an occurrence during peak summer temperatures when demand is highest could jeopardize the safety of thousands and cause adverse economic consequences to thousands of businesses. MoPower 1

In August 2001, Associated Electric's Chamois plant experienced river water temperatures that came close to restricting operations in order for them to comply with NPDES permit effluent limitations. River flows in August at the Kansas City station measured about 38,000 cubic feet per second with average August releases from Gavins Point of 25,300 to hit navigation targets. August releases were higher than what are predicted in the proposed GP2021 alternative. Had the flows been lower, Chamois could have had to go offline or reduce generation. The age and size of the Chamois plant make modifications such as cooling towers that address low water events cost prohibitive for Associated to consider. MoPower 6

According to RDEIS testimony and utility experience, current flows that are higher than those of the GP2021 already create water temperatures extremely close to the maximum allowed before restrictions occur. Lower flows may exasperate a situation that is already at a threshold level. Rural Electric Cooperatives in Missouri have testified they do not support summer flows below 40,000 cfs. Clearly, lower flows may jeopardize the ability of suppliers to reliably provide an energy source for the cooling and heating requirements their customers trust them to offer and at a rate they can afford. Any options recommended for Missouri River management should not curtail or reduce the ability of energy suppliers to meet these energy needs in an economically viable way. MoPower 1

The Western Area Power Administration (WAPA) markets and delivers reliable, low cost hydroelectric power within a 15 state region of the central and western U. S. The Power Administration derives a portion of its energy production from the six dams and hydropower facilities located on the upper Missouri River. Electricity generated by these facilities is marketed to rural cooperatives, municipalities, public utility districts, irrigation districts, Native American Tribes, and Federal and State agencies. If insufficient amounts of electricity are generated within the Power Administration, energy would be purchased from other sources to meet customer demand.

The amount of electricity generated by any hydropower facility is dependent upon the amount of water passing through the turbine-generators at the dam. Less water flowing through a dam creates less electricity production. Less electricity production creates the need to secure power from other sources. Since hydroelectric plants are the most economical means of producing electricity, the acquisition of power from other sources such as coal, oil, gas, or nuclear power plants will come at a cost premium.

The four GP plans proposed by the Corps all have significantly lower summer flows than the CWCP. This low summer river flow comes at a time when demand for electricity is typically at its highest. Because of the high demand for energy during the summer, and the limited availability of excess power, the price of purchased power is also at its highest. HPower 18

The upper Great Plains Region of the Power Administration calculated revenue impacts of the CWCP and the GP options to assess the potential impact to their customers. The analysis revealed that electric rates would increase on any proposed GP plan due to reduced generation from lower summer flows and the need to purchase more expensive power from outside sources. Hpower 18

For the GP1521 plan, WAPA estimates a 21 percent increase in purchase power cost for customers that receive 70 to 100 percent of their power from the Administration, and a 12 percent increase in purchase power cost for customers that receive 40 to 70 percent of their power from the Administration. HPower 18

The National Research Council's (NRC) January 9, 2002 National Academy of Science Report, "The Missouri River Ecosystem: Exploring the Prospects for Recovery" confirms the concerns that CPR and other groups have conveyed during the past 4 ½ months. They recognize that relocation of people and businesses along the floodplain will have a monetary and psychological cost. Additionally, agricultural flooding and inland drainage problems will occur to reconnect the river to the floodplain. Most everyone acknowledges that the Missouri River needs change. The contentiousness of the issue, however, revolves around whether the FWS recommendations will actually benefit anything or if they are even needed for certain species (i.e. piping plover). The National Academy of Science Report stated, "The most significant scientific unknowns in the Missouri River ecosystem are how the ecosystem will respond to management actions designed to improve ecological conditions."(Page 4) Problems have been identified but solutions are uncertain. FC 8 IntD 1 EnSp 4

NRC also states, "The Committee is keenly aware that the practice of adaptive management is a 'work in progress' and that there is inadequate experience with successful or unsuccessful experiments to comprehensively evaluate the underlying theory."(Page 4) They conclude that science available about river ecology is not synthesized and integrated and state that until this occurs, "…truly comprehensive assessments of the ecological state of the Missouri River are not possible."(Page 3) Decisions made on future management of the river must take into account the social and economic costs to all stakeholders in addition to the one-dimensional focus on conservation that has defined this process to date. Other 10

CPR is not alone in our concerns. Bill Hawks, Under Secretary for Marketing and Regulatory Programs within the United States Department of Agriculture (USDA) conveyed USDA's concerns in a letter directed to Rose Hargrave (Supplement 13). Numerous Congressional delegates from Missouri also F0300001 F0100005 F0100006

expressed their concerns with river management plans that would threaten flood control, navigation and utilities (Supplement 14). The Missouri Department of Natural Resources also analyzed many aspects of the various proposals and concluded that each of the five new proposals would adversely affect Missouri stakeholders (Supplement 15). F0100005 F0100006 S0300007

Mayor Fahey and the City of Omaha are wisely concerned about the potential for negative impacts to flood control, navigation and recreation from a spring rise and lower summer flows. Governor Vilsack of Iowa has consistently opposed flow modifications. Mississippi River States continue to convey their concern for summer flow reductions that will adversely impact Mississippi shippers. And, the South Dakota Legislature recently expressed concern by resolution that the draft implementation plan will, "damage property, the economy, and the recreational uses of the Missouri River and surrounding communities in Nebraska and South Dakota." In addition, Iowa and Missouri Legislatures passed resolutions opposing Master Manual changes that would adversely affect their states (Supplement 16). Stakeholders want a balanced and common sense approach to be found in river management that addresses species' needs without adversely affecting social and economic interests. FC 8 Nav 12 Rec 6 Miss 4 Rec 10, 28 Other 168 Other 6

In summary, the five alternatives other than the CWCP create the potential for the following concerns for Lower Basin citizens.

First, a "man-made" spring rise has the potential to cause flooding and inland agricultural drainage problems for municipalities and farmers. Missouri River dams, initially built to reduce flooding, have prevented $18 billion in flood damages. Flood control is not a birthright but does make sound national economic and emergency management policy. FC 8 IntD 1

Second, higher reservoir levels reduce the water commitment to downstream states impacting future water supplies needed for irrigation, municipal drinking water, river commerce and water quality standard permitting. Each of these benefits personal life and/or a strong state and national economy. WS 5 Nav 47

Third, summer flows reduced to "minimum" navigation levels or below will devastate congressionally authorized river commerce on the Missouri River and adversely impact Mississippi River commerce. Studies by Food and Agricultural Policy Research Institute at the University of Missouri indicate the loss of Missouri River commerce could reduce the commodity corn price by 19 cents per bushel (10% of the current price paid to farmers). Annual regional economic benefits from Missouri River commerce are $75-200 million per year (Supplement 17). Agriculture, industry and manufacturing benefit from river commerce competition. Nav 12, 7 Miss 4

Fourth, flow reductions may also jeopardize the ability of utilities that draw Missouri River cooling water to meet the electricity needs of their customers during critical electrical demands. An affordable and reliable supply of energy benefits everyone. Water supply users may also be affected by water quality issues as discharges are made into a lower flowing river. MoPower 1 WS 4

Fifth, adaptive management creates too much freedom for the Corps to adjust river management, and specifically flow management, without any significant input from the public. Other 10

Therefore, for the previously stated reasons, CPR urges the Corps to maintain the CWCP as the guidance plan for Missouri River management. Other 6

Coalition to Protect the Missouri River Membership List:

AGRIServices OF BRUNSWICK LLC
Ag Processing Inc. (AGP)
American Waterways Operators (AWO)
Brunswick River Terminal, Inc.
Ameren
Associated Industries of MO (AIM)

Blaske Marine
David Sieck
Farmland Industries, Inc.
Interstate Marine Terminals, Inc. (IMT)
Iowa Farm Bureau
MFA Incorporated
Midwest Terminal Warehouse Co., Inc.
Missouri Corn Growers Association
Missouri Farm Bureau
Missouri Soybean Association
MO-ARK
Orrick Farm Service, Inc.
Phoenix Towing
Waters Farms, Inc.

Cargill Marine and Terminal, Inc.
DeBruce Grain
Illinois Corn Growers Association
Iowa Corn Growers Association
John Lincoln
Midwest Area River Coalition (MARC 2000)
Missouri Chamber of Commerce
Missouri Dairy Association
MO Levee & Drainage Dist. Assoc.
Missouri Soybean Merchandising Council
National Corn Growers Association
Phillips Petroleum Company
RCGA (St. Louis Regional Chamber & Growth Assoc.)
Wayne Stouder

Respectfully submitted,

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3/16/2002

Supplement # 1

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September 27, 2000

RE: Critique of Missouri River Biological Opinion

Chris Brescia, President
MARC 2000 (Midwest Area River Coalition 2000)
906 Olive St. Suite 1010
St. Louis, MO 63101

Dear Mr. Brescia,

Attached are comments you requested concerning the August 21, 2000 Revised Draft of the Missouri River Biological Opinion (MRBOP) prepared by the U.S. Fish and Wildlife Service (USFWS). John Dentler, Jim Broadway and I reviewed all or portions of the MRBOP received from you and collaborated to prepare these comments.

Despite the short time allowed for this review, it was apparent that there are a number of shortcomings with the MRBOP. Although we are not providing you with legal advice, it appears that certain aspects of the approach taken in the MRBOP may be subject to legal criticism, and perhaps challenge, if pursued in the final report. At times, conclusions are drawn without reference to scientific literature, and others are drawn from unpublished sources or yet-to-be published materials that have not had the scrutiny of peer review. Certain conclusions are drawn from data presented in the MRBOP that the USFWS states are not reliable, while other data that contradict particular conclusions are ignored. Additionally, certain options that would be available to the USFWS are not pursued in favor of asking for radical alterations of current flood control and navigation systems.

Please contact me if you have questions concerning these comments.

Best regards,

Curtis J. Johnson
Vice-President EHS Systems Development
Turnstone Environmental, Inc.

cc: John L. Dentler
Jim Broadway

1 of 14

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We have reviewed the draft Missouri River Biological Opinion (MRBOP) by the U.S. Fish and Wildlife Service (USFWS or the Service), and offer the following comments.

- The Endangered Species Act (ESA's) Section 7 consultation process is, by law, linked to specific proposed federal actions. In this instance, the Service has linked the consultation process to the U.S. Army Corps of Engineers' (CORPS) Missouri River Operation Plan and Bank Stabilization and Navigation Program. However, rather than identify specific "reasonable and prudent alternatives" to avoid a jeopardy determination, the USFWS apparently aims to use the consultation process itself to develop a number of federal actions (some of which are defined and some of which are not) to achieve "ecosystem restoration" of the Missouri River. The USFWS' 'adaptive management" process (MRBOP at 321) is an open-ended approach to various studies that appears at best to represent an attempt to continue consultation *ad infinitum* and, at worst, to usurp the Corps' role in managing the Missouri River for other uses (e.g. navigation, flood control, etc.). Clearly, the USFWS desires to create what it conceives to be historic river conditions under the name of "ecosystem function." See, e.g. MRBOP at 323 (USFWS regulating through "Agency Coordination Team"). This approach if pursued in the final MRBOP is unlawful. If the USFWS desires additional consultation it may do so only on the basis of reinitiating of consultation rather than using this single consultation to gain continuous control of Missouri River management.

- Throughout the document the USFWS assumes it is ordering the Corps, another independent agency, to undertake the Service's version of ecosystem restoration. The term "shall" is used throughout the final portions of the document. The ESA Section 7 process does not provide authority to the USFWS to direct other agencies on how to implement authority that was delegated solely by the Congress. The Corps may, if it so chooses, not follow the commands and edicts that the USFWS wishes to issue in the MRBOP and the MRBOP would be a more balanced document if the USFWS recognized this fact.

- The ESA Section 7 process is, by law, tied to listed species or adverse modification of critical habitat. However, the USFWS appears to believe that the Congress has amended the Section 7 process to allow consultation on the basis of "ecosystems." This is simply not the case, and the Service's attempts to rewrite Section 7 by referring to hortatory statements found in Section 2(a) of the ESA does not make it so. See MRBOP at 37 (stating that an ecosystem consultation approach is consistent with section 2(b) of the ESA). The USFWS may consult on the effects of the federal action on designated critical habitat. However, the USFWS readily admits that it has failed to identify or designate any critical habitat for the species at issue. While the USFWS apparently does not have enough information to determine or designate critical habitat, it nonetheless cannot resist the temptation to use the Section 7 process to force the Corps to not only manage "critical habitat" but also to manage an entire "ecosystem". ("The Corps shall . . . " undertake various studies to, in essence, determine critical habitat and achieve "ecosystem" features that the USFWS would like to achieve without having identified critical habitat.) (See for example. MRBOP at 342-349).

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- USFWS has lost sight of the legal framework for Section 7 consultations. In essence, the USFWS must determine whether the federal action at issue would "jeopardize the continued existence" of listed species (16 U.S.C. § 1536(a)(2)). Throughout the documents, no framework is provided to determine whether the action would, in fact, "jeopardize the continued existence of the species at issue, the bald eagle, piping plover, least tern or pallid sturgeon. Instead the USFWS makes general and largely unsupported conclusions about the importance of "ecosystem functions."

- Even if one were able to accept the USFWS ecosystem approach to assuring protection of the Species of concern in the MRBOP, nowhere in the MRBOP is there a defense of why this particular river system is sufficient. In fact, the Service presents information to the contrary (that a much larger area would be needed), and then ignores its own research. See MRBOP 102 ("Current wintering areas of the interior least tern remain unknown (USFWS 1990). Least terns of unknown populations/subspecies are found during the winter along the Central American coast and the northern coast of South America from Venezuela to northeastern Brazil (USFWS 1990)." and 107 ("Further, they [Thompson 1982, Jackson and Jackson 1985, Thompson et al. 1997] state that regular immigration for the Gulf Coast population may be an important influence on the dynamics of the interior population of least terns.")

- The USFWS has taken the approach of passing judgment on whether the proposed action would result in the creation of a Missouri River ecosystem of its choosing. Apparently, the Missouri River ecosystem sought by the USFWS is the ecosystem encountered by the Lewis and Clark Expedition of 1805-1806. However, there is no discussion of whether the vastly altered hydrology of the Missouri River's watershed would allow the re-establishment of anything approaching such conditions. Moreover, the Service provides no rational basis for rejecting the proposed actions, other than its desire to achieve a 19th century vision of the Missouri River, to the virtual exclusion of other viable economic activity in the river, such as navigation, recreation, and flood control.

- In many instances, USFWS's conclusions are not supported by the best available science or commercial data. Instead, many conclusions are tautological and not supported by reference to scientific literature. An example is found in the following passage:

  > "Given the importance of shallow water habitat to the maintenance of the aquatic ecosystem, and the large disparity between pre-development aquatic habitat condition and the habitat provided under the current operations and maintenance, the summer and fall habitat needs of the pallid sturgeon and other native river fishes are not being adequately met. They will only be met by a combination of improvements in the main stem reservoir operation to help create sufficient form and function of the river for the survival and recovery of the species." (MRBOP at 272) (Emphasis added).

  No citation to authority is provided and no objective standards are presented in support of this remarkable statement.

- The USFWS largely ignores commercial and recreational fish harvest effects on pallid sturgeon. Although the USFWS could control this source of mortality by enforcing existing laws, it clearly does not intend to exercise this authority. Instead, it appears intent on forcing a sister agency to do the heavy lifting and in so doing radically alter flood control, navigation and many other activities of great import to the Midwest region.

- Although the USFWS concludes that the federal action would not jeopardize bald eagles, it states that there is a need for mature vegetative stands, such as cottonwoods for nesting sites. See MRBOP at 275. On the other hand, the USFWS states that current operations and the action at issue would result in vegetative development on banks and islands, altering habitat features (sand bars) that the USFWS believes important to least terns and plovers. See MRBOP at 278. In other words the two goals appear at odds.

- The USFWS fails to conduct any analysis of the relationship between its "reasonable and prudent measures" to minimize take and its "reasonable and prudent alternative" to avoid jeopardy. For example no analysis is presented from which to determine whether jeopardy would be avoided if such measures as predator management techniques (See MRBOP at 362) or a host of other measures (i.e., the Service's Measures to Minimize Take Numbers 1 through 6 in MRBOP) were implemented. Instead the USFWS seems to conclude, without analysis, that all of the identified measures must be implemented in the name of ecosystem restoration, rather than considering its "reasonable and prudent alternative" to avoid jeopardy.

- The USFWS concludes that the loss of high spring runoff is a major impediment to pallid sturgeon spawning success ("missing environmental cues") See for example, MRBOP at 365); however, there appears to be virtually no data or authority cited upon which to render such a conclusion. Further, according to many sources most fish spawning is triggered by photoperiodicity rather than flow rates.

- Much of the "Reasonable and Prudent Measures" (RPM) section for pallid sturgeon as well as other species is so imprecise and the stakes so high that the Corps will be unlikely to achieve any objectives other than those that the USFWS first blesses. For example, the USFWS states that "[t]he Corps shall avoid annual operational changes that may affect spawning activities and survival of pallid sturgeon." See MRBOP at 367 (RPM 1). The USFWS itself appears to know little regarding pallid sturgeon spawning in the wild as well as conditions affecting juvenile survival. (See for example, MRBOP 133 "Little is known about age and growth of pallid sturgeon.") USFWS statements about sturgeon in the RPM section are imprecise and perhaps incomprehensible because of a lack of credible data upon which the USFWS can determine whether or not jeopardy and, indeed, "take" itself, would occur under a suite of flow regimes. Other RPMs are similarly vague. Although the USFWS directs the Corps to engage in public relations efforts with regard to pallid sturgeon it fails to state what the objective of such public relations efforts might be.

- The Incidental Take Statement for pallid sturgeon reflects that the USFWS has no idea of the level of "take" that would sufficiently minimize impacts to pallid sturgeon so as to avoid

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"jeopardy." See MRBOP at 369 ("The take of pallid sturgeon through habitat modification that results in actual death or injury shall not exceed that level of habitat modification preventing the pallid sturgeon from naturally reproducing, recruiting and surviving in the wild in pallid sturgeon recovery areas except as identified . . . "). The complete lack of understandable guidance underscores that the USFWS is simply unable to give meaningful conclusions as to whether the Annual Operating Plan (AOP) and Bank Stabilization and Navigation Plan (BSNP) results in "jeopardy" to the pallid sturgeon in the first place.

- The MRBOP appears to ignore current actions designed to minimize impact on the listed species. For example, although the USFWS recognizes that navigation is currently suspended during high flows to protect piping plover and least terns and that uniform release rates are implemented during the nesting season (MRBOP at 63-64), these measures are not factored into the MRBOP. On its face such an oversight appears arbitrary and capricious.

- The USFWS acknowledges that least tern populations have been increasing, in fact dramatically so (100 percent increase) (MRBOP at 105-106) and that the recovery goal for the least tern population has been met. Id. However, the USFWS ignores its own findings to determine that AOP and BSNP somehow jeopardize the least tern. Despite the fact that the recovery population number has been met, the USFWS seems to find a black lining in a silver cloud and concludes that subpopulation numbers are not as high as it would like. Such reasoning defies their own recovery document and goal and underscores what appears to be USFWS desire to take control over management of the Missouri River, notwithstanding improving least tern populations.

- The USFWS seems to ignore the fact that a host of measures including habitat conservation and enhancement, predator control, etc. could be responsible for achieving population increases in least terns. See MRBOP at 66. Again, the USFWS seems intent on finding jeopardy so as to take control of Missouri River management despite the fact that the current suite of conservation measures implemented by the Corps and the states has worked to recover the least tern.

- The USFWS has also chosen to ignore the possibility that pollution and contaminant uptake are responsible for impacting the population of least terns saying (at MRBOP 111) "The extent of this impact (*bioaccumulation)*, however, is undocumented." The next three sentences in the paragraph go on to document evidence of contaminants in the population ending with "Allen and Blackford (1997) found 81 percent of 104 least tern eggs collected from the Missouri River exceeded 3µg/g dry weight selenium concentration, the level currently considered safe for avian reproductive success." A similar discussion regarding piping plover (at MRBOP 124) states, "…Ruelle (1993) found selenium concentrations in piping plover eggs collected from the Missouri River in South Dakota similar to concentrations known to be embryotoxic in other birds."

- The USFWS acknowledges that it lacks sufficient data and understanding of the pallid sturgeon, (MRBOP at 70) yet has not the least hesitation in stating that current conditions

jeopardize the continued existence of the sturgeon populations would occur. The USFWS appears to avoid any meaningful analysis of sturgeon populations in order to reach its "jeopardy" conclusion. Such a conclusion is not supported by the facts and is arbitrary.

- Much of the MRBOP is based on speculation. As a result, conclusions are reached that are unsupported by studies or citation to authority. For example, many suppositions are made regarding the Corps' regulation of reservoir levels and impacts on least terns but citations are not provided to document a chain of causality between the two. MRBOP at 67.

- The USFWS recognizes that least terns nest in recently disturbed sites but appears to discount the likelihood that habitat enhancement measures not involving wholesale changes in flow regimes could continue to improve least tern population status. (MRBOP at 108, stating that least tern nesting occurs in sand and gravel pits and dike fields along the Mississippi River). Similarly, the USFWS recognizes that least terns use side channels for foraging but appears to discount such habitat enhancement as a means to avoid a jeopardy opinion.

- The USFWS in one instance states that least terns are quite adaptable, nesting in parking lots, agricultural fields and gravel roof tops (MRBOP at 109) yet then goes on to state that the least tern is generally restricted to "less altered river segments." (MRBOP at 111). Interestingly, the USFWS provides citation to authority for the former statement but provides no data or citation for the latter proposition.

- With regard to piping plover, the USFWS acknowledges that the northern Great Plains region population has remained stable (3,467 adults in 1991 and 3,284 adults in 1996); notwithstanding this data, the USFWS somehow concludes that piping plovers would be jeopardized by the enhanced river management system now being implemented by the Corps. MRBOP at 117. The Service seems to take the approach that, regardless of what the data may say, and the lack of any rational basis for tying river operations to the population dynamics of the species in question, it desires historic river conditions and intends to use the Section 7 process to bootstrap its desired result.

- The USFWS appears to recognize that ichthyologists and geneticists cannot distinguish the difference between pallid sturgeon and shovelnose sturgeon. See MRBOP at 127 ("None of the studies detected significant genetic differences between pallid and shovelnose sturgeon, but suffered from a lack of complete understanding of the genetics of the scaphirhynchus species.") Notwithstanding this information, the USFWS continues to maintain that the pallid sturgeon is a separate species, apparently based on a single yet-to-be published study. See MRBOP at 128 (Sloss et al. (in press)).

- At the same time that the USFWS acknowledges the inherent problem in differentiating the pallid sturgeon as a different species, and accepting that commercial catch data did not commonly discern between pallid, shovelnose and lake sturgeon as late as the mid-1900's (See MRBOP at 137), the Service is willing to accept historical records to estimate both the total

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population of sturgeon and the portion made up by pallid sturgeon. This approach, without more supporting information, is arbitrary and capricious.

- Much of the USFWS's MRBOP jeopardy conclusions regarding pallid sturgeon appear to be based largely on the conclusion that June and July flows are needed to provide reproductive cues for successful sturgeon spawning. MRBOP at 133. ("Without the increased flows in June and July, combined with water temperatures expected during that period, the cues for pallid sturgeon to spawn *probably* are no longer present under existing main stem dam operations, throughout much of the Missouri River."). The only evidence to support such a conclusion appears to be based on unpublished data that has not had the scrutiny of peer review (See MRBOP at 147 "As water temperature increases to 62-65F (16.7C - 18.3C), pallid sturgeon initiate spawning activity (Steve Krentz, USFWS, pers. comm.)."). In latter portions of the MRBOP, this conclusion is stated without any reservation. See for example, MRBOP at 169. Elsewhere, the MRBOP states that historic pallid sturgeon spawning was in the spring period. MRBOP at 136. The MRBOP also fails to contain evidence that changes in flow regimes will assist in the recovery of the pallid sturgeon.

- It is not clear from the information presented in the MRBOP how numerous pallid sturgeon actually were in the Missouri River system. Moreover, the USFWS recognizes that "[a]bundance estimates for pallid sturgeon . . . were not considered reliable." Notwithstanding the lack of reliable historic information and population status and trends, a jeopardy opinion is somehow reached – apparently based on the fact that the sturgeon's habitat has been substantially altered.

- The USFWS indicates that many states allow shovelnose sturgeon to be harvested and recognizes that illegal and incidental harvest of pallid sturgeon results from both commercial and sport fishing harvest. While the USFWS is prepared to force a disruption of many river-based commercial activities of great economic importance, it does not appear to be poised to stop the unlawful take of sturgeon by sport and commercial fishers. MRBOP at 152. Rather than enforce the law, the USFWS seems intent on forcing the Corps to implement a nebulous public education program and completely altering the beneficial uses of the River system.

- The USFWS seems to confuse recovery objectives (population numbers) with a desire to achieve wholesale ecosystem changes in the Missouri River system. For example the USFWS states that a "recovery objective" is the management of reservoir levels "to the benefit of the species." MRBOP at 199. However, the USFWS appears to lack the data and studies to support its Reasonable and Prudent Alternative (RPA) and its RPMs.

- With regard to piping plovers, the USFWS states that piping plover populations increased in 1986 to 1991 and then subsequently declined while fledging ratios returned to normal in 1996 and 1997. MRBOP at 205. Clearly these population fluctuations were occurring notwithstanding AOP and BSNP by the Corps and, further, notwithstanding management measures designed to benefit listed species. These population fluctuations suggest that factors other than the AOP and "artificial" flow regime are influencing piping plover populations. Yet

the USFWS appears to ignore this possibility and instead remains steadfast in its conviction that it should be managing the Missouri River ecosystem as it sees fit.

- While the Corps seems to be tasked through the MRBOP to implement major changes in flow regimes that will impact navigation and other uses on the Missouri River, the USFWS appears not to be willing to use its authority to control impacts caused by commercial and recreational fishers (MRBOP at 214, 238) recognizing that the majority of tagged pallid sturgeon were killed in recreational and commercial fisheries, or to control recreational uses that result in the "take" of piping plovers. MRBOP at 237. Again, this result is odd if not arbitrary and capricious.

- While the USFWS identifies hypolimnetic release of cold water as an adverse impact to pallid sturgeon, the Service does not appear to require any corrective action in this regard within its biological opinion. This alternative should be examined in lieu of major changes in flow regimes that will adversely affect navigation, flood control, irrigation and other beneficial uses.

- The USFWS concludes that organic matter shortfalls will continue under the Current Water Control Plan (CWCP) but does not provide any meaningful data or reference point for what levels of organic material are necessary to prevent jeopardizing the relevant listed species or how the federal action may be modified to provide the as yet unidentified level of organic material. MRBOP at 269.

- The MRBOP concludes that shallow water is important to the maintenance of the aquatic ecosystem, and that the summer and fall habitat needs of pallid sturgeon will only be met by returning the river to "sufficient form and function" for survival of the sturgeon. MRBOP at 272. However, the document itself lacks any specificity as to what "aquatic ecosystem" needs would prevent jeopardizing the sturgeon.

- No specific criterion seems to have been developed or used in determining population levels for least terns or piping plover. The Service seems to conveniently ignore that such populations are increasing (100 % in the case of the tern) or have recently increased (piping plover). This phenomenon suggests that neither the AOP nor the BSNP is responsible for recruitment variation or population levels of the piping plover.

- Although the MRBOP provides little information in the way of habitat requirements for pallid sturgeon, the USFWS does not hesitate to conclude that BSNP is responsible for perpetuating unsuitable habitat conditions that affect pallid sturgeon. MRBOP at 295. However, no solid analysis of the factors affecting pallid sturgeon is presented, and no evidence is presented to determine what factors, if any, are limiting pallid sturgeon populations.

- Although the USFWS states that "altered environments" are "suspected" to play a "major factor" in hybridization between pallid and shovelnose sturgeon, insufficient discussion and evidence is presented upon which to make any conclusions. MRBOP at 297. Further the USFWS acknowledges that any relationship between navigation structures and habitat

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alterations are unclear. However, the USFWS then uses this "suspected" relationship to buttress a solid conclusion regarding its "jeopardy" opinion, again, however, based on an ecosystem approach.

- The USFWS concludes that the population viability of the piping plover, least tern and pallid sturgeon are threatened unless operations of the Missouri and Kansas River Reservoir Systems and BSNP are changed. MRBOP at 309. However, the MRBOP never states how the USFWS developed the population viability thresholds. Unless these viability threshold numbers are presented, discussed and evaluated, the MRBOP jeopardy decision is arbitrary and capricious. Instead of discussing the basis for this conclusion, the USFWS jumps to the conclusion that, because it has listed the least tern, piping plover and pallid sturgeon species as threatened or endangered, there is a need for the USFWS to manage the Missouri River ecosystem. Id.

- The USFWS concludes that operations and maintenance of the Missouri and Kansas River Reservoir Systems and the BSNP will result in secondary effects including "transference and homogenization of contaminants." MRBOP at 315. No information appears to be presented in the MRBOP to support such a conclusion.

- The reasonable and prudent alternative presented appears to result in flow levels precluding navigation during much of the year in the Missouri River. However, as the USFWS notes, RPAs must be capable of being implemented in a manner consistent with the intended purpose of the action. It appears that the RPA would prohibit the Corps from achieving some of the purposes of the program, namely navigation and flood control. MRBOP at 316. It appears, therefore, that the RPA is outside the scope of authority delegated to the USFWS under the Endangered Species Act. Further, the USFWS concludes that all of the measures it identifies to restore the "ecosystem" of the Missouri River to historic conditions must be adopted in order to restore the original "form and function" of the river. MRBOP at 317. However the authority vested in the USFWS via Section 7 of the ESA does not include the authority to turn back the hands of time to restore the Missouri River, or any other river system, to historic conditions. The ESA includes only the authority to recommend alternatives to prevent jeopardy to specific listed species. As drafted the MRBOP is unlawful as it is outside the Agency's delegated scope of authority.

- The USFWS states that "Species may not need full restoration [of historic River conditions] to pre-project conditions to avoid jeopardy conditions, but sufficient restoration of major missing components of the ecosystem as proposed by the Service and other big river managers to successfully reproduce and recruit [sic]." MRBOP at 319-20. The MRBOP remains problematic in this sense because only the USFWS can say when enough restoration is sufficient because it provides no objective basis for such a determination. Instead the USFWS provides amorphous "ecosystem function" concepts for determining jeopardy conditions and only the USFWS would be in a position to pass judgment on such matters. Id. Aside from its void for vagueness aspect, the Service's conclusory approach and its resulting edicts to the Corps are arbitrary and capricious, and outside the scope of the enabling legislation.

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THE HUFFMAN-BROADWAY GROUP, INC.

PROJECT PERSONNEL

- DR. TERRY HUFFMAN – WETLANDS

Dr. Huffman is the former Chief Wetlands Scientist for the U.S. Army Corps of Engineers (Corps). While at the Corps' national laboratory, he developed the regulatory definition of wetlands currently in use by the Corps and the U.S. Environmental Protection Agency. He also conducted some the initial research and development of the wetland delineation methodology in use by the Corps today. As noted in the Corps' *Wetlands Delineation Manual,* Part II of the Manual is based on Dr. Huffman's 1980 paper, entitled *Multiple Parameter Approach to the Field Identification and Delineation of Wetlands.*

Dr. Huffman also played a major role in developing the language pertaining to wetlands in the EPA 404(b)(1) project alternatives analysis (an analysis required for all major Corps permits), and was instrumental in the initial development of the Corps' wetlands research and training programs. His 24 years of work with the Corps and as a consultant has provided Dr. Huffman with extensive on-site experience with virtually all types of aquatic and wetland environments, and a unique understanding of the environmental permitting and compliance process.

Dr. Huffman has served as a project manager and principal investigator for multi-million-dollar nationally-oriented research programs to aid in the implementation of federal and state policies and regulations, including the Rivers and Harbors Act of 1899, the National Environmental Policy Act of 1968, the Clean Water Act of 1972 and relevant Presidential Executive Orders. His experience has also included studies of port development, mangrove and sea grass communities, the development of field and remote sensing techniques for the identification and delineation of critical habitats, and the development of methods for habitat restoration for purposes of mitigating project impacts.

Dr. Huffman has worked closely with both state and federal agencies on numerous occasions, as well as with members of the private sector, making Section 10 and Section 404 jurisdictional determinations using both field and remote sensing methodology, review and development of regulatory programs and procedures, development of evidence for litigation, coordination and preparation of expert witnesses for testimony, mediation and problem solving during the environmental permit process, preparation and review of wetlands mitigation and restoration plans, performing or reviewing assessments of wetlands values and impacts, developing aquatic and wetland habitats, and evaluation, site selection and permitting of major industrial, maritime and commercial projects.

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Dr. Huffman is a frequently invited speaker and lecturer at conferences, universities and training courses, and has served as a board member of the Association of State Wetland Managers and the Chairman of the Transportation Research Board's Environmental Committee, where he organized a symposium on environmental issues associated with port development. He received a B.S.E. in Education and General Biology from Henderson State University and his M.S. (Plant Ecology) and Ph.D. (Wetland Community Ecology) from the University of Arkansas.

- JIM BROADWAY – REGULATORY/PERMITTING

Mr. Broadway has extensive experience in both the technical, legal and management aspects of environmental issues. He has worked as a Water Quality Biologist and Fisheries Biologist for the State of California and as a Management Analyst and Environmental Scientist for the U.S. Environmental Protection Agency (EPA). He has also practiced environmental law with a major New York law firm, specializing in wetlands, water quality and environmental permitting issues. In Puerto Rico, he has worked on environmental compliance, permitting and enforcement issues for the Puerto Rico Industrial Development Company (port development), Puerto Rico Electric Power Authority (wetlands mitigation), AT&T International (Corps permitting), EcoEléctrica LLP (Corps permitting and threatened/endangered species issues), and Renova (Corps permitting).

While with the State of California, Mr. Broadway conducted fisheries and water quality research and management activities in freshwater, estuarine and marine ecosystems. He was also responsible for reviewing the majority of the proposed National Pollutant Discharge Elimination System (NPDES) permits in California, and he investigated fish kills and aquatic habitat degradation associated with industrial and municipal wastewater discharges. He also worked with oil companies to institute spill clean-up and monitoring procedures, and led a multi-agency field research team studying the effects of agricultural practices on aquatic habitats, and he conducted research on pollutant concentration patterns in fish and other aquatic vertebrates in coastal environments.

As a scientist with EPA, Mr. Broadway worked with more than 25 diverse interest groups to negotiate a comprehensive water quality protection agreement at Lake Tahoe; an environmentally sensitive waterbody that spans two states and five counties. He also conducted wetland delineations in a wide variety of wetland ecosystems, developed and presented EPA's view on over 200 proposed Corps permits (including major port development proposals) and was responsible for all EPA enforcement actions involving wetlands in a four-state area. In addition to his work as a scientist and regulator at EPA, Mr. Broadway worked as an in-house environmental management consultant with responsibility for conducting management studies of major federal environmental programs and providing recommendations to the Regional Administrator on ways to improve those programs. He was also responsible for overseeing the regional component of EPA's national environmental management system, and he developed a computer-based regional permit tracking system.

At The Huffman-Broadway Group, Inc., Mr. Broadway develops and implements permitting strategies for large infrastructure projects including preliminary permit due-diligence reviews for use by legal counsel in developing formal legal opinions. He has also developed major infrastructure construction compliance plans, conducted environmental performance audits and environmental management systems audits, and provided peer review of Environmental Impact Assessments, Environmental Impact Statements, and Environmental Management Plans. He has developed pre- and post-project monitoring plans to track impacts to fish and other aquatic life, as well as mitigation plans with monitoring requirements designed to provide clients and regulatory agencies with clearly measurable success criteria.

In addition to his technical expertise, Mr. Broadway previously worked as an attorney at Nixon, Hargrave, Devans and Doyle (now Nixon Peabody), a 500-attorney law firm with offices in Washington, D.C., Boston, Massachusetts, New York City and in Rochester, Albany, and Garden City, New York. While at Nixon Peabody, Mr. Broadway provided legal advice on water quality, wetlands, and hazardous waste issues for public utilities, independent power producers, major corporations, municipal governments, port authorities and private developers throughout the United States, Puerto Rico and the Caribbean. He also worked with that firm's in-house technical staff overseeing multi-media environmental audits, worked with other attorneys and technical staff conducting environmental due-diligence reviews of major infrastructure projects, and negotiated settlement agreements with EPA, state environmental agencies and citizen groups.

Mr. Broadway has authored papers on a variety of environmental topics and spoken before national audiences on the subject of environmental law and science. He has also been an invited lecturer for the New York State Bar Association's environmental law courses and at a variety of colleges, universities and environmental forums. He received a B.S. in biology from the University of Memphis, an M.S. in ecology, emphasizing aquatic ecology, and an M.A. in management, emphasizing environmental management, both from the University of California. He also received a J.D., *cum laude*, from Syracuse University.

- JOHN DENTLER – THREATENED/ENDANGERED SPECIES & FLOOD CONTROL

Mr. Dentler has extensive technical, legislative and legal experience and knowledge of natural resources and environmental issues. He also has extensive experience in, and knowledge of, all levels of government, having worked as a fisheries biologist with Oregon Department of Fish and Wildlife, a staff member for the U.S. House of Representatives, a Policy Analyst with the Metropolitan Water District of Southern California and a Division Chief with the National Marine Fisheries Service. He has also served as a local planning board member, an environmental attorney and adjunct professor of environmental law.

While with the State of Oregon, Mr. Dentler conducted numerous fisheries studies and authored or co-authored reports on the effectiveness and efficiency of fisheries enhancement techniques. He also

prepared analyses on wild fish and helped develop research methods to assess the health status of hatchery populations.

As a staff member with the U.S. Congress, Mr. Dentler advised U.S. delegations involved in negotiating international salmon treaties in the Atlantic and Pacific oceans as well as the development of fisheries policy in the United Nations Food and Agriculture Organization. He also advised the Members of Congress on fisheries and natural resource issues, drafted legislative policy initiatives and memoranda, and developed and implemented legislative strategy. Mr. Dentler worked with many constituent and Non-Governmental Organizations as well as representatives of various executive agencies and business organizations.

As a policy analyst with the Metropolitan Water District of Southern California (MWD), Mr. Dentler was responsible for reviewing and evaluating compliance with state and federal regulations, and for developing and recommending MWD positions and policy on federal and state legislative initiatives with potential impacts on drinking water supplies and water quality.

While with the National Marine Fisheries Service, Mr. Dentler was responsible for implementing fisheries development and international trade and grant programs in California, Hawaii, American Samoa, Guam and the Western Pacific ex-trust territories of the Marshall Islands, Palau and Micronesia. He also established the regulatory framework for U.S. industry participation in international fishery agreements and monitored U.S. compliance with such treaties. In addition, he evaluated trade barriers and impediments to international trade and recommended and established policy objectives in multi and bilateral fishery trade negotiations.

Mr. Dentler has worked as an attorney at Perkins Coie, a 350-attorney law firm with offices in Seattle, Bellevue, Portland, Spokane, Olympia, Anchorage, Los Angeles, Boise, Denver, Washington, D.C., Taipei, and Hong Kong. At Perkins Coie, Mr. Dentler provided legal advice on endangered species issues and oversaw the development of Habitat Conservation Plans to ensure compliance with the Endangered Species Act. He has also worked on issues associated with new listings of avian species under the Endangered Species Act, and he has worked on complex land use matters and negotiated settlement agreements with government agencies, environmental and citizen groups. Mr. Dentler consulting practice focuses on threatened and endangered species issues (including Habitat Conservation Plans), and on flood control issues requiring project modifications and/or flood map revisions by the Federal Emergency Management Agency.

Mr. Dentler is an adjunct professor in the environmental and civil engineering department at Seattle University where he teaches environmental law and compliance. He has authored papers on a variety of environmental topics and spoken before national audiences on the subject of environmental law and science. Because of his particular expertise in endangered species and fisheries issues, he has been an invited lecturer on the Endangered Species Act for the Government Institute's environmental courses and at a variety of environmental forums. Mr. Dentler received a B.S. in wildlife and fisheries biology and a M.S. in ecology, emphasizing aquatic biology, both from the University of California. He received a J.D., *cum laude*, from the University of Puget Sound (now Seattle University) School of Law.

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Supplement # 2

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October 10, 2000

Dr. Joseph W. Westphal
Assistant Secretary for Civil Works
Department of the Army
108 Army Pentagon
Washington, DC 20310-0108

Ms. Jamie R. Clark, Director
U. S. Fish and Wildlife Service
1849 C Street, NW, Room 3012
Washington, DC 20240

Dear Sir and Madam:

On behalf of the citizens of Missouri, I submit to you the comments of the Missouri Department of Natural Resources on the draft Biological Opinion on Missouri River operations. We are sincerely disappointed by this document and the U. S. Fish and Wildlife Service's unresponsive attitude toward an issue of such economic and environmental importance to our citizens and the citizens of the other states and tribes in the basin.

The Service has not presented reasonable and prudent actions for reducing the likelihood of jeopardy for the pallid sturgeon, the interior least tern and the piping plover. It has failed to identify critical habitat for these species as required by law. The proposals of the Service are unsupported by any analysis of the benefits or consequences of the actions that it proposes. After an apparently thorough review of what is and is not known about these species, the Service offers a prescriptive plan for river operations that threatens the economic welfare of Missouri without presenting any justification for its plan. Not one of the available 500 references cited and not one of the seven expert reviewers in their comments critically examined the schedule for Missouri River flows that the Service has proposed.

The Service's closed-door policy has created an atmosphere of distrust. Its staff and the supporters of this plan have made public claims that data and analyses support the actions presented, yet none of these are included in the draft Biological Opinion, and none have been made available. If these analyses actually exist, they should be made available to the affected parties immediately. The Service proposes continued private consultation with the Corps. This should become an open process in keeping with the Missouri River Basin Association's recommendation for a broad-based Recovery Committee. I hope the Corps will remain as committed to open discussion and review as it has been thus far in the discussion of the Missouri River Master Manual revision.

Regarding the issue of larger reservoirs, there are no documented arguments for increasing reservoir storage for the benefit of endangered species. Yet the Corps' model runs that most closely resemble the Service's proposal would store an average of 2.5 million acre feet of water in excess of current storage. The lake levels would be higher more than 80 percent of the time, so this is not limited to rare events as the Service's proponents claim. The free-flowing unchannelized reach of the Missouri River would be reduced by approximately twelve miles to the detriment of pallid sturgeon and other native river fish.

I will reiterate Missouri's position. The loss of habitat is the most critical factor that has caused the decline in these species, and it is the rehabilitation of habitat that is the key to their recovery. The Service's flow plan produces negligible benefits for habitat, increases risks of downstream flooding and raises water transfer concerns for Missouri. The Corps has created new shallow water and island habitat along the Mississippi River in this state and other states without compromising the other uses of the river. A similar approach should be the centerpiece of the plan for the Missouri River.

We support a proposal originating with the Missouri Department of Conservation, unanimously endorsed by the Missouri River Basin Association last year, that included a flow of approximately 41,000 cubic feet per second at Kansas City between August 1 and September 15. The Department of Conservation does not propose a new or additional spring rise because the lower Missouri River already experiences a substantial natural spring rise. This measured change in river operations will provide increases in the desired habitats without compromising other river uses.

We in Missouri strongly support the effort to save these species. We anticipate that changes will have to be made in and along the Missouri River. However, we cannot support a plan that has no documented benefits for native fish and wildlife and that presents such substantial risks to our citizens. The Corps should use a measured, open, responsible and scientifically defensible approach to river management and habitat restoration.

Thank you for the opportunity to comment on this draft of the Biological Opinion. Please contact Steve Mahfood, the Director of the Missouri Department of Natural Resources, should you have any questions about our comments.

Very truly yours,

Mel Carnahan

MC:kds

Enclosure

c: Senator John Ashcroft
Senator Christopher S. Bond
Congressman Roy Blunt
Congressman William L. Clay
Congresswoman Pat Danner
Congresswoman Jo Ann Emerson
Congressman Richard A. Gephardt
Congressman Kenny C. Hulshof
Congresswoman Karen McCarthy
Congressman Ike Skelton
Congressman James M. Talent
Brigadier General Carl A. Strock, Commander, Northwest Division, Corps of Engineers
Rose Hargrave, Project Manager, Master Water Control Manual and Update,
Missouri River Region, Corps of Engineers

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October 10, 2000

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Ms. Jamie R. Clark, Director
U. S. Fish and Wildlife Service
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Washington, DC 20240

Dear Dr. Westphal and Ms. Clark:

Thank you for the opportunity to comment on the draft Biological Opinion on the Operation of the Missouri River Main Stem Reservoir System, Operation and Maintenance of the Missouri River Bank Stabilization and Navigation Projects, and Operation of the Kansas River Reservoir System (the Opinion). This is a critical issue to the citizens of Missouri who support the recovery of the threatened and endangered species, but are concerned about protecting the people who depend upon the river. While this document is only a draft Biological Opinion and is substantially incomplete, these comments are intended to aid in the preparation of the final Biological Opinion. The final Biological Opinion will have to address many of the comments in this letter if it is to provide the rationale for the changes in Missouri River operations that the U. S. Fish and Wildlife Service has proposed.

The strength of the Opinion is its descriptive review of what is and is not known about the four species (bald eagle, interior least tern, pallid sturgeon and piping plover) that were the primary focus of investigation. It shows the wide range of factors affecting the species and the transformation of the Missouri River since the construction of the main stem dams. However, there is a disturbing lack of connection between the science review presented in the Opinion and the recommended actions. The suggested actions are not directly related to the desired conditions and outcomes. The Service has provided no estimate of the expected benefits or detrimental effects of the actions proposed. These omissions suggest a lack of careful consideration of the implications of the proposed actions.

We agree with many of the actions proposed by the U.S. Fish and Wildlife Service (the Service). These actions should contribute to the overall recovery of the species within the adaptive

management framework proposed. In particular, we support the rehabilitation of habitat for the three species, interior least terns, piping plovers and pallid sturgeon.

We strongly disagree with two of the proposals: the prescriptive change in flow pattern and the closed process for future planning. The imposition of a release pattern from Gavins Point Dam is not justified in the Opinion. There is no evidence presented in the Opinion that documents that this specific release pattern would help the three endangered or threatened species in jeopardy. We also oppose the lack of public input into this proposed set of actions and the Service's continued desire for a closed process that ignores the interests and the expertise of the states and tribes in the basin. The states, tribes and other stakeholders need to be part of the decision-making process in order for the species' recovery to be successful.

We offer the following specific comments on the Opinion and the proposed actions.

Actions that we support

A. We strongly support habitat rehabilitation and recommend an aggressive habitat rehabilitation program. Recent projects by the Service, the U.S. Army Corps of Engineers (the Corps) and the Missouri Department of Conservation have begun to reverse the loss of habitats along the Lower Missouri River in this state. We ask that the Service and Corps examine the success achieved for the interior least terns and pallid sturgeon along the Lower Mississippi River using habitat rehabilitation and apply those lessons along the Missouri River. The Corps should adapt the avoidance/mitigation program used on the Mississippi River to the Missouri River.

B. We strongly support increased physical and biological monitoring of the health of the species considered in the Opinion and the necessary habitats. One of the acknowledged difficulties in aiding species recovery continues to be the lack of information, particularly the significant knowledge gaps for the pallid sturgeon. Monitoring of diverse habitats is needed to gain a better appreciation for the life history and habitat needs of the pallid sturgeon and the sicklefin and sturgeon chub. The success of recent projects to restore habitat in and along the Missouri and Mississippi Rivers must be monitored to guide future actions. Monitoring should also apply to sicklefin chub and sturgeon chub, the two candidate species mentioned in the Opinion, as well as to any other candidate species.

C. We support the unbalancing of the reservoirs, as this appears justified as a way of regaining and retaining much needed shoreline habitat on the reservoirs. Unbalancing must be accomplished while maintaining sufficient reservoir storage for flood control and other purposes. Reservoir shoreline habitat appears to be extremely important as nesting sites for the piping plover and also benefits the interior least tern. This year approximately half of the piping plovers that successfully fledged along the Missouri were found on the reservoir shores. This schedule should be worked out through adaptive management and adjusted as we learn more about the species' needs and the timing of revegetation of the shorelines.

D. We support the use of adaptive management as a basic philosophy for the foreseeable future. Significant unknowns in the species' needs and the uncertainty of the consequences of some

proposed and potential actions require such an approach. The Opinion expressly recognizes that there will not be a one-size-fits-all solution. Adaptive management provides the necessary flexibility for examining the different river segments, the needs of the three species and the best approaches for improvement. Adaptive management of the river should occur as a public process. It must be constrained, however, by consideration for multiple uses of the river and the concerns of the humans who live, work and play in and along the river.

E. We support a close examination of the many factors that could contribute to recovery of the species and possible actions mentioned in the Opinion. A comprehensive Final Opinion would carefully examine which factors can be mitigated in a practical manner as well as the expected benefits for the species. It would include the most complete analyses of the proposed actions that are possible.

Actions that we oppose

A. We oppose the alteration in flow from Gavins Point Dam demanded by the Service in this Opinion. It will produce meager, if any, gains for the species. This proposed flow plan is claimed to provide numerous benefits, including increases in shallow water habitat and island area below Gavins Point Dam. However, no supporting evidence is provided in the Opinion that any of the supposed benefits will be realized. Not a single available reference out of roughly 500 cited in the Opinion includes an analysis of the proposed flow and its consequences. Contrary to statements made by supporters of this plan, the scientific "review" conducted by the seven experts included no review of this plan but only a vague reference to the importance of flow. In fact, there is no evidence that any analysis has been done to determine the short- and long-term benefits and consequences likely to result from the implementation of the proposed flow alterations. It is revealing that the draft Opinion does not contain a single diagram of the proposed flow, but only compares the natural hydrograph with the current Water Control Plan.

Our analysis shows that many of the supposed benefits would not be achieved. Below Gavins Point Dam, the State of Missouri letter to the Service (May 12, 2000) demonstrated that the proposed flow changes do not provide appreciable shallow, slow water habitat beyond that which exists under the current plan. Our analysis indicates that the Service's plan may produce less habitat during the August to October period identified as important in the Opinion. The present erosion and degradation of the channel below each of the dams clearly suggest that higher flows will simply erode more sediment causing further channel degradation in these areas.

The Service has claimed that this plan more nearly approximates the natural hydrograph or flow pattern. Snowmelt from the Rocky Mountains historically caused the highest flows on the Missouri River to occur in June and July. This was followed by a period of lower flow in the late summer and fall. This plan creates a greatly lowered flow in July that is totally unnatural. The plan also has a large rise in flow at the end of this summer low flow period. This increase has never occurred and could severely disrupt nesting birds below Gavins Point Dam. The consequences of the late summer rise are not addressed in the Opinion.

The prescribed flow from Gavins Point Dam may severely affect other aspects of the system. It appears that increased amounts of water would accumulate upstream of Gavins Point Dam as a result of this plan. There must be a study of the long-term consequences of the proposed changes in releases from the Gavins Point Dam. The Corps routinely analyzes operational changes using a 100-year period of record as part of the Master Manual Review and Update; such an analysis is clearly indicated for this proposal. It is revealing that no such analysis is included in the Opinion. The proposed release pattern appears sustainable only if an extended period of drought occurs or if depletions above Gavins Point Dam are significantly increased.

The seven scientific reviewers make clear in their comments, as does the Service in the Opinion, that massive gaps exist in our knowledge of the needs of these species, particularly the pallid sturgeon. This fact is reinforced by the Service's inability to define critical habitat for the species. It is obvious in several of the reviews that temperature, photoperiodicity, turbidity and habitat are necessary factors. One of the experts on the sturgeon even questions the role of a spring rise for spawning and suggests that temperature may be the controlling variable. In spite of these facts and its own commitment to adaptive management, the Service insists on a very prescriptive flow regime yet offers no indication that it will benefit the species.

B. We oppose the continued closed process proposed during implementation of the actions in the Opinion. This ignores the interests and the expertise of the states, tribes and public along the river. This expertise has been a cornerstone of the recovery and research efforts to date; yet the Service suggests that only it and the Corps should have input into future decision-making. This is clearly unacceptable and is counter to the open process that the Corps has used in the past. Species Recovery Committees with broad representation need to be involved in guiding future actions. The lack of an open process of debate and decision-making will severely limit the effectiveness of the efforts to recover the species and will raise doubts among those most affected by the proposed actions. Open discussion between all of the scientific and technical experts should be encouraged throughout these discussions and the Corps' development of the implementation plan.

C. We oppose increasing the size of the mainstem reservoirs. Endangered species are not benefited by increasing the total storage in the mainstem reservoir system. In fact, there would be a net reduction in habitat for endangered species if system storage is increased. The Corps' model runs that most closely resemble the Service's proposal would store an average of 2.5 million acre feet of water in excess of current storage. The lake levels would be higher more than 80 percent of the time, so this is not limited to rare events as the Service's proponents claim. The free- flowing unchannelized reach of the Missouri River would be reduced by approximately twelve miles to the detriment of pallid sturgeon and other native river fishes.

Additional comments and suggestions

These suggestions are offered for incorporation into the Final Opinion and the Corps' subsequent consideration of options.

A. There is no quantification of the relative importance of different threats. Habitat loss, sediment supply, development and recreation-related disruption of nesting sites, predation, competition with non-native species, cold water releases, changes in water quality, fishing, dredging, barriers to migration, fish loss in the dam turbines, reduced turbidity and other effects are noted. However, the Opinion contains no analysis of the relative importance of these threats. We recognize that this is subject to significant uncertainties and the Service may be able to present only a qualitative analysis. However, in the absence of such an assessment, priorities cannot be set, and adaptive management is unlikely to succeed.

B. The Opinion repeatedly states the importance of riverine habitat for support of the pallid sturgeon, but it does not fully discuss the possibility of removing one or more dams from the tributaries or mainstem Missouri River to create long river reaches and to increase sediment supply. While the Opinion does raise the possibility of breaching a dam on a tributary, this is not mentioned in the proposed actions nor is any mention made of the mainstem dams. Given the long migratory range for the pallid sturgeon, restoration of an extensive riverine reach should produce critical gains for that species. Removal of a dam would also resupply the downstream stretch of river with sediment to create habitat for all three threatened or endangered species.

C. Changes in the Missouri River reservoir operations can result in increases in reservoir elevations. Larger reservoirs mean fewer miles of free flowing river. This would negatively impact the species by reducing desirable habitat. The Corps should not implement changes in reservoir operations that would increase the levels of the reservoirs.

D. The role of sediment in creating habitat seems to be underestimated in the Opinion. There is little discussion of the need to restore the sediment flow to the stretches immediately below the dams and to the Lower Missouri River. Simply put, flow cannot create habitat without the raw material needed to form beaches and sandbars. On this point, we agree with the Corps' statement noted on page 256 of the Opinion.

E. Nesting disruption from shoreline development is noted as a serious threat and places a limitation on the success of habitat restoration. A review of the potential effects should be required before the approval of additional development along those shorelines used for nesting. The Corps should suspend negotiations for recreational leases along the reservoirs pending such analyses.

F. The Opinion does not address the threats from predatory or competitive species. For example, historical evidence suggests that walleye were not common in the upper Missouri River, but they have grown in number because of production in hatcheries and have flourished as a result of decreased turbidity. Walleye compete for habitat and food with the pallid sturgeon and may prey on juveniles. The Service and Corps should seriously examine the artificial support programs in place to reduce the impact of walleye and other predatory and competitive species on the pallid sturgeon.

G. The importance of warm water to pallid sturgeon is stated repeatedly throughout the Opinion. Alternatives for improving water temperature for the native fishery, including engineering options, should be evaluated system wide. One of the expert reviewers on pallid sturgeon suggested that water temperature is a key element in the initiation of spawning by pallid sturgeon. In addition, there is some evidence that cold water releases may be adversely affecting the sicklefin and sturgeon chub.

H. The Missouri Department of Conservation has advocated a plan that would achieve more sand island and sand bar habitat between August 1 and September 15. We supported this idea that was part of the Missouri River Basin Association recommendations to the Corps on November 19, 1999. Flows of about 41,000 cubic feet per second at Kansas City provide ample islands and sand bars on the Lower Missouri River. These flows often exist during the late summer but are not possible in years with high runoff. With a slight modification to present operations, the Corps should be able to achieve late summer flows of this magnitude in a greater proportion of years. The Service and Corps should examine this proposal for benefits to young-of-the-year pallid sturgeon, piping plovers and interior least terns.

I. Water quality concerns are nearly completely absent from the Opinion. The long-lived pallid sturgeon is particularly susceptible to pollutants because of its lifestyle and the likelihood of bioaccumulation. Estrogen-like chemicals, metals and other pollutants could significantly reduce the viability of sturgeon in the Missouri River.

J. According to the Opinion, commercial harvesting of sturgeon is still allowed in five states. The Service should seriously consider halting harvesting throughout the basin to prevent the taking of pallid sturgeon. The threat posed by recreational fishers should also be examined to determine the level of taking. The education program that is proposed in the Opinion is unlikely to succeed alone given the difficulty in distinguishing between the two sturgeon species.

K. There is little discussion of the direct and indirect impacts of gravel dredging on habitat and the total sediment supply available for habitat. While dredging serves many necessary purposes along the river, the Corps should consider actions to minimize the impacts of dredging on the species. The Corps should use dredged material to enhance habitat diversity where practical.

L. The Opinion includes no mention of Species Recovery Committees. The members of the Missouri River Basin Association unanimously support the establishment of these committees. The Corps should coordinate the establishment of these committees with the Service, including state, tribal and federal representation as well as stakeholders from within the basin. The use of the expertise of many non-federal agencies and groups together with that of the federal government offers the best chance for increased understanding of the needs of the species and the methods by which those needs can be met.

M. The Opinion fails to recognize serious legal issues. Implementation by the Corps of a spring rise, maintaining higher river levels for weeks, would substantially devalue prime farmland and other properties along the Missouri River. The Corps would be liable "for the effects of that

change [in the water level] upon private property beyond the bed of the stream." See United States v. Kansas City Life Insurance Co., 339 U.S. 700, 800-801 (1950) (change in river level caused by lock and dam results in an unconstitutional taking of flooded Missouri River farmland, including damage caused solely by impeded interior drainage); United States v. Dickinson, 331 U.S. 745, 749-751 (1947) (raise in river level constitutes an unconstitutional taking of the flooded land and the land which washes away as a result); and United States v. Cress, 243 U.S. 316 (1917) (an improvement on a navigable stream causing flooding on a non-navigable tributary is an unconstitutional taking of land along tributary).

In Summary
Habitat is the key to restoration efforts. Along the Missouri River, 97 percent of sandbar area, 98 percent of the islands' area, and tens to hundreds of millions of tons per year of source material for habitats have been lost. Substantial chute/backwater habitat has also been lost. The sections of the Missouri River below the Platte River are recognized as the areas with a more natural flow pattern because of the inflows from tributaries below Gavins Point Dam. However, the Opinion notes the limit to pallid sturgeon recruitment posed by a lack of suitable habitat here. Similarly, interior least terns do not nest on the lowermost sections of the Missouri River. These facts, together with the successes of habitat restoration along the Lower Mississippi River, emphasize the need for habitat, not flow alterations along much of the Lower Missouri River.

The Endangered Species Act requires the Service to seek alternatives that can increase the likelihood of avoiding jeopardy, can be implemented consistent with the intended purposes of the Missouri River, can be implemented within the scope of the Corps' legal authority and jurisdiction, and are economically and technologically feasible. The Service should focus its efforts on actions that fit these requirements. We favor open discussion of all aspects of Missouri River management and ask the Corps to continue its efforts to provide all the stakeholders in the Missouri River Basin a voice in this issue. The Missouri River is ecologically and economically vital to this region.

Thank you for the opportunity to comment. We look forward to working with the Service and the Corps to preserve and to help in the recovery of these species and the habitats that support them.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Stephen Mahfood
Director

SM:jm

c: Senator John Ashcroft
Senator Christopher S. Bond
Congressman Roy Blunt
Congressman William L. Clay
Congresswoman Pat Danner
Congresswoman Jo Ann Emerson
Congressman Richard A. Gephardt
Congressman Kenny C. Hulshof
Congresswoman Karen McCarthy
Congressman Ike Skelton
Congressman James M. Talent
Brigadier General Carl A. Strock, Commander, Northwest Division, Corps of Engineers
Kevin Szcodronski, Iowa MRBA Representative
Bud Clinch, Montana MRBA Representative
David Pope, MRBA Kansas Representative
Roger Patterson, Nebraska MRBA Representative
David Sprynczynatyk, North Dakota MRBA Representative
Nettie Meyers, South Dakota MRBA Representative
Jeff Fassett, Wyoming MRBA Representative
Rose Hargrave, Project Manager, Master Water Control Manual and Update,
Missouri River Region, Corps of Engineers

Supplement # 3

ATTORNEY GENERAL OF MISSOURI
JEFFERSON CITY

JAY NIXON
ATTORNEY GENERAL

65102

P.O. Box 899
(573) 751-3321

August 16, 2001

Honorable Gail Norton
Secretary, U.S. Department of Interior
Department of Interior
18th & C Streets, NW
Washington, D.C. 20240

Re: U.S. Fish and Wildlife Service Biological Opinion

Dear Secretary Norton:

This letter is to inform you that the State of Missouri reserves the right to file suit for violations of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536, and the Administrative Procedure Act, 5 U.S.C. §§ 701 to 706, related to the Secretary's written statement of opinion following consultation between the U.S. Fish and Wildlife Service ("Service") and the U.S. Army Corps of Engineers ("Corps") regarding the Corps' operation of the Missouri River dam and reservoir system (commonly called a "biological opinion").

Late last year, the Service released the biological opinion ("Opinion") which concluded that continuation of current operations by the Corps on the Missouri River is likely to jeopardize the continued existence of three listed species, the endangered pallid sturgeon and least tern and the threatened piping plover. Concomitantly, the Service suggested a "reasonable and prudent alternative" ("RPA") which purported to describe agency action by the Corps which would not jeopardize these species. One part of the RPA, dubbed "Flow Enhancement," better known as the spring rise/summer low, would alter the release pattern at Gavins Point Dam. This aspect of the RPA violates the ESA and is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. 16 U.S.C. § 1536; 5 U.S.C. § 706(2)(A).

The Opinion sets forth desired attributes necessary to avoid jeopardizing the species. However, the spring rise/summer low fails to achieve most of the attributes identified. The Opinion sets forth no evidence that these prescriptive flow changes would

help the species. Further, there is no analysis of the consequences of these proposed flow changes. Perhaps most disturbing, the Opinion justifies many of its critical conclusions by referencing hundreds of citations to "personal communications." Interested parties have attempted to obtain the substance of these references for the purpose of a reasoned review, but their efforts have been stymied by the Service. Such tactics are highly inappropriate in a supposedly public, science-based endeavor of this magnitude.

Moreover, the spring rise/summer low does not mimic the Missouri River's natural hydrograph, as touted by the Service, but rather introduces previously unseen new features into the hydrograph. These new features include the late summer rise mentioned above, and a completely unnatural low flow in late June and early July. This low flow comes at a time with the natural hydrograph is at its peak. Conversely, the late summer rise comes at a time when the natural hydrograph is near its low. Inexplicably, this late summer rise is larger than the Service's spring rise. Not surprisingly, the Opinion does not even include a diagram of the proposed hydrograph, instead it compares the natural hydrograph to the current regime.

Curiously, the spring rise/summer low proposed by the Service in its RPA provides for higher reservoir levels, which actually negatively impact the species by inundating shoreline habitat and reducing riverine habitat. Corps analysis shows that reservoir storage would be 2 million acre-feet higher under the Service plan, translating into lake levels that are several feet higher on average. Furthermore, the free-flowing unchannelized reach of the Missouri River between the major dams would suffer a reduction in length of some twelve miles under the Service RPA. Thus, the RPA actually demonstrably eliminate known endangered species.

While the Opinion identifies a problem, declining species, it proposes a specious solution. The solution sounds attractive–restore the Missouri River to a more natural state. However, the actions the Service proposes to achieve this solution have no hope of achieving this end result. For instance, based on the uncontroverted analysis of the Corps, the spring rise will not form new sandbar habitat or reconnect the Missouri River to the flood plain. The Opinion itself acknowledges this: "Preliminary unpublished data from the Corps suggests that increased spring flows from Gavins Point will not achieve the desired attributes down river in terms of shallow water, slow velocity habitat, flood plain connectivity, or creation/maintenance of sandbar habitat." Opinion at p. 254. Likewise, the Corps' analysis of the summer low indicates that it fails to significantly increase shallow, slowly flowing habitat, an desired attribute identified by the Service for the pallid sturgeon. In fact, Missouri's analysis shows that the Service plan may actually

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produce less habitat in late summer and early fall. This is due to the inclusion of an unnatural late summer rise which will cause further channel degradation and could disrupt nesting birds.

The Service has also failed to address several critical areas in the RPA. These omissions indicate a RPA which violates 16 U.S.C. § 1536(a)(2). The Service has proceeded to a RPA despite failing to identify critical habitat for the pallid sturgeon and least tern. Further, the Service has failed to address the importance of sand flow to the physical form and function of the Missouri River, which is in turn critical to supporting the biological functions of the Missouri River. Flow changes cannot create habitat without the raw material necessary to form beaches and sandbars.

Importantly, the scope of the RPA has been unreasonably limited by the Service in several other important aspects, including a narrow focus on a small part of the Missouri River from Gavins Point to Sioux City, and a failure to consider options and issues such as dam removal or operational alterations, water pollution, nesting disruption, shoreline development, and sturgeon harvesting. For instance, an unconsidered option is removal of one or more dams, which would increase riverine habitat and increase sediment supply. An example of a critical, yet unconsidered problem is that the sturgeon is threatened by both bioaccumulation, a water quality issue, and takings by fishers who confuse it with a closely related species. All of these omissions result in an RPA that is at least as likely, if not more so than the status quo, to jeopardize the continued existence of the species or result in the destruction or adverse modification of their habitat.

Finally, the term RPA is a misnomer. Rather than an alternative, the RPA is an ultimatum. I do not believe Congress ever intend for the Service to simply assume command of other federal agencies without offering any real alternative. It is for the Corps to determine how to operate the Missouri River system consistent with its authorities.

We have written this letter solely to preserve our right to proceed under 16 U.S.C. § 1540(g)(1)(A). The ESA states that no action may commenced under this subparagraph prior to sixty days after written notice of the violation has been given to the Secretary and to the alleged violator or any such provision or regulation. This letter constitutes our written notice to the Secretary. We reserve the right to assert other claims about which we are not required to give notice. The person giving this notice is Attorney General Jeremiah W. (Jay) Nixon. His assistant responsible for these matters is William J. Bryan. Our address and telephone number appear on the letterhead.

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This notice letter should not be construed as foreclosing the possibility of settlement. We are willing to negotiate until further notice but no longer than 60 days. Specifically, we would welcome the opportunity to meet with you and discuss our perspective and particularly our proposed solutions for species restoration. Missouri believes that habitat restoration, not flow changes, are the key to returning the species to viability.

Thank you for your attention to this matter.

Sincerely,

JEREMIAH W. (JAY) NIXON
Attorney General

William J. Bryan
Assistant Attorney General

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Supplement # 5

MEMO

TO: Missouri Levee and Drainage District Association

FROM: JOSEPH B. GIBBS, P.E. Joseph B. Gibbs

DATE: October 22, 2001

SUBJECT: Flood Control Provided by MO River Navigation Channel

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----Study suggests that the failure of the US Army Corps of Engineers to maintain the navigation channel will substantially raise the flooding levels near Boonville, Missouri.

Study of Flood Control Provided
by
Missouri River Navigation Channel

The purpose of this report and study is to find some indication that the navigation channel helps to maintain lower flood water levels in the Missouri River as compared to the river channel before channelization and bank stabilization. The comparisons studied here utilize the US Army Corps of Engineers (USACE) HEC-2 Water Surface Profile computer program by comparing computer run results of existing cross-section and channel data with computer run results of altered data depicting a hypothetical cross-section that would resemble the river before channelization and bank stabilization. Data for the HEC-2 computer program and other data used in this study comes from USACE sources and the Howard County Flood Insurance Study provided by the Federal Emergency Management Agency (FEMA). The data disk used in the computer runs was provided by USACE. Additional information and analysis is based upon the author's work history in the study area and statements of historical significance from local inhabitants.

The study is restricted in scope to: 1) the section of river in the Boonville area from a point downstream from the US Hwy 40 bridge to a point upstream from the abandoned MKT Railway bridge (river miles 194.9 to 197.9); and, 2) alteration of the river channel cross-sections and "roughness" n value. Data derived from these alterations allows a comparison of flood levels in the existing channel and valley cross-section with flood levels in the valley cross-section utilizing a hypothetical channel that may have existed before channelization and bank stabilization work was done. Alteration of the channel data consists of allowing the channel to fill with sand thereby assimilating abandonment of the channelization and bank stabilization works. Alteration of the "roughness" n value consists of changing the existing published n value to one believed to be more applicable for a channel without channelization and bank stabilization works.

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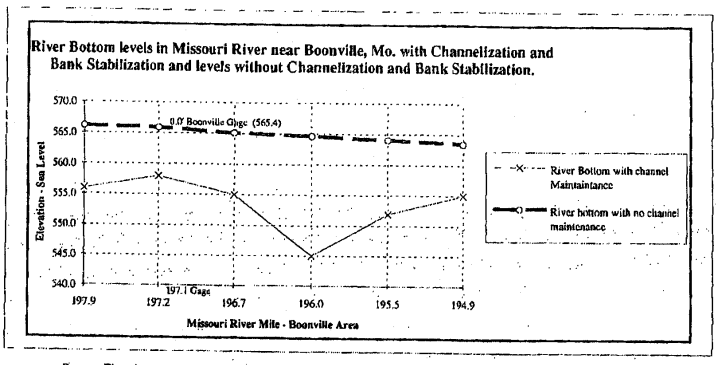
Alterations of the channel cross-sections in the computer program consists of setting the elevation of the bottom of the river at a 0.00 foot river stage at the Boonville gage. This will simulate a fill of 7.9 feet of sand in the bottom of the channel at a point 0.1 miles upstream from the Boonville gage. Variations in the amount of simulated sand fill are indicated in TABLE 1 for the various channel cross-sections. This alteration is used because of people in the area have made historical comments about people and animals being able to walk in and across the river channel during low flows before channelization and bank stabilization works were installed.

Alteration of the "roughness" n value for the channel area is changed from the existing 0.02-0.025 values to an n value of 0.05 for a "Natural meandering river with sluggish reaches and/or weeds, woody brush and deep pools". It is believed that the 0.05 value for n is more realistic if there would be a complete abandonment of channelization and bank stabilization works in the channel.

In TABLE 1 are the computer printout results of existing and altered conditions. Figures 1 through 4 are graphic descriptions of the printout results. Three computer runs were made for the FEMA published flow rates for the 10, 50 and 100 year floods which are 365,000, 485,000 and 550,000 cubic feet per second (cfs) respectively. A study of the tabulated results for this data disk shows: 1) The fill of sand at the various cross-sections to bring the bottom of river up to a 0.00 foot Boonville river stage reading varies from 7.9 to 19.6 feet. These variances in depth and additional depths below a 0.00 foot Boonville river stage is consist with sonar depth sounding unit readings, 2) All of the results are those of a typical "step-backwater computer program". There is a trend of less increases in flood levels at the downstream end of the altered area. This is to be expected since downstream from this area is a channel 8.0 feet or more deeper with a lower "roughness" n value. This allows the water to speed up in the lower reaches of the study area thereby lowering flood water levels, 3) When results of existing and altered cross-sections are compared, flood levels increase up to as much 6.6 feet for the 100 year flood, as much a 6.0 feet for the 50 year flood and 4.1 feet for the 10 year flow, 4) The flood levels through these altered cross-sections for many of the 50 year flows and all of 100 year flows are above the FEMA Regulatory Base Flood Elevation (BFE) for the area; and, 5) All of the flood levels, from both existing and altered cross-sections, are above flood stage for the area (585.4 MSL/20.0 feet Boonville gage). This is consist with flood events experienced in the area.

Due to the lack of funding for this report, only a simplistic approach has been taken in the utilization of available study parameters. Any conclusions drawn; therefore, should be only those to illustrate the presence and a trend that

FIGURE 1



Bottom Elevation

River Mile	River Bottom with channel Maintaintance	River bottom with no channel maintenance	Rise caused by lack of Channel Maintenance
197.9	556.0	566.2	10.2 Feet
197.2	558.0	565.9	7.9 Feet
196.7	555.0	565.1	10.1 Feet
196.0	545.0	564.6	19.6 Feet
195.5	552.0	564.1	12.1 Feet
194.9	555.0	563.5	8.5 Feet

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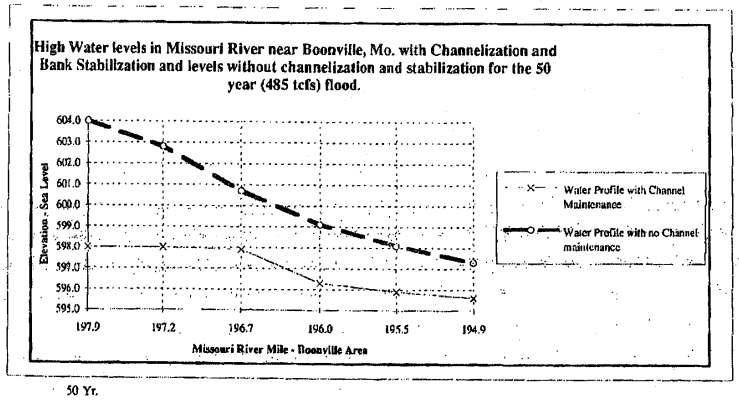
lower flood levels are provided by the existing navigation channel. More extensive studies need to be made to provide for greater accuracy of the flood control benefits provided by the navigation channel.

This study shows that there would be an increase in flood levels if the channelization and bank stabilization works on the river are not maintained. They also show that flood levels would increase several feet from flood flows experienced in the area thereby assuring more frequent flooding and reduced drainage of crop fields.

FIGURE 3



50 Yr.

River Mile	Water Profile with Channel Maintenance	Water Profile with no Channel maintenance	Water Profile Difference
197.9	598.0	604.0	6.0 Feet
197.2	598.0	602.8	4.8 Feet
196.7	597.9	600.7	2.8 Feet
196.0	596.3	599.1	2.8 Feet
195.5	595.9	598.1	2.2 Feet
194.9	595.6	597.3	1.7 Feet

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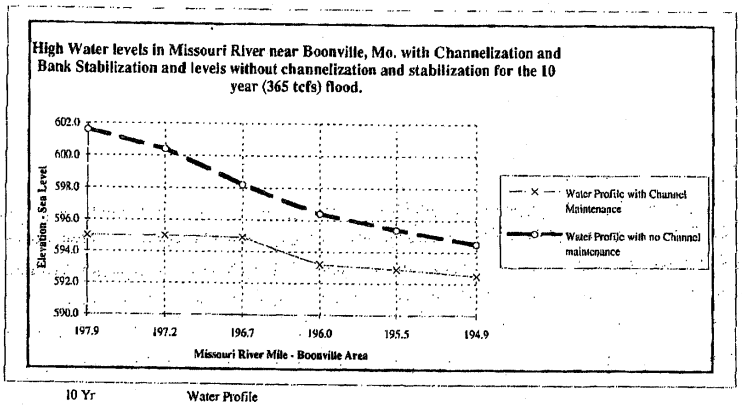
FIGURE 2



10 Yr Water Profile

River Mile	Water Profile with Channel Maintenance	Water Profile with no Channel maintenance	Water Profile Difference
197.9	595.0	601.6	6.6 Feet
197.2	595.0	600.4	5.4 Feet
196.7	594.9	598.2	3.3 Feet
196.0	593.2	596.4	3.2 Feet
195.5	592.9	595.4	2.5 Feet
194.9	592.5	594.5	2.0 Feet

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TABLE 1

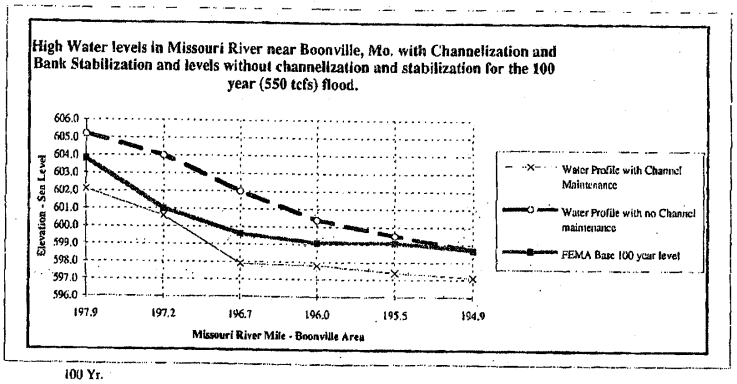
10 Year Flood - 365,000 cfs

X-SEC	River Mile	Exist Bottom Elev.	Altered Bottom. Elev.	Fill of Sand FT.	Exist Water Profile Elev.	Altered Water Profile Elev.	Increase in Flood Profile FT.	FEMA Base Flood Elev.	Increase on Flood Profile FT.
HEC-2	197.9	556.0	566.2	10.2	595.0	601.6	6.6	603.8	(2.2)
HEC-2	197.2	558.0	565.9	7.9	595.0	600.4	5.4	601.0	(0.6)
Gage	197.1		565.4					599.9	
HEC-2	196.7	555.0	565.1	10.1	594.9	598.2	3.3	599.6	(1.4)
HEC-2	196.0	545.0	564.6	19.6	593.2	596.4	3.2	599.1	(2.7)
HEC-2	195.5	552.0	564.1	12.1	592.9	595.4	2.5	599.1	(3.7)
HEC-2	194.9	555.0	563.5	8.5	592.5	594.5	2.0	598.7	(4.2)

50 Year Flood - 485,000 cfs

X-SEC	River Mile	Exist Bottom Elev.	Altered Bottom. Elev.	Fill of Sand FT.	Exist Water Profile Elev.	Altered Water Profile Elev.	Increase in Flood Profile FT.	FEMA Base Flood Elev.	Increase on Flood Profile FT.
HEC-2	197.9	556.0	566.2	10.2	598.0	604.0	6.0	603.8	0.2
HEC-2	197.2	558.0	565.9	7.9	598.0	602.8	4.9	601.0	1.8
Gage	197.1		565.4					599.9	
HEC-2	196.7	555.0	565.1	10.1	597.9	600.7	2.8	599.6	1.1
HEC-2	196.0	545.0	564.6	19.6	596.3	599.1	2.8	599.1	0.0
HEC-2	195.5	552.0	564.1	12.1	595.9	598.1	2.5	599.1	(1.0)
HEC-2	194.9	555.0	563.5	8.5	595.6	597.3	1.7	598.7	(1.4)

FIGURE 4



100 Yr.

River Mile	Water Profile with Channel Maintenance	Water Profile with no Channel maintenance	FEMA Base 100 year level	FEMA Difference	Water Profile Difference
197.9	602.1	605.2	603.8	-1.4	3.1 Feet
197.2	600.6	604.0	601.0	-3.0	3.4 Feet
196.7	597.9	602.0	599.6	-2.4	4.1 Feet
196.0	597.8	600.4	599.1	-1.3	2.6 Feet
195.5	597.4	599.5	599.1	-0.4	2.1 Feet
194.9	597.1	598.7	598.7	0.0	1.6 Feet

Page 4

Supplement # 6

From: http://ens-news.com/ens/jan2002/2002L-01-25-09.html
PIPING PLOVER POPULATIONS FLUCTUATING

ANN ARBOR, Michigan, January 25, 2002 (ENS) - Populations of threatened and endangered piping plovers have plummeted in some areas of North America, but are growing in other regions, a new census shows.

Dramatic changes have occurred in the distribution and abundance of the rare shorebird, according to just completed census results presented Wednesday by U.S. Geological Survey (USGS) scientist Susan Haig at the North American Plover Species at Risk Meeting in Ann Arbor.

The piping plover needs dry sand bars for nesting (Photo courtesy Nebraska Game and Parks Commission)

The findings are based on results of species wide international breeding and winter censuses conducted in 1991, 1996 and 2001. The census shows that 5,938 breeding piping plovers are distributed across beaches from Alberta, Canada, to the Atlantic Coast. Of these, 1,465 birds occur in Canada and 4,473 birds occur in the central and eastern United States.

Piping plovers nest on open beaches, making them vulnerable to heavy beach use by people, pets and vehicles. Fluctuating water levels on rivers and during ocean storms can devastate chicks and nests.

"Although the overall population estimate has only increased eight percent in 10 years, changes in bird distributions are dramatic," Haig said.

Piping plover abundance in Canada has declined 31 percent in five years and 25 percent over the past decade. In the U.S., piping plovers have increased 17 percent in five years to their current estimate of 4,473 birds.

In the U.S. Northern Great Plains, piping plover numbers increased 25 percent in five years, although these numbers still represent a two percent decrease since 1991.

Haig, who is also the coordinator of the International Piping Plover Coordination Group, said the recent increase might be attributed to recent favorable habitat conditions along the Missouri River, where plover numbers have grown

TABLE 1
(Continued)

100 Year Flood - 550,000 cfs

X-SEC	River Mile	Exist Bottom Elev.	Altered Bottom Elev.	Fill of Sand FT.	Exist Water Profile Elev.	Altered Water Profile Elev.	Increase in Flood Profile FT.	FEMA Base Flood Elev.	Increase on Flood Profile FT.
HEC-2	197.9	556.0	566.2	10.2	602.1	605.2	3.1	603.8	1.4
HEC-2	197.2	558.0	565.9	7.9	600.6	604.0	3.4	601.0	3.0
Gage	197.1		565.4					599.9	
HEC-2	196.7	555.0	565.1	10.1	597.9	602.0	4.1	599.6	2.4
HEC-2	196.0	545.0	564.6	19.6	597.8	600.4	2.6	599.1	1.3
HEC-2	195.5	552.0	564.1	12.1	597.4	599.5	2.1	599.1	0.4
HEC-2	194.9	555.0	563.5	8.5	597.1	598.7	1.6	598.7	0.0

02/20/2002 17:52 5738150546 JOSEPH B. GIBBS, PE PAGE 09

470 percent in five years and 140 percent in the decade. Just over 1,000 birds now occur along the Missouri River.

Piping plovers are listed as endangered in the Great Lakes portion of their range. The birds have increased in distribution and abundance, although numbers remain low, Haig said.

Numbers in Michigan have gone from 39 in 1991 to the current count of 65, and piping plovers again are breeding along the shores of Lake Superior in Wisconsin. Beach protection, captive rearing and release of young plovers, as well as record low water levels in the Great Lakes are possible explanations for these changes, said Haig.

The International Piping Plover Census is the only comprehensive shorebird census in North America and is one of the largest endangered species census efforts in North America. The 2001 census involved more than 1,400 biologists and volunteers, who spent more than 5,000 hours walking more than 745 miles of habitat.

Supplement # 7

THE ECONOMIC IMPACTS OF A LOSS OF NAVIGATION ON THE MISSOURI RIVER ON MISSOURI AGRICULTURE

September 1994

The College of Agriculture, Food and Natural Resources
Food and Agricultural Policy Research Institute (FAPRI)
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The Economic Impacts of a Loss of Navigation on the Missouri River on Missouri Agriculture

Background

In November 1989, the U.S. Army Corps of Engineers (Corps) began a comprehensive review of the operation of the Missouri River mainstream system. The study focused on reviewing and updating the Master Water Control Manual (Master Manual), the document which identifies current water control guidelines. In August 1994, the Corps announced their Preferred Alternative to the current water control plan.

The Corps has operated the mainstream system for many different uses, including flood control, navigation, irrigation, hydropower, water supply, water quality control, recreation, and fish and wildlife. The review of the Master Manual was initiated by the states of North Dakota, South Dakota and Montana which experienced a drought over the 1987-1992 period. Lower water levels in upstream reservoirs reduced recreation and tourism benefits and reduced Missouri river flows in the lower basin states of Missouri, Nebraska, Kansas and Iowa. Reduced flows have affected navigation and other uses in the lower basin.

The Food and Agricultural Policy Research Institute (FAPRI) was asked to analyze the economic impact the Corp's proposal would have on Missouri agriculture. This analysis quantifies only the effects which a loss of navigation on the Missouri River would have on Missouri agriculture for a single year. The Corps' Preferred Alternative will likely lead to lower water levels on the Missouri River. Consultations with barge operators suggested they would be forced to close under the Preferred Alternative. The FAPRI analysis assumes that all barge traffic would be eliminated under the Preferred Alternative. However, other impacts have been discussed, including :

* Increased risk of flooding and preventing or delaying Spring planting
* Reduced capacity for interior drainage
* Higher transportation costs on the Mississippi River

Water Compelled Transportation Rates

Research conducted by economists at the Tennessee Valley Authority (TVA) and the University of Tennessee (UT) has shown that water competition does have an impact on railroad transportation rates (TVA 1991). Using a mathematical model, the study concluded that "for movements of grain to the Gulf of Mexico, shippers in Nebraska and Kansas, as well as those in portions of South Dakota, Iowa, and Missouri, would face higher rail rates if navigation on the Missouri were seriously interrupted."

According to the TVA/UT study, rail rates in water competitive areas are lower due to historically low barge rates for grain, fertilizers and other bulk commodities in the Missouri River Basin and the ability of rail carriers to adjust rates under the Staggers Rail Act of 1980. This Act allows rail carriers to negotiate transportation contracts directly with customers. The subsequent confidentiality of transportation contracts makes it more difficult to determine representative rates from various destinations. The primary data source for the TVA analysis was the Interstate Commerce Commission's Annual Carload Waybill Survey (CWS).

Other studies have found that the competitive forces of water transportation diminish as one moves inland. MacDonald (1987) determined the availability of water transportation was an important factor in transportation rates for corn, soybean, and wheat shipments. For wheat, he determined that rail rates were 40 percent higher for shipments originating from a point 400 miles from a port than those of shipments originating 100 miles from a port.

The TVA analysis cites UT findings that "the barge alternative significantly affects rates for the movement of grain up to a distance of at least 100 miles, but that these effects are generally exhausted when the shipper is 300-400 miles from the nearest port." In a 1991 survey of barge terminals and shippers on the Missouri River, respondents reported that 93 percent of outbound river traffic originated within 100 miles of the terminals. According to the 1991 TVA Survey, there were 69 terminals operating on the Missouri River in the State of Missouri. Of these, 21 terminals handled agricultural products.

Table 1
Crop Shipments From Missouri
1985
1,000 Bushels

	Truck	Rail	Barge	Total
Corn				
Gulf (LA)	0	3,752	69,358	73,110
% of Total Shipments	0	5	95	100
% of Total Interstate	0	2.6	48	51
Soybeans				
Gulf (LA)	0	1,077	53,196	54,273
% of Total Shipments	0	2	98	100
% of Total Interstate	0	1	52	53
Wheat				
Gulf (LA)	0	1,767	20,258	22,295
% of Total Shipments	0	9	91	100
% of Total Interstate	0	3	38	41
Grain Sorghum				
Gulf (LA)	0	0	41,706	41,706
% of Total Shipments	0	0	100	100
% of Total Interstate	0	0	60	60

Source: Interregional Flow Patterns and Transportation Requirements in 1985
University of Illinois, Bulletin 793, September 1990

Crops

The study utilized 1992 production data for corn, soybeans, wheat and grain sorghum. A list of affected counties was developed using a band of 100-150 miles on either side of the Missouri River. County boundaries were used to simplify data analysis. A similar band was developed on the Western side of the Mississippi River to account for similar water compelled transportation costs. Table 2 illustrates the 56 counties in Missouri which were included in the analysis. In 1992, these counties accounted for 62 percent of the state's total corn production, 41 percent of soybean production, 44 percent of wheat production, and 34 percent of total grain sorghum production.

Percentages of production being shipped to the Gulf via truck, rail, and barge were developed based on research published by the University of Illinois (Fruin 1990). For corn, approximately 30 percent of Missouri production was shipped to the Gulf in 1985. Of this amount, about 90 percent travelled by barge and 10 percent by rail. Absent more recent data, these percentages were carried forward and multiplied by 1992 production levels in the 56 affected counties. An additional 10 percent of this production was shown to move interstate by rail to other destinations.

Assuming a river terminal origin, a base barge rate of $9.40 per ton was used from Kansas City to the Louisiana Gulf. A rail rate of $12 per ton was used for the same route. Based on previous TVA/UT research and industry consultations the rail price was increased 34 percent due to a loss of navigation. Thus, the effective rail rate became $16.08 per ton from Kansas City to the Louisiana Gulf. This is a 71 percent increase over the rail rate ($16.08 - $9.40) ÷ 9.40). The rail rate used for interstate shipments to destinations other than the Louisiana Gulf was $11 per ton. In the absence of navigation, the effective rail rate becomes $14.74 per ton.

The analysis is for a single year and assumes the percentage of products shipped to the Gulf would remain constant despite the increased rail cost. The authors recognize that transportation rates vary by destination in Missouri and used Kansas City as a representative point of origin. No additional trucking impacts were included in the study.

The maximum per bushel price impacts of the new rail rate ($16.08 per ton) were calculated for each of the commodities. (ex. Corn ($16.08-$9.40)*56/2000 = $.19 bushel). The maximum per bushel price impact was calculated for each initial mode of transportation--barge to rail, rail to the Gulf, and rail to other states. An average per bushel price impact was then developed to apply to all the production in the 56 affected counties. The UT/TVA studies determined that the influence of water transportation on rail rates declines at points of origin further from the water. The average per bushel price impacts were then multiplied by 1992 production levels to determine the aggregate impact which higher rail costs have on farm prices. All of the higher transportation costs are passed back to producers in the form of lower cash prices.

The elimination of a water alternative would have an impact on railroad traffic. Rail capacity is not addressed in this study. The UT study suggests that if all grain shipped to Gulf ports in 1988 (799,000 tons) were transported by rail, the total volume of rail grain shipments would have increased by only 1 or 2 percent. It is possible that the volume of farm products moving to the Gulf would fall in response to the higher rail rates for a sustained period of time. However, the FAPRI analysis estimates the impacts of higher rail rates for a single year and does not address the longer-term effects which a loss of navigation would have on transportation costs to alternate destinations.

Agricultural Impacts

Agriculture remains an important component of Missouri's economy. In 1992, cash receipts for agricultural products totalled $4.1 billion on 107,000 farms. Agricultural exports totalled $998 million, 24 percent of marketings. Corn, soybean, wheat and grain sorghum production was valued at $1.9 billion.

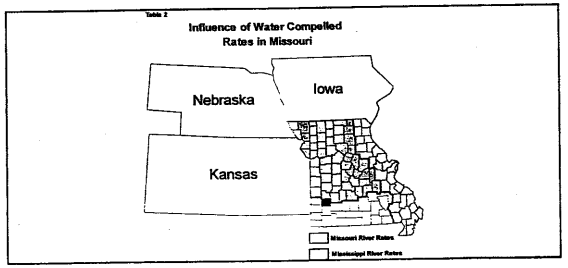
Barge transportation to the Louisiana Gulf via the Missouri and Mississippi Rivers has historically been the primary mode of transportation for Missouri agricultural commodities bound for export. Table 1 illustrates movements of Missouri origin crops by mode of transportation. This data indicates that approximately 30 percent of the 1985 corn crop was exported from Missouri to the Gulf in 1985. Of this amount, about 90 percent was transported by barge and 10 percent by rail. These same percentages were used in the FAPRI analysis to determine the number of bushels entering interstate commerce via rail and barge.

When possible, barge operators will backhaul potash, nitrogen and phosphate fertilizer from the Gulf to final destinations in Missouri. Fertilizer does not have to be transported by barge to inland destinations in Missouri and relative prices can dictate any number of barge, rail or truck combinations. In 1992, fertilizer and lime expenses totalled $351 million in Missouri.

The analysis is limited to the economic impacts which a loss of navigation would have on transportation costs for shipments of corn, soybeans, wheat, grain sorghum and nitrogen, phosphate, and potash fertilizer.

Table 2

Influence of Water Compelled Rates in Missouri



Fertilizer

Higher rail rates will also increase transportation costs for fertilizer. Fertilizer utilization in the same 56 counties was considered to be affected by a loss of navigation. Application rates published in Missouri Farm Facts, Missouri Agricultural Statistics Service, for nitrogen, potash and phosphate, were multiplied by county harvested acreage figures to generate total fertilizer use by crop for the 56 counties. Based on consultations with agricultural transportation experts, fertilizer prices were increased one-half ($.05) cent per pound as a result of higher rail costs. Although the actual impacts may be greater for some fertilizers than others this increase was applied to each of the fertilizers. The study was not able to include the use of fertilizer on pastures or for hay production. In 1992, 2.1 million acres of hay were harvested in the 56 counties.

Again, the analysis is for one year and assumes that fertilizers will continue to be transported from the Gulf despite higher prices. In the longer-term, fertilizer dealers may be able to find other sources of fertilizer or alternative transportation modes which result in lower per unit transportation costs.

Results

The study quantifies the economic impacts which higher transportation costs for grains and fertilizers will have on Missouri agriculture. First, farm prices for grain decrease as transportation costs increase for commodities shipped by rail to the Gulf (the percentage increase is greater for grain which would have been shipped via barge). Second, rail rates increase for grain which is currently shipped to secondary markets outside of Missouri. Under the no navigation scenario, cash receipts for the four crops fall $14.52 million (Table 3).

Table 3

	Cash Receipts	Fertilizer Costs
		Thousand Dollars
Corn	(7,402)	1,478
Sorghum	(1,193)	168
Wheat	(2,093)	450
Soybeans	(3,831)	279
Total	(14,519)	2,376
Impact Total		$16,895

Third, fertilizer costs rise due to increased transportation costs. The study estimates that fertilizer costs for corn, soybeans, wheat and grain sorghum would increase $2.38 million. This does not include fertilizer used on pastures or for hay production.

An input/output model (IMPLAN) was used to estimate the statewide impacts of reduced cash receipts and increased fertilizer costs. At the state level, further economic analysis concluded the combined agricultural impacts of $16.895 million would result in a reduction in total industry output of $43.3 million and a loss of 692 jobs.

Literature Cited

Fruin, Jerry E., Daniel W. Halbach, and Lowell Hill

"Corn Movements in the United States -- Interregional Flow Patterns and Transportation Requirements in 1985." University of Illinois Agriculture Experiment Station Bulletin #793 1990.

"Soybean Movements in the United States --Interregional Flow Patterns and Transportation Requirements in 1985". University of Illinois Agriculture Experiment Station Bulletin 793 September 1990.

"Wheat Movements in the United States -- Interregional Flow Patterns and Transportation Requirements in 1985". University of Illinois Agriculture Experiment Station Bulletin 793 September 1990.

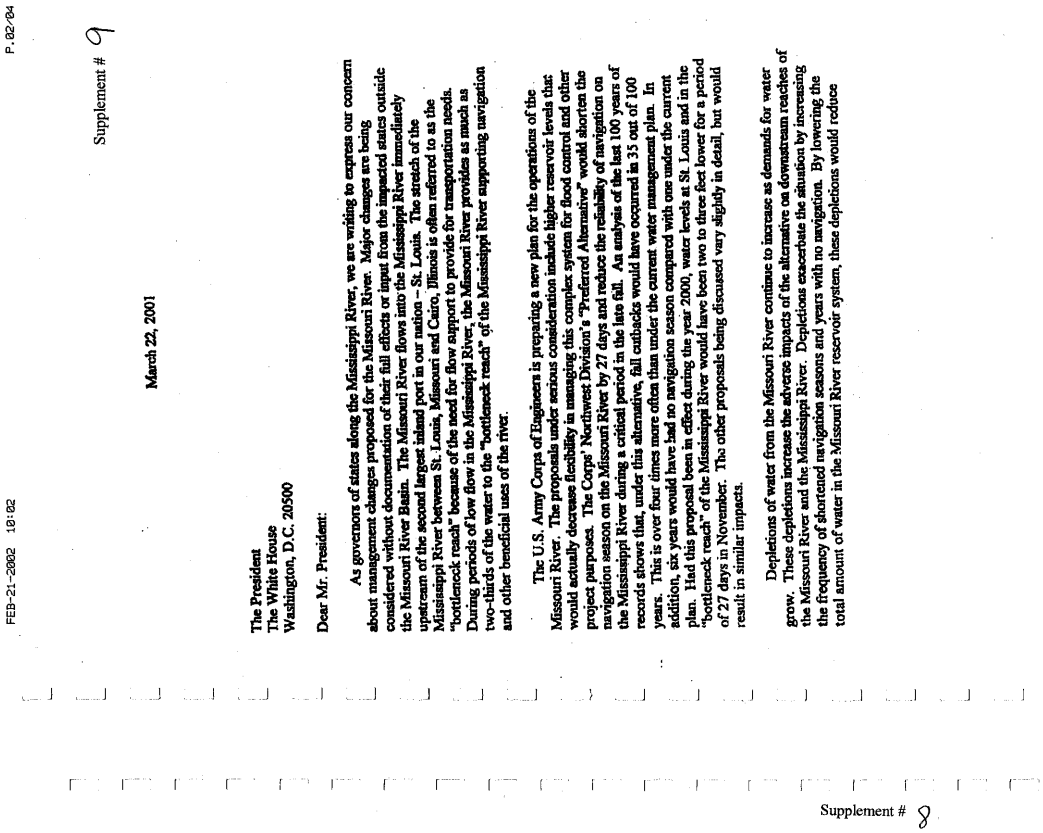
"Grain Sorghum Movements in the United States -- Interregional Flow Patterns and Transportation Requirements in 1985". University of Illinois Agriculture Experiment Station Bulletin 793 September 1990.

McDonald, James. "Competition and Rail Rates for the Shipment of Corn, Soybeans, Wheat." Rand Journal of Economics (Spring 1987).

Missouri Agricultural Statistics Service, 1994 Missouri Farm Facts, Columbia, MO 1992-1994.

Tennessee Valley Authority, "A Survey of Barge Terminals and Shippers on the Missouri River", November 1991.

U.S. Army Corps of Engineers," Economic Studies, Navigation Economics." Volume 6A, July 1994.



P.02/04

Supplement # 9

FEB-21-2002 10:02

March 22, 2001

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

As governors of states along the Mississippi River, we are writing to express our concern about management changes proposed for the Missouri River. Major changes are being considered without documentation of their full effects or input from the impacted states outside the Missouri River Basin. The Missouri River flows into the Mississippi River immediately upstream of the second largest inland port in our nation – St. Louis. The stretch of the Mississippi River between St. Louis, Missouri and Cairo, Illinois is often referred to as the "bottleneck reach" because of the need for flow support to provide for transportation needs. During periods of low flow in the Mississippi River, the Missouri River provides as much as two-thirds of the water to the "bottleneck reach" of the Mississippi River supporting navigation and other beneficial uses of the river.

The U.S. Army Corps of Engineers is preparing a new plan for the operations of the Missouri River. The proposals under serious consideration include higher reservoir levels that would actually decrease flexibility in managing this complex system for flood control and other project purposes. The Corps' Northwest Division's "Preferred Alternative" would shorten the navigation season on the Missouri River by 27 days and reduce the reliability of navigation on the Mississippi River during a critical period in the late fall. An analysis of the last 100 years of records shows that, under this alternative, fall cutbacks would have occurred in 35 out of 100 years. This is over four times more often than under the current water management plan. In addition, six years would have had no navigation season compared with one under the current plan. Had this proposal been in effect during the year 2000, water levels at St. Louis and in the "bottleneck reach" of the Mississippi River would have been two to three feet lower for a period of 27 days in November. The other proposals being discussed vary slightly in detail, but would result in similar impacts.

Depletions of water from the Missouri River continue to increase as demands for water grow. These depletions increase the adverse impacts of the alternative on downstream reaches of the Missouri River and the Mississippi River. Depletions exacerbate the situation by increasing the frequency of shortened navigation seasons and years with no navigation. By lowering the total amount of water in the Missouri River reservoir system, these depletions would reduce

Supplement # 8

Missouri Department of Natural
Resources Information

Mississippi River Impacts

Plan	No nav	Shortened	Total	MR Years	MR Days
CWCP	1	8	9	7	397
MCP	5	35	40	30	1032
GP1528	6	30	36	27	874

No Nav = Number of years without support on Missouri River

Shortened = Number of years with less than 8 month support on Missouri River

MR Years = Number of years when No Nav and Shortened coincide with Mississippi River low water (Q<94.95 kcfs)

MR Days = Number of days when No Nav and Shortened coincide with Mississippi River low water (Q<94.95 kcfs)

releases from the reservoirs, particularly during low precipitation. These years are often the same years that the Missouri River provides critical flow support to the "bottleneck reach".

The effects of the alternative and increased depletions greatly amplify the impacts of either one considered in isolation. They would prove harmful to Midwest agriculture, the ports from St. Paul to New Orleans and industries that rely on the Mississippi River to move their products and represent a serious blow to our nation's economy.

In addition to these considerations, the U. S. Fish and Wildlife Service has proposed an increased spring rise and a period of low flow in the summer to help three endangered and threatened species. If implemented, this would further exacerbate the effects of higher reservoirs and depletions. We support addressing endangered species issues in a reasonable manner that considers all environmental and economic issues. Substantial gains have been realized for the same species on the lower Mississippi River using creative habitat restoration without any change in river flow. This approach has succeeded without the disruption of normal river operations.

We urge you to ensure that decisions are reached on the operations on the Missouri River only with the direct involvement of all those states that rely on the Inland Waterway System. It is important that the Corps offer a briefing to all the Mississippi River states on the full effects of these proposals, including reasonably anticipated future depletions. We request that you direct the Corps to analyze the effects of the Fish and Wildlife Service proposals and reasonably anticipated depletions on the entire Mississippi River system and the compounded effects of these changes on the Corps' "Preferred Alternative". The Corps should not select its "Preferred Alternative" until these analyses and briefings have been completed and the states have been allowed time for meaningful input. Finally, we urge you to form an inter-agency group, including the Secretaries of Transportation and Agriculture, to review the implications of these proposals prior to implementation.

Respectfully,

Paul E. Patton
Governor of Kentucky

Don Sundquist
Governor of Tennessee

M.J. "Mike" Foster, Jr.
Governor of Louisiana

Ronnie Musgrove
Governor of Mississippi

George H. Ryan
Governor of Illinois

Bob Holden
Governor of Missouri

Mike Huckabee
Governor of Arkansas

Scott McCallum
Governor of Wisconsin

Jesse Ventura
Governor of Minnesota

cc: The Vice President
The Honorable Donald H. Rumsfeld, Secretary of Defense
The Honorable Gale Norton, Secretary of the Interior
The Honorable Ann Veneman, Secretary of Agriculture
The Honorable Norman Mineta, Secretary of Transportation

TOTAL P.04

Supplement # 10

TESTIMONY TO THE U.S. ARMY CORPS OF ENGINEERS ON THE MISSOURI RIVER MASTER MANUAL RDEIS
BY: JERRY VINEYARD
RIVER BASIN COORDINATOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
Memphis - November 14, 2001

Good evening, my name is Jerry Vineyard. I am the River Basin Coordinator for the Missouri Department of Natural Resources. I represent the department on interstate water issues on both the Mississippi and Missouri Rivers. Thank you for the opportunity to speak.

Our agency continues to have concerns about operational changes proposed for the Missouri River and the resulting impacts to the Mississippi River. The Missouri River flows into the Mississippi River immediately upstream of the second largest inland port in our nation – St. Louis. The stretch of the Mississippi River between St. Louis and Cairo, Illinois is often referred to as the "bottleneck reach". Located between the system of Locks and Dams and the Ohio River, low flow in this reach can act as a bottleneck to waterborne commerce on the inland waterway system. During periods of low flow in the Mississippi River, the Missouri River provides as much as two-thirds of the water to the "bottleneck reach" of the Mississippi supporting river commerce and other beneficial uses of the river.

Even though there is a direct link between these two great rivers, the effects of the changes to the management of the Missouri River on the Mississippi River have received surprisingly little attention in the Missouri River Master Manual discussion. Although the Corps of Engineers manages these two great rivers independently, they must allow river users in both basins to fully understand how changes to Missouri River management may affect the reliability of both rivers.

Earlier this year, the governors of eight Mississippi River states (Kentucky, Tennessee, Louisiana, Mississippi, Illinois, Arkansas, Wisconsin, and Minnesota) joined Missouri Governor Bob Holden in requesting that decisions on the operations on the Missouri River only be reached with the direct involvement of all the states that rely on the Inland Waterway System. They asked that the Corps offer briefings to all the Mississippi River states on the full effects of these proposals, including reasonably anticipated future depletions. The governors also requested that the Corps provide a reasonable anticipated depletion analyses on the entire Mississippi River system for all alternatives that are under consideration including the Fish and Wildlife Service's proposal found in the Biological Opinion. Further, the Corps was asked to not select its "Preferred Alternative" until these analyses and briefings had been completed and the states have been allowed time for meaningful review and input. A copy of this letter is attached to my testimony.

All new plans in the RDEIS retain more water in the Main Stem Reservoirs at the expense of flow support to the lower Missouri and Mississippi rivers. Large decreases in flow support occur when navigation is not supported on the Missouri River. Under the MCP alternative, large decreases in flow support occurs 40 percent of the time (40 out of 100 years). Our analysis indicates that 75 percent of the time, these cutbacks in flow on the Missouri River coincide with low water on the Mississippi River (30 of the 40 years). In contrast, the Current Water Control Plan cutbacks 9 percent of the time (9 out of 100 years), coinciding with low water on the Mississippi River about 78 percent of the time (7 of the 9 years). The Current Water Control Plan clearly has greater reliability for flow support to the Mississippi River than any of the other plans presented in the RDEIS.

We believe that plans must be evaluated under future water depletion conditions. The MCP plan has not been analyzed with future levels of depletions. If the Corps had analyzed MCP, we would expect that there would be an exponential increase in the magnitude and frequency of low water events on the Mississippi River. Consequently, we would also expect the economic impacts to grow exponentially. During the PRDEIS process the Corps analyzed future depletion scenarios for several plans. The C31 plan is possibly the closest plan to the MCP plan. Under C31 there are 4 years out of 100 where the entire ice-free period is at the greatly reduced flow levels. With 0.8 MAF of additional depletions, this rises to 7 out of 100 years and with 1.6 MAF of additional depletions, this rises to 8 out of 100 years. The plan really shows a dramatic change at the 3.2 MAF of additional depletions, where 25 out of the 100-year period has substantial flow cuts for the entire ice-free season (April to December). This compares to 8 out of 100 years under the Current Water Control Plan with 3.2 MAF of additional depletions. A graphical representation has been included for C31 and the Current Water Control Plan (CWCP) with future depletions added. The bars represent periods when substantially higher flow support is provided.

Because of the limited amount of time here tonight, I will not go into detail but wish to at least touch on several concerns.

1. The Mississippi River economic impacts displayed in the RDEIS are misleading. Sensitivity analysis performed by the Corps has shown that the results can be greatly affected by minor adjustments in the models. The results can also be dramatically changed with the exclusion of 1 year (1939). Therefore any conclusions from data presented should be carefully scrutinized prior to making any decisions or recommendations.
2. The RDEIS leads one to believe that all of the 5 new plans are better for water commerce on the Mississippi River, while at the same time indicating a need for increased dredging and changing the low water reference plane (something that should be studied in detail). This seems contradictory.
3. Of the five new plans in the RDEIS, the Corps has only analyzed the impacts of future depletions on two of the new plans. These plans increase lost efficiency costs by about 10 fold over the Current Water Control Plan (about $10 million per MAF of additional depletion versus about $1 million).
4. We believe that the new higher reservoir levels and resulting downstream flow restrictions would adversely impact water commerce on the Mississippi River. Last November is an example of where this would have been the case. Attached to my testimony is a chart showing the stage at St. Louis under current operations versus the MCP plan.

Thank you for the opportunity to comment.

OFFICE OF THE GOVERNOR
STATE OF MISSOURI
JEFFERSON CITY
(573) 751-3222
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Supplement # 11

STATE OF MISSOURI GOVERNOR'S OFFICE
PUBLIC COMMENTS
MISSOURI RIVER HEARING
CAPE GIRARDEAU, MO
JANUARY 21, 2002

Thank you for allowing me to present Governor Holden's remarks regarding the future management of the Missouri and Mississippi Rivers. The Governor regrets that he is unable to attend this evening. Unfortunately, his schedule was necessarily changed to allow him to attend memorial services for Officer Kelly Poynter, a highway patrolman killed in the line of duty last Friday morning.

The Governor believes these hearings are crucial to ensure that the views of all our citizens are taken into account as the Corps' proposes changes with the potential for profound effects on the future not only of Missouri but of this nation. While the Governor spoke at length on his concerns at the Corps hearing in Jefferson City last November; I will take this opportunity to reiterate the main points he made at that time:

1) Missouri strongly opposes any plan that reduces the amount of usable water to downstream states,
2) Missouri rejects any proposals for enhanced spring releases that would have adverse effects on farmers,
3) Missouri firmly opposes any changes that jeopardize the long-term viability of navigation on the Missouri River, and
4) Missouri believes that restoration of the environmental health of the River should be a priority, but there are more reasonable methods for achieving this goal than those proposed in the Revised Draft Environmental Impact Statement (RDEIS).

The decisions made at the end of this process will effect citizens who depend upon the Missouri River for recreation, navigation, agriculture, hydropower, water supply, and fish and wildlife conservation for many years to come. Thus, the Corps is bound to consider every impact of the plans being considered for the river's future management. This has yet to take place, particularly with regard to two absolutely critical areas.

First, we must reiterate our concern regarding the reduction of downstream flow. All five of the new plans proposed in the Revised Draft Environmental Impact Statement shift water to the upper basin reservoirs by promoting substantial cutbacks in reservoir releases with potentially alarming frequency. The resulting decrease in the amount of water available threatens the viability of designated downstream uses such as navigation.

Further, after repeated assurances that the impacts of the proposed Missouri River management alternatives on the Mississippi River would be thoroughly examined, the process is not underway. We would strongly encourage the Corps to complete its examination. To exemplify our concern we would note that, had the Modified Conservation Plan (MCP) outlined in the RDEIS been in place during the past two years, there is a very high probability that the U.S. Coast Guard would have imposed low water restrictions on the Mississippi River during both years. This clearly demonstrates the potential for extremely negative consequences not only on our state but also on that sizeable portion of the midwestern economy that depends on the Mississippi River.

Second, we are concerned that the Corps has not initiated its studies of the impact of future depletions on both the Missouri and Mississippi Rivers under each of the new alternatives under consideration. Last year, the governors of Arkansas, Illinois, Kentucky, Louisiana, Minnesota, Mississippi, Tennessee and Wisconsin joined me in sending a letter to President Bush requesting the depletion analysis. And this past fall, Deputy Assistant Secretary Domonic Izzo responded to the request, stating the depletion analysis would take place. We would encourage the Corps to act on Secretary Izzo's commitment.

Our preliminary analysis shows depletions may well affect the Corps' ability to ensure that the River remains, as we propose, a "River of Many Uses" if any of the five new alternatives are chosen. Given increased demand for water within the basin, the controversial nature of the Master Manual process, the fact that the current Water Control Plan has been in effect for four decades, and the likelihood that any new plan will remain in effect for at least the next forty or fifty years, it is absolutely essential that the Corps thoroughly analyze depletions for the foreseeable future. Failure to do so would not well serve the people of Missouri, and the Midwest, whose lives and livelihood depend on the continued availability of sufficient flow in the Missouri and Mississippi Rivers.

Governor Holden encourages the Corps to implement the National Academy of Sciences' recommendations to reflect the consensus of citizens living in the Missouri River Basin. He challenges the Corps to work to ensure the river is managed to benefit all residents of the basin and to achieve balance among the upstream, downstream and competing uses of the river founded on valid scientific studies. Missouri is committed to improving the environmental health of the Missouri River and ensuring the economic security of its citizens. Governor

Holden strongly encourages the Northwest Division to consider implementing habitat restoration projects similar to those undertaken by the Corps' St. Louis District along the Mississippi River, which have been tremendously effective.

The Corps has been charged with developing a plan that has great potential to impact how we live, work and play. Only through a thorough and open discussion can it achieve the goal of establishing the Missouri as a "River of Many Uses." On behalf of Governor Holden, thank you for your time and the opportunity to make these comments.

Supplement # 13

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

Ms. Rose Hargrave
Master Manual Project Leader
U.S. Army Corps of Engineers
Northwestern Division
12565 West Center Road
Omaha, Nebraska 68144-3869

Dear Ms. Hargrave:

The Department of Agriculture (USDA) commends the effort of the U.S. Army Corps of Engineers (Corps) on the Revised Draft Environmental Impact Statement for the Missouri River Master Water Control Manual (Master Manual). USDA appreciates the manner in which the Corps has attempted to collect a wide range of public opinion as input to selecting a Master Manual plan that achieves the necessary environmental imperatives while satisfying other Missouri River project purposes, such as navigation, irrigation, and flood control.

USDA believes that every effort for continued navigation should be considered since the U.S. grain transport system relies heavily on barges. Barge transportation is unrivaled as the least expensive, most environmentally friendly, and safest mode for moving bulk commodities to export. The water flow on the Missouri River can be essential to maintaining adequate river levels on the Mississippi River for transport of grains and oilseeds from the Midwest to the Gulf of Mexico. USDA is concerned that modified releases from dams to produce spring rises that promote threatened or endangered wildlife habitat could stop navigation on the Missouri River and reduce river levels on the Mississippi River between the St. Louis area and the mouth of the Ohio River. These spring rises could also flood farm lands causing delays in planting crops or completely stopping some farm operations along the river.

Disruptions of post-harvest barge shipments during a surge in export demand can have an adverse effect on grain and oilseed exports. A U.S. policy stopping water flows and hindering barge exports could send the signal to importers that the U.S. is an unreliable supplier of grain and oilseeds.

IKE SKELTON
4TH DISTRICT, MISSOURI

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Supplement # 14

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Congress of the United States
House of Representatives
Washington, DC 20515–2504

February 12, 2002

Ms. Rosemary C. Hargrave
Master Manual Project Leader
U.S. Army Corps of Engineers
Northwest Division
12565 W Center Rd
Omaha, NE 68144-3869

re: Missouri River Master Manual RDEIS

Dear Ms. Hargrave,

Thank you for the opportunity to submit comments on the Corps of Engineers' proposed changes to the Missouri River Master Water Control Manual. As you know, residents of Missouri have demonstrated a serious interest in ensuring that responsible water flows are maintained on the Missouri River. These citizens, many of whom reside in Missouri's Fourth Congressional District, have actively participated during the public meetings and comment periods to discuss proposals to modify the Master Manual.

Through its Revised Draft Environmental Impact Statement (RDEIS) for the Master Manual, the Corps of Engineers outlines six possible alternatives for water flows on the river – the current water control plan, a modified conservation plan, and four alternatives that add various Gavins Point Dam releases to the modified conservation plan, including a spring rise and low summer releases. At this time, let me take this opportunity to share my support for maintaining the current water control plan.

The Missouri River forms the northern border of the Fourth Congressional District, whose residents I have the privilege of representing in the U.S. House of Representatives. Having been born in the river town of Lexington in Lafayette County, the Missouri River has played an important role in my life. Generations of men and women who have lived along the river share my respect for the Missouri River's contributions to our history, our heritage, and our economy.

Citizens in Missouri and other downstream states continue to be concerned about the impact of proposed water flow changes on farming, barge navigation, other agribusiness, and power generation, in addition to the impact on wildlife habitat. A spring rise and subsequent flooding that keeps farmers out of their fields would be an additional blow to farmers who have been facing some of the lowest crop prices in a generation. Lower water levels in the summer that disrupt the barge navigation season would raise transportation costs and possibly end barge traffic on the Missouri River

Ms. Rose Hargrave
Page 2

The United States is the world's largest exporter of corn and soybeans. In the most recent marketing year, the U.S. exported 49 million metric tons of corn, which represented 57 percent of the total world exports. In the same year, the U.S. exported 27 million metric tons of soybeans or 49 percent of the world trade. The Upper Mississippi River (above the mouth of the Ohio River) supplies the Gulf of Mexico exporters with about half of all corn exports and a third of all soybean exports. Therefore, the stretch of the Mississippi River between the Missouri and Ohio Rivers is extremely critical to U.S. agriculture.

It is important that we continue to recognize the advantages that the inland waterway navigation system offers U.S. agriculture, and the related benefits to rural economies throughout the Nation. Keeping the Missouri River navigable also provides competition for other modes, prevents flooding of farm lands, and maximizes the irrigation benefits. USDA urges that Endangered Species Act implementations be done in a manner that minimizes any reduction of navigation on the Missouri River and subsequent low water conditions on the Mississippi River.

Sincerely,

Bill Hawks

Bill Hawks
Under Secretary
Marketing and Regulatory Programs

IKE SKELTON
4TH DISTRICT, MISSOURI

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Supplement # 14

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Congress of the United States
House of Representatives
Washington, DC 20515-2504

February 12, 2002

Ms. Rosemary C. Hargrave
Master Manual Project Leader
U.S. Army Corps of Engineers
Northwest Division
12565 W Center Rd
Omaha, NE 68144-3869

re: Missouri River Master Manual RDEIS

Dear Ms. Hargrave,

Thank you for the opportunity to submit comments on the Corps of Engineers' proposed changes to the Missouri River Master Water Control Manual. As you know, residents of Missouri have demonstrated a serious interest in ensuring that responsible water flows are maintained on the Missouri River. These citizens, many of whom reside in Missouri's Fourth Congressional District, have actively participated during the public meetings and comment periods to discuss proposals to modify the Master Manual.

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The Missouri River forms the northern border of the Fourth Congressional District, whose residents I have the privilege of representing in the U.S. House of Representatives. Having been born in the river town of Lexington in Lafayette County, the Missouri River has played an important role in my life. Generations of men and women who have lived along the river share my respect for the Missouri River's contributions to our history, our heritage, and our economy.

Citizens in Missouri and other downstream states continue to be concerned about the impact of proposed water flow changes on farming, barge navigation, other agribusiness, and power generation, in addition to the impact on wildlife habitat. A spring rise and subsequent flooding that keeps farmers out of their fields would be an additional blow to farmers who have been facing some of the lowest crop prices in a generation. Lower water levels in the summer that disrupt the barge navigation season would raise transportation costs and possibly end barge traffic on the Missouri River

altogether. Low water levels would also hinder electricity generation. Modifications to water flows on the Missouri impact other vital waterways, such as the Mississippi River, and may interrupt commerce.

None of these possible outcomes can be taken lightly. Short of maintaining the current water control plan, other proposals that have been discussed would be disastrous to these interests, without any measurable benefit for wildlife or habitat. A recently published National Academy of Sciences report reiterates that current decisions on the future management of the river must take into account the social and economic costs to all Missouri River stakeholders.

Again, I appreciate being given the opportunity to comment on the Revised Draft Environmental Impact Statement. It is my hope that the Corps' final environmental impact statement seeks to avoid the adverse results that are such a concern to Missourians. I am grateful for your attention to my views.

Sincerely,

IKE SKELTON
Member of Congress

IS:do

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(816) 233-9818

Congress of the United States
House of Representatives
Washington, DC 20515–2506

February 14, 2002

U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River--Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68114

Dear To Whom It May Concern::

I am writing to express my deep concern about the U.S. Army Corps of Engineers proposed Missouri River Revised Draft Environmental Impact Statement (RDEIS) Master Manual Revision. Please include my letter in the official comments received on this matter.

As drafted, I believe that the proposed changes to the current water control plan on the Missouri River are flawed. My concerns relate to the modified conservation plan and the four proposed flow management release changes at the Gavins Point dam. These options do not adequately account for the current state of scientific consensus, potential harm to landowners and local residents in the flood plain, and the possible economic impact on the regional and national economy if navigation is impeded or interrupted on the river. Accordingly, I believe that the modified conservation plan and the Gavins Point flow proposals should be withdrawn.

A recent report by the National Academy of Sciences clearly stated that no compelling data has been generated within the scientific community to link habitat restoration and species preservation with the water management proposals put forward by the Corps. I strongly support reasonable and effective efforts to restore and protect our nation's wildlife habitats and to preserve our endangered species. In the absence of a clear understanding of what the Corps proposals will actually achieve, I believe that a more modest approach using proven techniques would be more appropriate. I believe that the Corps should continue to work with local governments and private landowners to improve on the good work already accomplished in the Missouri River Mitigation Project and the new Missouri and Middle Mississippi Rivers Enhancement Project. Clear and compelling evidence exists that targeted mitigation projects can and do respond to our nation's important environmental goals. Moreover, mitigation projects have the added benefit of strong local support—a key ingredient for any successful, long-term effort to ensure that the Missouri river and its resources are available to all Americans.

I would like to make one additional point on the subject of mitigation programs. I support the Corps' policy of only working with willing sellers of private property to

altogether. Low water levels would also hinder electricity generation. Modifications to water flows on the Missouri impact other vital waterways, such as the Mississippi River, and may interrupt commerce.

None of these possible outcomes can be taken lightly. Short of maintaining the current water control plan, other proposals that have been discussed would be disastrous to these interests, without any measurable benefit for wildlife or habitat. A recently published National Academy of Sciences report reiterates that current decisions on the future management of the river must take into account the social and economic costs to all Missouri River stakeholders.

Again, I appreciate being given the opportunity to comment on the Revised Draft Environmental Impact Statement. It is my hope that the Corps' final environmental impact statement seeks to avoid the adverse results that are such a concern to Missourians. I am grateful for your attention to my views.

Sincerely,

IKE SKELTON
Member of Congress

IS:do

advance mitigation projects. I do not believe that condemnation proceedings should be used at any time for these efforts.

The Corps proposals for alternative water flows also fail to adequately address potential flooding dangers posed to citizens and businesses downstream in the Missouri River basin. My own review of the relevant documents and the considered views of many local officials and informed constituents in my district give me pause. I am concerned about the flood potential caused by a combination of sizable water releases from upstream dams with heavy rains along the navigable parts of the Missouri River. I do not believe that enough attention has been paid to the dangers such a combination could pose to the physical and economic well-being of my constituents. We have experienced severe flooding problems within the last decade that caused a great deal of hardship. I do not believe that we should jeopardize the flood control progress the Corps has made in the last half century with decisions made in haste.

Finally, I oppose the Corps proposals because of the harmful effect they are likely to have on navigation and commercial traffic on the Missouri River. Long-standing federal policy has produced a reliable navigational channel on the river upon which local businesses and a significant portion of the regional agricultural economy have come to rely upon. My analysis of the situation and that of many of my constituents leads me to the conclusion that continued commercial traffic on the river may be impractical or impossible through much of the year if the Corps proposals were implemented. I base this statement on a concern about both the low-flow impact on navigation that effectively eliminates a navigable channel and very large water flows that make barge traffic on the river impractical. A significant portion of the agricultural products on the region either flow on the river or have their transportation costs based upon competition with barge traffic. To eliminate commercial access to the river could potentially raise the prices of agricultural production—costs that would ultimately be borne by consumers. I believe that such an impact would be unacceptable.

I want to continue to work with the Corps to develop a reasonable and effective plan that meets the needs of local citizens and the business community while protecting our precious natural resources. I encourage you to make increased use of responsible mitigation efforts and to work with local communities to address their legitimate concerns about flood dangers and commercial navigation. Please feel free to contact me or Peter Kirkham of my staff at any time about this matter at 202-225-7041. Thank you for your time and attention to this matter.

Sincerely,

Sam Graves
Member of Congress

Supplement # 16

Add Notes

Passed House 59-9

State of South Dakota
SEVENTY-SEVENTH SESSION
LEGISLATIVE ASSEMBLY, 2002

930H0073 **HOUSE CONCURRENT RESOLUTION NO. 1002**

Introduced by: Representatives Kloucek, Bartling, Elliott, Hargens, Nachtigal, and Van Gerpen and Senators Putnam, Hutmacher, and Moore

A CONCURRENT RESOLUTION, Urging the United States Army Corps of Engineers to reconsider its Draft Implementation Plan for the Final Biological Opinion on Operation of the Missouri River Main Stem Reservoir System.

WHEREAS, the Draft Implementation Plan for the Final Biological Opinion on Operation of the Missouri River Main Stem Reservoir System will damage property, the economy, and the recreational uses of the Missouri River and surrounding communities in Nebraska and South Dakota located between Fort Randall Dam and Lewis and Clark Lake; and

WHEREAS, the Draft Implementation Plan proposes to release much higher than normal flows from Fort Randall Dam until mid-June, then to release very low flows for six weeks, and then very high flows again in the fall; and

WHEREAS, the extreme high flows (over 40,000 cubic feet per second at Gavins Point Dam) will cause flooding in the spring and fall, and the low flows (less than 28,000 cubic feet per second at Gavins Point Dam) will ruin the Missouri River for recreation purposes in the summer, essentially a devastating combination for this area; and

WHEREAS, the cause of the problem is sedimentation in the Missouri River deposited at the headwaters of Lewis and Clark Lake by the Niobrara River and Ponca Creek, with Lewis and Clark Lake silting in very rapidly. Sediment from these tributaries has created deltas in the Missouri River channel, causing flood damage when releases from Fort Randall Dam are in the magnitude proposed in the Draft Implementation Plan; and

WHEREAS, the Missouri River Restoration Act of 2000 recognizes the problems and requires a comprehensive study to preserve the Missouri River; and

WHEREAS, the Corps of Engineers acknowledges the flooding problems in this particular area but the Draft Implementation Plan ignores the issue:

NOW, THEREFORE, BE IT RESOLVED, by the House of Representatives of the Seventy- seventh Legislature of the State of South Dakota, the Senate concurring therein, that the United States Army Corps of Engineers be urged to address and solve the aforementioned problems before implementing the changes proposed in the Draft Implementation Plan.

Text: SF02051 Text: SF02053
Text: SF02000 - SF02099 Text: SF Index
Bills and Amendments: General Index Bill History: General Index

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Senate File 2052

Passed Senate 30-18

Partial Bill History

- Bill Introduced: S.J. 109
- Committee Report Issued: S.J. 149
- Passed Senate: S.J. 181
- Complete Bill History

Bill Text

PAG LIN

Section 1. NEW SECTION. 7D.16 MISSOURI RIVER MASTER MANUAL - MODIFICATIONS - COMMENTS.

1. DECLARATION. The state of Iowa opposes any changes in the Missouri river master manual of the United States army corps of engineers as it exists on January 1, 2001, that will change the navigation season from Sioux City, Iowa, to St. Louis, Missouri, that will imperil flood control, that will adversely affect the generation of electrical power, or that will adversely affect the drainage of farmland.

2. PETITION CONSIDERED. Upon receipt of a petition relating to a proposed change in the Missouri river master manual from a citizen of this state, the executive council shall receive and consider the petition. The executive council, upon its own motion, shall transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers, or shall submit the petition to the state department of agriculture and land stewardship, the state department of transportation, the state department of natural resources, or other state department or agency which may be interested in or affected by the petition or proposed change. The affected state department or agency shall consider the petition and transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers.

3. RECORD MAINTAINED. The executive council or state department or agency, which received and considered the petition, shall retain a copy of the petition and any comment made concerning the proposed change to the Missouri river master manual. The copy of the petition and any comment shall be filed in the office of the Iowa secretary of state and maintained as a permanent record for public review.

4. ANNUAL REPORT. The Iowa secretary of state shall review annually the petitions and comments received relating to proposed changes in the Missouri river master manual of the United States army corps of engineers and prepare a summary report for the executive council. The summary report shall be submitted to the executive council not later than March 1 for petitions and comments received during the preceding calendar year.

EXPLANATION

This bill provides that the state of Iowa opposes any changes in the Missouri river master manual of the United States army corps of engineers as it exists on January 1, 2001, that will change the navigation season from Sioux City, Iowa, to St. Louis, Missouri, that will imperil flood control, that will adversely affect the generation of electrical power, or that will adversely affect the drainage of farmland.

The bill provides that upon receipt of a petition relating to a proposed change in the Missouri river master manual from a citizen of this state, the executive council shall receive and consider the petition. The executive council shall transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers, or shall submit the petition to the state department of agriculture and land stewardship, the state department of transportation, the state department of natural resources, or other state department or agency which may be interested in or affected by the petition or proposed change. The affected state department or agency shall consider the petition and transmit the petition, with or without comment, to the commanding officer, northwestern division, United States army corps of engineers.

The executive council or the state department or agency, which received and considered the petition, shall retain a copy of the petition and any comment made concerning the proposed change to the Missouri river master manual. The copy of the petition and any comment shall be filed in the office of the Iowa secretary of state and maintained as a permanent record for public review.

Annually, the Iowa secretary of state shall review the petitions and comments received relating to the proposed changes in the Missouri river master manual of the United States army corps of engineers and prepare a summary report for the executive council. The summary report shall be submitted not later than March 1 for the petitions and comments received during the preceding calendar year.

LSB 6009XS 79
tj/cls/14.1

Text: SF02051 Text: SF02053
Text: SF02000 - SF02099 Text: SF Index
Bills and Amendments: General Index Bill History: General Index

FIRST REGULAR SESSION

MISSOURI

House Concurrent Resolution No. 6

91ST GENERAL ASSEMBLY

Passed 151-0 Hous
29-0 Senate
with 5 absent

1162L.021

whereas, the Federal Fish and Wildlife Service and the United States Army Corps of Engineers plan to continue the practice of increasing the flow of the Missouri River in the spring and reducing the flow of the Missouri River in the summer and fall of each year; and

Whereas, such practice results in an increase in river levels in the spring which creates a greater risk of flooding along the Missouri River and causes a decrease in river levels in late summer and fall resulting in a reduction in barge traffic on the Missouri and Mississippi Rivers; and

Whereas, these regulatory practices of the Federal Fish and Wildlife Service and the United States Army Corps of Engineers have a severe impact on any industry which uses the Missouri River to transport products and cause flooding in river communities and on farm land in the Missouri and lower Mississippi River basins; and

Whereas, the governors of the states of North Dakota, South Dakota, Wyoming and Montana have supported the practices of the Federal Fish and Wildlife Service and the United States Army Corps of Engineers because these regulatory practices benefit those states by allowing them to hold water in their federal reservoirs on the Missouri River during the summer; and

Whereas, the regulatory practices of the Federal Fish and Wildlife Service and the United States Army Corps of Engineers does not adequately address the concerns and needs of states in the lower Missouri and Mississippi River basins; and

Whereas, the Missouri departments of natural resources and transportation have opposed the

regulations of the Federal Fish and Wildlife Service and the United States Army Corps of Engineers and have taken actions to reduce the negative impacts of these regulatory practices on the state's river communities, lands and businesses:

Now, therefore, be it resolved that the members of the House of Representatives of the Ninety-first General Assembly, First Regular Session, with the Senate concurring therein, hereby urge the Governor to protest against the regulatory practice of the Federal Fish and Wildlife Service and United States Army Corps of Engineers to control the flow of the Missouri River in such a manner which negatively impacts the state of Missouri; and

Be it further resolved that the members of the General Assembly urge the Department of Natural Resources, the Department of Conservation and the Department of Transportation to continue their efforts to lessen the negative impacts of these regulatory practices on the state's river communities, lands and businesses; and

Be it further resolved that the Chief Clerk of the House of Representatives be instructed to prepare properly inscribed copies of this resolution for the Federal Fish and Wildlife Service, the United States Army Corps of Engineers, the Governor, the Director of the Department of Natural Resources, the Director of the Department of Conservation and the Director of the Department of Transportation.

Return to the Missouri House of Representatives

L0600003

Missouri River Keepers

Citizens For Keeping The Missouri River Viable For All Of The Congressionally Authorized Purposes Of River Management – Flood Control, Navigation, Fish and Wildlife, Irrigation, Water Power, Water Supply, Water Quality, and Recreation

Missouri River Management Alternatives Issues and Concerns

February 25, 2002

Missouri River Keepers
101 Pierce Street
Sioux City, Iowa 51101-1485

Supplement # 17

MISSOURI RIVER NAVIGATION – NED AND RED **30 Nov 2001**
Source: Missouri River Master Water Control Manual RDEIS – Released August 31, 2001

National Economic Development (NED) Analysis – Navigation, Commodities Moved During 1994

Missouri River NED navigation benefits are dependent on releases from the mainstem reservoirs and have been developed under the Principles and Guidelines for water resource studies. NED navigation values over a range of discharges are developed from estimates of transportation savings per ton and tonnage moved by barge adjusted by incremental operation and maintenance costs over the range of flows. The NED benefits do not include any national defense considerations. Based on commodities moved during 1994, for the Current Water Control Plan the annual NED Benefits are $6.9 million ($7 million). The details of this analysis can be found in the Corps Volume 6A-R: Economic Studies - Navigation Economics (Revised), Missouri River Master Water Control Manual Review and Update Study August 1998.

Water Compelled Rail Rate Impacts – Navigation, 1992 and 1995

Water compelled rail rate impacts are largely Regional Economic Development (RED) benefits which are distinct from NED benefits. National benefits measure efficiency gains to the nation. In general regional benefits are transfers between groups or regions. It is postulated that the mere existence of the Missouri River navigation channel reduces transportation costs by dampening rates charged by alternative modes, principally railroads. Estimates of the magnitude of water compelled benefits for the Missouri River have varied substantially.

Water compelled impacts were evaluated and the reports included in the August 1998 EIS. There were two evaluations, both developed by Tennessee Valley Authority (TVA). The earlier examination of water compelled rates were based on the 1992 Surface Transportation Board's Carload Waybill Sample (CWS). This analysis resulted in benefits of $203 million. A second analysis was based on 1995 CWS and resulted in benefits of $77.3.

TVA Navigation Impacts Analysis of Gavins Point Alternatives

TVA is in the process of analyzing the impacts of the four Gavin Point (GP) alternatives on the navigation industry. Completion of this analysis will be included in the Final EIS scheduled for release in May 2002. The low summer flows in each of the four GP alternatives would stress the navigation industry economically. Many navigators have stated that all the GP alternatives will force them out of business. Two of the plans, GP1521 and GP2021 would not provide minimum support to navigation for two months out of the total of the eight month normal navigation season.

Author

John R. LaRandeau
CENWD-CM-OC
402-697-2534

FORWARD

The Pick/Sloan Act established a dam system along the Missouri River to support flood control, navigation, irrigation, hydropower, water supply, water quality, recreation, fish and wildlife throughout the entire Missouri River Basin.

The Army Corps of Engineers is currently reviewing a number of options regarding the way the Missouri River's flow is managed. Under consideration are options that reduce summer flows and increase spring and fall flows from Gavin's Point Dam in Yankton, South Dakota. The Corps proposed changes are outlined in its Revised Draft Environmental Impact Statement (RDEIS).

While providing habitat for two species of birds and an artificial spawning cue for the pallid sturgeon are given as benefits of the proposed changes, the costs associated with these changes are tremendous and they are all borne by those who live downstream from Gavin's Point Dam. Other - 39

The spring rise concept with its corresponding low flow proposals would cause devastation for much of Middle America, including threatening dependable predictable water supplies for hydroelectric power generation, farming, irrigation, public drinking water supplies, recreation, and river transportation, increasing transportation costs for commodities and agricultural products throughout the Midwest due to a lack of water-compelled rates, loss of jobs dependent upon or connected with river economies, and jeopardizing existing flood protection. Other - 47

Siouxland communities are among the first that would be affected by any change in the river's flow. Because of the potential for drastic negative impacts on our community and its surrounding industries, The Missouri River Keepers, a citizen's group, requests that the U.S. Army Corps of Engineers continue to operate under the current water control plan until concerns regarding the proposed changes are addressed and the Corps Missouri River management plan equitably meets all of the congressionally authorized purposes of river management and addresses the concerns brought forth in this paper, *Missouri River Management Alternatives - Issues and Concerns.* We also fully endorse and adopt as our own: Other - 47

1. The attached report, *Review of Missouri River Management Alternatives And Development Of A Preferred Alternative*, prepared by the Missouri River Technical Committee of the Siouxland Chamber of Commerce, Sioux City, Iowa L0300021
2. The attached position paper from the City of Sioux City L0300020

AGRICULTURE AND FLOOD CONTROL CONCERNS

1. The CWCP offers the most benefits for flood control. Some of the most productive farmland in the world is located in floodplains. Increased spring flows increase the risk of flooding and drainage problems on nearly 1.4 million acres of farmland in Iowa, Nebraska, Kansas, and Missouri. FC 3 FC 8
2. Higher groundwater levels associated with an increased spring flow could limit timing for crop planting and production for farms near the Missouri River. And for farms along the Missouri River between Yankton and Ponca, the increased spring flows increase the likelihood of lateral bank erosion. GW 7 ErSd 18
3. Depriving farmers of the competitive transportation structure that includes barges, railroads, and trucks will directly impact their income. Increased transportation costs will mean reduced prices for farm output products and increased prices for farm input products. Nav 7
4. Market data shows that farmers receive higher prices for their output the closer they are to the river. The higher prices reflect lower transportation costs that result from competition between barge, truck, and rail transportation. Nav 7
5. Absent reduced transportation costs that result from competition, farmers will also be forced to pay higher prices for agriculture input products like fertilizer. Nav 7, 8
6. In today's difficult, yet extremely important, agriculture industry, farmers can ill-afford water management plans that dramatically increase the risk that is already inherent in farming. Other - 48
7. Ironically, the purpose of the Lewis and Clark Expedition nearly 200 years ago was to explore the area for commerce.

WATER QUALITY CONCERNS

1. With reduced summer flows, water quality for municipal drinking supplies will be reduced as there is less dilution effect dispersing the contaminants (run-off, discharges, etc) that go into the river on a regular basis. WQ 12
2. Changes in river water levels move groundwater and could also move nearby contaminants into community and private well fields. This could result in a loss of public drinking water supplies and create a danger to public health. GW 12 WS 11

ELECTRICITY SUPPLY AND COST CONCERNS

1. When determining the potential impact of low summer flows on electric generating plants along the Missouri River, the Army Corps of Engineers used 100-year averages. The problem with averages is that they minimize the impact of bad years. During "average" years, impacts can be minimized...but on year's that fall below "average", the impacts are dramatic and potentially devastating. MoPower 6

2. Decreased summer flows impact the amount of hydropower available from Missouri River dams. Municipalities that purchase power from the Western Area Power Administration (WAPA) could see prices increases 12-20% according to the Corps of Engineers figures. HPower 18

3. According to information from NPPD, Nebraska Public Power District, the ambient river temperatures will be critical in the summer. With the possible low flows in the GP alternatives, it is very conceivable that NPPD will have to shut down part or all of its generating capacity during hot periods so as not to exceed discharge permit criteria. MoPower 1

4. The total effect of the alternatives shows enormous energy losses for all alternatives when compared to the CWCP. The table and calculations are only for the month of July, but in reality, the alternatives propose low releases for a much longer period, so the detrimental effects shown in the RDEIS are greatly understated. HPower 17, MoPower 3

5. Electric generating facilities along the Missouri River utilize water from the river as a coolant during the generating process. If river levels are too low and corresponding river temperatures are too high, a generating plant is unable to use river water and is forced to shut down. Lower summer flows along the Missouri River jeopardizes electric power supply during the months when customers' demand for electricity is at its highest. MoPower 1

6. The energy shortages in California last year show the tremendous cost to society and economic disruption when electrical energy is in short supply. The alternative plans proposed by the Corps endanger the well being of the downstream basin by putting tremendous generating capacity at risk. MoPower 3

7. Proponents of increased spring and fall flows will cite an increase in the value electric power production from Missouri River dams. While on the surface the overall national increase may look appealing, it comes at great regional expense...especially to the 259 municipalities, rural electric cooperatives, federal and state agencies, irrigation districts and public utility districts that purchase power from WAPA. Other - 40

8. Electric generation is only one of many industries that utilize Missouri River water in their production process. Industries that utilize river water will experience increased pumping costs that will correlate to the reduced river levels during the summer months. WS 11

NAVIGATION AND TRANSPORTATION CONCERNS

1. All the proposed alternatives offer minimal net changes except to navigation and power generation. An example of the minimal change: only 164 acres of habitat produced by GP2021, the most extreme of the changes (Only 40 acres produced below Gavin's Point dam). On the other hand, the potential disruption to thermal power generation and navigation far exceeds the minimal benefits of the alternatives. Other 49

2. Commissioned by the Corps of Engineers, the Tennessee Valley Authority (TVA) prepared a study: "Rail Rates and the Availability of Barge Transportation: The Missouri River Region", February 1997. The study reports that the effect of water-compelled freight rates amounts to over $200 million dollars per year. Nav 6

3. The TVA clearly states in several places throughout its report that navigation offers freight rate benefits above and beyond the tonnage that is moving on the river due to the economy of water compelled rates. The benefits are distributed widely to a variety of shippers and materials throughout the basin area. *"Commercial navigation on the Missouri River confers a number of benefits to a variety of constituencies. Some of these benefits represent additions to aggregate economic welfare which would be impossible in the absence of navigation"* TVA study, Feb. 1997. Nav 6, 8

4. According to the TVA rate study, water-compelled rate savings during the study amounted to $45 million for corn shipments, $56 million for wheat shipments, $35 million for soybeans, and $12 million for fertilizer shipments. Total: $148 million for these 4 items alone. These numbers are a far cry from the $7 million in supposed benefits in the RDEIS. Nav 8, 9

5. While the May 1998 update of the TVA report dramatically reduced the benefit cited in the February 1997 report, the benefit was still $80 million. At the same time the May 1998 report reiterated: "*As with the original estimates, the updated results reflect a measurable relationship between available navigation and railroad rates.*" (pg A5) The report also stated: "*What remains clear, however, is the irrefutable conclusion that available commercial navigation on the Missouri River can provide necessary competition to rail carriage under a wide array of historically observed economic conditions.*" (pg A11). Nav 8

6. The RDEIS claims only $7 million in benefit arriving at that number by measuring the rate differential between rail and barge shipments using current freight rates in the river corridor. This measuring methodology is flawed because it is measuring rail rates that are already "water-compelled" which would make differences small; the affect of river navigation is already in place. Nav 9

7. Additionally, the navigation benefits are based on the cost reduction the navigation industry provides to the nation. The effect of the loss of navigation will be felt 99% on a regional basis. With the loss of navigation, it is all but guaranteed that the cost of alternative transportation will increase dramatically. That effect will be felt locally and regionally, not nationwide. Competitive alternative sources of transportation are vital to the economic vitality of the Missouri River Basin. Nav 8

8. A split navigation season, such as GP2021, will kill navigation. On paper, the split season might look feasible with adequate water levels in the spring and again in the fall. In reality, the economics of two season openings and closings per year will make navigation a logistic nightmare and economically unfeasible. Nav 12

9. The collateral impact and cost to society due to the loss of navigation on the Missouri will be enormous. Using the Corps numbers of 1.5 million tons of product shipped by river in 1994, the resulting dislocation of those tons could result in an additional 60,000 trucks or 15,000 railcars on our transportation infrastructure. It is important to realize the negative fuel efficiency, safety, infrastructure and environmental impacts that will result from shifting transportation from barges to trucks and railcars. Nav 23

10. Water based freight on a ton-mile basis is by far the most efficient form of transportation. All of the alternatives will increase fuel consumption per ton-mile increasing our dependence on fossil fuels and increasing pollution levels. Nav 23

11. Much of the public relations discussion has been centered on $7 million for navigation vs. $85 million recreation. This argument is not truthful. Under the proposed alternatives, in particular, the so-called split navigation season, navigation will be completely lost as it will be unfeasible economically. On the flip side of those alternatives, the Corps numbers show an increase in recreation of only $4 million in the best case. So the argument is a loss of $7 million navigation in exchange for $4 million recreation. (According to the TVA study of February 1997, commissioned by the Corps, navigation's impact is far greater than $7 million – actually between $80 and $203 million; so the GP alternatives trade $4 million in recreation benefit for $80 million or more in lost benefits). Other - 42

RECREATION CONCERNS

1. There are no significant benefits to any of the proposed alternatives except for the recreation industry above the Gavin's Point dam. The upriver recreation is already in place. Maintaining the CWCP will preserve that; the alternatives could increase the recreation, but only at a great disruption to more people and larger regional economies in the downstream states. Other - 41

2. Increases in recreational usage of the Missouri River all occur above Gavin's Point Dam. These increases come solely at the expense of downstream recreational river users. One-third of the population along the Missouri River enjoys benefits to the detriment of the two-thirds of the population downstream. Other - 41

3. Corps of Engineer tests to simulate the proposed reduction in flows have shown that many of our boat ramps and marinas will be left high and dry during the peak usage months. Other - 43

4. Proponents of reduced summer flows in the Missouri River cite astronomical numbers for the recreational benefits of these plans…up to nearly $89 million! What they do not tell us is that under the current river flow plan recreational benefits are estimated to be approximately $85 million, so the net increase is $4 million dollars (or 5%). That $4 million increase is all upstream, where they already enjoy the tremendous recreational and tourism benefits of the Missouri River dam system. Downstream river users do not reap additional recreational benefits. Our ability to use the river for recreational purposes actually decreases dramatically! Other - 44

5. Downstream recreation opportunities will be decreased with greatly reduced water access. Marinas and boat ramps will be high and dry. Oxbow lakes, chutes and current downstream wetlands will be left above the river level and will dry out. Lower summer flow will also mean increased sandbars and shallower water depth making recreational boating next to impossible. Rec 4, 6

6. River velocity is primarily dependent on river gradient, the change in elevation as the river travels. Proponents of the GP plans claim that under the GP plans the river will be slow and gently moving, suitable for canoes and kayaks, etc. This is simply not true. The river velocity will remain fast at any of the flow amounts the Corps is proposing. Hydro - 35

COST AND BENEFIT ALLOCATION CONCERNS

1. It appears that all of the alternatives provide benefits to the upstream reservoirs with little or no benefits below Gavin's Point Dam. There are no benefits to downstream stakeholders. This is an unfair distribution, particularly in light of population density and economic effects of the alternatives. Other - 15

2. Upstream states that would control additional acre-feet of water are the prime beneficiaries of the proposed changes. Increased recreation and the ability to sell additional summer water supplies to other states or to Canada stand to make them huge winners at the enormous expense of downstream states. Other - 45

UNDEFINED ADAPTIVE MANAGEMENT CONCERNS

1. The GP plans, while outlined as 4 separate plans, in actuality are one plan and are too undefined for practical use. The Corps own language reserves the right to make changes upward or downward "*if monitoring and data analysis indicate this measure is necessary...*" Whose analysis of the data? And what are the criteria and objectives that will allow changes? Who sets those objectives and goals? There is too much uncertainty in this process. Under the fluid GP plans, it is impossible for downstream stakeholders to make long term plans of any kind relating to use of the river. Additionally, it could be argued that the GP plans circumvent the National Environmental Policies Act process. Other - 22 Legal 10

2. The GP plans will cause complete disruption of downstream river uses and remove the ability of stakeholders to make long-term plans and river based investments. If downstream stakeholders – citizens, cities, shippers, power companies, or water supply systems don't know what the long term river flow expectations are, economic investment in river related functions will either be unreasonably expensive by building for the worst case, or will simply not be made (to the detriment of downstream economies). Other - 25

SPECIES IMPACT CONCERNS

1. The U.S. Fish and Wildlife Service Draft Biological Opinion states that the least tern population has grown to the point that it is actually above the endangered species threshold number. If the recovery goal for this species has been met, why propose such drastic and costly changes to the Missouri River's flow to create habitat for this species? EnSp 28

2. Increasing spring and fall flows and reducing summer flows creates, at best, 164 acres of tern and plover habitat (only 40 acres of that being below Gavin's Point Dam) along 2,431 miles of the Missouri River. Purchasing a field along the river and creating a suitable habitat for these two species could achieve the same results. EnSp 46

3. Manmade alternatives to create suitable habitat for the tern and plover have been overlooked and not fairly considered. These alternatives have the potential to increase habitat without devastating the socio-economic structure created by the current water control plan. EnSp 2

4. The three-year cycle of unbalancing of the reservoirs sounds like a workable plan. The concept of flooding the lakeshore then letting the shoreline vegetation grow for two years for shore bird habitat appears to make sense. Considering the cross section of the lakes vs. the channelized river below the dams, the 3 foot change in lake elevations will probably generate substantially more bird habitat than the 6 or 7 foot change the GP plans will develop for the river banks below Gavin's Point dam. EnSp 20,22

5. Below the Platte River mouth, the river already has a substantial seasonal change in water flow. (spring rise, summer low). Obviously above the dam system there are also seasonal flow fluctuations. The main impact of the split season will be in the 200-mile stretch between Gavin's Point and Platte River. If the river contains 2,000+ miles of potential sturgeon habitat and much of that already has a natural flow fluctuation, why will 200 additional miles in the Sioux City area make any difference? EnSp 5,29

6. Utilizing the Missouri River's tributary rivers to create habitat and spawning cues has not been given adequate study or consideration. EnSp 55,28

7. Tests on endocrine levels of pallid sturgeon taken from the Missouri River indicate that a hormonal imbalance may actually be what is preventing the species from thriving after it spawns. EnSp 28

8. The pallid sturgeon typically spawns in areas with a substrate of gravel, cobble or rock. This substrate is not common along the area of the Missouri River that will be affected by the artificial spring rise that is being proposed. EnSp 58,28

9. Even though the pallid sturgeon is listed as endangered, the upstream states continue to stock the reservoirs with predator game fish that feed on small fish such as sturgeon fry. EnSp 28 Fish 14

MASTERMANUAL NWD02 L0600004

From: Andrew Riester [Andrew@waterways.org]
Sent: Thursday, February 28, 2002 3:26 PM
To: 'Mastermanual@usace.army.mil'
Subject: National Waterways Conference comments on RDEIS

NWC Mo River DEIS comments.do

Attached please find the comments of the National Waterways Conference, Inc., regarding the Revised Draft Environmental Impact Statement on the Missouri River management.

<<NWC Mo River RDEIS comments.doc>>

Sincerely yours,
Andrew Riester

Andrew Riester
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10. Upstream states allow snagging of catfish and shovelnose sturgeon in the river. The pallid sturgeon occupies the same environment as the shovelnose. The only certain way to tell a shovelnose from a pallid is a genetic test. Probably not many river fishermen (snaggers) will go to that effort. [EnSp 28, Fish 14]

11. The Army Corps of Engineers and the United States Fish and Wildlife Service acknowledge that there is no data to support a definition of a spawning cue that would successfully result in sturgeon spawning on the lower Missouri River. With this being the case, the proposed artificial spring rise is merely a costly and risky scientific experiment. [EnSp 5]

12. The National Academy of Science (NAS) report released on January 9, calls for a moratorium on revisions to the Missouri River Master Manual. *"A moratorium on current efforts to revise the Master Manual should be enacted."* (NAS report, page 116, Recommendations.) [Other - 46]

MISSISSIPPI IMPACT CONCERNS

1. According to the RDEIS (page 3-16) at St Louis, 47% of the Mississippi flow comes from the Missouri River. Significant changes in the Missouri Master Manual will certainly cause major changes to the Mississippi. The impact of those changes has not been properly considered and has been greatly understated in the RDEIS. [Miss 2, 4]

National Waterways Conference, Inc.
Final Comments
Missouri River Master Manual Public Comment Period
Revised Draft Environmental Impact Statement
February 28, 2002

The National Waterways Conference, Inc., an organization of farming, mining, manufacturing, refining, shipping and other economic sectors which rely on ports, waterway transportation and flood protection, believes that the Current Water Control Plan is the only feasible management option of the six proposed alternatives for the Missouri River. [Other - 57]

With the exception of the Current Water Control Plan, all of the alternatives detailed in the 2001 Revised Draft Environmental Impact Statement (RDEIS) would result in more water being stored in the Missouri River reservoirs. Such a denial of water to the lower Missouri basin would have a deleterious effect on navigation on not only the Missouri River, but also on the middle Mississippi River. [Nav 12] [Miss 4]

The Current Water Control Plan contains incremental mechanisms that reduce reservoir releases in periods of low water, typically triggered by several years of drought. The navigation season would be shortened when system storage is below 41 million acre-feet on July 1. At present, 57.1 million acre-feet is the base level for the Annual Flood Control and Multiple Use zone; however, the five new plans would result in water level reductions and season shortening if storage is below 59 million acre-feet on July 1—requiring almost two million *more* acre-feet to be held in storage than the Annual Flood Control and Multiple Use baseline! [Hydro-17]

The Modified Conservation Plan would reduce the navigation season by 27 days, cutting navigation support even before the reservoirs drop to drought pool. Historical data indicate that, in six of the past 100 years, the navigation season would have been shortened despite the fact that a "drought period" did not exist. The same plan would decrease flow support to the Mississippi River in 40 of the past 100 years. In three-quarters of those years (30 of 40), those decreased flows correspond with low water on the Mississippi. Only the Current Water Control Plan serves to improve flow reliability on the middle Mississippi (between St. Louis and Cairo), which relies on the Missouri River for 2/3rds of its flow in dry years. [Hydro-18] [Miss 19]

In 1999, the Upper Mississippi and Illinois River system moved more than 151 million tons of commodities. Missouri River management changes detrimental to the Mississippi's transportation role should be avoided. Likewise, the effect on transportation costs within the Missouri basin should also be considered. The availability of cost-effective water transportation forces lower rail and truck rates as well. Reductions in the availability of water transportation will result in higher transportation costs, to the detriment of both the producer and the consumer. [Other - 38] [Nav 7, 8]

The National Waterways Conference, Inc., urges that the Current Water Control Plan be maintained as the guideline for Missouri River management. # # # [Other - 37]

National Waterways Conference, Inc.
1130 17th Street, NW
Washington, DC 20036
(202) 296-4415

L0600005

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January 30, 2002

U.S. Army Corps of Engineers
Northwestern Division
Missouri River Master Manual RDEIS
12565 West Central Road
Omaha NE 68144-3869

BY US MAIL, FAX (402) 697-2504, and
E-MAIL: mastermanual@usace.army.mil

RE: Missouri River Master Manual RDEIS

To the U.S. Army Corps of Engineers Review Team:

This office represents numerous Missouri River resource users between Sioux City, Iowa, and Omaha, Nebraska. For over two decades we have specialized in environmental law and particularly the National Environmental Policy Act (NEPA). We have attended the U.S. Army Corps of Engineers Master Manual scoping meetings and appreciate the opportunity to comment on the proposed changes to the management plans as set forth in the Missouri River Master Manual RDEIS.

Although the U.S. Army Corps of Engineers, in violation of NEPA, has not specified a "preferred alternative" in its Missouri River Master Manual RDEIS, it is our understanding that the Corps, in conjunction with the U.S. Fish & Wildlife Service, is proposing to create a "spring rise" in the Missouri River to cleanse vegetation from existing sandbars in the Yankton to Ponca Stretch to provide nesting habitat for the Piping Plovers and the Interior Least Terns and purportedly to trigger the spawning urge in the Pallid Sturgeon. All three species are listed as "threatened or endangered" under the ESA. The proposed plan would change the water levels of the Missouri River beginning on or about the first of July each year to decrease the mainstem flow to 21,000 cfs from Gavins Point Dam. This is a highly unusual concept since it defeats the very purpose of the dams (flood control) and is contrary to the intent and purpose of the concepts of the Missouri River long-term management plan. [Legal 11]

A cautious review of this proposed approach leads one to believe that the real intention of this proposed new management plan is to provide increased recreational opportunities in Montana, North Dakota and South Dakota at the expense of the downriver environment, the downriver economics, the downriver recreation users, and in direct contradiction to the purpose of the previous long-term Missouri River management plans. [Other - 15]

The latest scientific technologies indicate that the best method to achieve the goals of providing nesting habitat for Piping Plovers and Interior Least Terns and to trigger the spawning urge

of the Pallid Sturgeon would be to remove all the upriver dams. Naturally, that result would be disastrous since not only would it flood the downriver areas, but the long-term overall damage would be far greater than any benefit to these three threatened or endangered species. Finally, removal of all the upriver dams would defeat the true purpose of the Corps' new approach which is to offer increased recreational activities to the limited number of resource users upriver. Although removal of all the upriver dams would be the best purely environmental alternative, it does not meet anyone else's goals or needs. It does not appear that the true goal of the U.S. Army Corps of Engineers is to protect any threatened or endangered species, but rather to protect a few rich people who have built their large homes in inappropriate places in the upriver reservoir areas.

Other - 53

Maintaining the Missouri River with its present flows is the best intellectual, environmental and economic approach and is also the most logical approach. Maintaining the Missouri River with its present flows is also the only sound alternative.

Other - 6

Any alternative other than the no change alternative (CWCP) makes no sense. For example, dropping water levels around the first of July each year to 21,000 cfs would destroy the economic opportunities downriver, such as elimination of barge traffic from St. Louis to Sioux City, decreasing and/or eliminating the recreational opportunities for the public in general, damaging the productivity of the farmland which has been developed along the Missouri River under the present management plan, as well as potentially destroying the Pallid Sturgeon. Present studies concerning the Pallid Sturgeon are not conclusive and the changes proposed by the Corps may have the adverse effect of totally destroying the Pallid Sturgeon since the location and population dynamics are not fully documented and since the spawning requirements have not been sufficiently scientifically evaluated to justify a major River modification.

Nav 12
Rec 10
EnSp 5

The real purpose for this major River modification is clear: it is to satisfy the recreation needs of a few politically-connected people in Montana, North Dakota, and South Dakota. Environmentally, there is not sufficient scientific documentation nor sufficient studies concerning the Pallid Sturgeon population and spawning dynamics at a 21,000 cfs release to justify any major changes at this time. What really needs to be done is a definitive study on the Pallid Sturgeon and various modifications of the present habitat which would not require a major River modification.

Other - 6

EnSp 2,5

It is interesting to note that the timing of the proposed flood stages for spawning vis-a-vis the proposed summer dropping of the River level would cause the fry Pallid Sturgeon to be placed in the River without sufficient microhabitat to protect them. The only ones benefitting from this proposed technique would be members of a small special-interest group of resource users and landowners in Montana, North Dakota and South Dakota. Once again, the purpose of this proposed management plan seems clear to the general public. It is time for the U.S. Army Corps of Engineers to quit hiding behind the Endangered Species Act and the U.S. Fish & Wildlife Service; it is time for the Corps to manage the mainstem of the Missouri River without political manipulation.

Other - 6

It is clear that the upriver states favor the proposed changes since these changes would benefit the recreation industries as well as increase the land values of the few special interest property owners. The upriver recreation industry as well as the upriver homeowners were well aware of the

mainstem management plan prior to any investment on their part. To change the entire Missouri River environment now to please a small special-interest group to the detriment of downriver individuals, businesses and economics is inappropriate and unjustified.

The resulting destruction of the barge transportation downriver would be a huge economic disaster that is not apparent upon first review. I have managed farm property for over 40 years along the Missouri River and can assure you that increased truck and rail transportation costs would have a disastrous effect on the farming economics for the downriver states. Crop revenue economics are fairly distributed between the people of Nebraska, Iowa, Missouri, and the other crop-raising states along the Missouri River as compared with the rest of the country when the ability to transport crops consists of various methods of transportation, including barge transportation. If that opportunity is eliminated, truck and rail transportation costs will increase, having a negative effect on the overall economics of the downriver states, placing them in an undesirable economic position. The Corps' proposed modification to the mainstem flow of the Missouri River to benefit a few upriver landowners is not justified. Additionally, there are downriver secondary and cumulative effects which must be considered, such as economic impacts on non-farm businesses, for example truck dealerships, restaurants, recreation and other service-oriented businesses and other discretionary options.

Nav 6, 7

This plan, as presently proposed, is intended to create new sandbar reaches for the nesting shorebirds. A closer analysis indicates that there may be total destruction of the sandbars if the flooding proceeds as proposed; the proposed process has not been adequately studied. Further, even as presently proposed, the insignificant amount of additional sandbar creation most likely will have an insignificant effect on the population dynamics of the Piping Plovers and the Interior Least Terns. The creation of permanently protected nesting areas would be a far more economically and environmentally acceptable alternative than the presently proposed approach. However, once again the approach that makes the most sense is not the approach that satisfies the upriver landowners' need for water at the docks at their large vacation summer homes and recreation businesses. The true intent of this mainstem management change is clear and it is not for the protection of ESA species.

ErSd 26
EnSp 5
Other - 6

It is interesting to note that under the proposed changes, as the recreation values to the upriver states increase those same recreation values will be drastically reduced and perhaps even eliminated for the downriver states, since a 21,000 cfs release during the height of the summer recreation season will cause the downriver launch ramps and marinas to be left with insufficient water to operate. Further, any attempted water-related uses by downriver resource users could cause a health and safety disaster. The benefit to a few special interest landowners in the upriver states certainly does not justify the downriver environmental, economic, and recreational losses.

Rec 4, 6, 10
Other - 6

It is apparent that there has been insufficient study of the nesting habits of the Piping Plovers and the Interior Least Terns in the specific location of the proposed environmental changes and the existing studies are certainly inconclusive concerning the proposed changes of the spawning protocol for the Pallid Sturgeon. The economic impacts of the proposed management change for the mainstem of the Missouri River have been inadequately addressed since the negative downriver secondary and cumulative effects appear to have an exponential consequence. When considering

EnSp 4
Other - 54

the primary, secondary, and cumulative effects of the proposed changes it is clear that the only viable alternative is the no change alternative (CWCP). The National Environmental Policy Act requires that an Environmental Impact Statement must be based on reasonable grounds. It is appropriate to go behind the decision-making in an Environmental Impact Statement when the decision foundations are not based upon reasonable assumptions. This analysis is clearly delineated in *The Foundation for North American Wild Sheep vs. U.S. Department of Agriculture* (9th Cir.). I know; I litigated that case.

Legal 12

It is a sad commentary on the U.S. Army Corps of Engineers when they attempt to do the bidding of the rich, special interest groups at the cost of our nation's farming and economic needs. To increase the property values of a few special-interest landowners in the upper reaches of the Missouri River certainly does not justify the destruction of thousands of acres of downriver farms as well as the economically-dependent businesses on the entire rest of the Missouri River. A closer evaluation of the secondary and cumulative effects on the Mississippi River as a result of this proposed mainstem flow change to the Missouri River do not seem to be adequately addressed which would certainly cause the Environmental Impact Statement to be set aside upon a closer review by the judicial branch of the United States Government. It is time for the U.S. Army Corps of Engineers to stand up to the political rhetoric of the rich, upriver landowners who want to keep the water all summer long for their recreation uses at the cost of the economic health of the United States. For the U.S. Army Corps of Engineers to do anything less most likely would result in nothing more than years of litigation which would benefit no one.

Miss 4
Other - 6

On January 29, 2002, in his State of the Union address, the President of the United States, President George W. Bush, put it best:

> "When America works, America prospers, so my economic security plan can be summed up in one word: jobs."

Other - 6

The way is clear for President Bush, the way is clear for the general public, and the way should be clear for the U.S. Army Corps of Engineers. The proposed "adaptive management" or "spring rise" alternatives would reduce jobs. It can't be much clearer. Please read President George W. Bush's lips. Don't destroy jobs so that a few special-interest landowners can enjoy the benefits of water at their summer recreation homes at the cost of jobs downriver.

The no change alternative (CWCP) keeps jobs, protects downriver farmlands, protects downriver recreation activities, protects downriver economic opportunities, and decreases the possibility that thousands of acres of job-producing farmlands downriver would be destroyed.

Call it by any name ("spring rise", "adaptive management", "pork barrel for upriver landowners" or anything else), the proposed "spring rise" and the "summer drought" alternatives would be destructive for America; they are bad alternatives. America supports species habitat restoration which is based on sound scientific studies and planning, and which also should include good sense and sound economic approaches. The creation of permanently-protected nesting areas would be far more economically and environmentally acceptable than flooding thousands of acres of farmlands. Developing permanently-controlled Pallid Sturgeon breeding areas where the Pallid Sturgeon presently exist is a far better environmental and economic approach than choosing a

EnSp 5,3

proposed management alternative that would destroy thousands of acres of farmlands, thousands of jobs, and be destructive to America's economy. Further scientific study needs to be done to arrive at an alternative management plan which will accomplish protection of the threatened and endangered species and which will not destroy jobs, farmland, and the downriver human environment for the sake of a few special-interest homeowners along the reservoirs in Montana, North Dakota and South Dakota.

EnSp 3

Please consider this communication a formal written NEPA response to be included in any related DEIS/EIS, including, but not limited to, the Missouri River Master Manual. This letter incorporates by reference any and all comments, past and future, concerning the management of the Missouri River, its dams and tributaries. Please keep this office informed of any meetings, reports, or draft documents regarding the above. Thank you for the opportunity to comment on the proposed flow changes of the Missouri River.

Other - 55

Very truly yours,

PATRICK J. MARLEY

cc: Honorable Tom Harkin, U.S. Senate
Honorable Ralph Klemme, U.S. Assembly
Selected Individuals

L0600006

Friends of the Nescopeck

"Working to restore the Nescopeck Creek Watershed"
PO Box 367
Sybertsville PA 18251-0367

Rose Hargrave
Master Manual Project Leader
U.S. Army Corps of Engineers
Northwestern Division
12565 W. Center Road
Omaha, NE 68144-3869

21 Feb. 2002

Dear Ms. Hargrave:

The Friends of the Nescopeck, a grassroots conservation group in northeastern Pennsylvania, urges the Corps to immediately begin managing the Missouri River through a science-based approach incorporating all of the recommendations listed in the U.S. Fish and Wildlife Service's biological opinion. [Other - 57]

The Missouri River of today is a mere shadow of the great waterway that greeted Lewis and Clark duriign their cross-country expedition of 1803. Today, six dams impound the 2,341-mile-long river. To add to this insult on what was once a majestic, free-flowing river, more than a third of the Missouri has been channelized and pinched in between levees. Only one-third of the river remains in a natural state.

Human demands on the river have caused the decline and in some cases irreversible loss of two thirds of the river's fish species, including the endangered pallid sturgeon. This species depends on changes in flow as cues to trigger its spawning and sturgeon need shallow, slow-moving or even still backwaters in order to spawn. These riverine conditions are now extremely scarce throughout the river basin. The Missouri River Valley has also seen a marked decline of most of the 60 shorebird species that depend on the river and its sandbars and flood plain. Of those bird species, the endangered interior least tern and the threatened piping plover are suffering due to a lack of sandbars and sandy areas in floodplains to nest. The Corps of Engineers' new Master Manual for operation of the Missouri River must address these problems comprehensively. [EnSp 3]

In response to this ecological crisis, we urge the Corps of Engineers to take the following steps:

1. Adopt the Flexible Flow Alternative (GP 2021) recommended by the November 2000 U.S. Fish and Wildlife Service biological opinion and the January 2002 National Academy of Science study regarding the management of the Missouri. In addition to adoption of this alternative, serious work also must be done on habitat restoration. The Water Resources Development Act has authorized the acquisition of up to 166,750 acres for habitat restoration (since 1986, 25,400 acres have been acquired of which only 9,600 acres have been restored to a natural, fluid state). [Other - 56, WRH 6]

2. Reconnect the river with the floodplain. This would create shallow, backwater habitat for spawning fish and allow sedimentation to deposit to create nesting habitat for shorebirds. [WRH 6]

3. A comprehensive independent economic analysis needs to be done to determine if the cost of maintaining a navigation channel outweigh the benefits of revenues derived from navigation. Of the grain produced in the valley, 99.7 percent is not transported by barge. [Nav 6, 7, 31]

Our Missouri River is a part of our nation's natural heritage. The Corps of Engineers has the responsibility to the American public to manage this resource utilizing the best available science.

L0600007

NORTHEASTERN SOUTH DAKOTA WALLEYE CLUB

1308 S. 6TH ST – ABERDEEN, SOUTH DAKOTA 57401

February 25, 2002

U.S. Army Corps of Engineers Northwestern Div.
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE. 68144-3869

To the Corps of Engineers:

The Northeastern South Dakota Walleye Club organized and incorporated in 1995 with a local group of sports minded individuals that had many concerns about the future of sport fishing and related issues. Since that time we have maintained an annual membership of over 390 people. The majority of these individuals have repeatedly expressed their concerns with various sports related matters.

One of those issues is both the present and future management of the Missouri River system in North and South Dakota. We are all aware of the the major reasons that the reservoir system was originally established, but decades of time have passed and it is vary apparent that the vast uses of the system have changed to serve the public in more ways then anyone envisioned at the onset of this project. [Other - 58]

We also understand the major importance of the hydro electric power generated from the dams along the Missouri River, and although we recognize the down stream water needs for barge traffic, we do not necessarily agree with the level of importance this has taken in recent years. We see the current and future use of these reservoirs as vital recreational and sports related bodies of water that serve the people of the Upper Midwest much greater then ever expected.

The recreation and wildlife habitat in the lower and upper basins have become a primary concern for those of use in this region. Therefore, our organization respectfully requests that you support and adopt option GP 2021 as proposed to you and supported by the State of South Dakota.

Sincerely,

Glenn Imberi
Public Relations Director
NESDWC

MASTERMANUAL NWD02 L0600008

From: SIDNEYPIE@aol.com
Sent: Monday, February 11, 2002 11:53
To: SCj@siouxcityjournal.com
Cc: Mastermanual
Subject: Letter to the editor

You concluded your "No benefit to changing river flows" editorial comment with "To justify changing water flows on the basis of environmental benefit is simply smoke and mirrors." The National Academy of Sciences released a report on January 9, 2002 declaring that "Restoring some portion of the Missouri River's pre-regulation physical process is the key to ecological improvement." Changes in the flow of the river are mandated for compliance with Endangered Species Act and the National Environmental Policy Act. You completely ignored the fact that current management practices devastate the economies of the upper basin states during even moderately dry years. The upper basin states lost hundreds of thousands of acres of prime farm ground when the dams were built. Iowa, Nebraska, and Missouri put 500,000 acres on the tax rolls. Our $85 million recreation industry should not be sacrificed for the sake of a $6.9 million barge industry. It is a waste of mitigation dollars to rebuild chutes along the river until the problem of riverbed degradation has been solved. The wiping out of South Soux City's sewer line to Sioux City is just the latest example of the harmful effects of degradation. The McCook Lake community spends over $40,000 a year to pump water from the Misssouri River to maintain a suitable water level because the of the lake is above the surface of the river. Test holes drilled along the bank of the river reveal that there is over a hundred feet of sand and silt under the riverbed. Gary Shaner of the River City Anglers told me there are holes 40 feet deep off the ends of some of the wingdams. Unless remedial action to stop degradation gets started, the sides of the river will fall into the canyon below. That is the legacy you will leave for our grandchildren. Sidney Wagner, Jr.-Regional Governor for the Izaak Walton League of America. (Sidney Wagner, Jr. 367 Lakeshore Dr McCook Lake, SD 57049-4002 Phone 232-4511)

Other 7,14,70 ErSd 17

3/9/2002

MASTERMANUAL NWD02 L0600009

From: Judith Holyoke Schoyer Rodd [roddj@hotmail.com]
Sent: Saturday, February 23, 2002 10:04 PM
To: Mastermanual
Subject: (ATTN: Rose Hargrave, Project Leader on Missouri

Dear Ms. Hargrave:

The Missouri River today is vastly different from the corridor that Lewis and Clark used in their Voyage of Discovery starting in 1803. The 2,341-mile long river drains one sixth of the United States from its headwaters in southwestern Montana to the Missouri's confluence with the Mississippi near St. Louis. Six dams have impounded one third of the river,
another one third of the river has been channelized and leveed, and one third remains in its natural state.

Human demands on the river have caused the decline and in some cases irreversible loss of two thirds of the river's fish species, including the endangered pallid sturgeon. The pallid sturgeon need flow change cues to trigger the desire to spawn and they need shallow, slow moving or still backwaters in order to spawn, which are scarce throughout the River Basin. The Missouri River Valley has also seen a marked decline of most of the 60 shorebird species that depend on the river. Of those bird species, the endangered interior least tern and the threatened piping plover are suffering due to a lack of sandbars and sandy areas in floodplains to nest.
The Army Corps of Engineers' new Master Manual for operation of the Missouri River must address these problems comprehensively.

EnSp 3

In response to this ecological crisis, the Army Corps of Engineers must do the following:

1. Adopt the Flexible Flow Alternative (GP 2021) recommended by the November 2000 U.S. Fish and Wildlife Biological Opinion and the January 2002 National Academy of Science study regarding the management of the Missouri River. In addition to adoption of this alternative, serious work also must be done on habitat restoration. The Water Resources Development Act has authorized the acquisition of up to 166,750 acres for habitat restoration (since 1986, 25,400 acres have been acquired of which only 9,600 acres have been restored).

Other - 56 WRH 6

2. Reconnect the river with the floodplain. This would create shallow, backwater habitat for spawning fish and allow sedimentation to deposit to create nesting habitat for shorebirds.

WRH 6

3. A comprehensive independent economic analysis needs to be done to determine if the cost of maintaining a navigation channel outweigh the benefits of revenues derived from navigation. Of the grain produced in the valley, 99.7 percent is not transported by barge.

Nav 6, 7, 31

Our Missouri River is a part of America's rich natural heritage. The Army Corps of Engineers has a responsibility to the American public to manage this resource utilizing the best available science. The organizations signing this letter represent the desires of many American citizens. These organizations request that you implement the Flexible Flow Alternative as well as significant habitat acquisition and restoration while working toward a healthier Missouri River Ecosystem.

3/9/2002

This e-mail is from:

Judith Holyoke Schoyer Rodd
Director, Friends of Blackwater
501 Elizabeth St., Room 3
Charleston, WV 25311

roddj@hotmail.com
Office Charleston (during week) 304-345-7663
Toll-Free 1-877-WVA-LAND
Apt. Charleston (during week) 304-345-7710
Preston County (weekends) 304-265-0018

3/9/2002

11/10/2001 10:18 6189396241 MONROE CO FARM BUREA PAGE 01

L0700001

Monroe County Farm Bureau
513 Park St, PO Box 129
Waterloo, IL 62298
618-939-6197

November 9, 2001

TO: U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River
Master Manual RDEIS

FROM: Herb Mueller, President
Monroe County Farm Bureau

RE: Missouri River

On behalf of the Monroe County Farm Bureau, I would like to address our concerns regarding the Missouri River. We support retaining the Current Water Control Plan for the Missouri River. We oppose any spring rise because of impacts to interior drainage and reduced flood protection levels in the lower Missouri and mid-Mississippi valleys. We oppose low flows in the summer that would limit navigation on the Missouri River and could slow navigation on the mid-Mississippi.

Many farmers in the Monroe County area would be affected by the proposed change in the Missouri River flow. There have been numerous springs that we have experienced flooding problems, just because of large rainfall amounts. If there is a change in the flow of the river, we will experience flooding problems every year and will never be able to farm our land in certain areas. FC 8

Many farmers depend on the navigation system through our agriculture cooperative, Gateway FS, which ships large quantities of grain every year. The river flow realignment will affect many people financially. Nav 7

Again, our organization supports retaining the Current Water Control Plan for the Missouri River.

L0700002

MISSOURI FARM BUREAU FEDERATION

P.O. Box 658, 701 South Country Club Drive, Jefferson City, MO 65102 / (573) 893-1400

February 28, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Comments on the Proposed Revised Draft Environmental Impact Statement, Missouri River Master Water Control Manual

To Whom It May Concern:

This letter represents Missouri Farm Bureau's (MFB) formal comments on the Missouri River Master Manual Revised Draft Environmental Impact Statement (RDEIS). Missouri Farm Bureau is the state's largest farm organization and is affiliated with the American Farm Bureau Federation, the nation's largest farm organization. With the exception of the Current Water Control Plan (CWCP), Farm Bureau strongly opposes each of the management options currently under consideration.

Missouri Farm Bureau has been involved in discussions to alter management of the Missouri River for more than a decade. Our organization testified in opposition to the preferred alternative proposed in 1994. Since that time, we have attended countless hearings, meetings, briefings and seminars devoted to Missouri River management. Farm Bureau members and staff testified in opposition to the proposed management changes at several of the recent public hearings. We have worked closely with members of the Missouri Congressional delegation, the Missouri Governor, representatives of state agencies and other organizations to call attention to problems associated with the current proposals. And Missouri Farm Bureau is a founding member of the Coalition to Protect the Missouri River, an organization formed to represent the broad range of organizations opposed to the management options currently under consideration.

Unfortunately, what began as a debate about flow management during drought conditions evolved into a referendum on endangered and threatened species. Somewhere along the way, not unlike the current debacle in Klamath Falls, commonsense was discarded in favor of environmental extremism masquerading as sound science. The drumbeat for more "contemporary" management of the Missouri River ignores the rights of property owners and others who actually derive income from use of the river. It is disappointing to the see the time and resources devoted to developing management plans that are dubious at best. As a nation, we would be better served by policies that enhance both the economy and wildlife species.

Other 6, 13

There is no single entity to blame for the dilemma that the U.S. Army Corps of Engineers finds itself in today. The Corps has conducted the review process in a professional manner, despite the obvious analytical and political complexities involved. However, we caution the Corps against further reliance on the Missouri River Basin Association

Other 190

(MRBA) to develop recommendations that reflect the "consensus" of stakeholders in the Missouri River basin. We no longer believe that MRBA, under the current executive director, is in a position to conduct meetings in which delicate issues are addressed in an objective manner.

Furthermore, the U.S. Fish and Wildlife Service (USFWS) should bear some of the responsibility for the current predicament. Representatives of the agency attended meetings but ignored efforts to seek a consensus within the basin. Their representatives' "we have the law on our side" and "it's our way or no way" attitude not only reflect poorly on the agency but have created ill will that will be difficult to overcome anytime soon. We can only hope the USFWS will adopt a more landowner –friendly philosophy under the Bush Administration.

Other 165

The Biological Opinion developed by the USFWS has been the target of intense criticism. We share the belief the report lacked scientific credibility and was simply a thinly veiled wish list by USFWS biologists who believe there is but one single way to magically transform the Missouri River into a haven for the least tern, piping plover and pallid sturgeon. There is reason to doubt the validity of the Biological Opinion—most recently a United States Geological Survey report that found populations of the piping plover have increased 25 percent in the Northern Plains over the past 5 years. In addition, a recent National Academy of Sciences report called for a moratorium on changes to the CWCP while all parties work to improve the Missouri River environment.

EnSp 27

Other 46

Adaptive Management A Dangerous Experiment

The USFWS and Corps have made their interest in adaptive management perfectly clear. While this position is understandable given the lack of scientific information regarding the affected threatened and/or endangered species, it reflects little concern about the potential impacts on those who live or derive income from the Missouri River. As Missouri farmer Tom Waters has stated, "my farm is not an experiment and I am not a guinea pig."

Other 10

No one disputes the fact that releases from Gavins Point cannot be recalled. No one disputes the fact that rainfall and melting snow increase Missouri River flows in the lower basin. And few people believe we currently have the ability to make accurate 11-day weather forecasts. These factors, combined with a lack of biological data on how

Other 48

the changes will impact the species, make adaptive management (for any period of time) difficult to swallow.

The process under which decisions are made under the concept of adaptive management is also suspect. It appears as though private landowners would have little or no

representation on the proposed recovery committee. Again, this would create a climate under which biologists are free to experiment with flows under the guise of species protection.

Other 10

Missouri River Depletions an Ongoing Threat

The Missouri Department of Natural Resources (MDNR) and Missouri Attorney General have presented the Corps with compelling evidence regarding the impacts of current and future depletions from total system storage. Their figures must be taken in account given the significant impact that additional depletions will have on future water allocation.

Other 9

Spring Rise Tantamount to Government-Sponsored Flooding

Missouri Farm Bureau is strongly opposed to a spring rise of any magnitude. The *possibility* of helping endangered and/or threatened species is simply not worth jeopardizing people's lives, jobs or property. Under any scenario, the Corps is unable to control flows from Gavins Point once water has been released. History has shown that Missouri River levels can reach flood stage in a matter of hours and an "artificial" rise would exacerbate an already perilous situation. No amount of rhetoric from the environmental community can mask the consequences of such poor public policy.

Other 48

Higher river flows in the spring would result in flood events that occur more often and cause further financial hardship for farmers who continue to struggle with low prices and rising input costs. Despite the perception of some, river levels do not have to top levees to wreak havoc. In the real world, higher river levels raise the water table making it difficult (or impossible) to do necessary tillage or even plant spring crops. Higher river levels also close drainage pipes and adversely impact drainage from streams and rivers that flow into the Missouri River.

FC 8

Finally, we believe that an artificial spring rise constitutes a "taking" and thus is unconstitutional.

Legal 13

Split Season Would Be the Death Knell to River Commerce

As the world's leader in producing food and fiber, it is absolutely amazing that the United States does not take full advantage of our inland waterway system. Transportation plays a vital role in producing and marketing agricultural products and we should be doing everything possible to *enhance* our navigation channels, ports and locks.

We believe that each of the current alternatives that reduce flows in the summer months would be the death knell to river commerce on the Missouri River. This would be in direct violation of a congressionally authorized purpose. Nav 12

The USFWS and others have argued that the alternatives merely restore a "more natural hydrograph." Yet, research conducted by MDNR indicates the timing of the reduced summer flows does not mimic the natural hydrograph. EnSp 18

Opponents of the CWCP argue that navigation on the Missouri River has never met expectations and does not fit the contemporary needs of modern society. Again, we disagree with this assertion. River commerce is environmentally friendly, efficient and reduces the need for transport via our nation's highway system. Further, we believe that water-compelled rates provide significant benefits to many agricultural producers. Nav 8, 23

Rather than considering proposals that will eliminate river commerce, we encourage the Corps to meet with representatives of the agricultural and barge sectors to discuss ways to increase tonnage on the Missouri River. For example, it would be useful for the Corps to have a better understanding of the problems facing the few barge operators left. It is our understanding that uncertainty regarding annual operating plans and poor maintenance of the navigation channel are significant hurdles to increasing tonnage moved on the Missouri River. Nav 5, 8

While the Corps has acknowledged that flows on the Missouri River impact those on the Mississippi River, we are disappointed by the lack of quantitative analysis on the impacts associated with the alternatives presented in the RDEIS. Intuitively, you would expect that lower flows on the Missouri River would result in lower flows on the Mississippi River. This, in turn, would have a negative economic impact. The extent of the economic loss would be related to flow levels, however a prolonged period of lower flows would increase transportation costs. Ultimately, this will drive commodity prices even lower and make U.S. goods less competitive in foreign markets. Miss 4

Finally, reduced summer flows on the Missouri River could actually result in higher flows during the fall. Under this scenario, water held in the reservoirs during the summer would be evacuated during the fall in order to meet storage guidelines. The higher fall FC 17

flows could impact bottomland farmers during critical stages of plant growth or even harvest. Again, we believe this disregards the importance of *preventing* floods and could be classified a "taking" under the United States Constitution.

Management Changes Must Be Driven By Sound Science

The CWCP has done an admirable job of balancing the many diverse uses of the Missouri River. Any future modifications must be held to a high standard that reflects the importance of uses that include flood control, river commerce, hydroelectric power generation and municipal drinking water supplies. We understand the complexity associated with management changes and believe such decisions should be made using science that is not only objective but also subject to extensive peer review. But science is only one component of the decision-making process. The Corps must take into account the views of those who live along the river, those whose communities rely on the river and those whose livelihood is dependent upon the Missouri River. Other 6

The rehabilitation of wildlife and aquatic habitat is a laudable goal that should be pursued in conjunction with Congressionally authorized uses of the Missouri River. We stand ready to assist the efforts of those who strive to enhance habitat on both public and privately owned land. Large new land acquisition programs are not the answer-- much progress can be made through cooperative efforts with landowners and improved management of land already under public ownership. Other 70

For the reasons stated herein, Missouri Farm Bureau opposes each of the alternatives presented in the Missouri River Master Manual Revised Draft Environmental Impact Statement.

Sincerely,

Charles E. Kruse
President

FEB-28-2002 18:56 FARM BUREAU 5738931560 P.01/06

MISSOURI FARM BUREAU FEDERATION
P.O. Box 658, 701 South Country Club Drive, Jefferson City, MO 65102 / (573) 893-1400

FAX MESSAGE COVER SHEET

Date: 2/28/02

Time: 6:35

Please deliver the following pages to:

Name: Missouri River Master Manual RDEIS Comments

Fax #: (402) 697-2504

From: Dan Cassidy / Charles Krause

Fax #: (573) 893-1560

Number of pages including this cover sheet: 6

L0700003

IOWA FARM BUREAU FEDERATION
5400 University Avenue, West Des Moines, Iowa 50266-5997 / (515) 225-5400

February 27, 2002

Brigadier General David A. Fastabend
U.S. Army Corps of Engineers, Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Rd.
Omaha, NE 68144-3869

Dear General Fastabend:

The Iowa Farm Bureau Federation is the state's largest general farm organization representing over 155,000 member families across the state. We appreciate the opportunity to offer comment on the Revised Draft Environmental Impact Statement (RDEIS) and proposed flow changes to the Missouri River Master Manual. Management of the Missouri River flows will have a direct impact on our farmers in the counties bordering the Missouri River and an indirect impact on our members across the state.

The RDEIS lists three basic purposes for management of the Missouri River: (1) serve congressionally authorized project purposes; (2) comply with current environmental laws and (3) serve the contemporary needs of the basin. These are important goals and must be considered equally as the Army Corps of Engineers proceeds with plans to implement a new master manual for management of the Missouri River.

The debate over management of the Missouri River cannot be held without revisiting the reasons for establishment of this system. The original intent of the Corps of Engineers' management of the Missouri River was to promote and support navigation, flood control and to provide for productive agricultural land.

The Flood Control Act of 1944 specifically provides that the reservoirs function for the greatest benefit to fish, wildlife and recreation, only to such a degree that flood control, irrigation, water supply, power and navigation are not seriously affected. We recognize the importance of avoiding a jeopardy opinion by the U.S. Fish and Wildlife Service with respect to endangered species. However, we believe the Corps should follow the original congressional intent for management of the Missouri River and use other, less economically devastating options for addressing endangered species concerns.

Other 6

As the Corps of Engineers has noted, one of the original purposes of the Missouri River basin system was to make the land along the river more productive for agriculture. We have succeeded. The value of that impacted farmland in Iowa exceeds $200 million. By combining the U.S. Geological Survey analysis with crop insurance data,

GW 14

The Voice of Agriculture

is not clearly defined. As with the Gavins Point release options, this opens the door to implementing flow changes to the detriment of the majority of the region.

- Most of the options start us down the dangerous path of increasing diversions and depletions from the Missouri River. This may benefit upper Missouri basin states at the expense of the lower basin states. Other 9
- The drought conservation measures allow the Corps to store more water during times of drought but fail to look at the potential impact of a drought on the lower basin states. Mississippi River navigation could be severely curtailed if low flows for endangered species are combined with drought conservation measures. In addition, this begins the process of transferring water from the lower basin states to the upper basin states. Miss 4

It is important to note that Congress has clearly stated its interest in management of the Missouri River. Congress is on record in support of a balanced approach that does not create winners and losers in the Missouri River basin. Other 7

The recent report by the National Academy of Sciences lends credibility to that approach. The NAS study concludes that the "degradation of the natural Missouri River ecosystem is clear and continuing" but that there is not a clear scientific solution to this degradation. More importantly, the NAS study states that there is a great deal of scientific uncertainty about how the Missouri River ecosystem would respond to the management actions being proposed by the Corps. Finally, the NAS study notes that adaptive management has potential but "should not be viewed as the panacea for Missouri River basin management". The study identifies lack of stakeholder involvement and scientific uncertainty as justification for a moratorium on any flow changes to the Missouri River. Finally, the NAS study concludes "the goal of improving ecological conditions should be considered on par with other management goals." Other 10, 14

The Iowa Farm Bureau has carefully examined all of the proposed options and has concluded that only the current water control plan (CWCP) is acceptable. All other proposals will have negative consequences for farmers and residents of the lower basin states.

First, an artificial spring rise has the potential to cause flooding and inland agricultural drainage problems for municipalities and farmers. Missouri River dams, initially built to reduce flooding, have prevented $18 billion in flood damages. FC 8 IntD 1

Second, higher reservoir levels reduce the water commitment to downstream states impacting future water supplies needed for irrigation, municipal drinking water, river commerce and water quality standard permitting. WS 11

Third, summer flows reduced to "minimum" navigation levels or below will devastate congressionally authorized river commerce on the Missouri River and adversely impact Mississippi River commerce. Nav 12

we concluded that the five counties bordering the river would suffer a direct economic loss of nearly $40 million from reduced agricultural production over the life of this plan. The farmer's dollar turns over three times in a community so the losses incurred are not just the producer's. It's the main street businesses in these small communities. Using the Regional Economic Models, Inc (REMI), we concluded that an artificial spring rise implemented every three years would reduce the gross regional product of those counties by nearly $55 million. REMI constructs models that reveal the economic and demographic effects those policy initiatives or external events may cause on a local economy.

As mentioned above, simply removing farmland from production to accommodate higher river flows is not the best option. Some producers may be willing to sell their land for this purpose but we should not assume that this would resolve our problems. First, that land is removed from production and from the county tax rolls, impacting the economy of the communities dependent upon agriculture. Second, it reduces the pressure on the Corps with respect to the higher river levels, thereby creating more drainage problems for the land and communities behind the levees. IntD 1

Navigation, while not the predominant issue for Iowa farmers, is one that cannot be ignored. The Missouri River provides more than half of the Mississippi's water where the two rivers join. Lower summer flows combined with a drought could wreak havoc on barge transportation on the Mississippi River. The Mississippi River carries more than 60 percent of our nation's export grain products, nearly 30 percent of our nation's coal supplies and 25 percent of our petrol-chemical products. In Iowa, nearly one-third of what we produce is exported, the majority of it going down the Mississippi River to the Gulf of Mexico. Iowa farmers can claim about $78 per acre of corn and soybeans due the export market. This income could be threatened if we are unable to be a reliable supplier to the world market due to inadequate navigation on the Mississippi River. Miss 4

Power generation is an issue that reaches beyond the farmgate. All who live in the lower basin will be impacted if lower river flows during the summer months force utilities to shut down production. Forty percent of Iowa's generating capacity comes from the Missouri River. The water is used to cool the discharge from the plants to meet the terms of their federal NPDES permits. Lower flows will force power companies to upgrade their facilities or incorporate different design standards into new construction. This cost is passed on to the consumer and will have a broad reach. MoPower 1, 3

The Army Corps of Engineers' proposals with the exception of the current water control plan have serious problems for the people and communities of the region:

- All but one of the proposed options (the current water control plan) include some form of spring rise and summer low flows. In addition, the Gavins Point release options leave the door open for even higher spring rises and lower summer flows if it is determined endangered species will benefit. Other 13
- Adaptive management is included as a component of all options but the current water control plan. The role of the states and the public in adaptive management Other 10

L0700004

Randolph County Farm Bureau

PRINTED WITH SOY INK

615 S. St. Louis St. • P.O. Box 504
Sparta, Illinois 62286

Ph. (618) 443-4511
Fax (618) 443-5826

February 22, 2002

Project Manager
Master Manual Review and Update
12565 West Center Road
Omaha, NE 68144

RE: Comments on the Missouri River Revised Draft Environmental Impact Statement

The Randolph County Farm Bureau appreciates the opportunity to comment on this issue. Randolph County farmers are directly affected by the waters of the Missouri River, via the Mississippi River. Any changes to the rivers flow level or navigation restrictions could cause significant consequences to the farm economy.

Barge transportation on the Mississippi River is Randolph County's main method of shipping grain, and receiving fertilizer and fuel for growing our crops. Changing the Missouri River flow plan could affect our water supplies and transportation system negatively. If the flow level of the Missouri River were increased during the spring, we are concerned that there could be increased flooding throughout the Missouri and Mississippi River bottom areas. If the flow levels are decreased in the summer months, we could loss navigation on the Mississippi River between St. Louis, MO and Cairo, IL. This would devastate the shipping industry and movement of agriculture commodities. Therefore, we oppose any modifications to the Missouri River flow level and navigation, unless these concerns are addressed and resolved in the plan.

Miss 4
FC 8

Randolph County has about 1,200 farming members in the county and most of them use the river system to ship their grain. Our members strongly support the continued use of our area rivers for business and commerce.

Sincerely,

Richard L. Guebert Jr.

Richard Guebert, Jr., President
Randolph County Farm Bureau

Fourth, flow reductions may also jeopardize the ability of utilities that draw Missouri River cooling water to meet the electricity needs of their customers during critical electrical demands. Water supply users may also be affected by water quality issues as discharges are made into a lower flowing river.

MoPower 1
WQ 1

Fifth, adaptive management creates too much freedom for the Corps to adjust river management, and specifically flow management, without any significant input from the public.

Other 10

The current water control plan is the best option to manage the Missouri River and the multitude of uses for that river system. We urge you to adopt the CWCP as the master management alternative.

Sincerely,

Emily Eide

Emily Eide
Director, National Affairs

L0700005

ILLINOIS FARM BUREAU®

"Improve the economic well-being of agriculture and enrich the quality of farm family life."

January 30, 2002

Project Manager
Master Manual Review and Update
12565 West Center Road
Omaha, NE 68144

Re: Missouri River Revised Draft Environmental Impact Statement, Master Water Control Manual Review and Update

Enclosed are comments of the Illinois Farm Bureau® on this proposed redraft. Please take them into consideration as the US Army Corps of Engineers (Corps) considers revisions to the manual. We appreciate the opportunity to comment.

Illinois Farm Bureau is a member organization representing over 355,000 family memberships within Illinois – including over 75% of all farmers in the state. The importance of river transportation to the agricultural economy of Illinois and the Midwest cannot be overstated. Our members strongly support continued, reliable commercial navigation on the Midwest's waterway systems.

Sincerely,

Kevin B. Rund
Director of Local Government

Enclosure: Comments on Missouri River RDEIS

ILLINOIS AGRICULTURAL ASSOCIATION®
1701 N. Towanda Avenue • P.O. 2901 • Bloomington, Illinois • 61702-2901
Phone: 309.557.2111 • Fax: 309.557.2559 • http://www.ilfb.org

Comments of the
Illinois Farm Bureau®
on the
Missouri River Revised Draft Environmental Impact Statement
Master Water Control Manual
January 2002

Of the six alternatives presented for consideration for the Missouri River Master Water Control Manual (manual), the Current Water Control Plan (CWCP) is the only one acceptable. It is this plan alone that garners the support of the Illinois Farm Bureau.

Being the largest general farm organization in Illinois, our members share interests in a range of issues associated with the river's water flow management. Our comments will focus on those with the most direct impacts on agriculture—commercial navigation, mode shift, and the concept of applying trial-and-error techniques to the management of flows in a major river.

The five new proposals in the Revised Draft Environmental Impact Statement (RDEIS) all suggest negative impacts on these key factors. Those proposals hold back more water in the Missouri River main stem reservoirs thereby shifting water benefits and usage to the Upper Missouri at the expense of flow support to the lower Missouri and Mississippi Rivers. This shifting of benefits seriously threatens sustainable navigation on the lower Missouri and loss of navigation efficiency on the Middle Mississippi.

Miss 4

Position
Specifically, the proposed spring rise, and lowered summer flows both are factors harmful to agriculture. We oppose adoption of any of the proposed changes and support retention of the CWCP.

Illinois Farm Bureau supports American Farm Bureau Federation® policy on this issue that states:

> *We oppose any plans by the U.S. Army Corps of Engineers (Corps) or any federal or state agencies that would alter the flow levels of the Missouri or any river and would adversely affect domestic water supplies, drainage, irrigation and transportation that would cause traffic bottlenecks on the Missouri or any navigable river and take private property without compensation. We believe the Corps or any federal or state agencies should pursue alternative means to address endangered species concerns such as establishment of voluntary critical habitats and land acquisition from willing sellers.*

Modes
Disrupting navigation on the Missouri would cause ripple effects throughout the region and across modes of transportation. Illinois farmers would feel the negative effects.

They would come in the form of higher transportation costs due to lowered competition. They would come in the form of worsened air pollution because of more trucks and trains operating in what is already a non-attainment area. And in dry years they would come in the form of lost jobs, wages, income and tax revenue because of inefficient navigation on the Mississippi.

Nav 7, 23

Navigation

The potential economic losses associated with lowered flows on the Middle Mississippi River appear to be significantly understated. The RDEIS generalizes net impacts on the Middle Mississippi River at zero percent. However, analysis provided by the Missouri Department of Natural Resources (DNR) indicates that in both 2000 and 2001 under the Modified Conservation Plan (MPC) the river stage at St. Louis would have dropped below two feet—the minimum level for standard navigation. The duration of that sub-standard level under the MPC was for an average of two weeks more during the November-December time frame than it actually was under the CWCP (based on actual flows under CWCP and calculated flows under the MPC.) During that low flow period, barge traffic on the Mississippi passing St. Louis would be restricted in draft and in tow size. That would affect all Gulf-bound cargo on the Upper Mississippi.

Miss 24

While the example years above fall outside the review period of 1930 to 1995 used in the Corps study, this potential for late season navigation restrictions on the Mississippi does not appear to have been noted in the RDEIS. To the contrary, the RDEIS claims late season navigation improvements under the MPC and uses that claim to offset known navigation losses during the summer. The Missouri DNR calculations raise serious concerns about the completeness of the RDEIS research regarding navigation impacts on the Middle Mississippi River.

Miss 4

We ask that the Corps again review the stage levels on the Middle Mississippi River at St. Louis under the MPC. Compare the methods and models applied under the RDEIS with those applied by the Missouri DNR. If significant differences are found, they need to be accounted for in the final EIS.

Miss 21

Experimentation

The four Gavins Point alternatives would result in massive experimentation by imposing a trial-and-error approach to river management—all based on an effort to preserve habitat in a cause that the National Academy of Sciences (NAS) has declared to be somewhat dubious.

Other 14

The NAS made it clear in its recent report on the Missouri River—mimicking natural flows in the river would not guarantee recovery of the three species in question. It might require experimentation to learn how effective that approach might be, but that experimentation should be conducted on a limited scale in controlled settings. It would cost less to create hundreds of acres of habitat that could be studied than would be the cost forced on area residents and economies through system-wide experimentation.

Other 70

The "Adaptive Management" approach included among these proposals would risk the well-being and livelihoods people. If done in Missouri, we're concerned where the Corps might apply that approach next. It would not be acceptable in Illinois and we support our counterparts across the Mississippi in saying that it is not acceptable in Missouri and Iowa.

Other 10

Smaller scale approaches to experimentation would risk far less. The Corps should look to those approaches first. The St. Louis District of the Corps has over 20 years experience in the use of environmental river engineering to create and improve fish and wildlife habitat on the Mississippi River without implementing flow alterations. We encourage the Northwest Division to consider implementing habitat restoration projects similar to those undertaken by the Corps' St. Louis Division along the Mississippi River.

WRH 6

Summary

In conclusion, we want to commend the Corps for its persistence in attempting to find a balance among the myriad of interests in the Missouri basin. We urge you to not adopt measures that would increase flooding or reduce the efficiency of navigation on either the Missouri or Mississippi Rivers. Instead, for now, continue operating under the Current Water Control Plan.

ILLINOIS FARM BUREAU

L0700006

Farm Bureau
Helping Feed the World

Kansas Farm Bureau
2627 KFB Plaza, Manhattan, Kansas 66503-8155 / (785) 587-6000
Fax: (785) 587-6602 / Email: srahlerich@kfbs.com
Office of the President

January 24, 2002

Project Manager
Master Manual Review and Update
12565 West Center Road
Omaha, Nebraska 68144

Dear Sir or Madam:

Because Kansas Farm Bureau is unable to attend the U. S. Army Corp of Engineer's public hearings on the proposed changes in the Missouri River Master Manual scheduled for January 23, 2002 and February 19, 2002, in Quincy, Illinois and Council Bluffs, Iowa respectively, we offer these written comments for the record.

Water management issues are extremely critical to our 42,000 farm and ranch members. Management of the Missouri River is extremely critical to those of our members in the northeast corner of Kansas whose property borders the river. In times of low commodity prices and uncertain markets, water management may be the difference between profitability and loss.

We have grave concerns with the proposed plan to mimic natural flow prior to development of the Missouri in an attempt to enhance habitat for the pallid sturgeon, the least tern and the piping plover. We believe that if this action is taken, and causes spring flooding, it threatens the economic viability of the entire region and counters the historical core of U.S. river management for the purposes of flood control, navigation, energy production and economic development.

Other 7

Deliberately causing river levels to rise during the spring months jeopardizes the current and future productivity of 1.4 million acres of farmland in Iowa, Nebraska, Kansas and Missouri. In addition to the direct impact to individual farmers, it will also impact the revenue collections of local and state governments and the economic viability of community based ancillary businesses such as grain elevators, transportation companies, input suppliers and agricultural lenders. Suffice it also to say that the environmental damage of resulting soil erosion from a spring rise may offset the assumed environmental benefit for the involved endangered species.

Other 48

In addition to the quantifiable negative impact on land productivity, we have additional concerns with the plan's potential to interrupt river commerce along the Mississippi

Miss 1, 5

during the summer months. In order to be competitive in a global marketplace we must economically transport our commodities. Transportation studies clearly indicate one of the most cost effective modes of transportation for bulk commodities is barge transport. Enforced low flows on the Missouri would jeopardize barge traffic on the Mississippi, and thus the economic well-being of commodity-based industries such as coal, steel, wood, and petro-chemicals as well as grain. We believe such an economic sacrifice is a less than balanced approach to river management.

Though we have significant opposition to the proposed update of the Missouri Master Manual, we understand the need for a management plan that balances the needs of wildlife management, recreation, and commerce as well as production agriculture and urge you to consider additional alternatives. These alternatives should include protection of fertile farmland, reliable commercial navigation of our rivers, voluntary wildlife habitat enhancement, recreational enhancements which are sensitive to private property rights and an understanding of the contributions that our rivers have historically provided to our nation's economy.

Other 7

We believe alternatives exist that meet the above criteria and urge you to make every effort to develop them

Sincerely,

Stan Ahlerich, President
Kansas Farm Bureau

cc: Senator Pat Roberts
Senator Sam Brownback
Governor Bill Graves
Jamie Clover Adams

Farm Bureau
Helping Feed the World

Office of the President
Kansas Farm Bureau
2627 KFB Plaza, P.O. Box 3500, Manhattan, Kansas 66503-8508

MANHATTAN KS 1962 03 U.S. POS

Project Manager
Master Manual Review and Update
12565 West Center Road
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681444386921

L0700007

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LAMONTE, MO 65337
660-347-5671

U. S. Army Corps of Engineers
Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

11/5/01

I represent 4,000 Missouri farmers who belong to or purchase products through our Cooperative. We have grave concerns and are opposed to several of the purposed changes in the Missouri River's flow.

A spring rise could be devastating for our members. It would delay or eliminate planting in some of our most productive farm ground. Without this productive ground, many of our farm families will not survive to continue farming.

Many of our cooperatives inputs are delivered to us on the river. It is the most economical form of transportation. The continued availability of this resource is vital to our existence. We need the competitive prices the river affords to keep our customers competitive and therefore we are dependent in turn to remain viable. If the river were not available because of seasonal low flows as proposed, we would incur higher costs and less competitive prices. Trucking in our products is a poor solution as the last thing we need is more large trucks on the roads, using significant amounts of fuel and posing a larger threat to the public. Reduced summer flow would likely ruin barge traffic on the Missouri altogether.

Nav 7, 23, 12

We are concerned that reducing flows and maintaining higher reservoir levels for recreational opportunities in northern states will jeopardize our quality of drinking water and our ability to generate much needed electricity. We as always encourage wildlife habitat restoration but certainly not at the expense of the American farm family and our way of life.

Other 70, 193

Thank you,

Ronnie Heitman

Ronnie Heitman
General Manager

L0700008

nebraska farm bureau federation
5225 S. 16th St., P.O. Box 80299, Lincoln, NE 68501 Phone: (402) 421-4400, FAX# (402) 421-4432

February 27, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attn: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Comments on the Revised Draft Environmental Impact Statement concerning the Missouri River Master Manual

The Nebraska Farm Bureau submits this letter as its comments on the proposed revised Draft Environmental Impact Statement. Nebraska Farm Bureau is the largest general farm organization in Nebraska, representing farmers and landowners on the Nebraska side of the Missouri River. We submit these comments in opposition to the flow changes now being considered – particularly the proposals that contain a "spring rise" and the low summer time flow. We do, however, support the Current Water Control Plan option that is under construction. The impact these proposals would have on farmers along the river will be devastating due to additional flooding and inland drainage problems. In addition, the low summer flow will prevent season-long commercial navigation on the Missouri – which is important for movement of grain to export and for prices farmers receive at their local elevators.

FC 8
IntD 1
Nav 7, 12

As you know, since 1960, the Army Corps of Engineers has managed the Missouri River and its six dams and reservoirs to meet goals outlined by Congress: flood control (the primary purpose of the system), navigation, irrigation, hydropower, water supply, water quality, recreation, and fish and wildlife. Balancing these interests is not an easy task, but we believe the Current Water Control Plan in operation now is the best alternative.

What is wrong with supporting the original congressional intent for the Missouri River, which is to balance the multiple and competing, interests along the river? Now, because of endangered species concerns, the U.S. Fish and Wildlife and others want to change the balance -- in effect, giving species needs greater priority than other interests. We believe such changes upset the balance the Corps is seeking to achieve, and very likely reduce the benefits of flood control, navigation and hydropower we have come to enjoy.

Other 6

Recently, the Missouri River Basin Association has endorsed a 10-year demonstration plan that proposes a trial period of higher spring flows and lower summer time flows. While we realize the emphasis MRBA has put on flexibility, monitoring and evaluation procedures during the demonstration period, 10 years is a long time anyway you look at it. Without a fully-funded program in place to compensate hardships and losses to landowners or a fully-funded mitigation program in place to deal with decreased

Other 61, 87

Living beside you. Working for you.

L0700009

Jackson County Farm Bureau
220 North 10th / Murphysboro, Illinois 62966 / Telephone: (618) 684-3129

February 28, 2002

Project Manager
Master Manuel Review and Update
12565 West Center Road
Omaha, NE 68144

Re: Missouri River Revised Draft Environmental Impact Statement, Master Water Control Manual Review and Update

Dear Sir:

The Jackson County Farm Bureau Board of Directors oppose adoption of any of the proposed changes and support retention of the Current Water Control Plan (CWCP). Any increased release of water in the spring would put undo pressure on our levee system. When we hit the dry summer months it would literally shut down navigation of the Missouri River and severely curtail navigation on the Mississippi River. We would see a loss of jobs and a loss of competitiveness in transportation costs.

FC 8

Nav 7, 12
Miss 1

We urge you to not adopt measures that would increase flooding or reduce the efficiency of navigation on either the Missouri or Mississippi Rivers. Continue operating under the Current Water Control Plan.

Sincerely,

Charles W. Young

Charles W. Young, President
Jackson County Farm Bureau

navigation services, we would be hard pressed to believe that this proposal is any major breakthrough in dealing with flow changes on the Missouri River.

Farmers tend to develop solutions in a plain and simple way and maybe we are making the management of the Missouri River too complicated. Congress has a law in place that states flood control and other purposes should be balanced in the management of the Missouri River system. Listings under the Endangered Species Act have placed more focus on one of the eight purposes of mainstream reservoir system.

Other 6

It would seem logical to us that some effort should be made to establish a baseline to accurately assess where we are now in terms of the condition and situation of the protected species of concern. For example, the International Piping Plover Census found that plover numbers have increased 470 percent along the Missouri River in the past five years and now just over a thousand plovers are found there. Susan Haig, director of the census and a U.S. Geological Survey scientist, said recent favorable habitat conditions along the river may have spurred the increase. In other words, the birds found and used the riverine habitat.

EnSp 27

If it is determined that more habitat is needed along the Missouri River for certain species, modifications should be taken first to improve existing habitat by pursuing more enhancements of oxbow lakes, wetlands and other natural habitats along the river and in the reservoirs. We strongly believe that there would be landowner support for fish and wildlife habitat enhancement along the river as long as those approaches are voluntary and incentive-based.

WRH 6

If it is determined that more needs to be done to improve the habitat by altering the river flows, gradual changes could be examined within the framework of the current water control plan. At the same time, social/economic analysis evaluations should be conducted to coincide with any flow changes made solely due to a species habitat issue.

EnSp 5,18

Nevertheless, future management decisions for the river should not ignore the primary purpose of the mainstream dam system of flood control and other important benefits it provides such as hydropower, and navigation. Moreover, those decisions should not threaten the people and communities along the river and they should not forget and place undue harm on individual farmers along the river who are a part of the foundation of our nation's food and fiber system.

Other 6

Nebraska Farm Bureau appreciates the opportunity to comment on the Revised Draft Environmental Impact Statement concerning the Missouri River Master Manual.

Sincerely,

Bryce P. Neidig

Bryce P. Neidig
President

MASTERMANUAL NWD02 L0700010

From: Jennifer Holdgreve [jenniferj@fb02.fb.org]
Sent: Thursday, February 28, 2002 3:28 PM
To: 'mastermanual@usace.army.mil'
Subject: AFBF Comments On the Missouri River Revised Draft Environmental Impact Statement, Master Water Control Manual Review and Update

Importance: High

moriver.doc

Attached are AFBF's Comments on the Missouri River Revised Draft Environmental Impact Statement, Master Water Control Manual Review and Update.

If you have any problems opening the attachment please contact me. Thank you.

<<moriver.doc>>

Jennifer Holdgreve
Assistant Director, Legislative Services
American Farm Bureau Federation
600 Maryland Avenue, SW, Suite 800
Washington, DC 20024
(202) 484-3611 -- phone
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Internet: http://www.fb.com

February 28, 2002

Project Manager
Master Manual Review and Update
12565 West Center Road
Omaha, NE 68144

Dear Sir or Madam:

The American Farm Bureau Federation is the largest general farm organization in the United States, representing the interests of more than 5.1 million member families in all 50 states and Puerto Rico. We are pleased to offer our comments on the Missouri River Revised Draft Environmental Impact Statement, Master Water Control Manual Review and Update.

American Farm Bureau policy, as approved by our delegates, opposes the adoption of any of the proposed changes and supports retention of the Current Water Control Plan. Our policy states:

We believe the Corps should maintain the current Master Water Control Manual as is and should not deviate from the standards set forth therein. We are opposed to the Corps requiring a spring rise on the Missouri River.

This policy reflects concerns about the potential for flooding of agricultural lands below Gavins Point and the harm to navigation on the Missouri and Mississippi Rivers if a "spring rise" is allowed.

Altering the management of the Missouri River by allowing for a spring rise would not only affect farmers in downstream states (Missouri, Nebraska, Iowa and Kansas) by potentially flooding their land, but also affect barge traffic movements on the Missouri and Mississippi Rivers. Without proper management of river flows over the course of the year, transportation could be hampered by insufficient water levels on the Missouri River and on the Mississippi River between Memphis, Tennessee, and Baton Rouge, Louisiana. River transportation of agricultural commodities is of paramount importance to the agricultural economy of the Midwest and our nation. It is one of the United States' major competitive advantages in world grain trade.

Nav 7
Miss 1

The National Academy of Sciences, in its recent report on the Missouri River, called for a moratorium on changes to the Manual while the Corps, in consultation with other agencies and stakeholders, including landowners and agriculture, works to improve the Missouri River environment.

Other 46

Flood protection and reliable, commercial navigation on our waterways will be maintained by continuing to operate under the Current Water Control Plan for the Missouri River.

Sincerely,

Richard Newpher
Executive Director
Washington Office

MASTERMANUAL NWD02 L0700011

From: JRuss1165@aol.com
Sent: Monday, January 14, 2002 1:58 PM
To: Mastermanual
Subject: Missouri River Flow

Dear Sirs:

I am contacting you in reguards to your proposed Missouri river flows in the future. My concern over flow changes concerns the supply and distribution of agriculture products which is vital to this area (Southwest Iowa). I work for a cooperative of farmers around Council Bluffs, Iowa and we are directly affected by the operations on the Missour river (Barges). We use the river to ship out grain and to bring fertilizers. We feel that your proposals for the river would also directly affect the way we farm the rich Missouri River bottom soils. Lack of drainage in the spring and fall can be a large detrimental impact on our operations. With large river flows in the spring and fall the river would hamper our abilities to both plant and harvest our crops. With the farm economy the way it is today we may not be able to stand much more.
We are asking you to not change the current river flow patterns and that the river needs to remain under the direction of the Army Corp of Engineers.

Nav 7

Sincerely,
James Russmann
Agronomy Manager
Farm Service Company

MASTERMANUAL NWD02 L0700012

From: Ron Alms [rona@elburncoop.com]
Sent: Wednesday, February 27, 2002 4:03
To: Mastermanual
Subject: alternative plans to the Master Manual

Navigation on the Missouri River.
Illinois Corn Growers Association is opposed to the alternatives being proposed because each could seriously restrict and inhibit efficient barge movement on the Illinois and Mississippi Rivers thus affecting grain prices. These proposed changes could cost us as Illinois farmers two cents-per-bushel.
So Please reconsider your Missouri River changes.

Miss 4

Ron
Elburn Coop
Elburn, IL 60119

MASTERMANUAL NWD02

L0700013

From: Larry Thompson [lthompson@mfa-inc.com]
Sent: Thursday, February 28, 2002 9:33 AM
To: Mastermanual
Subject: Master Plan

I am a Regional Manager for MFA Incorporated covering west central Missouri, my region covers both sides of the Missouri River from Boonville to Kansas City. The information I have received concerning the change to the master manual will be devastating to the farm economy as well as the business I represent. Changing the flows and varying the levels to the degree that is being considered will eventually take some of the most productive farm lands in Missouri out of production as well as breaking many farm families in this area. I urge you to reconsider the plan and keep this rural areas of Missouri viable.

In recent history, myself as well as all Americans, have had cheap food prices and never been without, but, in the future I don't want my family or future generations to get to the point of being hungry due to the fact we took many acres of prime farm land out of production for reasons that seem pretty trivial now.

Other 48

Thanks for your considerations to this very serious matter!

Larry W. Thompson
MFA Incorporated
Regional Manager, Region 3
12210 E. Hwy 13
Lexington, Mo. 64067
Office 660-259-9130
Fax 660-259-9131
Cell 660-815-4347
lthompson@mfa-inc.com

1

L0800001

South Dakota Cattlemen's Association

PO Box 314
Kennebec, SD 57544-0314
Phone 605-869-2272
Fax 605-869-2279
e-mail: sdcattl@wcenet.com
www.sdcattlemen.org

RE: Missouri River Master Water Control Manual Review and Update
Revised Draft Environmental Impact Statement

DA: February 28, 2002

TO: U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, Nebraska 68144-3869

FR: South Dakota Cattlemen's Association
PO Box 314
Kennebec, SD 57544-0314

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

The membership of the South Dakota Cattlemen's Association (SDCA) would like to offer comment to the US Army Corps of Engineers (COE) on the Missouri River Master Water Control Manual Review and Update (Study) Revised Draft Environmental Impact Statement (RDEIS). SDCA is a grassroots organization of cattle producers with a current membership of approximately 1400 members from all across the state and from all segments of the cattle industry. SDCA members indicated enough concern about the RDEIS to pass a directive at their last annual convention directing the SDCA leadership to review and comment on the RDEIS. The basic underlying theme of SDCA membership concern is property rights.

When the main stem dams on the Missouri River were built many South Dakota farming and ranching operations were forced to confront major changes in their lives. Entire farms, ranches, and even whole towns were forced to relocate. These were major sacrifices on the part of everyday South Dakota citizens for the greater good of South Dakota and down stream states. One of the returns for these sacrifices was proposed to be the use of the Missouri River that was backed up on parts of their properties. No matter where one chooses to live, water is a major consideration and a vital component to all living things. In the semi-arid climate of central South Dakota this is especially true. South Dakota agricultural producers have a keen interest in water issues and the Missouri River is a major water resource for all of South Dakota.

In the introduction of the RDEIS Summary it states, "The primary purpose of the RDEIS is to analyze the environmental effects of a set of six alternative operating plans for the Missouri River Master Control Manual". SDCA chooses not to go into each of the six alternatives but does want to make sure that, whatever alternative or combination of alternatives is agreed upon, the private property rights of agricultural producers is recognized and retained; especially those producers immediately adjacent to the river.

Legal 14

Arguably the most basic of property rights is a water right. In Chapter 46 of South Dakota Codified Law (SDCL) this right is clearly defined. SDCL distinguishes between vested water rights and permitted water rights but all water rights are a major concern to South Dakota agricultural producers. Crop and livestock producers operating adjacent to the Missouri River often rely on the river as a water source for crop irrigation and/or livestock watering. These producers must deal with the fluctuation of river levels as they go about their daily business of agricultural production. However, the four proposals that discuss "unbalancing the upper three lakes" raise serious concerns for SDCA members. It specifically states in the RDEIS that such "unbalancing is to expose shore line for the purpose of allowing vegetation to grow, to expose sand bars for nesting endangered species, and to facilitate higher spring releases to scour vegetation on sand bars to encourage reproduction of endangered species". Crop producers would probably be required to extend irrigation intake pipes across the exposed mud flats and sandbars. In most cases each irrigator has the level of the intake to an irrigation system specifically detailed in the water permit. Unbalancing the lakes may cause the need to review the levels of these intakes. While all of this is probably manageable in most instances it is likely a cost in both time and money to these producers and to the South Dakota Department of Environment and Natural Resources (SD DENR) that issues the water permits.

Other - 17

The term "vegetation" takes on several meanings. Some producers adjacent to the river are dealing with the encroachment of cedar trees; especially on the east and north facing slopes along the river. This encroachment tends to be working its way north. Some speculate that this northward encroachment has to do with a moister microclimate formed by the larger bodies of water behind the dams. It is common knowledge that an infestation of cedar trees is a serious detriment to grass for grazing. SDCA suggests that this "change" in this environmental habitat be studied for its possible long-term consequences.

Other - 16

A concern to cattle producers that gaze cattle along the river and rely on the river for stock watering is access to stock water. The shore line sediment and mud flats may cause live stock to bog down in the mud trying to access water when the levels of a given lake are lowered. This could be especially serious along some of the tributaries just as their flows enter the Missouri River. These producers have a vested stock watering right from this river source and this right must be protected. The loss of the ability to utilize this water right could be construed as a "taking" according to the Fifth Amendment to the US Constitution. In many cases producers have worked hard to develop additional water sources for their livestock but in some instances the only source for stock water is the river. SDCA urges the COE to insure that each landowner/operator adjacent to the river is insured of access to the water that is either vested or permitted to him/her. SDCA recognizes that in most instances the COE, USF&WS, SDGF&P, or some other governmental entity owns or holds jurisdiction over the land immediately adjacent to the Missouri River. If access to water becomes a problem because of mud and fencing becomes a requirement SDCA would point out that in SDCL Chapter 43 responsibility for erection and maintenance of such fencing is quite well defined; the governmental entity with jurisdiction or ownership of the lands adjacent to the river would likely incur at least half of this fencing responsibility between river lands and the private lands farther away from the river. Livestock producers often lease the state or federal lands adjacent to the river thus eliminating the need for fence. However, should these leased lands cause more problems than benefits to the producer they become a liability. SDCA members are not interested in building more fences but if mud becomes a problem the choices may be very limited. And this may then lead to the necessity to develop more livestock watering sources.

Legal 15

Also found in SDCL 43 are statutes detailing public access to waters of the state. In many cases the tributary rivers and streams that feed into the Missouri are defined by the state statute as navigable for at least part of their length which, in effect, allows public access. This part is usually at the lower ends or near the mouth of the river where the water would be deeper and wider. Inherent in this statute is a liability issue. According to SDCL43 a landowner/operator may build a fence, including a gate, across the stream or river in question for the purposes of containing livestock provided that it meets certain specifications and the location of the fence and gate is registered with the Chief Engineer. Failing to do so and should an individual from the public become harmed by this fence the landowner and/or builder of the fence may be held responsible.

And if this fencing liability issue does not complicate things enough SDCA would point out that the Missouri River is designated as navigable under federal statute. SDCA members that have dealt with federal navigability issues including public access are getting conflicting information depending on which federal agency they are dealing with. If the Master Plan involves changing the levels of the lakes to a considerable extent such as proposed in the unbalancing scheme the exact location of the mouth of a given tributary is going to vary considerably. At a high lake level the lake tends to backwater up into the tributaries and the lower reaches of the tributary actually become part of the lake. But when the lake is lowered the actual mouth of the tributary moves toward the lake and in many cases exposing large mud flats. Should this occur SDCA members are concerned about state verses federal jurisdiction over some of these fencing and public access issues and ultimately the liability issues. SDCA believes in state rights but in this case the state vs federal jurisdiction and subsequent liability issues are about as clear as the mud in the exposed mud flats.

Legal 16

The exposed mud flats pose many problems and another serious problem for adjacent landowners is "vegetation". If the mud flats are exposed for the specified purpose of growing "vegetation" that can be inundated with water at a later date supposedly to further the protection of endangered species, some criteria needs to be developed for this "vegetation". Past experience of many of these adjacent landowners is that to the COE and USF&WS "vegetation" usually means tumbleweeds and other such nuisance vegetation. This is unacceptable and these federal agencies need to comply with the same state and local statutes regarding the control of weeds as any other landowner is required to do. SDCA members believe that such a requirement should be clearly spelled out in the Master Water Control Manual. SDCA members do agree that these mudflats do need vegetation to prevent soil erosion via wind (dust storms) but noxious and nuisance weeds should not be the vegetation of choice. SDCA members believe that blowing dirt from dried mud flats must be controlled vegetation is probably the best method.

Other 194

Mentioned earlier in this comment is the fact that mud flats can also contribute to livestock losses. Livestock trying to cross mud flats to access water or to cross a tributary to better grazing can become bogged down in deep mud and eventually die if not rescued in timely fashion. At the SDCA annual convention in 2001 members passed Resolution No. 2001-33 **River Livestock Losses**.

Whereas, The Army Corps of Engineers currently compensates tribal livestock producers for livestock lost as a result of rising and falling Missouri River water levels; and

Whereas, Tribal members and non-members not residing on tribal reservations are not compensated for similar livestock losses; therefore, be it

Resolved, SDCA believes that all livestock losses resulting from water level changes on the Missouri River be fairly compensated to all producers regardless of location and cultural affiliations.

Legal 17

Because the COE already pays some producers for such losses it is apparent that the COE recognizes this problem. SDCA members believe that an indemnity fund should be included in the Master Water Control Manual to compensate producers for **ALL** livestock losses due to mud resulting from rising and falling levels of the lakes. Compensating only livestock losses on tribal lands is definitely discriminatory and, therefore, against federal policy.

Legal 18

SDCA would refer to United States Federal Claims Court Case No. 97-571L (Briggs Family Land Limited Partnership, et al., vs The United States). This case addresses some of the issues facing landowners at the confluence of one of these tributaries (Cheyenne River) with the Missouri above on of these dams (Oahe Dam). A settlement was reached before this case went to trial. Recognizing that a settlement was reached is indicative of the fact that the United States recognizes that property rights that are guaranteed in the Bill of Rights (Fifth Amendment) were infringed upon. A similar case has also been settled on the White River and another case is being prepared on the Moreau River in South Dakota. SDCA strongly suggests that this whole issue of property rights be thoroughly reviewed and settlements reached with adjacent landowners before a scheme, such as "unbalancing the lakes", is even considered.

Legal 19

All of the alternatives to varying degrees deal with the Endangered Species Act. In reading some of the proposals it can be construed by the suggestions and even perceived demands of the US Fish and Wildlife Service (USF&WS) that some things "must" be done their way. Agricultural producers all over this great country watched in horror as the events in the Klamath River Basin on the border between California and Oregon unfolded this past year; all in the name of endangered species. This was a classic case of environmental bureaucrats abusing regulatory authority to the extreme. We also read about the alleged case of USF&WS personnel participating in an effort to falsify scientific data in an attempt to document the presence of the Canadian lynx in least two national forests in Washington State. Closer to home South Dakota producers were told at several informational meetings in South Dakota in 1997 and 1998 that the Topeka Shiner was in serious jeopardy. An official of the USF&WS stated during more than one of these meetings that the Topeka Shiner was present in less that twenty percent of its original habitat. And now three to four years later during the wetlands debates that are now occurring in South Dakota USF&WS officials state that we must better clean up and preserve our streams because we must protect the Topeka Shiner that occurs in eighty percent of its original habitat. Common sense would indicate that USF&WS was using flawed scientific data when the Topeka Shiner was listed as endangered or is using flawed data now. Endangered species have not been documented to recover that fast at anytime since the Endangered Species Act has been in existence. SDCA believes in the protection of all species, endangered or otherwise, but also believes that some restraints must be put in place to prevent the protection of endangered species at all costs; especially when basic constitutional property rights are abused for the proposed "greater good" of protecting endangered species. Sound science must prevail. SDCA urges the review team to insure that property rights receive at least the same latitude of protection as endangered species in the final draft of the Master Control Manual and that measures that are included to protect endangered species are documented by sound scientific evidence.

Other 22

SDCA members have also noted that practices or programs, and the restrictions that come with them, that are instituted by federal agencies tend to find their way to similar state agencies. The concern in this instance is that USF&WS mandated policies for the purported purpose of protecting endangered species will be adopted by the South Dakota Department of Game, Fish, and Parks and attempts will be made to put similar policy in place on smaller rivers and streams that also provide water for livestock. SDCA members work hard to protect the quality of water in these water sources because quality water is critical to the welfare of their livestock. But sometimes mandates that are instituted by East Coast urban bureaucrats, that often times do not own land, can cause severe hardship after being "refined" by several subsequent levels of bureaucracy. SDCA hopes that as the revised manual is developed consideration is given to the people as well as the wildlife that live along this mighty water resource.

Other 196

Navigation is a concern that must also be entered into the equation as the revised manual is developed and does hold some concern for SDCA members. But of more interest to SDCA members is the potential that water from this source may offer to value added projects that are much needed in South Dakota. SDCA would only be speculating to try to describe what some of these potential value added projects might be but in most instances a dependable supply of quality water is a vital concern of any industry looking to start up or expand in South Dakota or any where else for that matter. Managing the Missouri River in such a manner to insure a dependable supply of water must be considered in the unbalancing proposals if industry and the jobs that come with industry is to be considered in the future of South Dakota's economy. SDCA members realize that not everyone can be directly employed in farming and ranching enterprises and if we are to keep more of our workers, especially our youth, in state we need to develop good paying jobs for them. At least some of these possible jobs have the potential to come from agricultural value added ventures that often are major users of water. These concerns must also be balanced against protecting endangered species at all costs.

WS 11

SDCA appreciates this opportunity to offer comment on the Missouri River Master Water Control Manual and thanks the COE this opportunity.

L0800002

National Corn Growers Association
www.ncga.com

February 28, 2002

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River
Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

Attn: Missouri River Master Manual RDEIS

On behalf of the 32,000 members of the National Corn Growers Association (NCGA), I would like to indicate our desire that the current water control plan (CWCP) be maintained as the guidance plan for Missouri River Master Manual operations. We at NCGA believe the proposed Gavins Point (GP) and Modified Current Plan (MCP) alternatives are flawed for the following reasons:

Gavins Point Plans (GP).
A man-made "spring rise" has the potential to adversely affect flood control and inland agricultural drainage. Any flood events or inland drainage problems resulting from the release of additional water from Gavins Point are "significant" to the individuals experiencing the event. The Corps' inability to accurately forecast rain or runoff will result in the release water in advance of a major rainstorm creating flooding. Further analysis of historic flow data indicates that higher than current discharges will also be necessary in the fall to evacuate the reservoir system before the next years inflows. This will increase the likelihood of bottomland flooding and interior drainage impediments in the fall.

FC 8

Planned discharge reductions in the summer "summer drawdowns" will severely impact the navigation industry on both the Missouri and Mississippi Rivers. The minimum navigation levels targeted during from June 21 to September 1 will devastate congressionally authorized river commerce on the Missouri River, likely ending navigation. Your own Water Compelled Rates Study indicates navigation provides between $75 million and $200 million worth of rail competition. If your plan eliminates navigation, how do you propose to cover the lost benefits of rail competition?

Nav 12, 8

Furthermore, water discharges from the Missouri River significantly influence navigation on the middle Mississippi River. Interruption or cessation on the Mississippi will affect millions of dollars of interstate commerce, and jeopardize the economic viability of the entire Midwest.

Miss 4

A further unintended consequence of the plan is the reduction of hydropower output during peak summer demand. In addition, flow reductions will also jeopardize the ability of utilities that draw Missouri River cooling water to meet the electricity needs of their customers when demand is at its highest. We do not believe your analysis adequately accounts for these costs.

HPower 12
MoPower 1

While we agree with your goal of increasing habitat for the threatened and endangered species, you have failed to adequately demonstrate how the GP plans will accomplish this.

HEADQUARTER OFFICE
1000 Executive Parkway, Suite 105
St. Louis, Missouri 63141
(314) 275-9915
FAX: (314) 275-7061

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122 C Street NW, Suite 510
Washington, DC 20001-2109
(202) 628-7001
FAX: (202) 628-1933

EnSp 5,17

The "spawning cue" for the pallid sturgeon is theoretical at best. Furthermore, from the mouth of the Platte River south (approximately 600 miles) the Missouri River experiences natural spring rises, so this additional water will not deliver the goals. Furthermore, tern and plover habitat can easily be created and maintained without flow alterations. Your own data indicates that under the most extreme GP plan (GP 2021) only164 acres of additional habitat will be created, with a mere 23 percent of this below Gavins Point. Surely, this can be achieved without flooding the citizens of the lower basin

EnSp 9

Modified Current Plan (MCP).
The NCGA is also opposed to the MCP alternative as currently outlined. While we agree with your decoupling the upper three reservoirs to increase habitat and fish populations, we oppose the drastic increase in permanent pools and higher navigation target levels. These higher pool requirements will adversely affect the navigation industry. The number of shortened season, or years with less than full service, will increase dramatically. Furthermore, any plan that raise pools on the reservoirs must also take into account planned and future water depletions. Without including these increased demands on water, you have underestimated the future effect on navigation and the lower basin states.

Nav 47
Miss 5

We are also concerned that the higher lake levels associated with the MCP will actually flood valuable tern and plover habitat during the nesting season.

EnSp 20

National Corn Growers Association is committed to wildlife habitat restoration, and support it in a manner that addresses species needs without adverse impact to humans. The U.S. Fish and Wildlife Service's Biological Opinion is based on theory and faulty science and too many questions remain unanswered about the species' critical habitat. It is unjust for farmers and the citizens of the lower Missouri River Basin to be subjected to possible economic devastation so theory can be tested. We at NCGA urge you to continue using the CWCP as the guidance plan for Missouri River management.

WRH 6

Sincerely,

Lee Klein
Chairman, National Corn Growers Association
Battle Creek, Nebraska

L0800003

Illinois Agri Women

Promoting a better understanding of agriculture and the family farm system.

ELEANOR ZIMMERLEIN
Legislative Chair
1518 Baseline Road
LaMoille, IL 61330
Ph/Fax 815-638-2050
November 27, 2001

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Comments on the Missouri River Water Control Plan

Thank you for the opportunity to comment on proposed changes to the Current Water Control Plan for the Missouri River. Our organization is a women's agricultural organization devoted to promoting a better understanding of agriculture and the family farm system.

Changes to Missouri River flow impact a large geographic area. a)Communities, individuals and businesses that are located in the mid-Mississippi Valley immediately north of St. Louis and south between St. Louis and Cairo, Illinois closely monitor the weather patterns across the lower Missouri because its flows directly impact their level of flood protection and navigation service levels. b) Increased spring flows and low summer flows, especially in a drought year, could severely limit navigation between Alton and Cairo, Illinois. This stretch of river is critical commercial activity of the entire Midwest because of the large total tonnage of cargo that moves each year through Lock and Dam 27 at Granite City and other locks to the north. In turn, much of the cargo that moves from the Upper and Mid-Mississippi is funneled to the world market through the Port of New Orleans.

Miss 4

Lowered summer flows would limit navigation on the Missouri River. a) Commercial towing companies estimate that lowering flows to the levels outlined in the alternatives would essentially end commercial navigation on the Missouri River. b) Navigation is critical to the operation of many small to mid-sized businesses on the Missouri River. Any policy that ends navigation on the river would discriminate against small to mid-sized businesses. c) Waterborne transportation is also a key element to setting freight rates among multiple modes of transportation. Although north-south trade corridors dominate the Plains States, the east-west capability of the lower Missouri plays a substantial role in keeping bulk commodity freight rates competitive for suppliers to move products that customers can still afford. (In other words, freight rates are a limiting factor that determines where a product is sold in a timely fashion or stored where it could rot or become outdated.)

Nav 12, 7, 8

One of our largest concerns is the precedent the decision making process on this issue could set for other tributaries and situations outside of the river and its valley. a) The Corps of Engineers is mandated to maintain a navigation channel, to assist with flood protection and emergency readiness, and to manage reservoirs for adequate water to produce energy. The Corps also has a fairly new mandate of managing environmental factors to preserve environmental quality and limit its degradation. As an agency, the Corps of Engineers has the technical capability and Congressional authorization to perform these functions. Yet, it appears the Corps is being held hostage by the U.S. Fish and Wildlife Service which threatens to open the Corps to lawsuit on endangered species. b) Data compiled by biologists reveal the Current water Control Plan provides more shallow water and sandbar habitat that is said to be necessary for the least tern, piping plover and pallid sturgeon reproductive cycles, than the flow changes being advocated by the U.S. Fish and Wildlife Service. This example indicated the U.S.F.W.S. places habitat- that would lead to growing numbers of the jeopardized species - as a lower priority than gaining power to determine how the rive should be managed. c) Additional data also indicates that activities outside the main channel - and therefore relatively independent of the flow rates and timing - would provide an environment where the species' populations could grow.

Other - 6

We oppose any revisions, specifically a spring rise and lowered summer flows, which would negative impact our members on the Missouri, Illinois and Mississippi rivers.

Sincerely

Eleanor Zimmerlein

MASTERMANUAL NWD02 L0800004

From: Judd Hulting [hulting]@ilsoy.org]
Sent: Thursday, February 28, 2002 1:16 PM
To: Mastermanual
Subject: Missouri River Master Manual RDEIS

Missouri river rdeis letter.do...

Dear Ms. Hargrave,

<<Missouri river rdeis letter.doc>>

Please accept this letter from our ISA President, Brad Glenn. The Illinois Soybean Association represents approximately 2,500 Illinois soybean farmers from across the state.

Thank You.

Judd

Judd Hulting
Director of Domestic Marketing and Special Projects
Illinois Soybean Association
1605 Commerce Parkway
Bloomington, IL 61704
309-663-7692 phone
309-663-6981 fax
www.ilsoy.org

Rose Hargrave
U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River
Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

February 28, 2002

Attn: Missouri River Master Manual RDEIS

Dear Ms. Hargrave:

We are deeply concerned that the reduced Missouri River flows will have a largely negative impact upon navigation on the Mississippi River. Approximately 40-50% of the water between St. Louis and Cairo can come from the Missouri River. A "low flow" event will make it extremely difficult to maintain a 9-foot deep, 300-foot wide navigation channel in the Mississippi River. This could cost Illinois soybean farmers a tremendous amount of income and lost market opportunities. Miss 4

Last year American farmers set a record and over 1 billion bushels of soybeans were exported. Most of this was moved down the Illinois and Mississippi Rivers from leading soybean states like Illinois, Iowa, Missouri, and Minnesota. Our farmers depend on world markets and barge transportation is the most effective mode of transportation to move large amounts of soybeans and soybean products.

Another troubling issue to farmers along the river would be the "spring rise". This has the potential to adversely affect flood control and inland agricultural drainage. The additional water release from Gavins Point accompanied with a major thunderstorm or local heavy rains could devastate a growing soybean crop. FC 8 IntD 1

While we do support species habitat restoration, we support it in a manner that addresses species needs without adverse impact to farmers. We believe there are other ways to improve the tern and plover habitat along with the pallid sturgeon. WRH 6

We believe the current water control plan (CWCP) should be maintained as the guidance plan for Missouri River Master Manual operations. Of the alternatives currently under consideration by the Corps, I support the CWCP as the alternative of choice. I urge you to continue using the CWCP as the guidance plan for Missouri River management. Other 6

Sincerely,

Brad Glenn
President, Illinois Soybean Association
Stanford, IL

Other 228 L0800005

UPPER MISSISSIPPI, ILLINOIS & MISSOURI
RIVERS ASSOCIATION

Affiliate Members
Illinois Valley Flood Control Association
Missouri Levee and Drainage District Association

UMIMRA Office
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Gerald L. Moughler, P.E.
Keokuk, IA
319-524-2883

October 9, 2001

Mr. Mike Parker
Assistant Secretary ~~for~~ Civil Works
Department of ~~the Army~~
108 Army Pentagon
Washington, D.C. 20310-0108

Dear Mr. Parker:

On behalf of our members who live in the Missouri and middle-Mississippi river valleys, we are requesting an extension on the public comment period and the addition of a public workshop and hearing upriver of St. Louis for the Missouri River Revised Draft Environmental Impact Statement.

Specifically, we request the public meetings that are currently scheduled for November 2001 be rescheduled to January or February 2002. There are two reasons driving this request:

1) Inadequate time to review and analyze the RDEIS data and materials. The RDEIS information was released August 31st prior to the Labor Day holiday. From our association's standpoint, previously scheduled meetings and commitments throughout the month of September prevented even the smallest movement, such as drafting this letter, on the Master Manual.
2) Poor timing for the largest group of stakeholders. Those people who are involved in grain production and agribusiness are at the peak of harvesting and transporting corn and soybeans in October and November. It is very difficult to participate in a workshop and hearing given that working hours typically run from 7:00 a.m. to 9:00 p.m. each day during harvest and fall tillage.

We also request that a hearing be held up river of St. Louis to give those on the upper Mississippi who are impacted by Missouri flows an opportunity to learn and to comment on the water control plan. A public meeting was held in Quincy, Illinois during initial rounds of public comment periods on the Missouri River.

Thank you for considering our requests. We look forward to hearing from you.

Sincerely,

Heather Hampton+Knodle
Executive Director

cc: Northwest Division Master Manual Team

L0800006

UPPER MISSISSIPPI, ILLINOIS & MISSOURI
RIVERS ASSOCIATION

Affiliate Members
Illinois Valley Flood Control Association
Missouri Levee and Drainage District Association

UMIMRA Office
Quincy

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Gerald L. Moughler, P.E.
Keokuk, IA
319-524-2883

November 13, 2001

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Comments on Missouri River Water Control Plan

Thank you for the opportunity to comment on proposed changes to the Current Water Control Plan for the Missouri River. Our organization is a membership organization that represents those people, businesses and communities who rely upon the rivers and their productive valleys or protection from the rivers' ravages for their livelihoods and their ways of life.

Several aspects of the proposed alternatives for managing the Missouri River concern our membership.

- The proposed *spring rise* would lessen flood protection levels on the Missouri and the mid-Mississippi. a) Increasing spring releases from the Gavin's Point reservoir will increase the river stage, thereby lessening the amount (or height) of existing flood protection. b) Upon their release from Gavin's Point, millions of gallons of water will travel more than 10 days before they reach St. Louis. A large rainfall at any point along the Lower Missouri could result in the river overtopping levees. c) The effects of flooding can be experienced without a levee or floodwall overtopping. Specifically, higher waters lead to increased seepage that creates higher groundwater tables. In agricultural areas, this increase ~~in groundwater and~~ resulting delays in planting or harvesting could cost farmers half their yield. The window for planting, in particular, is narrowly framed by optimum soil temperature and moisture as well as anticipated weather conditions. If high groundwater prevents farmers from planting at the otherwise optimum time, then the government should compensate farmers for their losses.

FC 8
GW 2

- We oppose *greater variation in flow rates* because we anticipate it will cause riverbanks to erode more quickly. Fluctuating heights of water, duration of the stage, and rates of flow will scour the banks. The increased erosion will result in more sediment in the river and, in many cases, less levee to protect the valley.

ErSd 18

- Changes to Missouri River flows impact a *large geographic area.* a) Communities, individuals and businesses that are located in the mid-Mississippi Valley immediately north of St. Louis and south between St. Louis and Cairo, Illinois closely monitor the weather patterns across the lower Missouri because its flows directly impact their level of flood

Miss 4
FC 8

protection and navigation service levels. b) Increased spring flows and low summer flows, especially in a drought year, could severely limit navigation between Alton and Cairo, Illinois. This stretch of river is critical to commercial activity of the entire Midwest because of the large total tonnage of cargo that moves each year through Lock and Dam 27 at Granite City and other locks to the north. In turn, much of the cargo that moves from the Upper and Mid-Mississippi is funneled to the world market through the Port of New Orleans.

Miss 4

- Lowered summer flows would *limit navigation* on the Missouri River. a) Commercial towing companies estimate that lowering flows to the levels outlined in the alternatives would essentially end commercial navigation on the Missouri River. b) Navigation is critical to the operations of many small- to mid-sized businesses on the Missouri River. Any policy that ends navigation on the river would discriminate against small- to mid-sized businesses. c) Waterborne transportation is also a key element to setting freight rates among multiple modes of transportation. Although north-south trade corridors dominate the Plains States, the east-west capability of the lower Missouri plays a substantial role in keeping bulk commodity freight rates competitive for suppliers to move products that customers can still afford. (In other words, freight rates are a limiting factor that determines whether a product is sold in a timely fashion or stored where it could rot or become outdated.)

Nav 12, 7, 8

- One of our members' largest concerns is the *precedent* the decision making process on this issue could set for other tributaries and situations outside of the river and its valley. a) The Corps of Engineers is mandated to maintain a navigation channel, to assist with flood protection and emergency readiness, and to manage reservoirs for adequate water to produce energy. The Corps also has a fairly new mandate of managing environmental factors to preserve environmental quality and limit its degradation. As an agency, the Corps of Engineers has the technical capability and Congressional authorization to perform these functions. Yet, it appears the Corps is being held hostage by the U.S. Fish and Wildlife Service which threatens to open the Corps to lawsuit on endangered species. b) Last fall we viewed data compiled by biologists that revealed the Current Water Control Plan provides more shallow water and sandbar habitat that is said to be necessary for the least tern, piping plover and pallid sturgeon reproductive cycles, than the flow changes being advocated by the U.S. Fish and Wildlife Service. This example indicates the U.S.F.W.S. places habitat – that would lead to growing numbers of the jeopardized species – as a lower priority than gaining power to determine how the river should be managed. c) Additional data also indicates that activities outside the main channel – and therefore relatively independent of the flow rates and timing – would provide an environment where the species' populations could grow.

Other - 5

EnSp 56

EnSp 26

In summary, we oppose any revisions, specifically a spring rise and lowered summer flows, which would negatively impact our members on the Missouri and Mississippi rivers.

Sincerely,

Heather Hampton+Knodle
Executive Director

UPPER MISSISSIPPI, ILLINOIS & MISSOURI
RIVERS ASSOCIATION
QUINCY
SATELLITE OFFICE
201 WEST FAIRGROUND AVENUE
HILLSBORO, ILLINOIS 62049

U.S. Army Corps of Engineers
Northwestern Division
Attention: Missouri River Master Manual
RDEIS
12565 West Center Road
Omaha, NE 68144-3869

L0800007

UPPER MISSISSIPPI, ILLINOIS & MISSOURI RIVERS ASSOCIATION

February 28, 2002

U.S. Army Corps of Engineers FAX: 402-697-2504
Northwestern Division
Attention: Missouri River Master Manual RDEIS
12565 West Center Road
Omaha, NE 68144-3869

RE: Comments on Missouri River Water Control Plan

Thank you for providing a comment period long enough to allow us to unearth additional information related to the negative consequences the five alternatives to the Current Water Control Plan would have on the middle Mississippi and lower Missouri rivers.

We appreciate your consideration of the following comments in addition to our written and verbal testimony presented on November 13, 2001.

Recently, we learned of floodstage data that is weighty evidence of why a spring rise is not in the best interest of the citizens of Missouri, Illinois and other downstream states.

Several of the Corps' proposed alternatives to the Current Water Control Plan propose a "spring rise" of at least a 20,000 cfs increased release of water from Gavin's Point reservoir. The result once the water reaches Cape Girardeau approximately 13 days later is roughly a nine-tenths foot increase at flood stage (Cape's flood stage is 32 feet). That's almost one foot. And one foot means the difference between staying dry and struggling to survive for the people on the middle-Mississippi. FC 8

The uncertainty in weather forecasting and the inability to control flows on the Missouri downstream of Gavin's Point or on the Mississippi make the 13-day window of "spring rise" travel time an unacceptable risk to the residents, communities and businesses protected by levees on the lower Missouri and mid-Mississippi. FC 8

In summary, we oppose any revisions, specifically a spring rise and lowered summer flows, which will negatively impact our members on the Missouri and Mississippi rivers.

Sincerely,

Heather Hampton+Knodle
Executive Director

L0800008

MASTERMANUAL NWD02

From: Jessica Callow [jcallow@mosoy.org]
Sent: Thursday, February 28, 2002 7:52 AM
To: Mastermanual
Cc: moriver@socket.net; dludwig@mosoy.org
Subject: final comments

MoSoyfinalcomments.doc

On behalf of the Missouri Soybean Association and the Missouri Soybean Merchandising Council, attached are final comments regarding changes to the Missouri River Master Manual. Thank you for your consideration.

Jessica Callow
(573) 635-3819
jcallow@mosoy.org

1

Missouri Soybean Association
Missouri Soybean Merchandising Council
Final Comments
Missouri River Master Manual Public Comment Period
Revised Draft Environmental Impact Statement (RDEIS)
February 28, 2002

As members of the Coalition to Protect the Missouri River we concur with the statement by that organization. We represent over 32,000 soybean farmers who depend on the Missouri River. We support responsible management of the Missouri River resources and the maintenance of congressionally authorized purposes of the river including flood control and navigation.

Agriculture provides a livelihood for thousands of Missourians. Farmers are putting food on the table for millions of people around the world, and the Corps is planning to jeopardize some of our best land, not to mention, the devastation this could cause on our homes and communities. Yes, we support habitat restoration for endangered or threatened species, but only if it does not harm humans or their livelihoods. Therefore, we believe the current water control plan is the only feasible management option of the six proposed alternatives.

Other - 19

A "man-made" spring rise has the potential to cause flooding and inland agricultural drainage problems for farmers. Missouri River dams, initially built to reduce flooding, have prevented $18 billion in flood damages. Flood control is not a birthright but does make sound national economic and emergency management policy.

FC 8

Floodplain farmers till some of the most productive land in the world. They also face natural risks of flooding and inland drainage problems. Too much moisture is as detrimental to crop production as too little moisture. For this reason, there is great concern with the spring rise alternatives. Man-made river flows that will increase the risk of flooding or inland drainage problems along the Missouri River and its tributaries are unacceptable. With the state of agriculture today, producers can't withstand man-made events that compound the natural risk inherently a part of farming.

FC 8
IntD 1

Furthermore, we are opposed to reduced summer river levels that will result in a split navigation season and likely end Missouri River navigation altogether and pose a negative impact to the Mississippi River. In Missouri, we export nearly 50 percent of our soybeans. The flow of the Missouri River has an impact on the Mississippi River, therefore leading to the reduction of transportation.

Nav 12, 7
Miss 4

The reduction of summer flows would equal the minimum service for navigation. These releases would not be adequate to provide navigation on the Missouri River or the Mississippi River during the harvest season. With grain prices at an all-time low, we do not need unnecessary actions hindering our efforts.

Nav 46, 3, 12
Miss 4

People and communities must be valued before the pallid sturgeon, piping plover and the least tern. We urge you to put the people living and working along the Missouri River first. Please make Missouri's agricultural community a top priority as you determine the best plan of action for the Missouri River.

Other - 20

Thank you,
Missouri Soybean Association
Missouri Soybean Merchandising Council
P.O. Box 104778
Jefferson City, MO 65110
(573) 635-3819
E-mail: jcallow@mosoy.org

MASTERMANUAL NWD02 L0800009

From: KellyPhub1@aol.com
Sent: Tuesday, February 26, 2002 8:33 PM
To: Mastermanual
Subject: Missouri River.....

To Whom It May Concern,

It is brought to my attention that conditions on the Missouri river that are under consideration would be detrimental to corn and soybean prices for Illinois farmers. The present low price conditions that we have been experiencing over the last three years would be compounded by your actions. I would hope for the sake of family farmers in Illinois that you would rethink your strategy and think of other options. What comes to mind first is the rehabilitation of the locks on the Mississippi river. This would expedite barge traffic and make Illinois farmers more competitive in the world market by being able to deliver grain more efficiently. We need all the help we can get as this is a world market in which we are trying to compete. The countries in South America that compete with us for the trade of the world are doing an excellent job of improving their infrastructure. Although they are still behind us it will not be long before they have a potential to be considerably more profitable and competative in delivering grain. Please help us to stay ahead of these markets. Our livelyhoods depend on our countries ability to deliver effectively.
Please help us, do not hinder our already depressed prices.
Thank you for listening to our plight. I remaign,

Nov 7, 49

Respectfully Yours,

Paul Kelly
Burbank, Illinois
Memember: Illinois Corn Growers Association

L0800010

From: Morety [moreton@mvp.net]
Sent: Monday, November 19, 2001 7:37 PM
To: Mastermanual
Cc: eneuner@mosoy.org; marc2k@aol.com
Subject: Public Comments to continue CWCP

from: John Moreton
1330 Ashland Hills
Cape Girardeau, MO 63701

to: Rose Hargrave
U.S. Army Corps of Engineers
Northwestern Division
12565 West Center Road
Omaha, NE 68144-3869

Attn: Missouri River Master Manual RDEIS

Dear Ms. Hargrave:

The Corps has done a great job over the years to protect U S citizens from flooding of the Missouri River. We have not always been successful and some people have lost life and property in river floods. Now some groups want you to create artificial floods in the Spring that might accidentally add to a natural storm and flood in the Spring. The incidence of natural floods is increasing and we do not need to temp fate with an artificial flood. Please continue to provide the best flood protection possible and continue with the CWCP.

This letter is to indicate my desire that the current water control plan (CWCP) be maintained as the guidance plan for Missouri River Master Manual operations. Of the alternatives currently under consideration by the Corps, I support the CWCP as the alternative of choice for the following reasons:

* A man-made "spring rise" has the potential to adversely affect flood control and inland agricultural drainage. Any flood events or inland drainage problems resulting from the release of additional water from Gavins Point are "significant" to the individuals experiencing the event. The Corps does not have the ability to accurately forecast rain events or rain runoff and could, therefore, release water in advance of a major rainstorm creating flood devastation.

FC 8

Thank you,

John Moreton
Missouri Soybean Merchandising Council

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