

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us



Bill Ritter, Jr.
Governor

Harris D. Sherman
DNR Executive Director

Jennifer L. Gimbel
CWCB Director

Dan McAuliffe
CWCB Deputy Director

TO: Colorado Water Conservation Board

FROM: Jennifer Gimbel
Dan McAuliffe
Christian Lyons

DATE: November 18-19, 2008

SUBJECT: Agenda Item 11d - November 2008 CWCB Board Meeting
CWCB Director's Report

Page 4 - FEDERAL AND INTERSTATE

- Utah's Proposed Lake Powell Pipeline Project
- CWCB Staff Participates In National Levee Safety Program Roundtable
- Instream Flow Council 2008 Conference
- Navajo-Gallup Water Supply Project & Navajo Settlement
- Montana vs. Wyoming/Yellowstone River
- New Mexico/Pecos Settlement
- Ditch Bill Update

Page 7 - STATEWIDE

- Colorado Water Officials Association Annual Meeting
- Colorado Conservation Summit
- CWCB Hosts Governor's Conference on Managing Drought and Climate Risk
- CWCB Assists With Community Rating System Workshop
- USGS / DWR / CWCB Coordination Meeting
- Water Conservation Plans Approved
- Colorado Intervenes In NPDES Litigation
- Western States Water Council
- Report: Warming To Cut Colorado Water Supply
- Floodplain Map Modernization Update

Page 12 - ARKANSAS RIVER BASIN

- Arkansas River Decision Support System (ArkDSS)
- Arkansas River Compact Administration (ARCA)
- SEO's Surface Water Consumptive Use Rules
- Fountain Creek Vision Task Force

Page 13 - COLORADO RIVER BASIN

- 2008 15-Mile Reach Flow Augmentation Completed
- Black Canyon of the Gunnison – Federal Reserved Water Right Settlement
- Upper Colorado River Wild and Scenic Alternatives Group
- White River Forest Service Seeking Public Comment
- Commissioner of International Boundary Water Commission Dies
- Windy Gap EIS
- Ruedi 10825 Replacement Water Update
- Aspinall Unit Re-Operations Update
- Gunnison Basin Selenium Issue
- Colorado River Water Use
- Colorado River Decision Support System (CRDSS)
- Animas-La Plata Project Dedication and Award, Transfer Agreement & Marketing Study
- Colorado River Compact Compliance Update
- Colorado River 2009 Annual Operating Plan (AOP)
- 7-Colorado River Basin States Meeting
- Upper Colorado Commission Meetings
- Glen Canyon Adaptive Management Program & Colorado River Basin Science and Resource Management Symposium
- Colorado River Basin Salinity Control Program (CRBSCP)

Page 19 - PLATTE RIVER BASIN

- Chatfield Reservoir Reallocation Project
- Platte River Recovery Implementation Program (PRRIP)
- South Platte Forum

Page 20 - SOUTHWESTERN RIVER BASINS

- River Protection Work Group
- Rio Grande Decision Support System (RGDSS)
- Dolores River Dialogue (DRD) Update
- Recently Decreed ISF Water Rights
- Corps of Engineers Levee Inspection Update
- Update on Tacoma Power Plant Relicensing Process
- Presentation to San Miguel County Commissioners
- San Juan Recovery Implementation Program (SJRIP) – Hydrology Model

Page 24 - YAMPA/WHITE RIVER BASINS

- Energy Development Water Needs Assessment, Phase I Report

Page 25 - AGENCY UPDATES

- CWCB Release Climate Change Report
- Requests For Administration of ISF Water Rights
- Water Information – Streaming Audio
- Water Information – Imaging Audit Trail
- February 2009 ISF Workshop
- CWCB Cloud Seeding Annual Report (WY08)
- Availability of Water Efficiency Grant Fund
- Office of Water Conservation & Drought Planning Hires Drought Specialist
- Office of Water Conservation & Drought Planning Loses Grants Coordinator

Page 29 – ATTACHMENTS

- 11d-01 DeMinimis Cases
- 11d-02 Loan Financial Activity Report
- 11d-03 Summary of Resolved Cases
- 11d-04 Ditch Bill Update
- 11d-05 Large Water Project Loan Prospect Report
- 11d-06 Loan Forecast & Prospect Report
- 11d-07 Design & Construction Status Report
- 11d-08 Consensus Statement of the 2008 Colorado Conservation Summit
- 11d-09 Colorado River Basin Science and Resource Management Symposium
- 11d-10 University of Arizona Saltcedar Article
- 11d-11 Tamarisk Coalition Newsletter
- 11d-12 Western States Water Council Planning Initiative Letter

~FEDERAL AND INTERSTATE~

UTAH'S PROPOSED LAKE POWELL PIPELINE PROJECT: The Lake Powell Pipeline Project will take 100,000 acre-feet of water, which is part of Utah's Upper Colorado River Compact entitlement, from Lake Powell to Sand Hollow Reservoir near St. George, Utah which is located along the Virgin River, a Lower Colorado River Basin tributary. The proposed Project is being evaluated through the Federal Energy Regulatory Commission's (FERC) "Integrated Licensing Process" (ILP). The ILP is a process by which licensing, permitting and environmental compliance are achieved in one single process. As previously reported the second scoping report was released on August 21, 2008 and is available for viewing at:

[http://www.water.utah.gov/LakePowellPipeline/ProjectUpdates/20080821-3005\(19691112\)SD2.pdf](http://www.water.utah.gov/LakePowellPipeline/ProjectUpdates/20080821-3005(19691112)SD2.pdf)

The Utah Division of Water Resources has also issued a study plan that is reviewable at:

<http://www.water.utah.gov/LakePowellPipeline/ProjectUpdates/default.asp>

Comments on the study plan are due November 19, 2008 and staff has been working with the Colorado Attorney General's to develop comments. On October 27th Randy Seaholm and I visited with Utah representatives to get a better understanding of the Project and the development process. Utah representatives were very forthright and the meeting was very informative and we now have a much better overall understanding of Project. A FERC license and Record of Decision are expected in 2012, construction is anticipated to begin in 2015 and if everything proceeds as planned water deliveries are expected to begin in 2020. (*Randy Seaholm*)

CWCB STAFF PARTICIPATES IN NATIONAL LEVEE SAFETY PROGRAM

ROUNDTABLE: As part of the recently passed Water Resources Development Act (WRDA), a National Levee Safety Program was ordered to be created. The first step outlined in the National Levee Safety Program is the development of a National Levee Safety Committee (NLSC) for the purpose of providing recommendations for the framework for a national levee safety program, including a strategic plan for implementation. The NLSC is divided into four working groups. Paul Perri of the Division of Water Resources was selected as a member of the Program Development workgroup. Mr. Perri organized a roundtable meeting in Denver on October 27th. In addition to Mr. Perri, Tom Browning and Kevin Houck of CWCB staff were invited to attend due to their experience and perspective in working with levees within Colorado. Other invited professionals included staff from the Urban Drainage and Flood Control District, former employees of the Division of Water Resources, and other recognized professionals.

Feedback from the roundtable will be incorporated into the final recommendations. The NLSC is statutorily obligated to deliver its final report in January 2009, at which point implantation of the proposed program will likely begin. Members of the NLSC workgroup thanked the CWCB and others present for providing an insight into levee experiences in Colorado, which were acknowledged to be quite different from those in other areas of the country. The workgroup members assured CWCB staff that the input provided at this roundtable will help ensure that Colorado's interests in the eventual National Levee Safety Program will be considered. (*Tom Browning*)

INSTREAM FLOW COUNCIL 2008 CONFERENCE: In early October 2008, Linda Bassi and Jeff Baessler of the Stream and Lake Protection Section attended the Instream Flow Council’s “FLOW 2008 – Interdisciplinary Solutions to Instream Flow Problems” conference in San Antonio, Texas. Over 300 people attended the conference, including federal, state, and local governmental employees, consultants, academics, staff of regulated entities such as utilities, and staff of non-profit organizations. The conference focused on instream flow related issues, obstacles, and possible solutions using a mediated, consensus building framework. Presentations addressed current scientific issues related to instream flow quantification and case histories that illustrated common issues and successful resolution of conflicts. Most of the time was spent in small group discussions of targeted issues, exploring obstacles and possible resolution. Group input was recorded and collected, synthesized by a facilitation team, and provided back to groups for further consideration in subsequent sessions. In addition to updates on scientific advances and negotiation techniques, the conference was a great opportunity to learn about other states’ instream flow programs’ challenges and successes, and to connect with individuals working on issues similar to those we face in Colorado. (*Linda Bassi*)

NAVAJO-GALLUP WATER SUPPLY PROJECT & NAVAJO SETTLEMENT

UPDATE: The Omnibus Public Land Management Act, which contains the Navajo Indian Water Rights settlement bill and authorizes the Navajo-Gallup Pipeline we believe, will be scheduled for floor debate in the Senate during the week of November 17th. There is now a modified version of the omnibus package in which 50+ bills were added to those already contained in S. 3213. We have been working with the Colorado Attorney General’s Office, the State of New Mexico and our respective Congressional Delegations on the development of a colloquy for the Senator’s to have the 7-Colorado River Basin States letter concerning the Navajo Settlement and the Navajo-Gallup Water Supply Project put into the legislative record. Our delegations believe there is still a chance to get the Omnibus Public Land Management Act passed through the Senate before the next Congress convenes. (*Randy Seaholm*)

MONTANA v. WYOMING/YELLOWSTONE RIVER: On October 20, the U.S. Supreme Court appointed attorney Barton H. Thompson to be the special master in *Montana v. Wyoming*-a water rights dispute regarding the Yellowstone River Compact of 1950. The Compact outlines how Montana, North Dakota, and Wyoming will divide water from the Tongue and Powder Rivers. In a complaint filed in early 2007, Montana claims Wyoming has prevented it from receiving its share of water for a number of reasons, including allowing the “construction and use of groundwater wells for irrigation” and the “pumping of groundwater associated with coalbed methane production.” The complaint also named North Dakota as a party to the dispute because it is a signatory state to the Compact. Wyoming contends that the Compact only applies to surface water and does not cover groundwater. (See WSW# 1707)

Wyoming had asked the Court to dismiss Montana’s complaint. As special master, Mr. Thompson will have broad powers and will be responsible for conducting the fact finding portion of the case by summoning witnesses and issuing subpoenas. The Court’s order also gives Mr. Thompson the “...authority to fix the time and conditions for the filing of additional pleadings . . . and to take such evidence as may be introduced...” Mr. Barton will also provide the Court with a non-binding recommendation regarding the outcome of the case, which the states will debate in oral argument. Both parties shall share Mr. Thompson’s expenses.

Mr. Thompson is a Stanford Law School professor and an expert in environmental and natural resources law and policy. Like many other special masters, he is a former Supreme Court law clerk, having clerked for the late Chief Justice William H. Rehnquist. Stanford Law School colleague Pamela Karlan says, “He’s smart, fair, and a good listener, so combined with his expertise in property, water law, and natural resources law, he’s a natural for this kind of work.” For the order, go to: <http://www.supremecourtus.gov/docket/22o137.htm>.

(Source: Western States Water Council Newsletter, Issue No. 1797, October 24, 2008)

NEW MEXICO/PECOS SETTLEMENT: The New Mexico Interstate Stream Commission (ISC), on October 16, approved a plan to dispose of lands purchased to retire water rights, implement the Pecos Settlement, and ensure adequate water flows to Texas under the Pecos River Compact, even if it means augmenting flows with wells. “The Pecos Land and Water Rights Acquisition Program has been a success,” said ISC Director Estevan Lopez. “About 95% of the land and water rights needed for settlement implementation has been acquired.” ISC has purchased over 11,400 acres of land for the water rights in New Mexico’s Pecos Valley Artesian Conservancy District and Carlsbad Irrigation District as part of a 2003 Pecos Valley Settlement Agreement. Lopez adds, “All the augmentation well capacity needed for the settlement has been completed.” The program also resolves water right disputes involving New Mexico, the Bureau of Reclamation, and the districts.

In 2002, the New Mexico Legislature authorized the land purchases. In 2008, it passed a law allowing water rights to be purchased independently of land, and authorizing ISC to sell previously acquired lands. The ISC will first offer the land to the original owners, asking if they wish to repurchase the land, but subject to deed restrictions that ensure that “no new water development or use, including the drilling of domestic wells, occurs on the land without the transfer of valid existing rights.” If the original owners do not respond within 60 days, the ISC will sell the land by sealed bid to third parties. ISC will continue to acquire water rights needed to bring the basin into hydrologic balance. See the ISC news release: <http://www.waterchat.comhttp://www.ose.state.nm.us/PDF/News/2008/pr-2008-10-16-ISC-PlanForDispositionOfLand.pdf>.

(Source: Western States Water Council Newsletter No. 1798, October 31, 2008)

DITCH BILL UPDATE: As part of staff’s continuing effort to keep the Board informed of the U.S. Forest Service’s (“USFS”) progress on the issuance of Ditch Bill Easements and related issues, the information attached to this report as Attachment 11d-04 was provided by Michele O’Connell, USFS. If you have questions regarding this information, please contact Michele O’Connell at:

Michele O’Connell
USDA Forest Service, Rocky Mountain Region
Group Leader Lands Special Uses
(303)275-5383, FAX (303)275-5122
mmoconnell@fs.fed.us
(Linda Bassi)

~STATEWIDE~

COLORADO WATER OFFICIALS ASSOCIATION ANNUAL MEETING: On October 2-3, 2008, the Colorado Water Officials Association held its annual conference in Denver, Colorado. This year's conference was entitled "Effects of Climate Change on Colorado Water Administration" and focused on how climate changes are affecting Colorado Water Administration. A number of CWCB staff members attended the event. Attendees heard presentations on Well Augmentation on the South Platte River (Tom Cech); Changes in Colorado's Water Resources (Bob Reynolds); Observed Trends and Variations in Colorado's Climate since the Late 1800's (Nolan Doeskin); Long Term Leases for ISF Use (Linda Bassi); The Global Natural Resources Crisis (Vince Matthews); and a presentation by Channel 7 Meteorologist, Mike Nelsen on Wild Western Weather. (*Jeff Baessler*)

COLORADO CONSERVATION SUMMIT: On October 6-8, 2008, the first Colorado Conservation Summit "Colorado Wildlife at a Crossroads" was held at the Keystone Conference Center with the goal of crafting a 50-year vision for Colorado's wildlife and habitat. Several CWCB staff members were among the more than 260 people in attendance from all over the state, from a diverse array of organizations and representing an equally diverse group of interests. During the Summit, participants had the opportunity to provide input on a consensus document designed to capture the essence of the Summit. This document is a pledge by all who signed on that they individually, or representing their organization, are committed to protecting Colorado's wildlife and habitat so that future generations are afforded the same opportunities to enjoy the resource that exist today. Keynote speakers included Governor Bill Ritter, Executive Director Department of Natural Resources Harris Sherman, and Director Division of Wildlife Tom Remington. See Attachment 11d-08 (*Rob Viehl*)

CWCB HOSTS SUCCESSFUL GOVERNOR'S CONFERENCE ON MANAGING

DROUGHT AND CLIMATE RISK: The Governor's Conference on Managing Drought was held on October 8-10, 2008 at the Grand Hyatt in Denver. The speakers focused on assessing the status of drought risk, impacts and preparedness in the state and what improvements will be needed for management under conditions such as climate change. Over 280 people attended the conference. Conference proceedings along with a post-conference survey for attendees will be posted on the CWCB website at: <http://cwcb.state.co.us/Home/GovernorsDroughtConference/ConferenceProceedings/> (*Ben Wade*)

CWCB ASSISTS WITH COMMUNITY RATING SYSTEM WORKSHOP: The CWCB is assisting the Colorado Association of Stormwater and Floodplain Managers (CASFM) sponsor a one day workshop on the Community Rating System (CRS) in Longmont on November 12, 2008. The objective of the CRS is to reward communities doing more than the minimum National Flood Insurance Program (NFIP) requirements to prevent or reduce flood losses, and to provide incentives for communities to initiate new flood protection programs. Under the CRS, flood insurance premium rates are lowered when a community takes extra action to reduce flood damages. The insurance savings can range from 5% to 45% for a community's property owners. Currently, 44 communities in Colorado benefit from their participation in the CRS program. There are other Colorado communities that may already be implementing measures eligible for credit under the CRS, but are not currently participating. The CRS workshop will focus on promoting the benefits of the program, providing an overview of the various flood protection activities eligible for credit, and explaining the application process for participation in the program. (*Tom Browning*)

USGS / DWR/ CWCB COORDINATION MEETING: On October 21, 2008, CWCB Staff attended the semi-annual State of Colorado/USGS stream gaging coordination meeting. The purpose of these meetings is to improve coordination and collaboration efforts between the three entities with the ultimate goal of maintaining an accurate state of the art network of stream gages throughout Colorado that water managers can depend on for data and administration needs. Items discussed included an update on the USGS Cooperative Gaging Network; an update on the status of several USGS Water Science Center projects which are being funded by CWCB; the federal budget outlook and the impact to the NSIP and Cooperative programs; DWR/CWCB Satellite Gaging Network and flood hardening efforts; CWCB hydrographer status; new stream gages for the Fraser River, Middle Rifle Creek and North Boulder Creek; and a discussion of funding needs for cableway installations and enhancements throughout the state. (*Jeff Baessler*)

WATER CONSERVATION PLANS APPROVED: To date, the Office of Water Conservation & Drought Planning (OWCDP) has *approved* the following Water Conservation Plans from water providers:

- Aurora
- East Larimer County Water District (ELCO)
- Town of Firestone
- Cherokee Metropolitan District
- Colorado Springs Utilities
- Denver Water
- Fort Lupton
- Arapahoe County Water & Wastewater Authority
- Erie
- Castle Pines North Metropolitan District
- Castle Rock
- Northglenn
- Alamosa
- City of Rifle
- Fort Morgan
- City of Brighton
- Willows Water District

The OWCDP has determined the Plans to be in accordance with §37-60-126 C.R.S. and the CWCB's Guidelines for the Office to Review Water Conservation Plans Submitted by Covered Entities. Water providers may proceed with implementation of their Plans.

The OWCDP has received and will evaluate the following Water Conservation Plans: City of Longmont, Left Hand Water District and Pagosa Area Water and Sanitation District. (*Ben Wade*)

COLORADO INTERVENES WITH OTHER WESTERN STATES IN NPDES

PERMITTING LITIGATION RELATED TO WATER TRANSFERS: On October 31, 2008, the States of Colorado, New Mexico, Alaska, Idaho, Nebraska, Nevada, South Dakota, Utah, and Wyoming, filed an unopposed motion to intervene in the case of the State of New York vs. EPA that involves rules concerning the application of National Pollution Discharge Elimination System ("NPDES") permitting to water transfers. New York is joined by Connecticut, Delaware, Illinois, Maine, Michigan, Minnesota, Missouri, Washington, and the Government of the Province of Manitoba, Canada.

As you know the procedural history of this case is long and complicated. Additional information will be in the Attorney General Report. Colorado was pleased that many western states joined in this motion. If you would like to see the motion to intervene or you would like to discuss the status of the case, please speak with Casey Shpall or Ted Kowalski. *(Ted Kowalski)*

WESTERN STATES WATER COUNCIL: On October 22-23, Ted Kowalski represented Colorado at the Western States Water Council (“WSWC”) fall meeting in Oklahoma City, Oklahoma. The WSWC developed work plans for the various committees and subcommittees and revised and updated a variety of positions papers regarding western water policy. The WSWC adopted a new position paper on a water planning initiative that the Army Corps of Engineers recently initiated. A copy of this letter is attached. (Attachment 11d-12) There will be a WSWC Water Management Symposium on November 17-19, 2008 in Salt Lake City and the WSWC will hold its 159th Council Meeting on April 22-24, 2009 in Kansas City, Kansas. *(Ted Kowalski)*

REPORT: WARMING TO CUT COLORADO WATER SUPPLY: Colorado likely will heat up 2.5 degrees to 4 degrees over the next 40 years, causing stream flows to shrink as spring and summer become hotter, according to a study commissioned by the Colorado Water Conservation Board.

"There have been a lot of reports out there, (but) this one really focuses on Colorado," said Jennifer Gimbel, director of the water conservation board.

Among the report's findings:

- * Summers will become extremely hot, registering as warm or warmer than the hottest 10 percent of summers between 1950 and 1999.
- * Little change in annual precipitation will occur, but temperature increases alone are expected to have a significant impact on snow and water supplies.
- * Stream flows in the Colorado River Basin will shrink from 5 percent to 20 percent, exacerbating water shortages already forecast because of population growth.
- * Spring runoff will arrive earlier, altering the times when farmers and utilities can expect their water to arrive.
- * Summer water demand by homeowners will rise because of temperature increases.
- * Despite warmer winters, temperatures above 8,000 feet will remain well below freezing, helping preserve snowpack and mountain environments.

The report was compiled by the University of Colorado Western Water Assessment, a partnership between the university, the National Oceanic and Atmospheric Administration, the CU Cooperative Institute for Research into Environmental Sciences and the Colorado Climate Center at Colorado State University.

It comes as state officials prepare for a major drought conference Wednesday, a three-day meeting in Denver designed to help water utilities and policy officials explore ways the state can adapt to its warming climate.

Though it's not clear how much less water the state's streams will generate, state officials say water utilities must craft drought plans to cope with water supplies that will be less predictable and, often, less abundant.

"We're recommending all suppliers have them," Gimbel said.

Brad Udall, who directs the Western Water Assessment, says the report has important implications for how Colorado manages its remaining water supplies - primarily those in the Colorado River that aren't legally owed to other states, such as Nevada, Arizona and California.

"We need to be very careful about how we use our remaining Colorado River allocation," Udall said. "That water is a moving target under climate change. We don't know how much of it there is or how consistently we can expect it to be there."

As a result, he said, Colorado needs to ensure it can keep enough water in the bank - Lake Powell - so that it can meet its obligations to downstream states while protecting Colorado's portion.

Whether that means Colorado needs to build a major new reservoir in the state isn't clear yet, Udall said. "If flows decline, the storage we have may work more effectively and we won't need more. Or you could make the case that we need to build storage in order to store more water," he said. (*Source: Rocky Mountain News, October 7, 2008*)

FLOODPLAIN MAP MODERNIZATION UPDATE:

FEMA RiskMAP Program

FEMA has operated the Map Modernization program since 2004. This was a five year program with a nationwide budget of \$1 billion. This initiative will continue in FY09 with the next phase of Map Modernization called RiskMAP. RiskMAP will combine flood hazard mapping, risk assessment tools and Hazard Mitigation Planning into one seamless program.

It is expected that FEMA will obtain the support of Congress to continue the nationwide RiskMAP program starting in FY09 with a budget similar to the first phase of the Map Modernization program.

Colorado has been the leading state for FEMA Region VIII in terms of helping achieve mapped population and stream miles, the goals of the first phase of Map Modernization. Colorado typically receives \$1-1.5 million dollars worth of grant money each year and this amount is expected to remain the same or increase due to Colorado's need to address flood mapping needs and levee issues compared to the other states in Region VIII. In addition, Colorado continues to provide cost sharing leverage for DFIRM and future RiskMAP projects.

CWCB has provided FEMA with a priority list of about 12 counties to be considered for RiskMap. These counties were selected based on the criteria described above and include: Alamosa, Bent, Chaffee, Hinsdale, Huerfano, Logan, Las Animas, Morgan, Otero, Ouray, Phillips, Pitkin, Prowers, Saguache, and San Miguel.

Scoping of FY09 projects: An additional funding amount of \$35K from FEMA has recently been approved for future scoping of counties in Colorado yet to be determined based on the goals set forth for the next phase of Map Modernization.

FY08 projects: State contracting is still underway for Gunnison County. The counties that have contracts approved and work has begun include Montrose, Elbert, and Rio Grande Counties. In addition, additional FEMA funding was provided to address identified levee issues along the Arkansas River and Fountain Creek in Pueblo County.

FY07 Counties: La Plata, Park, Delta, and Summit Counties should be going preliminary in December 2008. Coordination continues with the State, FEMA, the City of Colorado Springs and El Paso County in acquiring certification of the Templeton Gap Floodway levee. The City of Colorado Springs has contracted with Anderson Consulting to pursue certification of the Templeton Gap Floodway levee. If all levee issues can be resolved in a timely manner, El Paso County is projected to go preliminary in the summer of 2009. Teller County went preliminary in May 2008 and Archuleta County went preliminary in August 2008.

FY 06 Counties: Weld County detailed study work continues to progress. Weld County has identified levees in the Town of Evans and Severance. Due to these levees, additional work will need to be completed. An estimated preliminary date is projected for October 2010. Work continues for Fremont County and Clear Creek Counties. Fremont County is expected to go preliminary in December 2008. It was found with Clear Creek County that a Master Drainage plan's 100-year flows significantly exceed that of the effective FEMA flows and that Idaho Springs may not be mapped showing accurate risk. The State's contractor has begun work on updating the hydrologic and hydraulic study to update the floodplain through Idaho Springs. Clear Creek County will go preliminary sometime in 2009. The Pueblo County Arkansas River Levee floodplain study is in progress, finalization is still on hold as data from the City of Pueblo detailed studies have been reviewed by FEMA but additional data from the applicant has been requested in order to approve the study. From the Arkansas River analysis it will be determined which sections of the Arkansas River levee and Wild Horse/Dry Creek levee need to be recertified by the Pueblo Conservancy District.

FY 05 Counties: Mesa County DFIRM is currently in FEMA review and is going preliminary in December 2008. The Garfield Counties are completed and the County wide project is delayed due to a USGS study that has been reviewed by Michael Baker Jr., Inc. (FEMA's NSP). The initial comments from the USGS have been received and are currently being reviewed by FEMA's NSP. Garfield County is planned to go preliminary in 2008. The Montezuma County DFIRM went effective September 28th 2008.

FY 04/03 Counties: All of the Boulder County levees have been identified. The City of Boulder is still working on determining their approach as to how all of their levees will be mapped and if they plan to certify all seven of their levees. Once there is an approach as to how the levees will be mapped and all of the data from the City of Boulder is received the CWCB can move forward with their effort to complete the Boulder Countywide DFIRM project. The effective date is still unknown.

Other: The CWCB issued a Request for Proposal this past summer and conducted interviews in August to select contractors for work to be done in the next phase of Map Modernization. The two contractors selected were Anderson Consulting Engineers and Icon Engineering. Work for the next phase is expected to begin in early 2009 and the State is waiting for the funding to be approved and allocated by FEMA in the next few months. In the meantime, the State's two current contractors, Anderson and PBS&J will continue work to complete their projects already in progress. *(Tom Browning)*

~ARKANSAS RIVER BASIN~

ARKANSAS RIVER DECISION SUPPORT SYSTEM (ArkDSS): We had hoped the posting for request for proposal (RFP) for the Arkansas DSS Feasibility Study would be started in late September, however due to the State fiscal freeze; this will delay when the RFP will be sent out. Part of the approval process requires Office of Information Technology (OIT) review, we are currently awaiting an approval from OIT, once that is given then the RFP process will move to DNR's procurement section for posting. It is still anticipated that a contractor will be selected before the end of this calendar year.

The Water Information section is also working with Dr. Gates at Colorado State University (CSU) on refining his approved WSRA work. His application was approved for \$600,000 and we are working with CSU on refining the application scope into a contractual scope. *(Ray Alvarado)*

ARKANSAS RIVER COMPACT ADMINISTRATION (ARCA): We have begun preparations for the 2008 Annual Meeting of ARCA to be held in Lamar on December 8-9, 2008. This will be my first appearance as head of Colorado's delegation, although I provided legal representation to the delegation for several years while on the Attorney General's staff in the 90's. Among items on the ARCA agenda will be approval of over a decade of reservoir accounting made possible by the Board's assistance in proving several 1000 AF of water to Kansas to reconcile past accounting complaints. We also anticipate some discussion of the proposed Surface Water Consumptive Use Rules, see below. *(Steve Miller)*

SEO's SURFACE WATER CONSUMPTIVE USE RULES: The Advisory Committee for Arkansas River Compact Rules to Govern Improvements to Surface Water Irrigation Systems has continued to meet, most recently on October 22 and November 13. The Board will be considering a \$250,000 construction fund grant (see Agenda item 29.d.) to assist water users develop compliance plans that will allow continued use of high efficiency irrigation systems while achieving full compliance with the proposed rules and Article IVD of the Arkansas River Compact. Details of the compliance plans, and how the grant program will facilitate them, including eligible activities and participants will be developed through the Solutions Subcommittee of the Advisory Committee prior to the proposed January 2010 effective date of the rules. The Lower Arkansas Valley Water Conservancy District has volunteered to play a lead role in providing a compliance plan for existing irrigators below Pueblo Reservoir subject to the rules. Dick Wolfe may report more on this activity during his SEO report. *(Steve Miller)*

FOUNTAIN CREEK VISION TASK FORCE: The Task Force is receiving \$75,000 of WSRA funding and staff is monitoring and assisting this group. The Task Force's draft Vision Plan will be presented for public review and comment at two meetings on November 12 in Pueblo and 13 in Colorado Springs. At these same meetings the Corps of Engineers will present information from its General

Investigation Study of Fountain Creek flooding issues and mitigation strategies. Staff will be attending both meetings. The Task Force has also identified a preferred structure, patterned on the Urban Drainage District serving the Denver metro area, for carrying out the projects necessary to fund and implement the consensus vision for the Fountain and alleviate flooding problems. Of critical importance to these efforts was the Nov. 4th decision by Colorado Springs voters to maintain that city's stormwater enterprise fee collection system, thereby allowing the enterprise to continue its programs to reduce and moderate the effects of runoff from urban development on Fountain Creek flows. *(Steve Miller)*

~COLORADO RIVER BASIN~

2008 15-MILE REACH FLOW AUGMENTATION COMPLETED – USFWS FLOW

TARGETS MET: Reservoir releases to augment late summer flows in the 15-Mile Reach ceased in late October. Good spring and early summer runoff was combined with high late season releases from dedicated fish pools and from the Green Mountain Historic Users Pool (HUP) to maintain the USFWS wet year flow target of 1640 cfs through September. With warm fall weather and declining river flows, the USFWS dropped the target flows to 1500 cfs and then 1400 cfs for late September and October, and those flow targets were met by continued high releases.

Participants met at least weekly to coordinate the reservoir releases. There was very good cooperation among all parties this year, and several side agreements between certain parties. These allowed some of the reservoir releases to be timed to also meet flow needs in upstream reaches in Grand County, and at the Shoshone Power Plant during times when the power plant was not calling. After coming back online this spring after major repairs to the failed penstock last year, Shoshone Power Plant was down for repairs much of the summer due to new damage from debris during the high spring runoff.

The HUP managing entities agreed to release a large volume of water this year during the dry fall conditions, and therefore the HUP content is slightly less than 5,000 AF. In recent years, September and October precipitation has helped sustain the target flows and the HUP content has been 10,000 to 30,000 AF at the end of October. *(Michelle Garrison)*

BLACK CANYON OF THE GUNNISON – FEDERAL RESERVED WATER RIGHT

SETTLEMENT: We continue to wait for a few of the supporting documents to be completed prior to everyone signing off on the Settlement Stipulations. We remain hopeful that this process can be completed in the next 30-days or so. We certainly would like to present the stipulations and proposed decree to the water court before the end of the year. *(Randy Seaholm)*

UPPER COLORADO RIVER WILD AND SCENIC ALTERNATIVES GROUP: The Upper Colorado River Wild and Scenic Alternatives Group are finalizing an Implementation Outline for submission to the Bureau of Land Management. The deadline for submission of this document to the BLM is November 14, 2008; however, this draft will be further revised and developed over the next year while BLM conducts its NEPA analysis. This topic is on the Board's November agenda and the most recent version of the implementation outline will be provided to the Board for discussion and comment at the Board meeting. As described in previous Directors' reports, additional money will be needed for

Phase III of this project, which will occur after submission of the implementation Outline to the BLM.
(*Ted Kowalski*)

WHITE RIVER FOREST SERVICE SEEKING PUBLIC COMMENT: On October 31, 2008, the White River National Forest announced that they are seeking public input on a Wild and Scenic Rivers Suitability Study for segments of the Colorado River in Glenwood Canyon and Deep Creek above Dotsero. With regard to the Colorado River segment, the Forest Service will be working with the BLM, who is further along in their process. Public comments are due on the Forest Service study by December 2, 2008. In addition, the Forest Service will hold public open houses in Glenwood Springs on November 20, 2008, and in Eagle on November 24, 2008. A copy of the notice can be found as Attachment 11d-12.
(*Ted Kowalski*)

COMMISSIONER OF INTERNATIONAL BOUNDARY WATER COMMISSION DIES: On September 15, 2008, the Commissioner for the International Boundary and Water Commission for the United States, Carlos Marin, and his Mexican counterpart, Arturo Herrera, died in a tragic plane crash within Mexico. Jake Brisbin, Jr. and Matthew Peter Juneau were also killed in this crash. This was a very sad day for the water community. Al Riera, the agency's principal engineer, has been named acting Commissioner for the IBWC. Luis Antonio Rascon Mendoza has been named the new interim commissioner for the IBWC's Mexican Section. (*Ted Kowalski*)

WINDY GAP EIS: The comment period for the environmental impact statement for the Windy Gap Firing Project has been extended by Reclamation. Comments are now due by December 29th. (*Eric Hecox*)

UPPER COLORADO RECOVERY PROGRAM – RUEDI 10825 REPLACEMENT

WATER UPDATE: Replacement of 10,825 acre-feet of Ruedi water currently being provide through a contract with Reclamation that runs through 2012 is a requirement of the 15-Mile Reach PBO. A draft alternatives report has been completed and the most favored alternative includes releases from Lake Granby, improvements to the Orchard Mesa Irrigation Project and a variable contract for a lesser amount of Ruedi water. The Northern Colorado WCD has provided a very innovative approach for providing water from Lake Granby and on first impression has received a favorable response. Meetings to continue to work on that alternative where held on September 29th and November 10th to further refine the details of the favored (Kitchen Sink) alternative. At present the Granby\Redtop portion is anticipated to provide 2,700 acre-feet annually, improvements to the Orchard Mesa Irrigation District (OMID) about 7,487 acre-feet with the balance coming from Ruedi Reservoir up to a maximum of 8,125 acre-feet annually. Work on the financing package for the project is also being pursued. As I noted in my report last meeting, this project and the necessary agreements with the U.S. Fish and Wildlife Service will most likely not be completed by 2009 as provided for in the PBO. Therefore, interim water agreements to bridge the gap between 2009 and project completion will be required. It appears at present the easiest option may be extension of the 2012 agreement for Ruedi water. We will continue to keep you posted on this matter.
(*Randy Seaholm*)

UPPER COLORADO RIVER RECOVERY PROGRAM – ASPINALL UNIT RE-

OPERATIONS UPDATE: The U.S. Bureau of Reclamation has provided a copy of the Preliminary Draft Environmental Impact Statement (PDEIS) to the cooperating agencies for review and comment.

Comments of the cooperating agencies were discussed with Reclamation at a cooperating agencies meeting on September 3rd. In an effort to remove the continuing differences between power interests and Reclamation our staff has worked with the power interests on compromise language. The compromise language has been review with Reclamation and others and appears to be acceptable to Reclamation. Reclamation has also been respectful to Colorado's other comments and we believe Reclamation is now prepared to release the DEIS by December 1st. The main sticking point in the DEIS process continues to be the development of a Selenium Reduction Program acceptable to the US Fish and Wildlife Service for inclusion in the Biological Assessment that will allow the US Fish and Wildlife Service to issue a Programmatic Biological Opinion for the Gunnison Basin, which all parties desire. Our staff continues to believe that no matter which alternative is selected as the preferred alternative; the operational meetings that Reclamation now hosts 3 times per year will continue and provide an effective means for developing the annual operating plan for the Aspinall Unit that best balances benefits for all resources and interests. It should also be noted that there was meeting on October 1st to discuss Colorado's pursuit of a contract for 200,000 AF of water in Blue Mesa Reservoir, which if completed would impact the amount of water available in the Aspinall Unit to meet the Gunnison River flow recommendations. (*Randy Seaholm*)

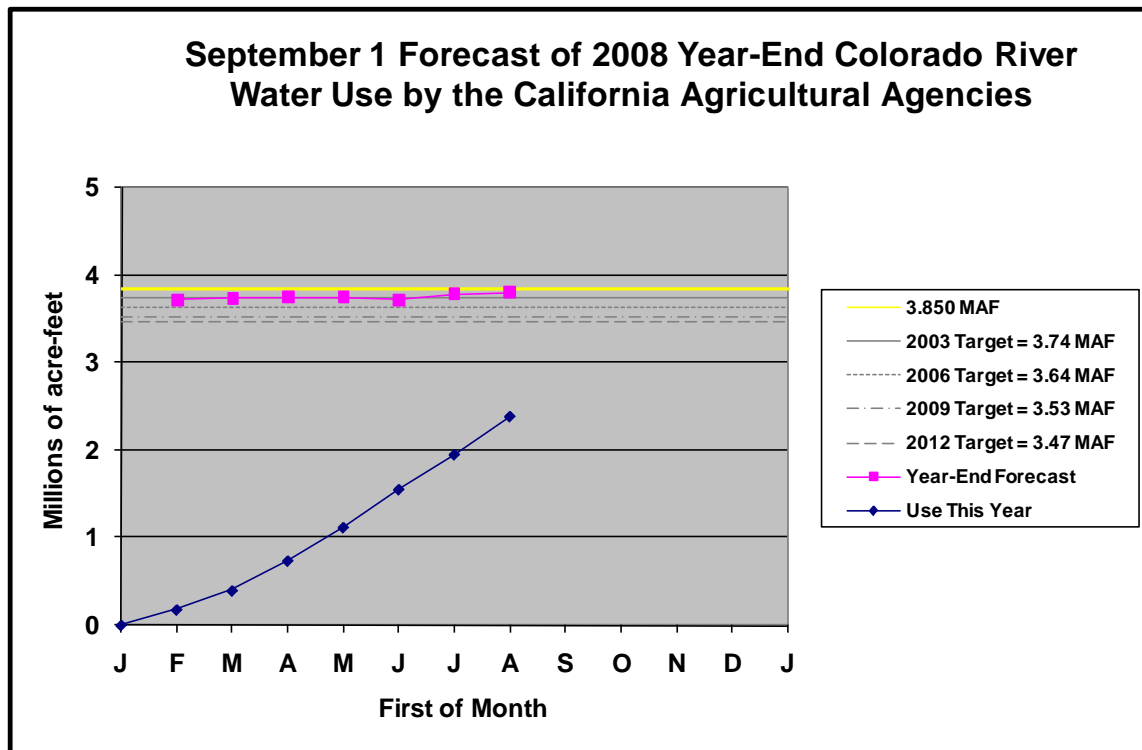
UPPER COLORADO RIVER RECOVERY IMPLEMENTATION PROGRAM (UCRIP)

– **GUNNISON BASIN SELENIUM ISSUE:** The re-operation of the Aspinall Unit to attempt to meet the flow recommendations for endangered fish is part of the UCRIP - Recovery Action Plan (RIPRAP) and in conjunction with other elements of the RIPRAP is hoped to be sufficient to allow the US Fish and Wildlife Service (Service) to issue a Programmatic Biological Opinion (PBO) for the Gunnison Basin. The PBO would provide the "reasonable and prudent" alternative covering all water uses and a small increment of new uses in the Gunnison Basin under the ESA. The Service is insistent that a "Selenium Reduction Program" (SRP) be part of any PBO. The cost of a SRP will be extremely expensive, particularly if has to meet the existing standard of 4.6 micrograms/liter. The Service maintains that an SRP is needed in order to achieve recovery of the fish and that failure to reduce selenium levels to the standard will result in a "take" of endangered fish under Section 9 of the ESA. The Service maintains that elevated selenium levels prevent survival of larval fish, however, there does not appear to any conclusive evidence to that affect. The local water users have developed a SRP that recognizes all the current salinity and selenium reduction efforts and we are supportive of that proposal. Reclamation is reviewing the SRP proposal and incorporates a monitoring program along with increased funding. With a few relatively minor modifications Reclamation believes they can incorporate the SRP into their Biological Assessment. It will then be up to the Service to decide if the SRP is sufficient for the Service to rely on in order to issue a PBO for the Gunnison Basin. (*Randy Seaholm*)

COLORADO RIVER WATER USE: As of September 1, 2008, storage in the four major Upper Basin reservoirs decreased by 516,040 acre-feet and storage in the Lower Basin reservoirs increased by 58,400 acre-feet during August 2008. Total system active storage as of September 2 was 34.535 million acre-feet (MAF), or 58 percent of capacity, which is 1.893 MAF more than one year ago. (Upper Basin reservoirs increased by 2.535 MAF, and Lower Basin reservoirs decreased by 0.642 MAF.)

The end-of-year measure for 2004 California agricultural consumptive use of Colorado River water under the first three priorities and the sixth priority of the 1931 *California Seven Party Agreement* was reported as 3.524 MAF; and for 2005, the end-of-year measure was 3.581 MAF. The target under the Interim Surplus Guidelines (ISG) for the end of 2003 was 3.740 MAF, and the target for 2006 is 3.640 MAF,

thus California was in compliance with the ISG through 2005. 2007 end-of-year use was reported as 3.753 MAF. Tracking of use in 2008 is shown in the graph below, with forecasted uses at the end of 2008 of approximately 3.765 MAF. (Andy Moore)



COLORADO RIVER DECISION SUPPORT SYSTEM (CRDSS): Boyle/AECOM are now under contract and have started Phase 1 of the Colorado River Water Availability Study (CRWAS). Boyle/AECOM is moving forward with the paleohydrology task, developing CDSS modeling workshop briefs and starting to coordinate with the basin roundtable Chairperson on getting the workshops on their meeting agenda. Once more activities are scheduled and undertaken, newsletters will also be posted on the CWCB website, with email notification to interested parties throughout the Phase 1 process. (Ray Alvarado)

ANIMAS-LA PLATA PROJECT DEDICATION AND AWARD, TRANSFER

AGREEMENT AND MARKETING STUDY: On Thursday, October 16, 2008, the Bureau of Reclamation hosted a celebration to commemorate a construction-progress milestone on the Animas-La Plata Project. The event was held at Ridges Basin Dam near Durango. Governor Ritter, Senator Ken Salazar, Secretary of Interior Kempthorne, and the Commissioner of Reclamation Robert Johnson were among those in attendance. During the celebration each of the sponsoring agencies received the John Keyes Memorial Award for their collaborative efforts in bringing the project to fruition. Also, since we last met there have been two meetings between the project sponsors and Reclamation to work on the agreements for the transfer of project operation and maintenance to the Association formed by the sponsoring agencies upon project completion. We are ready to bring a contractor on board to perform the water marketing study the Board requested to help in its deliberations on whether or not to purchase the

State's allocation of Project water. We are also reinitiating efforts to develop the water right administration and Project water allocation accounting procedures. *(Randy Seaholm)*

COLORADO RIVER COMPACT COMPLIANCE UPDATE: With respect to compact compliance there are a number of ongoing projects. The Colorado River Water Availability Study is being conducted and involves significant coordination with the IBCC. The Upper Colorado River Commission and the Upper Division States are initiating the development of Upper Colorado River Basin curtailment criteria. Colorado is initiating the development compact compliance criteria and the west slope interests are developing a "Colorado River Compact Curtailment Alternative" Concept Paper. While these efforts can be pursued somewhat independently it is also essential that there be a certain amount of coordination, especially as more phases of each effort get initiated and start to compete for funding. It is starting to become increasingly difficult to keep these efforts coordinated and we are seeking the help of everyone involved in one or more of these efforts to stop and ask themselves if that particular endeavor is being adequately coordinated with the others. *(Randy Seaholm)*

COLORADO RIVER 2009 ANNUAL OPERATING PLAN (AOP): The final consultation meeting in the development of the 2009 AOP was held on October 24th and no substantive changes were made. The draft AOP still indicates that Lake Powell will operate in the "Upper Balancing Tier." Therefore, releases from Lake Powell will be 8.23 MAF unless certain conditions defined in that Tier occur. The Lake Powell equalization elevation (i.e. the 602(a) storage level) is 3639 in 2009. The "Intentionally Created Surplus Condition" is the criteria that will govern operations at Lake Mead in 2009, normal releases of 9.2 to 9.3 MAF adjusted for water either stored in or recovered from the water banks and repayments of Inadvertent Overruns. The Colorado River AOP can be found at: <http://www.usbr.gov/uc>, under the "Recently Released Documents." *(Randy Seaholm)*

The October 9, 2008 shows that Lake Powell released 8.978 MAF in WY 2008 and is projected to release about 9.2 MAF in WY 2009. During WY 2008 Lake Mead released 9.531 MAF to satisfy a downstream demand of 9.464 MAF with the Southern Nevada Water Authority also pumping 282,000 AF. In WY 2009 the Lake Mead average values of 9.311 MAF, 9.311 MAF and 290,000 AF respectively are projected. *(Randy Seaholm)*

7-COLORADO RIVER BASIN STATES MEETING: The 7-Colorado River Basin States met in Los Angeles on October 2, 2008. The major items of discussion included: 1) the status of the IBWC\Federal\State process for the development of shortage management and coordinated operations of Colorado River facilities and the development of a proposal for a U.S. Bi-national Water Management Program with Mexico; 2) a discussion of the first year of operations under the Interim Guidelines for the Coordinated Operations of Lakes Powell and Mead; 3) Intentionally Created Surplus Plans; 4) Progress on the lining of the All-American Canal and construction of the Drop 2 Reservoir; 5) Augmentation Programs; 6) Proposed Rule for regulating use of Lower Colorado river water without an entitlement; and 7) reports on various projects (Lake Powell Pipeline, Navajo settlement and Navajo-Gallup Project, northeastern Arizona Indian water right settlement, and the Snake Valley planning efforts in northeastern Nevada. *(Randy Seaholm)*

UPPER COLORADO RIVER COMMISSION MEETINGS: The Upper Colorado River Commission Engineering Committee met on October 20 in Denver and the Legal Committee in Salt Lake City on October 30 to further their discussions of compact compliance issues. (*Randy Seaholm*)

GLEN CANYON ADAPTIVE MANAGEMENT PROGRAM & THE COLORADO RIVER BASIN SCIENCE AND RESOURCE MANAGEMENT SYMPOSIUM: The Glen Canyon Adaptive Management Program Technical Workgroup (TWG) met on October 15-16, 2008 in Phoenix, AZ. The agenda for the TWG meeting and presentations made at the meeting can be found on the Glen Canyon Dam Adaptive Management Program website at:
<http://www.usbr.gov/uc/rm/amp/index.html>

We also want to call your attention to the upcoming Colorado River Basin Science and Resource Management Symposium that will be held on November 18-20, 2008 in Scottsdale, Arizona. The copy of the Science Symposium Program is attached for your information. This will be the first science symposium that attempts to present the combined information generated through the Upper Colorado River Recovery Program, San Juan Recovery Program, the Lower Colorado River Multi-species Conservation Program as well as the Glen Canyon Dam Adaptive Management Program. (*Randy Seaholm*)

COLORADO RIVER BASIN SALINITY CONTROL PROGRAM (CRBSCP): The CRBSC Forum and Advisory Council held their fall 2008 meetings on Oct. 29-30 in San Diego. Final adoption of the 2008 Triennial Review was given and it will be forwarded to the Governors and Water Quality Control agencies of each of the Seven Basin States for further action. In Colorado the Water Quality Control Commission will adopt the 2008 Review and underlying regulations at its December 2008 hearing. The 2008 Review report may be viewed and downloaded at the Forum's website: www.ColoradoRiverSalinity.org. Funding recommendations for the Federal FY2010 budget, similar to last year's, were adopted and will be presented in the Advisory Council's 2008 Report to be released at the end of this December. Reclamation noted the difficulty of increasing salinity funding under the "flat funding" environment it has experienced for the last decade and the Forum determined to seek additional legislative support for Reclamation through groups such as the Western Governors Association.

A draft report to Congress describing implementation of the new Basin States Program authorized in the new 2008 Farm Bill has been prepared by Reclamation with input from the Advisory Council and will soon be finalized for submittal through the Sec. of Interior. This new aspect of the Salinity Control Program will allow more flexibility in how the States to meet their cost-share obligations on the program using the Upper and Lower Colorado River Basin Development Funds. After Congress has had the report for 30 days the Basin States Program will be delivered in Colorado by the Colorado State Conservation Board within the Colorado Dept. of Agriculture ("CDA"). An innovative new pilot incentive program in the Plateau Creek area of Colorado has been approved for implementation by USDA-NRCS and CDA. USBR has developed a plan for additional hydrogeology studies by the USGS in the Paradox area where an existing brine disposal project located along the Dolores River near Bedrock is undergoing review of potential modifications and enhancements. A concerted effort to identify funds for those studies is underway. Reclamation reported on a new effort, funded by the Lower Basin States, to restart the Yuma Desalter Plant at 1/3 capacity on an interim one year pilot study basis. This effort will need to be monitored by the Upper Basin States. We also heard from the US Section of the IBWC on issues with

Mexico, including efforts to reconcile calculation and measurement differences of the salinity differential required under Minute 242 of the US – Mexico Treaty. The Forum noted the untimely deaths of the US and Mexican IBWC Commissioners in a plane crash while surveying flooding on the Rio Grande this fall, and instructed the Executive Director to send a letter to the Carlos Marin family expressing its condolences and gratitude for Carlos' service to the Basin States.

We have learned that at least two Colorado water user entities have been successful in competing for funds from Reclamation's Basinwide Program. As we find out more about their proposals we will be looking for opportunities to provide support and perhaps financial assistance as may be needed. The CRBSC Work Group will meet next in February 2009 to consider new research proposals and procedures for the Advisory Council's role in the new Basin States Program. The Forum and Advisory Council meet again in May 2009 in Moab, UT. (*Steve Miller*)

~PLATTE RIVER BASIN~

CHATFIELD RESERVOIR REALLOCATION PROJECT: CWCB staff continues to work with a large coalition of interested stakeholders to pursue water supply storage space in Chatfield Reservoir. The Corps recently updated its cost and schedule estimates as part of the on-going Feasibility Cost Share Agreement (FCSA) with the CWCB. The Scope and Cost Revision Request (SACCR) was informally approved by staff as done in previous years. The CWCB and local participants remain in balance with the Corps as part of the 50/50 cost share requirement. CWCB Director Jennifer Gimbel spoke briefly about the project during her recent presentation at the South Platte Forum held in Longmont. A Chatfield presentation was also given by Tom Browning at the Cherry Creek Stewardship Partners conference in early November. In related news, a one-page informational flyer has been developed for the study, and copies will be distributed to the public over the next several months. (*Tom Browning*)

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP): The Platte River Recovery Implementation Program will hold its next Governance Committee meeting in Denver on December 2-3, 2008.

The G.C. held the October meeting in Kearney, Nebraska on October 7-8, 2008, and one of the main focuses of that meeting was the development of the 2009 budget. This budget will be finalized at the December meeting.

The committee continues to implement the Program through its various committees and subcommittees. In particular, there are a number of parcels of land that the Program has advanced through Land Advisory Committee and the rest of the Program land review process. The Program hopes to acquire some of these lands within the near future.

The Adaptive Management Work Group continues to develop protocols and implement the integrated monitoring and research plan. This fall, the Program cooperated with other federal, state, and local agencies to install additional gages on the Platte River within the program area. In addition, the Program is working with the Nebraska Department of Natural Resources and other local agencies to address the

phragmites (an invasive plant species) infestations, which pose new and difficult challenges to the Program.

The Water Advisory Committee is continuing to conduct and manage additional feasibility work associated with the Water Action Plan. For more information please visit: www.platterriverprogram.org.
(*Ted Kowalski*)

SOUTH PLATTE FORUM: The South Platte Forum held its annual conference in Longmont, Colorado on October 22-23, 2008. Harris Sherman, Dick Wolfe, Jennifer Gimbel, Tom Remington, and Dean Winstanley all made presentations.

In addition, the South Platte Water Related Activities Program (“SPWRAP”) held its annual meeting on October 23, 2008. The SPWRAP Board continues to meet on the third Thursday of every month, odd months at the Northern Colorado Water Conservation District (“NCWCD”) Office and even months at Denver Water. The next meeting will be on November 20, 2008 at the NCWCD Office in Berthoud, Colorado.

SPWRAP and the CWCB have finalized the accounting forms to obtain the information necessary for the State’s reporting requirements under the Platte River Program. These forms will be distributed to SPWRAP members and non-member water users alike, in order to determine the appropriate water retiming obligations. In addition, the State and SPWRAP have developed an amendment to the existing Memorandum of Understanding, which defines their respective roles more clearly.

In the MOU, SPWRAP is primarily responsible for the costs associated with the water obligations of the Program and the State is primarily responsible for the cash obligations of the Program. The U.S. Fish and Wildlife Service, the State, and SPWRAP continue to develop the Memorandum of Understanding (“MOU”) for addressing new federal depletions that may occur within the State of Colorado. To this end, the State and SPRWAP met in October with the Jackson County Water Users Association to explore a possible amendment to Colorado’s Depletion Plan. This proposed amendment would establish one overall baseline for water use within the North Platte Basin within Colorado, rather than separate baselines for the different types of water use within the Platte River. This change would also allow federal agencies to use up to 120 acre-feet of water under Colorado’s amended depletions plan.

The Jackson County Water Users Association expressed some concerns with the proposed amendment to the depletions plan and the proposal to cover the federal agencies under this amended plan. The State and SPWRAP are working together to attempt to resolve these concerns. For more information, please contact Ted Kowalski of the CWCB or Kevin Urie of Denver Water. (*Ted Kowalski*)

~SOUTHWESTERN RIVER BASINS~

RIVER PROTECTION WORKGROUP: The River Protection Workgroup (“RPW”) and steering committee continue to meet in order to develop a cooperative river management plan for Hermosa Creek. The public meetings are the first Tuesday of every month from 6:30 pm until 8:30 pm. On November 3, 2008, Linda Bassi made a presentation on the existing instream flow water rights within the Hermosa

Creek basin, on the instream flow program, on a synthetic hydrologic model developed by Michelle Garrison, and on the Colorado Water Conservation Board's objectives, generally. Ted Kowalski and Linda Bassi, continue to provide support and state resources towards this process. The next RPW public meeting will be on December 2 at 6:30 p.m. *(Ted Kowalski)*

RIO GRANDE DECISION SUPPORT SYSTEM (RGDSS): The Bureau of Reclamation has requested the Division of Water Resources help in using the RGDSS groundwater model in assisting them in their future planning effort relating to the Closed Basin Project. *(Ray Alvarado)*

DOLORES RIVER DIALOGUE (DRD) UPDATE: Since the last Board meeting, the DRD Technical Committee met on September 25 and November 4, 2008, and the full DRD group met on October 28, 2008. Agenda items for the full DRD meeting included discussions of: (1) the process to update the Lower Dolores River Management Plan as an alternative to Wild and Scenic designation on the Dolores River below McPhee Reservoir; (2) a section 319 watershed study being conducted on the Dolores River and how it relates to item (1); (3) management by the USBR and the Dolores Water Conservancy District of the 2008 spill of McPhee Reservoir; and (4) ongoing scientific research on the Dolores River. At the November 4, 2008 DRD Technical Committee meeting, participants worked on developing a public process and schedule for the Lower Dolores River Management Plan update. The process will entail several public meetings, with the first meeting tentatively set for mid-December. The desired outcome of this process is the formulation of recommendations on how to protect the ORVs identified by the USFS/BLM on the lower Dolores River to submit to the USFS/BLM for consideration in the Environmental Assessment related to the Wild and Scenic process. *(Linda Bassi)*

RECENTLY DECREED ISF WATER RIGHTS: On August 14, 2008 the Division 4 Water Court decreed an instream flow water right to the CWCB on the North Fork Escalante Creek in Case No. 07CW036 for 3.7 cfs (April 1 – June 14), and 0.6 cfs (June 15 – March 31), with an appropriation date of January 25, 2006. The upstream terminus is the confluence with Points Creek and the lower terminus is the headgate of the Sawtell Ditch. The ISF reach is approximately 7.3 miles long. The CWCB entered into a stipulation with the Mika Ag Corporation to alleviate their concerns about this ISF segment.

On August 29, 2008 the Division 4 Water Court decreed an instream flow water right to the CWCB on the Little Dolores River in Case No. 04CW158 for 2.4 cfs (April 1 – June 30), 1.6 cfs (July 1 – October 31), and 1.0 cfs (November 1 – March 31), with an appropriation date of January 28, 2004. The upstream terminus of the ISF reach is the confluence with Bieser Creek and the lower terminus is the Upper Saxbury Ditch. The ISF reach is approximately 2.5 miles long.

On September 19, 2008 the Division 4 Water Court decreed an instream flow water right to the CWCB on Pauline Creek in Case No. 07CW201 for 2.0 cfs (April 1 – April 30), 2.75 cfs (May 1 – June 30), 2.0 cfs (July 1 – August 31), and 1.0 cfs (September 1 – September 30), with an appropriation date of January 24, 2007. The upstream terminus is the confluence with Chavez Creek and the lower terminus is the headgate of Tarbell and Alexander Ditch. The ISF reach is approximately 4.1 miles long.

On September 19, 2008 the Division 4 Water Court decreed an instream flow water right to the CWCB on Escalante Creek in Case No. 05CW250 for 3.20 cfs (March 1 – March 31), 11.50 cfs (April 1 – June 14), 3.20 cfs (June 15 – July 31), and 1.30 cfs (August 1 – February 28) with an appropriation date of January 25, 2005. The upstream terminus is the confluence with the East Fork and Middle Fork Escalante Creek

and the lower terminus is headgate of the Knob Hill Ditch. The ISF reach is approximately 3.9 miles long. The CWCB agreed to terms and conditions with the Mika Ag Corporation to alleviate their concerns about this ISF segment.

On September 19, 2008 the Division 4 Water Court decreed an instream flow water right to the CWCB on Escalante Creek in Case No. 05CW251 for 4 cfs (March 1 – March 31), 8.2 cfs (April 1 – June 14), 4 cfs (June 15 – July 31), and 1.5 cfs (August 1 – February 28), with an appropriation date of January 25, 2005. The upper terminus is the confluence of the North Fork Escalante Creek and the lower terminus is the headgate of the Captain H. A. Smith Ditch. The ISF reach is approximately 6.4 miles long. The CWCB agreed to terms and conditions with the Mika Ag Corporation to alleviate their concerns about this ISF segment.

On October 17, 2008 the Division 3 Water Court decreed an instream flow water right to the CWCB on Alder Creek in Case No. 07CW062 for 1.1 cfs (April 15 – June 30) and 0.5 cfs (July 1 – April 14), with an appropriation date of January 24, 2007. The upstream terminus is the Forest Service – BLM boundary and the lower terminus is the headgate of Alder Creek Ditch. The ISF reach is approximately 0.4 miles long. *(Rob Viehl)*

CORPS OF ENGINEERS LEVEE INSPECTION UPDATE: Staff from the Watershed Protection and Flood Mitigation Section have been involved in a series of levee inspections throughout southern Colorado as part of the Corps’ Inspection of Completed Works (ICW) program. This program, which inspects Corps-built flood control structures that have been turned over to local governments for maintenance, helps to ensure that the structures continue to provide flood protection and operate as designed. Although the majority of these structures are levees, some may be considered flumes or dams. Inspections occurred in Pueblo, Colorado Springs, Alamosa, Trinidad, Las Animas, and Holly. Although no formal inspection reports have been received as of the date of this report, it is anticipated that all levees except the Alamosa levee will receive a rating of Minimally Acceptable, allowing them to remain within the ICW program. Although participation in the ICW program places responsibility for general maintenance on the local sponsor, the program allows a local sponsor to request repair to the structure by the Corps in the event of a flood disaster. Although the program is not directly related to FEMA or its flood maps or flood insurance, an unacceptable rating by the Corps may lead to loss of accreditation for flood insurance purposes.

During the inspection of the Alamosa levee, significant land use violations were noted. In addition, a general lack of maintenance was determined by Corps inspectors. Again, the final inspection report has not been issued at this time, but conversations with the Corps officials indicated that the inspection would likely result in an Unacceptable rating. If this rating comes to fruition, it will remove the Alamosa levee from the ICW program until the City addresses deficiencies and requests reinstatement. The levee in Alamosa was built in the 1990’s.

CWCB staff are eager to provide technical and financial assistance, as appropriate, to Alamosa and the other communities in order to help them address levee deficiencies discovered by the Corp. An agenda item will be presented at the January meeting outlining the results of these inspections and steps the CWCB is taking to assist the local governments. *(Tom Browning)*

UPDATE ON TACOMA POWER PLANT RELICENSING PROCESS: The Public Service Company of Colorado d/b/a Xcel Energy is in the process of relicensing its Tacoma Hydroelectric Project with FERC. The Tacoma Project is located on Cascade Creek and the Animas River just north of Durango. Xcel owns the water rights to divert the flows of Cascade Creek into a conduit that delivers those flows to the Little Cascade Creek watershed, and then into Electra Lake. From Electra Lake, the water is diverted into a penstock to the Tacoma Powerhouse in the Animas River canyon. The relicensing process, which started in July 2004, is scheduled for completion in February 2010. Based upon a request from Xcel to proceed as contemplated in the April 2004 MOU between the USFS and the State of Colorado, representatives of Xcel, the CDOW, the CWCB, the DNR, and the USFS and BLM have been meeting regularly to collaborate on developing an alternative approach to a bypass flow to meet the USFS requirements for mitigation of the impacts of the operation of the power plant.

Representatives of the Southwestern Water Conservation District and the San Juan Citizens Alliance also participate in the meetings. Xcel filed its final license application on June 25, 2008. On August 28, 2008, FERC issued an amended procedural timeline for processing the application. In accordance with that timeline, FERC issued its notice of Ready for Environmental Analysis on September 4, 2008, and the USFS filed its Comments and Preliminary Terms and Conditions related to the relicensing on October 29, 2008.

To preserve its position in the event that the ongoing negotiations are not successful, the USFS included a condition requiring PSCo to maintain year-round continuous minimum flows in the reach of Cascade Creek below the diversion dam. However, the USFS has informed the parties that it remains committed to successfully negotiating a mutually acceptable alternative to a bypass flow requirement. To that end, the parties have been meeting regularly to develop and refine such an alternative, and are close to reaching agreement. Under the alternative, PSCo would provide funds to enhance aquatic resources in the Dolores River below McPhee Dam. At the time of issuance of a new FERC license for the Tacoma Project, PSCo would provide a lump sum payment to a Dolores River Water/Habitat Fund of \$225,000, with annual payments of \$15,000 each year thereafter, beginning 12 months after the initial lump sum payment, adjusted for inflation.) The primary purpose of the funds will be to acquire, lease, or otherwise obtain control over water rights or interests in water in the Dolores River, such water or rights so acquired to be used for the enhancement of the aquatic resources of the Dolores River below McPhee Dam. The program and process for use of these funds will be at the discretion of PSCo, USFS, CDNR, and CDOW, acting jointly, with input from affected stakeholders.

PSCo and the parties have submitted a request to FERC to delay the procedural deadlines to allow the parties time to draft and sign a Final Settlement Agreement for submittal to FERC. The delay would postpone the commencement of a hearing process that would be expensive and time-consuming for the parties. To support the request for extension, the parties negotiated and submitted to FERC an Agreement-In-Principle that documents the alternative to bypass flow agreed upon to date, and provides a framework for developing the Final Settlement Agreement. The parties are requesting a 90 day extension, which would enable staff to obtain CWCB approval of the Final Settlement Agreement at the January 2009 CWCB meeting. After finalization of the Final Settlement Agreement, the USFS and the CDOW will submit recommended license conditions to FERC that are consistent with the Final Settlement Agreement, and the parties will jointly recommend that FERC accept the Final Settlement Agreement and incorporate it into the license. (*Linda Bassi*)

PRESENTATION TO SAN MIGUEL COUNTY COMMISSIONERS: On October 22, 2008, CWCB staff gave a presentation on the pending San Miguel River ISF recommendation to the County Commissioners of San Miguel County at a public work session in Norwood, Colorado. Dan Merriman of Harris Engineering, Inc. also gave a presentation on the Umetco water rights. The County Commissioners asked several questions and heard public comments on both presentations. *(Linda Bassi)*

SAN JUAN RECOVERY IMPLEMENTATION PROGRAM (SJRIP) – HYDROLOGY

MODEL: The use and functionality of SJRIP Hydrology Model has been a controversial subject since its development shortly after the SJRIP was created in 1992. Improvements in the model have been made over the years and the model is now undergoing a third major overhaul in addition to being moved in its entirety onto the new RiverWare platform being used by Reclamation and the US Fish & Wildlife Service (Service).

There has also been concern over how the model was being used in the ESA Section 7 Consultation process, sometimes appearing to be the only information the Service relied on to determine whether or not a project made it successfully through the Section 7 Consultation process. The SJRIP and the hydrology model have come a long way in the past few years. While the hydrology model remains a key tool in Section 7 consultations it no longer is the only tool. Furthermore, the Service has been willing to work with the SJRIP participants to further refine how the hydrology model is implemented in order try and avoid the long standing controversy between Colorado and New Mexico on baseline conditions and to avoid having one major project, such as the Navajo Indian Irrigation Project, be the major reason for any new projects failure to meet the flow recommendations.

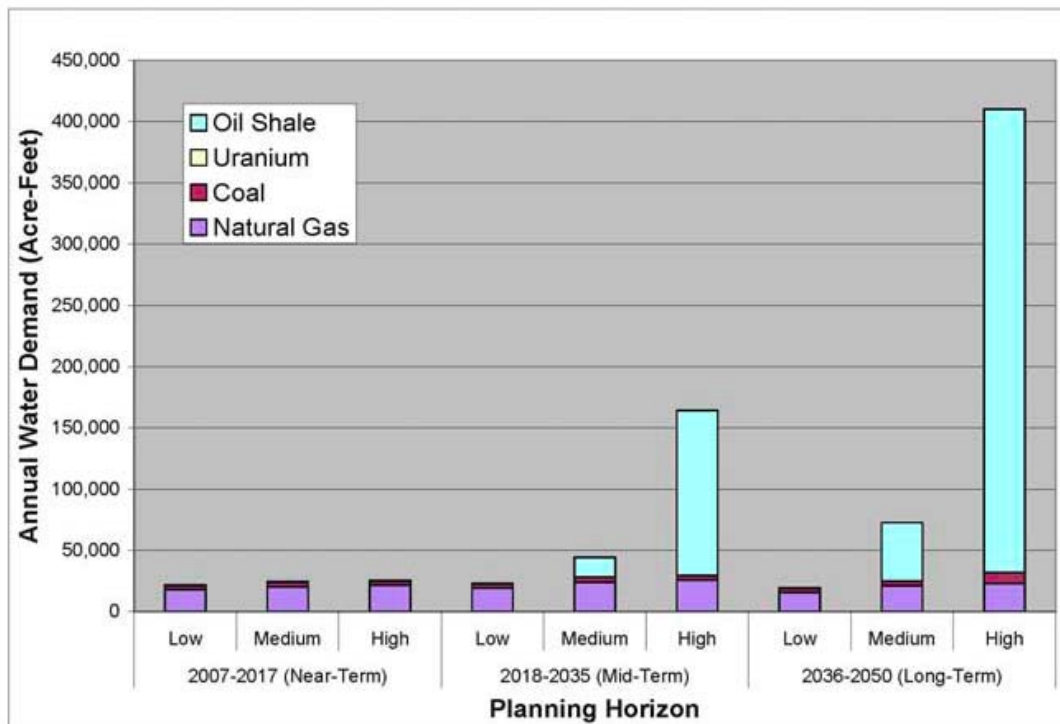
Board staff is now involved in a SJRIP process to develop guidance for the Service that will look at use and development of projects 20 or 25 years out as opposed to only at full development. If this can be successfully accomplished this will make it easier to bring projects through Section 7 Consultations and rely more heavily on the SJRIP as the “reasonable and prudent” alternative to offset project impacts as was originally intended. This is new territory for the SJRIP and we will keep you posted from time to time on the progress of this effort. *(Randy Seaholm)*

~YAMPA/WHITE RIVER BASINS~

ENERGY DEVELOPMENT WATER NEEDS ASSESSMENT, PHASE I REPORT: The Colorado and Yampa/White Roundtables Energy Subcommittee completed a Final Draft Phase I report. The report analyzes direct water demands for natural gas, coal, uranium, and oil shale development in Northwest Colorado. The study also examined indirect water demands and thermoelectric power demands associated with energy development. Finally, the report contains a preliminary review of conditional water rights for energy development. The report will be available on the Colorado Basin Roundtable’s website. It is anticipated Phase II of the study will begin in January, 2009. Phase II will specifically explore various alternatives to identify and quantify reliable water supplies to meet these energy water demands.

Certain findings of the study bear highlighting. The study surveyed the future water demands of the natural gas, coal, uranium and oil shale sectors. It clearly found that oil shale looms as the biggest factor in water supply planning. Within the oil shale sector, there are three distinct water demands – water for production, water for the electricity to power the production, water for the population that will move to the region to work in the industry. Of these three factors, water for thermoelectric power tops the list, by far.

The study breaks down projections to the near term (2007-2017), the mid-term (2018-2035) and the long-term (2036-2050). It assigns water demand numbers to these time periods in order of low, medium and high-production scenarios. The numbers, as depicted in Figure ES-5, Page 10, of the Executive Summary, bear close scrutiny. The illustration is attached below. *(Eric Hecox)*



~AGENCY UPDATES~

CWCB RELEASES CLIMATE CHANGE REPORT: In October, the CWCB announced the availability of a new report entitled, “Colorado Climate Change: A Synthesis to Support Water Resource Management and Adaptation”. The report focuses on observed trends and projections of temperature, precipitation, snow and runoff. It provides the physical science basis to support Governor Ritter’s Climate Action Plan and state efforts to develop water adaptation plans to respond to climate change. The

report was released in connection with the Governor’s Conference on Managing Drought and Climate Risk and was passed out to conference attendees. Copies of the report can be downloaded from the CWCB website at: <http://cwcb.state.co.us/Home/ClimateChange/ClimateChangeCORreport.htm>. (*Ben Wade*)

REQUESTS FOR ADMINISTRATION OF ISF WATER RIGHTS: Staff, on behalf of the Board, placed calls for administration of the following ISF water rights. Staff was alerted to low flow conditions via the flow alert system. The Division Engineers have worked diligently to enforce the calls through the curtailment of junior rights and/or through the implementation of various augmentation plans.

Stream Name	ISF Case Number	Date of Call	Administration results:
Hunter Creek	Multiple acquired rights.	September 5, 2008	The water commissioner curtailed three ditches and three unadjudicated ponds. In addition, four decreed ponds were administered per augmentation plans. The net gain to the stream was approximately 1.25cfs.
San Miguel River	4-02CW277	September 10, 2008	Flows increased naturally as a result of a rain/snow event within a day of the call.
Slate River	4-80CW092	October 3, 2008	The water commissioner required Upper Gunnison River WCD to make augmentation releases from Long Lake. In addition, 5 small augmentation ponds released water to the Slate and a number of irrigation rights were curtailed on October 30 th .
Roaring Fork River	5-76W2950 5-76W2949 5-76W2948	September 2, 2008	The water commissioner curtailed 7 ponds and 10 ditches on the Roaring Fork River for a net gain of approximately 6 cfs.
Elk River	6-77W1331 6-77W1279	August 29, 2008	The Division Engineer had questions regarding the accuracy of the gage data upon which the call was based. Subsequent measurements by the USGS indicated that a shift was necessary and flows were higher than previously indicated. The flows never dropped below the Board’s 65cfs ISF right. As a result, administration was unnecessary.

The call letters and detailed information on the Board’s rights that were administered can be found on the CWCB’s web page at: <http://cwcb.state.co.us/StreamAndLake/Physical/AdministrativeCalls/> (*Jeff Baessler*)

WATER INFORMATION – STREAMING AUDIO: Through funding provided by the CWCB and the Oil & Gas Conservation Commission (OGCC), the Department of Natural Resources (DNR) has purchased equipment that will be used to stream public meetings and hearings over the Internet. The CWCB will begin streaming their Board Meetings live over the Internet in November 2008. The Division of Wildlife (DOW) began streaming their Wildlife Commission hearings earlier this year, and the OGCC has been streaming their rulemaking hearings for the past several months. As more interest has been generated, DNR decided to move forward with purchasing equipment to be used department-wide. This “service” helps to provide access to information for those who are unable to travel to the meetings. *(Susan Lesovsky)*

WATER INFORMATION – IMAGING AUDIT TRAIL: The CWCB’s imaging system, Laserfiche, has a new audit trail component that is used to look at activity in the system. Based on the different types of users set up in the system, web activity, searches, downloads and other types of information can be tracked and evaluated. While this tool provides statistics such as how many people are logging in or how many documents are being added to the system, the audit trail can also help evaluate whether the search tools are straight forward or cumbersome and if the indexing/categorization of documents is logical to the end user. The Water Information Section is running monthly reports with this tool to evaluate Laserfiche activity. *(Susan Lesovsky)*

FEBRUARY 2009 ISF WORKSHOP: The 2009 ISF workshop will be held on Tuesday, February 24, 2009 from 10:00 am to 3:00 pm at Denver’s REI flagship Store. Staff selected this venue because of easy access from I-25 and free parking. In addition, REI has waived all fees associated with this event. The purpose of the workshop is to afford recommending entities the opportunity to present new ISF recommendations to the staff, Board and stakeholders. Lunch will be provided. An additional notice of this event will be sent to the ISF Subscription Mailing List in late December or early January. *(Jeff Baessler)*

CWCB CLOUD SEEDING ANNUAL REPORT (WY08): Staff has prepared an annual report for Water Year 2008 that summarizes local expenditures, grants to project sponsors from the CWCB, New Mexico, and Colorado River water users, proposals and contracts for new equipment, estimates of snowfall generated, and other staff, state, and regional activities related to cloud seeding. Board members can access the report through Laserfiche or the CWCB Watershed Protection and Flood Mitigation publications web page at:

<http://cwcb.state.co.us/WatershedProtectionFloodMitigation/RelatedInformation/Publications/pubs.htm#weatherModStudies>

(Joe Busto)

AVAILABILITY OF WATER EFFICIENCY GRANT FUND: A recent interpretation of Colorado’s statutes authorizing and appropriating money for water conservation planning and implementation grants, has resulted in a determination that less than \$50,000 is available to meet Water Efficiency Grant Fund (WEGF) purposes in the current fiscal year. This means that little or no money is available to meet the need for new grants. Therefore, the Office of Water Conservation and Drought Planning will not be processing new grant applications until this fiscal problem is resolved. The CWCB will be working hard to resolve this issue as soon as possible, but because legislation is required to remedy the problem, it is likely that no money will be available before March 1, 2009 at the earliest. The

CWCB is working with the Governor's office to draft legislation to remedy the following statutory fiscal issues:

- The WEGF authorization (37-60-126 C.R.S.) must be amended to add terms allowing prior fiscal year encumbrances, which carry forward into future fiscal years, to be charged against the appropriation from the year in which the funds were originally encumbered. Without such an amendment, the CWCB must meet its past contractual obligations with this year's money.
- The statute must be amended to allow unspent funds from the prior fiscal year, that are reverted to the WEGF, to be spent because there is currently no authority to spend this money. As a result, the remaining funds in the WEGF (well over \$1 million) cannot be utilized.
- The statute also needs to be clarified so that the Section (Section 12 (a)) appropriating money for operational expenses matches the bill's (SB 07-008) appropriation clause (Section 4) that also provided on-going FTE. Therefore, statutory appropriation needs to be increased to cover both the operational and FTE costs. (*Ben Wade*)

OFFICE OF WATER CONSERVATION AND DROUGHT PLANNING HIRES

DROUGHT SPECIALIST: Taryn Hutchins-Cabibi accepted the position as Drought Specialist. She will start providing drought related technical assistance to water providers on November 10, 2008. Prior to accepting the position with the CWCB, she worked with Western Resource Advocates. (*Veva Deheza*)

OFFICE OF WATER CONSERVATION AND DROUGHT PLANNING LOSES

GRANTS COORDINATOR: Tammie Petrone has resigned her position as Grants Coordinator. She had recently taken some Family Medical Leave to be with her ailing father in New York at the end of July. She has decided it was better for her to remain in New York. Tammie provided technical assistance to water providers and state and local governmental entities in their efforts to apply for grant funding. Her other responsibilities included accounting and budgeting grant funds and developing and implementing outreach strategies to promote the water conservation grant programs around the state. (*Veva Deheza*)

~ATTACHMENTS~

- **11d-01** DeMinimis Cases
- **11d-02** Loan Financial Activity Report
- **11d-03** Summary of Resolved Cases
- **11d-04** Ditch Bill Update
- **11d-05** Large Water Project Loan Prospect Report
- **11d-06** Loan Forecast & Prospect Report
- **11d-07** Design & Construction Status Report
- **11d-08** Consensus Statement of the 2008 Colorado Conservation Summit
- **11d-09** Colorado River Basin Science and Resource Management Symposium
- **11d-10** University of Arizona Saltcedar article
- **11d-11** Tamarisk Coalition Newsletter
- **11d-12** Western States Water Council Planning Initiative Letter

**Director's Report Attachment 11d-01 – November 18-19, 2008, Board Meeting
Stream and Lake Protection Section DeMinimis Cases**

The following table summarizes the applications that have the potential to injure the Board's instream flow water rights, but their impacts are considered de minimis. In each of these cases, the cumulative impact to the Board's rights is 1% or less. Pursuant to the DeMinimis Rule, described in Section 8 of the Instream Flow Program Rules, staff has not filed Statements of Opposition in these cases.

Case No.	Applicant	Stream/ Case Number	ISF Amount	Percent Injury	Cumulative % Injury	Pervious Cases
1-08CW137	David & Kim Skerda	Troublesome Creek / 94CW255	1.25 cfs (summer) 0.2 cfs (winter)	0.1242% 0.5554%	0.1364% 0.6316%	2
		Bear Creek / 94CW259	10 cfs (summer) 5 cfs (winter)	0.0155% 0.0222%	0.1775% 0.3002%	29
		Bear Creek / 94CW260	15cfs (summer) 7 cfs (winter)	0.0103% 0.0159%	0.1922% 0.3348%	38
2-94CW005	Norman Neil Ennis	Cottonwood Creek / 79CW115	20 cfs (summer) 20 cfs (winter)	0.0012% 0.0002%	0.3841% 0.1737%	129

**WATER PROJECT CONSTRUCTION LOAN PROGRAM
LOAN REPAYMENT DELINQUENCY REPORT
LOAN FINANCIAL ACTIVITY REPORT
ATTACHMENT 11d-02, NOVEMBER 2008**

LOAN REPAYMENT DELINQUENCY

Loan Repayments received relative to the Water Project Construction Loan Program have been reviewed for the period covering July 2008 through October 2008. The effective due date of the payment is inclusive of the Board's current 30 day late policy. Hence, the date the payment was received was compared to the last day allowable prior to the payment being considered late.

Repayments due for the first four months of Fiscal Year 2009 totaled 106. There were eight loan payments not received on time during this period. Two loan payments from the Excelsior Irrigating Company, the loan payments from the Appleton Northwest Lateral (ML369) and Drainage Company and the Spring Dale Ditch Company were less than 30 days late. The loan payments from the Ogilvy Irrigating and Land Company and the Hawkeye Lateral Ditch Company were less than 60 days late. The loan payment from the Lower Arkansas Water Management Association was over 90 days late. The loan payment from Rodney Preisser due October 2008 has not been received to date. Thus, the on-time performance for the total repayments due was 92% in compliance or 8% not in compliance.

As additional notes: (1) the payment from Rodney Preisser due October 2007 has not been received to date; and (2) the Town of Starkville has not met its obligations since Fiscal Year 2006.

LOAN FINANCIAL ACTIVITY

Loan Financial Activity relative to the Water Project Construction Loan Program for Fiscal Year 2009 is detailed on the following attachment. Funds received relative to loans in repayment totaled \$6.8 M for this period. Funds disbursed relative to new project loans totaled \$5.9 M for this period. Net activity resulted in \$0.9 M received to the CWCB Construction Fund and the Severance Tax Trust Fund Perpetual Base Account (STTFPBA) over the total disbursed.

Further breakdown is summarized as follows: The Construction Fund portion consists of \$3.7 M in receivables and \$3.3 M in disbursements for a total net activity of \$0.4 M received over disbursed. The STTFPBA consists of \$3.1 M in receivables and \$2.6 M in disbursements for a total net activity of \$0.5 M received over disbursed.

COLORADO WATER CONSERVATION BOARD

FINANCIAL ACTIVITY REPORT

FOR FISCAL YEAR 2009

CONSTRUCTION FUND

Period	Principal	Interest	Total Received	Disbursements	Net Activity
July 2008	\$ 925,827	\$ 959,768	\$ 1,885,595	\$ 5,208	\$ 1,880,387
August 2008	\$ 203,741	\$ 260,862	\$ 464,603	\$ 3,291,499	\$ (2,826,895)
September 2008	\$ 273,388	\$ 267,948	\$ 541,336	\$ -	\$ 541,336
October 2008	\$ 418,701	\$ 451,188	\$ 869,889	\$ 25,183	\$ 844,706
November 2008	\$ -	\$ -	\$ -	\$ -	\$ -
December 2008	\$ -	\$ -	\$ -	\$ -	\$ -
January 2009	\$ -	\$ -	\$ -	\$ -	\$ -
February 2009	\$ -	\$ -	\$ -	\$ -	\$ -
March 2009	\$ -	\$ -	\$ -	\$ -	\$ -
April 2009	\$ -	\$ -	\$ -	\$ -	\$ -
May 2009	\$ -	\$ -	\$ -	\$ -	\$ -
June 2009	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2009 Totals	\$ 1,821,657	\$ 1,939,766	\$ 3,761,423	\$ 3,321,890	\$ 439,533

SEVERANCE TAX TRUST FUND PERPETUAL BASE ACCOUNT

Period	Principal	Interest	Total Received	Disbursements	Net Activity
July 2008	\$ 227,786	\$ 245,449	\$ 473,236	\$ 881,500	\$ (408,264)
August 2008	\$ 53,353	\$ 697,384	\$ 750,737	\$ 92,865	\$ 657,873
September 2008	\$ 125,435	\$ 222,007	\$ 347,442	\$ 264,512	\$ 82,931
October 2008	\$ 1,120,989	\$ 417,414	\$ 1,538,403	\$ 1,411,668	\$ 126,735
November 2008	\$ -	\$ -	\$ -	\$ -	\$ -
December 2008	\$ -	\$ -	\$ -	\$ -	\$ -
January 2009	\$ -	\$ -	\$ -	\$ -	\$ -
February 2009	\$ -	\$ -	\$ -	\$ -	\$ -
March 2009	\$ -	\$ -	\$ -	\$ -	\$ -
April 2009	\$ -	\$ -	\$ -	\$ -	\$ -
May 2009	\$ -	\$ -	\$ -	\$ -	\$ -
June 2009	\$ -	\$ -	\$ -	\$ -	\$ -
FY 2009 Totals	\$ 1,527,564	\$ 1,582,254	\$ 3,109,818	\$ 2,650,544	\$ 459,275
GRAND TOTALS	\$ 3,349,221	\$ 3,522,021	\$ 6,871,242	\$ 5,972,434	\$ 898,808

**Instream Flow and Natural Lake Level Program
Summary of Resolved Cases
Attachment 11d-03**

The Board’s ISF Rule 8i. states that:

“In the event the pretrial resolution includes terms and conditions preventing injury or interference and does not involve a modification, or acceptance of injury or interference with mitigation, the Board is not required to review and ratify the pretrial resolution. Staff may authorize its counsel to sign any court documents necessary to finalize this type of pretrial resolution without Board ratification.”

Staff has resolved issues of potential injury in the following water court cases and authorized the Attorney General’s Office to enter into stipulations that protect the CWCB’s water right:

(1) Case No. 5-03CW324 Application of Morningstar Owners Association

(Consolidated Case Nos. 5-02CW389 and 5-03CW324)

The Board ratified this statement of opposition at its March 2004 meeting. The Board’s main objective in filing the statement of opposition in this case was to ensure that the Applicant’s proposed augmentation plan does not injure the Board’s instream flow water rights on the Roaring Fork River. Staff, in cooperation with the Attorney General’s Office, has negotiated a settlement to ensure that the CWCB’s instream flow water rights will not be injured.

The Board holds the following instream flow water rights that could have been injured by this application:

CWCB Case No.	Stream/Lake	Amount (cfs)	Approp. Date	Watershed	County
5-76W2949	Roaring Fork River	15	01/14/76	Roaring Fork River	Pitkin
5-76W2948	Roaring Fork River	32	01/14/76	Roaring Fork River	Pitkin
5-85CW646	Roaring Fork River	55/30	11/08/85	Roaring Fork River	Pitkin
5-85CW639	Roaring Fork River	145/75	11/08/85	Roaring Fork River	Pitkin

The CWCB and the Applicant have agreed to the entry of a decree that will prevent injury to the Board’s ISF water rights on the Roaring Fork River. The Applicant has agreed to the following terms and conditions:

- The augmentation schedule shown in Table 11 (Exhibit N) of the decree assumes that a call has been made in the upper Roaring Fork River above its confluence with the Fryingpan River. Once a call has been placed, releases will be made from Wildwood Pond and/or McFarlane Pond to offset the Black Diamond Well domestic depletions and irrigations consumptive use requirements.
- Diversions into the ponds will be curtailed and the water levels in all of the Ponds will reduce as necessary to offset their individual evaporative losses.
- The augmentation schedule shown in Table 11 (Exhibit N) of the decree assumes that the irrigation system will be curtailed over the July 15th through the September 30th period. Should a call extend over a longer period or if the augmentation storage available in the Vulcan Pond System is depleted, the Preserve will curtail irrigation use.
- Sufficient storage will always be available to augment the domestic use of the Black Diamond residence and the Meadow Pond and McFarlane Pond evaporation.

- The State Engineer shall curtail all out-of-priority diversions, the depletions from which are not so replaced as to prevent injury to vested water rights.
- The Applicant shall install measuring devices, provide accounting, and supply calculations regarding the timing of depletions as required by the Division Engineer for the operation of this plan.
- Water released pursuant to the Basalt Water Conservation District contract will assume a five percent (5%) transit loss from Ruedi Reservoir and a ten percent (10%) transit loss from Green Mountain, which may be modified up reasonable request by the Division Engineer.
- The Court shall retain jurisdiction in this matter for a period of five (5) years from 75% build-out of the Morningstar Development.

(2) Case No. 5-06CW059 Application of Winter Park Christian Church

The Board ratified this statement of opposition at its July 2006 meeting. The Board's main objective in filing the statement of opposition in this case was to ensure that the Applicant's plan for augmentation and exchange does not injure the Board's instream flow water rights on Crooked Creek, the Fraser River, and the Colorado River. Staff, in cooperation with the Attorney General's Office, has negotiated a settlement to ensure that the CWCB's instream flow water rights will not be injured.

The Board holds the following instream flow water rights that could have been injured by this application:

CWCB Case No.	Stream/Lake	Amount (cfs)	Approp. Date	Watershed	County
5-90CW296	Crooked Creek	8 (4/15-8/14) 4 (8/15-9/30) 2.75 (10/1-4/14)	12/27/90	Fraser River	Grand
5-90CW308B	Fraser River	30(5/15) 19(9/16-5/14)	12/27/90	Fraser River	Grand
5-80CW447	Colorado River	90 (1/1-12/31)	7/8/80	Colorado River	Grand
5-80CW446	Colorado River	135 (1/1-12/31)	7/8/80	Colorado River	Grand
5-80CW448	Colorado River	150 (1/1-12/31)	7/8/80	Colorado River	Grand

The CWCB and the Applicant have agreed to the entry of a decree that will prevent injury to the Board's ISF water rights on the Colorado River, the Fraser River and Crooked Creek. The Applicant has agreed to the following terms and conditions:

- The Applicant acknowledges that the CWCB has instream flow water rights in Grand County on Crooked Creek, the Fraser River and the Colorado River to preserve the natural environment to a reasonable degree, which rights were appropriated and decreed prior to the filing of the Application in Case No. 06CW59.
- The Applicant will provide a local augmentation source to cover the potential injury to senior rights, in particular the CWCB's instream flow rights, that are not fully protected by releases from either Granby Reservoir or Wolford Mountain Reservoir. During October of each year, the Applicant will pump from Winter Park Christian Church (WPCC) Wells Nos. 1, 2 and/or 3 sufficient water to full a fully enclosed WPCC Storage Tank with up to 0.23 acre feet of water. The size of the WPCC Storage Tank will not exceed 74,200 gallons and water from the tank will

be available for subsequent release during the succeeding year. Any releases from the localized augmentation source will be made directly into the unnamed creek located on the Applicant's property, which is tributary to Crooked Creek, tributary to the Fraser River, tributary of the Colorado River. Any required or necessary localized augmentation release from WPCC Storage Tank will occur on the Applicant's property and will meet Crooked Creek at a point which fully protects Crooked Creek from injury due to any out of priority pumping of WPCC Wells No. 1-3.

– Specialized Conditions on Operation of Augmentation Plan:

- If the Applicant chooses to install and fill a 28,700 gallon storage tank, the Applicant shall not irrigate with WPCC Wells No. 1-3. The Applicant can use WPCC Wells No. 1-3 as a year round supply for commercial, domestic and augmentation uses. Under these circumstances, (i.e., no irrigation with WPCC Wells No. 1-3), the Applicant will be required to provide local augmentation from the WPCC Storage Tank that will augment their depletions resulting from commercial and domestic use to the extent necessary to prevent injury to the CWCB's senior instream flow rights.
 - If the Applicant chooses to install and fill a 48,600 gallon storage tank, the Applicant may irrigate with WPCC Wells No. 1-3 in July and August. The Applicant agrees to not irrigate in September unless the water already stored in WPCC Storage Tank is adequate to replace out-of-priority irrigation depletions, including out-of-priority post-pumping depletions, resulting from irrigation operations. In the event of a call by the CWCB of its senior instream flow rights that is not covered by releases from either Granby Reservoir or Wolford Mountain Reservoir the Applicant shall provide local augmentation from the WPCC Storage Tank for depletions resulting from the commercial, domestic and augmentation uses to the extent necessary to prevent injury to the CWCB's senior instream flow water rights. The Applicant shall also provide local augmentation from the WPCC Storage Tank for out-of-priority depletions resulting from irrigation operations during July and August, including out-of-priority pumping and post-pumping depletions, to the extent necessary to prevent injury to the CWCB's senior instream flow rights. In the event of a call by the CWCB of its senior instream flow rights in the month of September, the Applicant shall either voluntarily curtail such irrigation uses or shall provide local augmentation water from the WPCC Storage Tank to replace irrigation depletions including post-pumping depletions. Under this scenario, WPCC Wells No. 1-3 can continue to operate as the year round supply for the commercial, domestic and augmentation uses contemplated in the Decree. Nothing in this paragraph shall affect the Applicant's ability to irrigate during the months of May and June.
 - If the Applicant chooses to install and fill a 74,200 gallon storage tank, the Applicant may operate WPCC Wells No. 1-3 as the year round supply for all uses contemplated in this Decree. In the event of a call by the CWCB of its senior instream flow water rights that is not covered by releases from either Granby Reservoir or Wolford Mountain Reservoir, the Applicant shall provide local augmentation from WPCC Storage Tank for all our-of-priority depletions, including our-of-priority pumping and post-pumping depletions, to the extent necessary to prevent injury to the CWCB's senior instream flow rights.
- Records of diversion will be maintained and accounting of depletions will be used to determine annual augmentation requirements. The augmentation plan and releases required under the decree shall be administered at the discretion of the Division Engineer.
- The State Engineer shall curtail all out-of-priority diversions, the depletions from which are not so replaced as to prevent injury to vested water rights.

- The Applicant shall install measuring devices, provide accounting, and supply calculations regarding the timing of depletions as required by the Division Engineer for the operation of this plan.
- The Court shall retain jurisdiction in this matter for a period of five (5) years after the date of operation of the plan for augmentation. The plan for augmentation shall not be considered operational until such time as the Applicant has notified the Court of the date of operation, the Division Engineer and the CWCB and both sources of augmentation water have been utilized pursuant to the plan. Any such notification shall also delineate the ultimate size of WPCC Storage Tank. If WPCC Storage Tank is anything less than 74,200 gallons, Applicant shall also indicate whether it plans to reserve the right to increase the size of the storage tank in the future (i.e., continue to maintain conditional water right for that portion not built). In such case the period of retained jurisdiction shall not begin on the reserved portion until such time that the storage tank have been so enlarged to accommodate the additional uses provided in the augmentation plan.

(3) Case No. 4-05CW266 Application of Mika Ag Corp.

The Board ratified this statement of opposition at its March 2006 meeting. The Board's main objective in filing the statement of opposition in this case was to ensure that the Applicant's proposed change of water rights and approval of alternate points of diversion and exchange do not injure the Board's instream flow water rights on Escalante Creek. Staff, in cooperation with the Attorney General's Office, has negotiated a settlement to ensure that the CWCB's instream flow water rights will not be injured.

The Board holds the following instream flow water rights that could have been injured by this application:

CWCB Case No.	Stream/Lake	Amount (cfs)	Approp. Date	Watershed	County
4-05CW250	Escalante Creek	1.3-11.5	1/25/05	Gunnison River	Mesa
4-05CW251	Escalante Creek	1.5-8.2	1/25/05	Gunnison River	Mesa and Delta

The CWCB and the Applicant have agreed to the entry of a decree that will prevent injury to the Board's ISF water rights on Escalante Creek. The Applicant has agreed to the following terms and conditions:

- Diversions at alternate points shall be made only to the extent that water is physically and legally available at the originally decreed point of diversion.
- **Downstream alternate points of diversion:** Diversions otherwise available at the original points may be taken at the Applicant's other points of diversion downstream from the original point but shall not be allowed to call out junior decrees upstream from the original point of diversion, and shall be, subject to non-futile call by any intervening decree which would be harmed by loss of return flows; except that such limitations shall apply to the CWCB's instream flow water rights on Escalante Creek pending in Case Nos. 05CW250, 05CW251 and 07CW36 which are subject to said alternate diversions under C.R.S. 37-92-102(3)(b).
- **Upstream alternate points of diversion:** Diversions otherwise available at the original points of diversion may be taken at points of diversion upstream, provided that such alternate diversions shall not be allowed to call out any junior water right upstream from the original point of diversion in order to avoid injury from possible expansion of use, except for the CWCB's instream flow water rights on Escalante Creek pending in Case Nos. 05CW250, 05CW251 and

07CW36 which are subject to said diversions under C.R.S. 37-92-102(3)(b). Such alternate point diversions shall maintain their original decreed priority as against all other water rights downstream from the original point of diversion.

- The Applicant shall, at its own expense, install and maintain proper measuring devices as required by C.R.S. 37-92-502(5)(a).

(4) Case No. 6-06CW049 Application of Upper Yampa Water Conservancy District

The Board ratified this statement of opposition at its March 2007 meeting. The Board's main objective in filing the statement of opposition in this case was to ensure that the Applicant's proposed plan for augmentation does not injure the Board's many instream flow water rights in the area. Staff, in cooperation with the Attorney General's Office, has negotiated a settlement to ensure that the CWCB's instream flow water rights will not be injured.

The Board holds many instream flow water rights on the Yampa River and its tributaries within the project area that could have been injured by this application.

The CWCB and the Applicant have agreed to the entry of a decree that will prevent injury to the Board's ISF water rights on the tributaries in Area A-1. The Applicant has agreed to the following terms and conditions:

- The Applicant recognizes that the CWCB holds an instream flow right on Little Morrison Creek, decreed in Case No. 77CW1324 for 1 c.f.s, with an appropriation date of September 23, 1977 (the "Little Morrison ISF Right"). The Applicant agrees to not issue any contracts pursuant to this plan for augmentation occurring on Little Morrison Creek, described in Paragraph 7.B.(1)(i)(k) of the Decree, unless and until:
 - Facilities to divert water from Morrison Creek under the conditional water right for the Little Morrison Diversion and Little Morrison Diversion Alternate or Morrison/Silver Creek/Stagecoach Pipeline described in Paragraph 8.A.(1)(x) and 8.A(1)(xii) in the Decree, have been constructed and are operational to deliver water into Little Morrison Creek sufficient to augment a call placed by the CWCB for the Little Morrison ISF Right, OR;
 - The Applicant or the Morrison Creek Metropolitan Water and Sanitation District (the "Metro District") has obtained a water court decree to divert directly from Bushy Creek or from storage on Morrison Creek or storage on Bushy Creek or from another water source into Little Morrison Creek sufficient in time and amount to supply shortages in the Little Morrison ISF Right when and if called by the CWCB, and the Applicant or the Metro District has constructed facilities pursuant to such water right which are fully operational to deliver water into Little Morrison Creek sufficient to augment a call placed by the CWCB for the Little Morrison ISF Right.
- The Applicant recognizes that the CWCB holds an instream flow right on the Bear River, decreed in Case No. 77CW1315 for 12 c.f.s. with an appropriation date of September 23, 1977. The Applicant agrees to not issue any contracts pursuant to this plan for augmentation occurring on this stream, described in Paragraph 7.B.(1)(i)(e) of the Decree, unless and until an adequate quantity of water is stored in Yamcolo Reservoir to augment such contracts issued under the decreed plan.
- The State Engineer shall curtail all out-of-priority diversions, the depletions from which are not so replaced as to prevent injury to vested water rights. Replacement of depletions using the decreed appropriative exchanges shall require that said exchange(s) be in priority and have water

physically and legally available in the exchange reach(es) from the exchanged from point to the exchanged-to-points(s) in the amount(s) to be exchanged.

- The Applicant shall install measuring devices, provide accounting, and supply calculations regarding the timing of depletions as required by the Division Engineer for the operation of this plan.
- Review Process. (a) The Division Engineer shall review the Large Application or Commercial Application to determine whether, in the Division Engineer's reasonable opinion, a contract issued by the District pursuant to such Large Application will injure existing vested absolute or decreed conditional water rights, or whether the calculated amount of depletions is reasonable, or whether the site-specific conditions described in any lagged depletion analysis is reasonable. With respect to the submittal to the Opposers identified in Paragraph 9(H)(8) below, such submittal shall only be for informational purposes, and any Opposer's specific concerns may be communicated to the District, the Division Engineer or both. (b) The Division Engineer shall have sixty (60) days from receipt of a copy of such Large Application or Commercial Application within which to review such Large Application or Commercial Application and provide written and specific objections to the District. If the District does not receive written objections from the Division Engineer within said 60-day period, the District may issue a contract to the applicant in conformance with the Large Application or Commercial Application, as applicable. If the Division Engineer delivers to the District within such 60-day period the written specific objections to the approval of such Large Application within the scope of inquiry identified above, then the District shall deny the issuance of a water allotment contract pursuant to such objected-to Application. Nothing hereinabove shall prohibit the applicant of a denied Large Application or Commercial Application from filing a subsequent revised or amended application, which will then be treated by the District as a new application subject to the provisions of this Paragraph 9.H.(3)(iii).
- The Applicant shall notify the Court, the Division Engineer, Water Division No. 6, and the District Court, Water Division No. 6, and shall provide a copy of such notice to the Opposers listed in Paragraph 9.H. (8), including the CWCB, as soon as practical after the Applicant has contracted for a cumulative annual allotment amount of augmentation water under the plan exceeding 100 acre-feet in sub-area A-1 and 100 acre-feet in sub-area A-2.
- The Court shall retain jurisdiction in this matter for a period of seven (7) years after the date on which the Applicant has filed notice with the Court pursuant to the preceding paragraph.

**Region 2 Ditch Bill Application Processing Status
October 1, 2008 FY08 Final**

Prior Rights Assertion Cases

	Assertions Claimed*	Assertion Evidence is Uncertain*	Assertion Evidence is Insufficient*	Assertion Relinquished Upon Easement Signing*	Assertion is Potentially Valid, Applicant Prefers Easement*	Assertion is Potentially Valid, Applicant Prefers Assertion*
Forest						
Arapaho Roosevelt	5	1				1
Bighorn	2	1				
Black Hills	No Assertions					
GMUG	107	8	8	55	1	52
Medicine Bow / Routt	3	1	1			1
Pike San Isabell Cimeron Comanche	5					
Rio Grande	52	8	11	0	0	33
San Juan	130	26	32	4	4	68
Shoshone	No Assertions					
White River NF	32		2	0	6	21
Assertion Totals	336	45	54	59	11	176

* See definitions on page 3.

Ditch Bill Easement Application Cases

		A	B	C	D	E	F	G	H	
Forest	Total Number of Easement Applications**	Easement Application Suspended, Assertion Recognized* +	Easement Application is Denied*	Application Uncertain*	Easement is Valid*	NEPA Scoping Initiated*	Easement Prepared*	Easement Issued*	Easement Consolidated	Ditch Bill Applications Processed* (Sum of columns A, B, G, H)
Arapaho Roosevelt	18	1	3	2		2		7		11
Bighorn	5				3			1		1
Black Hills	1			1						0
GMUG	495	52	71	6	19	0	87	260		383
Medicine Bow / Routt	80		11				57	39		50
Pike San Isabell Cimeron Comanche	21		2		8		5			2
Rio Grande	92	33	19	3	4	8	0	11	14	77
San Juan	231	68	57	19	0	28	17	41		166
Shoshone	13			13						0
White River NF	205	21	72	0	5	0	22	65		158
Ditch Bill Easement Totals***	1161	175	235	44	39	38	188	424		834

Open Applications **327** **Percent of Ditch bill applications*** processed*** **72%**

* See definitions on page 3.

** The number of easement application cases has increased as water rights are divided and sold to multiple parties.

*** Total Applications open as of January 1, 2005 to current. A number of Ditch Bill Applications were Processed previous to January 1, 2005. Those Ditch Bill Applications (Approximately 300) are not included in the above totals.

Region 2 Ditch Bill Application Processing Status
October 1, 2008 FY08 Final

Definitions

Assertions Claimed	In addition to a Ditch Bill Easement Application, a ditch owner can also claim a right to use water transmission facilities dating back to before a National Forest existed.
Assertion Evidence is Uncertain	It is not clear whether an assertion claim is likely valid. The claimant has been asked to provide additional evidence.
Assertion Evidence is Insufficient	The assertion evidence is insufficient to recognize the assertion claim. The assertion evaluation process is closed and the Ditch Bill evaluation process continues.
Assertion is Potentially Valid, Applicant Prefers Easement	The assertion is likely valid, but the applicant prefers a Ditch Bill Easement. The assertion analysis process is closed and the Ditch Bill evaluation process continues.
Assertion is Potentially Valid, Applicant Prefers Assertion	The assertion is likely valid and is preferred over a Ditch Bill Easement. The assertion is recognized in US Forest Service land status records and the Ditch Bill evaluation process is suspended.
Assertion Relinquished Upon Easement Signing	Applicant asserted a prior right to the water facility predating establishment of the National Forest or Grassland and upon signing the Ditch Bill easement all previous asserted rights were relinquished.
Easement Application Suspended, Assertion Recognized	The assertion is likely valid and is preferred over a Ditch Bill Easement. The assertion is recognized in US Forest Service land status records and the Ditch Bill evaluation process is suspended.
Easement Application Withdrawn	Applicant has voluntarily withdrawn the application in writing. The Ditch Application is closed.
Easement Application is Denied or Withdrawn	Applicant does not meet one of 9 established criteria or the applicant has voluntarily withdrawn the application in writing. The Ditch Application is closed.
Easement Application is Uncertain	It is not clear whether a Ditch Bill Easement application meets all 9 criteria. The Ditch Bill Easement Applicant has been asked to provide additional evidence.
Easement Application is Valid	A Ditch Bill Easement application meets all 9 criteria and will be issued.
Easement Application is Valid NEPA Scoping Initiated	After easement validity has been determined, National Environmental Policy Act (NEPA) scoping has begun to determine under what conditions the application will be issued to meet Federal, State, and Local law and policy.
Easement Consolidated	Two ditchbill easement applications were submitted for the same water facility on two different Forests. One application for each Forest. The Forest with the headgate or dam will process the entire application.
Easement Prepared	The easement NEPA document and easement have been completed and sent to the applicant for signature.
Easement Issued	The NEPA process has been completed, all necessary signatures have been obtained, and a deed for the easement has been issued.
Ditch Bill Applications Processed	An assertion has been recognized and the Ditch Bill Application has been suspended. A Ditch Bill Application has been withdrawn. A Ditch Bill Application has been denied. A Ditch Bill Easement has been issued. A Ditch Bill Easement has been consolidated.

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us



Bill Ritter, Jr.
Governor

Harris D. Sherman
DNR Executive Director

Jennifer L. Gimbel
CWCB Director

Dan McAuliffe
CWCB Deputy Director

TO: Colorado Water Conservation Board Members
Director's Report

FROM: Kirk Russell, PE
Mike Serlet, PE, Chief
Water Supply Planning & Finance Section

DATE: November 10, 2008

SUBJECT: **Director's Report Attachment – November 18/19, 2008**
Large Water Project Loan Prospect Report

The following list is compiled to show the size and dollar amount of future raw water projects that CWCB has received information regarding potential financing needs. These projects will likely require Legislative approval since they exceed the small project loan limit of \$10 million.

PROJECT: RIO GRANDE RESERVOIR REHAB. & ENLARGEMENT

BORROWER: San Luis Valley Irrigation District

ESTIMATED PROJECT COST: \$35 million LOAN AMOUNT: \$? million

FUNDING NEEDED: 200?

DESCRIPTION: The Rio Grande Reservoir is located 30 miles southwest of Creede, Colorado on the headwaters of the mainstem of the Rio Grande River. The Reservoir is being considered for a multi-use enlargement and was identified in the SWSI Report. CWCB funded an initial study in 2006 and additional study work was funded by a Statewide - Water Supply Reserve Account Grant in 2007. The latest effort is to continue the engineering to finalize an enlargement study. The results support a 10,000 acre-foot reservoir enlargement to 64,000 acre-feet. Financing assistance may include a CWCB loan.

PROJECT: DRY GULCH RESERVOIR - PAGOSA SPRINGS AREA

BORROWER: San Juan Water Conservancy District/Pagosa Springs W & S District

ESTIMATED PROJECT COST: \$130 million

LOAN AMOUNT: \$100 million

FUNDING NEEDED: est. \$100 million 2025

DESCRIPTION: The Dry Gulch Reservoir is an off channel reservoir projected to hold 35,000 acre-feet of water for the growing Pagosa Springs area. It is anticipated that permitting and final design will take several years. Construction is planned around 2025. Loan from CWCB was approved in July 2007 for approximately \$10 million for the purchase of land beneath the Reservoir.

PROJECT: BOXELDER CREEK REGIONAL STORM WATER PROJECT

BORROWER: Multiple Agencies – Ft Collins, Larimer County, Wellington, and Timnath

ESTIMATED PROJECT COST: Phase I - \$14 million

LOAN AMOUNT: \$14 million

FUNDING NEEDED: 2008

DESCRIPTION: The Boxelder Creek Regional Drainage Master Plan was commissioned by the Regional Alliance in order to develop a regional strategy for mitigation the impacts associated with flooding within the Lower Boxelder Creek basin that impacts communities in the southeast portion of Larimer County. Several alternatives were developed to minimize flooding. Entities would create a Storm Drainage Authority operating as an enterprise as the primary vehicle funding and contracting. Authority would be formed under and intergovernmental agreement agencies with land in the basin.

PROJECT: WINDY GAP FIRING PROJECT

BORROWER: Multiple Agencies - Broomfield, Greeley, Longmont, Lafayette, Louisville, Loveland, Erie, Evans, Fort Lupton and Superior, Central Weld County Water District, Little Thompson Water District, Platte River Power Authority and the Middle Park Water Conservancy District.

ESTIMATED PROJECT COST: \$220 million

LOAN AMOUNT: \$? million

FUNDING NEEDED: Design 2008 and Construction 2009

DESCRIPTION: Windy Gap diverts water from the Colorado River to the Front Range via the federal Colorado-Big Thompson Project on a space-available basis. During wet years when water is available for pumping at Windy Gap, Lake Granby is often full with little or no capacity for Windy Gap water. The Windy Gap Firing Project was proposed to store Windy Gap water and ensure reliable future deliveries. The purpose of the proposed Windy Gap Firing Project WGFP is to deliver a firm annual yield of up to 30,000 acre-feet of water by 2010 from the Windy Gap Project. The WGFP would also provide up to 3,000 acre-feet of storage for the Middle Park Water Conservancy District in Grand and Summit counties.

PROJECT: CHATFIELD RESERVOIR REALLOCATION PROJECT

BORROWER: Multiple Agencies - Aurora, Brighton, Castle Pines Metro District, Castle Pines, North Metro District, Castle Rock Centennial W & S, Center of Colorado WCD, Central Colorado WCD, Colorado State Parks, Denver Botanic Gardens, Hock Hocking LLC, Parker W & S, Perry Park Country Club, Roxborough Park Metro District, South Metro Water Supply Authority, Western Mutual Ditch Co.

ESTIMATED PROJECT COST: \$100 million LOAN AMOUNT: \$100 million ??
FUNDING NEEDED: 2010

DESCRIPTION: Project provides 20,600 acre-feet of new storage. Corp of Engineers has studied the reduction of the antecedent flood and re-operation of flood the releases to create the storage. The 15 members have contracted with CWCB to fund remainder of EIS.

PROJECT: OVID RESERVOIR

BORROWER: District 64 Reservoir Company

ESTIMATED PROJECT COST: \$12 million LOAN AMOUNT: \$12 million
FUNDING NEEDED: Year unknown

DESCRIPTION: Project would provide a 5,700 AF reservoir on the lower South Platte River about one mile west of the town of Ovid. Water from the reservoir would be used to replace out-of-priority depletions caused by well pumping and compensate for state-line flows under 120 cfs, and for other purposes such as fish and wildlife. A Phase 1 economic study was completed in April 2005, and identified the need for an additional partner for the project, beyond the agriculture-based shareholders. A Basin – Water Supply Reserve Account grant of to assist with additional analysis. The Company wants to identify a partner before proceeding with a project. The Company was formed in 2006 to take over the reservoir project from the Ovid Reservoir Company.

PROJECT: NORTHERN INTEGRATED SUPPLY PROJECT (NISP)

BORROWER: Multiple Agencies - Fort Collins-Loveland. W.D., Windsor, Little Thompson W.D., Berthoud, Lefthand W.D., Erie, North Weld. Co. W.D., Evans, Central Weld Co. W.D., Fort Lupton, Fort Morgan, Eaton, Severance, Lafayette, Morgan Co. Quality Water

ESTIMATED PROJECT COST: \$350 million LOAN AMOUNT: \$? million
FUNDING NEEDED: 2010+

DESCRIPTION: Fifteen water providers are working with Northern Colorado Water Conservancy District to increase the quantity and reliability of their water supplies. The NISP goal is to provide up to 40,000 acre-feet of new reliable municipal water supply annually.

After examining hundreds of alternatives, the preferred project configuration includes Glade and Galeton reservoirs. Construction of Glade will require the relocation of five miles of U.S.

Highway 287 northwest of Fort Collins. Galeton Reservoir, located northeast of Greeley, will provide local farmers with new water from the South Platte River. In exchange, the farmers will help fill Glade Reservoir by allowing the project to use Poudre River water they have used for over a century. Target date for award of the Glade facility in September 2009 (\$290 million)

PROJECT: GRAND MESA WATER PROJECT

BORROWER: Grand Mesa Water Task Force or Other

ESTIMATED PROJECT COST: \$179 million LOAN AMOUNT: \$? million
FUNDING NEEDED: 2008?

DESCRIPTION: There is an existing need to import and store additional water in the Surface Creek Valley to allow for carry-over storage during dry years and long-term drought protection. Project proposes to build an upper level reservoir, hydroelectric station(s), a mid-level reservoir located (Cactus Park Reservoir), a canal from Cactus Park Reservoir to the Town of Cedaredge, a pump station on the Gunnison River and a Delivery Pipeline from the Gunnison River pump station to Fruitgrowers Reservoir.

PROJECT: CLEAR CREEK COUNTY WATER BANK PROJECT

BORROWER: Clear Creek County or Multiple Agencies

ESTIMATED PROJECT COST: \$12 million LOAN AMOUNT: \$12 million
FUNDING NEEDED:

DESCRIPTION: The Clear Creek County Water Bank, in operation since 1990, has identified a need for additional water storage within Clear Creek County. The Water Bank provides assistance to municipalities with direct flow and water storage; and augmentation water for potential growth and current demands. Customers have included the Town of Georgetown, the Town of Silver Plume, the Georgetown Loop Railroad, Berthoud Pass Ski Resort and others. The challenge of providing water to these customers, coupled with the current demand on the Clear Creek Stream System, recent water court decrees, and drought, have accelerated the need for more storage within the County. An immediate need for at least an additional 800 acre-feet of storage has been identified through preliminary analysis at a minimum cost of \$15,000 per acre-foot. Over recent years the County has filed for nine small storage sites and is in the process of filing for additional ones.

PROJECT: PALMER LAKE PROJECT

BORROWER: Douglas & El Paso County

ESTIMATED PROJECT COST: \$15 million

LOAN AMOUNT: \$? million

FUNDING NEEDED: 2007

DESCRIPTION: Satellite well field project which will supply water to southern Douglas County and northern El Paso County communities. Project will include drilling new wells and installing distribution pipelines. Boyle Engineering completed a study in 2002 which was partially funded by CWCB.

PROJECT: CUCHARAS RESERVOIR REHABILITATION

BORROWER: Huerfano-Cucharas Reservoir Company

ESTIMATED PROJECT COST: \$30 million

LOAN AMOUNT: \$30 million

FUNDING NEEDED: 2006-2007

DESCRIPTION: Cucharas Reservoir was restricted several years ago. The State Engineers Office has allowed additional time to correct the safety concerns and avoid a dam breach order. Possible project options include a new 100 foot dam. Preliminary design is underway by URS Consultants.

PROJECT: EAST CHERRY CREEK VALLEY PIPELINE CAPACITY

BORROWER: South Metro Water Authority

ESTIMATED PROJECT COST: \$80 million

LOAN AMOUNT: \$70 million

FUNDING NEEDED: 2009

DESCRIPTION: The purchase of excess capacity in East Cherry Creek Valley's pipeline from alluvial wells in Barr lake area to the 13 water providers in the south metro area. This is an initial request and the Authority would like to be considered for additional funding if funds become available.

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us



TO: Colorado Water Conservation Board Members
Director's Report

FROM: Kirk Russell, PE
Mike Serlet, PE, Chief
Water Supply Planning & Finance Section

DATE: November 10, 2008

SUBJECT: **Director's Report Attachment – November 18-19, 2008**
Loan Forecast & Prospect Report

Bill Ritter, Jr.
Governor

Harris D. Sherman
DNR Executive Director

Jennifer L. Gimbel
CWCB Director

Dan McAuliffe
CWCB Deputy Director

The Water Supply Planning and Finance Section compiles a list of potential borrowers/projects for the Water Project Loan Program. If the Board approves all loans recommended by staff on the September agenda the Loan Program will have roughly \$40 million available for eligible raw water projects at the November meeting.

Below is a list of loans which may be presented at the January meeting (Loan Forecast). Page two is a listing of loans (Loan Prospects under \$10 million), which have a strong chance of becoming future CWCB loans.

LOAN FORECAST

BORROWER	PROJECT NAME	PROJECT COST	LOAN AMOUNT
January – Denver			
Water Supply & Storage Co	Multiple Projects	1,000,000	\$1,000,000
South Metro Water Authority	East Cherry Valley Pipeline	\$10,000,000	\$10,000,000
City of Aurora	Misc Water Supply Projects	\$10,000,000	\$10,000,000
Summit County & Town of Dillon	Old Dillon Reservoir Enlargement	\$6,000,000	\$6,000,000
Park Center Water District	Replacement Well	\$1,000,000	\$1,000,000
	Total		\$28,000,000

Information shown is based on current staff knowledge and will likely change as Loan Prospects develop

Recent Project Loan inquiries:

Bergen Ditch & Res. Co. – Ditch & Reservoir Rehab. (\$2 million)
Colorado City Metro Dist. (Pueblo area) – New Reservoir

SMALL (<\$10 million) LOAN PROSPECTS

Basin	BORROWER	PROJECT NAME	PROJECT COST	LOAN AMOUNT
South Platte				
	B.H. Eaton Ditch Co (Windsor)	Pipeline & Diversion Structure	\$1,000,000	\$1,000,000
	Ft Morgan, City of	NISP	\$25,000,000	\$25,000,000
	Wiggins, Town of	Wells & Pipeline	\$3,000,000	\$1,500,000
	New Consolidated Lower Boulder	Dual Water System	\$16,000,000	\$14,500,000
	Ft Morgan Reservoir & Irrigation Co	Two Way Recharge Pipeline & Well	\$550,000	\$550,000
	Louden Irrigation & Re	Ditch Improvements	\$500,000	\$500,000
	Shamrock Irrigation Co	Pipeline Project	\$200,000	\$200,000
	Foothills Park & Recreation Dist.	Multiple Storage Projects	\$2,000,000	\$2,000,000
			TOTAL	\$44,000,000
Arkansas				
	City of La Junta	Water Rights Purchase	\$2,500,000	\$2,500,000
	Fruitland Water Company	Pumphouse & Ditch	\$200,000	\$200,000
	Cherokee Metro District	Wells and Pipelines	\$800,000	\$800,000
	Park Center Water District	Reservoir/Water Rights Project	\$1,500,000	\$1,500,000
			TOTAL	\$5,000,000
San Miguel/Juan				
	Town of Silverton	Molas Lake Dam	\$100,000	\$100,000
	Pioneer Ditch Company	Pioneer Ditch Rehabilitation	\$70,000	\$60,000
	Farmers Water Development Co	Gurley Reservoir Enlargement	\$5,000,000	\$5,000,000
			TOTAL	\$5,000,000
Colorado				
	Lateral MC070 Inc.	NRCS Ditch Rehabilitation	\$200,000	\$140,000
	Highland Ditch Co	Ditch Rehabilitation Project	\$200,000	\$200,000
	Ian Carney - Felix Tornare	Polaris Reservoir Rehabilitation	\$500,000	\$500,000
	Snowmass Village W&S District	Ziegler Reservoir	\$?	\$5,000,000
	Dillon/Silverthorne/Summit Cnty	Old Dillon Reservoir Enlargement	\$7,000,000	\$7,000,000
			TOTAL	\$13,000,000
Gunnison				
	Grand Mesa Water Users	Cactus Park Reservoir	\$130,000,000	\$60,000,000
	Fire Mountain Canal & Reservoir Co.	New Reservoir	?	?
	Upper Gunnison River Conservancy Dist	Reservoir Project	\$1,000,000	\$?
			TOTAL	\$60,000,000
Rio Grande				
			TOTAL	

**Colorado Water Conservation Board
Design and Construction Status Report**

Nov-08

Applicant/Borrower	Project	County	Loan/Grant Amount	Size	Annual Yield (AF)	New Storage (AF) Created	Design Percent Compl.	Construction			
								Start	End	Percent Compl.	
Projects Completed in FY 2008-2009											
1	Lower Latham Reservoir Company	Water Rights Purchase - Augmentation	Weid	\$ 670,640	8,472	8,472		95%	n/a	Nov-08	100%
2	Town of Bennet	Well Replacement	Adams	\$ 252,500	60 AF	60		100%	Mar-08	Oct-08	100%
3	Orchard Mesa Irrigation District	Stokes Gulch Siphon Replacement	Mesa	\$ 545,400	300 LF	58,323		100%	Oct-07	Oct-08	100%
4	Pinewood Springs Water District	Raw Water Supply System	Larimer	\$ 2,033,850	5,500 LF	165	40	100%	May-06	Nov-08	100%
5	Loveland Lake and Ditch Company	Parallel Pipe System	Larimer	\$ 106,050	2,900 AF	2,900		95%	Feb-08	Sep-08	100%
6	Dolores Water Conservancy District	Dove Creek Secondary Water Supply System	Dolores	\$ 883,304	300 AF	300	5	100%	Nov-04	Nov-08	100%
			Total =	\$ 4,491,744	Total =	70,220	45				

Projects Under Construction

1	Grand Mesa Reservoir Company	Grand Mesa Reservoir No. 1 & 9 Rehabilitation	Mesa	\$ 200,000	1,000 AF	1,000		100%	Jul-03	Nov-08	75%
2	New Cache La Poudre Irrigation Company	Construct 2 New Reservoirs and Pipeline	Weld	\$ 7,200,000	4,500 AF	4,500	4,500	100%	Jun-05	Jan-14	99%
3	Arkansas Groundwater Users Association	Water Rights Purchase, Aug. Pond and Canal Const.	Pueblo	\$ 970,448	703 AF	703		100%	Nov-03	May-09	95%
4	Orphan Wells of Wiggin, LLC	Well Augmentation Project	Morgan	\$ 1,037,700	6,000 AF	6,000		100%	Nov-03	On-hold	95%
5	Central Colorado Water Conservancy District	Water Rights and Gravel Pit Construction	Adams/Weld	\$ 20,000,000	12,300 AF	12,300		100%	Nov-03	May-10	90%
6	Dolores Water Conservancy District	WETPACK	Montezuma	\$ 4,700,000	6,000 AF	6,000		100%	Oct-04	?	50%
7	Parker Water and Sanitation District	Rueter-Hess Reservoir Project	Douglas	\$ 15,000,000	16,200 AF	16,200	16,200	100%	Jul-04	May-09	75%
8	Mancos Water Conservancy District	Inlet and Outlet Canal Rehabilitation	Montezuma	\$ 5,486,531	15,840 LF	9,000		50%	Jan-04	Jan-14	45%
9	Upper Arkansas Water Conservancy District	Reservoir Rehabilitation	Chaffe/Custer	\$ 3,520,000	500 AF	500	200	100%	Jun-05	Dec-08	95%
10	Silt Water Conservancy District	System Rehabilitation Project	Garfield	\$ 1,019,700	18,000 AF	18,000		70%	Nov-05	May-09	50%
11	Tom Hill	McElroy Dam Rehabilitation Project	Grand	\$ 854,000	240 AF	240	240	100%	Sep-06	Dec-08	99%
12	Debeque, Town of	Raw Water Distribution System	Mesa	\$ 252,500	3,000 LF	710		100%	Mar-07	Dec-08	95%
13	Union Ditch Company	Well Augmentation Project	Weld	\$ 312,595	206 AF	206		75%	Sep-06	May-09	75%
14	Hope Ditch Company	Well Replacement	Adams	\$ 153,000	11.5 AF	12		100%	May-06	Dec-08	99%
15	Number Six Ditch Company	Ditch Rehabilitation Project - Pipeline	Montezuma	\$ 688,942	29,040 LF	2,591		100%	Apr-06	Dec-08	99%
16	Bijou Irrigation District	Empire Reservoir Rehabilitation - Dam Rehab.	Morgan/Weld	\$ 2,408,850	19,900 AF	19,900	2,682	100%	Nov-07	Jan-09	50%
17	Lower Poudre Augmentation Company	Reservoir and Water Rights Purchase	Larimer/Weld	\$ 3,104,053	657 AF	657		100%	Oct-07	May-09	65%
18	Bull Creek Reservoir Company	Reservoir Rehabilitation Project	Mesa	\$ 1,212,000	900AF	900	900	100%	Jul-08	Nov-09	75%
19	South Side Reservoir Company	South Side Reservoir Rehabilitation Project	Larimer	\$ 360,000	1,241 AF	1,241	241	100%	Dec-06	Dec-08	80%
20	South Side Irrigation Company	Ditch Rehabilitation Project	Larimer	\$ 72,000	1,200 LF	1,587		100%	Dec-04	Feb-09	99%
21	Aurora, City of	Raw Water Distribution System	Adams/Douglas	\$ 75,750,000	33 miles	10,000		100%	Jan-08	Oct-10	35%
22	Overland Ditch and Reservoir Company	Overland Reservoir Rehabilitation	Delta	\$ 1,130,000	6,200 AF	17,000	971	95%	May-08	Nov-09	5%
23	Montezuma Valley Irrigation Company	May Lateral Pipeline	Montezuma	\$ 5,292,400	5 Miles	128,000		100%	Nov-07	Nov-09	75%
24	Platte Valley Irrigation Company	Equalizer Reservoir Project	Weld	\$ 2,388,650	431 AF	52,401	431	100%	Sep-08	Feb-09	5%
25	Greeley Irrigation Company	Greeley Canal No. 3 Rehabilitation	Wled	\$ 2,233,867	18,000 AF	18,000		90%	Feb-08	May-09	85%
26	Henrylyn Irrigation District	Horse Creek & Prospect Reservoir Rehabilitation	Weld	\$ 2,184,327	13,850 AF	13,850	3,000	90%	Nov-08	May-09	5%
27	WRCC, Inc.	Windsor Dam and Spillway Rehabilitation	Larimer	\$ 1,285,730	35,000 AF	35,000		100%	Jun-08	Dec-08	95%
28	Wood Lake Mutual Water and Irrigation Company	Angel Lake Outlet Repair	Weld	\$ 212,706	424 AF	848	100	75%	Sep-08	May-09	5%
29	Bijou Irrigation Company - C150256	Diversion Structure Rehabilitation	Morgan/Weld	\$ 763,560	41,790 AF	41,790		75%	Sep-08	May-09	0%
30	East Mancos Highline Ditch Company	Ditch Rehabilitation Project - Pipeline	Montezuma	\$ 904,000	30,360 LF	869		100%	Nov-07	Dec-08	99%
			Total =	\$ 160,697,559	Total =	420,005	29,665				

Projects Under Design

1	Silt Water Conservancy District	Pump Plant Transformer Plant	Garfield	\$ 486,000	4,000 AF	4,000		70%	Jan-08	Oct-08	De-Author
2	Supply Irrigating Ditch Company	Knoth Reservoir Dam Rehabilitation	Boulder	\$ 904,960	4,800 AF	4,800	400	90%	Nov-08	May-09	0%
3	Owl Creek Reservoir Company	Owl Creek Reservoir Rehabilitation	Weld	\$ 1,125,000	1,200 AF	1,200	1,200	95%	Nov-08	May-09	0%
4	Southeastern CO Water Conserv. District	Arkansas Valley Conduit	Crowley	\$ 60,600,000	138 Miles	6,555		20%	May-09	May-12	0%
5	Penrose Water District	Water Rights Purchase and Pipeline Installation	Fremont	\$ 8,844,570	30,624 LF	339		35%	May-09	Sep-10	On-hold
6	Seven Lakes Reservoir Company	Railroad Crossing	Weld	\$ 772,842	7,796 AF	7,796		95%	Nov-08	May-09	0%
7	Hillrose - Town of	Water Rights Purchase/Well Augmentation	Morgan	\$ 49,995	10 AF	10		n/a	Jul-08	Oct-08	0%
8	Pagosa Area Water and Sanitation District	Dry Gulch Reservoir Land Acquisition	Archuleta	\$ 11,217,060	35,000 AF	35,000		5%	Nov-08	Mar-20	0%
9	Republican River Water Conservation District	Compact Compliance Pipeline	NE, Colo	\$ 60,600,000	15,000 AF	15,000		90%	Nov-08	Nov-09	0%
10	Granby Ditch and Reservoir Company	Granby No. 12 Dam Rehabilitation Project	Delta	\$ 254,520	838 AF	2,000	250	65%	Jun-09	Nov-09	0%
11	San Luis Valley Water Conservancy District	Water Rights Purchase	Alamosa	\$ 727,200	141 AF	141		n/a	Nov-08	Dec-08	0%
12	Headgate 135 Lateral, Inc.	Ditch Rehabilitation - Pipeline	Mesa	\$ 262,200	4,800 LF	1,000		95%	Oct-08	May-09	0%
13	Farmers Pawnee Canal Company	Ditch Flow Control Structures	Logan	\$ 227,250	27,260	27,260		90%	Oct-08	May-09	0%
14	Ogivy Augmentation Company	Well Augmentation	Weld	\$ 1,010,808	60 AF	60		55%	Dec-08	May-09	0%
15	Louden Irrigating Canal and Reservoir Company, Inc.	Rist Benson Reservoir Rehabilitation	Larimer	\$ 263,210	491 AF	2,000	150	30%	Sep-09	Dec-09	0%
			Total =	\$ 147,345,615	Total =	107,161	2,000				

= Reservoir projects that created new storage, either by new construction, dredging or by the removal of a SEO restriction.

MEMORANDUM

TO: Colorado Water Conservation Board Members

FROM: Tim Feehan, P.E., Water Supply Planning and Finance
Mike Serlet, P.E., Chief, Water Supply Planning and Finance

DATE: November 5, 2008

SUBJECT: **Director's Report Attachment – November 18-19, 2008 Board Meeting
Water Supply Planning and Finance Section
Design and Construction Status Report**

The CWCB Water Supply Planning and Finance Section have completed 6 projects in FY 08-09. Currently for FY 08-09 we have 30 projects under construction and 15 projects in the design phase, involving over \$305,000,000 in loan funds

The attached spreadsheet summarizes project status, including budget, construction schedule, and progress to-date. During this period FY 08-09, 6 projects were completed.

The attached progress report briefly outlines all active project design and construction information and progress to-date.

Projects under Construction

1. Grand Mesa Reservoir Company – Rehabilitation of Reservoir No. 1 and No. 9

Authorization: Construction Fund	County: Mesa
Water Source: Gunnison	Project Yield: 1,000 Acre-Feet
Terms of Loan: \$200,000@ 2.4% for 20-years	Project Type: Reservoir Rehabilitation

The Grand Mesa Reservoir Company operates 6 reservoirs on the Grand Mesa to supply water to 16 shareholders for the irrigation of 500 acres. This project involves the replacement of the outlet structures at each reservoir and also addresses seepage problems at each facility. The project was designed by the City of Grand Junction, one of the major shareholders, and is currently being constructed by the City of Grand Junction. The outlet structures have been installed and the seepage problem corrected at both reservoir locations. The City of Grand Junction is draining the two reservoirs to install the new outlet gates. The project has been on hold pending resolution of construction and water rights issues between the City and the Company. These issues have recently been resolved, with the final phase of the project scheduled to commence construction during the fall of 2008.

2. New Cache La Poudre Irrigation Company – Reservoir Construction

Authorization: Construction Fund	County: Weld
Water Source: South Platte	Project Yield: 4,500 acre-feet
Terms of Loan: \$7,200,000 @ 2.50% for 30-years	Project Type: New Reservoir

The New Cache La Poudre Irrigation Company currently provides irrigation water to a 35,000-acre service area. The purpose of this project is to provide water storage to equalize ditch flows, to improve efficiency and the reliability of the Company's system, and for providing additional storage to meet future demands. The project will involve the construction of 3 separate reservoirs near the Town of Barnesville, Colorado, totaling 4,500 acre-feet of storage. Additionally, 8,200 linear feet of pipeline will be installed in construction with the reservoirs. Smith Geotechnical, Fort Collins, Colorado is the project designer. The Barnesville Reservoir project was awarded to Barker Construction, Fort Collins, Colorado and has been completed. The pump station from Barnesville Reservoir to Cornish Reservoir has been completed as well. The design for Cornish Reservoir has been completed and has been awarded to Barker Construction, Fort Collins, Colorado for construction. The Contractor has completed the work and is waiting on final SEO approval. The Company is requesting that CWCB's cost participation be changed from 75% to 89% to allow the full \$7,200,000 of loan funds to be released, which was approved at the September 2007 Board Meeting. The project will remain open until the land purchased to construct Cornish Reservoir is paid off in 2011.

3. Arkansas Groundwater Users Association – Water Rights/Augmentation/Canal Work

Authorization: Construction Fund	County: Pueblo
Water Source: Arkansas River	Project Yield: 703 Acre-feet
Terms of Loan: \$970,448 @2.50% for 30-years	Project Type: Water Rights/Canal

This project involves the purchase of 785 shares of Excelsior Ditch for replacement water to offset out-of-priority depletions from well pumping. The project also involves the construction of a 15-acre recharge pond and enlarging the Excelsior Ditch for approximately 4 miles. The ditch work has been completed and the construction of the recharge ponds is approximately 95%

complete. Project completion has been delayed due to easement negotiations with the Army Base. The Groundwater Users are seeking an easement from the Army Base to construct their final recharge pond, which has proven to be a difficult task. The project is tentatively scheduled to be completed by May of 2009.

4. Orphan Wells of Wiggins – Augmentation Project

Authorization: Construction Fund County: Morgan
Water Source: South Platte Basin Project Yield: 6,000 acre-feet
Terms of Loan: \$1,037,700 @ 2.5% for 30-years Project Type: Well Augmentation

The Orphan Wells of Wiggins is a new company comprised of 31 separate agricultural operators that own 45 wells which irrigated approximately 4,500 acres of farmland. This project involves the construction of 1 recharge well, 1 augmentation well, various pipeline, and 23 recharge ponds. The project will generate augmentation credits to cover the depletions for the 45 existing wells. The project is currently 90% complete. The project has changed from its original scope to include additional piping and recharge sites. Additionally, the Company has purchased several Riverside Ditch shares that will improve augmentation efforts. The Company was approved for an increase of \$200,000 at the November 2006 Board Meeting to complete the additional recharge sites and for the purchase of the Riverside Ditch shares. These funds have not been distributed. The Company elected to decline presenting it case in court last year, given strong objectors and the lack of senior water in its augmentation plan. In 2008 the Company restructured their company and augmentation plan to include only 22 wells and received a preliminary ruling that they would not have to address post pumping depletions. That ruling was recently overturned, leaving the Company with no real chance to obtain an approved augmentation plan, given their available senior water to offset their depletions. The Company will not be pursuing any future efforts and have elected to sell off all applicable assets (i.e. aug./recharge system), address outstanding debts, and to dissolve the Company. Staff is working with the Company on the outstanding debt.

5. Central Colorado Water Conservancy District - Water Rights Purchase and Gravel Pit Const.

Authorization: Construction Fund County: Adams, Weld, Morgan
Water Source: South Platte Project Yield: 12,300 acre-feet
Terms of Loan: \$20,000,000 @2.75% for 30-years Project Type: Water
Supply/Augmentation

The CCWCD, located in Adams, Weld, and Morgan Counties has a service area of 300 square miles. The Sub district has 650 members with 966 junior wells and has operated an augmentation plan for these members since 1973. On December 17, 2001, the Colorado Supreme Court issued a judgment that changed the manner of operation for substitute supply plans in Colorado. The ruling stated that the State Engineer did not have the legal authority to approve substitute supply plans. The Court also stated that substitute supply plans, such as the one operated by CCWCD would either have to file for a decree in Water Court or follow new Rules and Regulations to be issued by the State Engineer. This ruling has required CCWCD to acquire more senior water rights as well as build additional storage to augment out-of-priority diversions. CCWCD is in the process of acquiring additional senior water rights. To-date the District has been approved for 3-separate loans, \$15,000,000, \$5,000,000, and \$20,000,000. The \$20,000,000 loan was recently approved at the November 2004 Board Meeting, for a total project loan authorization of \$40,000,000. The \$15,000,000 and \$5,000,000 were substantially completed in June of 2005. Central has completed efforts for the GMS Sub-district and are currently working on improvements to the WAS Sub-district. The WAS project is approximately 90% complete. The

District has received a final ruling and were issued a decree. The District's decree is available for review for anyone interested in the final ruling. From the ruling the WAS Sub-district will not operate in 2008, but are hoping to operate at approximately 10% in 2009, contingent upon additional water being secured for post depletions in future years. The District is currently investigating existing wells in the Arapahoe Groundwater Basin to meet their future water needs as required by their decree, which stipulates a 7-year banked or available water source in future years.

6. Dolores Water Conservancy District - WETPACK

Authorization: SB 01-157	County: Montezuma
Water Source: Dolores River	Project Yield: 6,000 acre-feet
Terms of Loan: \$4,700,000 @3.50% for 30-years	Project Type: Distribution System

The District's WETPACK (Water for Everyone's Tomorrow Package) proposal is intended to better manage the available resources of the Dolores Project to provide an additional 3,300 acre-feet of water for the fishery below McPhee Dam, increase municipal water supplies, and to provide water of the irrigation of additional lands. This project involves a system of pipelines, pumps, and related facilities to deliver water to the District's Dove Creek Canal system for the irrigation of 4,000 acres of new lands that are presently dry land farmed. Water will be delivered to irrigators in pipes under pressure for sprinkler irrigation only. Harris Water Engineers, of Durango, Colorado, is the planning and design consultant for the project. The District has commenced construction of a portion of the project referred to as Sandstone and is currently working with staff to re-scope their existing loan into two separate loans, which were approved by at the January, 2005 Board Meeting. The District has substantially completed the water rights purchase and Sandstone project for a total loan amount of \$2,530,000. The District is currently deciding if they want to proceed with any further WETPACK efforts, involving the remaining \$4,700,000 in loan funds.

7. Parker Water and Sanitation District – New Reservoir Construction

Authorization: Construction Fund	County: Douglas
Water Source: Cherry Creek	Project Yield: 16,200 acre-feet
Terms of Loan: \$15,000,000 @4.75% for 20-years	Project Type: Reservoir Construction

The Parker Water and Sanitation District is currently in the design phase to construct the Rueter Hess Project for the storage of municipal water for its 7,924 customers. The new reservoir will provide terminal storage for use within the District's existing 8,596-acre service area. The reservoir will be located 3 miles southwest of Parker on Newline Gulch. The proposed reservoir will be a Class I structure, 135 feet high, impounding approximately 16,200 acre-feet of water. GEI Consultants, Denver, Colorado, will be putting together the final design and construction documents. Major land purchases have been completed and the Rueter Hess Reservoir and other related project activities are currently under construction. The entire project is anticipated to be completed by the fall/winter of 2008. Parker Water has approved the expansion of the reservoir to accommodate the requested needs of other water users in the area (Castle Rock and Castle Pine North). The foundation work on the reservoir was expanded to accommodate this potential enlargement. The District is currently waiting on environmental clearances to proceed ahead with the project. The final storage capacity of the reservoir will be approximately 72,000 acre-feet.

8. Mancos Water Conservancy District - Canal Rehabilitation

Authorization: Severance Tax Perpetual Account	County: Montezuma
Water Source: West Mancos River	Project Yield: 9,000 acre-feet
Terms of Loan: \$5,486,531 @2.80% for 30-years	Project Type: Canal Rehabilitation

The Mancos Water Conservancy District supplies irrigation and municipal water within a 13,496 acre service area. The District's carriage facility is over 50-years old and the U.S. Bureau of Reclamation has recommended rehabilitation of the inlet and outlet canals. The proposed project is to rehabilitate inlet and outlet canals to the Jackson Gulch Reservoir and to replace its operational shops and headquarters. The District's goal is to have the entire project completed by 2014. The District has performed test sections with various lining materials to assist in determining the final design package for the ditch rehabilitation. Project construction on a small section of canal was completed this summer. The District is currently in the process of asking the Federal Appropriations Committee for \$6,200,000 in grant funds to assist in completing the project. Securing this grant is critical for the District, without the grant funds the District will not be able to utilize the CWCB loan funds to complete the project. If the grant funds are secured the overall project is scheduled for completion in January of 2014. The District will undertake the rehabilitation of the critical portion of their ditch system this summer, involving the construction of retaining walls and access road along the ditch.

9. Upper Arkansas Water Conservancy District – N. Fork Reservoir Rehabilitation

Authorization: Severance Tax Fund	County: Chaffee/Custer/Fremont
Water Source: N. Fork of S. Arkansas	Project Yield: 500 acre-feet
Terms of Loan: \$3,520,000 @ 3.50% for 30 yrs.	Project Type: Reservoir Rehabilitation

The UAWCD has operated the North Fork Reservoir since 1979 for domestic, municipal, industrial, recreational, and augmentation water supply. The reservoir is at elevation 11,400 feet and is located approximately 10 miles from Maysville on the North Fork of the South Arkansas River. This project involves replacement of the outlet gate, improved access, increased spillway capacity, seepage control, and raising the dam 15-feet to achieve a storage capacity of 500 acre-feet. The project is located on Forest Service property, which required a special use permit and an environmental assessment prior to construction. The project has been awarded to ASI, Buena Vista, Colorado, who commenced construction in August of 2006. The work at this time is limited to the outlet, seepage control and spillway work. Enlargement of the reservoir will occur at a later date. The project is 95% complete, with final completion scheduled for December of 2008.

10. Silt Water Conservancy District – System Rehabilitation

Authorization: Construction Fund	County: Garfield
Water Source: Colorado River	Project Yield: 18,000 acre-feet
Terms of Loan: \$1,019,700 @2.75% for 30-years	Project Type: System Rehabilitation

The Silt Water Conservancy District operates a system consisting of reservoirs, canals, pump plants, and irrigation laterals varying in age from 50-100-years old. This project involves the rehabilitation of the Grass Valley Canal siphon, addressing seepage at the Harvey Gap Dam, sediment removal

from the spillway chute at Rifle Gap Dam, and replacement of the pumps at the District's main Pump Plant. Soil investigation work has been completed at Harvey Gap Reservoir, with seepage to be monitored by the District over the next few years. The spillway chute at Rifle Gap has been completed. In regard to the siphon, the District has looked at a number of alternatives to address the deteriorating pipe, which included total replacement, lining, and partial repair. Given the difficult nature of the site, the District is currently pursuing a full pipe replacement option, with bids to be received in September of 2009. The current estimate to replace the siphon is \$2.2M, which is approximately \$1.6M greater than the original estimate prepared by the Bureau in 2002. The District's current loan is \$1.1M with a remaining balance of \$950K. The District will be requesting an additional \$500,000 in loan funds at the November 2008 Board Meeting.

11. Tom Hill – McElroy Reservoir Rehabilitation

Authorization: Severance Tax Fund
Water Source: Pass Creek
Terms of Loan: \$854,000@ 2.5% for 30 yrs.

County: Grand
Project Yield: 240 acre-feet
Project Type: Reservoir Rehabilitation

McElroy Reservoir is a Class III, 35 foot high dam holding 240 AF of irrigation water located in Grand County approximately 5 miles north and west of Kremmling. The Reservoir is on land owned by the State Land Board and leased/operated/maintained by the Tom Hill family. On June 17, 2006 the outlet works failed and the embankment of the reservoir began piping through the outlet works. The Hills received a verbal breach order from the SEO in the summer of 2006. This project is a total dam replacement. The existing dam was breached during the fall of 2006. Final design was completed by URS in the winter of 2006/07 and was approved by SEO in spring of 2007. Project commenced construction during the summer of 2007 and was recently completed by Pryor Construction, out of Kremmling, Colorado, in March of 2008. SEO has approved the construction and all contract issues between the owner, contractor, and engineer have been resolved. The reservoir filled and spilled this year and is currently operating. The DOW recently purchased the Hill's ranch under a conservation easement in May of 2008, with the Hill family still operating the ranch. Project substantial completion is tentatively scheduled for December of 2008.

12. Debeque, Town of – Irrigation System Improvement Project

Authorization: Severance Tax Fund
Water Source: Mancos River
Terms of Loan: \$427,700@ 2.5% for 30 yrs.

County: Montezuma
Project Yield: 1,781 acre-feet
Project Type: Ditch Rehabilitation

The Town of DeBeque is constructing a new collection structure in the Colorado River and pump/piping system as part of the Irrigation System Improvements Project. The Project is expected to cost \$370,000 and provide an improvement to the Town's irrigation water delivery system. The improvements will increase delivery quantity and efficiency and will also reduce the demand on the Town's drinking water supply. The Town is located approximately 30 miles east of Grand Junction and serves 480 residents with sewer and water. The present irrigation system serves approximately half of the Town's residence however the system is often low on pressure and unreliable. In addition to increasing system reliability, this project will help utilize a recently acquired 3.5 cfs surface water right on the Colorado River. The project involves the construction of new diversion/control structure at the river, pump house, and 3,000 feet of pipeline to the town's existing storage tank. The pipeline and storage tank have been completed. The construction of the river diversion and pump house was delayed due to the reconstruction of the state bridge across the Colorado River at the Debeque Exit off I-70. The bridge repairs have

been completed and the Town has completed the project. The Town is discussing the possibility of not using CWCB loan funds.

13. Union Ditch Company – Well Augmentation Project

Authorization: Severance Tax Trust Fund	County: Weld
Water Source: South Platte River	Project Yield: 206 acre-feet
Terms of Loan: \$312,595 @2.50% for320-years	Project Type: Well Augmentation

The Union Ditch Company provides irrigation water to an area of 5,500 acres east of the Town of LaSalle and south of Greeley. The Union Ditch Company has filed application for an augmentation plan to provide replacement water for 40 junior wells owned by the shareholders, formerly serviced by GASP. This project involves the development of 3 recharge ponds, placement of flow measurement devices, and headgate structures into the ponds. The ponds will be filled by gravity flow from the Union Ditch. Union Ditch Company is currently constructing one recharge pond at the Miller Feedlot Site with an accompany diversion structure on the Union Ditch. The overall augmentation efforts are anticipated to be completed by May of 2009, which will require a time extension to their loan contract.

14. Hope Ditch Company – Well Replacement

Authorization: Construction Fund	County: Adams
Water Source: Well – Denver Basin	Project Yield: 11.5 AF
Terms of Loan: \$153,000@3.75% for 30 yrs.	Project Type: Well Replacement

The Hope Ditch Company provides water to a portion of the Wiesner Subdivision, located in Adams County. The Company's existing well drilled in 1963, provided domestic water to 23 homes in the subdivision. Over the years the existing well casing has significantly deteriorated, causing the well production to go from 30 gpm to 7 gpm. This lack of production resulted in the residence having to haul water to meet their demands. This project involves the replacement of the existing well with a new 950-foot deep well that will produce at the original pump rate of 30 gpm. Reaksecker Drilling, Sadalia, Colorado, has completed the drilling, casing, and installation of the pump, and all electrical work. Unfortunately, the Company's new well is only producing around 5 GPM. This lack of production has resulted in the Company requesting approval from the SEO to operate both the old and the new well together to increase production to over 10 GPM. The Company has received approval from SEO to combine the two wells. The Company is currently completing some minor electrical work to combine the wells, which is anticipated to be complete by October 2008.

15. Number Six Ditch Company – Ditch Rehabilitation

Authorization: Severance Tax Fund	County: Montezuma
Water Source: Mancos River	Project Yield: 2,591 AF
Terms of Loan: \$688,942@ 2.5% for 30 yrs.	Project Type: Ditch Rehabilitation

The Number Six Company is comprised of 23 members that manage 5.5 miles of open ditch, with an annual diversion of approximately 2,591 cfs and a 540 acre service area. This project involves piping the 5.5 miles of ditch with 4-inch to 24-inch PVC Pipe to create a pressurized system for the users. The project is a joint effort with NRCS's Salinity Control Program. NRCS is contributing 75% of the cost towards the design and construction of the project. The project has been awarded to Lewis Excavating, Mancos, Colorado and is currently under

construction. The project is approximately 95% complete. The Company is waiting on final as-built drawings from the Engineer to submit to NRCS for final reimbursement.

16. Bijou Irrigating District – Empire Reservoir Rehabilitation Project

Authorization: Severance Tax Fund
Water Source: South Platte River
Terms of Loan: \$2,408,500@2.25% for 30 yrs.

County: Morgan/Weld
Project Yield: 19,900 acre-feet
Project Type: Reservoir Rehabilitation

The District is a statutory Irrigation District (1905) and owns and operates Empire Reservoir located west of Fort Morgan in Weld and Morgan Counties. It is an off-stream reservoir primarily impounded by four separate dams constructed in about 1905. Water is diverted from the South Platte River through the Empire Intake Ditch. The water storage rights are 37,709 acre-feet and there is one refill right. The water storage at gage height (GH) 30.0 is 36,142 AF. The reservoir has been re-restricted to a GH 29.0 by the SEO due to wind erosion problems along the east embankment. The proposed project consists of repairing failed sections of parapet walls, removing trees along the upstream toe of the dam, and adding additional riprap slope stabilization. This will allow the reservoir to be filled to its full gage height. The one-foot increase in storage height will result in 2,682 AF of recovered storage. The District elected to make a temporary fix to the embankment to allow the reservoir to be stored to gauge height 30. The SEO has indicated that the temporary improvements will need to be removed and permanent improvements put in-place prior to final SEO approval. Project completion is scheduled for January of 2009.

17. Lower Poudre Augmentation Company – Reservoir and Water Rights Purchase

Authorization: Severance Tax Fund
Water Source: South Platte
Terms of Loan: \$3,104,053@2.50% for 30 yrs.

County: Larimer/Weld
Project Yield: 657 acre-feet
Project Type: Reservoir & Water Rights

The Lower Poudre Augmentation Company (LPAC) is a non-profit company that was incorporated in 2004, by the New Cache La Poudre Irrigating Company (2/3 interest) and the Cache La Poudre Reservoir Company (1/3 interest). There are 88 wells owned by 35 individuals/entities and the augmentation demands are approximately 3200 AF. The LPAC has filed for a permanent Augmentation Plan, and has operated on a Substitute Water Supply Plan for 3-4 years. LPAC proposes to purchase the Timnath Flatiron Reservoir, and 4.5 shares of Boxelder Ditch, and construct the necessary improvements to utilize the reservoir for augmentation purposes. The reservoir currently has a storage capacity of approximately 657 AF, with a depth of 12-15 feet. The reservoir area was mined for sand and gravel and lined with clay once mining was complete. The reservoir has received SEO certification as a lined gravel pit storage facility. The Company has purchased the reservoir and water rights and is currently completing the design for the reservoir structural improvements.

18. Bull Creek Reservoir Canal and Power Company – Reservoir Rehabilitation

Authorization: Severance Tax Fund
Water Source: Colorado River
Terms of Loan: \$1,212,000@ 2.5% for 30 yrs.

County: Mesa
Project Yield: 900 acre-feet
Project Type: Reservoir Rehabilitation

The Bull Creek Reservoir, Canal and Power Company are located in Mesa, Colorado, and have a service area of approximately 800 acres. The Company operates the Bull Creek Reservoirs that

provide irrigation water to shareholders. The Company plans to repair and enlarge Reservoir No. 4. This will remove the current restriction on the reservoir and provide additional storage necessary to store the Company's decreed rights. The Company has a Stipulation and Agreement with the SEO that requires the Company to repair Reservoir No. 4 in order to avoid abandonment of a portion of the senior water rights. The Project is located on the US Forest Service property and will require a Special Use Permit for access roadway work and dam construction. The reservoir is remote and located at 10,000 feet elevation and will require special mobilization techniques. This project was previously approved by the Board in 2006, but has been re-scoped to address SEO concerns and higher than previously anticipated construction costs. The Company has received SEO approval and the contractor has mobilized on-site. The access road to the site has been completed and the contractor is currently working on the outlet pipe, toe drains, and dam embankment. The contractor completed 80% of the project and was forced to de-mobilize for the winter. The Contractor will mobilize in June/July of 2009 to complete the spillway and remaining dam embankment work.

19. South Side Irrigation Company – South Side Reservoir Rehabilitation

Authorization: Construction Fund
Water Source: South Platte River
Terms of Loan: \$360,000 @ 3.10% for 30 yrs.

County: Larimer – Near Loveland
Project Yield: 1,241 acre-feet
Project Type: Reservoir Rehabilitation

The South Side Reservoir Company operates the South Side Reservoir, which provides irrigation water within a 1,590-acre service area. The South Side Reservoir is located approximately 1 mile southwest of the City of Loveland. This \$400,000 project involves rehabilitation of the outlet structure and spillway. These improvements will eliminate the current storage restrictions imposed by the State Engineers Office. The spillway construction was awarded to Zak Dirt, Longmont, Colorado, who completed the work in the spring of 2007. The Company is currently working on improving the outlet structure, which is anticipated to be complete by the fall of 2008.

20. South Side Irrigation Company – Ditch Rehabilitation

Authorization: Construction Fund
Water Source: South Platte River
Terms of Loan: \$72,000 @ 3.10% for 30 yrs.

County: Larimer – Near - Loveland
Project Yield: 1,587 acre-feet
Project Type: Ditch Rehabilitation

This \$80,000 project involves the rehabilitation of a number of hydraulic structures and various piping along the South Side Ditch. The overall ditch is approximately 11 miles long and its headgate is located on the South Platte River. The pipe section within the ditch was originally designed by Landmark Engineering, Loveland, Colorado and was bid out in November of 2005. Given the high costs of the bids received, the designed pipe section alternative to control seepage was changed to a liner. A 400-ft section of the ditch lining project was completed in February of 2005. The Company has a remaining 800-ft section of ditch to line and a number of small concrete diversion structures to replace. Project completion is scheduled for the fall of 2008. The Company was approved by the Board at the March 2008 meeting for an additional \$15,000 to complete the project. Project will be completed in February 2009.

21. Aurora, City of – Raw Water Distribution Project

Authorization: Construction Fund
Water Source: South Platte
Terms of Loan: \$75,750,000@ 3.75% for 30 yrs.

County: Adams, Arapahoe, & Douglas
Project Yield: 10,000 acre-feet
Project Type: Raw Water System

Aurora (population 300,000) is located in the eastern Denver metropolitan area. The population is expected to exceed 600,000 people by 2050. Aurora's water supply comes from three major river basins within Colorado and is sensitive to dry or drought conditions. During average and above average years, the water supplies are ample to meet the City's water demands. However, during dry conditions, water supplies are limited because the water rights owned by Aurora are relatively junior. The Prairie Waters Project is a key part of Aurora Water's comprehensive water resource planning. To meet the demands of its existing customers in dry years, and to meet the increasing demands on the system in the future, the goal of the PWP is to supply 10,000 AF/yr by 2010 and 15,000 AF/yr by 2017. Aurora Water will accomplish these goals using reusable effluent from its existing portfolio of decreed reusable water rights, supplemented by lawn irrigation return flows and junior water rights. A key component of the PWP is the Conveyance System which includes three pumping stations and 33-miles of 60-inch diameter pipeline to convey raw water from near Brighton, Colorado to a purification facility near Aurora Reservoir. Total project cost is estimated at \$800,000,000. Pipeline installation has commenced, with project completion scheduled for 2010.

22. Overland Ditch and Reservoir Company – Reservoir Rehabilitation

Authorization: Severance Tax Fund
Water Source: Cow Creek
Terms of Loan: \$1,130,000@ 2.5% for 30 yrs.

County: Delta
Project Yield: 17,000 AF
Project Type: Reservoir Rehabilitation

The Overland Ditch and Reservoir Company's 120 members own and operate the Overland Reservoir, located in Delta County in the Gunnison National Forest at elevation 10,000-ft. This project involves increasing the current reservoir capacity from 6,200 AF to 7,171 AF, raising the spillway elevation 3.8 feet, installing toe drains, increasing the dam crest width, and additional embankment protection. The Overland Ditch Company shareholders at their August 2006 Board Meeting, approved increasing the capacity of the reservoir. The project is currently under design, with construction on-hold until fens can be addressed on-site.

23. Montezuma Valley Irrigation Company – May Lateral Pipeline

Authorization: Severance Tax Fund
Water Source: Dolores River
Terms of Loan: \$5,292,400@2.25% for 30 yrs.

County: Montezuma
Project Yield: 128,000 acre-feet
Project Type: Pipeline

The Montezuma Valley Irrigation Company is a non-profit corporation established in the State of Colorado in 1920. The Company manages the delivery of irrigation water to the approximately 46,000 acre service area. The Company is proposing to install approximately five (5) miles of 36-inch pipe in the existing May Lateral Ditch alignment. The installation of pipe will improve delivery and significantly reduce leakage. The May Lateral water is diverted from the Dolores River and is routed through the McPhee Reservoir prior to delivery to shareholders. The new pipeline will carry approximately 18 cfs to the 105 shareholders that depend on the May Lateral for irrigation water. AgriTech Consulting has provided planning and preliminary design services.

The Company has complete clearing and grubbing for the 5-mile pipe corridor and is currently installing pipe. The project is approximately 75% complete.

24. Platte Valley Irrigation Company – New Equalizer Reservoir Project

Authorization: Severance Tax Fund	County: Weld
Water Source: South Platte River	Project Yield: 52,401 AF
Terms of Loan: \$2,388,650@2.25% for 20 yrs.	Project Type: Reservoir Construction

PVIC is a Colorado mutual ditch company and non-profit corporation serving approximately 14,832 acres of irrigated farm land in Weld County east of Platteville. PVIC diverts water for irrigation from the South Platte River near Fort Lupton and shares a jointly owned headgate with Farmers Reservoir and Irrigation Company (FRICO), as well as about 10 miles of the jointly owned Platte Valley Canal. Average annual diversions are 52,401 acre-feet. PVIC needs an equalizer on the ditch to allow for more efficient management of the water, as well as additional measurement and control structures on their main ditch. The reservoir will have a junior water right for storage of water directed to PVIC's recharge program. In an average year the reservoir is expected to store 300 acre feet, with a 300 acre foot refill. Construction will consist of a 431 acre-foot reservoir with a 14 foot high dam embankment with 10:1 upstream slopes and 3:1 downstream slopes. The reservoir bottom will be lined using clay from the required excavation as necessary to exclude groundwater. The outlet will be a 48 inch RCP, configured to act as the principal spillway. The project also includes relocation of an existing section of Evans No. 2 Ditch below the split from the Platte Valley Canal, modification of the existing bifurcation structure, and construction of three (3) new Parshall Flumes in various reaches of the ditch, as directed by the Water Court. The project is being designed by Smith Geotechnical, Fort Collins, Colorado, with construction anticipated to commence in October of 2008.

25. Greeley Irrigation Company – Greeley No. 3 Canal Rehabilitation

Authorization: Severance Tax Fund	County: Weld
Water Source: South Platte	Project Yield: 18,000 acre-feet
Terms of Loan: \$2,233,867@2.85% for 30 yrs.	Project Type: Canal Rehabilitation

The Greeley Irrigation Company (GIC) provides irrigation water to a service area of 2,367 acres in Weld County, generally within the City of Greeley and east of the City. GIC operates the Greeley Canal No. 3, constructed in 1870 by the Union Colony. About 1,100 acres of the 3,500 original irrigated acres have been subject to dry-up, and water converted to augmentation use. Present canal usage is roughly 1/3 City of Greeley, 1/3 agricultural irrigation, and 1/3 augmentation. GIC facilities consist of a river diversion structure, approximately 13 miles of earthen canal, check structures, delivery headgates, spill structures, trash screens, and other minor structures. A portion of these facilities are in need of repair, upgrades, or replacement. The GIC Board is undertaking a number of phased improvements to the canal including: 1) repairs to, and partial replacement of, the river diversion; 2) piping or lining of portions of the canal; 3) consideration of canal automation using supervisory control and data acquisition (SCADA) equipment; 4) tree removal and tree pruning; 5) canal realignment, reshaping, and straightening; and 6) removal or repair of selected headgates and installation of new headgates. Work has commenced and is anticipated to be complete by May of 2009.

26. Henrylyn Irrigation District – Horse/Prospect Reservoirs Rehabilitation

Authorization: Severance Tax Fund
Water Source: Denver/Hudson Canal
Terms of Loan: \$2,184,327@2.25% for 30 yrs.

County: Weld
Project Yield: 13,850 acre-feet
Project Type: Reservoir Rehab.

The HID was formed in 1907 Irrigation District Law of 1905, and consists of 32,745 acres of irrigated farm land in Weld County. The HID diverts water through the Burlington Canal Headworks on the South Platte River, extending 16 miles to and past Barr Lake. From Barr Lake the Denver-Hudson Canal continues 25 miles to Horse Creek Reservoir, and then continues another 25 miles to Prospect Reservoir. Horse Creek Reservoir was constructed in 1910, and is a High Hazard, Class 1 earth fill dam, with a dam height of 64 feet, a length of 4800 lineal feet, and a crest width of 16 feet. There is a 200 foot wide earth-lined spillway. The decreed storage right is 19,515 AF, but normal storage is 18,747 acre feet. The outlet works consist of 3 x 48" diameter steel conduits. The proposed project will provide a lining for the outlet works, install additional toe drainage, and resurface and re-grade the dam crest. Prospect Reservoir was constructed in 1914, and is a Significant Hazard, Class 2 earth dam, with a dam height of 43.5 feet, a length of 5,301 lineal feet, and a crest width of 20 feet. There is a 250 wide concrete and riprap spillway. The decreed storage right if for 7,660 AF, but the normal storage is 6,368 acre feet. The outlet works consist of a 48" concrete pipe that narrows to about 30" downstream of the control gate, due to previous re-lining projects. The reservoir is currently restricted to 1.5 feet below the historic maximum stage, due to concerns about the stability of the downstream slope of the dam. The proposed project will provide a lining for the outlet works, and resurface and re-grade the dam crest. Contractor has commenced construction on the outlet works.

27. WRCC, Inc. – Windsor Dam and Spillway Rehabilitation

Authorization: Severance Tax Fund
Water Source: South Platte River
Terms of Loan: \$1,285,730@2.55% for 30 yrs.

County: Larimer
Project Yield: 35,000 acre-feet
Project Type: Reservoir Rehabilitation

WRCC, Inc. (Company) owns and operates six storage reservoirs in Larimer and Weld Counties including Big Windsor Reservoir (Reservoir). As a result of SEO safety requirements, the Reservoir is being rehabilitated with dam crest maintenance and a spillway extension. Currently, the embankment has low spots; therefore, the crest is being raised and leveled. In addition, the spillway discharges across farm land not owned by the Company. For that reason, the spillway is being reconstructed at a new location to divert flow away from private farm land back to the natural drainage. This improvement will better protect the land adjacent to the Reservoir. Construction began in August of 2008 and is expected to be complete by the end of 2008.

28. Wood Lake Irrigation Company – Angel Lake Dam Repair

Authorization: Severance Tax Fund
Water Source: South Platte
Terms of Loan: \$212,706@2.50% for 30 yrs.

County: Weld
Project Yield: 848 acre-feet
Project Type: Reservoir Rehabilitation

The Wood Lake Irrigation Company (WLIC) irrigates about 2,150 acres in northern Colorado, in Weld County north of Greeley. WLIC facilities are located approximately 5 miles west of Eaton, and 2 miles east of Severance on Weld County Road 74, and consist of Wood Lake (3,235 AF), Angel Lake (424 ac-ft with refill), and Meyers Lake (600 ac-ft.), and approximately 5 miles of

unlined ditch. WLIC's decreed water right for Angel Lake is for 424.7 acre-feet with a refill, for a total 848 acre-feet. The Angel Lake dam is approx. 2000 feet in length with a crest width of 50 feet (including roadway) and a max. height of about 16 feet. The dam is located on the south and east sides of the reservoir with the outlet located on the south side. Both the Angel Lake outlet conduit and spillway conduits are in poor condition, and need repair/replacement to avoid future SEO storage restriction. The outlet is an 18-inch clay pipe which has reached its usable life span, and the service spillway conduit is an 18-inch clay pipe that is in very poor condition. The proposed project will address deficiencies to meet the current standards and requirements of the SEO with full replacement of the outlet works and service spillway. Work will include breaching the dam embankment and removing the existing outlet works; replacing the existing outlet with 30-inch diameter concrete pipe; control structures including the intake structure with gate, gate tower with control gate, and energy dissipation outlet structure; installation of a toe drain to intercept seepage; construction of a service spillway incorporated into the outlet works to pass the 100-year storm; and placement of riprap and bedding on the upstream face of the dam in the breach area and at the energy dissipation structure. Construction is anticipated to commence in the fall/winter of 2008.

29. Bijou Irrigating District – Diversion Structure Rehabilitation

Authorization: Severance Tax Fund
Water Source: South Platte River
Terms of Loan: \$654,480@2.25% for 30 yrs.

County: Morgan/Weld
Project Yield: 41,790 acre-feet
Project Type: Diversion Rehabilitation

The Company is a Colorado non-profit corporation, providing irrigation water to a 24,000-acre service area in Weld and Morgan Counties, west and south of Fort Morgan. The Company has direct flow rights at the Bijou Canal diversion on the South Platte, and maintains about 90 miles of ditch, Bijou No. 2 Reservoir, and some augmentation ponds. Average headgate diversions from all sources are 47,460 AF per year and annual share delivery is 6,920 AF, with 27,870 AF of depletions covered in the Company's well augmentation plan, and 7,000 AF carried for the Putnam Ditch. Its sister entity, Bijou Irrigation District owns and operates Empire Reservoir west of Fort Morgan. Water stored in the reservoir is delivered to users by the Company to supplement the direct flows, typically in July and August. The Company river diversion structure/headgate consists of two components: 1) the ditch intake structure, which consists of a structure with 5 steel radial gates to adjust flows into the Bijou Canal, that is in good condition, and 2) the river diversion structure, used to divert flow into the ditch intake structure, using a radial gate, slide gate and board system to divert flow into the ditch. The diversion structure has suffered extreme damage in times of high flow in the river. This structure cannot be operated in a manner to reduce the sand upstream of the intake gates. The sand bar causes excessive amount of sand to be drawn into the canal and hampers diversions into the intake structure. The existing diversion also has a problem with debris, mainly trees getting hung up, and requires continual maintenance. The proposed project would make repairs to the river diversion portion of the structure by constructing a 96 foot long Obermeyer Pneumatic Spillway Gate (Bladder Gate) located immediately adjacent to the river radial gate and the canal intake structure. Ransome Boone Excavating, Fort Morgan, Colorado, commenced construction in August and is anticipated to be complete by December of 2008. The Company will be requesting an additional \$1,436,000 to complete the project at the November 2008 Board Meeting.

30. East Mancos Highline Ditch Company – Ditch Rehabilitation

Authorization: Severance Tax Fund
Water Source: East Fork Mancos River
Terms of Loan: \$904,000@ 2.5% for 30 yrs.

County: Montezuma
Project Yield: 869 AF
Project Type: Ditch Rehabilitation

The East Mancos Highline Ditch Company is comprised of 6 members that manage 5.75 miles of open ditch, with an annual diversion of approximately 870 cfs and a 700 acre service area. This project involves piping the 5.75 miles of ditch with 10-inch to 15-inch PVC Pipe to create a pressurized system for the users. The project is a joint effort with NRCS's Salinity Control Program. NRCS is contributing 75% of the cost towards the design and construction of the project. Construction has commenced with project completion anticipated in October of 2008. The project is approximately 95% complete.

Projects under Design

1. Silt Water Conservancy District – Pump Plant Rehabilitation

Authorization: Construction Fund
Water Source: Colorado River
Terms of Loan: \$486,000 @2.75% for 30-years

County: Garfield
Project Yield: 4,000 acre-feet
Project Type: n/a

The Silt Water Conservancy District operates a pump plant on the Colorado River to deliver water to its Pump Canal, which serves agricultural users on the lower reaches of Silt Mesa. The pump plant was built in the 1960's and is located 2 miles east of the Town of Silt. The current pumping plant has a capacity of 36 cfs and delivers 4,000 acre-feet per year. Excel Energy must replace the existing pump plant transformer due to an upgrade of transmission line. Western Area Power Administration will design the project in 2003. The total project cost is anticipated at \$550,000. Excel Energy has indicated to Silt that the need for the new transformer will not be required until 2007. Loan contract will be modified to accommodate the time extension.

2. Supply Irrigation Ditch Company – Knoth Reservoir Dam Rehabilitation

Authorization: Severance Tax Fund
Water Source: St. Vrain Creek
Terms of Loan: \$904,960@2.6% for 30-years

County: Boulder – N.E. of Lyons
Project Yield: 4,800 acre-feet
Project Type: Dam Rehabilitation

Supply Irrigating Ditch Company services approximately 8,500 acres of irrigated farmland in Boulder County between Lyons and Mead. Currently the water for irrigation is supplied by a direct flow decree and from the Beaver Park Reservoir (which is approx. 25 miles west of the start of the Supply Ditch near the continental divide). Supply Irrigating Ditch Company is in the process of acquiring a storage decree within Knoth Reservoir in exchange for the rehabilitation of the reservoir. This reservoir will give the Company some system flexibility, as this storage is significantly closer to users than Beaver Park Reservoir. The reservoir improvements include: construction of a spillway, removing vegetation from the embankment of the dam, lining select areas on the upstream dam face with a clay liner, placing riprap along the upstream dam face, enclosing an irrigation ditch within a pipe, and installing dam instrumentation.

3. Owl Creek Reservoir Company - Reservoir Rehabilitation

Authorization: Construction Fund	County: Weld
Water Source: Owl Creek Basin	Project Yield: 1,200 acre-feet
Terms of Loan: \$1,125,000 @2.75% for 30-years	Project Type: Reservoir Rehabilitation

Owl Creek Reservoir is located approximately 6 miles east and 3 miles north of the Town of Ault. The reservoir was originally constructed in 1896 to store water for irrigation. The dam was constructed of granular material, and over the years has suffered structural damage due to seepage. Given the condition of the dam embankment and the potential for failure, the dam was intentionally breached in 1983. The proposed project involves rehabilitating the existing dam embankment, the construction of a controlled outlet structure, and the construction of an emergency spillway. The project was bid in the fall of 2003. The Reservoir Company is currently exploring its options increasing the dredging quantity to obtain its full storage decree of 1,750 acre-feet. The Company is considering applying for additional funds from the Board to achieve the full reservoir capacity. Additionally, the Company has amended the loan contract for a 1-year time extension to complete the work. The Company is also researching the possibility of utilizing Owl Creek Reservoir as storage facility from flows outside of Owl Creek. This could be accomplished by pumping water from the Larimer Weld Canal, located approximately $\frac{3}{4}$ of a mile downstream of the reservoir. Project has been extended to May of 2010.

4. Southeastern Colorado Water Conservancy District – Arkansas Valley Conduit

Authorization: Severance Tax Fund	County: Pueblo, Crowley, Otero, Bent
Water Source: Arkansas – Fry Ark Project	Project Yield: 6,555 AF
Terms of Loan: \$60,600,000@3.25% for 30 yrs.	Project Type: Raw Water Pipeline

The Arkansas Valley Conduit is designed to bring relatively clean raw water to 41 water providers in the lower Arkansas Valley, who currently either take water from the Arkansas River, and/or pump from shallow and/or deep aquifers. This pumped water has quality problems and requires significant treatment before it meets Clean Drinking Water standards. The conduit will begin at Pueblo Reservoir Dam, where a 30.94 cfs municipal outlet is already in place and reserved for the specific use of the conduit. The conduit will gravity flow approximately 138 miles down the Arkansas River Valley to Lamar. The conduit water will flow by the St. Charles Mesa Water District where it will enter a water filtration plant. As the conduit moves down the valley, spurs will take off the main line to deliver water to local and regional water providers. The conduit will receive its water from the USBR Fryingpan-Arkansas Project. Currently, about 5,779 acre-feet of water per year is available for entities East of Pueblo in an average year. Additionally, Return Flows are retained by the District and can be exchanged back up to Pueblo Reservoir for delivery. These Return Flows can provide up to an additional 1,600 acre-feet of water. Storage is available to these entities in Pueblo Reservoir because they are in the SECWCD service area. This storage will help provide water in the years when less than average water is provided by the Fry-Ark Project. The water will be provided strictly for municipal and industrial purposes. Final chlorination or treatment will be left up to each water provider. The conduit is currently planned to be paid 80% (approximately \$240 million) by the federal government. The District is anticipating securing federal funding in 2008/9, with design and construction to follow.

5. Penrose Water District – Water Rights Purchase and Pipeline Installation

Authorization: Severance Tax Fund
Water Source: Arkansas River
Terms of Loan: \$8,844,570@3.25% for 30 yrs.

County: Fremont
Project Yield: 339 AF - Consumptive
Project Type: Pump/Pipeline/Reservoir

The PWD currently provides domestic water to approximately 4,000 people with 1,700 taps in and around the Town of Penrose, with existing demand of 489 acre-feet per year. PWD's water supply is obtained by a lease with the Beaver Park Water, Inc. (BPW) who owns and operates Brush Hollow Reservoir. The 1990 lease has a 30-year term, and provides an increasing amount of water each year, 751 AF in 2006, leveling out at 1,000 AF in 2020. In drought years, the amount available to PWD is further reduced below the contract amount. Future build-out demand in 2040 is projected to be 1,200 acre-feet for about 8,000 residents and 3,240 taps. The proposed Enterprise project includes the acquisition of 10/12th of the Pleasant Valley Ditch water rights near Howard, with a change in use and change in point of diversion approximately 50 miles downstream to Sec. 13, T19S, R69W. Water will be obtained through the installation of 7 shallow alluvial wells immediately north of the Arkansas River, and then pumped approximately 5.8 miles through a 12-inch transmission line to Brush Hollow Reservoir. As part of the project, Brush Hollow Reservoir will be enlarged by raising the dam four feet. Water rights purchases occurred in 2005. Water court application was filed in 2006, with a late 2008 court date anticipated. Reservoir enlargement is scheduled late 2008 and early 2009. Pump and pipeline construction is scheduled to occur in 2009 and 2010, with total project completion anticipated in 2011. The District is currently working on obtaining an agreement between the District and Beaver Park Water to allow the District to utilize Brush Hollow Reservoir for additional storage. Without that agreement, CWCB loan funds will not be disbursed.

6. Seven Lakes Reservoir Company – Reservoir Rehabilitation

Authorization: Severance Tax Fund
Water Source: South Platte
Terms of Loan: \$772,842@ 2.95% for 30 yrs.

County: Weld and Larimer
Project Yield: 7,796 acre-feet
Project Type: Reservoir Rehabilitation

The Seven Lakes Reservoir Company (SLRC) and its sister company Greeley and Loveland Irrigation Company (GLIC), own and operate an extensive system of reservoirs and canals in the Loveland and Greeley area. GLIC owns 4 reservoirs (including Lake Loveland and Boyd Lake) and SLRC owns 5 reservoirs (including Horseshoe Lake, immediately adjacent to Boyd Lake.). SLRC uses GLIC's Big Barnes Ditch to fill Horseshoe Reservoir. Water is carried in the Big Barnes Ditch and discharges into Lake Loveland at a decreed rate of 1000 cfs. SLRC desires to remove and replace an existing deteriorated 5-tunnel railroad crossing structure with a new bridge in order to safely move 1,000 cfs from the Big Thompson River through Lake Loveland to Horseshoe Reservoir, thus removing a serious bottleneck in the flow path of water. This project will install a new pre-fabricated railroad bridge based on BNSF Railroad design requirements. Construction will occur while the track remains in continuous service, with trains expected on a frequency of one about every six hours. Bridge support pilings will be driven during the time intervals when trains are not near the site, and pile caps constructed. Rails, ties and ballast can then be removed and the prefabricated bridge installed. Work is anticipated to commence in the fall of 2008 and be completed by the summer of 2009.

7. Hillrose, Town of – Water Rights Purchase

Authorization: Severance Tax Fund
Water Source: Denver/Hudson Canal
Terms of Loan: \$49,995@3.0% for 30 yrs.

County: Morgan
Project Yield: 10 acre-feet
Project Type: Water Rights

The Town of Hillrose is located approximately 15 miles east of Fort Morgan, along SH 6. The current population is about 270 residents and the Town currently serves water 132 taps, with the potential to serve 9 additional taps, if existing annexed lots are developed. Typical water usage averages 40 AF per year. In 2003, with restricted outside watering, the usage was 26 AF. The Town currently has one tributary groundwater well (Permit # 018543-F) to supply all of the water required for the town, but this well and the existing distribution system will be converted to a secondary water system for outdoor irrigation, as the Town is in the process of connecting to Morgan County Quality Water District (MCQWD) for domestic water service. This change is anticipated to be complete in Fall 2007. The well is currently augmented under the Lower Platte and Beaver Canal Company (LP&B) plan of operations. The Town needs additional water in order to protect the well from curtailment under the LP& B plan, and they will continue to be covered under the LP& B plan. The Town will receive 12 AF annually from MCQWD for indoor use. In average years, 28 AF will be needed for outside watering, and 14 AF in drought years (with watering restrictions.) The Town currently owns 1 ½ shares of LP & B. With the proposed loan the Town is purchasing an additional 6 shares of LP & B that will provide a total of 9.675 AF of pumping allocation in dry years, and 19.35 AF in normal years. This will be a significant step toward covering the Town's dry-year (restricted outside watering) augmentation need scenario. The Town is currently working on granting CWCB parity with their existing loan with Water and Power.

8. Pagosa Area Water and Sanitation District – Dry Gulch Reservoir Land Acquisition

Authorization: Construction Fund
Water Source: San Juan River
Terms of Loan: \$11,217,060@3.50% for 30 yrs.

County: Archuleta
Project Yield: 35,000 acre-feet
Project Type: Land Acquisition

District serves 9,500 residents in the 100 sq. mile District service area. Drought and demand from growth is requiring additional storage and of around 12,400 AF of storage by 2040. Growth projections estimate the need for a 35,000 AF reservoir to meet demand through 2100. Dry Gulch site is the only reasonably valued site available due to land development. Primary fill source will be pumping of San Juan River water to the reservoir. A CWCB loan will be used to purchase two parcels of land to begin the process of meeting the needs of the District. The land is needed for both sizes of reservoir. Preliminary design and permitting is expected to start in 2008 and construction of the reservoir is projected to start in 2020.

9. Republican River Water Conservation District – Compact Compliance Pipeline

Authorization: Severance Tax Fund
Water Source: Republican River
Terms of Loan: \$60,600,000@2.0% for 20 yrs.

County: N. E. Colorado
Project Yield: 15,000 acre-feet
Project Type: Pipeline Construction

December 2002, Colorado entered into a Stipulation with Kansas and Nebraska to address the U.S. Supreme Court case of *Kansas v. Nebraska and Colorado*. Colorado agreed to develop a ground water model to determine stream flow depletions caused by well pumping in the Basin and to a five-year running average to determine compliance with the Republican River Compact.

In 2007, the State had exceeded its allocation under the Compact by an average of 11,350 AF/yr. To solve the problem the District elected to acquire ground water rights with a historical consumptive of 15,000 AF/yr. This water will be delivered to the North Fork of the Republican River via a Compact Compliance Pipeline to the stream gage at the Colorado-Nebraska state line to offset stream depletions. The District is requesting a loan from the CWCB in the amount of \$60 million to finance the engineering, construction and water acquisition related to the Pipeline Project. The loan represents approximately 85% of the estimated \$71 million total cost of the Project. Final design is expected to start in the spring of 2008 and construction is scheduled for 2008 & 2009. The District is looking to have the design and bid packet complete by October of 2008. Prior to construction and the disbursement of any CWCB loan funds, the District will need to resolve compact issues with Kansas regarding the recent concern over the proposed point of release of compact water on the North Fork of the Republican, which does not address the depletions on the South Fork of the Republican at the Colorado-Kansas state line. Additionally, the District is in the process of trying to resolve issues from senior surface water user along the Arikaree River.

10. Granby Ditch and Reservoir Company – Reservoir Rehabilitation

Authorization: Severance Tax Fund
Water Source: Dirty George Creek
Terms of Loan: \$254,520@2.20% for 20 yrs.

County: Delta
Project Yield: 2,0 acre-feet
Project Type: Reservoir Rehabilitation

The Granby Ditch and Reservoir Company owns and operates the Granby Ditch and six reservoirs in the Grand Mesa National Forest. Currently its Reservoir #12 has been restricted by five feet due to a slump on the downstream face of the dam. The rehabilitation involves adding a toe drain collection to help with seepage along the dam and construction a buttress to improve stability. Repairing the dam will allow the Company to regain an additional 259 AF of storage. The Company has received permission from the forest service to haul material to the site this fall, with construction to follow next summer in 2009.

11. San Luis Valley Water Conservancy District – Water Rights Purchase

Authorization: Severance Tax Fund
Water Source: Rio Los Pinos
Terms of Loan: \$727,200@3.5% for 30 yrs.

County: Alamosa
Project Yield: 141 acre-feet
Project Type: Water Rights Purchase

The San Luis Valley Water Conservancy District (District) operates an augmentation program servicing portions of Rio Grande, Alamosa, Saguache, Hinsdale and Mineral Counties. The augmentation program was developed to offset river depletions from wells serving residential and commercial uses in the area. The District intends to acquire additional water rights to add to its existing program. It has a signed purchase agreement to buy a one-third interest in the Pine River Weminuche Pass Ditch (of which it already owns one half interests). This new right equals 6 cfs and is expected to yield approx. 141 AF annually. The purchase is expected to take place within 45-100 days of the July 2008 CWCB Board Meeting.

12. Headgate 135 Lateral, Inc. – Ditch Rehabilitation - Pipeline

Authorization: Severance Tax Fund
Water Source: Grand Valley Canal
Terms of Loan: \$136,600@3.5% for 30 yrs.

County: Mesa
Project Yield: 1,000 acre-feet
Project Type: Pipeline

The Headgate 135 Lateral, Inc. manages the 135 Lateral, which starts at the Grand Valley Irrigation Company's (GVIC) Headgate 135 and delivers irrigation water to the 100 shareholders in the Corporation. Members own shares of GVIC water which is conveyed to properties via the Lateral. The headgate is located east of Grand Junction near the intersection of E Road and 31 Rd. The Project is approximately 4800 feet new 15 to 6 inch PVC pipe that carries approximately 3.0 cfs. NRCS has provided planning and design engineering services. The total project cost is \$260,000. The design is scheduled for this summer and construction is scheduled for the fall of 2008. Proposed CWCB funding consists of an initial loan from CWCB for \$262,600 that will be reduced by an NRCS grant and several other project participants. The remaining \$136,600 will become a 30-year CWCB Loan.

13. Farmers Pawnee Canal Company – Ditch Flow Control Structures

Authorization: Severance Tax Fund
Water Source: South Platte River
Terms of Loan: \$227,250@2.5% for 30 yrs.

County: Logan
Project Yield: 27,260 acre-feet
Project Type: Diversion Rehabilitation

The Farmers Pawnee Canal Company (Company) provides irrigation water to approximately 10,000 acres of land between Merino and Sterling, Colorado. It uses two separate structures to control flow in the Pawnee Ditch (Ditch). The first is a main diversion at the South Platte River. The second is a few miles down the Ditch and is used to adjust flow. The main diversion is a concrete rollover wall with vents to allow flushing of sand when opened. The secondary structure is currently controlled through the use of board style gates. Both structures are labor intensive and require monthly maintenance. To help with efficiency, the Company plans on replacing a portion of the main diversion with a new 12-foot radial gate. It also plans on replacing the board gates at the secondary structure with four 8-foot wide radial gates. Construction is expected to take place in November of 2008.

14. Ogilvy Augmentation Company – Well Augmentation Project

Authorization: Severance Tax Fund
Water Source: South Platte River
Terms of Loan: \$1,010,808@2.5% for 30 yrs.

County: Weld
Project Yield: 60 acre-feet
Project Type: Augmentation

The Ogilvy Augmentation Company (Augmentation Company) was established in 2005 to augment wells that operate under the Ogilvy Irrigating and Land Company service area. Approximately 1,400 acres of land are irrigated by the Augmentation Company members in an area north of Kersey, Colorado. There are 17 wells in the Augmentation Company that operate under its temporary substitute water supply plan (SWSP). The SWSP is currently operated using leased water. A permanent water supply is necessary for the Augmentation Company to obtain a permanent augmentation plan. Funds are being requested from the CWCB to: purchase water rights, construct a recharge facility, construct a storage reservoir, and install monitoring devices. The Augmentation Company intends to purchase the water rights upon the approval of the CWCB funding and construct the recharge facility in fall/winter of 2008. It will file for its permanent augmentation plan in early 2009. Once the permanent augmentation plan is approved, construction will begin on the storage reservoir.

15. Louden Irrigating Canal and Reservoir Company – Reservoir Rehabilitation

Authorization: Severance Tax Fund
Water Source: Big Thompson River
Terms of Loan: \$263,610@3.5% for 30 yrs.

County: Larimer
Project Yield: 150 acre-feet
Project Type: Reservoir Rehabilitation

The Louden Irrigating Canal and Reservoir Company (Borrower) owns and operates the Rist Benson Reservoir (Reservoir), which is on the west side of Loveland, Colorado. Since 2005, the Reservoir has been restricted to a gauge height of 10.0 feet due to seepage problems along the dam. The Borrower has repaired two sections of the embankment in previous years. This Project is the third phase of repairs and once completed will increase storage by 150 AF allowing for full storage of 491 AF. The rehabilitation involves excavating and re-compacting sections of the embankment, installation of a toe drain, and installing riprap on the upstream face of the dam. Construction is expected to begin in August of 2009 with completion by the end of that year.

COLORADO'S WILDLIFE IN 2058:
Our Shared Commitment to the Future
A Consensus Statement of the 2008 Colorado Conservation Summit

We, the participants of the 2008 Colorado Conservation Summit, have come together because we share these fundamental beliefs about our state and natural resources:

- We have been entrusted with the stewardship of one of the best places on Earth.
- We must redouble our efforts to maintain and enhance the habitat that Colorado's fish, wildlife and native plant populations need to survive, if we are to fulfill our responsibilities to future generations.

Colorado's wildlife is a public trust – a defining resource that is key to our Western heritage, traditions and place within the Western landscape. Wildlife-based recreation is a multi-billion dollar industry with the potential to grow in importance as resources in other portions of the world are depleted. Equally important are the intangible aesthetic and spiritual connections to our wildlife that tie us to the land and define us as a people and region.

The broad cross-section of Coloradans who have come together for this Summit understand that increasing development pressures both within our state and the surrounding region are creating an intense competition for our resources. Threats include:

- Rapid population growth in Colorado and the Rocky Mountain West.
- Increasing demand for water within Colorado and in states that rely on rivers originating in Colorado.
- A dramatic increase in energy development on public and private lands.
- Increased demand for outdoor recreation among some groups, which creates industries that both depend on healthy, intact natural systems *and* have the potential to damage these values.
- Declining participation by children and families in outdoor activities, which threatens to erode the constituency for wildlife and habitat protections.
- Rapid and unpredictable climate shifts.

With these and other factors in mind, we recognize that we must act today if our wildlife heritage is to be sustained for future generations. If we fail to act now, we will certainly leave our children a Colorado diminished by our lack of determination.

To accomplish our ambitious goals, we recognize the need for an improved public dialogue to build a constituency that supports policies and practices in the public and private sectors that are specifically designed to maintain and enhance healthy wildlife populations and habitat through 2058.

This dialogue must lead to specific actions by our elected officials and government agencies at all levels that leads to the rethinking of existing mechanisms that guide our stewardship of natural resources. These steps must be sufficient to secure both the protection and enhancement of the habitat that fish and wildlife need to survive – and the responsible management required for the long-term sustainability of our wildlife resource.

If we are to accomplish our goals, elected leaders, state and federal agency heads, private industry, agriculture, landowners, universities, wildlife conservation and environmental organizations must be equally involved—and equally committed—to a shared vision for the future of Colorado's wildlife.

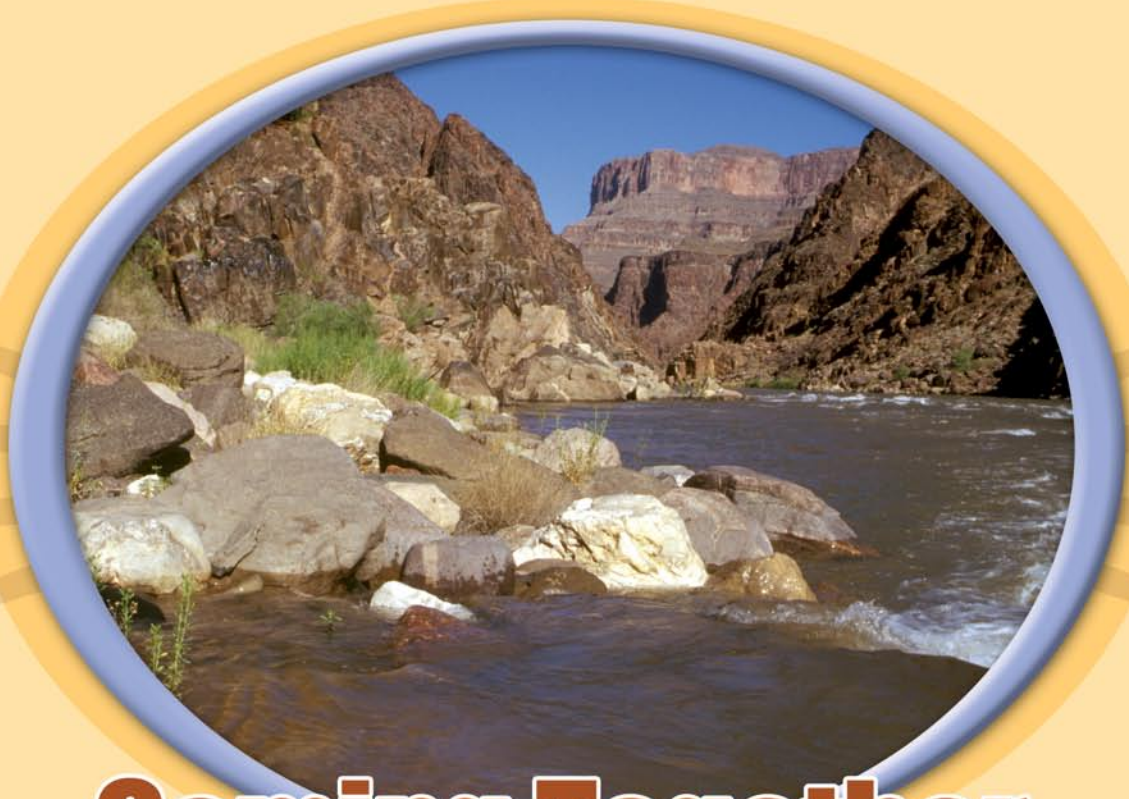
We hereby embrace our obligations as trustees of Colorado's wildlife heritage. We resolve to continue our work beyond the Colorado Conservation Summit – to inform and engage the public and government leaders, to support promising new approaches and to advocate for decisions needed to address the complex problems threatening our most treasured natural resources.

Finally, to the citizens of Colorado and the nation: We recommit ourselves to the resolute stewardship of this priceless and irreplaceable resource, Colorado's wildlife. We invite you to join us in this unprecedented endeavor.

Signed,
[ALL PARTICIPATING INDIVIDUALS & ORGANIZATIONS]

Oct. 8, 2008

Colorado River Basin Science and Resource Management Symposium



Coming Together:

Coordination of Science and Restoration Activities for the Colorado River Ecosystem

- Conference Sponsors -



November 18-20, 2008

Doubletree Resort Hotel, Scottsdale, Arizona

The Colorado River Basin Science and Resource Management Symposium will promote the exchange of information on research and management activities related to the restoration/conservation of the Colorado River and its major tributaries from the headwaters to the U.S./Mexico border.

Highlights

Plenary Sessions: These sessions offer a broad overview of the Colorado River Basin, its ecological challenges and discuss the effectiveness of the multiple programs that have evolved since 1980 to restore and conserve the Colorado River's native species and habitat.

Technical Sessions: A full day of four concurrent technical sessions on Wednesday will feature more than 60 speakers on a wide range of ecosystem issues related to dam and reservoir operations, fish propagation, native and non-native species management and monitoring programs.

Exhibits: Be sure and stop by the Forum Exhibit Area. Booths on display include Biomark, Inc.; Bureau of Reclamation Glen Canyon Dam Adaptive Management Program; Bureau of Reclamation Lower Colorado River Multi-Species

Conservation Program; Sequoia Scientific, Inc.; Sonotronics; Upper Colorado River Endangered Fish Recovery Program; U.S. Geological Survey, Southwest Biological Center; and the Water Education Foundation.

Tuesday Night Reception: A no-host reception will be held at 5 p.m. Tuesday in the Forum Exhibit Area.

Wednesday Social and Poster Session: More than 30 posters will be on display from 5 to 10 p.m. in the Forum Exhibit Area. Each symposium attendee will receive a ticket for one complimentary beverage; hors d'oeuvres also will be served. Be sure to be on hand for the raffle!

Special thanks to the Watershed Research and Education Program Northern Arizona University for cosponsoring Wednesday's social reception

TUESDAY, NOVEMBER 18

Plenary Session I – Looking Across the Basin • The Forum

8:00 a.m. Welcome and Opening Remarks on Conference Theme

*John F. Hamill, Chief, Grand Canyon Monitoring and Research Center, U.S. Geological Survey
Rita Schmidt Sudman, Executive Director, Water Education Foundation*

8:15 Keynote Talk I

Comments on Colorado River Management Efforts from the Department of the Interior
Kameran Onley, Acting Assistant Secretary for Water and Science, U.S. Department of the Interior

8:45 Survey of Adaptive Programs Throughout the Colorado River Basin

The Upper Colorado River Endangered Fish Recovery Program
Robert T. Muth, Program Director, U.S. Fish and Wildlife Service
Summary Overview of the San Juan River Basin Recovery Implementation Program
David L. Campbell, Director, San Juan River Basin Recovery Implementation Program, U.S. Fish and Wildlife Service
The Glen Canyon Dam Adaptive Management Program
Dennis M. Kubly, Chief, Adaptive Management Group, Bureau of Reclamation

The Lower Colorado River Multi-Species Conservation Program
John Swett, Program Manager, Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation

9:45 Break

10:00 Keynote Talk II

Restoration of Colorado River Ecosystems: Law and Policy Perspectives for Scientists

Robert W. Adler, Associate Dean for Academic Affairs, James I. Farr Chair, and Professor of Law, University of Utah, S.J. Quinney College of Law

10:30 Resource Status and Trends I: Sediment, Geomorphology and Climate

The Challenge of Large-Scale Restoration: A Watershed Perspective of Changes in Stream Flow, Sediment Supply, and Geomorphology of the Colorado River
John C. Schmidt, Professor, Department of Watershed Sciences, Utah State University and Director, Intermountain Center for River Rehabilitation and Restoration

11:00 Effects of Interannual Variability and Climate Change on the Colorado River: A Perspective

Kelly Redmond, Deputy Director and Regional Climatologist, Western Regional Climate Center

11:30 – 1:00 p.m. Lunch • Grand Ballroom

Keynote Talk III

Streamflow Management for River Restoration: Lessons From Outside the Colorado River Basin for Moving From Sites to Systems

Christopher Konrad, River Science Coordinator, The Nature Conservancy's Global Freshwater Team, and Research Hydrologist, U.S. Geological Survey

TUESDAY, NOVEMBER 18

Plenary Session II – Perspectives on Adaptive Management • The Forum

- 1:00 p.m. **Past, Current, and Future Operation of Lower Colorado River Reservoirs and the Coordinated Operation of Lake Powell and Lake Mead**
Terry Fulp, Deputy Regional Director, Lower Colorado Region, Bureau of Reclamation
Tom Ryan, Environmental Resources Division Manager, Upper Colorado Region, Bureau of Reclamation
- 1:45 **Sustainability and River Restoration in the Colorado River Basin**
Kathy Jacobs, Executive Director, Arizona Water Institute/ University of Arizona
- 2:15 – 4:00 **Resource Status and Trends II: Historical and Current Perspectives on the Colorado River Ecosystem and its Native and Nonnative Fishes**
- 2:15 **Part A – The Ecology and Historical Distribution of Razorback Sucker, Bonytail, Humpback Chub, and Colorado River Pike Minnow and Insight on the Role of NonNative Fishes in Their Demise**
Gordon A. Mueller, Research Fishery Biologist, Retired, U.S. Geological Survey
- 2:45 **Break**
- 3:00 **Part B – Current Status of Colorado River Native Fishes**
Matthew E. Andersen, Supervisory Biologist, Grand Canyon Monitoring and Research Center, U.S. Geological Survey
- 3:30 **Part C – Aquatic Production and Carbon Flow in the Colorado River**
Robert O. Hall, Associate Professor, Department of Zoology and Physiology, University of Wyoming
- 4:00 **Glen Canyon Dam Adaptive Management Program Effectiveness: A Decadal Assessment**
L. David Garrett, Research Analyst, M3 Research
- 4:30 **Panel Discussion**
Moderated by John Hamill, Chief, Grand Canyon Monitoring and Research Center, U.S. Geological Survey
- 5:00 **Reception (no-host) • The Forum**
Dinner (on your own)

WEDNESDAY NOVEMBER 19

Invasive Species • The Forum

- 8:00 a.m. **Announcements**
Rita Schmidt Sudman, Executive Director, Water Education Foundation
- 8:15 **Keynote Talk IV**
An Overview Of The Spread And Ecological Impacts of The Quagga Mussel With Possible Implications Of Its Recent Discovery In The Colorado River Basin
Thomas F. Nalepa, Research Biologist, Great Lakes Environmental Research Laboratory, NOAA
- 9:00 **Keynote Talk V**
Natural Flows, Invasive Fishes, and Native Fish Conservation in the Green River Downstream of Flaming Gorge Dam, 1962 to Present
Kevin R. Bestgen, Director and Research Scientist, Larval Fish Laboratory, Department of Fishery and Wildlife Biology, Colorado State University
- 9:45 **Break**

10:00 a.m. – 5:00 p.m. • Concurrent Technical Sessions

Session 1 • The Forum

Effects of Dam and Reservoir Operations on Downstream Physical and Biological Resources

Session Chairs: Theodore S. Melis, Paul E. Grams, Theodore A. Kennedy and Michael D. Yard, U.S. Geological Survey

- 10:00 **The Effects of Experimental Ramping Rates on the Invertebrate Community of a Boreal Shield River**
Karen E. Smokorowsk
- 10:20 **Status and Trends in Selected Water Chemistry Parameters of the Green, Yampa, Gunnison, and Colorado Rivers in Dinosaur, Black Canyon, and Canyonlands National Parks**
David P. Thoma
- 10:40 **Physical and Chemical Data for Lake Powell and Glen Canyon Dam Releases, 1965-2007**
William S. Vernieu
- 11:00 **Projecting Temperature and Water Quality in Lake Powell and the Glen Canyon Dam Tailrace**
Nicholas T. Williams

Session 2 • Center Ballroom

Native Fishes Propagation & Genetic Management and Associated Challenges in Co-managing Native and Non-native Fishes in the Colorado River: Seeking Solutions

Session Chairs: Lewis G. Coggins, U.S. Geological Survey, Connie Keeler-Foster and Sam Spiller, U.S. Fish and Wildlife Service

- 10:00 a.m. **Distribution of Marker Genotypes in Wild and Managed Populations: Where Do They Come From: What Are They? Where Are They Going?**
Allen Strand
- 10:20 **Integrating Genetic Information into the Management of Captive Propagation Programs**
Connie Keeler-Foster
- 10:40 **Endangered Species Facilities Designed to Minimize Genetic Changes During Breeding and Propagation**
Kenneth P. Ferjancic
- 11:00 **Survival Rate Estimation of Hatchery-Reared Razorback Suckers *Xyrauchen texanus* in the Upper Colorado River Basin, Utah and Colorado**
Koreen A. Zelasko

Session 1 • The Forum

- 11:20 **Hydrodynamic Modeling of Lake Mead Under Changing Water Levels**
Mark Stone
- 11:40 **Large-Scale Geomorphic Organization of the Colorado River Connections with Channel, Change, and Riverine Ecology**
Paul E. Grams
- Noon **Lunch • Paradise Park** (Tent)
- 1:00 p.m. **Comparison of Sediment-Transport and Bar-Response Results from the 1996 and 2004 Controlled-Flood Experiments on the Colorado River in Grand Canyon**
David J. Topping
- 1:20 **A Tale of Two Rivers: Adjustment of Bars to Controlled Flood Releases from Large Dams, Green River in the Canyon of Lodore and Colorado River in Marble Canyon**
John C. Schmidt
- 1:40 **Velocity Distribution in the Pools and Rapids of the Colorado River and the Impact on Aquatic Ecology**
Christopher S. Magirl
- 2:00 **Effects of the 2008 BHBF on Invertebrates Downstream of Glen Canyon Dam**
Emma J. Rosi-Marshall
- 2:20 **Evaluating the Effects of Hydropeaking and a Selective Withdrawal Structure on Food Production using Artificial Streams**
Theodore A. Kennedy
- 2:40 **Entrainment of Beads and Marked Razorback Sucker, Xyrauchen Texanus, Larvae into Depression Floodplain Wetlands of the Middle Green River, Utah**
Trina N. Hedrick
- 3:00 **Break**
- 3:20 **Establishing Ecological Baselines: How has Over-Allocating the Colorado River Affected Species in the Gulf of California?**
Kirsten Rowell
- 3:40 **A Quantitative Food Web and Ecosystem Production Budget for Glen Canyon, Colorado River**
Colden V. Baxter
- 4:00 **Characterization of Selenium and Mercury Exposure in the Colorado River Food Web in the Grand Canyon**
David M. Walters
- 4:20 **Shoreline Habitat and Geomorphic Mapping of the Colorado River Ecosystem in Grand Canyon, Arizona**
Thomas M. Gushue
- 4:40 **Models and Management: Issues of Scale**
Scott A. Wright
- 5:00 – 10:00 **Informal Social and Poster Session**
The Forum Exhibit Area

Session 2 • Center Ballroom

- 11:20 **Salinity Tolerances for Egg and Larval Stages of Razorback Sucker**
James R. Stolberg
- 11:40 **Effectiveness of the Barrier-and-Renovate Approach to Recover of Warmwater Native Fishes in the Gila River Basin**
Robert W. Clarkson
- Noon **Lunch • Paradise Park** (Tent)
- 1:00 p.m. **Modeling the Management of the Lees Ferry Rainbow Trout Fishery**
Andrew S. Makinster
- 1:20 **Preliminary Results of Rainbow Trout Movement During the 2008 High Flow Experiment**
R. Scott Rogers
- 1:40 **Effects of a High Flow Event on Sonic Tagged Juvenile and Adult Rainbow Trout Movement in Glen and Marble Canyons, Arizona**
Kara D. Hilwig
- 2:00 **Mechanical Removal of Non-Native Fishes in the Colorado River Within Grand Canyon**
Lewis G. Coggins
- 2:20 **Foraging Ecology of Nonnative Trout in the Colorado River, Grand Canyon: Predation on Native Fishes and the Effects of Turbidity**
Michael D. Yard
- 2:40 **Changes in the Grand Canyon Flannelmouth Sucker Population During a Period of Reduced Salmonid Densities and Warmer Water Temperatures**
R. Scott Rogers
- 3:00 **Break**
- 3:20 **Opportunities for Co-Managing Native and Non-Native Fishes in a Colorado River Reservoir: Lake Mead, Nevada-Arizona as a Case Study**
Jon C. Sjoberg
- 3:40 **A National Park Service Plan to Translocate Humpback Chub into Shinumo Creek, Grand Canyon National Park**
William Leibfried
- 4:00 **Fish Management in National Park Units Along the Colorado River**
Melissa A. Trammell
- 4:20 **Panel Discussion**
Moderator Sam Spiller, U.S. Fish & Wildlife Service
- 5:00 to 10:00 **Informal Social and Poster Session**
The Forum Exhibit Area

WEDNESDAY NOVEMBER 19

10:00 a.m. – 5:00 p.m. **Concurrent Technical Sessions** (Continued)

Session 3 • Sonora/San Carlos

Monitoring Programs: Design, Case Studies and Linkages to Management

Session Chairs: Dennis M. Kubly and Theresa Olson, Bureau of Reclamation

- 10:00 a.m. **Monitoring on the Upper Mississippi River System: Working Toward Adaptive Management**
Barry L. Johnson
- 10:20 **Terrestrial LiDAR Topographic Change Monitoring at Archaeological Sites Along the Colorado River Corridor of Grand Canyon National Park, Arizona**
Brian D. Collins
- 10:40 **High-Resolution Monitoring of Suspended-Sediment Concentration and Grain Size in the Colorado River in Grand Canyon National Park Using Laser-Diffraction Instruments and a Multi-Frequency Acoustic System**
David J. Topping
- 11:00 **Four Decades of Attempts to Measure Sand Storage in the Colorado River in Grand Canyon: Why Is It So Difficult?**
David M. Rubin
- 11:20 **Utah Streamstats: A Web Based GIS Program for Estimating the Magnitude and Frequency of Peak Flows, Monthly Streamflow Statistics, and Annual Streamflow Statistics at Ungaged Sites in Utah**
Christopher D. Wilkowske
- 11:40 **Spatially Referenced statistical Assessment of Dissolved-Solids Load Sources and Transport in Streams of the Upper Colorado River Basin**
Terry A. Kenney
- Noon **Lunch • Paradise Park** (Tent)
- 1:00 p.m. **Yellow-Billed Cuckoo Habitat Use and Its Implications for Riparian Conservation and Restoration**
Matthew J. Johnson
- 1:20 **Bat Monitoring at Habitat Creation Areas as Part of the Lower Colorado River Multi-Species Conservation Program**
Allen W. Calvert
- 1:40 **Pit-Tags, Implanters, Readers, and Antennas: Status of the Technology**
Audrey T. Hopkins
- 2:00 **Effects of Trammel Nets on Native Arizona Fishes Using Cortisol as a Stress Index**
Teresa A. Hunt
- 2:20 **Examination of a Turbidity Threshold That Dictates Hoop Net Catch Rates of Native Fishes in the Little Colorado River, Arizona**
Dennis M. Stone
- 2:40 **Little Colorado River Long-Term Fish Monitoring Trends, 1987-2008**
Brian C. Clark
- 3:00 **Break**
- 3:20 **Closed Population Estimates of Endangered Humpback Chub (*Gila Cypha*) in the Little Colorado River, Grand Canyon, AZ**
David R. Vanhaverbeke
- 3:40 **Population Status and Habitat Use of the Flannelmouth Sucker in the Colorado River Below Davis Dam**
Jeff Lantow

Session 4 • Coronado/Palomas

Riparian System Restoration, Monitoring and Exotic Species Control Efforts

Session Chairs: Barbara E. Ralston, U.S. Geological Survey, and John Swett, Bureau of Reclamation

- 10:00 a.m. **Irrigation Regime and Vegetation Density Effects on Success of Riparian Revegetation**
Daniel P. Bunting
- 10:20 **Direct Seeding for Riparian Revegetation: Feasibility Studies on the Lower Colorado River**
Matthew R. Grabau
- 10:40 **Yuma East Wetlands Restoration Project: A Progress Report**
Frank Protiva
- 11:00 **Imperial Ponds Conservation Area - Accomplishments and Status as of November 2008**
Nathan E. Lenon
- 11:20 **Use Of Tamarisk By Breeding And Migrating Birds Of The Southwest: Implications For Riparian Management**
Charles van Riper III
- 11:40 **Two Subspecies of Brown-Headed Cowbird Captured at a Trapping Site Along the Lower Colorado River**
Thomas J. Koronkiewicz
- Noon **Lunch • Paradise Park** (Tent)
- 1:00 p.m. **Saltcedar (*Tamarix* spp) Water Use and Ecohydrological Niches on the Lower Colorado River**
Pamela L. Nagler
- 1:20 **Quantifying Soil and Groundwater Chemistry in Areas Invaded by *Tamarix* spp Along the Middle Rio Grande, New Mexico**
Michelle K. Ohrtman
- 1:40 **Status of Riparian Birds of the Lower Colorado River: Implications for Riparian Habitat Restoration**
Amy Leist
- 2:00 **Causes, Management and the future of Exotic Riparian Plant Invasion in Canyon De Chelly National Monument, Arizona**
Lindsay V. Reynolds
- 2:20 **Importance of Springs and Springs Ecosystems to Species and Habitats of the Colorado River**
Abraham E. Springer
- 2:40 **Developing a Long-Term Monitoring Program for Upper Basin National Parks: Challenges and Opportunities of Partnerships**
Dustin W. Perkins
- 3:00 **Break**
- 3:20 **Formation of the Green River's Floodplain and Implications for Riparian Ecology**
Jason S. Alexander
- 3:40 **Geologic Controls on Floodplain Lakes in the Lower Colorado River**
Daniel Malmon

WEDNESDAY NOVEMBER 19

10:00 a.m. – 5:00 p.m. **Concurrent Technical Sessions** (Continued)

Session 3 • Sonora San Carlos

- 4:00 **Razorback Sucker Population Status in Lake Mohave: Monitoring, Database, Analysis, and Repatriation Program Optimization**
Carol A. Pacey
- 4:20 **A Standardized Design for Long-Term Quagga Mussel Monitoring in Lake Mead**
David Wong
- 4:40 **Campsite Area Monitoring in the Colorado River Ecosystem, 1998-2006, Grand Canyon National Park, Arizona**
Matt Kaplinski
- 5:00 to 10:00 **Informal Social and Poster Session**
Forum Exhibit Area

Session 4 • Coronado Coloma

- 4:00 **Can Controlled Floods be used to Restore Floodplain Forests? Experience From the Green River**
David J. Cooper
- 4:20 **Ecosystem Restoration – Alamo Lake and the Bill Williams River**
William E. Werner
- 4:40 **15 Years of Managed Reservoir Releases for Native Riparian Tree Recruitment and Tamarix Control Along the Bill Williams River, Arizona**
Patrick B. Shafroth
- 5:00 to 10:00 **Informal Social and Poster Session**
Forum Exhibit Area

THURSDAY, NOVEMBER 20

Plenary Session III – *Measuring Societal Values* • **The Forum**

- 8:00 a.m. **Keynote Talk VI**
Economic Values for National Park Service Resources within the Colorado River Watershed
John W. Duffield, Research Professor, Departments of Economics and Mathematical Sciences, University of Montana
- 8:30 **Ex Post Economic Analysis of the Electrical Power System Impacts of Environmental Restrictions at Glen Canyon Dam Following the 1996 Record of Decision**
Thomas Veselka, Energy Systems Engineer, Argonne National Laboratory
- 8:50 **Economic Analysis of Five Options for the Operation of Glen Canyon Dam as Part of Long-Term Experimentation**
S. Clayton Palmer, Environmental Protection Specialist, Western Area Power Administration
- 9:10 **Confluence Of Values: The Role Of Science And Native Americans In The Glen Canyon Dam Adaptive Management Program**
Kurt Dongoske, Acting Director, Zuni Heritage and Historic Preservation Office, Pueblo of Zuni
- 9:40 **Take Home Messages – Stakeholder Perspectives**
Leslie James, Executive Director, Colorado River Energy Distributors Association
Gerald Zimmerman, Executive Director, Colorado River Board of California
John Shields, Interstate Streams Engineer, Wyoming State Engineers Office
Lynn Hamilton, Executive Director, Grand Canyon River Guides
Taylor Hawes, Director, Colorado River Program, The Nature Conservancy
- 10:30 **Break**
- 10:50 **Take Home Messages – Program Leaders**
Upper Colorado River Basin – Recovery Implementation Program
Robert T. Muth, Program Director, U.S. Fish and Wildlife Service
San Juan River Program
David L. Campbell, Director, San Juan River Basin Recovery Implementation Program, U.S. Fish and Wildlife Service
Glen Canyon Dam Adaptive Management Program
Dennis M. Kubly, Chief, Adaptive Management Group, Bureau of Reclamation
Lower Colorado River Multi Species Conservation Program
John Swett, Program Manager, Lower Colorado River Multi-Species Conservation Program, Bureau of Reclamation
- 11:30 **The Promise and Peril of Collaboration in the Colorado River Basin**
Kirk Emerson, Visiting Professor, School of Public Administration and Policy, University of Arizona and Senior Policy Associate, Udall Center for Studies in Public Policy
- Noon **Closing Remarks**
John F. Hamill, Chief, Grand Canyon Monitoring and Research Center, U.S. Geological Survey

Posters

RELATIONSHIPS BETWEEN STREAMFLOW, BEAVER DAM DYNAMICS, AND AQUATIC HABITAT ON THE BILL WILLIAMS RIVER, ARIZONA

ANDERSEN, DOUGLAS C.¹ and Patrick B. Shafroth²,
¹U.S. Geological Survey, Fort Collins Science Center, c/o Bureau of Reclamation, P.O. Box 25007 86-68220, Denver, CO 80225
²U.S. Geological Survey, Fort Collins Science Center, 2150 Centre Ave., Bldg. C, Fort Collins, CO 80526

DISCREPANCIES IN COLORADO RIVER WATER VOLUMES AND THE NEED TO ADDRESS DISCHARGE ACCURACY AND GAINS IN STREAMFLOW ON THE COLORADO RIVER BETWEEN GLEN CANYON DAM AND LEES FERRY, ARIZONA

ANNING, DAVID W.¹, Hart, Robert J.², and Fisk, Greg G.³
¹U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001; dwanning@usgs.gov
²U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001; bhart@usgs.gov
³U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001; ggfisk@usgs.gov

FOOD PRODUCTION IN BACKWATERS MAY BE LIMITED DURING FLUCTUATING FLOWS BECAUSE WATER RESIDENCE TIME IS SHORT

BEHN, KATHRINE¹, Theodore A. Kennedy², Robert O. Hall Jr.³
¹Department of Zoology and Physiology, University of Wyoming, Laramie, WY 82071, kbehn@uwyo.edu
²U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001, tkennedy@usgs.gov
³Department of Zoology and Physiology, University of Wyoming, Laramie, WY 82071, bhall@uwyo.edu

AEOLIAN REWORKING OF SEDIMENT DEPOSITS FROM THE MARCH 2008 GRAND CANYON HIGH-FLOW EXPERIMENT

DRAUT, AMY E.¹, Hazel, Joseph E. Jr.², Fairley, Helen C.³, and Brown, Christopher R.²
¹U.S. Geological Survey, 400 Natural Bridges Drive, Santa Cruz, CA 95060
²Northern Arizona University, Flagstaff, AZ 86004
³USGS Grand Canyon Monitoring and Research Center, Flagstaff, AZ 86001

APPLYING AN ECOSYSTEM FRAMEWORK TO EVALUATE ARCHAEOLOGICAL SITE CONDITION ALONG THE COLORADO RIVER IN GRAND CANYON NATIONAL PARK, ARIZONA

FAIRLEY, HELEN C.¹
¹USGS Grand Canyon Monitoring and Research Center, Flagstaff, AZ 86001

THE RESEARCH COORDINATION NETWORK FOR THE COLORADO RIVER DELTA: FOSTERING HABITAT RESTORATION AND MONITORING

FLESSA, KARL¹, Zamora-Arroyo, Francisco², Brambila, Rocio³
¹University of Arizona, Department of Geosciences, 1040 Fourth St., Tucson, AZ 85721 kflessa@email.arizona.edu
²University of Arizona, Department of Geosciences, 1040 Fourth St., Tucson, AZ 85721 and Sonoran Institute, 7650 E. Broadway, Suite 203, Tucson, AZ 85710 Fzamora@sonoran.org
³University of Arizona, Department of Geosciences, 1040 Fourth St. Tucson, AZ 85721 brambila@email.arizona.edu

USE OF BIRD MONITORING TO DETERMINE THE EFFECTS OF THE INTRODUCTION OF THE TAMARISK-DEFOLIATING BEETLE (*Diorhabda elongata*) IN DINOSAUR NATIONAL MONUMENT

GROIR, GLENN P.¹
¹Rocky Mountain Bird Observatory, 14500 Lark Bunting Lane, P.O. Box 1232, Brighton, CO 80601-1232

A COMPREHENSIVE HISTORY OF BED DEGRADATION AND CHANNEL ADJUSTMENT FOR THE COLORADO RIVER WITHIN GLEN CANYON NATIONAL RECREATION AREA DOWNSTREAM FROM GLEN CANYON DAM

GRAMS, PAUL¹, John C. Schmidt², David Topping¹
¹U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001
²Department of Watershed Sciences, Utah State University, Logan, UT 84322-5210

NEAR REAL-TIME MONITORING OF HIGH-RESOLUTION SUSPENDED-SEDIMENT DATA ON THE COLORADO RIVER IN GRAND CANYON; IMPLICATIONS FOR RIVER CORRIDOR MANAGERS

GRIFFITHS, RONALD E.¹ and David J. Topping²
¹U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001; rgriffiths@usgs.gov
²U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001; dtopping@usgs.gov

INTERNET MAPPING SERVICES FACILITATE DISTRIBUTION AND ANALYSIS OF SHORELINE HABITAT CLASSIFICATIONS OF THE COLORADO RIVER IN GRAND CANYON

GUSHUE, THOMAS M.¹, Breedlove, Michael J.², Timothy Andrews², Jack C. Schmidt³, and Jered R. Hansen⁴
¹U.S. Geological Survey, 2255 N. Gemini Drive, Flagstaff, AZ 86001
²Utah State University, 2255 N. Gemini Drive, Flagstaff, AZ 86001
³Utah State University, Department of Watershed Sciences, Logan, UT 84322
⁴Northern Arizona University, 2255 N. Gemini Drive, Flagstaff, AZ 86001

COMPARING EMPIRICAL AND MODELED LENGTH AT AGE DATA FROM LEES FERRY RAINBOW TROUT

HANGSLEBEN, MATTHEW A.¹, and Andrew S. Makinster¹
¹Arizona Game and Fish Department, Research Branch, 5000 W. Carefree Highway, Phoenix, AZ 85086

ECOSYSTEM FLOW REQUIREMENTS FOR THE BILL WILLIAMS RIVER, ARIZONA, USA: A SUSTAINABLE RIVERS PROJECT

HAUTZINGER, A.B.¹, J.T. Hickey², P.B. Shafroth³, and A. Warner⁴
¹U.S. Fish and Wildlife Service, Division of Natural Resources, Albuquerque, NM 87102
²Hydrologic Engineering Center, Institute for Water Resources, U.S. Army Corps of Engineers, Davis, CA 95616 Hydrologic Engineering Center, Institute for Water Resources, U.S. Army Corps of Engineers, Davis, CA 95616
³U.S. Geological Survey, Fort Collins Science Center, 2150 Centre Ave., Bldg. C, Fort Collins, CO 80526
⁴The Nature Conservancy, Sustainable Waters Program, University Park, PA 16802

DEVELOPING COTTONWOOD-WILLOW LAND COVER TYPE ON AGRICULTURAL FIELDS USING MASS PLANTING TECHNIQUE

IGLITZ, GAIL P.¹ and William L. Singleton²
¹U.S. Bureau of Reclamation –Lower Colorado Region, PO Box 61470, Boulder City, NV 89005; giglitz@lc.usbr.gov
²U.S. Bureau of Reclamation –Lower Colorado Region, PO Box 61470, Boulder City, NV 89005; wsingleton@lc.usbr.gov

TRADITIONAL HUALAPAI ECOLOGICAL KNOWLEDGE AND THE MONITORING PROGRAM IN THE COLORADO RIVER CORRIDOR

JACKSON-KELLY, LORETTA¹, Dawn Hubbs²
¹Hualapai Tribe; Department of Cultural Resources (HDCR),
²Hualapai Tribe; Department of Cultural Resources (HDCR)

RAPID POPULATION EXPANSION AND DISPERSAL OF THE TAMARISK LEAF BEETLE, *DIORHABDA ELONGATA*, IN THE UPPER COLORADO RIVER BASIN

JAMISON, LEVI¹ and Dan W. Bean¹
¹Colorado Department of Agriculture, Biological Pest Control Program, 750 37.8 Rd., Palisade, CO 81526

HIGH-RESOLUTION MULTIBEAM BATHYMETRIC AND TOPOGRAPHIC SURVEYS AT TWO EDDY SANDBARS BEFORE, DURING, AND AFTER THE 2008 HIGH FLOW EXPERIMENT ON THE COLORADO RIVER IN GRAND CANYON

KAPLINSKI, MATT¹, J.E. Hazel, Jr.¹, R. Parnell¹, N. Schott¹, S. Wright²
¹Northern Arizona University, Flagstaff, AZ 86011, matt.kaplinski@nau.edu
²U.S. Geological Survey, Placer Hall, Sacramento, CA 95819

THE DEVELOPMENT OF TWO PORTABLE REMOTE PIT SCANNING SYSTEMS

KESNER, BRIAN R.¹, Jon R. Nelson², and Paul C. Marsh³
¹Marsh and Associates, LLC., Tempe, AZ 85282, brk828@nativefishlab.net
²United States Bureau of Reclamation, Boulder City, NV 89006, jnelson@lc.usbr.gov
³Marsh and Associates, LLC., Tempe, AZ 85282, fish.dr@nativefishlab.net

ONE-DIMENSIONAL COMPUTER MODEL AND GIS TOOL SET TO PREDICT RIVER STAGE AND INUNDATION ON THE COLORADO RIVER IN GRAND CANYON

MAGRIL, CHRISTOPHER S.¹, Michael J. Breedlove², Robert H. Webb³, and Peter G. Griffiths³
¹U.S. Geological Survey, 934 Broadway, Suite 300, Tacoma, Washington 98402
²U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001
³U.S. Geological Survey, 520 N. Park Avenue, Suite 221, Tucson, Arizona 85719

TAKING A STANDARDIZED MULTI-SPECIES APPROACH TO MARSH BIRD MONITORING: A CASE STUDY USING THE YUMA CLAPPER RAIL ON THE LOWER COLORADO RIVER

NADEAU, CHRISTOPHER^{1,2}, Courtney J. Conway^{1,2}, Linden Piest³, Bill Burger⁴, and Osvel Hinojosa-Huerta⁵

¹ University of Arizona, School of Natural Resources, 325 BioSciences East, Tucson, Arizona 85721

² USGS Arizona Cooperative Fish and Wildlife Research Unit, University of Arizona, School of Natural Resources, 325 BioSciences East, Tucson, Arizona 85721

³ Arizona Game and Fish Department, 9140 E. 28th St, Yuma, Arizona 85365

⁴ Arizona Game and Fish Department, 7200 E. University, Mesa, Arizona 85207

⁵ Pronatura Noroeste, Ave. Jalisco 903, San Luis Rio Colorado, Sonora, Mexico 83440

USING FIRE TO RESTORE HABITAT QUALITY FOR THE YUMA CLAPPER RAIL AND THE CALIFORNIA BLACK RAIL

NADEAU, CHRISTOPHER^{1,2}, Courtney J. Conway^{1,2}

¹ University of Arizona, School of Natural Resources, 325 BioSciences East, Tucson, Arizona 85721

² USGS Arizona Cooperative Fish and Wildlife Research Unit, University of Arizona, School of Natural Resources, 325 BioSciences East, Tucson, Arizona 85721

INVASIVE PLANT MANAGEMENT IN THE RIVER CORRIDOR IN DINOSAUR NATIONAL MONUMENT—AN INTEGRATED APPROACH

NAUMANN, TAMARA S.¹, and Emily Spencer²

¹ National Park Service, Dinosaur National Monument, 4545 E Highway 40, Dinosaur, CO 81610; tamara_naumann@nps.gov

² National Park Service, Biological Resource Management Division, 1201 Oakridge Dr., Suite 200, Fort Collins, CO 80525; emily_spencer@nps.gov

SOIL INFILTRATION, SHEAR STRENGTH, AND GULLY EROSION MEASURED ALONG THE COLORADO RIVER—WHAT IS RESPONSIBLE FOR THE EROSION OF CULTURAL SITES?

O'BRIEN, GARY¹ and Joel Pederson¹

¹ Department of Geology, Utah State University, Logan, 84321; gary.obrien@usu.edu; joel.pederson@usu.edu

NEW CHRONOSTRATIGRAPHIC INVESTIGATIONS OF THE HOLOCENE ALLUVIAL-TERRACE TEMPLATE ALONG THE COLORADO RIVER

PEDERSON, JOEL¹, Gary O'Brien¹ and Erin Tainer¹

¹ Department of Geology, Utah State University, Logan, UT 84321

SHORT AND LONG-TERM VEGETATION RESPONSE TO A 60 HOUR, HIGH DISCHARGE RELEASE (41,000 FT³/S) FROM GLEN CANYON DAM

RALSTON, BARBARA E.¹

¹ U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001

CHANNEL RESTORATION PLANNING FOR THE COLORADO RIVER AND LULU CREEK, ROCKY MOUNTAIN NATIONAL PARK, COLORADO

RATHBURN, SARA L.¹, Zan K. Rubin¹, Jameson Henkle¹, David J. Cooper², Ben R. Bobowski³, Mark VanMouwerik⁴, and Ellen E. Wohl¹

¹ Department of Geosciences, Colorado State University, Fort Collins, CO 80523-1482, rathburn@cnr.colostate.edu, zankrubin@yahoo.com, jamhenkle@yahoo.com, ellenw@cnr.colostate.edu

² Department of Forest, Range and Watershed Stewardship, Colorado State University, Fort Collins, CO, 80523, dcooper@rm.incc.net

³ National Park Service, Rocky Mountain National Park, 1000 HWY 36, Estes Park, CO, 80517, Ben_Bobowski@nps.gov

⁴ National Park Service, Environmental Response, Damage Assessment and Restoration Branch, 1201 Oakridge Drive, Fort Collins, CO 80525, Mark_VanMouwerik@nps.gov

INSTANT GRAINIFICATION: REAL-TIME GRAIN-SIZE ANALYSIS FROM DIGITAL IMAGES IN THE FIELD

RUBIN, DAVID M.¹, Chezar, Hank¹, Barnard, Patrick L.¹, Warrick, Jonathan A.¹, and Draut, Amy E.¹

¹ U.S. Geological Survey, 400 Natural Bridges Dr., Santa Cruz, CA 95060

EVALUATION OF SEDIMENT-CONCENTRATION ERRORS ARISING FROM NON-ISOKINETIC INTAKE EFFICIENCY IN DEPTH-INTEGRATING SUSPENDED-SEDIMENT SAMPLERS

SABOL, THOMAS A.¹ and David J. Topping²

¹ U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001;

tsabol@usgs.gov

² U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001; dtopping@usgs.gov

FORAGING ECOLOGY OF PEREGRINE FALCONS (FALCO PEREGRINUS) ALONG THE COLORADO RIVER, GRAND CANYON, ARIZONA

STEVENS, LAWRENCE E.¹, Bryan T. Brown², and Kirsten Rowell³

¹ Museum of Northern Arizona, 3101 North Fort Valley Road, Flagstaff, AZ 86001; farvana@aol.com

² 1015 South 1400 East, Salt Lake City, UT 84105

³ Department of Biology, University of Washington, Box 351800, Seattle, WA 98195-1800

USING CHANGES IN BED SURFACE GRAIN SIZE AS A PROXY FOR CHANGES IN BED-SAND STORAGE, COLORADO RIVER, GRAND CANYON

TUSSO, ROBERT B.¹, Topping, D.J.¹, Rubin, D.M.², Chezar, H.², and Breedlove, M.³

¹ U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001

² U.S. Geological Survey, 400 Natural Bridges Dr., Santa Cruz, CA 95060

³ Utah State University, Logan, UT 84322

BACKWATER SITE SELECTION FOR RAZORBACK SUCKER (XYRAUCHEN TEXANUS), BONYTAIL (GILA ELEGANS), AND FLANNELMOUTH SUCKER (CATOSTOMUS LATIPINNIS) HABITAT CREATION, IN SUPPORT OF THE LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM

ULEPIC, C.R.¹ and Lenon, N.E.¹

¹ U.S. Bureau of Reclamation, P.O. Box 61470, Boulder City, NV 89006;

culepic@lc.usbr.gov

¹ U.S. Bureau of Reclamation, P.O. Box 61470, Boulder City, NV 89006; nle-non@lc.usbr.gov

DISSOLVED ORGANIC CARBON DYNAMICS IN THE COLORADO RIVER, GRAND CANYON

ULSETH, AMBER J.¹ and Robert O. Hall², Theodore A. Kennedy³ and Emma J. Rossi-Marshall⁴

¹ Program in Ecology, Department of Zoology and Physiology, University of Wyoming, Laramie, WY 82071

² Department of Zoology and Physiology, University of Wyoming, Laramie, WY 82071

³ Grand Canyon Monitoring and Research Center, U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001

⁴ Department of Biology, Loyola University Chicago, 6525 N. Sheridan Rd., Chicago, IL 60626

THE USE OF SPECIFIC CONDUCTANCE IN MEASURING SALINITY AND AS A NATURAL TRACER OF WATER PARCELS IN THE COLORADO RIVER BETWEEN GLEN CANYON DAM AND DIAMOND CREEK, NORTHERN ARIZONA

VOICHICK, NICHOLAS¹ and David J. Topping²

¹ U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001;

nvoichick@usgs.gov

² U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001;

dtopping@usgs.gov

INTERACTIONS AMONG RIVER FLOW, GEOMORPHIC PROCESSES, AND RIPARIAN VEGETATION: IMPLICATIONS FOR QUANTIFYING ECOSYSTEM FLOW REQUIREMENTS

WILCOX, ANDREW C.¹, Patrick B. Shafroth², Richard R. McDonald³, Paul J. Kinzel³, Jonathan M. Nelson³

¹ University of Montana, Department of Geosciences, University of Montana, Missoula, MT 59812

² U.S. Geological Survey, Fort Collins Science Center, 2150 Center Ave., Bldg. C, Fort Collins, CO 80526

³ U.S. Geological Survey, Geomorphology and Sediment Transport Laboratory, 4620 Technology Drive, Suite 400, Golden, CO 80403

RESTORATION SOUTH OF THE BORDER: OPPORTUNITIES FOR COLLABORATION

ZAMORA-ARROYO, FRANCISCO¹ and Hinojosa-Huerta Osvel²

¹ Sonoran Institute, 7650 E. Broadway, Suite 203, Tucson, AZ 85710 and University of Arizona, Department of Geosciences, 1040 Fourth St., Tucson, AZ 85721 Fzamora@sonoran.org

² Pronatura Noroeste. Avenida Jalisco 9 y 10 #903, San Luis Rio Colorado, Sonora. Mexico. 83440, osvelhh@gmail.com

Study Finds Silver Lining for Maligned Saltcedars: UA research shows that the nonnative "invader" isn't as bad as first thought.

By Susan McGinley, UA College of Agriculture and Life Sciences
October 29, 2008

There is nothing neutral about saltcedar. Imported to America's East Coast from Eurasia as a nursery plant in the early 1800s, the hardy shrub's popularity grew beyond ornamental purposes in the early 1900s, when thousands were planted out West to stabilize irrigation canals and control erosion along elevated Southern Pacific rail lines. Satisfaction turned to alarm when the eight imported species of saltcedar, also called tamarisk, escaped cultivation and spread too fast. Dense thickets of the drought-and salt-tolerant species *Tamarix ramossissima* today cover vast tracts of the West and Southwest, especially in riparian areas once filled with native willows and cottonwoods. Blamed for guzzling too much water, out-competing native plants and destroying wildlife habitats, saltcedar has been the focus of 25 years of aggressive abatement efforts. To many, the only way to control it is to kill and remove it.

"The longstanding idea is that getting rid of saltcedar would improve the ecology and save water," said Ed Glenn, a senior research scientist in the Environmental Research Laboratory, part of The University of Arizona's department of soil, water and environmental science. Yet eradication measures are costly, time-consuming and labor intensive and may not, as new research shows, be entirely necessary.

Glenn and a team of scientists from the UA, the U.S. Geological Survey and other institutions have spent 10 years comparing saltcedar and native plant water use, and assessing riparian zone ecology along the Lower Colorado River, which stretches from the Grand Canyon to the delta in Mexico. Those studies have yielded surprising results.

"What we've found using remote sensors calibrated with ground measurements is that saltcedar only uses three feet of water per year, which is less than your backyard lawn, and even less than the native trees," Glenn said. "In comparison, farmers apply seven to nine feet to their alfalfa fields, of which the plants use about six feet, and the rest is lost to runoff or deep infiltration."

To put this in context, the flow in the Lower Colorado is about 15 million acre-feet of water annually. Along this 200-mile stretch, there are nearly 100,000 acres of riparian vegetation; about half of that is dense stands of saltcedar and the rest is saltcedar mixed with native plants, according to Glenn.

Studies show that, contrary to popular perception, the heaviest tracts of saltcedar, around 50,000 acres, use only about one percent of the river water from the Grand Canyon to the Mexican border, and all riparian stands together use only about two percent. The same figures apply for the stretch of the Colorado in Mexico that runs from the border to the delta. Thus tearing out saltcedar to save water for native plants and also for cities – another reason given for its eradication – may not save as much as commonly believed.



Tamarisk Coalition Newsletter

November 2008

In This Issue

Colorado River Basin
Tamarisk Assessment

Colorado River System
Bio-control Monitoring

New Staff

2009 Tamarisk & Russian
Olive Research Conference

Volunteer News

Next Issue

Plans for 2009:

- Island Acres in April
- Revegetation demonstration on Watson Island and much more...

Contact Us

www.tamariskcoalition.org
(970) 256-7400
P.O. Box 1907
Grand Junction, CO 81502

Colorado River Basin Tamarisk and Russian Olive Assessment

We are in the process of wrapping up the Colorado River Basin Tamarisk and Russian Olive Assessment and will deliver it to the seven states of the Colorado River watershed in February. This assessment has four main objectives:

1. We are assessing the current extent of tamarisk and Russian olive infestation in the Colorado River Basin and projecting potential future distribution of these species. This assessment will address impacts and make recommendations for control of tamarisk and Russian olive and native habitat restoration
2. We are reviewing available research and consulting with experts to assess how much water is used non-beneficially by tamarisk and Russian olive and how much might be saved by control of these species and revegetation with native plants.
3. We are analyzing the economic cost of managing tamarisk and Russian olive compared to potential water savings and the costs due to the environmental impacts of these species if they are not controlled. This analysis will also address legal issues associated with tamarisk and Russian olive control as well as how management of these invasive species fits in with other environmental concerns and programs.
4. Based on the information gathered in the first three objectives we will identify high-priority locations for tamarisk and Russian olive control and the best methods to use at these sites. These proposed projects will be submitted to the U.S. Bureau of Reclamation to be considered for federal funding.

We will be presenting this comprehensive assessment to the seven states in the form of a detailed, multi-media report this winter. This is an ambitious project comprising an enormous amount of information that we hope will help guide effective tamarisk and Russian olive management.

Colorado River System Biocontrol Monitoring

Thanks to the hard work of Levi Jamison of the Palisade Insectary and our own Clark and

Meet the Staff

Tim Carlson



John Heideman



Stacy Kolegas



Clark Tate



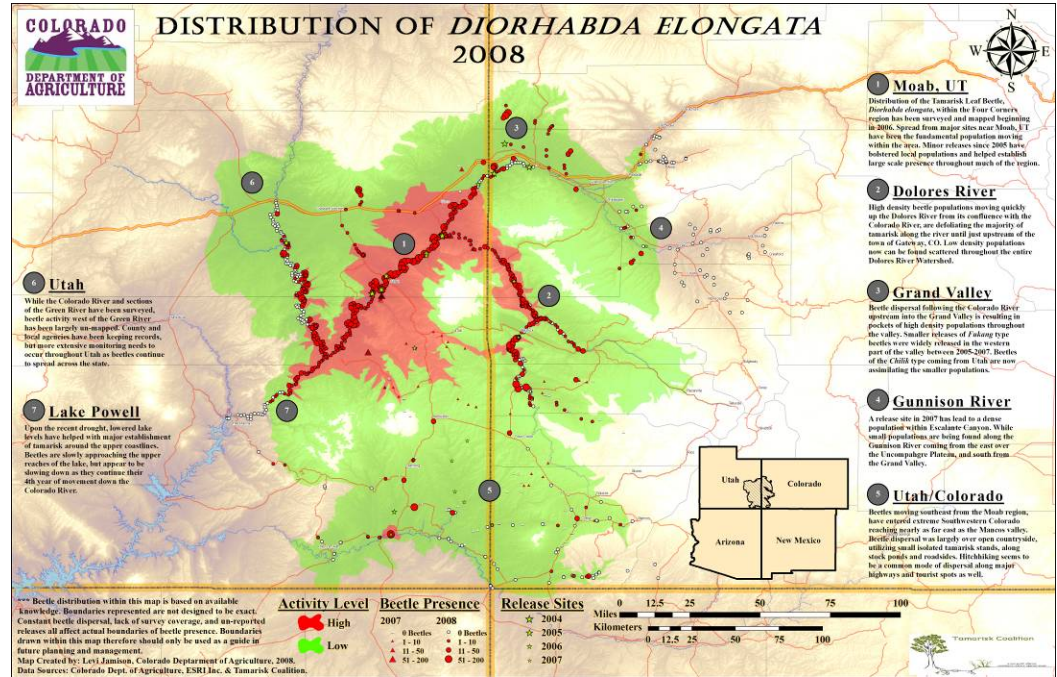
Nate Ament



Jamie Nielsen



Nate we now have critical data on the distribution of the Tamarisk leaf beetle *Diorhabda elongata*. The beetle was released at several sites in Western Colorado and Eastern Utah and is now spreading on its own, munching tamarisk along the way. When the leaf beetles feed en masse on a tamarisk, they can defoliate the plant in about a week. Repeated defoliations are necessary to kill tamarisk, and it will likely take a colony of beetles about 3 to 5 years to kill a single plant. *D. elongata* is an inexpensive and effective tool in our tamarisk control arsenal, but it is not a silver bullet. If you are interested in learning more about the Tamarisk leaf beetle, check out the bio-control section of our webpage <http://www.tamariskcoalition.org/tamariskcoalition/BioControl.html>



Three new members have joined the Tamarisk Coalition Team!

Stacy Kolegas will be shadowing Tim Carlson and will eventually replace him as Executive Director. (But don't fear! Tim will still be here, he'll just have more time to do what he loves as our Research and Policy Director.) We are thrilled to have Stacy moving into the executive director position. She has previously served as the executive director of Yampatika, an environmental education non-profit in Steamboat Springs, CO. Most recently she has worked for the city of Phoenix as an Environmental Programs Assistant, where she has helped the city tackle air quality, sustainability and climate change among other environmental challenges. Stacy's environmental experience in both the non-profit and government sectors make her an ideal addition to our team. Plus she loves the outdoors as much as we do, is a talented artist and is fabulous company!

Jamie Nielsen moved to the Colorado Plateau from Anchorage, Alaska. Based in Flagstaff, Arizona, she helps to represent Tamarisk Coalition in the southern portions of the Colorado River Watershed. Jamie has a BS from the University of Michigan in Resource Ecology & Management, an MS from the University of Idaho in Forest Resources, and a couple of years of Peace Corps service in Latin America under her belt. Most recently, she worked for the University of Alaska Cooperative Extension, doing invasive plants public education, jump-starting Cooperative Weed Mgmt Areas, and working with state policy makers on weed regulations and legislation. She now spends her free time (with her husband and

Meredith Swett



Christy Duncan



Sarahlee Lawrence



their dog) hiking and exploring their new Arizona home.

Meredith Swett moved to Colorado after completing her Ph.D. in Organismal Biology and Ecology at the University of Montana where she studied bird behavior and physiology. Over the years she has chased birds from Wyoming to the Bay of Fundy, South Africa to Vermont. She joined the Tamarisk Coalition in 2008 and will be coordinating the Volunteer and Education Program as well as adding her two cents on scientific matters. Meredith lives in Fruita where she enjoys hiking in McInnis Canyons with her dogs and has recently taken up mountain biking. She is thrilled to be part of the Coalition's dynamic and collaborative effort to tackle the invasive species problem.

There's still time to submit an abstract for the 2009 Tamarisk and Russian Olive Research Conference

A conference poster with a background image of a river flowing through a canyon. The text is centered and reads:

2009 Tamarisk and Russian Olive Research
Conference
February 18th and 19th
Grand Sierra Resort
Reno, NV

Bringing tamarisk and Russian olive researchers together to share results with other scientists and land managers so that future management efforts can be guided by the state-of-the-science. This conference will promote dialogue between researchers and managers to identify future research needs for the development of effective policy and management.

Ecology • Control • Restoration • Biodiversity • Soil • ET • Genetics • Fire

Abstracts are due November 15! You can submit an abstract and get more information about the conference by visiting our website www.tamariskcoalition.org/tamariskcoalition/index.html. Registration fees are \$120 (\$50 for students) if you register by January 1st. We have reserved a block of rooms at the Grand Sierra Resort where the conference will be held. If you book a room with them by January 18th you may request the "Tamarisk Coalition" rate of \$89/night.

Meet the Mascots

Chewbacca



Ghoti



Corvus



Volunteer News: Watson Island restoration has begun!



The Chevron team kicked off volunteer efforts on Watson Island

Tamarisk and Russian olive removal has begun on the Watson Island complex! The Coalition is pooling talent from many sources to tackle invasive species on this critical piece of riverfront. We contracted with the Western Colorado Conservation Corps and the Mesa County Workenders to begin the process, cutting Russian olive on the South Bank island. A few weekends later a fantastic group of Chevron employees kicked off our volunteer effort on a drizzly Saturday in early October. Watson Island, with its proximity to the Riverfront trails, Western Colorado Botanic Gardens and downtown, is an ideal location to showcase riparian restoration efforts on the Colorado River. Come check it out! Our final volunteer event of the fall will be on Watson Island Saturday, November 22nd hope you can join us!

Watson Island is a hot topic! Check out this article in the Grand Junction Free Press: [Grand Junction Free Press August 26, 2008](#).

Devils Canyon Expedition



Devil's Canyon Expedition

September 27, 2008

In late September, a hearty band of weed warriors braved the unseasonably hot weather and hiked to the upper reaches of Devil's Canyon to take out tamarisk and Russian olive. Prescott Bell of the BLM helped make this trip possible by hauling drinking water up the canyon for our thirsty crew. This fabulous group of

volunteers cleared a 3 mile stretch of canyon, enjoyed some cowboy poetry and a warm night stargazing. If you are interested in joining us for an overnight volunteer trip, we will be working in McDonald Creek Canyon Nov. 7-8. Please join us for one or both days. We will be drinking hot cider and sleeping under the stars Saturday night. (But feel free to go home to your own bed if you prefer.)

Funding the Tamarisk Coalition

You're on our list for a good reason – you understand that tamarisk, as an invasive non-native plant, is impacting the health of the West's river systems. And, remarkably – **You can help solve this problem.** To be part of the solution, become a member of the Tamarisk Coalition for as little as \$35 per year.

Due to the active involvement of our partnerships and membership contributions, the Tamarisk Coalition continues to grow in numbers and in influence. But, as a non-profit, the Tamarisk Coalition continuously strives to fund the restoration of western river ways. We now need your financial assistance to continue successfully providing educational opportunities, technical assistance, and coordinating support.

So, make the difference. Fill out the membership form available on our website (www.tamariskcoalition.org) under the "Join Us" heading at the level that best fits your commitment. Your membership allows the **Tamarisk Coalition to facilitate tamarisk control efforts and to reestablish native vegetation along the West's rivers and streams.**

Thank you for your continued interest and support.

Happy trails,

Tim Carlson

Tim Carlson, Executive Director
Tamarisk Coalition
P.O. Box 1907
Grand Junction, CO 81502
(970) 256-7400
tcarlson@tamariskcoalition.org

November 4, 2008

Mr. Steven L. Stockton, P.E.
Director of Civil Works
Department of the Army
U.S. Army Corps of Engineers
441 G Street NW
Washington, DC 20314-1000

Dear Mr. Stockton,

I wish to acknowledge receipt of your letter of October 23, 2008, and to express appreciation for your invitation to be of assistance to the Corps in their water planning initiative. We look forward to working with you and will designate a contact person in the near future for this purpose. In the meantime, we wish to convey the sense of the concern expressed at our recent meetings held in Oklahoma City to which you alluded. While the remainder of this letter was prepared prior to receipt of your letter, we did not alter the language, since we want to convey the nature of the concerns expressed at our meeting, as well as the desire of our members to be of assistance.

We applaud you for your interest in determining how federal assistance can best support states with implementing their planning efforts and presenting a "snapshot" of planning steps they are taking to meet their present and future water-related needs. However, the states need to be involved in any study up front.

We understand there may be an interest in completing a report in time to be of use to the new Administration and the new Congress -- but any unilateral, prescriptive evaluation of state water plans across the Nation is not likely to be effective and could be counterproductive to cooperative federal-state relationships. To be successful and useful the report must include states' input. With the limited time available it is imperative that the Corps meet soon with each state to obtain information, then each state and the Council must be given a reasonable amount of time to review and comment on the report.

Every western state has some form of a state water plan, or planning process, which has developed over time in response to evolving resource needs and financial and political constraints. The study should focus on opportunities to provide financial and technical assistance for state water planning, as opposed to a critical analysis of state water plans and administrative functions. There are valid reasons for the differences in state water planning processes, and federal incentives should focus on promoting strategic, integrated water resources planning to meet future needs, including infrastructure needs to adapt to climate change and facilitate sustainable growth.

The Western Governors' Association has adopted the 2006 Water Needs and Strategies for a Sustainable Future and 2008 "Next Steps" Reports. The 2006 Water Report encourages member states to "develop and implement strong state water plans" and directs that the WSWC compile a state-by-state and Westwide summary of existing water uses, water plans and planning efforts, current ground and surface water supplies, and anticipated future demands, then identify and evaluate trends and common themes." It adds, "The focus should be on a grassroots, watershed approach to identifying water problems and potential solutions from the ground up, integrating these efforts into individual state plans.

Mr. Stockton
November 4, 2008
Page 2

Similarly, regional or multi-state and multiple river basin strategic plans should be comprised of these building blocks.”

Our first attempt at gathering western water use information revealed that many states lack the basic data on water supplies and demands, especially consumptive uses, needed to produce an effective water budget for future water planning and sound decisionmaking. The 2008 Next Steps Report identified a number of interim steps to help provide states with some of the data that is lacking and tools to better assess their water resource supplies and future needs, “recognizing that a truly national assessment must begin at the state and local level with appropriate technical and financial support from the federal government.”

We are not yet persuaded that the current direction of the Corps effort is in harmony with the Governors’ vision, and your oft expressed support for collaborative partnerships. We would also like to better understand what current statutory authority the Corps has available to implement their recommendations that emerge from this study that might be useful to the states. We would appreciate the opportunity to work with you to review the purposes and processes envisioned for this project, including the survey or interview questions, date and place for the Western regional conference and format for the National meeting, among other study details. In this regard, the anticipated West regional planning conference could be held prior to or in conjunction with the Council’s next regularly scheduled meetings in Kansas City, Kansas on April 22-24, 2009. An appropriate first step would be to define the West study region to include the 17 WSWC member states. We believe this is an opportunity to use the Council and recently created Western States Federal Agency Support Team (WestFAST) to enlist the support of the western states and other federal agencies for this effort and add value to the final product.

We sincerely appreciate our past working relationship and look forward to exploring ways to more effectively collaborate on this study now and in the future.

Sincerely,



Garland Erbele, Chairman
Western States Water Council

cc: Jonne Hower, Federal Liaison Officer