

State and Local Government Agencies

State of Oregon

Department of Environmental Quality, Pendleton
Department of Fish and Wildlife, Pendleton
Parks and Recreation Department
State Historic Preservation Office, Salem
Water Resources Department, Pendleton

Morrow County

Board of Commissioners, Heppner
*County Court, Heppner

Umatilla County

Board of County Commissioners, Pendleton

Irrigation Districts

Hermiston Irrigation District, Hermiston
Stanfield Irrigation District, Stanfield
*West Extension Irrigation District, Irrigon
*Westland Irrigation District, Hermiston

Libraries

Hermiston Public Library, Hermiston
Pendleton Public Library, Pendleton
Stanfield Public Library, Stanfield

Interested Entities and Individuals

Dadoly, John P., Pendleton
Fredericks, Pelcyger, and Hester, Louisville, Colorado
Greenwalt, Larry, Umatilla
Natural Resources Consulting Engineers, Fort Collins, Colorado
Pacific Comm, Portland
Principals Group, Portland
Reuter, Robert, Hermiston
*Strebin Farms, Inc., Irrigon
WaterWatch of Oregon, Portland

List of Preparers

This draft environmental assessment was prepared by employees in the Pacific Northwest Regional Office, 1150 North Curtis Road, Suite 100, Boise, ID 83704-1234; Upper Columbia Area Office, 1917 Marsh Road, Yakima, WA 98907-1749; and in the Technical Service Center, PO Box 25007, Denver, CO 80225-0007. A list of persons who prepared various sections of the assessment or participated to a significant degree in preparing the assessment is presented below in alphabetical order by office.

Name	Title	Contribution
Technical Service Center, Denver, Colorado		
James Bailey	Historian	Cultural resources, Indian sacred sites
Raymond Bark	Fisheries biologist	Fisheries and essential fish habitat
Yvonne Bernal	Biologist	Vegetation, riparian habitat, wetlands, wild-life, threatened and endangered species
Susan Black	Social Science Analyst	Public involvement, Indian trust assets, environmental justice, and social analysis
Chad DeVore	Recreation specialist	Recreation
Paula Engel	Economist	Economic analysis
Willie Forest	Land suitability	Soils and lands
Patty Gillespie	Technical writer-editor	Writing and editing
Marlene Johnson	Natural resource planner	Assistant team leader
Ken Mangelson	Water resource engineer	Water quality
Teri Manross	Technical editor	Editing and desktop publishing
Erin Quinn	Natural resource planner	Team leader
Upper Columbia Area Office, Yakima, Washington		
John Evans	Environmental protection specialist	Environmental team lead
Dave Kaumheimer	Manager, Environmental Programs	Environmental oversight
Warren Sharp	Hydrologist	Surface water analysis
Pacific Northwest Regional Office, Boise, Idaho		
John Roache	Hydrologist	Surface water analysis
John Tiedeman	Activity Manager	Regional activity manager

Environmental Commitments

This list includes the environmental commitments made in the project plan and environmental assessment. Reclamation has the primary responsibility to see that these commitments are met if the proposed action is implemented.

If the proposed action results in a reduction in streamflow in the Umatilla River, a “replacement” volume of water would be provided from McKay Reservoir to fully offset the reduction in streamflows. It is anticipated the mitigation would be 895 acre-feet. This mitigation would be incorporated under both the Partial Adjustment and the Full Adjustment Alternatives. Westland would use McKay storage water to fulfill the mitigation requirements.

Glossary

Acre-foot. A volume of water that would cover 1 acre to a depth of 1 foot (325,850 gallons, 43,560 cubic feet, 1,233.5 cubic meters).

Adfluvial. Adfluvial fish spawn in streams but live in lakes; fluvial fish spawn in headwaters streams but live downstream in larger rivers.

Anadromous. Fish that migrate from the sea (salt water) up a river (fresh water) to spawn.

Catadromous fish (lamprey). Fish that migrate down a river (fresh water) to the sea (salt water) to spawn.

Cultural resource. A term for which the meaning is largely derived from and limited by Federal law, regulation, and Executive orders, and departmental or agency standards or policies. “Cultural resources” are specific places that may be or are important in the history of the nation and its peoples. These resources include prehistoric or historic period archeological sites; buildings or structures of architectural, engineering, or historical associative value; places of importance in history or tradition; and traditional cultural properties, which are resources important in maintaining the traditional lifeways of a community. Within the broad range of cultural resources are those that have recognized “historical significance.” Locations or buildings that retain physical integrity and meet the criteria for listing on the *National Register of Historic Places* specifically are “historic properties” (see below). A fishing ground or site may be an example of a “cultural resource” (and may even be a “historic property” if it meets the *National Register* eligibility criteria).

Culturally important resource. Culturally defined sets of relationships exist between a group of people, their culture, and their world. These relationships define and are defined by the values, uses, meanings, and relevance people hold for their natural, cultural, and spiritual world. Some natural or other resources are essential for maintenance of a culture and can be considered “culturally important resources.” Culturally important resources must be defined, understood, and treated within the context of the culture that identifies and values them. The fish that are taken at a fishing site would be an example of a “culturally important resource,” as might be special plants used to build or maintain the site and its appurtenances.

Economic analysis. A procedure that includes both tangible and intangible factors to evaluate various alternatives.

Economic evaluation. A procedure or process used to verify that good business decisions are being made based on sound economic principles.

Extirpated species. A species that has become extinct in a given area.

Historic property or historic resource. As defined in the National Historic Preservation Act, Title III, Section 301 (16 U.S.C. 470w)(5), a historic property or historic resource means “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the *National Register*, including artifacts, records, and material remains related to such a property or resource.” The criteria defining eligibility to the *National Register* are provided in regulations (36 CFR 60.4).

Hydrology. Scientific study of water in nature: its properties, distribution, and behavior. The science that treats the occurrence, circulation properties, and distribution of the waters of the earth and their reaction to the environment.

Instream flows. Waterflows for uses within a defined stream channel; e.g., flows designed for fish and wildlife.

Mainstem. The main course of a stream.

Redds. Redds or salmon redds are the spawn of a fish; spawning ground or nest of fishes.

Salmonids. Family of fish that includes salmon and steelhead.

Scoping. Scoping, as defined in the Council on Environmental Quality (CEQ) regulations of 1978, is “an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.” It is a process by which the agency solicits information and concerns from the public through meetings, workshops, and other means.

Spawning. To lay eggs; refers mostly to fish.

References

- Bastasch, Rick. 1998. *Waters of Oregon: A Sourcebook on Oregon's Water and Water Management*. Corvallis: Oregon State Univ. Press.
- Bjornn, T.C., and D. W. Reiser. 1991. "Habitat Requirements of Salmonids in Streams" In: "Influences of Forest and Rangeland Management on Salmonid Fishes and their Habitats." *American Fisheries Society Special Publication*, vol. 19, pp. 83-138.
- Bonneville Power Administration. 1996. *Evaluation of Juvenile Salmonid Out-migration and Survival in the Lower Umatilla River Basin*. Annual Report Prepared for BPA by Oregon Department of Fish and Wildlife.
- Bonneville Power Administration, Reclamation, and U.S. Army Corps of Engineers. 1999. *Biological Assessment of the Federal Columbia River Power System*. Submitted to NMFS and USFWS. December 21, 1999.
- Boyd, M., D. Butcher, B. Kasper, and P. Leinenbach. 1999. *Umatilla Subbasin Draft Temperature Assessment*. Oregon Department of Environmental Quality.
- Buchanan, D.V., M.L. Hanson, and R.M. Hooton. 1997. *Status of Oregon's Bull Trout: Distribution, Life History, Limiting Factors, Management Considerations, and Status*. Portland: Oregon Department of Fish and Wildlife.
- City of Echo. 2002. *Echo's Cultural Resource Inventory*. pp. 25, 22-23. <<http://www.uplinkos.com/>>
- Close, D.M., M. Fitzpatrick, H. Li, B. Parker, D. Hatch, and G. James. 1995. *Status Report of the Pacific Lamprey (Lampetra tridentate) in the Columbia River Basin*. U.S. Dept. of Energy, Bonneville Power Administration Report, Project No. 94-026, Contact No. 95B139067.
- Confederated Tribes of the Umatilla Indian Reservation. 2003. *History & Culture of the Cayuse, Umatilla, and Walla Walla Indians*. <<http://www.umatilla.nsn.us/>>

- Confederated Tribes of the Umatilla Indian Reservation. 1990. Confederated Tribes of the Umatilla Indian Reservation and Oregon Department of Fish and Wildlife. 1990. Columbia Basin System Planning Salmon and Steelhead Production Plan. Umatilla River Subbasin. Prepared for the Northwest Power Planning Council, Portland Oregon. Pendleton, Oregon.
- Contor, C.R., E. Hoverson, and P. Kissner. Report in Progress. 2003. *Umatilla Basin Natural Production Monitoring and Evaluation, Annual Progress Report 2000 – 2002*. Portland, Oregon. Confederated Tribes of the Umatilla Indian Reservation, Department of Natural Resources.
- Contor, C.R., E. Hoverson, P. Kissner and J. Volkman. 1995, 1996, 1997, 1998, 2000. *Umatilla Basin Natural Production Monitoring and Evaluation, Annual Progress Report 1995 – 2000*. Portland, Oregon. Confederated Tribes of the Umatilla Indian Reservation, Department of Natural Resources.
- Contor, C.R., E. Hoverson and P. Kissner. 1998. *Umatilla Basin Natural Production Monitoring and Evaluation, Annual Progress Report 1996-1997*. Portland: Confederated Tribes of the Umatilla Indian Reservation, Department of Natural Resources.
- Environmental Protection Agency. 2001.
<<http://es.epa.gov/oeca/main/ej/index.html>. EPA website, Shonn Taylor, webmaster. November 2001.
- Geist, David R., Timothy P. Hanrahan, Even V. Arntzen, Geoffery A. McMichael, Christopher J. Murray, and Yi-Ju Chien. 2002. "Physiochemical Characteristics of the Hyporheic Zone Affect Redd Site Selection by Chum Salmon and Fall Chinook Salmon in the Columbia River." *North American Journal of Fisheries Management*, Vol. 22, pp. 1077-1085.
- Germond, J. 2000. Assistant District Fish Biologist, Umatilla District. Oregon Department of Fish and Wildlife, Personal communication.
- Groot, C., and L. Margolis, eds. 1991. *Pacific Salmon Life Histories*. University of British Columbia Press. Vancouver, B.C. 564 p.
- Hunn, E.S. 1990. Nch'I-Wana "The Big River." *Mid-Columbia Indians and Their Land*. Univ. of Washington Press. Seattle, Washington.
- Isaacs, Frank. 2003. Personal communication. Senior Faculty Research Assistant, Oregon State University, Corvallis, Oregon. September 5, 2003.

- Isaacs, Frank B., and Robert G. Anthony. 2000. *Bald Eagle Nest Locations and History of Use in Oregon and the Washington Portion of the Columbia River Recovery Zone 1971 through 2000*. Oregon Cooperative Fish and Wildlife Research Unit, Oregon State University, Corvallis, Oregon. 21 pp.
- Knapp, S.M., R.W. Carmichal, D.L. Ehlers, S.M. Focher, T.A. Jones, and J.C. Kern. 2000. *Evaluation of Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin. 1997 – 1998 Annual Progress Report to Bonneville Power Administration*, Portland Oregon.
- McCullough, D.A. 1999. *A Review and Synthesis of the Effects of Alterations to the Water Temperature Regime on Freshwater Life Stages of Salmonids, with Special Reference to Chinook Salmon*. EPA, 910-R-99-010. U.S. Environmental Protection Agency, Region 10, Seattle, Washington, 279 pp.
- Marshall, David B., Mark Chilcote, and Hal Weeks. 1996. *Species at Risk: Sensitive, Threatened and Endangered Vertebrates of Oregon*. Oregon Department of Fish and Wildlife.
- Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater MN 55082, <www.implan.com> 1997.
- National Marine Fisheries Service. 2002. *Draft Biological Opinion on the Operation of the Umatilla Basin Project*. Endangered Species Act – Section 7 Consultation, Operation of the Umatilla Basin Project Umatilla and Morrow Counties, Oregon. National Marine Fisheries Service, Northwest Region, OSB-2001-0062-FEC.
- National Marine Fisheries Service. 2000. *Biological Opinion/Reinitiation of Consultation on Operation of the Federal Columbia River Power System, Including the Juvenile Fish Transportation Program, and 19 Bureau of Reclamation Projects in the Columbia Basin*, <http://www.nwr.noaa.gov/1hydrop/hydroweb/docs/Final/2000Biop.html>
- National Register of Historic Places*. 2003. *National Register of Historic Places, Umatilla County*. <<http://arcweb.sos.state.or.us/shpo/umatilla>>
- Northrop, M. 1997. *Bull Trout Spawning Ground Survey Results for the Northern Blue Mountains for the Years 1994, 1995, and 1996*. Walla Walla Ranger District, Walla Walla, Washington.
- Oregon Agricultural and Fisheries Statistics, USDA Oregon Agricultural Statistic Service, various years.

- Oregon Economic and Community Development Department. 2001. County Economic Indicators, various years, including 2001 and 1999.
- Oregon Trail Advisory Council. 1988. Our Oregon Trail: A Report to the Governor. Salem, Oregon: Oregon Trail Advisory Council.
- Oregon State Parks Department. 2003. Oregon Statewide Comprehensive Outdoor Recreation Plan.
- Poff, N. L., J.D. Allen, M.B. Bain, J.R. Karr, K.L. Prestengaard, B.D. Richter, R.E. Sparks, and J.C. Stromberg. 1997. "The Natural Flow Regime." *Bioscience*, Vol. 47, No. 11.
- Poff, N.L., and J.V. Ward. 1990. "Physical Habitat Template of Lotic Systems: Recovery in the Context of Historical Pattern of Spatiotemporal Heterogeneity." *Environmental Management*, Vol. 14, pp. 629-645.
- Post, R.H. 1938. "The Subsistence Quest: In the Sinkaietk or Southern Okanogan of Washington," L. Spier, editor, pp. 9-34. In *General Series in Anthropology*, No. 6. Menasha.
- Ray, V.F. 1933. "The Sanpoil and Nespelm Salishan Peoples of Northwestern Washington." *Publications in Anthropology*, Vol. 5. Univ. of Washington.
- Reiser, D.W., and T.C. Bjornn. 1979. *Habitat Requirements of Anadromous Salmonids*. U.S. Forest Service, General Technical Report PNW-96: 1-54.
- Rimbach, Greg. June 23, 2003. Personal Communication. Assistant District Wildlife Biologist, Oregon Department of Fish and Wildlife, Pendleton, Oregon.
- Saul, Darin; Craig Rabe; Anne Davidson; Dora Rollins. 2001. Draft Umatilla Subbasin/Willow Creek Subbasin Summary. Prepared for the Northwest Power Planning Council. August 3, 2001. 347 pp.
- Sauter, S., J. McMillan, and J. Dunham. 2001. "Salmonid Behavior and Water Temperature." U.S. EPA 910-D-01-001. Issue Paper 1 for the EPA Region 10 Temperature Water Quality Criteria Guidance Development Project.
- Spinden, H.J. 1908. "The Nez Perce Indians." In: *Memoirs of the American Anthropological Association*. Vol. 2(3): pp. 167-274.
- Stene, Eric A. 1993. The Umatilla Project. Denver: U.S. Bureau of Reclamation History Project (unpublished). pp. 3, 4.

- Swindell. 1941. "Accustomed Fishing Sites of the Umatilla Indian Reservation." Unpublished Report, on file at the Department of Natural Resources, Confederated Tribes of the Umatilla Indian Reservation.
- Thullen, Joan. 2003. Personal communication. Professional wetland scientist, Society of Wetland Scientists. Littleton, Colorado. September 15, 2003.
- Tiedeman, John. June 13, 2003. Personal Communication. Activity Manager, U.S. Bureau of Reclamation, Pacific Northwest Regional Office, Boise, Idaho.
- Umatilla County Commercial Club Federation, the County Farm Bureau and the County Court. 1923. *Umatilla County, Oregon: A Truthful Exposition of the Facts and Future Possibilities of the Leading Agricultural County of the State*. Pendleton, Oregon: Umatilla County Commercial Club Federation, the County Farm Bureau and the County Court.
- Umatilla County Historic Society. 1981. *Umatilla County: A Backward Glance*. Pendleton, Oregon: Umatilla County Historic Society. pp. 8, 27.
- Umatilla/Walla Walla Bull Trout Working Group. 1999. Meeting Minutes: March 1, Pendleton, Oregon.
- U.S. Census Bureau. 2000. Population of Umatilla and Morrow Counties. U.S. Department of Commerce.
- U.S. Census Bureau. 2000. Oregon 2000 Census Information, *American FactFinder*. July 18, 2003. <<http://factfinder.census.gov/>> (accessed July 18, 2003)
- U.S. Department of the Interior, Bureau of Reclamation, 2003. Supplement to the August 2001 Biological Assessment for the Umatilla Project and the Umatilla Basin Project, May 2003. Upper Columbia Area Office, Yakima, Washington.
- U.S. Department of the Interior, Bureau of Reclamation, 2002a. Final Environmental Assessment for Hermiston Irrigation District Boundary Adjustment. Upper Columbia Area Office, Yakima, Washington.
- U.S. Department of the Interior, Bureau of Reclamation, 2002b. Final Environmental Assessment for Stanfield Irrigation District Boundary Adjustment. Upper Columbia Area Office, Yakima, Washington.

- U.S. Department of the Interior, Bureau of Reclamation. 2000. *Biological Assessment of Effects to Listed Salmonid Species From Continued Operations and Maintenance of the Umatilla Project and Umatilla River Basin*. Prepared for National Marine Fisheries Service, Boise, Idaho, and U.S. Fish and Wildlife Service, Portland, Oregon. To fulfill consultation requirements under section 7 of the Endangered Species Act. Prepared by Gary Torretta, Upper Columbia Area Office, Yakima, Washington, September 2000.
- U.S. Department of the Interior, Bureau of Reclamation Memorandum. 1994. To Regional Director, From Deputy Commissioner, Land Classification Approval – Stanfield, Westland, and West Extension Irrigation Districts, Umatilla Basin Project, Oregon. March 9, 1994.
- U.S. Department of the Interior, Bureau of Reclamation. 1993a. 1993 Land Classification Report for the Expansion of Stanfield Irrigation District, Westland Irrigation District, West Extension Irrigation District. Boise: U.S. Bureau of Reclamation, Pacific Northwestern Regional Office.
- U.S. Department of the Interior, Bureau of Reclamation. 1993b. Land Classification Report for Expansion of Stanfield Irrigation, Westland, and West Extension Irrigation Districts, Supplement to 1970 Lands Appendix, Umatilla Basin Project, Oregon.
- U.S. Department of the Interior, Bureau of Reclamation, 1988. Umatilla Basin Project Planning Report/Final Environmental Statement. February, 1988.
- U.S. Department of Agriculture. Soil Conservation Service (currently known as Natural Resources Conservation Service). 1983. Westland Irrigation District Water Conservation and Distribution System, RC&D Project Plan. Portland, Oregon, August 1983.
- U.S. Department of Agriculture. 1948. Soil Survey, The Umatilla Area, Oregon. Series 1937, No. 21, issued March 1948.
- U.S. Department of Agriculture. 1988. Soil Survey of Umatilla County Area, Oregon, United States Department of Agriculture, November 1988.
- U.S. Fish and Wildlife Service. 2003. Letter to Reclamation regarding endangered species in project area.
- U.S. Fish and Wildlife Service. 1999. Proposed Rule to Remove the Bald Eagle in the Lower 48 States From the List of Endangered and Threatened Wildlife. *Federal Register*. 64(128): 36454-36464.

- U.S. Fish and Wildlife Service. 1986. Pacific Bald Eagle Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon. 163 pps.
- U.S. Fish Commission. *Bulletin of the U.S. Fish Commission*. 1894. In: *Umatilla River Basin Total Maximum Daily Load and Water Quality Management Implementation Plan*, March 2001. Oregon Department of Environmental Quality.
- Wick, Mike. 2003. Personal communication (e-mail) to Paula Engel. Economics relating to boundary change. May 30, 2003.
- Woodward, John A. 1985. "A Report on Cultural Resource Investigations Within the Echo Urban Growth Boundaries." Unpublished report submitted to the City of Echo.

Attachment A

Preconservation Scenario

Preconservation Scenario

As part of the cumulative effects analysis, Reclamation has analyzed the 1983 conservation program that Westland initiated. Westland and the CTUIR agreed that Reclamation would analyze the impacts of this program; however, it is not part of the proposed action in this environmental assessment.

A Preconservation Scenario was analyzed using the RiverWare™ model to determine the effects of water conservation practices that occurred in the Westland Irrigation District (Westland) in 1983. This scenario was compared to the No Action Alternative to estimate impacts to flows in the Umatilla River as a result of these water conservation practices. Impacts to the Umatilla River were realized in the following locations along the Umatilla River: (1) Upstream of the Westland Diversion. Impacts are due to differences in the timing and magnitude of storage water releases from McKay Reservoir. These differences reflect the different management scenarios of the Preconservation Scenario and the No Action Alternative. (2) Downstream of the Dillon Diversion. Impacts are a result of differences in the timing and magnitude of return flows from Westland.

Modeling Assumptions and Methodology

The modeling assumptions, inputs, and methodology used in the Preconservation Scenario were the same as those used in the No Action Alternative model run with the following exceptions and/or additions:

1. Canal seepage in the Westland North RiverWare subarea set to 40 percent to reflect preconservation conditions. This canal delivers water to 3,150 in-boundary acres that receive McKay storage water as a supplemental water supply.
2. Water deliveries to the Westland North subarea were increased to overcome seepage losses. In other words, gross water deliveries (pre-canal-seepage) to Westland North were greater per acre than the rest of Westland to achieve the same net delivery (post-canal-seepage) amount throughout the district.

Storage water that was used by out-of boundary lands in the Full Adjustment Alternative (OB storage water) was used by in-boundary lands in the Preconservation Scenario. The same method that was used in the No Action Alternative was used in the Preconservation Scenario to deliver the OB storage water.

Figure 1 shows average monthly potential crop irrigation requirements and average monthly modeled depletions for in-boundary lands. These depletions represent average monthly depletions for the Preconservation Scenario for years 1994 through 2002 after the apportionment of the OB storage water.

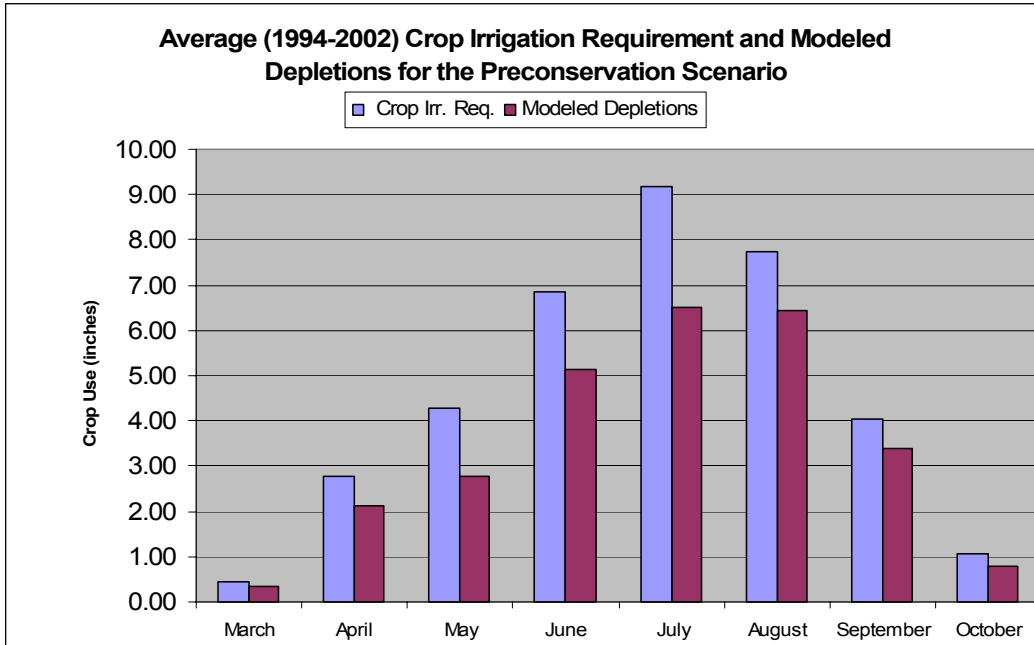


Figure 1: Average (1994-2002) monthly potential crop irrigation requirements and average monthly modeled depletions for in-boundary lands for the Preconservation Scenario.

The modeled results of the Preconservation Scenario were compared to the modeled results of the No Action Alternative to estimate the magnitude and timing of any impacts to the Umatilla River and to McKay Creek. Impacts to the Umatilla River were realized in the following locations.

Upstream of the Westland diversion: Impacts are due to differences in the timing and magnitude of storage water releases from McKay Reservoir. These differences reflect the different management scenarios of the modeled alternative and scenario.

Downstream of Dillon diversion: Impacts are a result of differences in the timing and magnitude of return flows from Westland.

It is important to note that the projected downstream and upstream impacts are generated by a single action, boundary adjustment, and are not independent effects of separate actions.

Impacts Upstream of Westland Diversion

Impacts to the Umatilla River upstream of the Westland Diversion, as a result of conservation practices, are due to the differences in the magnitude and timing of storage water releases from McKay Reservoir. Table 1 shows the modeled average monthly differences in diversions (1994-2002) at Westland Diversion for the Preconservation Scenario when compared to the No Action Alternative. There are relatively minor differences in monthly diversions, and the annual diversion volumes are equivalent for both the Preconservation Scenario and the No Action Alternative. These differences in diversions are realized upstream of the Westland Diversion in the Umatilla River and in McKay Creek.

Table 1.—Modeled average monthly (1994-2002) flow and volume diversion differences between the Preconservation Scenario and the No Action Alternative at the Westland Diversion

Average of all years	Pre-conservation Scenario	
	Flow difference (average daily, cfs)	Volume difference (acre-feet)
January	0.0	0
February	0.0	0
March	0.0	0
April	0.0	0
May	0.0	0
June	-5.2	-309
July	-6.9	-423
August	10.8	662
September	1.8	105
October	-0.6	-35
November	0.0	0
December	0.0	0
Annual		0

Impacts Downstream of the Dillon Diversion

Impacts to the Umatilla River, downstream of the Dillon Diversion are due to differences in return flows from Westland. The differences in return flows are mainly attributed to differences in diversions and differences in canal seepage. Table 2 shows the modeled average monthly differences in return flows (1994-2002) from Westland, as measured in the Umatilla River upstream of the West Extension Irrigation District (West Extension) diversion for the Preconservation Scenario, when compared to the No Action Alternative. Return flows are higher for the Preconservation Scenario because of higher canal seepage returns.

Table 2.—Modeled average monthly (1994-2002) flow and volume return flow differences between the Preconservation Scenario and the No Action Alternative as measured in the Umatilla River upstream of the West Extension Diversion

Average of all years	Preconservation	
	Flow difference (average daily, cfs)	Volume difference (acre-ft)
January	3.5	212
February	2.9	160
March	2.3	141
April	2.5	149
May	3.7	225
June	4.6	276
July	6.2	381
August	7.7	475
September	9.3	553
October	8.0	495
November	6.0	354
December	4.4	269
Annual		3,690

Modeled Flows at Various Locations along the Umatilla River

Modeled impacts to the Umatilla River and McKay Creek were examined for years 1994 through 2002. The actual historical flows (1994-2002) at Umatilla River at Yoakum (YOKO), Umatilla River below Feed Diversion (UMUO), Umatilla River below Dillon Diversion (UMDO), Umatilla River at Umatilla (UMAO), and McKay Creek below McKay Reservoir (MCKO), adjusted to include 10 cfs minimum flow below McKay Reservoir, reflect operations that include deliveries to OB lands under TWSCs. This “current” operation includes conditions that would be similar to those that would occur under full boundary adjustment. Therefore, these historic flows will be used to estimate the flows that would occur under the Full Adjustment Alternative.

The period 1994-2002 contains a range of water supply conditions that can be used to review a typical dry, average, or wet year scenario. The years 1995, 1996, and 1997 were wet years; 1999, 2000, 2002 were average years; and 1994, 1998, and 2001 were dry years. Years of a similar category were averaged together to obtain mean monthly flows for wet, average, and dry years. To estimate the flows at these points along the river for the No Action Alternative, subtract the full impact from the historic flows. To estimate the flows at these points along the river for the Preconservation Scenario, add the preconservation impact to the No Action flows.

YOKO (Umatilla River at Yoakum)

Estimated flows at YOKO, which is upstream of the Westland Diversion, are shown in table 3 for the No Action Alternative and the Preconservation Scenario and for wet, average, and dry years. Table 4 shows mean volume differences between the scenarios. The differences in flows at YOKO are due to differences in the magnitude and timing of McKay storage water releases. This explanation of flows at YOKO is true for any point on the Umatilla River from McKay Creek to the Westland Diversion and for McKay Creek downstream of McKay Reservoir.

Table 3: Estimated mean flows at Yoakum for wet, average, and dry years for the No Action Alternative and the Preconservation Scenario.

Month	YOKO, Umatilla River at Yoakum (RM 38), average daily flows (cfs)					
	Wet year		Average year		Dry year	
	NA	Preconserv	NA	Preconserv	NA	Preconserv
Jan	1361.7	1361.7	744.2	744.2	619.6	619.6
Feb	2513.4	2513.4	834.4	834.4	433.5	433.5
Mar	1977.0	1977.0	1415.7	1415.7	1095.3	1095.3
Apr	1843.3	1843.3	1625.4	1625.4	1044.6	1044.6
May	1558.0	1558.0	801.1	801.1	870.0	870.0
Jun	458.1	452.4	476.4	470.2	434.1	428.7
Jul	280.8	273.2	253.5	247.4	256.3	247.1
Aug	245.3	257.0	201.5	211.2	208.7	223.2
Sep	210.3	214.0	185.0	186.9	179.8	180.0
Oct	237.1	234.8	226.2	226.8	201.5	201.3
Nov	445.4	445.4	240.1	240.1	347.6	347.6
Dec	902.6	902.6	345.7	345.7	765.9	765.9
Annual difference (acre-ft)		0		0		0

Table 4: Mean volume differences at YOKO for wet, average, and dry years for the Preconservation Scenario when compared to the No Action Alternative

Month	YOKO , Umatilla River at Yoakum (RM38), volume differences (acre-ft)					
	Wet year		Average year		Dry year	
		Preconserv		Preconserv		Preconserv
Jan		0		0		0
Feb		0		0		0
Mar		0		0		0
Apr		0		0		0
May		0		0		0
Jun		-340		-370		-320
Jul		-466		-374		-570
Aug		723		594		891
Sep		223		113		13
Oct		-140		37		-14
Nov		0		0		0
Dec		0		0		0
Annual difference (acre-ft)		0		0		0

UMUO (Umatilla River downstream of Feed Diversion)

Estimated flows at UMUO, which is upstream of the Westland Diversion and downstream of the Feed Diversion, are shown in table 5 for the No Action Alternative and the Preconservation Scenario and for wet, average, and dry years. Table 6 shows mean volume differences between the scenarios. The differences in flows at UMUO are due to differences in the magnitude and timing of McKay storage water releases.

Table 5: Estimated mean flows at UMUO for wet, average, and dry years for the No Action Alternative and the Preconservation scenario.

Month	UMUO, Umatilla River downstream of Feed Diversion (RM 28), average daily flows (cfs)					
	Wet year		Average year		Dry year	
	NA	Preconserv	NA	Preconserv	NA	Preconserv
Jan	1226.3	1226.3	681.5	681.5	568.8	568.8
Feb	2363.1	2363.1	721.5	721.5	292.9	292.9
Mar	1547.6	1547.6	1250.7	1250.7	841.9	841.9
Apr	1412.8	1412.8	1486.3	1486.3	790.8	790.8
May	1138.9	1138.9	759.5	759.5	700.2	700.2
Jun	334.3	328.6	465.3	459.0	362.4	357.0
Jul	196.2	188.6	236.0	229.9	200.8	191.6
Aug	172.8	184.5	189.6	199.2	169.0	183.5
Sep	153.0	156.7	175.0	176.9	158.8	159.0
Oct	241.8	239.6	221.7	222.3	195.1	194.9
Nov	476.8	476.8	248.3	248.3	307.4	307.4
Dec	851.6	851.6	358.0	358.0	659.4	659.4
Annual difference (acre-ft)		0		0		0

Table 6: Mean volume differences at UMUO for wet, average, and dry years for the Preconservation Scenario when compared to the No Action Alternative

Month	UMUO, Umatilla River downstream of Feed Diversion (RM 28), volume differences (acre-ft)					
	Wet year		Average year		Dry year	
		Preconserv		Preconserv		Preconserv
Jan		0		0		0
Feb		0		0		0
Mar		0		0		0
Apr		0		0		0
May		0		0		0
Jun		-340		-370		-320
Jul		-466		-374		-570
Aug		723		594		891
Sep		223		113		13
Oct		-140		37		-14
Nov		0		0		0
Dec		0		0		0
Annual difference (acre-ft)		0		0		0

UMDO (Umatilla River downstream of Dillon Diversion)

Flows at UMDO and any point along the Umatilla River upstream of UMDO and downstream of the Westland Diversion are the same for both the Preconservation Scenario and the No Action Alternative. Westland diverts any storage water that it releases for irrigation. Therefore, any changes in McKay storage releases are not realized downstream of the Westland Diversion and upstream of the Dillon Diversion. Live flow diversions at Westland are the same for both scenarios. Estimated flows at UMDO are shown in Table 7 for the No Action Alternative and the Preconservation Scenario and for wet, average, and dry years.

Table 7: Estimated mean flows at UMDO for wet, average, and dry years for the No Action Alternative and the Preconservation scenario.

Month	UMDO, Umatilla River downstream of Dillon Diversion (RM 24), average daily flows (cfs)					
	Wet year		Average year		Dry year	
	NA	Preconserv	NA	Preconserv	NA	Preconserv
Jan	1184.1	1184.1	596.1	596.1	597.9	597.9
Feb	2326.4	2326.4	651.3	651.3	289.4	289.4
Mar	1757.9	1757.9	1282.3	1282.3	879.7	879.7
Apr	1496.4	1496.4	1354.9	1354.9	760.8	760.8
May	772.6	772.6	515.7	515.7	512.4	512.4
Jun	138.7	138.7	227.5	227.5	157.4	157.4
Jul	5.8	5.8	55.9	55.9	22.2	22.2
Aug	4.1	4.1	26.7	26.7	7.2	7.2
Sep	36.7	36.7	76.1	76.1	43.1	43.1
Oct	182.5	182.5	194.0	194.0	156.4	156.4
Nov	408.0	408.0	250.3	250.3	298.4	298.4
Dec	694.9	694.9	323.4	323.4	667.4	667.4
Annual difference (acre-ft)		0		0		0

UMAO (Umatilla River at Umatilla)

Flows at UMAO could be affected by return flows from irrigated acreage and canal seepage losses from Westland, which will vary, depending on which scenario is in place. Generally, flows will be more at UMAO under the Preconservation Scenario when compared to the No Action Alternative, due to the returns from increased canal seepage. Most of the return flows return to the Umatilla River downstream of UMDO; therefore, any impacts to the river due to changes in return flows will potentially affect only the reach from UMDO to the mouth of the Umatilla River. Estimated flows at UMAO are shown in table 8 for

the No Action Alternative and the Preconservation Scenario and for wet, average, and dry years. Table 9 shows mean volume differences between the scenarios.

Table 8: Estimated mean flows at UMAO for wet, average, and dry years for the No Action Alternative and the Preconservation scenario.

Month	UMAO, Umatilla River at Umatilla (RM 2.2), average daily flows (cfs)					
	Wet year		Average year		Dry year	
	NA	Preconserv	NA	Preconserv	NA	Preconserv
Jan	1368.5	1371.9	667.1	670.7	530.9	534.3
Feb	2695.2	2698.0	688.4	691.4	341.6	344.4
Mar	1942.1	1944.4	1285.5	1287.9	917.4	919.5
Apr	1496.7	1499.1	1288.9	1291.4	702.9	705.5
May	1224.6	1227.8	451.1	455.1	605.8	609.5
Jun	201.1	205.3	240.2	245.4	219.0	223.6
Jul	15.5	21.5	65.7	72.3	28.6	34.7
Aug	40.6	48.2	54.6	62.5	33.0	40.6
Sep	123.0	132.4	136.1	145.2	107.4	116.9
Oct	275.9	284.4	243.7	251.3	233.0	241.0
Nov	496.2	502.3	297.6	303.4	366.0	371.9
Dec	870.4	874.9	365.2	369.5	678.8	683.1
Annual Difference (acre-ft)		3654		3752		3665

Table 9: Mean volume differences at UMAO for wet, average, and dry years for the Preconservation Scenario when compared to the No Action Alternative

Month	UMAO, Umatilla River at Umatilla (RM 2.2), volume differences (acre-ft)					
	Wet year		Average year		Dry year	
		Preconserv		Preconserv		Preconserv
Jan		208		224		205
Feb		156		168		155
Mar		139		149		134
Apr		142		154		150
May		199		246		231
Jun		251		307		270
Jul		368		404		372
Aug		471		486		469
Sep		557		542		561
Oct		523		467		494
Nov		364		343		355
Dec		276		262		269
Annual difference (acre-ft)		3654		3752		3665

MCKO (McKay Creek below McKay Reservoir)

Estimated flows at MCKO, which is downstream of McKay Reservoir, are shown in table 10 for the No Action Alternative and the Preconservation Scenario and for wet, average, and dry years. Table 11 shows mean volume differences between the scenarios. The differences in flows at MCKO are due to differences in the magnitude and timing of McKay storage water releases.

Table 10: Estimated mean flows at MCKO for wet, average, and dry years for the No Action Alternative and the Preconservation scenario.

Month	MCKO, McKay Creek below McKay Reservoir, average daily flows (cfs)					
	Wet year		Average year		Dry year	
	NA	Preconserv	NA	Preconserv	NA	Preconserv
Jan	45.7	45.7	10.1	10.1	10.1	10.1
Feb	186.7	186.7	10.0	10.0	10.0	10.0
Mar	246.6	246.6	10.1	10.1	10.1	10.1
Apr	230.7	230.7	118.4	118.4	23.3	23.3
May	260.4	260.4	58.1	58.1	66.4	66.4
Jun	179.3	173.6	175.4	169.2	214.2	208.8
Jul	191.9	184.3	197.9	191.8	209.1	199.8
Aug	203.5	215.3	171.5	181.1	180.4	194.9
Sep	155.3	159.1	140.8	142.7	146.2	146.4
Oct	149.4	147.1	145.3	145.9	144.3	144.1
Nov	24.2	24.2	87.5	87.5	51.9	51.9
Dec	10.1	10.1	10.4	10.4	10.1	10.1
Annual Difference (acre-ft)		0		0		0

Table 11.—Mean volume differences at MCKO for wet, average, and dry years for the Preconservation Scenario when compared to the No Action Alternative

Month	MCKO, McKay Creek below McKay Reservoir , volume differences (acre-ft)					
	Wet year		Average year		Dry year	
		Preconserv		Preconserv		Preconserv
Jan		0		0		0
Feb		0		0		0
Mar		0		0		0
Apr		0		0		0
May		0		0		0
Jun		-340		-370		-320
Jul		-466		-374		-570
Aug		723		594		891
Sep		223		113		13
Oct		-140		37		-14
Nov		0		0		0
Dec		0		0		0
Annual difference (acre-ft)		0		0		0

Summary

The results of modeling the Preconservation Scenario have shown that conservation activities, which occurred in Westland, have reduced return flows to the Umatilla River. Comparison of the Preconservation Scenario to the No Action Alternative also shows that there are other minor differences in the magnitude and timing of flows. These differences are shown in the following locations along the Umatilla River and in McKay Creek below McKay Reservoir:

Upstream of the Westland diversion: Impacts in the Umatilla River are due to differences in the timing and magnitude of storage water releases from McKay Reservoir. These differences reflect the different management scenarios of the modeled scenarios. The impacts are monthly variations that occur during the irrigation season. Annually, there are no differences between the scenarios.

Downstream of Dillon diversion: Impacts in the Umatilla River are a result of differences in the timing and magnitude of return flows from Westland. Average annual modeled return flows were around 3,690 acre-feet higher for the Preconservation Scenario.

Attachment B

Comments and Responses

Comments and Responses

The Draft Environmental Assessment (EA) was distributed to the public on January 22, 2004. Comments were scheduled to be received for 30 days until February 23, 2004.

Approximately 75 copies of the Draft EA were distributed to Federal, State, and local agencies, native American tribes, irrigation districts, and interested members of organizations and the general public. A total of 6 comment letters were received during the public review. Reclamation's responses to the significant comments and these documents are included in this attachment B (Comments and Responses).

The comment letters are presented in the order shown in the distribution list and in the table below. The responses precede the comment documents. The first page of each comment document is identified in the table below.

Some comments are repeated in several of the letters received. A summary of the comments and responses follow the table.

Commenters are from the state of Oregon unless otherwise indicated.

Written Comments

The following table provides the list of those commenting in distribution list order, with the page number of the comment document.

		Letter (page)
01	Confederated Tribes of the Umatilla Indian Reservation, Pendleton	B-5
02	Bureau of Indian Affairs, Portland	B-9
03	Morrow County Court, Heppner	B-13
04	West Extension Irrigation District, Irrigon	B-14
05	Westland Irrigation District, Hermiston	B-16
06	Strebin Farms, Inc. Irrigon	B-17

Summary of Significant Comments and Reclamation Responses

The significant review comments are summarized below along with Reclamation's responses. Some changes have been made in the text, where appropriate, in response to the comments.

Comment:

What effect does the irrigation of these additional lands have on the West Extension Irrigation District?

Response:

The RiverWare model identified an effect on the West Extension Irrigation District (West Extension) because West Extension's irrigation water is, in part, based on return flows from upstream irrigators. Based on the hydrologic modeling done for the EA, the preferred alternative would reduce flows at Threemile Falls Dam during the irrigation season. This would reduce the amount of water available for diversion at Threemile Falls Dam by West Extension in July, August, and the first half of September by 450 acre-feet. It should be noted that the impacts estimated by the model are smaller than the errors in the actual streamflow measurements used as input of the model. Because Westland will address this concern by obligating 500 acre-feet of McKay water as part of the proposed action for use by West Extension any potential impact to West Extension is alleviated. The 500 acre-feet accounts for conveyance losses from McKay to Threemile Falls Dam. Allocation and distribution of this water will comply with Oregon State Water laws.

Comment:

The proposed mitigation/enhancement allows for water to stay in McKay Reservoir and be available for fisheries. Why isn't this water available to West Extension Irrigation District?

Response:

Based on RiverWare model results, 895 acre-feet of water is being provided as mitigation to instream flow impacts. Westland has also committed to the CTUIR that they will provide an additional 605 acre-feet of water from their McKay allocation as a fishery enhancement measure. Both quantities of water would be released from McKay Reservoir at the request of the fishery managers (CTUIR and Oregon Department of Fish and Wildlife) and would be protected from diversion to the mouth of the Umatilla River.

Comment:

With projected lower flows in September above Westland's diversion dam, the amount of suitable habitat area would be reduced from both a temperature and wetted-area perspective.

Response:

Irrigation releases under the Full Boundary Adjustment alternative would cease in the last week of September, potentially reducing flows above Westland's diversion dam compared to the No Action alternative, under which releases for irrigation continue until early October. Storage releases from McKay for instream flow purposes, however, are already underway by the last week of September. Consequently, releases for irrigation and releases for instream flows overlap by several days which ensures that the cessation of irrigation releases doesn't result in changes to suitable habitat. In 2003, when this overlap occurred, releases from McKay Reservoir rose in the period of overlap from about 80- 130 cfs to around 200 cfs and then fell to around 150 cfs when irrigation releases ceased. The instream flow releases are made in September to augment flows all the way to the mouth of the river.

Comment:

Since fish augmentation water must be released during this period to maintain rearing habitat, this water is unavailable to fish when they need it during passage periods, which causes lower flows during spring and/or fall fish migration.

Response:

The fish augmentation water, to maintain rearing habitat, would not need to be released until after McKay Reservoir releases for Westland end. In the past Westland has foregone use of up to about 6,300 acre-feet of McKay storage water as mitigation under the Temporary Water Service Contracts (TWSC). Because of that mitigation commitment, Westland has not had enough water to irrigate past the middle of September. The fish augmentation water has been used by fisheries managers after Westland had stopped irrigating but before McKay releases were needed to augment flows for fish migration. With Westland providing 1,500 acre-feet of water for instream flow augmentation, 895 acre-feet as mitigation for the boundary adjustment and, as an additional commitment to the CTUIR, 605 acre-feet as a fishery enhancement measure, instead of 6,300 acre-feet, they can continue to divert water into the latter part of September. Consequently, storage releases to augment flows for fish migration will already be underway before Westland stops irrigating, so releases to maintain habitat conditions above Westland's diversion dam wouldn't be needed.

Comment:

Page 8 – Provides that “[c]ategory III are lands that lie outside Westland’s boundaries and consist of 8,855.5 acres of which 5,759 would be irrigated in any given year.” The Draft EA, however, does not provide any discussion of how the BOR intends to monitor this and similar limitations on water use provided in the document, how will the agency assure that these limitations are carried out?

Response:

Since 2001, Reclamation has implemented an effort to identify unauthorized use by implementing a district review process. In implementing this review process, Reclamation has committed to periodic on-site reviews to determine whether the annual use of water is in accordance with existing contract terms. During these reviews, Reclamation staff will travel to the irrigation district office to make an onsite review of a number of items related to the use of project water, including the acres of lands served, water delivery records and water-master records. If it is found that the district is not complying with the contract terms, then Reclamation will advise the district of the actions required to bring them into compliance.



CONFEDERATED TRIBES
of the
Umatilla Indian Reservation

P.O. Box 638
PENDLETON, OREGON 97801
Area code 541 Phone 276-3165 FAX 276-3095

February 23, 2004

Ronald Eggers, Area Manager
U.S. Bureau of Reclamation Pacific Northwest Region
Lower Columbia Area Office
825 NE Multnomah St., Suite 1110
Portland, OR 98907

RE: WID Draft EA – Comments

Dear Ron:

Thank you for the opportunity to comment on the Bureau of Reclamation's (Reclamation) Draft Environmental Assessment for the Westland Irrigation District Boundary Adjustment dated December 2001 (DEA). The Tribal Water Commission for the Confederated Tribes of the Umatilla Reservation (the Commission) believes a significant amount of progress has been made over the last decade or so that Westland's boundary adjustment proposal has been on the table. This is primarily a result of the 2003 MOA between the Westland and the Tribes as well as several joint efforts the two entities have engaged in to benefit the salmon fishery in the Umatilla Basin and to maintain the farming economy.

In addition to the comments provided below, the Commission intends to abide by its commitment to Westland Irrigation District provided under the Memorandum of Agreement dated April 25, 2003. One of the Commission's principal concerns is the further reduction in water available for fish, which decreased from about 6500 ac-ft (1993 MOA) to about 1900 ac-ft in Westland's 2003 Temporary Water Service Contract in 2003 to 895 ac-ft as provided in the DEA. This is a setback for fish restoration in the Umatilla Basin, and a solution to the problem may need to be found outside the NEPA process.

The Commission has the following specific comments:

I. Appendix A

The Commission is encouraged by the analysis of the Pre-conservation Scenario provided in Appendix A-1. This is in keeping with Reclamation's commitment, made in

fall of 2000, to draft a separate no action alternative that identifies the specific impacts of WID's conservation activities and to conduct an historic overview to look at development of both the Umatilla Project and the Umatilla Basin Project and their environmental effects.

At the same time, Reclamation's preferred action will result in a decrease of 1,000 ac-ft (below the 2003 mitigation requirement) of water available for fish augmentation flows on an annual basis. In addition to those listed by Reclamation in the DEA on Page 47, lower water releases for irrigation in September have two potential impacts on fish: 1) at lower flow levels the amount of suitable habitat area is reduced from both a temperature and wetted-area perspective – this is not captured adequately in the text as the DEA uses the generic term to “a short reach of the Umatilla River” without any reference to actual size of the area, and 2) since fish augmentation water must be released during this period to maintain rearing habitat, this water is unavailable to fish when they need it during passage periods, which causes lower flows during spring and/or fall fish migration. These impacts negatively affect fish and are inconsistent with the Umatilla Basin Project Act of 1988. As a result, the Commission shall consult with Reclamation and meet with Westland to discuss measures to increase flows in the river to meet fundamental fish needs.

II. Miscellaneous

- a) The frontpiece figure: This figure shows the County Line Irrigation District in with WID. Figures 2 and 3 also include CLWID but not in Figure 1.
- b) Page 8 – Provides that “[c]ategory III lands are lands that lie outside Westland's boundaries, and consist of 8,855.5 acres of which 5,759 would be irrigated in any given year.” The DEA, however, does not provide any discussion of how the BOR intends to monitor this and similar limitations on water use provided in the document. How will the agency insure that these limitations are carried out?
- c) Page 30 – Mitigation: the DEA should explain why impacts occurring in the River above WID's diversion in June, September, and October do not need to be mitigated. Refer to Tables 10, 13, 15, and 20, under normal conditions, impacts during the migration periods sum to 2,889 ac-ft. The increased streamflow in July and August does not compensate for the reduced flow during the spring and fall salmonid migration periods.
- d) Page 40 – Salmon: Here are more accurate numbers and years; CHF 85 - 6,028 (1985-2002), CHS 13 - 5,246 (1988-2003), and Coho 29 - 22,872 (1987-2002).
- e) Page 41 – Streamflow: The statement in the 2nd paragraph that the Umatilla River downstream from McKay Creek is only used seasonally for migration and over-wintering is contradictory to the discussion and citations on pages 43 and 50 (Germond 2000) that

identifies this reach as summer rearing habitat for steelhead. This use should also be included in Table 24. Also, the spring chinook adult migration season of use is incorrect – it should be April – July.

f) Page 44 – Salmonid Juvenile Rearing: 1) the discussion of summer rearing is related to coho spawning areas but back in the Salmonid Spawning section there is no description of coho spawning distribution and magnitude in relationship to the affected project area below McKay Creek and 2) this discussion is specific to the late summer period when WID discontinues McKay irrigation releases.

g) Page 46 – Lamprey: In the last sentence, they can't go behind the fish ladder. They can pass through diffusers inside the ladder without passing in front of the viewing window.

h) Page 50 – MCR Steelhead: Potentially, spawning does occur in lower McKay Creek.

i) Page 51 – Bull Trout: There have also been a few adults (5) captured at Three Mile Dam in May and June.

j) Page 52 - MCR Steelhead and Bull Trout: Steelhead “migrants” may be present...” – This statement is incorrect as stated, should probably use a different term than migrants here (juveniles?). Also, see comments above regarding lower flows in September.

k) Page 54 – Recreation (Affected Environment and Consequences): No mention at all of McKay Reservoir and associated recreational usage and potential impacts.

l) Page 65 – Exchange Program: Last paragraph, water exchange with WEID ends July 1. WEID doesn't “potentially” divert the entire flow they DO divert the entire flow.

m) For the reader, it would be easier to view a hydrograph of the wet, average, and dry years with a table of the flow differences for the different reaches. As it is with just tables, the reader is not able to easily examine the trends in flow differences between conditions and location.

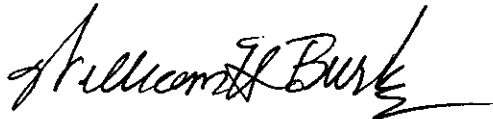
This concludes the Commission's comments on the Draft Environmental Assessment for the proposed boundary adjustment for Westland Irrigation District. We assume that once this EA is finalized, it will go through the NOAA consultation process under Section 7.

The Commission intends to uphold the commitments in CTUIR's 2003 MOA with Westland. We may want to consult with Reclamation in mid-March, prior to the developments and issuance of a FONSI, to discuss how to resolve our concerns about the impacts of the reduction of water available for fish. If you have any questions regarding

Ronald Eggers
February 23, 2004
p. 4

these comments please contact the Tribal Water Resources Program Staff at (541) 966-2426. I look forward to continuing to work with you on the WID boundary expansion process.

Sincerely,

A handwritten signature in black ink, appearing to read "William Burke". The signature is fluid and cursive, with a long horizontal stroke at the end.

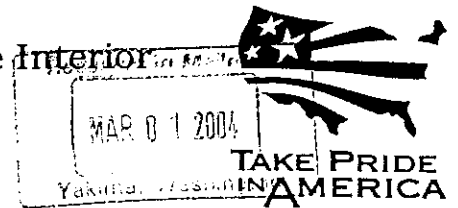
William Burke, Chairman
Tribal Water Commission

Cc: Tribal Water Commission
Antone Minthorn/BOT
Michael Farrow/DNR
Aaron Skirvin/WRP
Harold Shepherd/WRP
Kate Ely/WRP
Gary James/Fisheries
Brian Zimmerman/Fisheries
Dan Hester/Tribal Attorney
Bob Hamilton/BOR
Dave Kaumhiemer/BOR
Mike Wick/WID
Michael Tehan/NOAA Fisheries



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Northwest Regional Office
911 N.E. 11th Avenue
Portland, Oregon 97232-4169



MEMORANDUM

FEB 26 2004

TO: Dave Kaunheimer, Bureau of Reclamation

FROM: Northwest Regional Director

SUBJECT: Review of Proposed Boundary Adjustment for the Westland Irrigation District, Umatilla Project, Oregon, Umatilla and Morrow Counties - Draft Environmental Assessment.

This office has reviewed the Draft Environmental Assessment and the attached comments prepared by the Bureau of Indian Affairs contractor - Natural Resource Consulting Engineers. Please accept these comments as the Bureau of Indian Affairs response to the request for review and comment.

Please contact Ms. Mary T. Manydeeds at 503-872-2886 if you have any questions regarding this memorandum.

Attachments



MEMORANDUM

Date: February 19, 2004

To: Mary Manydeeds, Bureau of Indian Affairs, Northwest Regional Office

From: Marijan Babic, Natural Resources Consulting Engineers, Inc.

Re: Comments on the Draft Environmental Assessment, *Proposed Boundary Adjustment for the Westland Irrigation District, Umatilla Project, Oregon*

Natural Resources Consulting Engineers, Inc. (NRCE) has reviewed the January 2004 Draft Environmental Assessment, *Proposed Boundary Adjustment for the Westland Irrigation District, Umatilla Project, Oregon* (DEA), which was prepared by the U.S. Bureau of Reclamation (BOR). NRCE is the prime contractor to the Bureau of Indian Affairs (BIA), Northwest Regional Office (NWRO), regarding the National Environmental Policy Act (NEPA) proceedings concerning the proposed boundary adjustment for the Westland Irrigation District (WID).

Since May 2002, NRCE has participated in the work of the Umatilla Hydrologic Model Development Team in an oversight role for the BIA-NWRO. NRCE has performed review and assisted in the development of the calibration version of the *RiverWare* hydrologic model, which was used by the BOR as the basis for the hydrologic modeling and analysis presented in the DEA.

NRCE has previously reviewed and prepared comments on the August 2003 Administrative DEA (ADEA). Most of NRCE's comments on the ADEA have been addressed in the DEA. The modeling and analysis that were performed for the DEA represent improvements over those that have been performed for the ADEA. Following are NRCE's comments on the technical issues in the DEA.

Formulation of Alternatives

The fundamental assumption in the DEA is that the WID would use all water that is presently used on the out-of-boundary lands to extend irrigation season on the in-boundary lands in the event that the proposed boundary adjustment is not approved. The DEA presents an assumed cropping pattern and the corresponding crop water requirements. However, the DEA does not compare these requirements to the actual historical water deliveries to demonstrate that these historical deliveries were insufficient and that extending the irrigation season would be appropriate. The DEA does not demonstrate that the assumed use of all water within the WID boundaries under the No Action Alternative (NAA) would not exceed the crop water requirements. The DEA also does not explain how the irrigation season would be extended in practice to exactly compensate for discontinuance of the current project water use on out-of-boundary lands under the NAA.

Mitigation

The DEA provides for mitigation of 895 ac-ft for impacts due to differences in the return flows below the Dillon Diversion. However, the DIA does not specify the manner in which the mitigation water would be applied. The application of the mitigation water should match the timing of the impacts. Furthermore, 895 ac-ft represents the average annual impact for years 1994-2002 (Table 11). The impacts in different years are different and in some years the impacts will be greater than 895 ac-ft. For example, Table 17 shows that the average impacts in wet years are 948 ac-ft. The impacts in the worst year would be even higher.

Furthermore, there is no mitigation specified for impacts above Westland Diversion. These impacts are approximately 13 cfs in September and approximately 8 cfs in October, relative to baseline flows of the order of 150 cfs. On page 47, the DEA argues that fish releases from McKay Reservoir in September and October would provide adequate conditions for rearing under all alternatives. However, the DEA does not present background information on the operational policy concerning these releases and it is not clear that these releases would guarantee adequate conditions. It is furthermore not clear that sufficient water would be available in McKay Reservoir at all times to provide adequate releases. The impacts shown in Table 10 can be interpreted as differences in the releases under the NAA relative to the Full Boundary Adjustment Alternative (FBAA). Having to release less water under the NAA would result in more water in McKay Reservoir to be used later. Hence, the FBAA results in impacts on the amount of storage water available for fish releases, and these impacts should be mitigated. The sum of the average impacts for September and October is 1,266 ac-ft, and the impacts in the worst year would be higher.

Period for Analysis

The results presented in the ADEA are based on the period 1994-2002 (9 years), while the full modeling period includes 1947-2002 (46 years). Although the model is being run for 46 years, it appears that the period 1947-1993 is not used for anything. Given the structure of the model, it is probably more appropriate to report the results based on the more recent period during which the Umatilla Basin Project facilities were in place. However, nine years is generally not sufficiently long to extract accurate averages. Furthermore, the results for wet, average, and dry years are based on samples of three years each, which leads to an even greater uncertainty in the averages.

This problem is caused by developing a model based on the direct input of the historical gage flow and diversion data. If this data exhibits significant changes over time due to changes in system configuration, the resulting model is only appropriate for the period during which the system configuration was the same as the configuration of the system under consideration. This problem is generally avoided by developing a model which is not based on the historical gage flow and diversion data but on the historical natural flows and operating rules appropriate for the scenario under consideration. Such a model would be demand-driven, would allocate natural flows according to live flow water rights, would include McKay Reservoir and possibly various storage accounts in it, and would determine McKay Reservoir releases based on the appropriate operating rules. Such a model would be able to simulate the system over the entire period of record and would produce significantly more accurate averages of results of interest. Short of developing, validating, and applying such a model, the BOR should acknowledge the uncertainty in the average results obtained for the nine-year period.

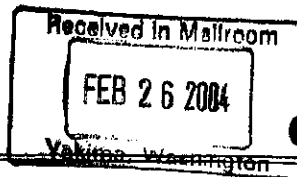
Discrepancies with Respect to the Calibration Model

The acreages for the Full Boundary Adjustment Alternative (as presented in Table 7), particularly for the Westland Out-of-Boundary, are very different from the acreages at the last time step in the calibration model. In particular, the acreage for the Westland Out-of-Boundary Flood-storage for 1991 (and all other years) in the calibration model is zero, whereas the Full Boundary Adjustment Alternative has 7,241.3 acres. It appears that the calibration model may not have properly reflected the actual acreages and water use in the district.

NRCE has previously raised this comment on the ADEA. The BOR has investigated the effect of changing acreages in the calibration model but concluded that calibrated parameters are not sensitive to these changes (personal communication with J. Roache, BOR, on February 17, 2004). Based on this analysis it can be assumed that the parameters used in the model were valid for the applications presented in the DEA.

Pre-Conservation Scenario

The impacts of the pre-conservation scenario are being determined by comparison with the NAA, which again assumes that all conserved water would be used within the WID boundaries. As discussed above, this fundamental assumption for the NAA has not been justified. It would be more appropriate to determine the impacts of the pre-conservation scenario relative to the case in which the conserved water would not have been used inside or outside of the WID at all.



COUNTY COURT

P.O. Box 788 • Heppner Oregon 97836
(541) 676-5620 FAX (541) 676-5621

TERRY K. TALLMAN, Judge
email: ttallman@co.morrow.or.us
Boardman, Oregon
JOHN E. WENHOLZ, Commissioner
email: jwenholz@co.morrow.or.us
Irrigon, Oregon
RAY GRACE, Commissioner
email: rgrace@co.morrow.or.us
Heppner, Oregon

February 26, 2004

Dave Kaumheimer, UCA-1600
Bureau of Reclamation
Upper Columbia River Area Office
1917 Marsh Road
Yakima, WA 98901

TRUE COPY
OF ORIGINAL

Re: Proposed Boundary Adjustment, Westland Irrigation District
Umatilla Project, Oregon, Draft Environmental Assessment

Dear Mr. Kaumheimer:

Morrow County is concerned that the Boundary Adjustment for the Westland Irrigation District will have economic impact upon its patrons in the West Extension Irrigation District. This issue is related to the continuing decrease in return flows in the Umatilla River and West Extension's consequent increasing reliance upon its Columbia River pumps. As you are aware, when district pumps water, the cost increases.

Morrow County asks that you address these two issues in your Environmental Assessment:

- 1) What effect does the irrigation of these additional lnds have on the West Extension Irrigation District diversion? The time frame studied should be prior to the original expansion of the boundaries (pre-1983), in order to get an accurate assessment.
- 2) The mitigation proposed in the boundary adjustment seems to allow the water to stay in the McKay Reservoir and be available for fisheries. Why isn't the mitigation water available to West Extension?

The Board of Commissioners remains concerned about water issues in the County, and request that you revise your document to thoroughly address the concerns that we have. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Terry K. Tallman".

Terry K. Tallman
Morrow County Judge

West Extension Irrigation District

P. O. Box 100 Irrigon, Oregon 97844
541-922-3814 541-922-9775 (fax)

February 26, 2004

Mr. Dave Kaumheimer, UCA-1600
Bureau of Reclamation
Upper Columbia Area Office
1917 Marsh Road
Yakima, WA 98901

Re: Draft Environmental Assessment, Proposed Boundary Adjustment
Westland Irrigation District, Umatilla Project, Oregon

Dear Dave:

First of all, thank you for extending the comment period three days to accommodate our needs.

West Extension Irrigation District is the West End of the Umatilla Basin project. The project is heavily reliant upon return flows. These return flows originate from the water use practices of upland irrigation districts, including Westland.

The West Extension Irrigation District has three areas of concern relative to the Draft Environmental Assessment.

1) The Draft Environmental Assessment does not completely or accurately address all of the hydrological impacts and potential consequences of the alternatives. Most significantly, impacts to downstream irrigators and irrigation districts as well as likely responses to those impacts on the environment are completely ignored. What are the residual effects of the action? It is evident that a more comprehensive hydrological study is needed that takes into account all the cumulative effects, which include likely district impacts and responses to the alternative. The results of such a study may well affect the conclusions that have been made in this draft document. Until these aspects of impact are analyzed, the conclusions of the Draft Environmental Assessment cannot generate confidence.

2) The federal project water that serves most of the West Extension Irrigation District is made up of return flows of which a significant amount is from McKay Reservoir. The mitigation proposed in the Draft Environmental Assessment does not mitigate for the reduction of these return flows to the West Extension Irrigation District diversion or for likely responses to such reduction. If any of the alternatives has a reasonable and likely probability of forcing fundamental changes in district operation and water use, which in turn could have potential impacts on the environment, and if such action causes other residual effects, then the Draft Environmental Assessment must come to grips with these facts and assess the significance of such impacts. There are clear economic and social impacts, as well, which are interrelated to natural or physical environmental impacts. The Draft Environmental Assessment completely ignores all these issues.

3) The baseline used for the Draft Environmental Assessment should logically be established before conservation era, that is, before 1983, when Westland's water spreading (the actions whose impacts are being assessed) actually began. It should likewise take into account the impacts of the action and mitigation needs that have arisen from that time, including impact to West Extension's diversion.

The West Extension Irrigation District requests the opportunity to review the modeling and offer comments. Please let us know when that can be done.

We request that the Final Environmental Assessment evaluate rather than ignore the impacts noted above, and that West Extension's issues be considered in any final decision. We are available for further discussion on these issues.

Sincerely,



Beverly J. Bridgewater
Secretary/Manager

WESTLAND IRRIGATION DISTRICT

Phone (541) 667-2030
Fax (541) 667-2031

P.O. Box 944
Hermiston, OR 97838

February 20, 2004

Mr. Dave Kaunheimer
Upper Columbia Area Office
U.S. Bureau of Reclamation
1917 Marsh Road
Yakima, WA 98901

Dear Dave,

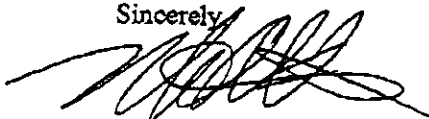
Thank you for the opportunity to comment on the draft environmental assessment (EA) describing the impacts associated with the action of adjusting Westland Irrigation District's (Westland) federally recognized boundaries. This has been a long and challenging process, and Westland appreciates the efforts of you and other Bureau of Reclamation officials in reaching this point.

Westland suggests the following edits to the draft EA:

1. The model-derived mitigation amount of 895 acre-feet is based on a full fill of McKay Reservoir. Consistent with past operations, it should be noted that if McKay Reservoir does not fill, the mitigation amount for that year would be reduced by the percentage the reservoir lacked in reaching one-hundred percent fill capacity. E.g., if the reservoir filled to 95 %, the mitigation amount would be reduced by 5 %.
2. The maps showing the category I & II lands seem to show some of these lands as inside the recognized federal boundary. This may be due to the category I & II lands being identified on the map in full forty-acre blocks rather than by quarter-quarter.
3. On page 79, the draft EA states the anticipated mitigation would come from Westland's contracted McKay storage. To be consistent with the rest of the document, the last sentence on the page should read, "Westland would use McKay storage water to fulfill the mitigation requirements."

Please contact me with questions you may have regarding these comments.

Sincerely,



Mike Wick
District Manager

Strebin Farms, Inc.
P. O. Box 724, Irrigon, OR 97844
541-922-2521

February 26, 2004

Dave Kaumheimer, UCA-1600
Bureau of Reclamation
Upper Columbia River Area Office
1917 Marsh Road
Yakima, WA 98901

Re: Comments – Westland Irrigation District - Proposed Boundary Adjustment
Draft Environmental Assessment

Dear Mr. Kaumheimer:

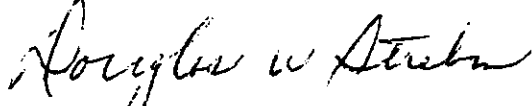
I represent Strebin Farms, which has landholdings in the West Extension Irrigation District (WEID) and receives water through the WEID. I have been irrigating in WEID for a number of years as well as serving on the Board of Directors for the past six years.

I have reviewed the Draft Environmental Assessment and find that the modeling and subsequent analysis presented in the document does not take into account the effect of the proposed action on the West Extension diversion. I am concerned that by ignoring this fact, and providing proper mitigation, the cost of water in the WEID will continue to escalate as they rely more and more on pumped water.

I also noted that on Page 67 of the document, you stated that WEID is requesting 6000 acres of land, which are currently irrigated. That is not the correct statement. The WEID is requesting 3000 acres of land that have been irrigated since 1968 and an additional 3000 acres for future irrigation. The rest of the statement concerning WEID's proposed adjustment on page 67 seems correct.

Thank you for this opportunity to provide comments.

Sincerely,



Douglas W. Strebin
Principal

