

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

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MEMORANDUM

TO: Colorado Water Conservation Board

FROM: Jennifer Gimbel
Dan McAuliffe
Christian Lyons

DATE: September 15-16, 2009

SUBJECT: Agenda Item 5d, July 2009 CWCB Board Meeting
CWCB Director's Report

Bill Ritter, Jr.
Governor

Harris D. Sherman
DNR Executive Director

Jennifer L. Gimbel
CWCB Director

Dan McAuliffe
CWCB Deputy Director

Pg. 3 – FEDERAL AND INTERSTATE

- **Glen Canyon Dam Adaptive Management Program (GCAMP)**
- **Yuma Desalting Plant Pilot Run**
- **Senate Committee on Energy/Natural Resources Subcommittee on Water & Power**
- **Water and Land Use Planning Symposium**
- **Imperial Irrigation District (IID) Extraordinary Conservation**

Pg. 4 – STATEWIDE

- **'Dealing With Drought: Adapting to a Changing Climate' Workshop Series**
- **Governor's Water Availability Task Force**
- **Statewide Drought Mitigation & Response Plan Update**
- **Climate Change Technical Advisory Group**
- **2010 Water Conservation Legislation**
- **Presentation On ISF Program**
- **Tamarisk and Russian Olive Control**
- **Colorado Agricultural Meteorological Network (COAGMET)**
- **Floodplain Map Modernization/Risk Map Update**
- **Colorado Healthy Rivers Fund Update (CRHF)**

Pg. 8 – ARKANSAS RIVER BASIN

- **Trinidad Project**
- **Surface Water Irrigation Consumptive Use Rules**
- **Arkansas River Compact Administration (ARCA)**
- **Raton Basin Coal Bed Methane (CBM)**
- **Arkansas River Decision Support System (ArkDSS)**

Pg. 8 – COLORADO RIVER BASIN

- Stapleton Brothers Ditch Water Rights Acquisition Update
- Upper Colorado River Recovery Implementation Program Extended Through 2023
- Colorado River Water Use
- 2010 Colorado River Annual Operating Plan (AOP)
- Ruedi Reservoir Legislation
- Tom Chart Appointed Director of UCRIP
- U.S.-Mexico Treaty Negotiations Workshop
- Upper Colorado River Alternatives Stakeholder Group
- Colorado River Basin Salinity Control Program
- Colorado River Compact Compliance Study
- Calls for Administration of ISF Rights
- Colorado River Decision Support System
- Colorado River Water Availability Study (CRWAS)

Pg. 13 – PLATTE RIVER BASIN

- Platte River Recovery Implementation Program
- Groundwater Commission
- City of Aurora Hosts Tour
- North Platte Roundtable
- Chatfield Reservoir Reallocation Update
- South Platte Decision Support System (SPDSS)

Pg. 14 – SOUTHWESTERN RIVER BASINS

- River Protection Workgroup
- Aspinall Unit Operations August 27, 2009 Meeting
- Tacoma Power Plant Relicensing Update
- Rio Grande Decision Support System (RGDSS)
- San Juan Recovery Program Coordination Committee Meeting

Pg. 15 – YAMPA & WHITE RIVER BASINS

- Sustainability Summit Presentation

Pg.16 – AGENCY UPDATES

- Recently Decreed ISF Water Rights
- Streaming Board Meetings Live via Web
- Water Conservation Plans Approved
- Updates on Basin Needs Decision Support System (F/K/A IP&P)
- Joint Front Range Climate Change Vulnerability Study
- Colorado WaterWise BMP Project Update
- Instream Flow Segments Viewable on Google Earth

Pg. 19 – ATTACHMENTS

- 5d-01 Summary of Resolved Cases
- 5d-02 Loan Forecast & Prospect Report
- 5d-03 Approval of Imperial Irrigation District (IID) Plan
- 5d-04 Ruedi Reservoir Recovery of Endangered Fish Briefing Paper

- **5d-05 Endangered Fish News Release**
- **5d-06 Testimony of Michael Connor, Commissioner**
- **5d-07 Non-Reimbursable Investments Status Report**

~FEDERAL & INTERSTATE~

GLEN CANYON DAM ADAPTIVE MANAGEMENT PROGRAM (GCAMP): The AMWG met on August 12-13 in Tempe, Arizona. This was the first meeting chaired by Anne Castle, the newly appointed Assistant Secretary for Water and Science, and she did an excellent job. The primary item of business was consideration of the approximately \$12.16 million annual budget and work plan for FY 2010-11 and a recommendation to the Secretary of Interior that he adopt it. Secondly, the AMWG recommended continuation of Glen Canyon operations under the “moderate low fluctuating flow” or MLFF hydrograph with steady flows in September and October for the coming water year. AMWG received updates on a number of science experiments including a PowerPoint presentation on the recent high flow experiment (41,000 cfs for 60 hours) which can be viewed online at the Glen Canyon Adaptive Management Program website:

http://www.usbr.gov/uc/rm/amp/amwg/mtgs/08may22/Attach_02a.pdf.

A final report on this experiment and previous high flow experiments is expected by the end of December. The AMWG also approved the Humpback Chub Comprehensive Management Plan and moved it to an ad hoc committee to determine which actions should be conducted as part the GCAMP. We also had a presentation on the status of the 2007-2008 Biological Opinion conservation measures. All of the PowerPoint presentations and reports can be viewed on the GCAMP website noted above. (*Randy Seaholm*)

YUMA DESALTING PLANT PILOT RUN: In order to help address drought conditions in the lower Colorado River the US Bureau of Reclamation has joined with the Metropolitan Water District of Southern California (MWD), Southern Nevada Water Authority (SNWA) and the Central Arizona Water Conservancy District (CAWCD) to operate the Yuma Desalting Plant (YDP) at Yuma, Arizona at one-third capacity (approximately 38,000 acre-feet).

During this Pilot Run approximately 29,000 acre-feet of drainage water normally diverted down the MODE to the Santa Clara wetlands will be return to the river either as treated water that has passed through the YDP (22,400 acre-feet) or as drainage water (7,300 acre-feet) which when mixed with the treated water can still meet the Minute 242 salinity standard (135 ppm +/- 10 ppm) when delivered at the Northern International Boundary (NIB).

MWD will contribute \$10.93 million toward the cost of the pilot program and receive 80% of the YDP operation benefit or 23,200 acre-feet which will be stored in Lake Mead as a “System Efficiency Intentionally Created Surplus” (ICS) credits and subject to the terms of a delivery agreement that is currently being negotiated. SNWA and CAWCD will each contribute \$1.37 million to the cost of the YDP operation and each will receive an ICS credit of 2,900 acre-feet in Lake Mead. In order to offset the loss of water to the Santa Clara wetlands the United States, Mexico and Environmental Interests have each agreed to provide 10,000 AF of replacement water during the pilot run. The US will divert 10,000 acre-feet of the approximately 70,000 acre-feet of excess or non-storable flows currently passing to Mexico because of storm events or changed water orders.

The environmental groups will fallow land in Mexico and deliver those waters into MODE for delivery to the wetlands. Where Mexico will find its 10,000 acre-foot contribution is yet to be determined. At this time the pilot operation is to help ease the drought impacts and develop up to date information on YDP operational costs. Whether or not YDP operations fit into the current discussions with Mexico remains to be seen. A draft FONSI is currently out for public review and comment which comment period ends on September 26, 2009.

The FONSI can be viewed at: <http://www.usbr.gov/lc/yuma/environmentaldocs>. (*Randy Seaholm*)

SENATE COMMITTEE ON ENERGY/NATURAL RESOURCES SUBCOMMITTEE ON WATER AND POWER: On July 23, 2009, the Senate Committee on Energy and Natural Resources subcommittee on Water and Power held a hearing on Senate Bill 1453, which will maintain the annual base funding for the Bureau of Reclamation for the Upper Colorado River and San Juan Fish Recover Programs through fiscal year 2023. Commissioner Connor of the Bureau of Reclamation testified in support of this legislation, and a copy of his testimony is attached to this report. Attachment 5d-06 (*Ted Kowalski*)

WATER AND LAND USE PLANNING SYMPOSIUM: Western States Water Council 2009 Symposium on Water & Land Use Planning for a Sustainable Future is just around the corner! The Symposium will be held Monday, September 28th through Wednesday, September 30th, 2009 at The Red Lion Hotel, 4040 Quebec St, Denver CO 80216.

In partnership with the Colorado Department of Natural Resources, the symposium will explore integrating water and land use planning at different scales. Exploring this topic is increasingly important as we strive to meet challenges related to growth, change and sustainability in the arid West. Land use impacts water demands and water availability limits land use options. Sound planning requires taking both into consideration. We cannot define and achieve sustainability without understanding the limits of our land and water resources, and the present and future demands on those resources.

This symposium will bring together diverse participants from special districts, cities and counties, state and federal agencies, and nongovernmental organizations, including policy and decision-makers, planners, developers, and regulators to look at water and land use patterns, share experiences and concerns, identify problems and potential solutions, discuss obstacles and opportunities, and develop recommendations to better integrate and scale water and land use planning for a sustainable future. To register for the symposium, please go to <http://www.westgov.org/wswc/awms.html>. (*Greg Johnson*)

IMPERIAL IRRIGATION DISTRICT (IID) EXTRAORDINARY CONSERVATION – INTENTIONALLY CREATED SURPLUS (ICS) PLAN FOR 2009 APPROVED: Pursuant to the 2007 Interim Guidelines for the coordinated operations of Lakes Powell and Mead we recently received formal notice that IID's request for the creation of 25,000 AF of ICS credits during 2009 was approved. We were provided the opportunity to comment on the proposed plan several months ago. I have attached a copy of the approval letter for your information. Attachment 5d-03 (*Randy Seaholm*)

~STATEWIDE~

'DEALING WITH DROUGHT: ADAPTING TO A CHANGING CLIMATE'

WORKSHOP SERIES: This workshop series is a joint effort between Western Water Assessment (WWA), National Integrated Drought Information System (NIDIS) and CWCB. This will be three one-day workshops for people working in sectors directly affected by drought and climate, including water resources, public utilities, land management, agriculture, recreation, and tourism. There will be a significant emphasis on drought and on the impacts of climate change on water resources. The workshops will not only educate participants on drought, climate change and variability but also serve to inform CWCB on potential stakeholder vulnerabilities to drought and climate change for input into the

revised State Drought Mitigation and Response Plan and the water adaptation planning component of the Governors' Climate Action Plan. The first workshops will be held in Castle Rock and Glenwood Springs on October 13th and 16th, respectively. A third workshop will be held in Durango in late October. (Veva Deheza)

GOVERNOR'S WATER AVAILABILITY TASK FORCE: Since the last WATF meeting in August, drought concerns have developed in the south central and southwestern regions of the state. Reservoir storage remains strong. Several basins continue to be at or near their total storage capacity. Front Range water providers reported their respective systems were in the best shape they have seen in years. The next WATF meeting will be scheduled for October. Please check the website for additional information. (Veva Deheza)

STATEWIDE DROUGHT MITIGATION & RESPONSE PLAN UPDATE: The revision of the Colorado State Drought Mitigation & Response Plan is moving forward quickly. AMEC has been awarded a contract for the first part of the plan and the Colorado Climate Center and the Natural Resource Conservation Service have agreed to work on a re-evaluation of the indices used to monitor drought statewide. OWCDP hope to have the vulnerability assessment RFP out in early September. All components of the plan will be completed by September of 2010 for submission to the Division of Emergency Management and the Governors' office before being submitted to FEMA in January of 2011. (Veva Deheza)

CLIMATE CHANGE TECHNICAL ADVISORY GROUP: This group of experts was put together to guide the technical development of climate change work for the CWCB. The focus is primarily on the science and modeling that is utilized by consultants to determine alternate hydrology in the face of a changing climate. A meeting was held August 13th in which Ben Harding and Subhrendu Gangopadhyay of AMEC Earth & Environmental described their work to develop alternate hydrology for the Colorado River Water Availability Study (CRWAS). This meeting provided an opportunity to understand objectives of the CRWAS project, to understand the approach adopted to develop alternate hydrology and how alternate hydrology data will be used, and to review preliminary results from the work. (Veva Deheza)

2010 WATER CONSERVATION LEGISLATION: The CWCB is working with the Water Resources Review Committee to run a bill that would essentially extend, in perpetuity, the Water Efficiency Grant Program. The bill proposes to accomplish the following:

- 1) Repeals the 2012 sunset date of the Water Efficiency Grant Program
- 2) Annually transfers \$550,000 from tier 2 of the operational account of the severance tax trust fund to the water efficiency grant program cash fund beginning July 1, 2012
- 3) Extends appropriations from the water efficiency grant program cash fund to the CWCB for grants and administration costs

On August 19, 2009, CWCB staff testified before the Water Resources Review Committee at Water Congress in Steamboat Springs. Staff presented the bill concepts to the committee members and provided information about program successes since its creation in 2005. The Committee unanimously agreed to request Legislative Services to begin drafting bill language for the upcoming session and will decide at the end of September to sponsor the bill in the 2010 legislative session. CWCB staff is coordinating closely with Legislative Services. (Veva Deheza)

PRESENTATION ON ISF PROGRAM: On July 30, Stream and Lake Protection staff gave an overview presentation of the ISF program to a group of 15 students and staff from Hope College. These

students were participating in the Hope College Colorado Wilderness Seminar which concentrates on wilderness and water issues in general and pays special attention to the Holy Cross Wilderness. Following the presentation staff conducted a question and answer session with the students about Colorado water issues. *(Rob Viehl)*

TAMARISK AND RUSSIAN OLIVE CONTROL: We continue the process of writing agreements with the 13 grant recipients the Board selected at the May meeting. To date we have issued 5 Purchase Orders totaling \$235,000 (Delta County, Branson-Trinchera CD, Sangre de Cristo RC&D, Sedgwick CD, and Western Colorado Cons. Corps), agreed to terms on one contract for an additional \$150,000 (SECWCD-ARKWIPP), and are near resolution of outstanding issues with another 6 grantees. We have also entered into a \$25,000 agreement with the Tamarisk Coalition to provide technical services to the grant program and manage two related monitoring and research projects.

The seven Basin States have completed a draft assessment of the potentials for water augmentation through TRO control. In general those potentials are variable and site specific. During a recent conference call the States agreed to complete their review of the Assessment document by September 15 and then develop a “next steps plan” to present to the full basin augmentation committee. They will also consider strategies to:

- obtain reauthorization of the federal salt cedar demonstration act (HR 2720) which expires at the end of 2010.
- seek federal funding of one or more demonstration projects
- recognizing that state budget constraints may limit cost-share options identify private and non-governmental funding opportunities.

(Steve Miller)

COLORADO AGRICULTURAL METEOROLOGICAL NETWORK (COAGMET): By way of background the following text is excerpted from the CoAgMet website:

In the early 1990's, two groups on the Colorado State campus, the Plant Pathology extension specialists and USDA's Agricultural Research Service Water Management Unit, discovered that they had a mutual interest in collecting localized weather data in irrigated agricultural area. Plant pathology used the data for prediction of disease outbreaks in high value crops such as onions and potatoes, and ARS used almost the same information to provide irrigation scheduling recommendations. To leverage their resources, these two formed an informal coalition, and invited others in the ag research community to provide input into the kinds and frequency of measurements that would be most useful to a broad spectrum of agricultural customers. A standardized set of instruments was selected, a standard datalogger program was developed, and a fledgling network of some eight stations was established in major irrigated areas of eastern Colorado. As interest grew and funds were made available, primarily from potential users, more stations were added. ... As the network grew, Colorado Climate Center at Colorado State became interested in these data, and subsequently took over the daily data collection and quality assessment. CCC added internet delivery and a wide range of data delivery options, and continues to improve the user interface in response to a growing interest in these data. Additional information about CoAgMet can be viewed at: <http://ccc.atmos.colostate.edu/~coagmet/about.php>

We have been in ongoing discussions with CoAgMet for several years about continuing funding difficulties facing the program. That situation has grown increasingly dire, and now is likely to force the elimination of many stations at the very time that better analysis of irrigation water use is becoming more essential and when climate and weather impacts are receiving increased attention from a diverse set of

interest groups. The following text is excerpted from a recent email from the State Climatologist, Nolan Doesken:

Thanks for all of you who attended the meeting on Friday. The purpose of the meeting was to assess where CoAgMet stands as we near the end of the 2009 growing season and to shore up support for 2010. The interest in CoAgMet is probably at an all time high. Yet our ability to maintain the network to assure timely, complete and high quality data is limited due to a lack of personnel able to maintain the stations. Remember, our tradition -- now dating back almost 20 years -- has been using "volunteer" staff for most of our field maintenance who have been primarily paid by other projects but were able to justify sharing time to support the goals of CoAgMet. We have a small core of funding here at the Colorado Climate Center to maintain the CoAgMet system, and the Ag Exp. Station and other cooperators continue to help each year with support for some of the hardware costs. But except for the Arkansas Valley, we just don't have the people power to keep a network of 60+ stations going over a state the size of Colorado. CoAgMet could flourish if there were dedicated staff to manage the computer system, maintain database and webpages, do annual and emergency service on the stations in the field, quality control the data, nurture the relationships with our many collaborators and site sponsors, and promote the network and its many applications. An absolute minimum base would be \$120k/year -- or an average of \$2,000/station per year. This is clearly selling ourselves short, but it would at least assure the survival of the network.

As we contemplate how to raise this support base, can you please do me a big favor. Between now and September 15th, would you look at the attached list of stations and get back to me with a ranking of the importance of maintaining each station. Rank these both from your personal perspective (knowing that there are key stations that some of us rely on, but also consider a state-wide monitoring perspective.

Staff will be looking at the station list to determine essential needs, but this will be a frustrating process since most recently we had been working with Nolan and local water users in an effort to expand the network, and now must watch it being contracted. We have no immediate suggestions for a long term solution, but believe Board members should be aware of the situation and that they may want to discuss some possible avenues to address this important State-wide data need. Staff can provide additional information about the existing network and relay comments back to Nolan from any interested Board member. *(Steve Miller)*

FLOODPLAIN MAP MODERNIZATION/RISK MAP UPDATE: The CWCB continues to receive substantial grant funding from FEMA for the Map Modernization Program (now transitioning into the Risk Map Program). Thus far, the State has benefited from over \$9 million in federal grant funding to update and modernize regulatory flood hazard mapping on a county-by-county basis. The effort is seen as critical for the preparation and adoption of accurate floodplain mapping as a local foundation for sound floodplain management programs and public safety statewide. In addition, the leveraging of CWCB non-reimbursable funding yields an astounding eight to one ratio (\$8 federal into the State for every \$1 of matching funds) of cost sharing opportunity. *(Tom Browning)*

COLORADO HEALTHY RIVERS FUND (CRHF) UPDATE: As of June 30st, 2009, CHRF received \$97,392 in donations through the Colorado Tax Check-off Program. The Designees approved funding for 9 projects totaling \$119,976. The difference in donations and funding represents funds carried over from past years. The Designees include Jennifer Gimbel, Barbara Biggs, Robert Sakata, and Dick Parachini. Robert and Dick represent the Water Quality Control Commission. The projects include 3 planning grants and 6 project grants. They represent the South Platte, Gunnison, and Colorado River Basins. One project is Statewide in scope. Project types include riparian re-vegetation, water quality monitoring, bank stabilization, stormwater management, watershed planning, and mine remediation

planning. CWCB is also able to fund 3 additional CHRF applications through Multi-Objective Watershed Planning Severance Tax funding. The total amount is \$50,760 for one Gunnison Basin planning grant and two project grants with a Statewide scope. The planning grant is a watershed plan update. The project grants include a macro-invertebrate assessment program and a water rights education campaign for organizations that participate in conservation easements, sponsored by the Colorado Water Trust. (Tom Browning)

~ARKANSAS RIVER BASIN~

TRINIDAD PROJECT: Reclamation has still not issued a new draft of the *Ten Year Review of the Operating Principles for the Trinidad Project* covering the period 1995 – 2004. We continue to work closely with Div. 2 and the Purgatoire River Water Conservancy District (PRWCD) on this activity. The CWCB has suggested that Reclamation develop a new ongoing process for discussion of project issues so that future reviews are less contentious and more focused on the intended purpose of maximizing the beneficial use of project water supplies while also protecting downstream water users. (Steve Miller)

SURFACE WATER IRRIGATION CONSUMPTIVE USE RULES: State Engineer Dick Wolfe will update the Board on the content and process for adopting these new rules designed to offset any increased consumptive use of through modernization of surface water supplied irrigation systems. To assist in bringing Basin irrigators into compliance with the new rules we are utilizing \$250,000 of funds provided in the 2009 Projects Bill. In the first phase we have reached agreement with the Lower Arkansas Valley WCD on \$100,000 of technical services they will utilize to develop a model compliance plan which irrigators can evaluate prior to the rules being introduced to better understand how the rules will impact their operations. A Purchase Order for the Phase 1 work was issued to the LAVWCD on August 27.

The next meeting of the Advisory Committee considering the final proposed rules and the model compliance plan will be on September 21 in Pueblo. (Steve Miller)

ARKANSAS RIVER COMPACT ADMINISTRATION (ARCA): On August 24th Governor Ritter reappointed Colorado's two citizen representatives to ARCA for additional four year terms, Matt Heimerich of Olney Springs and Colin Thompson of Holly. Both Matt and Colin have done an excellent job of advancing the State's interests and representing local water users at ARCA during their first terms. Their reappointment was strongly endorsed by DNR, our attorneys, and State Engineer Dick Wolfe. Under the terms of the final decree in *Kansas v Colorado*, ARCA will have a more important role in resolving future disputes and compliance issues and Matt and Colin's continued service will be of great value to the State. (Steve Miller)

RATON BASIN COAL BED METHANE (CBM): The CWCB is providing \$125,000 of severance tax funding for a study to be conducted by the Colorado Geologic Survey (CGS) of produced water issues related to CBM production in Las Animas County. The PRWCD is the local cooperating entity on this project which will build on earlier work we did in conjunction with Las Animas County and the USGS. A recent article from the Trinidad Times Independent News (Attachment __) is provided to give additional background on the project and includes comments from the lead CGS researcher, Ralf Topper. We are in the final stages of developing a contract with CGS to begin the study, with an initial draft report due in June 2010. (Steve Miller)

ARKANSAS RIVER DECISION SUPPORT SYSTEM (ArkDSS): In June 2009, a Request for Proposal (RFP) was released by DNR for a feasibility study for an Arkansas River Basin decision support

system (ArkDSS). The purpose of the feasibility study is to define the ArkDSS's purposes, uses, users, components, data requirements, costs and the schedule required to develop such a system. The results of the feasibility study will be used by the CWCB and DWR for recommending the development of an ArkDSS to the General Assembly.

In response to the RFP, four proposals were received from contractor teams. The proposals were reviewed by a committee of five members, which included representatives from CWCB and DWR and the Arkansas Basin. A team headed by Brown and Caldwell was unanimously selected with Lindsay Griffith being Brown and Caldwell's project manager. Contracting is currently underway, with the project tentatively beginning in October 2009 and continuing for approximately one year.

The Brown and Caldwell team includes TZA Water Engineers, Hemenway Groundwater Engineering, Principia Mathematica, Merrick & Co. and Phyllis Thomas Consulting. *(Ray Alvarado)*

~COLORADO RIVER BASIN~

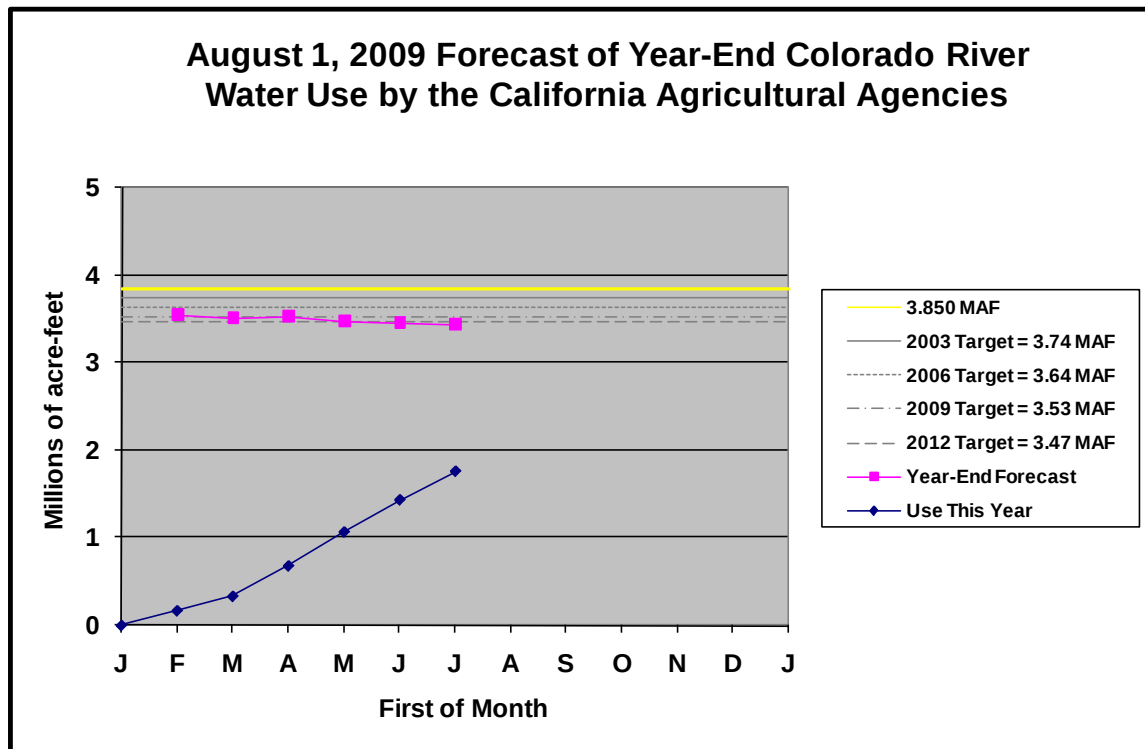
STAPLETON BROTHERS DITCH WATER RIGHTS ACQUISITION UPDATE: On August 27, 2009, the Parties to this acquisition hearing filed Prehearing Statements. Hearing Officer Casey Shpall held a prehearing conference on September 10, 2009. Staff will provide a copy of the Hearing Officer's Prehearing Order to the Board at the September CWCB meeting. The Parties' Rebuttal Statements are due October 19, 2009. *(Linda Bassi)*

UPPER COLORADO RIVER RECOVERY IMPLEMENTATION PROGRAM

EXTENDED THROUGH 2023: The Secretary of Interior, Governor's of Colorado, Utah and Wyoming and the Western Area Power Administration has signed an agreement extending the Upper Colorado Recovery Implementation through 2023. I attached a copy of the press release announcing the extension. Attachment 5d-05 *(Randy Seaholm)*

COLORADO RIVER WATER USE: As of August 2, 2009, total system active storage was 35.476 million acre-feet (MAF), or 60 percent of capacity, which is 0.523 MAF more than one year ago.

The end-of-year measure for 2008 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 3.604 MAF. Tracking of use in 2009 is shown in the graph below, and the preliminary year-end estimate for 2009 is 3.437 MAF. The target under the Interim Surplus Guidelines (ISG) for the end of 2006 was 3.640 MAF, and the target for 2009 is 3.530 MAF, thus California is in compliance with the ISG.



(Andy Moore)

2010 COLORADO RIVER ANNUAL OPERATING PLAN (AOP): The 2nd consultation meeting concerning the development of the 2010 Colorado River Annual Operating Plan was held in Las Vegas on August 26th. As of mid August the most probable inflow into Lake Powell is projected to be 11.0 million acre-feet (91% of average), which under the 2007 Interim Guidelines would result in a Lake Powell release of approximately 10.4 million acre-feet during the 20010 water year. The maximum probable inflow projection is 18.0 million acre-feet (149% of average) which would result in a Lake Powell release of approximately 13.4 million acre-feet during the water year. The minimum probable release would be 8.23 million acre-feet.

Of particular note during the meeting was the National Park Service's continued effort to try and elevate Glen Canyon operations pursuant to the Grand Canyon Protection Act to the same level of the consideration given to operations under the 2007 Interim Guidelines and the Colorado River Storage Project Act rather than working within those limitations as contemplated when the Grand Canyon Protection Act was passed.

This is a continuing concern to the Basin States as such could jeopardize certain aspects of the 2007 Interim Guidelines. We continue to strongly encourage Reclamation to operate within those limitations. The final consultation meeting is scheduled for September 22nd and given the recent actions of the NPS it is important to continue to pay close attention to this matter. As always the latest version of the AOP can be viewed on Reclamation's website at:

http://www.usbr.gov/lc/region/g4000/AOP2010/AOP10_draft.pdf. (Randy Seaholm)

RUEDI RESERVOIR LEGISLATION: On Tuesday, July 21, the Colorado River Water Conservation District requested Representative John Salazar and Senator Mark Udall to introduce

legislation regarding Ruedi Reservoir commitments to endangered fish and associated repayment costs. The proposed legislation would be an amendment to the Recovery Program authorizing legislation (P.L. 106-392).

The proposed legislation is directed solely at getting one-half of the 10825 water committed long-term for the benefit of the Colorado River endangered fish pursuant to terms in the 15-Mile Reach Programmatic Biological Opinion (PBO) and remove or make non-reimbursable the repayment costs associated with that block of water. The reason for the very narrow focus of the legislation at this time was to ensure that the legislation got introduced prior to the August recess and potentially scheduled for hearings in September. The goal is to get the legislation passed in this session in order to comply with terms in the 15-Mile Reach PBO. Other Ruedi Reservoir repayment issues that the Board discussed at the last meeting were deemed by the 10825 participants best left for a later date. A copy of the proposed legislation and briefing paper is attached. Attachment 5d-04 (*Randy Seaholm*)

TOM CHART APPOINTED DIRECTOR OF THE UPPER COLORADO RIVER

RECOVERY IMPLEMENTATION PROGRAM: Tom Chart has been appointed the new Project Leader for the Colorado River Recovery Program (CRRP). Tom is currently a senior fisheries biologist in the CRRP. Previously Tom worked as a Fish Biologist with the Service's Ecological Services Field Office in Utah, and has worked with the Bureau of Reclamation and the state of Utah as well. In each position his work included involvement with the Upper Colorado River Recovery Program. This variety of experience gives Tom a perspective of the CRRP from two federal agencies, a state, and the Program office. Tom's experience implementing Section 7 of the Endangered Species Act, administering grants and cooperative agreements for the Program, supervising, and participating in other river restoration programs such as the Virgin River Recovery Program, San Juan River Recovery Program, and June Sucker Recovery Program gives Tom a broad perspective to manage this office and program. Tom is highly respected in the basin and will continue the long tradition of working with those partners within the Colorado River basin to recovery the native fishes. Bob Muth was the previous CRRP Director. (*Randy Seaholm*)

U.S. – MEXICO TREATY NEGOTIATIONS WORKSHOP: On August 4-5, the U.S. Colorado River basin states' representatives met with the Mexican Colorado River basin states' representatives, U.S. federal representatives and Mexican federal representatives for a workshop to further the U.S.-Mexico negotiations. This workshop was very helpful in focusing our discussions on some of the specific issues that would have to be decided to establish a framework to advance individual projects that have bi-national benefits. At the workshop, Mexico made specific proposals about: 1) the creation and use of Intentionally Created Mexican Allocation ("ICMA"); 2) Mexico's environmental needs and how the U.S. should share in meeting those needs; 3) conservation projects in Mexico; and, 4) desalinization projects in Mexico. In order to respond to these proposals, the seven basin states principals and federal representatives from the IBWC and the Bureau of Reclamation will be meeting in September to discuss our response on the various proposals. The Technical Work Group ("TWG") has been meeting, and will continue to meet in September and October, to develop the responses before the next bi-national meeting that will be held in mid-October in Mexicali, Mexico. The conceptual Minute to the Treaty that I have discussed the Board previously will also be a topic of discussion at the October bi-national meeting. (*Ted Kowalski*)

UPPER COLORADO RIVER ALTERNATIVES STAKEHOLDER GROUP: The Upper Colorado River Alternatives Stakeholder Group continues to meet regarding alternatives to wild and scenic designation. At the present time, the BLM has requested that the Stakeholder Group submit its proposal by September 30. This topic is a matter for discussion at the Board meeting. (*Ted Kowalski*)

The stakeholders group, which has committed to explore resource protection in response to the BLM's wild and scenic eligibility findings out of the Grand Junction BLM Field Office, has selected Heather Bergman of the Keystone Center to be the facilitator for that process. The next meeting of this group will occur on September 14, 2009 in Grand Junction. The Colorado River Water Conservation District has requested up to \$30,000 for this process. This matter will be discussed at the Board meeting. Additional information is available at:

http://www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/grand_junction_field/PDF.Par.3668.File.dat/Final%20Wild%20and%20Scenic%20Eligibility%20Report%20original%20signature%20web.pdf
(Ted Kowalski)

COLORADO RIVER BASIN SALINITY CONTROL PROGRAM: Reclamation recently announced the award of two project grants to Colorado entities:

- Grant funds used to reduce salinity (Montrose Daily Press)
A Crawford irrigation company received a \$5.3 million grant from the Bureau of Reclamation to reduce salinity in the Colorado River. Grandview Canal & Irrigation Company will use the grant to pipe nearly five miles of the Grandview Canal and five miles of associated irrigation laterals located near Crawford. Converting the canal and laterals from open, earthen ditches to pressurized pipe will enable the company to upgrade about 900 acres of farmland that is currently flood-irrigated to sprinkler irrigation, according to the BuRec's news release. The project will prevent approximately 6,400 tons of salt from entering the Colorado River system each year. It is slated for completion in 2011. The grant was awarded through BuRec's Basinwide Salinity Control Program, which aims to reduce salinity levels in the Colorado and prevent economic damages in lower parts of the basin. BuRec says irrigation in western Colorado valleys is a prime source of human-caused salinity increases to the Gunnison and Colorado rivers. BuRec expects to make another announcement for additional funding applications in the coming year.
- Interior Secretary Ken Salazar announced today that the Bureau of Reclamation will award grants totaling more than \$11.1 million to irrigation companies in Colorado, Utah and Wyoming to fund salinity control projects within the Upper Colorado River Basin under the American Recovery and Reinvestment Act of 2009 (ARRA). These Recovery Act grants will leverage an additional \$4.8 million cost-share from the Upper and Lower Colorado River Basin Funds (funds from area water district's revenues from sale of water and power), to help control nearly 12,000 tons of salt loading from occurring that would otherwise enter the Colorado River system. ... "Through the Recovery Act funding, area residents are on the job tackling a major challenge for the river basin. Today's investments will help to make a lasting improvement for the region," Secretary Salazar said. ... These projects will benefit water users by constructing pipelines and related infrastructure providing a more efficient water supply. The increased efficiency of water delivery and use also reduces salinity contributions from agricultural return flows. Grants were awarded to:
Montezuma Valley Irrigation Company Lone Pine Canal Piping Project Cortez, CO 81321
Reclamation ARRA Funding: \$1,521,288, Local Contact: Jim Siscoe, General Manager –
Project will pipe approximately 25,512 linear feet of the lower reaches of the Lone Pine Canal with pipe ranging in size from 26" to 36" HDPE pipe. The head pressure developed in this gravity pipe will also be utilized for existing and future on-farm sprinkler improvements.

In addition the CRBCS Work Group as recommended that Reclamation provide \$1.5 million of Basin States Funds to the Uncompahgre Water Users Association to accelerate salinity control implementation in the area with a canal lining demonstration project. The State of Colorado is proposing to provide an additional \$0.5 million to this project, see agenda item 26.

The report required before initiating the new Basin States cost-sharing program has still not been submitted to Congress by Interior in accordance with the authorizing legislation. However, Reclamation, responding to a letter from the States explaining the urgency of getting the new program started by mid August, has issued an extension of the existing Parallel Program so that there will be no gap in implementation. This issue was particularly critical to the Colorado State Conservation Board which provides significant staffing to administer the existing program and would also be the lead on the new Basin States Program. We continue to work with a committee of the CRBSC Advisory Comm. to draft a new set of procedures and guidelines for the Basin States Program in anticipation of the report getting submitted to Congress.

The next Forum and Advisory Council meetings are scheduled for late October in Phoenix. *(Steve Miller)*

COLORADO RIVER COMPACT COMPLIANCE STUDY: We have released the solicitation seeking Statements of Qualifications (SOQ's) for professional services from firms interested in conducting the Colorado River Compact Compliance Study. The study will: 1) identify issues associated with the administration of state water rights in the Colorado River Basin under the terms of the Colorado River Compact and Upper Colorado River Basin Compact, 2) develop and evaluate options to avoid, minimize or delay a Compact curtailment of uses if at all possible, and 3) identify, develop and evaluate (pros and cons) concepts for curtailing water uses in Colorado in the event curtailments are required to comply with Article III of the Colorado River Compact and implement those curtailments in a manner that will allow the maximum use possible of Colorado's entitlements under the terms in the Colorado River Compact and Upper Colorado River Basin Compact and do so as equitably as possible. The schedule for selection and contract negotiations is as follows:

From (approx.)	To (approx.)	Item
August 11, 2009	August 18, 2009	Advertise for SOQ's in Denver Post and on Colorado BIDS.
August 26, 2009		Written questions due
August 28, 2009		Questions and answers posted on Colorado Construction and Design Notices website (None received)
September 10, 2009		SOQ's due by 4:00 pm
September 18, 2009		Select top 3 applicants
September 24, 2009		Interviews and selection
September 25, 2009	October 8, 2009	Contract negotiations
October 9, 2009	October 23, 2009	Contract signature & review process
October 26, 2009		Begin work

(Randy Seaholm)

CALLS FOR ADMINISTRATION OF ISF RIGHTS: On September 2, 2009, staff, on behalf of the Board, placed an administrative call on the Fryingpan River from the North Fork Fryingpan to the confluence with Ruedi Reservoir as decreed in Case No. 5-73W1955. Staff became aware of flows dropping below the decreed ISF amount by virtue of the SMS Alert System, which automatically notifies staff via cell phone and email when gages in the system indicate flows below a threshold amount. The Division 5 Engineer is working diligently to enforce the call through the curtailment of junior rights. *(Jeff Baessler)*

COLORADO RIVER DECISION SUPPORT SYSTEM: The FloodDSS is moving forward with the contractor in the process of data inventory and collection by contacting entities about any flood information that can be incorporated in this effort. The project is on schedule and on budget. *(Ray Alvarado)*

COLORADO RIVER WATER AVAILABILITY STUDY (CRWAS): The AECOM team has completed the alternative hydrology tasks and presented them to the Board at the July meeting. The presentation is available on the CWCB website. A more technical detailed presentation was presented to the Technical Advisory Group, established for peer review of this effort. The other component of the climate hydrology is the consumptive use aspect. The AECOM team is finishing up on the climate change adjustments needed to redo the consumptive use calculations. These preliminary results will be presented at the Colorado River District's Annual Water Seminar on September 18, 2009. Unfortunately, these preliminary results will not be completed in time for this Board meeting, but the presentation will be posted on the CWCB website for review.

Based on feedback from the September IBCC and Water Resource Review Committee meeting, our section and the Intrastate Water Management & Development section and their technical support contractor are in the process of working on the understanding of roles and responsibilities and the approach for implementation of Phase 2. It is the intent to have a draft outline of the scope by the next IBCC meeting. *(Ray Alvarado)*

~PLATTE RIVER BASIN~

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM: The Platte River Recovery Implementation Program ("Program") held its last Governance Committee meeting in Denver, Colorado, on August 11-12, 2009. At the meeting, the State of Nebraska and the Nebraska water users raised concerns over Colorado's proposed amendment to the North Platte depletions plan. Colorado continues to try to understand the nature of their concerns, and to address them, but we have not been able to assuage their concerns at this time. The next meeting will be held in Kearney, Nebraska on October 13-14, 2009. The Program continues to acquire lands, and make progress on its adaptive management and water goals. For more information, please visit: www.platteriverprogram.org. *(Ted Kowalski)*

GROUNDWATER COMMISSION: The Groundwater Commission met on August 21, 2009 in Castle Rock. Among other items that the Groundwater Commission considered was a request by the Northern Colorado Water Association to designate a new designated basin in the northern Colorado. If this request were granted it would be the Spring Creek designated basin, and the ninth designated basin within Colorado. Spring Creek flows into northeast Larimer County from Wyoming and crosses I-25 just north of Wellington. The Groundwater Commission referred this matter to the Staff and Hearing Officer for further proceedings. The Commission also considered a resolution that could establish a task force to look at sustainability of current water management practices related to the Ogallala Aquifer within Colorado. In addition, the Commission considered a request to declare a portion of the Hay Gulch sub-basin of the Lost Creek designated basin (northeast of Denver) over-appropriated, and require replacement plans for new large capacity wells within this sub-basin. The Commission referred the matter to the hearing officer for further proceedings. For more information visit: <http://water.state.co.us/cgwc/> *(Ted Kowalski)*

CITY OF AURORA HOSTS TOUR: On August 13-14, 2009, the City of Aurora hosted a water tour of its facilities within The Colorado, Arkansas, and Platte river basins. Ted Kowalski, of the CWCB Staff, spoke on the Tour about the current wild and scenic stakeholder process that is occurring in the Upper Colorado River basin, and he was pleased to participate in the rest of the tour. CWCB member Barbara Biggs was also able to attend the tour, which was informative and educational. Thanks to Mark Pifher, Greg Baker, Gerry Knapp, Kathy Kitzmann, and the rest of the great staff at the City of Aurora for extending the invitation to my staff and Board member. *(Ted Kowalski)*

NORTH PLATTE ROUNDTABLE: Ted Kowalski spoke on August 25 to the North Platte Roundtable and the FAC for the North Platte Roundtable about the North Platte depletions plan, and the proposed changes to the North Platte depletions plan. *(Ted Kowalski)*

CHATFIELD RESERVOIR REALLOCATION UPDATE: The U.S. Army Corps of Engineers (Corps) continues to work with the CWCB and a large group of non-federal stakeholders to produce a Draft Feasibility Report and Environmental Impact Statement (FR/EIS) for the Chatfield Reservoir Reallocation Study (Study). The Study team is in the process of responding to a Policy Guidance Memorandum (PGM) resulting from a high level meeting known as an Alternatives Formulation Briefing (AFB) held in May 2009. Also, the Corps received two comment letters from the U.S. Environmental Protection Agency (Region 8) regarding the preliminary FR/EIS. The Corps is in the process of generating a response to those letters at this time. In related news, several study team members from Colorado will visit with Congressional Delegation members and staff from Corps Headquarters in Washington, D.C. on September 16th and 17th to discuss appropriations, study status, and next steps. In related news, CWCB staff member Tom Browning recently attended a national water resources meeting entitled “Collaborating for a Sustainable Water Resources Future”. Please contact Mr. Browning directly for any questions related to the Chatfield Study or the conference. *(Tom Browning)*

SOUTH PLATTE DECISION SUPPORT SYSTEM (SPDSS): The North Park surface water model has been completed and will be posted to the CDSS website once the documentation has been delivered.

Alluvial groundwater modeling is moving forward into the calibration phase of that effort, with a final calibrated alluvial groundwater model being done in early 2010. The calibration of the model has unique challenges because of the scope and breadth of the basin and hydrogeology; however, these challenges are being addressed as they come forward with the final product being a calibrated basin wide alluvial groundwater model for the South Platte. *(Ray Alvarado)*

~SOUTHWEST RIVER BASINS~

RIVER PROTECTION WORKGROUP: The River Protection Workgroup (“RPW”) has agreed on a path forward for resource protection. This matter will be discussed at the Board meeting. *(Ted Kowalski)*

ASPINALL UNIT OPERATIONS AUGUST 27, 2009 MEETING: Highlights from the meeting held at the Elk Creek Visitors Center:

Aspinall Operations:

1. Runoff into the Aspinall Unit was slightly above average. Dry conditions in March and April were followed by very wet conditions in May and June. Forecasts and actual runoff for the basin increased considerably in late May and early June and reservoir operations adjusted to handle the

significant increase in inflow. All reservoirs in the basin filled. Blue Mesa filled within a few inches of the top of the spillway gates. Reclamation typically maintains 2 feet of freeboard on the spillway gates at Blue Mesa.

2. Based on the May 1 forecast, Reclamation altered its May operations to generate a peak to meet the National Park Service water right for the Black Canyon of the Gunnison. Using reservoirs that were designed and historically operated to mitigate high spring flows to create a peak was a complicated process. BLM and Reclamation coordinated to post warnings along the river. Reservoir operations at all three dams, including powerplants, bypasses, and the Crystal spillway, were closely coordinated.
3. The Black Canyon Decree targeted 1-day peak was 5,864 cfs. Reclamation exceeded that by almost 1,000 cfs, producing a 1-day peak of 6,730 cfs on May 13th. High side inflows resulted in higher than anticipated daily flow increases from Crystal Reservoir which created a steeper spike in flows than anticipated.
4. CDOW reiterated their concern that large flow changes are detrimental to the trout fishery below Aspinall and stressed the need to adhere to suggested ramping rates in the future.
5. Flows at Delta exceeded 11,000 cfs on the 13th, causing flood concerns but no significant damage.
6. Continued high inflows caused Reclamation to increase releases twice more after the planned May peak, creating two smaller peaks in the Black Canyon of almost 3,500 cfs in early June and at the end of June.
7. Fall and winter operations should be typical, with releases decreasing in October for the brown trout spawn and increasing in December and January to meet high winter power demands.
8. Reclamation will take Blue Mesa offline in September for maintenance and draw down Morrow Point for boat dock improvements. Other maintenance will be conducted throughout the winter but will not have any impact on power plant operations or reservoir releases.

Flow Requests and Agency Reports:

9. CDOW requested flows of 700 – 1000 cfs for their electrofishing studies September 29 – October 2.
10. CDOW gave a presentation regarding the declining health of the Blue Mesa reservoir fishery. Overpopulation of lake trout is believed to be a factor and they outlined plans to remove some lake trout from the reservoir to allow the other fisheries to recover.
11. The USFWS reported that the Redlands fish ladder was operated and at least one pikeminnow used the ladder this summer.
12. The UGRWCD will conduct a feasibility study for hydropower generation at Taylor Park reservoir.
13. WAPA reported that low steady flows at Glen Canyon in September and October will affect power generation at the Aspinall Units.
14. The CRWCD reported their purchase of 15-acres of land on Orchard Mesa to construct a reregulation reservoir. They will host a Water Seminar Friday, September 18th in Grand Junction.
15. The Colorado Dust on Snow project will present at the CRWCD water seminar. Streamflows this year appeared to be almost one month earlier than expected and dust on the snowpack seems to a large contributor to the heavy May runoff.
16. The USGS reported it has initiated its selenium monitoring program and is installing gages and equipment.
17. NPS reported seeing positive effects this year from the high spring peak flow and also reported inspecting over 15,000 boats this year for mussels with help from CDOW.

Detailed information from the meeting is available on Reclamation's website at <http://www.usbr.gov/uc/wcao/water/rsvrs/mtgs/amcurrnt.html>.

The next meeting is scheduled for January 21, 2010 in Montrose. (*Michelle Garrison*)

TACOMA POWER PLANT RELICENSING UPDATE: 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. As reported in May 2009, the Administrative Law Judge issued a decision that favored the USFS on the majority of the issues after holding a trial-type hearing on factual issues related to preliminary conditions on the license, including the imposition of a bypass flow. On July 27, 2009, the USFS submitted its final 4(e) conditions, which mirrored the preliminary conditions that were the subject of the hearing. FERC is in the process of completing its final EA, which will include those conditions. The USFS and Public Service Company are still exploring settlement options. *(Linda Bassi)*

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. The 2005 irrigated mapping is near completion for the basin. *(Ray Alvarado)*

SAN JUAN RECOVERY PROGRAM COORDINATION COMMITTEE MEETING: The next meeting of the SJRIP-Coordination Committee will be September 10-11 in Farmington, NM. One of the key items on the agenda will be modifications to Chapter 6 of the Program Document to continue to clarify the interactions between the Program Office and the Program's Coordination Committee, Biology Committee and Hydrology Committee. Dr. Benjamin Tuggle, US Fish and Wildlife Service Region 2 Director, stated at the last meeting he considered the Coordination Committee to be the Program's top decision maker with respect to program operations involving the Program Office and the Committees and the Program Document needs to be further revised to reflect that. Also, development of the annual budget and workplan will continue. *(Randy Seaholm)*

~YAMPA & WHITE RIVER BASINS~

SUSTAINABILITY SUMMIT PRESENTATION: Veva Deheza will be giving a 30 minute presentation on water conservation, drought and climate change to nearly 200 attendees from Routt County and surrounding areas at a Sustainability Summit in Steamboat Springs on September 25th. The summit is held by the Yampa Valley Sustainability Council. Veva's presentation will help educate the attendees as the City of Steamboat Springs and Mount Werner Water District moves forward with their water conservation plan. *(Veva Deheza)*

~AGENCY UPDATES~

RECENTLY DECREED ISF WATER RIGHTS: On July 22, 2009 the Division 6 Water Court decreed an instream flow water right to the CWCB on Little Cottonwood Creek in Case No. 08CW052 for 0.7 cfs (April 1 – June 30), with an appropriation date of January 23, 2008. The upstream terminus is

the headwaters and the lower terminus is the inlet of Freeman Reservoir. This ISF reach is approximately 1.45 miles long and runs through part of Routt National Forest. (*Rob Viehl*)

STREAMING BOARD MEETINGS LIVE VIA WEB: Staff began streaming the CWCB Board Meetings live to the public, through its website, in November 2008. The audience has been gradually increasing, with an average number of listeners at 15 for the May and July meetings. Starting at the September 2009 meeting, another service will be made available, called See and Share, which will make the PowerPoint presentations given during the meeting available for viewing (in real-time). Initially the presentations will only be made available to the staff in the Denver office, but at some point, may be made available for the public to log in and view as well. (*Susan Lesovsky*)

WATER CONSERVATION PLANS APPROVED: The Office of Water Conservation & Drought Planning (OWCDP) has *approved* additional Water Conservation Plans from water providers. They include:

- City of Boulder

The OWCDP has determined the Plan 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 is evaluating and working with providers on the following Water Conservation Plans:

- Pinery Water and Wastewater District
- Consolidated Mutual Water Company
- Widefield Water and Sanitation District
- Town of Lamar
- City of Steamboat and Mount Werner Water District
- Castle Pines Metropolitan District
- City of Lafayette
- Tri-County Water Conservancy District
- St. Charles Mesa Water District
- City of Glenwood Springs

(*Veva Deheza*)

UPDATES ON BASIN NEEDS DECISION SUPPORT SYSTEM (F/K/A IP&P

DATABASE): CWCB has implemented an initial version of its Identified Projects and Processes (IP&P) Database and web application. The database was created to track projects (i.e. reservoirs) and processes (i.e. conservation programs) that are being pursued by providers statewide, to meet the water needs originally identified by the Statewide Water Supply Initiative (SWSI).

CWCB staff is currently implementing refinements and expansion of the IP&P Database via two concurrent efforts. The first effort involves developing and piloting a statewide survey for water providers in order to collect and maintain accurate data. This effort will include advising the CWCB on the broader database enhancements. The second effort entails the database enhancements and DSS integration. These efforts are further described below.

As a result of the extensive enhancements and integration with other CWCB Decision Support System (DSS) tools the name of the IP&P Database will be changed to the *Basin Needs Decision Support System (BNDSS)* to better reflect its broader purpose.

The BNDSS will track projects and processes that were noted during the initial SWSI efforts and other projects and processes that have been identified by water providers since the SWSI report. The BNDSS will monitor their progress and identify where CWCB programs can help IP&P implementation. The success of these IP&Ps is a critical factor in meeting Colorado's projected water supply needs. In addition to IP&P's, the BNDSS will also track water use and supply data (actual and projected), population data (actual and projected), and non-consumptive project data, in order to refine local and regional estimates of the projected water supply "gap".

BNDSS Provider Survey and Consultation

The CWCB has procured the services of DiNatale Water Consultants, Inc. (DiNatale) via a discretionary purchase order. DiNatale's tasks include the development and implementation of a survey for providers, a pilot program of provider interviews (with 6 to 8 representative providers), and advising the CWCB on BNDSS refinements including, data entry, database design, and database output (summary reports).

The provider survey will help determine the format, substance, and attainability of information for the BNDSS. The surveys and pilot interviews will also identify strategies and incentives to increase water supplier participation. The survey will be used to update the BNDSS with information from water providers throughout the State allowing the CWCB to monitor the progress of IP&Ps. This technical work will include meetings with CWCB staff and providers, identifying data sources from master plans and other documents, reporting, and coordination. Provider survey development and piloting is scheduled to be completed within 4 months, while the consultation on BNDSS refinements is scheduled to coincide with the execution of system enhancements (within 10 months).

BNDSS System Enhancements and DSS Integration

The CWCB has started a Request for Proposals (RFP) process for this effort. Work is planned to be completed by the end of the fiscal year (June 30th, 2010). As a result of the proposed scope of work, the BNDSS will become a component of Colorado's Decision Support Systems (CDSS). The CDSS consist of databases and tools for visualization, analysis, and modeling, which support the activities of Colorado's Division of Water Resources (DWR) and the CWCB. A primary focus in developing the CDSS was to analyze water supply issues within the State's major river basins. Currently, river basin DSS's are mature for the West Slope basins and Rio Grande, in progress for the South Platte and North Platte, and a feasibility study has been requested for the Arkansas. The term "mature" indicates that substantial data collection and modeling activity has been completed to provide baseline consumptive use, surface water, and, where appropriate, groundwater models. However, the data-centered design of CDSS is intended to allow model data sets to be updated as new data are collected and therefore work will be ongoing. The baseline data sets prepared by the State with the help of contractors facilitate large-scale studies (e.g., SWSI and the Colorado River Water Availability Study) and can also be utilized for regional or local studies (e.g., studies for municipalities, water providers, and environmental concerns).

The CDSS framework provides a foundation for other DSS components with specialized focus, providing core capabilities and reducing the incremental cost of implementing new functionality. For example, the Instream Flow DSS (ISFDSS) utilizes spatial data from CDSS for display and analysis, and relies on HydroBase data and TSTool software for time series displays. The FloodDSS, currently under development, similarly uses CDSS data and tools and will add new capabilities to help CWCB staff anticipate increased flood possibility while also facilitating greater understanding of water supply issues

related to snowpack. Like the FloodDSS and ISFDSS the BNDSS will add new capabilities to the framework of CDSS data and tools.

The initial implementation of the IP&P Database created a SQL Server database with a web interface to store data collected from SWSI and other CWCB activities, including county populations, water demand and supply, provider and project data, and water conservation data, with a website that allows data viewing, editing, and input. The design allows time series data to be accessed by CDSS tools for analysis (i.e. TSTool) and will allow incorporation with HydroBase (i.e. links to structure and water right identifiers). Other areas for refinement and integration of the BNDSS are detailed in the RFP's scope of work. The BNDSS is an important and specialized DSS component that will use the CDSS framework to provide critical water supply information and tools to better manage the water resources of Colorado.

The main tasks of the scope of work for BNDSS system enhancements and DSS integration are:

1. Implement Data Loading Tool and Load Identified Data;
2. Refine BNDSS Structure and Display;
3. Incorporate Capacity for Non-consumptive Project Data;
4. Create a "Query-Builder" Tool for Analysis and Reporting;
5. Integrate with CDSS Framework and CWCB Laserfiche System;
6. Provide Preliminary Plans for a Web-Based Geospatial Interface;
7. Provide Preliminary Plans for a "Gap Analysis Tool";
8. Install BNDSS on CWCB Computers and Train CWCB Staff.

(Greg Johnson)

JOINT FRONT RANGE CLIMATE CHANGE VULNERABILITY STUDY: CWCB is participating in this study, along with several Front Range water providers to determine the education, tools, and methodology necessary to examine the possible effects of climate change on several common watersheds. Through collaboration with the Water Research Foundation, this JFRCCVS project will enable group members, which obtain their water supplies from the upper Colorado, South Platte, Arkansas, Cache la Poudre, St. Vrain, Boulder Creek, Big Thompson, and other similar river basins, to examine potential effects climate change may have on those supplies. The Project is nearing the end with report completion expected in March 2010 and publication by the Water Research Foundation soon thereafter. This is a slight, three month, extension over the original date of completion. *(Veva Deheza)*

COLORADO WATERWISE BMP PROJECT UPDATE: In July, 2008, the CWCB awarded an efficiency grant to Colorado WaterWise Council, a water conservation non-profit, to create a best management practices guidebook. Colorado WaterWise Council (CWWC) has made good progress towards completing the Best Management Practices Guidebook. Since April, CWWC hired a consultant and project coordinator, formulated a detailed work plan and time schedule for completion and formed a Project Advisory Committee (PAC) and Stakeholders group. The PAC will consist of water conservation professionals throughout the state who will lend their technical expertise to the project while the broader stakeholder group will review materials and offer input throughout the process. The Best Management Practices Guidebook is scheduled to be completed by the end of June 2010 with a number of technical workshops to follow in late summer and fall of 2010. *(Veva Deheza)*

INSTREAM FLOW SEGMENTS VIEWABLE ON GOOGLE EARTH: Stream and Lake Protection and Water Information Staff recently developed a new interactive map layer (.KMZ file) that utilizes the popular Google Earth application to display information regarding current instream flow recommendations. This layer can be downloaded from the Board's web page at

<http://cwcb.state.co.us/StreamAndLake/NewAppropriations/ISFAappropriationNotices/>.

The layer not only contains information on the location of the proposed stream segments and termini, but also provides some photos of the stream reaches and links to the PDF files of the recommendations. A link is also provided to the Google Earth application for those that don't already have it installed on their PC and a user's guide is provided for those who are new to the application. The data presented in this Google Earth add-on is part of the Instream Flow Program's continuing efforts to keep the public informed of the status and location of each recommended stream. Questions or comments regarding the application should be addressed to Jeff Baessler. (*Jeff Baessler*)

~ATTACHMENTS~

- **5d-01 Summary of Resolved Cases**
- **5d-02 Loan Forecast & Prospect Report**
- **5d-03 Approval of Imperial Irrigation District (IID) Plan**
- **5d-04 Ruedi Reservoir Recovery of Endangered Fish Briefing Paper**
- **5d-05 Endangered Fish News Release**
- **5d-06 Testimony of Michael Connor, Commissioner**
- **5d-07 Non-Reimbursable Investments Status Report**

**INSTREAM FLOW AND NATURAL LAKE LEVEL PROGRAM
SUMMARY OF RESOLVED CASES – ATTACHMENT 5D-01
SEPTEMBER 2009**

The Board's ISF Rule 8i. states:

“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. 1-07CW146: Application Flying J Ranch

The Board ratified this statement of opposition at its September 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 and exchange does not injure the Board's instream flow water rights on Wigwam Creek by not replacing out-of-priority depletions in time, place. 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
1-80CW124	Wigwam Creek	3	5/7/80	Upper South Platte	Park, Jefferson

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 Wigwam Creek. The Applicant has agreed to the following terms and conditions:

When the CWCB has placed a call for the Wigwam Creek Instream Flow, Flying J will take the following actions:

- Flying J will not operate the exchanges of the Flying J New Mountain Mutual Reservoir Company (MMRC) Water Rights
- Flying J may continue to operate the Original Augmentation Plan. In accordance with Section 37-92-102(3)(b) C.R.S., CWCB's appropriation of the Wigwam Creek Instream Flow was made subject to the then-existing use of water by the Girl Scouts – Mile-Hi Council, which use was decreed in the Original Augmentation Plan. Flying J's well withdrawals will first be allocated to the Original Augmentation Plan, and wastewater discharge attributable to such well withdrawals will be delivered to Wigwam Creek. Since the Original Augmentation Plan does not permit outdoor irrigation, 95% of the amount withdrawn from the well pursuant to the Original Augmentation Plan will return to Wigwam Creek via the wastewater treatment plant outfall. Any out-of-priority irrigation will be covered under the new augmentation plan as decreed.
- Flying J's measured wastewater discharge from its wastewater treatment plant in excess of that allocated to the Original Augmentation Plan will be delivered to the Flying J Pond. This delivery will occur when Flying J releases measured wastewater in excess of

that allocated to the Original Augmentation Plan from its wastewater treatment plant outfall to Wigwam Creek, and diverts that same amount into the Flying J Ditch/Pipeline for conveyance to the Flying J Pond.

- An amount of water equal to the wastewater effluent delivered to the Flying J Pond plus any additional water required to fully replace the depletions caused by pumping the Flying J Ranch Well in excess of the Original Augmentation Plan limit of 10 gpm will be pumped from the Flying J Pond upstream to the location of the well depletions, and will be released to Wigwam Creek at that location, thereby preventing injury to the CWCB's decreed instream flow during the time of the call.
- After the spring fill period for the pond, before pumping the well in an amount over 10 gpm, and before diverting water from the pond storage for irrigation use, Applicant shall ensure sufficient replacement water will remain in storage to replace any expected out-of-priority non-irrigation consumptive use depletions as shown on Exhibit E. If there is insufficient water in Flying J Pond to offset all well depletions in excess of the Original Augmentation Plan by the pumpback during times of a CWCB call, Flying J will curtail well pumping in an amount necessary to ensure that all depletions caused by pumping the well in an amount over 10 gpm can be replaced pursuant to paragraph (iv) above, or Flying J will reduce well pumping to 10 gpm and will operate under the Original Augmentation Plan only. Exhibit E is not decreed herein. The Exhibit has been included simply to provide an illustration of the storage requirements for replacing all out-of-priority non-irrigation consumptive uses at full build-out of the project. Flying J, with the approval of the State and Division Engineer's Office, will compute the necessary amount of water monthly to remain in storage depending on the number of actual campers per year and actual camp operations.
- Prior to making any new depletions by well pumping under the plan of augmentation decreed herein, except for pumping the Flying J Ranch Well under the terms and conditions of the Original Augmentation Plan, the Flying J Pond and pump back system shall be installed and operational to the satisfaction of the State and Division Engineer's Office.
- MMRC Unable to Provide Water for Exchanges. If MMRC is unable to provide water for exchange pursuant to any of the above-decreed exchanges, Flying J will make augmentation releases from Flying J Pond to offset its camp depletions. Water will be released from Flying J Pond at such times, and in such amounts as shall be directed by the Water Commissioner for protection of senior water rights. So long as there is no call for the CWCB's Wigwam Creek Instream Flow, the pumpback system need not be operated.
- The Flying J Pond shall be equipped with an outlet structure which is acceptable and accessible to the Division Engineer. Flying J will install such meters, staff gauges and maintain measuring devices on the Flying J Ranch Well System and the Flying J Pond and will perform all necessary accounting functions, including supply calculations and timing and amount of depletions associated with pumping the Flying J well, and, together with MMRC, make all reports as are reasonably required to 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 senior water rights.

- The Court shall retain jurisdiction in this matter on the question of injury to the vested water rights of others from the signing of the decree until a period of five (5) years from the date of commencement of operation of the plan for augmentation.

(2) Case No. 7-08CW049: Application El Dorado Ranch LLC

The Board ratified this statement of opposition at its November 2008 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 use and point of diversion does not injure the Board's instream flow water rights on Florida River by potentially causing an expansion of use and changing the irrigation return flow patterns. 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
7-77W1763	Florida River	7/14	1/19/77	Animas River	La Plata
7-77W1764	Florida River	12/20	1/19/77	Animas River	La Plata

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 Florida River. The Applicant has agreed to the following terms and conditions:

- In the event that the CWCB has placed a call that is recognized and administered by the Division Engineer for the administration of its instream flow water rights on the Florida River decreed in Case Nos. 77W1763 and 77W1764, the Applicant agrees to curtail its diversion of the Abling Cash water at the Prescott South Side Ditch during the period of the call.
- The basis for this change is as follows: The Abling Cash Ditch water has been the subject of past water court changes in Case No. 85CW39, which found 36 acres was irrigated under the ditch. In Case No. 95CW45, the Decree states approximately 40 acres was irrigated. The acreage in those cases involved both F-4 and F-15 priorities. Aerial photos from the 1960's (Exhibit A) indicate as much as 54 acres may have been irrigated. Current aerial photographs (Exhibit B) indicate approximately 14-16 acres have been removed from irrigation by roads, driveways, buildings, corrals and other improvements, which constitutes dry-up acreage.
- The amount of water that the Applicant will be entitled to use pursuant to the attached Decree shall be limited to a diversion rate of no more than 0.0513 c.f.s. (maximum 17.1 acre feet per year) of F-4 water in the Prescott South Side Ditch and 0.0226 c.f.s. (maximum 7.5 acre feet per year) of F-15 water in the Prescott South Side Ditch.
- The Applicant shall install measuring devices, provide accounting, and supply calculations as required by the Division Engineer.
- The Court shall retain jurisdiction in this matter on the question of injury to the vested water rights of others for a period of five (5) years from the date of the decree.

(3) Case No. 4-03CW065: Application Robert Twist

The Board ratified this statement of opposition at its May 2003 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 change of water rights, which includes diversion of water at upstream alternate points, does not injure the Board's instream

flow water rights on Alder Creek and Quartz 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
4-80CW086	Quartz Creek	5	3/17/1980	Tomichi Creek	Gunnison
4-80CW134	Alder Creek	5	3/17/1980	Tomichi Creek	Gunnison

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 Quartz Creek and Alder Creek. The Applicant has agreed to the following terms and conditions:

- The amount of water attributable to these rights that may be diverted at their new points of diversion is limited to the amount of water that is physically and legally available at their original decreed point of diversion.
- The rights in the Sutton No. 3 (Amended) Ditch, Sutton No. 4 (Amended) Ditch, and Davis (Amended) Ditch changed in Paragraph 16 of the Decree shall not be allowed to divert at their new points of diversion at any time that Alder Creek is being administered for the use of CWCB's instream flow right adjudicated in Case No. 80WC134 (Alder Creek).
- Such rights in the South Quartz Creek No. 1, Sutton Quartz Creek No. 2, and Sutton Quartz No. 3 changed in Paragraph 18 of the Decree shall not be allowed to divert at their new points of diversion at any time that Quartz Creek is being administered for the use of CWCB's instream flow right adjudicated in Case No. 80CW086 (Quartz Creek).
- In the event that waters in the Chittenden Ditch Enlargement, Ditch No. 231 are not diverted because of a call, then rights in the Sutton Quartz Creek No. 1, Sutton Quartz Creek No. 2, and Sutton Quartz Creek No. 3 as changed in Paragraph 18 of the Decree shall not be carried across (northwest) of County Road 76. Applicant must install a Parshall flume and headgate with waste gate at this location to allow administration.
- The Applicants shall install all such lockable and controllable metal diversion structures and Parshall flume measuring devices, and supply such information regarding diversions as required by the Division Engineer for the administration of this plan.
- The Court shall retain jurisdiction until five (5) years after the date of this decree to allow the Court to consider any additional evidence regarding consumptive use and return flow from the water rights granted in the decree and the operation and effect of the changes granted in the decree in order to further address future potential injury and protection of senior vested water rights and conditional water rights.

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

Bill Ritter, Jr.
Governor

FROM: Kirk Russell, PE, Loan Marketing
Water Supply Planning & Finance Section

Harris D. Sherman
DNR Executive Director

DATE: September 9, 2009

Jennifer L. Gimbel
CWCB Director

SUBJECT: **Director's Report Attachment – September 15-16, 2009**
Loan Forecast & Prospect Report

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 \$5 million available for eligible raw water projects at the November meeting.

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

LOAN FORECAST

BORROWER	PROJECT NAME	PROJECT COST LOAN AMOUNT
Town of Wiggins	Water Rights Purchase	\$2,000,000
WRCC Inc.	Cobb Lake Inlet	\$800,000
Greeley-Loveland Irrigation Co.	Augmentation Structure	\$500,000
Fort Morgan Res. & Irrigation Co	Augmentation Pipeline	\$1,800,000
Boulder Left Hand Irrigation. Co	Ditch Piping	\$300,000
Riverside Ditch and Allen Extension	Ditch Rehabilitation	\$200,000
Total		\$5,600,000

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

Recent Project Loan inquiries:

Town of South Fork – Augmentation water rights purchase
Monte Vista - \$800K water rights purchase
Headgate 25A – Private ditch NRCS Piping Project \$450K/\$125K
Fire Mountain Canal & Reservoir Company – Lost Lake Enlargement
TYBar Ranch – Dam Rehabilitation - \$200,000

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
		Louden Irrigation & Reservoir Co	Ditch Improvements	\$500,000	\$500,000
		Greeley –Loveland Irrigation Co.	Augmentation Structure		\$500,000
		Town of Wiggins			\$2,000,000
		No Poudre Irrigation Co	Pump Station		\$5,000,000
		Fort Morgan Ditch	Ditch Rehabilitation		\$100,000
		Town of Byers	Well & Pipeline		\$700,000
		Town of Johnstown	Kauffman Reservoir Purchase		\$5,000,000
		Private Group of Farmers (NRCS)	North Sterling Delivery System		\$500,000
		Bergen Ditch Company	Dam Rehabilitation		\$2,000,000
		East Larimer County Water District	Rigdon Storage Project		\$3,000,000
		NISP Participants	NISP		\$30,000,000
		Chatfield Reallocation Participants	Chatfield Reallocation Participants		\$40,000,000
				TOTAL	\$90,000,000
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
		City of Trinidad	Reservoir/Rehabilitation	\$1,600,000	\$1,600,000
		Ditch and Reservoir company	Big Johnson Reservoir		\$8,000,000
		Town of Ordway	Reservoir Rehab		\$2,000,000
		Town of Trinidad	North Lake dam Rehabilitation		\$1,600,000
				TOTAL	\$16,700,000
San Miguel/Juan					
		Farmers Water Development Co	Gurley Reservoir Enlargement	\$5,000,000	\$5,000,000
		Florida Mesa Canal Company	Canal Rehabilitation		\$900,000
				TOTAL	\$5,900,000
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
				TOTAL	\$800,000
Gunnison					
		Fire Mountain Canal & Reservoir Co.	New Reservoir		\$500,000
				TOTAL	\$500,000
Rio Grande					
		Monte Vista	Water Rights Purchase		\$800,000
				TOTAL	\$800,000
Yampa					
		Catamount Reservoir Company	Reservoir Rehabilitation		\$500,000
				TOTAL	\$500,000



United States Department of the Interior

BUREAU OF RECLAMATION

Lower Colorado Regional Office

P.O. Box 61470

Boulder City, NV 89006-1470



IN REPLY REFER TO:

BCOO-4222

WTR-4.03

CERTIFIED - RETURN RECEIPT REQUESTED

Mr. Brian J. Brady
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial, CA 92251-0937

RECEIVED
AUG 12 2009
Colorado Water Conservation Board

Subject: Approval of the Imperial Irrigation District's (IID) Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus (ICS) for Calendar Year 2009

Dear Mr. Brady:

The Secretary of the Interior issued a Record of Decision (ROD) on December 13, 2007, for Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (Interim Guidelines). Among other things, the Interim Guidelines establish criteria for the development and delivery of ICS. Prior to creating ICS, the Interim Guidelines require a contract holder to enter into a Delivery Agreement with the Secretary of the Interior and a Forbearance Agreement with Arizona, Nevada, and certain California contract holders. On December 13, 2007, IID entered into the necessary delivery and forbearance agreements.

Also, on December 13, 2007, the Palo Verde Irrigation District, IID, Coachella Valley Water District, The Metropolitan Water District of Southern California, and the City of Needles entered into the California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus (California ICS Agreement). The California ICS Agreement discusses the amount of ICS that IID can create in a given year and in total. Although the Bureau of Reclamation is not a party to the California ICS Agreement, Reclamation verified that the ICS Plan submitted by IID does not exceed the limits set forth in the California ICS Agreement.

Section 3.B.1 of the Interim Guidelines requires the submission of a plan to the Secretary for the creation of ICS that demonstrates how the requirements of the Interim Guidelines will be met. IID submitted its ICS plan to Reclamation by its letter dated December 8, 2008.

Pursuant to Section 7.B.5. of the Interim Guidelines, Reclamation conducted appropriate consultation with the Basin States regarding IID's proposed ICS plan. As part of the consultation process, IID hosted several tours of its fallowing program and seepage recovery

facilities for Reclamation staff and representatives of the Basin States. Reclamation appreciates that effort.

Based on our review of IID's proposed ICS plan and completion of the consultation process, Reclamation hereby approves IID's plan for the creation of up to 25,000 acre-feet of ICS for 2009.

The Interim Guidelines provide that a Contractor may modify its approved plan during the year of creation of ICS, subject to approval by Reclamation. In addition, Section 3.D.1 of the Interim Guidelines requires a Contractor to submit a Certification Report to the Regional Director demonstrating the amount of ICS created and that the method of creation was consistent with the approved ICS plan.

If you have questions, please contact Mr. Paul Matuska at 702-293-8164.

Sincerely,

LORRI GRAY-LEE

Lorri Gray-Lee
Regional Director

cc: Mr. Gerald Zimmerman
Executive Director
Colorado River Board of
California
770 Fairmont Avenue, Suite 100
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Mr. Herb R. Gucather
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555 East Washington Avenue, Suite 3100
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Mr. William Hasencamp
Manager, Colorado River Resources
The Metropolitan Water District
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Salt Lake City, UT 84114-6201

Mr. Don Ostler
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Upper Colorado River Commission
355 South 400 East Street
Salt Lake City, UT 84111

Continued on next page.

Continued from previous page.

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Mr. Patrick T. Tyrrell
State Engineer
State of Wyoming
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Ms. Jennifer Gimbel
Director
Colorado Water Conservation Board
1313 Sherman Street, Suite 721
Denver, CO 80123

BRIEFING PAPER

**Permanent Allocation of Water from Ruedi Reservoir
to Support Recovery of Endangered Fish in the Colorado River**

**Proposed Amendments to P.L. 106-392:
An Act to Authorize the Bureau of Reclamation to Provide
Cost Sharing for the Endangered Fish Recovery Implementation Programs
for the Upper Colorado and San Juan River Basins**

Request: Congress is requested to permanently reallocate 5,412.5 acre-feet of the regulatory capacity of Ruedi Reservoir for delivery to endangered fish habitat on the Colorado River and assign all costs associated with the re-allocated water as non-reimbursable.

Background: Ruedi Reservoir is a component of the Fryingpan-Arkansas Project, a U.S. Bureau of Reclamation (Reclamation) project, located on the Fryingpan River in western Colorado. The primary purposes of Ruedi are to provide storage for: 1) 28,000 acre feet (AF) of replacement water that allows out-of-priority diversions by the project to Colorado's east slope, and 2) 51,500 AF of marketable water ("regulatory capacity") for Colorado's west slope uses. A little more than one-third of Ruedi's regulatory capacity is currently under contract with limited prospects for foreseeable future contracting.

Water for Endangered Fish: In 1999, the U.S. Fish and Wildlife Service (FWS) issued a programmatic biological opinion (PBO) for a critical reach of the Colorado River in Colorado related to recovery efforts for four fish species listed as endangered under the Endangered Species Act (ESA). The PBO provides ESA compliance for five U.S. Bureau of Reclamation (Reclamation) projects:

- Fryingpan-Arkansas Project (including Ruedi Reservoir),
- Colorado-Big Thompson Project,
- Colbran Project,
- Grand Valley Project, and
- Silt Project.

The PBO also provides ESA compliance for all existing non-federal water projects and water users of the Colorado River upstream of the Gunnison River depleting approximately 1 million acre-feet/year and for 120,000 acre-feet/year of new depletions.

As part of the PBO, Colorado water users agreed to provide 10,825 acre-feet/year for fish recovery from interim water sources until 2010, by which time permanent sources of water must

be identified and agreements completed between water users and the FWS to provide the permanent source(s) of water.

Process: Water users have identified the required permanent sources of water for endangered fish. Half of the 10,825 acre-feet/year requirement will be met from converting a historical agricultural water right and half from uncontracted, unobligated Ruedi Reservoir water. Reclamation has initiated NEPA compliance on federal actions related to providing 10,825 acre-feet/year for endangered fish. The legislation provides for completion of NEPA compliance before the amendments become effective.

Assignment of Costs: Reimbursable capital costs were assigned separately in Ruedi's authorizing legislation to east and west slope beneficiaries of the project. The east slope's obligation of \$7.6 million was assigned to Southeastern Colorado Water Conservancy District under a conventional Reclamation master contract for the 28,000 AF replacement pool. The obligation to repay Ruedi's \$9.3 million cost was assigned to the 51,500 AF regulatory capacity pool for the west slope's benefit was to be re-paid by water contracts from this pool for west slope uses. There is no traditional, master contract with a west slope project "sponsor" for this portion of the project's cost recovery. A little more than one-third of the available regulatory capacity or contract pool is currently under contract. Given that there are limited prospects for foreseeable future contracting, permanent assignment of 5,412.5 acre-feet of water for endangered fish recovery is prudent and appropriate.

Conclusion: Permanent assignment of 5,412.5 acre-feet of water in Ruedi Reservoir from the west slope's regulatory capacity to endangered fish recovery and associated cost reallocation to non-reimbursable accomplishes several important goals:

- Ensures continuing ESA compliance pursuant to the PBO for all east and west slope Colorado River mainstem water users upstream of the Gunnison River;
- Fulfills Congressional intent and ensures compliance with Colorado law regarding the purposes of Ruedi Reservoir, namely that the regulatory capacity pool is available for the benefit of west slope water users by providing ESA compliance for uses of this water;
- Assists in providing water from Ruedi Reservoir at affordable rates for potential future contracting; and
- Is consistent with long-standing Congressional policy and Reclamation law that water dedicated to fish and wildlife purposes from Reclamation projects is a non-reimbursable cost.

Proposed Amendments to

P.L 106-392

An Act that authorizes the Bureau of Reclamation to provide cost sharing for the endangered fish recovery implementation programs for the Upper Colorado and San Juan River Basins

(a) Definitions- Section 2 of Public Law 106-392 is amended by adding the following:

(11) The term “Ruedi Reservoir” refers to the component of the U.S. Bureau of Reclamation Fryingpan-Arkansas Project on the Fryingpan River in western Colorado.

(12) The term “regulatory capacity” means the 51,500 acre-feet of storage capacity in Ruedi Reservoir as defined in P.L. 87-590, as amended.

(b) Authorization to Fund Recovery Programs- Section 3 of Public Law 106-392 is amended—

(1) Insert a new paragraph (e) –

e)Allocation of Ruedi Reservoir Regulatory Capacity .-- 1) Beginning in FY 2013 and continuing in perpetuity, 5,412.5 acre-feet from the regulatory capacity of water stored in Ruedi Reservoir will be released at the request of the U.S. Fish and Wildlife Service for the benefit of endangered fish habitat in the Colorado River. Such releases shall normally occur in the late summer months to enhance low flows in the habitat, unless otherwise requested by the U.S. Fish and Wildlife Service. No contract shall be required for the release of such water.

2) Such releases shall satisfy one-half the obligation of providing 10,825 acre-feet of water by water users as defined in the Final Programmatic Biological Opinion for the Bureau of Reclamation's Operations and Depletions, Other Depletions, and Funding and Implementation of Recovery Program Actions in the Upper Colorado River above the Gunnison River issued by U.S. Fish and Wildlife on December 20, 1999.

3) The capital and operations, maintenance and replacement costs for providing this water from the regulatory capacity of Ruedi Reservoir shall not be reimbursable.

4) This paragraph becomes effective on completion of compliance with the National Environmental Policy Act by the Secretary regarding the action described in subparagraphs 1) and 2).

(2) Re-letter existing paragraphs (e) through (h) as paragraphs (f) through (i).



OFFICE OF THE SECRETARY

**U.S. Department
of the Interior**

www.doi.gov

News Release

Date: August 27, 2009

Contacts: Debbie Felker (303) 969-7322, ext. 227

Sharon Rose (303) 236-4580

Secretary Salazar, Western Governors and Western Area Power Administration Join Together to Extend Program to Recover Endangered Colorado River Fish

DENVER, CO – Secretary of the Interior Ken Salazar, Colorado Governor Bill Ritter, Jr., former Utah Governor Jon Huntsman, Jr., Wyoming Governor Dave Freudenthal, and Western Area Power Administration Administrator Timothy Meeks renewed their commitment to a nationally recognized program that is working to recover endangered fishes in the Upper Colorado River Basin while water development continues in accordance with state and federal laws.

These leaders signed an extension of a cooperative agreement for the Upper Colorado River Endangered Fish Recovery Program that will extend the program through 2023. The extension will ensure continued cooperative work to recover the endangered bonytail, humpback chub, Colorado pikeminnow and razorback sucker while water development continues for agricultural, hydroelectric and municipal uses in the Upper Colorado River Basin.

Established in 1988, the Recovery Program is a voluntary, cooperative program involving federal and state agencies, water development interests, power customers and environmental organizations in Colorado, Utah and Wyoming.

“This extension of the Recovery Program’s cooperative agreement shows how far we’ve come in the last two decades,” said Secretary Salazar. “When this program began 21 years ago, it was the first conservation initiative of its kind. Never before had such a broad group of state and federal agencies come together formally to work side-by-side with water users, power customers and environmental organizations. I commend all of the program’s partners for developing creative and effective ways to meet the dual goals of endangered species recovery and water development,” he said.

The Department of the Interior recognized the Recovery Program with a Cooperative Conservation Award in 2008, citing the program’s excellence in conservation through collaboration and partnership.

“Balancing the needs of the environment with the beneficial use of our state’s water continues to be a challenge,” said Colorado Governor Bill Ritter, Jr. “On the Colorado River, we are working to recover endangered fish while protecting water users and ensuring the state can develop its entitlements under interstate compacts.”

“The agreement is an example of how an ongoing, highly successful cooperative program reflects the proper approach to providing endangered species conservation and recovery while concurrently working to resolve conflicts between endangered species recovery and the development and use of Compact-apportioned water resources in the Intermountain West,” said Governor Dave Freudenthal of Wyoming.

“I am pleased to extend Western’s participation in this worthwhile conservation effort,” said Western’s Administrator Tim Meeks. “Cost-based and clean, renewable federal hydropower is a critical and highly valued resource to our power customers who serve millions of consumers throughout the West. Through cooperation, we will continue to make progress on these fish recovery efforts in ways that enable Western to carry out our power marketing mission.”

“The Upper Colorado River Endangered Fish Recovery Program is a mutually supported partnership,” said Jon Huntsman, Jr., former governor of Utah, who signed the agreement in July shortly before leaving office to assume the position of Ambassador to China. “It is important to note that because of the cooperation between the partners, water development along the river has continued to proceed without a single lawsuit.”

Recovery actions include instream flow protection, habitat restoration, nonnative fish management, propagation and stocking, and research and monitoring. To meet flow recommendations for endangered fish, water releases from federal reservoirs are being managed in a way that conserves fish, and Recovery Program partners are undertaking water leases, contracts and irrigation efficiency improvements.

Major habitat improvements completed include construction of fish passages at diversion dams, installation of fish screens to prevent fish from becoming trapped in irrigation canals, and development of floodplain wetland areas.

As a result of the cooperative effort, there are signs of recovery of the endangered fishes. Hatchery-raised, stocked razorback sucker are spawning in Upper Basin rivers and there is evidence that their larvae are surviving. Colorado pikeminnow and humpback chub populations fluctuate and, in some, cases are increasing. Stocked bonytail are being recaptured in several locations throughout the Green and upper Colorado rivers.

Since 1988, the U.S. Fish and Wildlife Service has consulted on 1,693 projects depleting more than 2.3 million acre-feet of water per year in the Upper Colorado River Basin. The Recovery Program provides Endangered Species Act compliance for these projects.

For more information, call 303-969-7322, ext. 227, or visit the Recovery Program’s website: www.ColoradoRiverRecovery.org.

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Statement of Michael L. Connor, Commissioner
Bureau of Reclamation
U.S. Department of the Interior
Before the
Energy and Natural Resources Committee
Subcommittee on Water and Power
U.S. Senate
on
S. 1453
Bureau of Reclamation Fish Recovery Programs Reauthorization Act.

July 23, 2009

Madam Chairwoman and Members of the Subcommittee, I am Mike Connor, Commissioner of the Bureau of Reclamation (Reclamation). I am pleased to be here today to provide the views of the Department of the Interior (Department) on S. 1453, the "Bureau of Reclamation Fish Recovery Programs Reauthorization Act." The Department supports S. 1453.

The Upper Colorado River Endangered Fish Recovery Program and San Juan River Basin Recovery Implementation Program (Programs) share the dual goals of recovering populations of endangered fish while water development continues to meet current and future human needs. Program actions provide Endangered Species Act compliance for more than 1,600 federal, tribal, and non-federal water projects depleting more than 3 million acre-feet of water per year in the Colorado and San Juan rivers and their tributaries. The Programs, authorized by Public Law 106-392, as amended, were established under cooperative agreements in 1988 (Upper Colorado) and 1992 (San Juan). Program partners include the states of Colorado, New Mexico, Utah, and Wyoming; the Bureau of Reclamation, Western Area Power Administration, U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, and Bureau of Indian Affairs; Native American tribes; environmental organizations; water users; and power customers.

Public Law 106-392 authorized the use of \$6 million per year (indexed for inflation) of Colorado River Storage Project (CRSP) hydropower revenues from Glen Canyon Dam and other CRSP facilities to support the base funding needs of the Programs through 2011. Base funding is used for program management, scientific research, fish population monitoring, fish stocking, control of non-native fish, and operation and maintenance of capital projects. The bill, as introduced, would simply extend the authorization to utilize CRSP hydropower revenues at the current level (up to \$6 million per year adjusted for inflation, or approximately \$7 million in 2009 dollars) through 2023 to support the base funding needs of both Programs.

These Programs have been nationally recognized for their cooperative approach to recovering aquatic native fish species, avoiding litigation, and providing Endangered Species Act compliance to federal and non-federal water users. Reauthorization for the continued use of CRSP hydropower revenues is critical to the ability of these Programs to realize their goals. There appears to be strong support for this legislation from the Program's non-federal stakeholders.

That concludes my prepared remarks. I would be pleased to answer any questions.

Colorado Water Conservation Board
Construction Fund, Special Funds and Severance Tax Trust Fund Accounts
Non-Reimbursable Investments Status Report
Fiscal Year 2008-2009
Attachment 5d-07

Construction Fund – Non-Reimbursable Investments

This section entitled Construction Fund includes the non-reimbursable investment projects from the Construction Fund, Special Funds and Severance Tax Accounts. The following table summarizes the non-reimbursable investment projects in progress from July 2008 thru June 2009. This table provides the beginning and ending balances for funds available for each project during the fiscal year. Following this table, are project summaries provided by each project manager that detail the financial data, implementation and status of each project.

<u>No.</u>	<u>Manager</u>	<u>Project</u>	<u>July 1 Balance</u>	<u>June 30 Balance</u>
1	Alvarado	Arkansas River Basin DSS Feasibility Study	\$200,000	\$200,000
2	Alvarado	Colorado DSS Irrigated Acreage Refresh Program	\$94,035	\$70,953
3	Alvarado	Colorado DSS Modeling and Engineering Support	\$170,520	\$155,044
4	Alvarado	Colorado Flood Decision Support System	\$500,000	\$454,196
5	Alvarado	Colorado Water Needs and Alternatives Analysis	\$987,425	\$614,938
6	Alvarado	Database Pilot Program	\$6,168	\$5,398
7	Alvarado	Denver Basin Pumping Optimization Model	\$84,000	\$34,088
8	Alvarado	Estimated 2005 Water Use in Colorado	\$67,000	\$10,065
9	Alvarado	Instream Flow Decision Support System	\$102,113	\$102,113
10	Alvarado	Project Imaging System	\$310,140	\$267,553
11	Alvarado	Rio Grande Decision Support System	\$15,011	\$12,339
12	Alvarado	South Platte River Decision Support System	\$3,287,505	\$2,312,489
13	Bassi	Acquisitions of Water for Instream Flow	\$1,000,000	\$1,000,000
14	Bassi	CWCB Stream Gaging	\$389,674	\$342,678
15	Bassi	Instream Flow Engineering Support Services	\$233,539	\$111,946
16	Bassi	Satellite Monitoring System – State Eng Office	\$363,345	\$0
17	Bassi	Stream Gauge Fund	\$298,525	\$179,333
18	Browning	Ag Water Con Clearinghouse & Canal Efficiency	\$30,000	\$25,500
19	Browning	Alamosa River Watershed Project	\$26,047	\$47
20	Browning	Cache La Poudre River Floodway Project	\$170,000	\$150,000
21	Browning	Chatfield Channel Improvement	\$328,155	\$205,383
22	Browning	Chatfield Reservoir Reallocation	\$503,108	\$300,134
23	Browning	Chatfield Reservoir Reallocation Project	\$2,000,000	\$2,000,000
24	Browning	Cherry Creek Flood Safety Investigation	\$21,356	\$6,632
25	Browning	Colorado Floodplain Map Modernization	\$967,118	\$805,867
26	Browning	Enhanced Snowpack Assessment Program	\$162,078	\$20,140
27	Browning	Flood Hazard Mitigation Program	\$14,997	\$6,775
28	Browning	Flood Response Fund	\$344,306	\$265,417
29	Browning	Floodplain Mapping Program	\$31,106	\$7,480

30	Browning	Floodplain Technical Services	\$145,685	\$22,332
<u>No.</u>	<u>Manager</u>	<u>Project</u>	<u>July 1 Balance</u>	<u>June 30 Balance</u>
31	Browning	Snowmelt Timing Study	\$40,000	\$0
32	Browning	Watershed Restoration	\$139,577	\$114,305
33	Browning	Weather Modification Program	\$653,599	\$312,813
34	Deheza	Climate Change Effects on Co Water Resources	\$100,000	\$61,384
35	Deheza	Co Drought Mitigation & Response Plan	\$300,000	\$300,000
36	Deheza	Drought Mitigation Planning Technical Assistance	\$150,000	\$142,160
37	Deheza	Water Conservation Public Awareness Research	\$150,000	\$150,000
38	Deheza	Water Efficiency Grant Program	\$770,858	\$247,409
39	Hecox	Alternative Ag Water Transfer Sustainability Prgm	\$1,500,000	\$1,498,140
40	Hecox	Statewide Water Supply Initiative	\$275,497	\$6,249
41	McAuliffe	Water Education Foundation	\$150,000	\$0
42	McAuliffe	Water Planning Studies	\$49,273	\$49,273
43	Seaholm	Arkansas River Basin Water Quality Baseline Study	\$100,000	\$25,000
44	Seaholm	Co River Compact - State Water Right Admin	\$500,000	\$500,000
45	Seaholm	Colorado River Augmentation Project Development	\$150,000	\$150,000
46	Seaholm	Colorado River Delta in Mexico Consultation	\$155,855	\$155,855
47	Seaholm	High Resolution Gridded Sublimation Estimate	\$65,000	\$65,000
48	Seaholm	Litigation Fund	\$3,305,945	\$2,485,594
49	Seaholm	Lower So Platte Water Mgmt & Storage Site Study	\$500,000	\$500,000
50	Seaholm	Purgatoire River Channel Capacity & Improvement	\$50,000	\$25,000
51	Seaholm	Wild and Scenic Rivers Study	\$400,000	\$269,840
52	Serlet	Canal Modernization & Radio Telemetry Demo	\$75,583	\$75,583
53	Serlet	CCC Ditch Diversion Rehab on San Miguel River	\$65,000	\$65,000
54	Serlet	Closed Basin	\$306,410	\$306,410
55	Serlet	Oak Creek Reservoir Feasibility Study	\$106,287	\$106,287
56	Serlet	Rocky Mountain Fen Demonstration Project	\$100,000	\$100,000
57	Serlet	South Platte Lower River Group	\$150,000	\$150,000
58	Serlet	Fish and Wildlife Resources Fund	<u>\$3,654,857</u>	<u>\$3,391,011</u>
Total Balances for Non-Reimbursable Investments			<u>\$26,816,697</u>	<u>\$20,941,151</u>

Note: * Indicates that there are additional contracts covering the project in the details below.

Details of the Status of the above Projects are as follows:

- Arkansas River Basin Decision Support System Feasibility Study

Authorization: SB 07-122	Grant Amount:	\$200,000
Contract No. None	Current Disbursements:	\$ 0
	Ending Balance:	<u>\$200,000</u>

Water Source: Statewide Streams
Location: Statewide
Sponsor: CWCB

Project Type: Decision Support System
Project Manager: Andy Moore
Beneficiary: Statewide Water Users

No expenditures occurred in fiscal year 2008-2009. However, the request for proposals was sent out and CWCB is currently in the process of selecting a contractor. Once the contractor is selected and under contract, work will begin this fiscal year.

2. Colorado Decision Support System Irrigated Acreage Refresh Program

Authorization: HB 04-1221

Grant Amount: \$150,000

Previous Disbursements: \$ 55,965

Contract No. C154009 *

Available Balance: \$ 94,035

Current Disbursements: \$ 23,082

Ending Balance: \$ 70,953

Water Source: Statewide Streams
Location: Statewide
Sponsor: CWCB

Project Type: Decision Support System
Project Manager: Ray Alvarado
Beneficiary: Statewide Water Users

This funding provided support services for DWR Division 3 irrigated acreage work in Fiscal Year 2007-2008. Agro Engineering, Inc. has been selected to update the Rio Grande River Basin irrigated acreage using 2005 satellite imagery. The work is continuing to update the 2005 coverage. The contractor is currently waiting for Division 3 to complete the well information before this effort can be finalized.

3. Colorado Decision Support System Modeling and Engineering Support Services

Authorization: SB 07-122

Grant Amount: \$200,000

Contract No. C154103

Previous Disbursements: \$ 29,480

Available Balance: \$170,520

Current Disbursements: \$ 15,476

Ending Balance: \$155,044

Water Source: Statewide Streams
Location: Statewide
Sponsor: CWCB

Project Type: Decision Support System
Project Manager: Ray Alvarado
Beneficiary: Statewide Water Users

The work provided related to updating the CDSS White River water resource planning to current CDSS modeling standards to be consistent with other CDSS Colorado River modeling efforts. This effort has been completed.

4. Colorado Flood Decision Support System

Authorization: SB 07-122

Grant Amount: \$250,000

HB 08-1346

\$250,000

Total: \$500,000

Contract No. C154138

Current Disbursements: \$ 45,804

Ending Balance: \$454,196

Water Source: Statewide Streams
Location: Statewide
Sponsor: CWCB

Project Type: Decision Support System
Managers: Ray Alvarado/Tom Browning
Beneficiary: Statewide Water Users

CWCB selected Riverside Technology, Inc. to perform this project. The contractor is in the initial phase of the Flood DSS tasks.

5. Colorado Water Needs and Alternatives Analysis (Colorado River Water Availability Study)
 Authorization: SB 07-122 Grant Amount: \$ 500,000
 HB08-1346 \$ 500,000
 Total: \$1,000,000
 Previous Disbursements: \$ 12,575
 Contract No. C154096 * Available Balance: \$ 987,425
 Current Disbursements: \$ 372,487
 Ending Balance: \$ 614,938
- Water Source: Colorado River and its Tributaries Project Type: Water Availability Analysis
 Location: Statewide Project Manager: Ray Alvarado
 Sponsor: CWCB Beneficiary: Statewide Water Users

AECOM Inc., formerly known as Boyle Engineering, is under contract and has completed several tasks that included meeting with the various Basin Roundtables to get input on specific water resource basin issues. Initial alternative hydrologies have been developed and are being peer reviewed. Additional public meetings will be held to discuss the results of the alternative hydrology tasks.

6. Database Pilot Program
 Authorization: SB 03-110 Grant Amount: \$75,000
 Previous Disbursements: \$68,832
 Contract No. 05000000062 * Available Balance: \$ 6,168
 Current Disbursements: \$ 770
 Ending Balance: \$ 5,398
- Water Source: N/A Project Type: Decision Support System
 Location: Denver Project Manager: Susan Lesovsky
 Sponsor: CWCB Beneficiary: CWCB Staff, and
 Statewide Water Users

The Database Pilot Program project was proposed during Fiscal Year 2003, with the intent of further developing the Stream and Lake Protection database and continuing integration efforts with the State Engineer's Office and Hydro Base. The appropriation is also being used to maintain and update other databases and web technologies used within the CWCB.

The accomplishments of the Database Pilot Program during Fiscal Year 2009 concentrated on providing streaming audio technology, which is used to broadcast Board meetings through the CWCB website. This public service helps communicate the Board's happenings with the water community and other interested parties.

7. Denver Basin Pumping Optimization Model
 Authorization: HB 08-1346 Grant Amount: \$84,000
 Current Disbursements: \$49,912
 Contract No. 09000000055 Ending Balance: \$34,088
- Water Source: Statewide Streams Project Type: Model
 Location: Statewide Project Manager: Andy Moore
 Sponsor: CWCB Beneficiary: CWCB Staff, and
 Statewide Water Users

A groundwater model for the Denver Basin has recently been revised by the USGS. In this project, the model is being utilized by the USGS to investigate the optimization of groundwater pumping

for the benefit of the aquifer system. The project is underway with completion expected during the current fiscal year.

8. Estimated 2005 Water Use in Colorado

Authorization: HB 08-1346

Grant Amount: \$67,000

Current Disbursements: \$56,935

Contract No. 09000000004

Ending Balance: \$10,065

Water Source: Statewide Streams

Project Type: Model

Location: Statewide

Project Manager: Andy Moore

Sponsor: CWCB

Beneficiary: CWCB Staff, and
Statewide Water Users

As part of the USGS National Water Use Information Program, nation-wide water use data is collected every fifth year. However, a Colorado-specific report has not been published since 1989, for data collected in 1985. In this project, CWCB is providing matching funds to the USGS to publish a report for 2005 Colorado water use data. The draft report is currently under review, with completion of the project expected in the next few months.

9. Instream Flow Decision Support System

Authorization: SB 03-110

Grant Amount: \$440,000

Previous Disbursements: \$337,887

Contract No. C154020 *

Available Balance: \$102,113

Current Disbursements: \$ 0

Ending Balance: \$102,113

Water Source: Statewide Streams

Project Type: Decision Support System

Location: Statewide

Managers: Ray Alvarado / Jeff Baessler

Sponsor: CWCB

Beneficiary: CWCB Staff, and
Statewide Water Users

The ISFDSS is currently being used on a daily basis by the Stream and Lake Protection Section. The remaining funds will be used to address any future enhancements that the Stream and Lake Protection Section recommend.

10. CWCB – Imaging System Project

Authorization: SB 99-173

Grant Amount: \$270,000

HB 02-1152

\$150,000

SB 03-110

\$150,000

HB 04-1221

\$145,000

SB 05-084

\$275,000

Contract No. PO100334 *

Total \$990,000

Previous Disbursements: \$679,860

Available Balance: \$310,140

Current Disbursements: \$ 42,587

Ending Balance: \$267,553

Water Source: N/A

Project Type: Imaging System

Location: Denver

Project Manager: Susan Lesovsky

Sponsor: CWCB

Beneficiary: CWCB

In 1999, the General Assembly authorized \$270,000 under SB99-173, Section 8, for the CWCB's participation in the Department of Natural Resource's Electronic Document Imaging System, which

corresponds with the statewide transition to electronic imaging of documents. The CWCB's purpose of acquiring an imaging system was (1) to make information easily accessible to staff and the public, and (2) to minimize the amount of office space required to store paper records.

The accomplishments of the CWCB Imaging System Project during Fiscal Year 2009 concentrated on the following two areas: (1) scanned and uploaded 900 large format loan project and historical water supply maps to Laserfiche, and (2) completed a feasibility study on a data harvesting/integration project with Colorado State University, which investigated the searching of both document management systems at one time. The conclusions reached by this study indicate that harvesting water data and sharing it across systems is possible, and recommends adopting a proven data-sharing protocol.

11. Rio Grande Decision Support System

Authorization: SB 98-1189
SB 99-173

Contract No. C153864 *

Water Source: Rio Grande
Location: Rio Grande Basin
Sponsor: CWCB

Grant Amount:	\$2,000,000
	<u>\$2,983,380</u>
Total	\$4,983,380
Previous Disbursements:	<u>\$4,968,369</u>
Available Balance:	\$ 15,011
Current Disbursements:	<u>\$ 2,672</u>
Ending Balance:	<u>\$ 12,339</u>

Project Type: Decision Support System
Managers: Randy Seaholm / Andy Moore
Beneficiary: Rio Grande Water Users

The Rio Grande Decision Support System (RGDSS) is a continuation of the CWCB long-range goal of having a decision support system in each major river basin in Colorado. The remaining task is to finalize computer modeling under the Surface Water contract. Work is currently being performed to calibrate the surface water model and document the effort. The schedule should be completed by the end of this calendar year.

12. South Platte River Decision Support System

Authorization: SB 99-173
SB 01-157
HB 02-1152
HB 04-1221
SB 05-084
HB 06-1313
HB 08-1346

Contract No. C153953 *

Water Source: South Platte River
Location: South Platte Basin
Sponsor: CWCB

Grant Amount:	\$ 100,000
	\$ 2,000,000
	\$ 2,000,000
	\$ 2,500,000
	\$ 1,500,000
	\$ 2,000,000
	<u>\$ 1,000,000</u>
Total	\$11,100,000
Previous Disbursements:	<u>\$ 7,812,495</u>
Available Balance:	\$ 3,287,505
Current Disbursements:	<u>\$ 975,016</u>
Ending Balance:	<u>\$ 2,312,489</u>

Project Type: Decision Support System
Project Manager: Ray Alvarado
Beneficiary: Statewide Water Users

The South Platte Decision Support System (SPDSS) completed its Phase 4 work and is moving into its final phase, Phase 5. The groundwater model will be completed during Phase 5 in the first part of 2010. The selection of contactors for the surface water modeling effort will be performed in 2010 with the actual work commencing at that time.

13. Acquisitions of Water for Instream Flow

Authorization: HB 08-1346

Grant Amount: \$1,000,000

Current Disbursements: \$ 0

Contract No. None

Ending Balance: \$1,000,000

Water Source: Statewide Streams

Project Type: Acquisitions

Location: Statewide

Project Manager: Linda Bassi

Sponsor: CWCB

Beneficiary: Statewide Water Users

Section 28 of House Bill 08-1346 provides that “[p]rior to any expenditure of funds under this section, the board shall adopt criteria and guidelines regarding its implementation of this spending authority.” Starting in early 2008, CWCB staff worked on drafting (1) amendments to the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program (“ISF Rules”) and (2) Financial Policy 19 to implement House Bill 08-1280 and House Bill 08-1346, both of which involve acquisitions of water for ISF use. ISF Rule 6 governs acquisitions of water for ISF use, and Financial Policy 19 sets forth the Board’s criteria and guidelines for spending the funds provided under HB 08-1346. The process entailed holding a Board workshop and several public meetings on the revised Rules and draft Policy to obtain public input, culminating in a formal Board rulemaking hearing in January 2009. Financial Policy 19 became effective March 1, 2009, and the amended ISF Rules became effective March 2, 2009. Since March 2009, staff has been coordinating with the Colorado Water Trust on several potential water acquisitions, and intends to bring two acquisition proposals to the Board at its September and November meetings that will include requests to spend approximately \$700,000 of the funds authorized by HB 08-1346.

14. CWCB Stream Gaging

Authorization: SB 01-157 to HB 06-1313

Grant Amount: \$1,361,000

Previous Disbursements: \$ 971,326

Contract No. 07000000030 *

Available Balance: \$ 389,674

Current Disbursements: \$ 46,996

Ending Balance: \$ 342,678

Water Source: Statewide Streams

Project Type: Stream Gaging

Location: Statewide

Project Manager: Jeff Baessler

Sponsor: CWCB

Beneficiary: CWCB Staff, and

Statewide Water Users

Background

As the state’s water planning agency, the CWCB relies upon gages operated by the Division of Water Resources (DWR), United States Geological Survey (USGS) and private entities in order to meet the needs of its mission critical program areas including Compact Protection, Decision Support System Development, Floodplain Management and Stream and Lake Protection. However, CWCB gaging needs are often different from those of the DWR and USGS. Although many existing gages provide needed data, the DWR’s mission is to administer the state’s water rights, while the USGS collects data for its co-op entities as well as for long-term scientific record purposes. As a result, stream gages are not always located where the CWCB needs them, nor are they necessarily designed to fit CWCB data collection parameters. Implementation of this project enables the CWCB to strengthen its cooperative efforts with the DWR and USGS to expand, refurbish, redesign and create new gages as well as develop new cost effective strategies to obtain data that will not only benefit the CWCB but statewide stakeholder interests.

Status of Projects / Programs

The following provides a summary on the status of each of the current gaging projects.

1. Flow Alert Monitoring Program
This cooperative project with DWR enables staff and others to monitor specific stream gages throughout the state to monitor low flows for instream flow purposes and high flows for flood flow observations. Funding has been utilized for periodic system updates and for ongoing operation and maintenance, allowing staff to receive near real time alerts via cellular phones and e-mail.
 2. Flood Hardening / Flood Warning Systems and Cableway Improvements.
CWCB staff continues to work with DWR and USGS staff to harden specific gages that were initially ranked in order of priority in 2001. Quarterly coordination meetings between CWCB, DWR and USGS staff are held to evaluate, guide and monitor progress of this project. Staff is currently working with DWR to identify gages of interest to CWCB's Watershed and Flood Mitigation Section that also are candidates for cableway improvements. A new cableway on the Roaring Fork River near Basalt is slated for installation in the fall of 2009.
 3. Update USGS / DWR gages of interest to CWCB with high data rate satellite telemetry equipment
Staff is in the process of evaluating additional gages to be updated. This evaluation is proceeding but has been complicated by the prioritization of USGS co-op program gages and the loss of both NSIP and USGS co-op gages across the state. Staff is coordinating with the USGS to ensure that the telemetry equipment is placed on the highest priority gages that are of interest to CWCB programs. Staff continues to support the Colorado Water Science Center in its efforts to balance funding between the NSIP and Cooperative water programs.
 4. Installation of new gages and operation and maintenance costs at existing gages.
Equipment for the Fraser River gage has been purchased and staff is working with DWR on obtaining the necessary easements. Installation of the equipment was delayed in 2008 while staff attempted to find other stakeholders to share in ongoing operation and maintenance costs. In addition, CWCB has paid for installation of a gage on the Dolores River near Slick Rock, and for ongoing operation and maintenance of the Blue River wire weight gage and for the Cottonwood Creek Gage near Buena Vista. Additional CWCB gage sites continue to be evaluated based on staff discussions with each division engineer to determine appropriate locations that would help with ISF administration, data collection and/or flood monitoring. Additionally, gage installations may be required in connection with pending acquisitions of water for ISF use.
 5. Temporary funding for operation and maintenance of vital USGS Stream Gages
CWCB staff entered into a joint funding agreement with the USGS to provide for the operation and maintenance of USGS gage # 09172500 SAN MIGUEL RIVER NEAR PLACERVILLE, CO. The previous cooperator of the gage was unable to continue with a cost share agreement with the USGS due to increased program costs and requested that CWCB take over funding of O&M while additional cooperators could be solicited for ongoing support. The USGS would have dropped this historic gage (74 years of record) if a cooperator could not be found.
-
15. Instream Flow Engineering Support Services

Authorization: SB 05-084	Grant Amount: \$ 50,000
HB 06-1313	\$100,000
HB 08-1346	<u>\$150,000</u>
	Total \$300,000
Contract No. 07000000005 *	Previous Disbursement: <u>\$ 66,461</u>

Available Balance: \$233,539
 Current Disbursements: \$121,593
 Ending Balance: \$111,946

Water Source: N/A
 Location: Statewide
 Sponsor: CWCB

Project Type: Technical Services
 Managers: Jeff Baessler
 Beneficiary: Statewide

Funding was used to hire temporary state employees to help with technical support for ongoing Instream Flow (ISF) projects and for instream flow recommendation investigations. In addition, funds were used to acquire as-needed engineering services for legal protection of ISF water rights. The as-needed services were required in part as a result of the section's Engineering FTE vacancy.

16. Satellite Monitoring System – State Engineer's Office

Authorization: HB 93-1273 to HB 08-1346

Grant Amount: \$3,793,000
 Previous Disbursements: \$3,429,655
 Available Balance: \$ 363,345
 Current Disbursements: \$ 363,345
 Ending Balance: \$ 0

Contract No. N/A

Water Source: Statewide Streams
 Location: Statewide
 Sponsor: State Engineer's Office

Project Type: Stream Gaging
 Managers: Jeff Baessler / Tom Ley
 Beneficiary: Statewide Water Users

The Satellite Monitoring System includes funding for maintenance and refurbishment of the State Engineer's Satellite Monitoring System. The State Engineer is continuing to make progress in its replacement and refurbishment activities which are required as a result of new satellite data requirements which are being imposed by the National Oceanic and Atmospheric Administration (NOAA).

17. Stream Gauge Fund

Authorization: SB 07-122

Contract No. 08000000131 *

Grant Amount: \$426,378
 Previous Disbursements: \$127,853
 Available Balance: \$298,525
 Current Disbursements: \$119,192
 Ending Balance: \$179,333

Water Source: Statewide Streams
 Location: Statewide
 Sponsor: CWCB

Project Type: Stream Gaging
 Project Manager: Jeff Baessler
 Beneficiary: Statewide Water Users

CWCB has begun to utilize this funding, in addition to the funds authorized under SB 01-157 through HB 06-1313 for the installation of new CWCB gages around the state and to provide for equipment for the hydrographer FTE that the legislature approved in FY 2008. More specifically, staff has purchased 10 Global Water Data Logger / Pressure Transducers; 20 accubar constant flow bubblers; 10 Satlink high data rate data collection platforms and 20 stage discharge recorders. This equipment will be installed at sites around the state for both high and low flow monitoring purposes. The immediate goal is to provide the hydrographer with the tools and equipment necessary to implement a robust stream gage monitoring network that will specifically address CWCB agency needs. In addition, Staff has contracted with Applegate Engineering to develop a hydrographic strategic plan which will guide staff in the coordination, management, and implementation of goals and objectives to meet CWCB stream gaging and data collection responsibilities.

18. Agricultural Water Conservation Clearinghouse and Canal Efficiency Study

Authorization: HB 08-1346

Grant Amount: \$30,000

Contract No. 09000000037*

Current Disbursements: \$ 4,500

Ending Balance: \$25,500

Water Source: Statewide Streams

Project Type: Study

Location: Statewide

Project Manager: Joe Busto

Sponsor: CWCB / CSU

Beneficiary: Statewide Water Users

The Colorado Water Institute successfully accomplished the second phase of the “Agricultural Water Conservation Clearinghouse” project. The following tasks have contributed to the depth and breadth of information about agricultural water conservation presented in this online repository: complete redesign of the website, reorganize the library by using subject categories, create parameters for documents and publications to maintain consistency, develop a wiki for the clearinghouse, develop new and more comprehensive FAQs, present to international AgNIC conference, and submit a proposal for CSREES to continue past relationships and develop new partnerships to address water security for the agricultural sector in the face of a changing climate. The Agricultural Water Conservation Clearinghouse can be viewed at: <http://agwaterconservation.colostate.edu/>.

For the canal efficiency project CWI continues to explore the possibility of controlling sago pondweed using pre-emergence herbicides applied in the spring to dry canals. In the spring of 2009, we established four dry canal application sites and treated 100 ft sections of canal with herbicides that have demonstrated excellent sago pondweed control in greenhouse tank studies. We evaluated sago pondweed response to these treatments in July of 2009. While several treatments appeared to reduce sago pondweed biomass, the biomass present was still sufficient to reduce flow rates and required additional treatments with Magnacide. At one site, we were able to examine the possibility of using mid-season draw down treatments to control sago pondweed, using three aquatic herbicides. One product was a contact herbicide (Reward), while the two other herbicides were systemic (Clearcast, Habitat). All three products controlled 90% to 100% of exposed sago biomass within a few days of application. This appears to be an application technique that could be useful for small ditches and laterals.

19. Alamosa River Watershed Project

Authorization: HB 00-1419

SB 01-157

Grant Amount: \$300,000

\$150,000

Total \$450,000

Contract No. C150037 *

Previous Disbursements: \$423,953

Available Balance: \$ 26,047

Current Disbursements: \$ 26,000

Ending Balance \$ 47

Water Source: Alamosa River

Project Type: Stream Stabilization

Location: Terrace Res. to La Jara in Conejos County

Managers: Tom Browning / Chris Sturm

Sponsor: Alamosa-La Jara WCD

Beneficiary: Alamosa-La Jara Water Conservancy District, Conejos County, property owners and irrigators along the Capulin subreach

This project involves fieldwork, design, and construction of river restoration improvements on the Alamosa River downstream of Terrace Reservoir. The river was straightened in the 1970's, leading to serious instability and erosion problems. This project focuses on the 5-mile sub-reach in the Capulin area. Improvements will include realignment of the channel, bank protection, weirs and other flow control structures. The project engineer has completed the design process and construction has begun.

The project's upstream limit is at Gunbarrel Road, and construction began there in September 2004 and proceeded downstream. During the fall of 2004 and the spring of 2005, the channel was realigned and structures were installed for a distance of approximately 1.5 miles downstream of Gunbarrel Road. Additional work was completed in April 2005, just prior to the snowmelt runoff during that year. Substantial completion of the project tasks was achieved, but staff withheld a small portion of project funds as a retainer until some contract issues were resolved between the applicant, consultant, and contractor; these issues were recently resolved. Thus, the final funds will be used to reconstruct the San Jose #2 and the Ramona Valdez cross vane diversion structures by the Alamosa River Watershed Restoration.

Lastly, the local stakeholder group recently received additional funding from the Water Supply Reserve Account and other sources to complete the remaining work on the Alamosa River near Capulin. The total cost estimate for finishing the last 2.4 miles of stream restoration is approximately \$750,000.

20. Cache La Poudre River Floodway Project

Authorization: SB 03-110	Grant Amount:	\$150,000
HB 08-1346		<u>\$150,000</u>
	Total	\$300,000
	Previous Disbursements:	<u>\$130,000</u>
Contract No. C154042	Available Balance:	\$170,000
	Current Disbursements:	<u>\$ 20,000</u>
	Ending Balance;	<u>\$150,000</u>
Water Source: Cache La Poudre River	Project Type:	Feasibility Study
Location: City of Greeley	Project Manager:	Joe Busto
Sponsor: City of Greeley, Corps of Engineers	Beneficiary:	City of Greeley

CWCB has a contract with Greeley that is tied to deliverables developed by the US Army Corps of Engineers for this General Investigation Study. That is why \$20,000 has been invoiced. The Corps is studying stream restoration and flood damage reduction alternatives. Greeley will invoice the CWCB once the Corps has met those deliverables. The current focus has been the future without project (do nothing) conditions that was completed in March 2009 yielding some unexpected results: Increase in size of frequent (2 thru 25-year) flood events is expected to continue, with 2-year flood peaks expected to be 37% higher after 2035 than current floods, channel aggradations from sediment build-up expected to increase flood stages in Greeley in future floods, especially for more frequent events. Any upstream water supply projects, such as NISP would tend to increase channel aggradations and lower flood discharges for some frequencies. Future Equivalent Annual Damages (EAD) increased from \$1,266,000 to \$2,379,000 based upon forecasted flood runoff and channel aggradations. Riparian ecosystem is expected to continue to deteriorate, chiefly due to urban pressure and invasive species. The focus of this technical assistance was riparian ecosystem restoration, river morphology and sediment transport. Recommendations were made for additional geomorphology study. Present work efforts are focused on completing plan formulation and evaluation, wildlife and wetlands survey. Other tasks to be performed before concluding the study include comparing alternatives, recommending a plan, agency technical review (ATR), and the Feasibility Scoping Meeting (FSM). Future study efforts will focus on improving flood damage reduction methods and solution economics and developing the best plan for viable ecosystem restoration of the Cache la Poudre River. In addition, cost-shared recreational facilities could be developed compatible with the Corps project and with current local and regional recreational planning efforts. Anticipated study costs have increased from \$1,560,000 to \$2,420,000. The Corps is preparing a Schedule and Cost Change Request (SACCR) document.

21. Chatfield Channel Improvement

Authorization: SB 79-537 – SB 90-41	Grant Amount:	\$7,272,000
	Previous Disbursements:	<u>\$6,943,845</u>

Contract No. C153882 *

Available Balance: \$ 328,155
Current Disbursements: \$ 122,772
Ending Balance: \$ 205,383

Water Source: South Platte River
Location: Downstream of Chatfield Reservoir
Sponsor: CWCB

Project Type: Flood Control
Managers: Tom Browning / Joe Busto
Beneficiary: CWCB – Metro Area

The Chatfield Downstream Channel Improvement Project (Project) is a flood control project constructed by the Corps of Engineers where a section of the South Platte River just downstream of the dam to Hampden Avenue was straightened and lined with rip rap in order to contain the 100-year flood flows. CWCB signed agreements and is responsible for maintenance and repair of the project. Annually in the spring the Flood Readiness Branch of the Omaha Corps of Engineers grades the Project. Several years of minimally acceptable (2003-2008) ratings given to the CWCB has led to vegetation removal inside the channel and on the banks to help with flood conveyance. Funding through easement agreements and the original authorization is used to match with the Urban Drainage and Flood Control District in a Trust Agency Account opened in 2007. The CWCB funding is dwindling and the Members should consider an appropriation for the Project. The state/federal agreements have no expiration date and funding generated through easement requests is sporadic. The last easement that generated funding was in 2007 for the Roxborough Metropolitan District waste water pipeline. Once staff gets the channel cleaned, a program of annual maintenance will be recommended by staff. UDFCD is willing to put \$50,000 in as a match with the CWCB to maintain the channel. UDFCD helps with vegetation removal on sandbars but philosophically doesn't agree with the removal of Willows on the banks. Work specific to this fiscal year is: staff issued \$25,000 purchase orders to CTM and L&M in August 2008; another one in November 2008 to Arbor Force for vegetation removal on the banks of the South Platte River Channel; and through the 50/50 agreement with UDFCD completed \$100,000 of culvert repair and vegetation removal on sandbars in the channel. Sedimentation is also an issue identified by the Corps of Engineers and staff has met with Carson nature center about a river restoration project upstream of this reach that could possibly peel back the deeply incised banks, restore a more nature floodplain, and lessen the sediment load on the downstream reach that the CWCB owns.

22. Chatfield Reservoir Reallocation Study

Authorization: SB 97-008
HB 98-1189
SB 07-122

Grant Amount: \$ 300,000
\$ 200,000
\$ 600,000
Total \$1,100,000

Contract No. C153882A*

Previous Disbursements: \$ 596,892
Available Balance: \$ 503,108
Current Disbursements: \$ 202,974
Ending Balance: \$ 300,134

Water Source: South Platte River
Location: 10 miles South of Denver
Sponsor: CWCB, U.S. Army Corps of Engineers

Project Type: Reservoir Supply Study
Project Manager: Tom Browning
Beneficiary: Colorado Water Users

This project involves cooperating with the Corps of Engineers (Corps) and local water users to complete a Feasibility Report and Environmental Impact Study (FR/EIS) regarding the reallocation of up to 20,600 acre-feet existing flood control storage to multi-purpose storage in Chatfield Reservoir. The reallocation study is looking at the viability of developing new storage space within the existing Chatfield Reservoir located in the South Platte River basin. The Corps has determined that 20,600 AF of water supply storage space can be made available based on an approved Antecedent Flood Study. The local water users have cooperated with CWCB and the Corps to complete several key components of the FR/EIS, and work continues towards finishing and releasing a Draft EIS for public review.

The current water users involved in the FR/EIS include the South Metro Water Supply Authority, Centennial W&S District, Town of Castle Rock, Roxborough Metro District, Castle Pines Metro District, Castle Pines North Metro District, Perry Park Country Club, Center of Colorado WCD, Mt. Carbon Metro District, Aurora, Brighton, Central WCD, Western Mutual Ditch Company, State Parks, and Denver Botanic Gardens. A large coalition of stakeholders has been assembled to allow for input on all aspects of the proposed reallocation, and affected DNR agencies are working closely together.

This study has been successful due to strong partnerships and solid teamwork. This study also holds promise to develop new storage space in the urban setting of the South Platte Basin perceived as helpful in meeting current and future water demands.

Although the June 30, 2009 balance shows just over \$300 K remaining, the current (August 2009) amount available for study purposes is actually less than \$95 K due to recent payment of invoices and new encumbrances.

23. Chatfield Reservoir Reallocation Project

Authorization: HB 08-1346

Grant Amount: \$2,000,000

Current Disbursements: \$ 0

Contract No. 09000000037*

Ending Balance: \$2,000,000

Water Source: South Platte River

Project Type: Study

Location: 10 miles South of Denver

Project Manager: Tom Browning

Sponsor: CWCB, U.S. Army Corps of Engineers

Beneficiary: Statewide Water Users

The purpose of this authorized funding is to act as “seed money” for the Chatfield Reservoir Reallocation Project as described in item number 22 above. The seed money is intended to assist with finalization of FR/EIS study tasks that lead into the implementation phase of the project. Implementation of the project, if approved, will consist of contracting with the Corps and 15 water providers, final design with plans and specifications, program management, recreation modification, environmental mitigation, and stakeholder coordination. The \$2 M is purposely left untouched for the time being so as to utilize it in the most meaningful and efficient manner to further the goals of implementing the reallocation of storage space in the reservoir. In other words, the funds are still greatly needed and will be encumbered appropriately at the right time.

24. Cherry Creek Flood Safety Investigation

Authorization: SB 99-173

Grant Amount: \$ 75,000

SB 01-157

\$ 75,000

Total \$150,000

Contract No. C153910A *

Previous Disbursements: \$128,644

Available Balance: \$ 21,356

Current Disbursements: \$ 14,724

Ending Balance: \$ 6,632

Water Source: Cherry Creek

Project Type: Flood Control

Location: Southeast Denver Metro

Project Manager: Tom Browning

Sponsor: CWCB

Beneficiary: Greenwood Village,
Aurora, Douglas and
Arapahoe Counties

This project involved a technical review of the National Weather Service, July 13, 1995, Probable Maximum Precipitation (PMP) Study for the Corps Dam Safety Investigation of the Cherry Creek Dam and Reservoir. This project also developed into a site-specific analysis for a PMP event in the Cherry

Creek Basin. CWCB, in cooperation with the Cherry Creek Work Group, performed a technical review of the published PMP investigation and then worked with local governments in Douglas and Arapahoe Counties to perform the PMP review and a new site-specific PMP analysis. American Weather Associates (AWA) was the consultant that was selected and contracted for the work. The site-specific PMP was completed by the AWA team and demonstrated lower PMP values than those previously published by the National Weather Service.

The final PMP report was accepted by CWCB and local sponsors, and then transmitted to the Corps for review and consideration. A Congressional letter then authorized the Corps to continue work on the effort and specifically directed them to review the PMP study and use it for a Probable Maximum Flood (PMF) analysis. The Corps has completed its detailed review of the PMP report and is working with AWA and the CWCB to revise and update the document for final acceptance. . A PMF study will be initiated by the Omaha District of the Corps, and results will be used for a dam safety investigation to determine what actions, if any, are needed to secure the safety of the flood control reservoir according to federal standards. A small amount of remaining funds (less than \$7k) are being held to use for any final analyses or report changes that may be needed as a result of an independent peer review of the PMP study.

25. Colorado Floodplain Map Modernization

Authorization: SB 03-110 to HB 08-1346

Contract No. C154013 *

Grant Amount: \$1,859,318

Previous Disbursements: \$ 892,200

Available Balance: \$ 967,118

Current Disbursements: \$ 161,251

Ending Balance: \$ 805,867

Water Source: N/A

Location: Statewide

Sponsor: Statewide

Project Type: Floodplain Delineation

Project Manager: Thuy Patton

Beneficiary: CWCB – Statewide

This program is a federally funded but state-managed floodplain mapping program, with matching funding from state and local governments. Floodplain maps originally prepared as part of the Federal Emergency Management Agency's (FEMA's) National Flood Insurance Program (NFIP) are being updated and revised. The new maps are digital and are prepared in a countywide format. Beginning in Fiscal Year 2004, CWCB worked directly with FEMA and the affected local governments to start the process of updating and revising old Flood Insurance Rate Maps into the new digital format. Counties, which include the county and its incorporated communities, that have been completed or are in progress are: Denver, Broomfield, Douglas, Boulder, Adams, Arapahoe, Grand, Garfield, Jefferson, Larimer, Pitkin, Routt, Fremont, Clear Creek, Montezuma, Mesa, Eagle, Pueblo, Teller, La Plata, Weld, Archuleta, Summit, Delta, Elbert, El Paso, Rio Grande, Montrose, Park, Morgan, Prowers, and Gunnison Counties and the City of Boulder.

The Denver Metropolitan area counties were all managed by the Urban Drainage and Flood Control District with technical and financial assistance from CWCB. All other studies are being managed by CWCB staff with consulting assistance from two engineering teams that were selected and contracted for this work.

The CWCB Map Modernization Fund has been instrumental for leveraging local and state funds to maximize federal grants to the program. Colorado is seen as a floodplain mapping leader within FEMA Region VIII and within the country as a whole. The remaining balance does not reflect approximately \$666,000 that has been encumbered for projects currently in progress. The encumbered balance was transferred to fiscal year 2010 as these are multiple year projects.

26. Enhanced Snowpack Assessment Program

Authorization: SB 05-084
HB 06-1313

Contract No. C154044

Water Source: N/A
Location: Statewide
Sponsor: CWCB

Grant Amount: \$100,000
\$100,000
Total \$200,000
Previous Disbursements: \$ 37,922
Available Balance: \$162,078
Current Disbursements: \$141,938
Ending Balance: \$ 20,140

Project Type: Assessment Study
Managers: Joe Busto/Michelle Garrison
Beneficiary: Colorado Water Users

The Enhanced Snowpack Assessment Project was developed by the CWCB with the contract managed by the U.S. Bureau of Reclamation. The Project developed quantitative spatial snowpack information specific to Colorado using the NOAA experimental full energy mass balance snowpack model called SNODAS (Snow Data Assimilation System). Phase I developed a web-based archive of Colorado snowpack maps for SNODAS output including snowpack depth, snow water equivalent (SWE), snowpack temperature, and SWE change. Phase II included quantitative analysis of the SNODAS model and its usefulness in hydrologic modeling and streamflow forecasting.

Phase III was the final phase and was completed in February 2009. The CWCB received a final report from the phase II and III from Riverside Technologies inc. (RTi). The Project concluded with the development of tools to automate use of SNODAS data for map creation and data analysis, compilation of past years' data into maps and spreadsheets for comparison with future years' snowpack data, and analysis of how to best use SNODAS data to improve streamflow forecasts.

The project focused on methods and models that could be used by the River Forecast Centers (RFCs) of the National Weather Service (NWS). Results from the study are already being incorporated into streamflow forecasting methods at the Colorado Basin River Forecasting Center (CBRFC). Ed Clark from the CBRFC provided a letter to the CWCB in March 2009 thanking them for their funding of this project and citing the following benefits to the CBRFC from the project:

- Provision of modeled SWE adjustment methods in snowmelt dominant basins.
- Development of proprietary software to aid in the implementation of the NWS Research Distributed Hydrologic Model (RDHM) across many basins in Colorado,
- Provision of a detailed methodology and software package to adjust snow states based within in situ observations,
- Calibration of the RDHM for four headwaters basins within Colorado, and
- Insight into the challenges of distributed modeling in complex mountainous basins.

Phase III completed all CWCB funding and effort in the "Enhanced Snowpack Assessment Project." RTi recommendations included developing statewide displays of SNODAS model output in the Flood Decisions Support System, and similar work in other river basins like the South Platte and Arkansas.

27. Flood Hazard Mitigation Program

Authorization: HB 04-1221
SB 05-084

Contract No. 06000000063 *

Grant Amount: \$ 75,000
\$ 75,000
Total \$150,000
Previous Disbursements: \$135,003
Available Balance: \$ 14,997
Current Disbursements: \$ 8,222
Ending Balance: \$ 6,775

Water Source: All Colorado Streams
Location: Statewide
Sponsor: CWCB

Project Type: Mitigation
Project Manager: Tom Browning
Beneficiary: All Colorado Communities

The Flood Hazard Mitigation Program combines flood mitigation and stream restoration. The objective of these projects is to reduce the potential for flood damages while enhancing stream channel and watershed health and stability. Two projects have been funded to date, and a third project will be funded in July or August 2006.

The Big Dry Creek Watershed Association is analyzing flooding and erosion problems along portions of Big Dry Creek in southern Weld County. The majority of the watershed upstream of Weld County lies in Thornton, Westminster, the City and County of Broomfield, and unincorporated Adams County. The watershed is heavily urbanized, and questions have arisen about the storm drainage practices currently in effect in each of the upstream jurisdictions. A grant of \$10,000 was provided to analyze current conditions and practices in an effort to understand the reasons for the problems being experienced downstream. The preliminary report has been prepared and submitted for review and finalization.

The Willow Creek Reclamation Committee focuses on watershed restoration for the Willow Creek watershed in and around the City of Creede, in the San Luis Valley. In combination with funding from two other sources, the Flood Hazard Mitigation Program is helping to fund the design and construction of flood control and stream stability features at the confluence of Windy Gulch and Willow Creek, immediately upstream of Creede. The three funding sources are providing a total of \$46,000 in grants, with \$10,000 coming from the Flood Hazard Mitigation Program. Final design was completed in late 2005, with construction occurring after that time.

The third project is a pilot stream restoration project related to Pikes Peak Highway. The Rocky Mountain Field Institute has been conducting studies to determine the most effective and feasible structures and activities for restoring streams affected by erosion and sedimentation associated with the Pikes Peak Highway. The affected watersheds are at elevations ranging from approximately 9,000 feet to approximately 13,000 feet. The grant supported implementation of stream stabilization activities during 2005 and 2006. The timing of the construction was contingent on the review and approval process by the U.S.D.A. Forest Service.

Most of the remaining funds for this allocation have already been encumbered, and the actual funds available for use are on the order of \$2 K.

28. Flood Response Fund

Authorization: SB 01-157 to HB 08-1346

Contract No. C154008 *

Grant Amount: \$955,391

Previous Disbursements: \$611,085

Available Balance: \$344,306

Current Disbursements: \$ 78,889

Ending Balance: \$265,417

Water Source: All Colorado streams
Location: Statewide
Sponsor: CWCB

Project Type: Quick Response to flooding
Project Manager: Kevin Houck
Beneficiary: CWCB - Statewide

The Flood Response Fund (Fund) provides the CWCB with opportunities to participate in flood preparedness, response and recovery activities throughout Colorado. The Fund supports five elements of the program, which are Flood Forecasting and Preparation, Aerial Photography of Flooded Areas, Flood Documentation and Identification of Specific Hazards, Evaluations and Revisions of Floodplain Designations, and Development of Disaster and Recovery Mitigation Plans.

The Board has previously approved the staff's program mission and guidelines for the administration of the Fund. The program is administrated by the CWCB's Flood Protection Section and is fully operational at this time. In fact, four out of the five program elements were invoked and utilized during Fiscal Year 2009 with successful results. These activities included snowmelt flood preparation activities, long-term weather outlooks for flood and drought purposes, post-flood documentation for various flooding events, and floodplain evaluations to assess CWCB designated floodplains for validity. A portion of this work also proved to be valuable for the Colorado Flood Task Force and Water Availability Task Force.

It is important to note that a substantial amount of the funds in this account are intentionally held back each year in order to have funding available to respond to a serious flood disaster. When no disaster occurs, as was the case this fiscal year, many of the funds go unspent. It is important to emphasize that this does not mean that the funds are not needed; merely, it is the nature of how this fund is set up that occasionally significant monies are still remaining at the close of the period.

29. Floodplain Mapping Program

Authorization: SB01-157

Contract No. C154076 *

Grant Amount: \$250,000

Previous Disbursements: \$218,894

Available Balance: \$ 31,106

Current Disbursements: \$ 23,626

Ending Balance: \$ 7,480

Water Source: N/A

Location: Statewide

Sponsor: CWCB

Project Type: Floodplain Delineation

Project Manager: Thuy Patton

Beneficiary: Colorado Water Users

This program provided state financial and technical support for local floodplain mapping initiatives. This funding supported efforts statewide. The floodplain mapping activities related to this program and the remaining funds will be completed in the current fiscal year.

30. Floodplain Technical Services

Authorization: SB 05-084

HB 06-1313

Contract No. C154050 *

Grant Amount: \$175,000

\$175,000

Total \$350,000

Previous Disbursements: \$204,315

Available Balance: \$145,685

Current Disbursements: \$123,353

Ending Balance: \$ 22,332

Water Source: Various

Location: Statewide

Sponsor: CWCB

Project Type: Technical Assistance

Project Manager: Kevin Houck

Beneficiary: Colorado Water Users

This program helped develop the statewide Meteorological Flash Flood Prediction Program for the State of Colorado. This program is performed during the flood season from May through September by HDR Engineering for the purpose of providing daily notification of flood threats based on meteorological conditions. Other tasks funded by this account include a series of workshops held by Dewberry to market the new Statewide Floodplain and Drainage Criteria Manual and assist with its use, a contract with McLaughlin Rincon to assess stream alteration activities on floodplains, assistance to the City of Woodland Park for floodplain map revisions, preparation of an annual report for the section for distribution to CWCB board and the public, assistance to the Town of Granada for levee repairs to remain within compliance with the Corps of Engineers' Inspection of Completed Works Program, on-call services by Ayres Associates to the City of La Junta and the City of Las Animas, development of a

sediment transport analysis for Fountain Creek by the USGS for the benefit of El Paso and Pueblo Counties, preparation of a drainage master plan for a repetitive flooding watershed in Mesa County, a matching amount to leverage other state and local funds for a rainfall analysis study for the City of Colorado Springs, and operating expenses incurred by the Flood Protection Section to carry out its duties around the state. Overall, the approximately \$325,000 spent from this account has been leveraged with over \$500,000 of other federal, state, and local funds for the projects identified above. Most of the funding recipients indicated that the project could not have taken place without the CWCB funds. Final reports have been obtained for all completed projects.

31. Snowmelt Timing Study

Authorization: SB 07-122

Grant Amount: \$40,000

Current Disbursements: \$40,000

Contract No. 08000000052

Ending Balance: \$ 0

Water Source: N/A

Project Type: Scientific Study

Location: Statewide

Managers: Michelle Garrison/ Joe Busto

Sponsor: CWCB

Beneficiary: Statewide Water Users

The U. S. Geological Survey (USGS) analyzed trends in the timing of snowmelt and associated streamflows in Colorado from 1978 - 2007 using the Regional Kendall Trend test. Highlights of the results and conclusions from the study include:

- Snowmelt shifted approximately two weeks earlier into the spring during the 1978-2007 periods.
- Runoff began earlier and continued for a slightly longer period with slightly lower flows.
- The trends were most noticeable for western and southern Colorado.
- Timing of snowmelt and runoff are strongly dependent on spring temperatures, which increased throughout the period.
- Continued increases in spring temperatures will result in continued shifts in timing of snowmelt and runoff.
- These shifts in timing will have impacts (some positive, some negative) on flood risk, water rights, reservoir operations, fish and wildlife, wildfire risk and severity, and other streamflow-related issues.

The USGS provided a final report to CWCB and published a journal article on this study.

32. Watershed Restoration

Authorization: HB 06-1313

Grant Amount: \$150,000

Previous Disbursements: \$ 10,423

Contract No. 07000000077

Available Balance: \$139,577

Current Disbursements: \$ 25,272

Ending Balance: \$114,305

Water Source: Various

Project Type: Watershed Restoration

Location: Statewide

Project Manager: Chris Sturm

Sponsor: CWCB

Beneficiary: Watershed Interests

The CWCB Watershed Restoration Program encumbered \$137,000 through its competitive grant program. Invoices were submitted for a total of \$71,800. The current disbursements do not reflect this because \$46,500 of these invoices was paid with Severance Tax money. This was done to preserve money for the Watershed Restoration Program for the next grant cycle. The project expenditures were funded by Severance Tax because they were of a statewide interest. Projects in the current grant cycle include Middle Boulder Creek channel restoration/habitat improvement, Kerber Creek channel protection, Eagle River riparian re-vegetation maintenance/monitoring, and Tarryall Creek riparian re-

vegetation/bank stabilization. Respectively, the projects represent the South Platte River Basin, Rio Grande River Basin, Colorado River Basin, and the Upper South Platte River Basin. Another \$236,000 authorized for FY 2009-2010 was awarded to grant applications from the same grant cycle.

33. Weather Modification Program

Authorization: HB 04-1221 to HB 08-1346	Grant Amount: \$480,000
	Previous Disbursements: <u>\$228,401</u>
Contract No. 07000000053 *	Subtotal: \$251,599
	Donations: <u>\$402,000</u>
	Available Balance: \$653,599
	Current Disbursements: <u>\$340,786</u>
	Ending Balance: <u>\$312,813</u>
Water Source: N/A	Project Type: Cost Share Grants
Location: Denver	Manager: Joe Busto
Sponsor: CWCB	Beneficiary: Statewide

In Fiscal Year 2009, CWCB allocated \$175,000 and received donations through the Colorado River agreements of \$126,000 and \$42,000 from the New Mexico Interstate Stream Commission for a total of \$343,000 to be used over winter 2008-2009 for grants, equipment, and studies that benefit local wintertime cloud seeding programs. Issues with TABOR made it difficult for CWCB to assist programs; in short they couldn't take the state and regional funding assistance. At the request of the Southwestern Water Conservation District, CWCB started to contract with the San Juan Resource Conservation and Development Council in July 2008. Due to a contracting freeze and the inability to get a template contract from the State, CWCB worked with the San Juan RC&DC and the Attorney General's office in December 2008 to get an agreement together that would provide funding for three southwestern cloud seeding programs (Western & Eastern San Juan Mountains Programs and the Dolores/Telluride Program). Due to the Colorado River funding being received in the spring of each year, there are complications to complete the work as agreed to for the previous winter as the process spreads over two fiscal years.

CWCB executed a Master Agreement on April 1, 2009 and is awaiting the execution of Task Order Letter #1 for \$145,000. This task order letter provides \$123,000 in cloud seeding grants to the three programs and \$22,000 for a weather station at Purgatory Ski Area. Staff requested a Purchase order of \$40,000 to Gunnison County in February 2009. There is a purchase order issued to Desert Research Institute for \$57,000 to fabricate a generator. The generator is staged in Durango awaiting deployment on Mancos Mountain and we are awaiting a final report from DRI. A purchase order for \$9,000 was issued to WET International for a Downwind Effects Study and a final report was received in April 2009. A purchase order for \$38,540 was issued for DRI and it was to operate, repair, and restock solution for two remote operated generators and one weather station on the Grand Mesa. A \$5,000 interagency transfer was given to the Colorado Avalanche Information Center for hosting a website used for cloud seeding regulatory duties of curtailing operations during high hazard levels for mountain passes. A purchase order for \$15,000 was issued to the Water Enhancement Authority for manually operated cloud seeding on the Grand Mesa. Staff also contributed \$1,500 towards the publication of the Vail Cloud seeding Streamflow Evaluation. The total activities listed in this paragraph represent \$310,040 that is either requested, under contract, or awaiting finalization of contracts. The remaining funding was used for professional organization dues, conferences, workshops, and travel.

34. Climate Change Effects on Colorado Water Resources Study

Authorization: HB 08-1346	Grant Amount: \$100,000
	Current Disbursements: <u>\$ 38,616</u>
Contract No. C154126 *	Ending Balance: <u>\$ 61,384</u>
Water Source: N/A	Project Type: Study

Location: Statewide
Sponsor: CWCB

Project Manager: Veva Deheza
Beneficiary: Statewide

Climate Change has the potential to greatly impact Colorado's natural resources, included water resources. Governor's Ritter's Climate Action Plan laid out a number of goals, two of which included adaptation and education and outreach. In accordance with these goals CWCB worked with Western Water Assessment (WWA) and NOAA to produce a synthesis report entitled "Climate Change in Colorado" which was released in October of 2008. This report, the first of its kind in the west, provided an in depth look at the science of climate change and how it pertains directly to Colorado. It has been extremely well received and is being used as the basis of continued work by both CWCB and other organizations. CWCB is also partnering with WWA and NOAA to do a series of workshops to educate Coloradoans on the report findings. These workshops will be held in four regions of the state this fall and will serve to inform the public as well as gather input for the subsequent report looking at impacts to various sectors of the state as a result of climate change.

35. Colorado Drought Mitigation and Response Plan Implementation

Authorization: HB 08-1346	Grant Amount: \$300,000
	Current Disbursements: \$ <u>0</u>
Contract No. None	Ending Balance: <u>\$300,000</u>
Water Source: N/A	Project Type: Drought Plan
Location: Statewide	Project Manager: Veva Deheza
Sponsor: CWCB	Beneficiary: Statewide

In compliance with the Federal Emergency Management Agency requirements, CWCB is in the process of a comprehensive revision to the State Drought Mitigation Response Plan. This plan will be a collaborative, statewide effort that will look at mechanisms for drought monitoring, mitigation and response. The plan will also incorporate climate change for the first time. CWCB is in process of contracting with the selected consultant for the plan and hopes to have the procurement process completed by October 2009. The entire revised plan will be completed in September 2010.

36. Drought Mitigation Planning Technical Assistance

Authorization: SB 07-122	Grant Amount: \$150,000
	Current Disbursements: \$ <u>7,840</u>
Contract No. 09000000020	Ending Balance: <u>\$142,160</u>
Water Source: N/A	Project Type: Tech. Planning Asst.
Location: Statewide	Project Manager: Veva Deheza
Sponsor: CWCB	Beneficiary: Statewide Water Users

The Drought Mitigation Planning Technical Assistance Program seeks to implement major issues identified in the 2004 CWCB-commissioned Drought & Water Supply Assessment Study. Issues included the need for future drought mitigation planning projects whereby public information and education, as well as technical assistance, in drought planning would be critical in addressing the availability and reliability of water supplies in the future. Among the key recommendations made in this study, the need for technical support was highlighted. To address these needs, the State could provide technical assistance to support local entities in their various water planning and implementation efforts by providing a program that would:

- Develop better technical understanding to the nature of drought – its reoccurrence; and its metrological, agricultural, & hydrological characteristics and features (especially as it relates to planning for future water supplies);

- Develop guidance programs and manuals with recommendations for different types of best management practices, communications methods, and drought plan components that water providers could use; and
- Conduct trainings and workshops for water providers, water planners, and water managers statewide.

In the 2008 Legislative Session, CWCB's Office of Water Conservation & Drought Planning was appropriated funds to hire a full-time Drought Planning Specialist. This new position will be primarily responsible for utilizing these funds for high priority drought planning technical assistance projects and programs of statewide interest. Staff anticipates allocating the majority of these funds for drought planning technical assistance projects during Fiscal Year 2008 – 2009. An example of the type of project to be funded is the upcoming Governor's Conference on Managing Drought and Climate Risk, October 8-10, 2008. This statewide conference is targeted at water providers and will provide information on sound approaches to planning for drought and climate change in the future. Staff will provide a detailed update to the Board regarding the progress for this initiative during the current fiscal year.

37. Water Conservation Public Awareness Research Study

Authorization: SB 07-122

Grant Amount: \$150,000

Current Disbursements: \$ 0

Contract No. None

Ending Balance: \$150,000

Water Source: N/A

Project Type: Research Study

Location: Statewide

Project Manager: Veva Deheza

Sponsor: CWCB

Beneficiary: Statewide Water Users

A comprehensive Statewide Water Conservation Public Awareness Research Study will be conducted to pinpoint critical attitudes and behaviors among Coloradoans and those affected by recommended water efficiency best management practices. A combination of qualitative and quantitative research will be conducted strategically to benchmark statewide attitudes and perceptions about water efficiency. Since attitudes, microclimates, and water supplies vary in Colorado, the research studies will be segmented geographically according to the nine HB 05-1177 roundtable basins around the State. The water awareness strategy will focus on three research target groups for all regions, regulated community, stakeholders, and citizens. The research strategy would include a quantitative and qualitative survey, in-depth interviews, and focus groups.

The study findings may be used as benchmarks for a future Water Conservation Public Awareness and Education Campaign, and as a resource from which to develop the most effective messaging and umbrella brand for the State's potential future water awareness and conservation efforts. Potential statewide marketing objectives include educating individual Coloradoans of the importance of water conservation to their future as residents of the State and to complement and reinforce other local & regional water conservation public-awareness programs and activities; striving to make all Coloradoans aware that their natural water resources are limited and not immune to the consequences of their individual behaviors. Similar research in other states indicates that the more people know about their water the more likely they are to conserve it.

38. Water Efficiency Grant Program

Authorization: HB 05-1254, SB 07-008

Grant Amount: \$2,107,158

Previous Disbursements: \$1,336,300

Contract No. C154070 *

Available Balance: \$ 770,858

Current Disbursements: \$ 523,449

Ending Balance: \$ 247,409

Water Source: N/A
Location: Statewide
Sponsor: CWCB

Project Type: Water Efficiency Grants
Project Manager: Veva Deheza
Beneficiary: Statewide

The Water Efficiency Grants awarded during Fiscal Year 2009 are as follows:

<u>Name of Applicant</u>	<u>Amount</u>	<u>Type of Grant</u>
Colorado WaterWise Council	\$160,000	Education/Outreach
Colorado Watershed Network	\$ 50,394	Education/Outreach
Total Amount Awarded:	<u>\$210,294</u>	

In Fiscal Year 2009, CWCB awarded two Water Resource Conservation Public Education & Outreach grants. The grants provided funding for Project WET, a program that provides water education training to teachers throughout the state. The other grant helped the Colorado WaterWise Council to hire an Executive Director to increase water conservation efforts statewide, to develop comprehensive conservation BMP's and to provide information and education to water managers as they develop water conservation plans.

In Fiscal Year 2009, an interpretation of statute 37-60-126 C.R.S., authorizing and appropriating funds for the Water Efficiency Grant Program resulted in a determination that less than \$50,000 was available to fund new grants. The Office of Water Conservation and Drought Planning did not process new grant applications until the problem was resolved.

In 2009, the Colorado General Assembly passed HB09-1017 which amended the language in the statute (37-60-126 C.R.S.) allowing CWCB to expend unspent funds from prior fiscal years that have reverted to the grant fund. The grant program resumed operations July 1, 2009.

39. South Platte River and Arkansas River Basins Alternative Agriculture Water Transfer Sustainability Grant Program

Authorization: SB 07-122

Grant Amount: \$1,500,000

Current Disbursements: \$ 1,860

Contract No. C154026 *

Ending Balance: \$1,498,140

Water Source: South Platte & Arkansas Rivers
Location: Statewide
Sponsor: CWCB

Project Type: Alternative Methodologies
Project Manager: Todd Doherty
Beneficiary: South Platte & Arkansas
River Basin Water Users

This grant program focuses on identifying and assisting in the development of agricultural transfer methods/programs that reduce consumptive use by reducing the amount and/or the type of crops planted and irrigated from historic levels while lessening the impact to rural communities. Several types of agricultural transfers have been proposed as potential alternatives to the traditional agricultural transfers that often result in permanent dry-up of all or a large portion of irrigation systems as a means to obtain additional water supplies for emerging needs. Possible transfer methods include, but are not limited to: 1) interruptible water supply agreements; 2) long-term agricultural land fallowing; 3) water banks; 4) reduced consumptive use through efficiency or cropping changes while maintaining historic return flows; and 5) purchase by end users with leaseback under defined conditions.

The Board approved six grant applications that totaled \$1,500,000 at the May, July and November 2008 CWCB meetings. The Lower Arkansas Valley Water Conservancy District was awarded \$320,000 to assist in funding of the Super Ditch Company's rotational following program. The Parker Water and Sanitation District was awarded \$477,500 to assist in funding of the Lower South Platte

Irrigation Research and Demonstration Project. The Farmers Reservoir and Irrigation Company (FRICO) was awarded \$202,500 to assist in funding of the Alternative Water Transfers in the South Platte Basin using the FRICO System Project. CSU Extension Office was awarded \$80,350 to study the effects of fallowing. The Highline Canal Company was awarded \$70,000 to further following lease agreements in their canal system. The Colorado Corn Growers Association was awarded \$349,650 to examine a variety of alternative methods within the South Platte Basin.

40. Statewide Water Supply Initiative

Authorization: SB 03-110
SB 05-084

Contract No. C150142 *

Water Source: Statewide Streams
Location: Statewide
Sponsor: CWCB

Grant Amount: \$3,000,000
\$ 500,000
Expired Amount: \$ (138,510)
Total \$3,361,490
Previous Disbursements: \$3,085,993
Available Balance: \$ 275,497
Current Disbursements: \$ 269,248
Ending Balance: \$ 6,249

Project Type: Reconnaissance Study
Project Manager: Eric Hecox
Beneficiary: CWCB Staff, and
Statewide Water Users

The Statewide Water Supply Initiative (SWSI) is a comprehensive evaluation of current and future water needs in each of Colorado's eight major river basins estimated through 2030. Camp Dresser and McKee, Inc. (CDM) implemented SWSI for CWCB beginning June 2003.

Basin Technical Roundtables that are made up of local interests (i.e., water providers, agricultural water users, environmental and recreational interests, local governments, etc.) were formed in each river basin and assisted in the implementation of the study. The project was completed on schedule and within budget. CWCB was provided a summary of the study findings at their September and November 2004 Board meetings. The SWSI report was provided to the General Assembly on December 1, 2004. The CWCB also directed staff to do additional outreach to the basin roundtables which was accomplished within the original budget.

In 2005, CWCB voted unanimously to continue the SWSI process to examine issues related to the study findings, especially in regard to the 20 percent municipal and industrial gap, agricultural shortages and environmental and recreation enhancements. An additional \$500,000 was authorized by the 2005 General Assembly to continue work related to the SWSI findings. CDM implemented Phase II of SWSI in July 2005. The four areas of investigation include: Water Conservation and Efficiency, Alternative Agricultural Water Transfer Methods to Traditional Purchase and Transfer, Delineating and Prioritizing Colorado's Environmental and Recreational Resources and Needs, and Addressing the Water Supply Gap.

A Draft Final Report for SWSI Phase II was provided in November 2007 and feedback was solicited from the Basin Roundtables and other stakeholder groups. The findings and recommendations were integrated with the Interbasin Compact Process. Feedback was incorporated and a final report was provided to the Board at their March 2008 meeting.

41. Water Education Foundation

Authorization: HB 02-1152
Contract No.: C154055
Location: Denver
Sponsor: Colorado Foundation for Water Education

Grant Amount: \$150,000
Project Type: Education
Managers: Dan McAuliffe/Veva Deheza
Beneficiary: Statewide

Each year the CWCB staff executes a grant contract with the Colorado Foundation for Water Education (Foundation) to provide funds for the on-going operation of the Foundation. The CWCB Board members annually review and accept the Foundation's annual work plan in May. More information is available at www.cfwe.org and www.cwcb.state.co.us.

42. Water Planning Studies

Authorization: SB 99-173

Contract No. C153889 *

Water Source: N/A

Location: Statewide

Sponsor: CWCB

Grant Amount: \$225,000

Previous Disbursements: \$175,727

Available Balance: \$ 49,273

Current Disbursements: \$ 0

Ending Balance: \$ 49,273

Project Type: Water Planning

Managers: Dan McAuliffe/Randy Seaholm

Beneficiary: Statewide

CWCB Basin Planning Fact Sheets were the focus for previous years for this funding source. The Fact Sheets can be found at http://cwcb.state.co.us/Fact_Sheets/Basin_Planning.htm. No expenditures were made from this fund during the past year, however, the following project has been contracted and is in progress:

The Dolores Water Conservancy District and the Ute Mountain Ute Tribe are performing a joint reconnaissance level study to evaluate potential water supplies to serve their water needs. This will include the Totten Reservoir and the potential new construction of the Plateau Creek Reservoir to store approximately 21,000 AF of water.

43. Arkansas River Basin Water Quality Baseline Study

Authorization: HB 08-1346

Contract No. 09000000022 *

Water Source: Arkansas River

Location: Arkansas River Basin

Sponsor: CWCB/USGS/SCWCD

Grant Amount: \$100,000

Current Disbursements: \$ 75,000

Ending Balance: \$ 25,000

Project Type: Study

Project Manager: Steve Miller

Beneficiary: Arkansas River Basin

This work is being done in two phases, and in cooperation with the USGS, the Pueblo Board of Water Works, the SECWCD, and the LAVWCD. In Phase 1 \$50,000 was utilized to create a database of all existing water quality data and related studies for further evaluation and prioritization of stakeholders' water quality issues. That work was completed in December 2008 and a concluding memo was provided entitled "Arkansas Basin Retrospective Evaluation". Phase 2, also funded at \$50,000 from the CWCB, was begun in March 2009 and consists of intensive water quality data collection to fill data gaps that will address participant's priority issues and will also provide an analysis of temporal trends over a short time period. When Phase 2 is completed in December 2009 the USGS will have made its new database accessible to all participants and other state agencies. In addition, we will be provided with an evaluation and recommendations for establishment of an enhanced, permanent water quality data network.

44. Colorado River Compact – State Water Right Administration Issues and Options Study

Authorization: HB 08-1346

Contract No. None

Water Source: Colorado River

Grant Amount: \$500,000

Current Disbursements: \$ 0

Ending Balance: \$500,000

Project Type: Study

Location: Colorado River Basin
Sponsor: CWCB

Project Manager: Randy Seaholm
Beneficiary: Colorado River Compact

The purpose of this project, which should be viewed from more of a technical perspective than a legal perspective, is to obtain assistance in conducting a study: 1) to identify issues associated with the administration of state water rights in the Colorado River Basin under the terms of the Colorado River Compact and Upper Colorado River Basin Compact, 2) to develop and evaluate options to avoid, minimize or delay a Compact curtailment of uses if at all possible, and 3) to identify, develop and evaluate (pros and cons) concepts for curtailing water uses in Colorado in the event curtailments are required to comply with Article III of the Colorado River Compact and to implement those curtailments in a manner that will allow the maximum use possible of Colorado's entitlements under the terms in the Colorado River Compact and Upper Colorado River Basin Compact and do so as equitably as possible.

Schedule for Selection and Contract Negotiations

From (approx.)	To (approx.)	Item
August 11, 2009	August 18, 2009	SOQ's were advertised in Denver Post and on Colorado BIDS. Written questions due
Aug. 26, 2009 @ 1:00 p.m.		
August 28, 2009		Questions& answers posted on Colorado Construction and Design Notices website
Sept. 10, 2009 @ 4:00 p.m.		SOQ's due
September 18 2009		Select top 3
September 24, 2009		Interviews & selection
September 25, 2009	October 8, 2000	Contract negotiations
October 9, 2009	October 23, 2009	Contract signature & review process
October 26, 2009		Begin work

Michelle Garrison and Mike Sullivan will serve as co-leads for the project

45. Colorado River Augmentation Project Development

Authorization: HB 08-1346	Grant Amount: \$150,000
	Current Disbursements: \$ 0
Contract No. None	Ending Balance: <u>\$150,000</u>
Water Source: Colorado River	Project Type: Study
Location: Colorado River Basin	Project Manager: Randy Seaholm
Sponsor: CWCB/ Seven Basin States	Beneficiary: Colorado River Compact

The seven Colorado River Basin States (States) have been investigating potential ways to augment and increase the water supply of the Colorado River for several years. In February 2009 the States requested "Stimulus" funds for a study to continue this ongoing augmentation effort. This study will focus on identifying the current and projected water supply and demand throughout the entire Colorado River Basin and adjacent areas of the seven States that receive Colorado River water. Representatives of the States have already submitted a "Letter of Interest" in the Basin Studies Program pursuant to the ARRA. The general focus of the Study includes a comprehensive review, evaluation and characterization of current and long-term water supply and demands, and identification and quantification of future augmentation needs and recommended options to address these needs. Both consumptive and non-consumptive uses associated with Colorado River water will be examined. A review and analysis of

the known and potential effects of drought, and climate change on the Colorado River and their implications on current and future water supplies and associated uses in the Basin will be completed. Strategies will be developed or refined as needed to move forward on any needed augmentation project for the Basin. The estimated total cost of the Study is between \$2 and \$3 million depending on the final scope. The seven basin states and the U.S Bureau of Reclamation (Reclamation) will cost share in the study with each States proportionate share being \$150,000 with some of the cost share occurring in the form of in-kind services. This Study will be managed through collaboration between Reclamation, the States and several non-federal partners from the seven basin states. While it has not been formally announced, the States are very encouraged by the positive responses received on their proposal and are very optimistic they will receive the requested federal funding. Even if the States are not awarded federal funding for this study, the available funding will be used to pursue augmentation opportunities in cooperation with the other States as previously envisioned.

46. Colorado River Delta in Mexico Consultation

Authorization: HB 02-1152
HB 08-1346

Contract No. 07000000005 *

Water Source: Colorado River and Tributaries
Location: Seven Colorado River Basin States
and the Republic of Mexico
Sponsor: CWCB

Grant Amount:	\$100,000
	<u>\$150,000</u>
Total	\$250,000
Previous Disbursements:	<u>\$ 94,145</u>
Available Balance:	\$155,855
Current Disbursements:	<u>\$ 0</u>
Ending Balance:	<u>\$155,855</u>

Project Type: Compact Consultation
Project Manager: Ted Kowalski

Beneficiary: State of Colorado, Colorado
River Basin States, and Republic of
Mexico

These funds are being utilized by CWCB staff and Colorado's Upper Colorado River Compact Commissioner to participate in the investigation of issues pursuant to Minute 306 of the *1944 Treaty between the United States and Mexico Concerning the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande* to assure that such investigations and any solutions that might be offered to comply with Minute 306 do not interfere with or otherwise jeopardize the terms of the Colorado River and Upper Colorado River Compacts. In addition, the United States and Mexico have initiated a bi-national conversation about opportunities for bi-national cooperation on water projects that will have bi-national benefits.

By way of background, the Yuma Desalt Plant (YDP), which was constructed to treat agricultural drainage water from the Welton-Mohawk and Yuma areas, has not operated since 1992. The YDP was constructed to treat and return water to the river to satisfy part of the delivery obligations to Mexico and to ensure that the Colorado River water delivered to Mexico meets the Minute 242 water quality standard for salinity. The YDP has not been operated because of the expense of operation and because there has been replacement water available from the lining of a section of the Coachella Canal. As a result, 108,000 acre-feet of drainage water annually has not been treated and returned to the Colorado River, but bypassed instead to the Santa Clara Slough. Consequently, a significant portion of the Colorado River Delta wetland has been rejuvenated. This rejuvenation has resulted in a number of environmental organizations and the government of Mexico wanting to re-establish the entire Colorado River Delta wetland area. The initial step in this effort was the adoption of Minute 306 to the 1944 Treaty in December 2000, which created a framework for a formal process to address Colorado River Delta matters. Subsequently, a Symposium on the Colorado River Delta was held on September 11-12, 2001, the proceedings of which were released on September 17, 2002.

Since then, a States Technical Workgroup has been formed and Colorado has been represented on this workgroup by Ted Kowalski, CWCB Water Supply Protection Program Manager. To date, the technical workgroup has summarized the surface water and groundwater resources available to Mexico in an effort to develop a water budget that will help identify opportunities to improve conditions for the Colorado River Delta in Mexico. The Technical Workgroup has also created a "Broad Brush Concept Document" that identifies possible water supplies available to meet the needs of the Colorado River Delta. These concepts and alternatives have been categorized into groups and the pros and cons of each identified. This information is currently being discussed among the seven basin states and they will make recommendations as appropriate to the International Boundary and Water Commission (IBWC).

The IBWC has issued a "Terms of Reference" document, which describes the issues that IBWC will discuss and the process that will be followed. In addition, there is a draft Minute (or amendment) to the U.S.-Mexico Treaty of 1944. This Minute is being discussed among the seven basin states, the United States, Mexico, and Mexican stakeholders. Given the complexity of these issues, and the stakeholders involved, it is not surprising that these negotiations have taken some time to advance. Nevertheless, both countries and all of the stakeholders involved are making progress, and this effort will proceed in a measured manner.

47. High Resolution Gridded Sublimation Estimate Study

Authorization: HB 08-1346	Grant Amount: \$65,000
	Current Disbursements: \$ 0
Contract No. 09000000124	Ending Balance: <u>\$65,000</u>
Water Source: Colorado & So Platte Rivers	Project Type: Study
Location: Co River Watershed & So Platte Basin	Project Manager: Michelle Garrison
Sponsor: CWCB	Beneficiary: Co River Water Users

This project was delayed due to a lack of the necessary measurement equipment after the manufacturer sustained heavy facility damage in Hurricane Ike. Equipment was purchased in spring 2009 using matching funds from the United States Geological Survey (USGS). Work began in late spring 2009.

Sublimation can be a significant factor in snowpack runoff efficiency. Sublimation losses from the snowpack can vary greatly between basins and between years. High sublimation losses result in unexpectedly low spring runoff. Very little detailed information about sublimation in Colorado is available. In this study the USGS will provide spatial estimates of sublimation from the snow surface for a 2000 square kilometer area in the upper Colorado and South Platte river basins. Sublimation measurements from winter 2009-2010 will be combined with results from a high-resolution snow-evolution modeling system (SnowModel) to provide estimates of sublimation for the northern Front Range.

48. Litigation Fund

Authorization: HB 95-1155, SB 01-157	Grant Amount: \$4,000,000
SB 99-173	Reduction: <u>\$1,000,000</u>
	\$3,000,000
HB 06-1313	Interest Revenue \$ 536,426
	Replenish <u>\$1,516,796</u>
	Total Authorized: \$5,053,222
Contract No. C154005 *	Previous Disbursements: <u>\$1,747,277</u>
	Available Balance: \$3,305,945
	Current Disbursements: <u>\$ 820,351</u>
	Ending Balance: <u>\$2,485,594</u>
Water Source: N/A	Project Type: Legal Services
Location: Statewide	Managers: Steve Miller / Ted Kowalski

Sponsor: CWCB

Beneficiary: CWCB Staff, and
Statewide Water Users

The Litigation Fund was authorized an amount of \$4 M initially. In 1999, an amount of \$1 M was transferred to the Species Conservation Trust Fund that left a balance of \$3 M. In Fiscal Year 2007, the maximum authorized amount was restored to \$4 M with funds from the Severance Tax Trust Fund Operational Account. Interest earned from the Treasury is remitted to the fund each year. Expenditures from this fund continued to occur until recently when the fund balance had been lowered to approximately \$1.4 million. In 2009, the General Assembly restored the balance as of July 1, 2009 to \$4 million.

To date funds have been used in the following manner :

- Kansas v Colorado litigation support:
 - o \$750,000 to assist with the compliance phase of the Kansas v Colorado litigation for several studies, the improvement of the CoAgMet weather station network, the construction and initial operation of a large weighing lysimeter at the Colorado State University research farm at Rocky Ford, and to prepare expert witness testimony concerning the HI Model. All of these initial tasks, except a small portion of the expert witness item were completed in 2008. The remaining expert witness preparation will be utilized to prepare for future arbitration on HI Model enhancements.
 - o \$90,000 to complete the installation of a second or "reference" lysimeter installed at Rocky Ford. Construction of the lysimeters is completed and both are fully operational as of Spring 2009. Total cost to the CWCB for both lysimeters was approximately \$340,000 with some additional fund contributions from CSU and DWR covering small cost overruns.
 - o \$300,000 for a three year alfalfa crop consumptive use study to be conducted by the Colorado Water Institute (CWI) using the two Rocky Ford lysimeters. A 3 year contract for \$300,000 was issued in November 2008. In addition CWI prepared, at its own expense, a \$50,000 report documenting construction and calibration of the two lysimeters. That report, entitled "Direct Determination of Crop Evapo-transpiration in the Arkansas Valley with a Weighing Lysimeter" will be published and available later in 2009.
 - o \$150,000 for irrigation monitoring by CSU during the 2008 irrigation season which was completed in June 2009 at a cost of ~\$96,000 and publication of a comprehensive report documenting all four years of irrigation study by the CWI. A contract to CWI was issued July 2009 for ~\$48,000.
- \$250,000 for activities related to potential litigation regarding Colorado's allocations under the Colorado River Compact and the law of the river
- \$758,000 for imaging Colorado River documents and for hiring additional counsel to assist with legal and litigation priorities related to the Colorado River Compact and the law of the river
- \$615,452 for costs associated with the Colorado River Compact defense issues;
- \$191,000 for additional costs associated with the Colorado River Compact defense issues;
- \$240,000 for the defense of Colorado's interests involving the Republican River; and,
- \$40,000 for work associated with the Platte River Recovery Implementation Program negotiations.

49. <u>Lower South Platte Water Management and Storage Sites Investigation and Sustain Study</u>			
Authorization: HB 00-1419		Grant Amount:	\$140,000
SB 01-157			<u>\$500,000</u>
		Total	\$640,000
Contract No. C153904		Previous Disbursements:	<u>\$140,000</u>
		Available Balance:	\$500,000

Current Disbursements: \$ 0
Ending Balance \$500,000

Water Source: South Platte River
Location: Logan and Sedgwick
Sponsor: CWCB

Project Type: Multi-Use Water Planning
Managers: Randy Seaholm/Ted Kowalski
Beneficiary: Statewide or Individual
Water User Group depending on project
characteristics/operating rules

In the summer of 2000, the Colorado Water Conservation Board (CWCB) acting through the Water Supply Protection Section, completed a Reconnaissance Level Study of Water Management and Storage Sites in the lower South Platte River. The initial results of the study indicated several potential projects, which warranted future investigation and the CWCB authorized funding to conduct a feasibility level study of these “preferred alternative(s)”, and if warranted, to complete an engineering design of the selected alternative(s).

The overall purpose of the project is to identify water management and storage options in the lower South Platte River that could facilitate Colorado’s management of South Platte flows, including coordination with ground water recharge projects for in-state beneficial uses, such as water rights and South Platte River Compact administration and providing benefits for biological species of concern in Colorado, and for participation in an endangered species program being developed pursuant to the Platte River Cooperative Agreement.

Shortly after CWCB’s authorization of the project, staff and management were approached by representatives of the Ground Water Appropriators of the South Platte (GASP), one of the potential beneficiaries of a future project, and were asked to delay the feasibility study because of a pending water right filing. The sensitivity of the water right filing and GASP’s desire to implement one of the alternatives identified in the reconnaissance study lead staff and management to conclude that it would be prudent to delay implementation of the feasibility study.

Significant changes to the State Engineers authority to administer ground water diversion (Senate Bill 73) have dramatically changed water management in the South Platte River. While GASP was successful in acquiring land for one of the physical storage sites, they have experienced significant impacts from S.B. 73. As a result, GASP is no longer a viable entity. Former members of GASP and other water management interests have formed the Ovid Reservoir Company but it is uncertain whether the new company will be able to complete the project. The Ovid Reservoir Company obtained a grant from the Water Supply Reserve Account, South Platte River Basin Roundtable to see if some of the financial, engineering, and legal hurdles can be overcome. The Ovid Reservoir Company is pursuing these options and has met with CWCB staff several times, within the last two years, to explore the best options for proceeding with the construction of Ovid Reservoir. The location of the reservoir site continues to offer potential advantages to address water user and endangered species issues/needs. Given the complexity of the problem and the need for additional water management options, Staff recommends that the current authorization remain in place to allow coordination with the Ovid Reservoir Company’s other work associated with the feasibility study.

50. Purgatoire River Channel Capacity and Improvement Study

Authorization: HB 08-1346

Grant Amount: \$50,000

Current Disbursements: \$25,000

Contract No. 09000000010 *

Ending Balance: \$25,000

Water Source: Purgatoire River
Location: Trinidad Dam

Project Type: Study
Project Manager: Steve Miller

Sponsor: CWCB/US Army Corps of Engineers
Purgatoire River WCD (PRWCD)

Beneficiary: PRWCD Water Users

This project is being done in two phases in with the PRWCD as the lead sponsor. In Phase 1, at a CWCB cost of ~\$25,000, the PRWCD contracted with the USBR to help fund a hydraulic study of a 20 mile reach of the Purgatoire River below Trinidad Reservoir. There was significant additional funding provided by the USBR and the Corps. The study was completed in early Spring 2009 and next steps for a Phase 2 are being considered. The ultimate goal of the project is to determine what level of reservoir flood releases can be safely passed through the PRWCD service area, and to identify remedial actions that could improve channel capacity to reduce flood damages during flood operations while also protecting downstream water rights in Colorado and Kansas. The Phase 1 analysis indicates that the channel is not as degraded as originally feared and flows as high as 5,000 cfs. can probably be routed through the district with minimal problems. DWR Div. 2 is providing significant in-kind assistance and is very interested in the results of this project.

51. Wild and Scenic Rivers Study

Authorization: HB 08-1346

Grant Amount: \$400,000

Current Disbursements: \$130,160

Contract No. 09000000023 *

Ending Balance: \$269,840

Water Source: Various

Project Type: Study

Location: Various

Project Manager: Ted Kowalski

Sponsor: CWCB

Beneficiary: Statewide

Within Colorado a number of river segments have been classified as eligible for “wild and scenic” designation by various federal agencies and the federal agencies are considering whether these rivers should be classified as suitable for wild and scenic designation. In response, a number of stakeholder groups have formed to explore alternatives for resource protection that would include wild and scenic designation as well as many other options. These groups exist in the San Juan River basin, the Dolores River Basin, the upper Colorado River basin, and the lower Colorado River basin. To date, funds have been used within each of these different basins for facilitators, informational studies, and other operating expenses. In 2009, the General Assembly passed legislation establishing a fund for this project that is automatically refreshed every July 1 up to \$400,000 for work in this regard. This work is ongoing, and there are other stakeholder alternatives groups forming right now. This work will likely continue to use funds for the next several years.

52. Canal Modern and Radio Telemetry Demonstration Project

Authorization: HB 06-1313

Grant Amount: \$100,000

Previous Disbursements: \$ 24,417

Contract No. C150227

Available Balance: \$ 75,583

Current Disbursements: \$ 0

Ending Balance: \$ 75,583

Water Source: South Platte River

Project Type: Canal Modernization

Location: Logan County

Project Manager: Anna Mauss

Sponsor: CWCB

Beneficiary: Statewide Water Users

Funding was awarded to the South Platte Ditch Company and project implementation began in April 2007, with the initial purchases of equipment and supplies. The participating ditch companies include the South Platte Ditch Company (SPDC) and three participating shareholders of the Johnson and Edwards Ditch Company (J&E). The objective of this project is to demonstrate the value of electronic control equipment with integral radio communications capability in managing the conjunctive operation of a surface diversion system, groundwater pumping, groundwater recharge, pumped augmentation flows and reservoir storage releases. Targeted capabilities will be improved efficiency in water management,

and development of data streams that can facilitate leasing and trades of water supplies both within the participating ditch companies as well as with other water users in the South Platte Basin. The proposed demonstration project will feature radio/control equipment that provide real-time two-way communications capability plus local automated control capability. Project tasks have been arranged for completion in three phases, that generally follow a progression from more basic functions, such as flow monitoring, on toward higher-level applications that include local automation and remote adjustment capabilities. Specific sites to be monitored include various points of measurement for canal surface diversions and end-of-system outflow points, recharge sites, and alternate point of diversion wells. Project participants have increased the number of telemetry sites and have received additional grant funding from other sources to increase the scope of the project, thereby gaining the additional benefit of more data collected and more efficient ditch operations.

53. CCC Ditch Diversion Rehabilitation on the San Miguel River

Authorization: SB 07-122	Grant Amount: \$65,000
	Current Disbursements: \$ 0
Contract No. C154096	Ending Balance: <u>\$65,000</u>
Water Source: San Miguel River	Project Type: Demonstration Project
Location: Statewide	Project Manager: Mike Serlet
Sponsor: CCC Ditch Company, San Miguel	Beneficiary: Statewide
Watershed Coalition, and Colorado Water Trust	

Funding was awarded to the Colorado Water Trust for a demonstration project on the San Miguel River to modify the diversion structure of the CCC Ditch to eliminate the barrier the structure currently causes to fish migration and recreational boats while still providing a full supply of irrigation water to the CCC ditch. The project is currently being designed by the CCC Ditch Company and the Water Trust for construction in calendar year 2009. To date, there has been no expenditure of Construction Fund monies for this project.

54. U.S. Bureau of Reclamation / State Land Board Right-of-Way – Closed Basin Project

Authorization: SB 79-537	Grant Amount: \$625,000
HB 00-1419	<u>\$188,000</u>
	Total \$813,000
	Previous Disbursements: <u>\$506,590</u>
	Available Balance: \$306,410
	Current Disbursements: \$ 0
	Ending Balance: <u>\$306,410</u>
Water Source: Closed Basin	Project Type: Right of Way Acquisition
Location: San Luis Valley N. of Alamosa	Project Manager: Mike Serlet
Sponsor: CWCB	Beneficiary: State of Colorado

This project is the acquisition of right-of-way (ROW) for the Closed Basin project in the San Luis Valley. The project was completed several years ago however, based on contractual agreement, the ROW needs to be acquired from the State Land Board by the CWCB and then assigned to the Bureau of Reclamation (BOR) for their operation of the project. The BOR is double checking the legal descriptions for the ROW. When that is completed the Attorney General's Office and the Land Board will prepare the land transfer documents. When the land transfer documents are complete, CWCB funds will be transferred to the Land Board and the project ROW will be assigned to the BOR. This project is expected to be completed on or before August 31, 2009.

55. Oak Creek Flood Mitigation Feasibility Study

Authorization: SB 05-084	Grant Amount: \$167,000
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Contract No. C150203	Previous Disbursements : \$ 60,713
	Available Balance: \$106,287
	Current Disbursements: \$ 0
	Ending Balance: <u>\$106,287</u>

Water Source: Arkansas River	Project Type: Feasibility Study
Location: Arkansas River Valley	Project Manager: Kirk Russell
Sponsor: City of Florence, U.S. Army Corps of Engineers	Beneficiary: Arkansas River Valley Water Users (Canyon City to Pueblo West)

Funding was awarded to the City of Florence and the project was implemented in October 2005 for \$167,000 and \$33,000 was available from the Feasibility Study Grant Fund for up to 50% of the cost of a Feasibility Study. The Study is for determining improvements for flood control on Oak Creek upstream of the City of Florence. The Study is being prepared by the US Army Corps of Engineers, Albuquerque Office. The total Feasibility Study cost is expected to be \$900,000. The geotechnical investigation phase of the Study has been completed and determined a reservoir is cost prohibitive. The City has requested CWCB to consider a continued funding of the project even though the scope does not include water storage. This was approved in HB 08-1346. However, the project was not feasible and the City has requested deauthorization of the funding; which has been processed and completed.

56. Rocky Mountain Fen Demonstration Project
 Authorization: SB 07-122

Contract No. None	Grant Amount: \$100,000
	Current Disbursements: \$ 0
	Ending Balance: <u>\$100,000</u>

Water Source: N/A	Project Type: Demonstration Project
Location: N/A	Project Manager: Mike Serlet
Sponsor: Colorado Mountain College	Beneficiary: Statewide
City of Aurora, Pueblo Board of Water Works	

Funding was awarded to the Colorado Mountain College- Timberline Campus for a demonstration project designed to explore the extent to which the harvest and transplantation of slow-forming organic peat soils, from an area of potential impact to specifically prepared receiver sites, can serve as mitigation of impacts to fens. The funding for the project is dependent on the project sponsor acquiring a 50/50 cost share from other outside sources to match the CWCB funds. To date, no matching funds have been acquired by the project sponsor, and therefore, no Construction Fund monies have been expended on this project.

57. So Platte Lower River Group - State-Private Partnerships in Managed Groundwater Re-regulation
 Authorization: SB 01-157

Contract No. N/A	Grant Amount: \$150,000
	Previous Disbursements: \$ 0
	Available Balance: \$150,000
	Current Disbursements: \$ 0
	Ending Balance: <u>\$150,000</u>

Water Source: Platte River	Project Type: Demonstration-Pilot
Location: Sedgwick County	Project Manager: Anna Mauss
Sponsor: South Platte Lower River Group	Beneficiary: Private Water Users and the State

The funding is to cover 88% of the estimated \$170,000 cost of a pilot demonstration project to assess the possibility of a public/private partnership for managed groundwater recharge on the lower

South Platte River. (Managed groundwater projects are designed to retime flows at the lower end of the South Platte from periods of excess to periods of shortage.) This pilot project is designed to create a perpetual State interest in water projects that will benefit the State in meeting its needs for species of concern, in meeting its commitments for threatened and endangered species in the Platte River Basin, and for other water management purposes. Private partners will benefit from their share of recharge credits for augmentation. Standard contracts and agreements with private landowners will be developed as part of this project, as a model for future similar projects. The demonstration project will be managed by South Platte Lower River Group (SPLRG). No CWCB funds have yet been disbursed on this project partly because the project was not exempted during the State mandated freeze of procurement; however, staff will pursue options to commence with this project during the current fiscal year.

58. Fish and Wildlife Resources Fund

Authorization: SB 01-157, HB 02-1152

Contract No. C150219 *

Grant Amount:	\$5,000,000
Previous Disbursements:	<u>\$1,354,143</u>
Available Balance:	\$3,654,857
Current Disbursements:	<u>\$ 263,846</u>
Ending Balance:	<u>\$3,391,011</u>

Project Type: Grant Program

Managers: Mike Serlet / Ted Kowalski / Chris Sturm

Sponsor: CWCB

Beneficiary: Statewide

In 1987, HB 87-1158 created the Fish and Wildlife Resources Account, also known as the “Mitigation” Account, in the Construction Fund. Procedures for obtaining mitigation grant approvals are found under section 37-60-122.2, CRS. SB 01-157 transferred the account into a special fund. Expenditures from the fund in Fiscal Year 2009 were to the Platte River Cooperative Agreement. In addition, funds were used for the Lower Blanco Property Owners Association Project; see details below for Severance Tax Item No. 23.

NOTE: Severance Tax Trust Fund Operational Account Project Status begins on the following page.

Severance Tax Trust Fund Operational Account

The following table summarizes the Severance Tax Trust Fund Operational Account projects monitored by the Colorado Water Conservation Board staff during the fiscal year. Details of the projects follow this summary.

<u>No.</u>	<u>Project</u>	<u>Project Manager</u>	<u>FY09 Amount</u>
Water Supply Protection Program			
1	Statewide Planning and Local Planning Grants	McAuliffe	\$ 26,000
2	Recreational Support	Seaholm / Kowalski	\$ 55,000
3	Arkansas River Basin Transit Losses Study	Seaholm / Miller	\$ 60,000
4	Wild and Scenic Project	Seaholm / Kowalski	\$ 25,000
Water Supply Planning and Finance Program			
5	Pioneer Telemetry Project	Serlet / Mauss	\$ 40,000
6	Grand Valley Lake Conceptual Study	Serlet / Feehan	\$ 40,000
Stream and Lake Protection Program			
7	Alamosa River Instream Flow Project	Bassi	\$ 95,600
8	Water Rights Loans for Instream Flows	Bassi	\$ 26,600
9	Implementation of ISF Strategic Plan	Bassi / Baessler	\$ 15,000
10	Priority Water Project GIS Support	Bassi / Baessler	\$ 25,000
11	South St. Vrain River - Left Hand Ditch Study	Bassi / Baessler	\$ 20,000
Water Conservation Planning Program			
12	Utility Water Loss in Colorado	Deheza	\$ 45,900
13	Water Education	Deheza	\$ 20,000
14	Water Conservation & Drought Mitigation Planning	Deheza	\$ 91,450
Flood Protection Program			
15	Lower Mancos River Restoration Partnership	Browning / Sturm	\$ 61,500
16	NRCS SNOTEL Site Installations	Browning / Busto	\$ 30,000
17	Community Collaborative Rain, Hail & Snow Network	Browning / Busto	\$ 5,000
18	Pre-Disaster Floodplain Mitigation Plans	Browning / Houck	\$ 92,350
19	Geomorphic Stability and Hydraulic Analysis	Browning / Sturm	\$ 50,000
20	Cloud Seeding Workstation Using NOAA's FX Network	Browning / Busto	\$ 50,000
21	Rio Grande Snowpack and Streamflow Model	Browning/Busto/Garrison	\$ 82,500
22	Sustaining Colorado Watershed	Browning	\$ 5,000
23	Lower Blanco Property Owners Association Project	Browning / Sturm	\$ 5,000
24	Watershed Restoration	Browning / Sturm	\$ 46,500
25	FEMA Coordinator Matching Program	Browning / Martinez	\$ 25,000
Water Information			
26	Upper Big Sandy Water Balance	Alvarado / Moore	\$ 60,000
27	Enhancing Natural Recharge to Groundwater	Alvarado / Moore	\$ 50,000
28	Rio Grande Groundwater Modeling & Rule Making	Alvarado / Moore	\$ 42,300
29	Digitizing & Archiving of CWI / CSU Files	Alvarado / Lesovsky	\$ 25,000

<u>No.</u>	<u>Project</u>	<u>Project Manager</u>	<u>FY09 Amount</u>
30	USFWS Imaging	Alvarado / Lesovsky	\$ 11,000
31	Interagency Transfer – Colorado Geological Survey	N/A	<u>\$ 40,000</u>
Total Severance Tax Expended for FY 09			<u>\$1,266,700</u>

Projects:

1. Statewide Planning and Local Water Planning Grants
 Authorization: Long Bill
 Water Source: Conjunctive use
 Location: Statewide
 Sponsor: CWCB
 Grant Amount: \$26,000
 Project Type: Water Planning Study
 Project Manager: Dan McAuliffe
 Beneficiary: Various

Following are projects that were administered through the Statewide Planning and Local Water Planning Grant Program:

- a. Tamarisk Plan Completion Project
 Project Manager: Steve Miller

Supplemental funding of \$10,000 was provided to the Tamarisk Coalition to allow them to provide technical assistance to entities in the South Platte and Republican River Basins completing their tamarisk control plans. This work was completed in the Fall of 2008 and Control Plans for the South Platte and Republican Basins were submitted and approved this past winter. Both basins used these new plans to successfully compete for tamarisk control grants from the Board in May 2009.

- b. Arkansas River Basin Water Quality Study
 Project Manager: Steve Miller

Supplemental funding of \$10,000 was provided to the USGS on behalf of several Arkansas Basin entities to address a cost-over run and allow completion of draft report entitled: "Occurrence and Distribution of Dissolved Solids, Selenium, and Uranium in Surface Water and Ground Water in the Arkansas River Basin 1970 – 2008". This work will feed into the other CWCB funded water quality study in the Arkansas Basin and will also provide a basis for beginning to address the basin's most difficult water quality problems. Local entities will provide funding to allow USGS to finalize and publish the study.

- c. Arkansas River Basin Water Forum
 Project Manager: Steve Miller

The Board has been a sponsor of the Forum for the last several years. In 2009, CWCB contributed \$2500 for the Forum held in Pueblo in March. Director Jennifer Gimbel was the keynote speaker introducing the Forum theme of water and energy conflicts.

- d. Interstate Council on Water Policy
 Project Manager: Dan McAuliffe

Funds of \$3500 were used toward the membership dues of CWCB to the Interstate Council on Water Policy.

2. Recreational Support

Authorization: Long Bill

Water Source: N/A

Location: Statewide

Sponsor: CWCB

Contract No. 09000000078 *

Grant Amount: \$55,000

Project Type: Support Services

Project Manager: Ted Kowalski

Beneficiary: Statewide

These funds are available for Recreational related work or to assist communities to support recreational non-consumptive uses in a manner that will promote recreational uses and also allow the State of Colorado to fully use its compact entitlements. In previous years, this money was expended to hire a mediator for the Durango RICD litigation and, the use of the mediator resulted in a settlement of the Durango RICD case without having to go to litigation, which would have been much more costly. In addition, approximately \$35,000 was used to design a whitewater course in Canon City to comport with the flows obtained by the Chaffee County RICD water right so that Canon City could depend on Chaffee County's water right to support flows within this segment of the Arkansas River, without having to proceed with a separate RICD water right within Canon City. Moreover, \$20,000 was dedicated to redesigning the Union Avenue boat chutes to make them safer for recreational boating. This year, these funds will likely be used for recreational studies related to the Upper Colorado River segments that are being considered for wild and scenic designation to assure that recreational boating information is thorough and accurate.

3. Arkansas River Basin Transit Losses and Travel Times Study

Authorization: Long Bill

Water Source: Arkansas River

Location: Pueblo Res to John Martin Res

Sponsor: CWCB

Contract No. 09000000057

Grant Amount: \$60,000

Project Type: Study

Project Manager: Steve Miller

Beneficiary: CWCB, DWR Div 2, Basin Water Users

CWCB provided \$60,000 to the SECWCD to fund Phase 1 of this project. SECWCD hired Livingston Professional Services to conduct the study. In June 2009 Livingston issued its Phase 1 report entitled: "Transit Loss and Travel Time of Reservoir Releases along the Arkansas River from Pueblo Reservoir to John Martin Reservoir". Phase 1 consisted of an analysis of aquifer and channel characteristics and hydrologic responses to various historical release rates for 32 subreaches between Pueblo and John Martin Reservoir (JMR). In Phase 2 the SECWCD and several additional entities will fund Livingston to complete his analysis and develop an accounting model to be utilized by the Div. 2 Engineer to administer water deliveries and exchanges from storage. This project will compliment similar work done by Livingston for the Arkansas River Compact Administration for the reach between JMR and the Kansas Stateline.

4. Wild and Scenic Project

Authorization: Long Bill

Water Source: Colorado River

Location: Kremmling – Glenwood Springs

Sponsor: CWCB

Contract No. 09000000097

Grant Amount: \$25,000

Project Type: Planning

Project Manager: Ted Kowalski

Beneficiary: CWCB

This Upper Colorado River Wild and Scenic Stakeholders group is a collaborative group of conservation, water management, land management, recreational and governmental representatives working to explore opportunities to manage the Colorado River in a way to protect the Outstandingly

Remarkable Values associated with the Colorado River from Kremmling to Glenwood Springs while allowing future water development and flexible water management to occur. The funds were provided to the Colorado River Water Conservation District to conduct work related to analyzing the fishery and the fishing flows needed within this segment. This work is directly related the wild and scenic work that the CWCB is engaged in, and also to the possible instream flow water rights that the CWCB may consider for this segment.

5. Pioneer Telemetry Project

Authorization: Long Bill
Water Source: South Platte River
Location: Fort Morgan
Sponsor: CWCB
Contract No. 09000000065

Grant Amount: \$40,000
Project Type: Planning
Project Manager: Anna Mauss
Beneficiary: Local Water Users

The Pioneer Water & Irrigation Company initiated a project to install remote monitoring equipment on irrigation wells to assist in the daily operation of its Plan of Augmentation. This project included installing electronic pulse counters and data loggers on existing mechanical flow meters at 21 of the Company's irrigation wells, installing complete flow monitoring and radio telemetry equipment at 7 of the Company's irrigation wells, and development of a web interface for Company shareholders and state officials to monitor the administration of all irrigation wells associated with the Company's Plan for Augmentation.

6. Grand Valley Conceptual Study

Authorization: Long Bill
Water Source: Gunnison River
Location: Town of Palisade
Sponsor: CWCB
Contract No. C154141

Grant Amount: \$40,000
Project Type: Planning
Project Manager: Tim Feehan
Beneficiary: Local Water Users

The Grand Valley Lake Conceptual Study evaluated the feasibility of constructing a new 180,000 acre-foot reservoir facility, located near the Town of Palisade, Colorado. The Study was completed by AECOMUSA, Lakewood, Colorado in July of 2009, and is available for review at CWCB – Finance Section. The study evaluates the feasibility of bringing junior water from the Gunnison River approximately 80 miles to the proposed reservoir site. Various dam sizes and conveyances routes were analyzed. In addition, the report evaluated geology conditions and constraints, water demand, yields, hydropower, cost, endangered species, and potential impacts to the Colorado and Gunnison Rivers.

7. Alamosa River Instream Flow Project

Authorization: Long Bill
Water Source: Alamosa River
Location: Alamosa Watershed
Sponsor: CWCB
Contract No. 09000000145 *

Grant Amount: \$95,600
Project Type: Analysis
Project Manager: Linda Bassi
Beneficiary: CWCB

The Alamosa River Instream Flow Project is part of a community-based effort spearheaded by the Alamosa Riverkeepers and Terrace Irrigation Company, and is one of the key projects identified in the Alamosa River Watershed Restoration Master Plan. The Project is part of a larger effort to restore and replace resources damaged in the Alamosa River watershed as a result of the Summitville Mine disaster, and implements conclusions reported in the Colorado Water Conservation Board's *Alamosa River Watershed Restoration Master Plan and Environmental Assessment Final Report*. Specifically, the Master Plan identified improving the Terrace Reservoir spillway in connection with the acquisition of water rights for instream flow purposes as two preferred solutions to watershed health. The Project is designed to benefit the natural environment of the Alamosa River channel that was injured as a result of

the release of hazardous substances from the Summitville Mine Superfund Site. This portion of the Project included an engineering and legal analysis of the Gabino Gallegos Ditch water right and its potential for ISF use by the CWCB, and partial funding of the Alamosa Riverkeepers' purchase of 2.5 cfs. of the 16 cfs. decreed to the Gabino Gallegos Ditch for donation to the CWCB for ISF use on the Alamosa River.

8. Water Rights Loans for Instream Flows

Authorization: Long Bill

Water Source: Dolores River

Location: Southwest Colorado

Sponsor: CWCB / Montezuma Valley Irrigation Co.

Contract No. 09000000118

Grant Amount: \$26,600

Project Type: Feasibility Study

Project Manager: Linda Bassi

Beneficiary: CWCB and Dolores River Water Users

The Montezuma Valley Irrigation Company is interested in leasing certain water rights to the CWCB for ISF use on the Dolores River below McPhee Reservoir under the temporary loan/lease statute (section 37-83-105, C.R.S.) as a first step toward a long-term lease of the water rights. This project consisted of a review of the subject water rights to determine the feasibility of entering into such a lease, including a preliminary estimate of the historical consumptive use of the water rights and other factors that must be considered in connection with leasing water for ISF use.

9. Implementation of Instream Flow Strategic Plan

Authorization: Long Bill

Water Source: N/A

Location: N/A

Sponsor: CWCB / Colorado Water Trust

Contract No. 090000000102 *

Grant Amount: \$15,000

Project Type:

Managers: Linda Bassi / Jeff Baessler

Beneficiary: CWCB

The Stream and Lake Protection Section's Instream Flow Strategic Plan requires the section to "continually work with the Board, key program stakeholders, and the public to engage, educate, inform, and create mechanisms to obtain feedback and understand stakeholder needs regarding the CWCB authorities, and the Section's base programs and program applications." As a result, funding for implementation of the Strategic Plan was used to expand the section's education and outreach efforts and to increase levels of communication and engagement. This was accomplished primarily through an increase in the number of public meetings and presentations that were made to stakeholders and others throughout the state and to increase participation in the Basin Roundtables' Non Consumptive Needs Assessments'.

10. Priority Water Project GIS Support

Authorization: Long Bill

Water Source: Statewide

Location: Statewide

Sponsor: CWCB / Colorado Water Trust

Contract No. 0900000000077

Grant Amount: \$25,000

Project Type: Study

Managers: Linda Bassi / Jeff Baessler

Beneficiary: Local Water Users

The Priority Waters Project (PWP) will identify and prioritize rivers and streams that lack sufficient flows to sustain healthy aquatic ecosystems, with the goal of providing water to those rivers and streams without adversely impacting other essential statewide needs. The coalition consists of the Colorado Water Trust, The Nature Conservancy, Trout Unlimited and Environment Defense Fund working closely with the Colorado Water Conservation Board and the Colorado Division of Wildlife. The PWP will incorporate existing information, expert opinion and stakeholder feedback to identify and build consensus for the identified priorities. This project developed working maps that can be used in conjunction with partners to establish a vision, inspire action, raise resources and execute acquisition

projects. The maps incorporate information developed by the Basin Roundtable Non-consumptive Needs Assessments and other information compiled by the PWP participants.

11. South St. Vrain Creek – Reconnaissance Evaluation of Flow Restoration Options
Authorization: Long Bill Grant Amount: \$20,000
Water Source: South St. Vrain River Project Type: Study
Location: South St. Vrain Creek Managers: Linda Bassi / Jeff Baessler
Sponsor: CWCB Beneficiary: Local Water Users
Contract No. 09000000103

The Colorado Water Trust, CWCB and others cooperated on a study of South St. Vrain Creek to determine possibilities for re-watering the reach of stream below the Left Hand Ditch Company's headgate, in addition to addressing other issues in the basin. This study will be the first step in a concerted effort on behalf of CWT to work towards a healthier South St. Vrain Creek and related streams. The report includes a preliminary study of the institutional and engineering framework for restoring flows in South St. Vrain Creek and identifies a variety of flow restoration options.

12. Utility Water Loss in Colorado
Authorization: Long Bill Grant Amount: \$45,900
Water Source: N/A Project Type: Study
Location: Statewide Project Manager: Veva Deheza
Sponsor: CWCB Beneficiary: Statewide
Contract No. 09000000095 *

Funds were utilized to complete a thorough review of current utility water loss practices in Colorado, analyze the requirements in other states, and explore and develop new procedures and tools for measuring and quantifying water loss in municipal and industrial water utility distribution systems. Funds were also utilized to complete a thorough literature review to assist in the quantification of the expected benefits of landscape water conservation best management practices.

13. Water Education Project
Authorization: Long Bill Grant Amount: \$20,000
Water Source: N/A Project Type: Educational Tools
Location: Pueblo Managers: Veva Deheza
Sponsor: CWCB Beneficiary: Statewide

CWCB continued its proactive water education initiative, which includes financial support of the Colorado Foundation for Water Education. CWCB continued to seek out opportunities to develop and provide water education statewide. The following are examples of the types of projects that were funded with these funds:

- Agency pamphlets and brochures.
- Conferences and workshops to address important water matters around the state.
- Update of the Board's kiosk and displays.
- Grants to entities holding water festivals.
- State Fair activities.
- Financial support to various state and local governmental and non-governmental education programs and projects.

14. Water Conservation and Drought Mitigation Planning
Authorization: Long Bill Grant Amount: \$91,450
Water Source: N/A Project Type: Water Planning
Location: N/A Project Manager: Veva McCaig

Sponsor: CWCB
Contract No. 09000000114 *

Beneficiary: Statewide

Funds were utilized for various projects to support and improve CWCB's effort in providing water conservation & drought mitigation planning technical assistance. Included in these projects was a comprehensive investigation into appropriate components for a Colorado specific drought planning toolbox, to assist water providers in the drought planning efforts. The toolbox and its components will actually be developed and pro-typed in the State Drought Plan Revision Project. Funds were also utilized to evaluate water conservation plans submitted to the State for approval by water providers attempting to comply with State statute, requiring water conservation plans. In this review process, detailed technical assistance was provided to water utilities in their efforts to measure and quantify water savings resulting from the implementation of their new plans. The majority of the funds were utilized to convene the 2008 Governor's Conference on Drought Planning and Climate Change. Well over 250 attendees participated in a 2 ½ day conference and provided with presentations on drought planning and programs and resources available to integrate climate change impacts into their drought planning and water resource planning initiatives. Funds were also allocated to supporting critical partnerships throughout the State aimed at working with entities and local governments on initiatives to use water more efficiently, thereby reducing the demand on Colorado's limited water resources.

15. Lower Mancos River Restoration Partnership

Authorization: Long Bill
Water Source: Mancos River
Location: Town of Mancos
Sponsor: CWCB
Contract No. 09000000034

Grant Amount: \$61,500
Project Type: Restoration Project
Project Manager: Chris Sturm
Beneficiary: Local Water Users

The Lower Mancos River Restoration Partnership restored two reaches of the Mancos River near the town of Mancos. Both reach projects took place on ranches that have been grazing cattle in the riparian corridor for 50 – 60 years. The cattle have grazed the riparian corridors heavily, resulting in a substantial loss of woody vegetation and associated root masses. The loss of vegetation led to increased bank erosion and sediment loading to the stream channel. This ultimately created wider, shallower stream channels with decreased habitat for aquatic organisms. The restoration goals included stabilizing stream banks, creating new habitat, reducing stream temperatures, eliminating invasive riparian vegetation species, and establishing native riparian vegetation. The goals were achieved by re-sloping stream banks from near vertical angles to 3:1 slopes. The new streambanks were re-vegetated with seed mixtures, salvaged sod excavated during re-sloping, and native willow transplants. Tamarisk and Russian Olive were mechanically removed from both riparian and adjacent upland areas. Exclusionary fencing was utilized to prevent grazing in the project areas. Nearly 135 tons of boulders were used to construct bank barbs and cross vanes. Bank barbs, when constructed appropriately, are effective in limiting lateral migration in stream channels. The cross vanes were constructed to concentrate flows away from banks, while effectively scouring pools for aquatic habitat. Goal achievement will be measured by implementing a monitoring program that includes re-surveying cross sections, re-photographing established photo points of vegetation, and monthly water quality monitoring of stream temperature.

16. NRCS SNOTEL Site Installations

Authorization: Long Bill
Water Source: N/A
Location: San Juan, Colorado, Gunnison Basin
Sponsor: CWCB
Contract No. 09000000058 *

Grant Amount: \$30,000
Project Type: Snow Measurements
Project Manager: Joe Busto
Beneficiary: CWCB

The CWCB has had a SNOTEL cost share program since 2004 and is responsible for seven new SNOTEL sites in Colorado bringing the total to 106. The total cost of equipment for a

SNOTEL site is \$20,000 and the CWCB shares 50/50 with a local entity who in turn works with the NRCS to sign a contract for the funding and work. The NRCS orders and installs the equipment and works on a Forest Service on site approval plan. Funding was provided to the Upper Gunnison River Water Conservancy District for a site in the Upper Taylor River Basin in the Gunnison River Basin. The installation for this site was set at the final week in August 2009. Funding was provided to the San Juan Conservation District for an Upper Piedra Basin site in the San Juan River Basin. Funding was provided to Denver Water for a Fraser River SNOTEL site in the Colorado River basin. The NRCS are currently awaiting Forest Service site permits and anticipate installation for the Piedra and Fraser basin SNOTEL sites during fall 2009 or summer 2010.

17. Community Collaborative Rain, Hail & Snow Network

Authorization: Long Bill

Water Source: Statewide

Location: Statewide

Sponsor: CWCB

Contract No. PV09-482

Grant Amount: \$5,000

Project Type: Data collection/Education

Project Manager: Joe Busto

Beneficiary: Rio Grande Water Users

The CoCoRaHS Network currently engages over 1,500 volunteers to measure rain, hail and snow throughout the state. The Community Collaborative Rain, Hail and Snow Network was founded in 1998 in northern Colorado. CoCoRaHS is used by a wide variety of organizations. The National Weather Service, meteorologists, hydrologists, emergency managers, city utilities (water supply, water conservation, storm water), insurance adjusters, USDA, engineers, mosquito control, ranchers and farmers, outdoor & recreation interests, teachers, students, and neighbors in the community who visit this website, report rain totals and use the data. For the CWCB thirty five CoCoRaHS rain gauges were used for three years of a hail cannon studies in the San Luis Valley and fourteen gauges are currently deployed for the summer 2009 Gunnison radar improvement project. CWCB funding purchases gauges and assists with cost share requirements in the NSF grant.

18. Pre-Disaster Floodplain Mitigation Plans

Authorization: Long Bill

Water Source: Statewide

Location: Statewide

Sponsor: CWCB

Contract No. 09000000035 *

Grant Amount: \$92,350

Project Type: Plan Development

Project Manager: Kevin Houck

Beneficiary: Emergency Managers

Funds from this account were used to augment local funds and other state and federal funds in the development of all-hazards plans for interested communities. Completion of these plans makes the affected communities eligible for federal mitigation project funds of up to \$3 million per project from a variety of grant programs. The planning process focuses on public involvement and encourages staff and the public to interact in the identification of risk and development of mitigation projects. While the plan process is all-hazards in nature, each of the communities using these funds identified flooding as their primary community hazard to mitigate. Where possible, funds were given to Councils of Government which represented a group of communities. Recipients of funds from this account included the Denver Regional Council of Governments, the San Luis Valley GIS Authority, Elbert County, the 5-2-1 Drainage Authority. All of the fund recipients expressed extreme gratitude to the CWCB because their local budgets were unable to fully fund these efforts, and without the CWCB's assistance, most or all of them would have had to turn away the funds available from other funding partners.

19. Geomorphic Stability and Hydraulic Analysis

Authorization: Long Bill

Water Source: Muddy Creek

Grant Amount: \$50,000

Project Type: Study

Location:
Sponsor: CWCB
Contract No. 09000000009

Project Manager: Chris Sturm
Beneficiary: CWCB

The United State Geological Society performed this study on Muddy Creek downstream of Wolford Mountain Reservoir. The USGS has monitored a reconfigured (restored) reach and a control reach downstream of the reservoir since 2003 and 2001, respectively. The study monitored and quantified geomorphic changes in Muddy Creek for both the control and reconfigured reaches. The changes for both reaches were then compared. FaSTMECH, a multi-dimensional, computational streamflow model was used to evaluate the hydraulics of the creek in both reaches. There were relatively minor geomorphic changes in both reaches during the study period ending in 2008. There were a range of flows, including bankfull and overbank events. The reconfigured reach did not change substantially indicating a stable design. FaSTMECH identified areas of high shear stress, usually present in steeper gradients and/or deeper flowing areas of the channel. These areas remained stable throughout the study period.

20. Cloud Seeding Workstation Using NOAA's FX Network

Authorization: Long Bill
Water Source: N/A
Location: Statewide
Sponsor: CWCB
Contract No. C154119

Grant Amount: \$50,000
Project Type: Program Development
Project Manager: Joe Busto
Beneficiary: Water Managers

NOAA/Earth System Research Laboratory was funded during winter 2008-09 to provide ten client applications to Colorado cloud seeders that was a single-source portal (FX-Net). FX-Net provides all the operational NOAA atmospheric forecast and observational data. The FX-Net system is an extension of the NWS operational Advance Weather Information Processing System (AWIPS) workstation. FX-Net delivers large AWIPS files over a small communications link with the appropriate encoding, compression and decoding of the imagery. The Weather Research Forecast model windows were moved to cover southern Colorado to include the areas involved in the winter weather modification. The WRF model post-processing software was modified to add Cloud Water and Cloud Ice parameters. Algorithms and software implementation for these parameters were provided by the NOAA GSD/FAB modeling group to Colorado clients. The goal by the CWCB was to allow access to the latest in real time tools that federal weather forecasters use to aide in seed no seed decisions and reporting for local cloud seeding programs. Specifically forecasting super cooled liquid water and interpolating in time and space between weather balloon launches was useful in determining targeting and steering winds. FX-NET data portal delivery was offered at \$1,500 per client/users, training and additional functionality and display were developed as part of this project. It is now upon sponsors to consider utilization of this tool for their cloud seeding programs at cost of \$1,500 per user.

21. Rio Grande Snowpack and Streamflow Model Development

Authorization: Long Bill
Water Source: Rio Grande River
Location: Rio Grande River Basin
Sponsor: CWCB

Grant Amount: \$82,500
Project Type: Study
Managers: Joe Busto/Michelle Garrison
Beneficiary: Water Users & Managers
Division Engineer

Contract No. 09000000072

This project included the following tasks:

- a. Develop SNODAS snowpack products for the Rio Grande river basin within Colorado,
- b. Develop and calibrate a hydrologic model (snowpack and streamflow) for the important Compact points in the basin,
- c. Provide operational water supply forecast guidance; and
- d. Develop a final report.

The goal was to improve water supply forecasting for the Rio Grande Compact. Large errors (up to 24%) in the April through September forecasted volumes in the previous four years created problems for water rights administration under the Compact and efficient use of water in the basin.

This project was completed on behalf of the West Gulf River Forecast Center (WGRFC), the Portland NRCS, the Division of Water Resources, and water users. The WGRFC will use the hydrologic model developed in this project for their streamflow forecasts beginning with the 2009-2010 runoff season. The WGRFC has requested additional funds under the NWS Advanced Hydrologic Prediction Service program to expand implementation of hydrologic modeling in the Upper Rio Grande Basin. By the end of FY 2010 the model will be developed down to the Rio Grande near Lobatos, Colorado.

The new methods and models developed in this project are expected to supplement current forecasting techniques in the basin to provide improved forecasting capabilities.

The Rio Grande Water Conservation District provided \$24,400 of local matching funds for this project. The San Luis Valley Irrigation District managed the contract on behalf of the CWCB and RGWCD. Riverside Technologies, Inc. (RTi) performed the work. A draft final report was received in July 2009 and a final project conference call was held in August.

22. Sustaining Colorado Watershed

Authorization: Long Bill
Water Source: N/A
Location: N/A
Sponsor: CWCB
Contract No. PV09-812

Grant Amount: \$5,000
Project Type: Conference
Project Manager: Tom Browning
Beneficiary: Water Users

The Sustaining Colorado Watersheds Conference takes place September 2009. The conference brings together a variety of groups striving towards protecting the health of watersheds in Colorado. CWCB is sponsoring the conference again this year with a \$5,000 donation.

23. Lower Blanco Property Owners Association Project

Authorization: Long Bill
Water Source:
Location:
Sponsor: CWCB
Contract No. PV09-809

Grant Amount: \$5,000
Project Type: Study
Project Manager: Chris Sturm
Beneficiary: Water Users

The Lower Blanco Property Owners Association (LBPOA) is embarking on Phase IV of the Rio Blanco Restoration Project. The CWCB is funding part of the project through the Fish and Wildlife Resources Fund and the Water Supply Reserve Account. The Watershed Protection and Flood Mitigation Section was concerned that the new design Phase might elevate the 100 year flood elevations. The LBPOA agreed to survey a representative reach within Phase IV, so that hydraulic modeling could be performed. The modeling indicated no appreciable rise (< 0.3 feet) to the 100 year floodplain. The proposed restoration project will rearrange the stream channel, but it will maintain similar cross sectional areas capable of conveying the 100 year flood. The CWCB and LBPOA shared the cost of the survey and modeling.

24. Watershed Restoration
Authorization: Long Bill
Water Source: Statewide
Location: Statewide
Sponsor: CWCBC
Contract No. 09000000105 *
- Grant Amount: \$46,500
Project Type: Restoration
Project Manager: Chris Sturm
Beneficiary: Water Users

This project was provided with both Construction Fund and Severance Tax funding. See Paragraph 32 above in the Construction Fund – Non-Reimbursable Investments Section for details.

25. FEMA Coordinator Matching Program
Authorization: Long Bill
Water Source: N/A
Location: Costilla County
Sponsor: CWCBC
- Grant Amount: \$25,000
Project Type: Matching Program
Managers: Browning/Christina Martinez
Beneficiary: NFIP Interests

These funds are available to match the federal grant (75 federal / 25 non-federal) for the full-time position within the CWCBC known as the Community Assistance Program (CAP) coordinator. This position works closely with FEMA and carries out the missions and objectives of the National Flood Insurance Program (NFIP) for Colorado. The CAP position is fully operational at this time and several highly successful workshops have been conducted in addition to the regular programmatic responsibilities and regular coordination with FEMA and local governments.

26. Upper Big Sandy Water Balance
Authorization: Long Bill
Water Source:
Location:
Sponsor:
Contract No. 09000000024
- Grant Amount: \$60,000
Project Type: Study
Project Manager: Andy Moore
Beneficiary:

The purpose of this project is to assess the consumptive and non-consumptive water needs within the Upper Big Sandy Designated Ground Water Basin and compare those needs with the sustainable available alluvial water supply via a water balance assessment approach. The project has been completed, and a final report has been received.

27. Managing Stormwater to Protect Water Resources in Mountainous Regions of Colorado
Authorization: Long Bill
Water Source: N/A
Location:
Sponsor:
Contract No. 09000000056
- Grant Amount: \$50,000
Project Type: Scientific Study
Project Manager: Andy Moore
Beneficiary:

The purpose of this study is to identify and promote stormwater management technologies and practices that may be implemented locally to protect and conserve water resources through mitigation of detrimental impacts caused by land disturbances and modifications associated with land development. The study has been completed, and a final report has been received.

28. Rio Grande Groundwater Modeling and Rule Making
Authorization: Long Bill
Water Source:
Location: Rio Grande Basin
Sponsor: DWR
Contract No. 09000000087
- Grant Amount: \$42,300
Project Type: Scientific Study
Project Manager: Andy Moore
Beneficiary:

Data collection and modeling were needed to assist in proposed rule making by the Division of Water Resources governing the diversion and use of underground water in the Rio Grande Basin. The project has been completed.

29. Digitizing & Archiving of CWI / CSU Files

Authorization: Long Bill

Water Source: N/A

Location: N/A

Sponsor: CWCB / CSU

Contract No. 09000000091

Grant Amount: \$25,000

Project Type: Water Info Digitization

Project Manager: Susan Lesovsky

Beneficiary: Statewide

Funds were provided to the CSU Water Resources Archive to pay to digitize archival materials and make them available on the internet. Selections for digitization (totaling nearly 10,000 pages/items) included: papers of Delph E. Carpenter and family (~2100 pages), papers of James L. Olgilvie (885 pages), papers of Gilbert G. Stamm (~500 slides and ~1100 pages), papers of Robert E. Glover (~250 slides and ~1300 pages), Groundwater Data Collection (~2200 pages) and the Colorado Water Congress newsletters (~1400 pages).

30. USFWS Imaging

Authorization: Long Bill

Water Source: N/A

Location: N/A

Sponsor: CWCB

Contract No. 09000000082A

Grant Amount: \$11,000

Project Type: Water Info Digitization

Project Manager: Susan Lesovsky

Beneficiary: Statewide

Funds were provided to the National Fish and Wildlife Foundation to pay to digitize the Upper Colorado River Endangered Fish Recovery Program's technical reports library materials, which will be available on the internet through the CWCB's Water Resource Information Center (via Laserfiche). Approximately 123,000 pages were digitized and uploaded for this project.

31. Colorado Geological Survey Operations

Authorization: Long Bill

Grant Amount: \$40,000

Colorado Geological Survey (CGS), an agency of the Department of Natural Resources, receives the majority of its funding via the Severance Tax Trust Fund Operational Account. Due to an unexpected shortfall in funding for Fiscal Year 2009, CWCB transferred \$40,000 to assist CGS to meet its obligations.