# **Colorado's Water Supply Future**







DLORAD



October 29, 2010





To the House of Representatives Committee on Agriculture, Livestock, and Natural Resources and the Senate Committee on Agriculture, Natural Resources, and Energy

### COLORADO'S WATER SUPPLY FUTURE: Interbasin Compact Committee 2010 Annual Report

Bill Ritter, Jr. - Governor Mike King - DNR Executive Director Jennifer Gimbel - CWCB Director

### TABLE OF CONTENTS

Letter from the Director	1-2
Summary of Scenario Planning and Portfolios & Major Findings of the	
Colorado Water for the 21st Century Reports	3 - 4
Summary of Frameworks for Implementing Portfolios	5-6
Summary of Recent IBCC Framework	5
Basin Roundtable Accomplishments/Summaries Arkansas pg 7, Colorado pg 8, Gunnison pg 9, Metro pg 10 North Platte pg 11, Rio Grande pg 12, South Platte pg 13, Southwest pg 14, and Yampa/White/Green pg 17	6 - 14, & 1′ ,
IBCC and Basin Roundtable Timeline	15 - 16
Colorado Water for the 21st Century at 5 Years	18 - 23
Finances & Expenditures	24
IBCC and Basin Roundtable Membership	25 - 30
Guide to Water Resource Acronyms	31

### **FRONT COVER**

From top to bottom—Denver city park, center pivot sprinkler in the San Luis Valley (photo by Bill Green), Yampa River rainbow trout (photo by Kent Vertrees), and Beaver Pond in Mt. Zirkel (photo by Bill Green)

### **BACK COVER**

Lost Lake Gunnison (photo by Peter Kasper)

TIMELINE DESIGN Emmett Jordan

WATER COLORS Created by Shane Miles

### Letter From The Director Of Compact Negotiations

October 29, 2010

F ellow Coloradoans: The year 2010 has been an exciting year for our State in many ways, but for me one of the most exciting developments is the Interbasin Compact Committee's (IBCC's) taking up Governor Ritter's challenge to



make significant progress towards developing a statewide vision for Colorado's water supply future.

As you all well know, we are already at a point where we do not have enough water to meet all existing demands and are squarely in an era of water scarcity and tradeoffs. Forty years from now the demands will have increased, the water supply decreased, and the trade-offs will be more acute. Climate change is expected to further decrease available water supply and increase demands from all sectors, which will likely result in more difficult trade-offs.

"The 21<sup>st</sup> Century is the era of limits made applicable to water decision-making. Due to natural western water scarcity, we are no longer developing a resource. Instead, we are learning how to share a developed resource." — Gregory J. Hobbs, Colorado Supreme Court Justice

The enormous challenges facing water users and the State require the collective input of all stakeholders and a collaborative decision-making process that reaches common ground to develop a sustainable water future that meets our numerous and diverse needs. In order to ensure a water future for Colorado that continues our incredible quality of life, our system of water allocation must be guided, supported, and facilitated by a comprehensive vision. Colorado needs a statewide water vision that will marshal ever scarcer government resources in a manner that supports sustainable economic growth; protects our environment; provides for municipal, agricultural, and industrial needs; and supports rural, recreation, and eco-tourism based economies.

Local control has been a guiding principle for land use and water development in Colorado and prior appropriation, the bedrock of water allocation in Colorado, is a grounds up, individually driven and locally based system. Currently, long-term water resource planning, development, use, and management are all accomplished by local or individual users. This simple but overarching fact has been a significant part of the State's inability to develop and implement a statewide water vision. Past attempts at creating a state water plan have not been successful. However, before the creation of the IBCC and the basin roundtables, no attempt sought to take advantage of the best aspects of local control and charge the diverse interests themselves with the job of creating a statewide vision.

In 2007, the IBCC began to explore developing a shared vision for Colorado's water future. Initially, the IBCC and the basin roundtables questioned where our current system, the "status quo," will lead and the general consensus was the status quo scenario is not a desirable future for Colorado. Subsequently, the IBCC began scenario planning. Several different future scenarios were defined and include high, middle, and low demand and high, middle, and low supply and the different combinations that result. In 2009, CWCB staff and CDM developed a "portfolio tool," which allows IBCC and basin roundtable members to experiment with various water supply mixes or portfolios for a particular scenario; to determine a hypothetical amount of supply from a particular source and understand the implications of such.

During this past year, the IBCC specifically explored portfolios for the mid-demand/mid-supply scenario and began to see the glimmers of agreement around possible portfolios for this scenario. The proposed portfolios included different mixes of identified projects and processes (IPP) success, conservation, agricultural transfers, and new supply development. Significantly, the IBCC agreed that a future water supply portfolio must include all four sources of water. I believe that, if asked, most members of the IBCC would also agree that the following tenets are informing the scenario planning process:

- Large-scale dry-up of irrigated agriculture has considerable adverse economic and environmental impacts.
- The success of current local water supply projects (IPPs) is important to meeting the gap and to the extent they are not successful, other supply options will have to take their place.
- Conservation will be counted on to reduce existing and future water demands and additional water conservation efforts are critical.
- There must be a closer connection and better coordination between water supply and land use planning.
- Developing new water supplies in the Colorado River Basin for use on both the east and west slope will reduce agricultural water transfers, but cannot occur at the expense of the west slope's environmental or economic future.

Also during the past year, the IBCC began working to understand the implications of different portfolios and in the latter half of 2010, to outline frameworks by which a particular portfolio might be implemented. Such frameworks include, for example, how agricultural transfers could occur more efficiently and economically, with continued benefit to the agricultural communities, to minimize permanent loss of agricultural lands. Or, with regard to conservation, an understanding of current conservation methods, where major water savings may be achieved, whether and how more can be conserved. Or, with regard to IPPs, how should the State support these projects? The portfolio and framework development are an iterative process, with each iteration informing either the scenarios or portfolios.

The IBCC and the basin roundtables are poised to accomplish that which has never been done in Colorado. The IBCC's visioning attempt has a chance of success because the process embraces the local nature of water allocation and charges those decision makers, the local users, with creating the vision. If successful, the IBCC will make an historic step towards a better water supply future for Colorado. By the end of 2010, we hope to have made significant progress towards this goal. Looking ahead to 2011, the IBCC will continue this work to create consensus portfolios and frameworks for a variety of scenarios to develop its vision and explore mechanisms to implement its ideas of how we may meet our future challenges. Whether we ultimately craft a statewide vision, the IBCC and the basin roundtables have already seen success in several important areas.

This report fulfills the requirement of C.R.S. 37-75-105(4) to report to the House of Representatives Committee on Agriculture, Livestock, and Natural Resources and the Senate Committee on Agriculture, Natural Resources, and Energy on the status of compact negotiations by October 31st of each year. It not only documents the progress and milestones achieved in 2010, but looks back at the successes and challenges of last five years by reporting on:

- The IBCCs scenario planning and portfolio building efforts
- Frameworks for implementing portfolios
- In-depth individual basin accomplishments
- Retrospective on the last 5 years
- Graphical timeline of major accomplishments of the IBCC and basin roundtables, joint basin roundtable, and subcommittee accomplishments

Alexandra Davis Director of Compact Negotiations

Y ogi Berra stated: "It's tough to make predictions, especially about the future." Indeed the Yogi is right, which is one reason why the IBCC and others go through a scenario planning process. However, there's another quote by Mr. Berra that's perhaps even more applicable: "You've got to be very careful if you don't know where you're going, because you might not get there."

If we do not address Colorado's increasing water supply needs, the future of Colorado may not be what anyone wants to see. The status quo is likely to lead to a future where a significant portion of agriculture in the South Platte and Arkansas basins is dried up. This raises the possibility that rural Colorado communities cross a tipping point in which agriculture is no longer a viable economic base in some regions of the state. This would not only have significant impacts to communities and Colorado's economy, but also to the environmental benefits agriculture offers to wetland and riparian habitats, stream flows, and open space.

At the same time, the costs of individual small projects is much greater than having a coordinated approach for addressing Colorado's future water supply needs. So, how does Colorado maintain a robust agricultural economy, maintain a healthy environment with numerous recreational opportunities, and provide a safe and reliable water supply to our citizens and industries? How can we do this when we do not know what the future will hold? The answer is scenario planning.

The IBCC in conjunction with CWCB and the basin roundtables has developed low, medium, and high scenarios for: 1) Water demands, 2) Water availability in the Colorado River system, 3) the success of locally identified projects and processes (IPPs), and 4) the resulting potential water gaps. The bottom line is that by 2050 Colorado will need an additional 190,000 to 630,000 acre-feet beyond what is currently being planned for by local water providers. Looking at all of the strategies (conservation, new water supplies from the Colorado River system, agricultural transfers, and higher success rates on the IPPs), it's clear that no one source can meet Colorado's growing water needs without harming values important to Coloradoan's. Therefore, a portfolio of solutions is needed. Below is a summary of the Major Results of the technical work that led to these conclusions

### Major Results of the Colorado Water for the 21st Century Reports

# 2050 Municipal & Industrial (M&I) Projections (final):

- Colorado's population is projected to nearly double to between 8.6 and 10.5 million people by 2050.
- 2050 additional Baseline Demands are 745 KAF plus replacement of 35 KAF of non-tributary groundwater.
- Passive Conservation at a high level could reduce these demands by up to 154 KAF.

### Oil Shale Phase II Energy Report (final/draft):

• A build-out oil shale industry at 1,550,000 barrels of oil per day could use 0 AF, 59,000, or 120,000 AF annually depending upon what technologies and other factors are implemented.

### Identified Projects & Processes (IPPs) (draft):

- Both the number of IPPs and the amounts of water supplied by IPPs have slightly decreased since SWSI. Reasons include the implementation of some projects and the reduction in size of some projects due to some providers opting out of participation.
- If 100 percent of the planned IPPs are implemented, the water supplied for M&I could range from 437 KAF to 588 KAF.



# Nonconsumptive Needs (Phase I final; Phase II draft):

- 700+ nonconsumptive projects and methods were identified; 127 of which are planned for implementation.
- Nonconsumptive mapping was finalized for every basin in the State.

### Agricultural Needs (draft):

- 2050 Agriculture Demands are projected to be approximately 3.9 MAF consumptive.
- Colorado may see a 15-20 percent decrease in irrigated acres statewide by 2050.

### The 2050 M&I Gap (draft):

• The Gap (projected difference between new demand and identified water supply projects), which is dependent on IPP success, ranges from a low of 189 KAF (low demand, 100 percent IPP success), a mid of 393 KAF (mid demand, moderate IPP success), to a high gap of 629 KAF (high demand, low IPP success). (Note: SWSI 2030 gap = 118,000 AF.)

### Active Conservation (draft):

• Potential savings from active conservation programs will be an integral part of portfolio development. The portion of the savings that

could potentially be put toward filling the gap remains to be determined.

### Colorado River Water Availability Study (draft):

• The study provided planning ranges of the amount of new supply that may be available from the Colorado River system to meet future needs.

### Agricultural Transfer and New Supply Development Cost Estimates (final):

- Life Cycle Costs for the large agricultural transfer projects range from \$16 billion to \$24 billion.
- Life Cycle Costs for the large new supply projects range from \$17 billion to \$20 billion.

# Alternative Agriculture Transfer Methods Next Steps (draft):

- The ATM Workgroup identified three major hurdles to alternative transfer method implementation and is expanding ways to overcome these hurdles:
- 1. Presumptive Consumptive Use
- 2. Ability to transfer part of CU
- 3. Ditch-wide analysis



\* 2050 water use projections for municipal, industrial, and self supplied industrial.

The IBCC agreed at its August 2010 meeting that four sources are available to meet Colorado's future M&I water supply needs: conservation, IPPs, agricultural transfers, and new supply development. The IBCC agreed all four sources of water supply must be used to meet future needs and all four strategies must be pursued concurrently. Involved in this agreement are diverse interests, including all regions of the state, environmental and recreational interests, municipal water providers, and agricultural water users.

The IBCC recognized the need for a higher success rate for locally identified projects and processes, that significant conservation is needed to help fill the gap, that agricultural transfers can happen in a manner that does not endanger rural economies, and that new supplies from the Colorado River system will be needed to meet both East Slope and West Slope needs.

To help inform a better path forward, several subcommittees of the IBCC were formed to further explore these issues and were charged with creating a framework for implementation. The IPP subcommittee is working on recommendations for the State of Colorado's role in supporting and endorsing water provider's projects. The recommendations detail a potential role for the Governor, the Department of Natural Resources, the General Assembly, and other state entities. While details are still being worked through, the document in general discusses establishing a joint agency task force, educating the federal agencies on Colorado's water needs, facilitating resolution of issues between stakeholders, providing technical and financial support, and endorsing projects once local issues have been mostly resolved.

The conservation subcommittee identified several steps forward by which conservation may be achieved. The committee is identifying which concepts could be enacted in the short term, need further study, or are long term recommendations. There is also a committee looking at alternative measures to traditional agricultural transfers. Many of the members are not IBCC members, but the IBCC is relying upon them for input. Generally, the committee is looking at barriers to implementing these alternatives and pursuing ways to remove those barriers. Some examples of alternative methods include temporary agricultural transfers, rotational fallowing, water banking, and partial transfer of historical consumptive use.

The new supply subcommittee has drafted a document that attempts to bring the vision together to acknowledge the role of new supply in solving the gap. The subcommittee recognized the importance of satisfying environmental and recreational needs and has worked to resolve how these needs, new supply development, conservation, and IPPs can integrate. The subcommittee also outlined risk strategies to establish mechanisms to protect the Colorado River system from overdevelopment. In addition the subcommittee is working to outline how, if all of the elements are met, some regulatory certainty for a project proponent may be achieved. This group involves approximately half of the IBCC membership, making it the largest group and also the group that is tacking the most contentious issues.

By the end of Governor Ritter's term in December of 2010, the IBCC's goal is to have a broad general agreement integrating the issues and solutions posed by the subcommittees. The IBCC will present their recommended path forward to the next administration and General Assembly.

### The Basin Roundtables

The Colorado Water for the 21<sup>st</sup> Century Act created nine basin roundtables to help address Colorado's water supply challenges (see Figure 1). The General Assembly asked each basin roundtable to develop a basin-wide water needs assessment consisting of:

- An analysis of the basin's consumptive water needs (municipal, industrial, and agricultural);
- An analysis of the basin's nonconsumptive water needs (environmental and recreational);
- An analysis of the basin's available water supplies (surface and groundwater) and how much water is unappropriated; and
- Proposed projects or methods to meet the basin's identified consumptive and nonconsumptive water needs.

Each basin roundtable used data and information from the Statewide Water Supply Initiative, their own studies, and on-going technical work by the CWCB to develop their needs assessments. In general, all basin roundtables have:

- Completed their consumptive needs assessment or have individual studies in place to analyze specific components of their consumptive needs.
- Approved mapping of their nonconsumptive needs and are identifying nonconsumptive projects and methods local entities are planning to implement.
- Relied on completed or on-going CWCB studies to determine available water supplies in their basin
- Compiled information on the water supply projects or processes the water providers in their basin are planning to implement.
- Worked with the CWCB to recalculate the M&I gap in their basin.
- Some of the basin roundtables have started analyzing how the M&I gap in their basin can be filled.

The basin roundtables have also taken an active role in using the Water Supply Reserve Account (WSRA) to support the implementation of projects and methods to address their consumptive and nonconsumptive needs. Funding from the WSRA has allowed critical water supply projects throughout the state to move forward. Many of these projects would not have been possible without such funding.

Following are reports from each basin roundtable describing, from their individual perspectives, the basin roundtable's highlights and accomplishments.



Figure 1. Colorado's Nine basin roundtables provide a voluntary and collaborative process to help the State address its water challenges.



### Roundtable Public Outreach

As mentioned above, each basin roundtable developed their basin-wide water needs assessment, identified projects and methods to help meet their needs, and in some cases identified ways to fill their basin's M&I gap.

Meeting the State's consumptive and nonconsumptive water needs, will require the public, decision makers, and other water stakeholders be aware of the needs within each basin. In order to achieve this, each basin roundtable is putting together and implementing an Education Action Plan (EAP). Below are examples from three of the basins.

### Arkansas Basin Roundtable

The Arkansas basin roundtable produced a report on the Basin's projects and methods. The basin went through a process of ranking these projects and methods.

Afterwards they conducted two successful public outreach meetings to discuss this report and their needs.

(Continued on page 8)



### Arkansas Basin Roundtable

The Arkansas Basin has seen robust growth over the past decade. Home to two large cities – Colorado Springs and Pueblo – the Arkansas Basin has seen an increase in competition for scarce water resources. As a result of this urban growth, there has been an increase in the transfer of water from agricultural use to municipal and industrial (M&I) uses.

The Arkansas Basin has recently approved a report describing the basin's significant efforts towards implementing the requirements set forth in the Colorado Water for the 21<sup>st</sup> Century Act. Since the Arkansas basin roundtable first convened in September 2005, the basin roundtable has worked to determine its consumptive and nonconsumptive water supply needs, examined water supply availability and identified projects or methods to meet those needs. This resource document, Projects and Methods to Meet the Needs of the Arkansas Basin (November 2009), details the work of the basin roundtables three major subcommittees: transfer guidelines, consumptive, and nonconsumptive. The basin roundtable completed the Arkansas Basin consumptive Use Water Needs Assessment: 2030 (July 2008). This report updated the analysis of SWSI and reexamined the "Gap" and the IPP's contemplated by the major providers. Through a series of basin roundtable meetings, they identified the projects and methods to meet their needs and then individually scored each project or method on how well it was deemed viable, bearable or equitable. The basin is currently involved in Phase 2 of the non-consumptive needs assessment and determining how to best support and/or implement the projects and methods identified in Through this process, the basin roundtable has their resource document. identified the following priorities:

- Maintain agricultural viability in the lower basin
- Provide for in-basin augmentation in the upper basin
- Provide for adequate water quality to meet all needs
- Ensure adequate water for future needs including M&I, agricultural, recreational and environmental purposes.

To help meet their water supply needs, the Arkansas River Basin has identified the following major water supply projects: the Southern Delivery System, the Arkansas Valley Conduit, the Preferred Storage Option Plan (PSOP), and the Super Ditch Rotational Fallowing project.



### **Colorado Basin Roundtable**

The Colorado River Basin is experiencing rapid population growth, and population is expected to triple in some places by 2050. Contributing to this growth are resort towns high in the basin attracting permanent residents due to recreational and environmental values. Growth in the lower area of the basin is resulting from more traditional economic growth factors, a major one being energy development. The basin also has endangered fish in the lower reaches of the basin and an active recovery program. Since the basin roundtable first met in 2005, it has worked to understand its consumptive and nonconsumptive needs in the basin.

The basin roundtable used a risk approach to establish its nonconsumptive needs map. It also helped support the development of fish recovery alternatives in the 15-mile reach at the low end of the basin, working with East Slope water providers to select the preferred alternative.

The basin roundtable also supported funding specific efforts such as the Grand County Stream Flow Management Plan and the Roaring Fork Watershed Assessment, it is also supporting a grant to understand flows across the basin. The Colorado Nonconsumptive Needs Flow Quantification study uses both site specific studies as well as the Watershed Flow Evaluation Tool. Significant work is underway to revise the tool to be as scientifically accurate as possible. This includes calibration with site specific data, developing altitude and gradient stratification for riparian attributes and basing the recreational component off Colorado survey data. This phase is near complete, and the basin roundtable is expecting results soon.

Roundtable members actively participated in distributing a simplified survey to many of its small providers to determine existing per capita demands and to identify projects and methods municipalities are planning on to meet their needs. Through this work, many new providers were added and data was adjusted, resulting in a significantly lower per capita water use rate than previously thought.

The basin roundtable is also partnering with the Yampa/White basin roundtable to use WSRA funding to examine the basins' future energy needs. This study explores the future of the energy sector and its impact on water usage throughout the Yampa, White, and Colorado River basins. The study projected future water use for uranium, coal, natural gas, and oil shale.

The basin roundtable has also supported funding for a number of on-the-ground projects, including the enlargement of Eagle Park Reservoir, the purchasing of Vail Ditch rights, Old Dillon Reservoir Enlargement, and Flathead L.E.D.E. Ditch and Reservoir Reconstruction project for the Town of Gypsum and agricultural interests in the area. More detail on these projects and other WSRA grants supported by the Colorado Roundtable can be found in the 2010 WSRA Annual Report.

### Roundtable Public Outreach (continued)

### South Platte Basin Roundtable

Two public events, focused on decision makers, were conducted in the upper and lower end of the basin. The first all day event in Loveland went over the consumptive & nonconsumptive needs assessments and brought in over 140 people. The second meeting, in the Sterling was also a big success in educating the public and local decision makers.

### Yampa/White Basin Roundtable

The Community Agriculture Alliance applied for a \$10,000 Water Supply Reserve Account Grant to educate the public on the basin's needs and other water issues. They planned three seminars and a Yampa Basin Tour. The first two seminars and the tour had more than two-hundred people attending each of the events.





### **Gunnison Basin Roundtable**

The Gunnison Basin stretches over 8,000 square miles of western Colorado, extending from the Continental Divide to the confluence of the Gunnison and Colorado Rivers near Grand Junction. The largest cities in the basin are Montrose, Delta, and Gunnison. The Gunnison Basin faces several challenges into the future including:

- Growth in the headwaters will require additional water management strategies;
- Addressing agricultural water shortages in the basin is an important goal of the community; and
- The area between Ouray and Montrose is rapidly growing. Agriculture is important but will continue to feel pressures from the growth in the Uncompany Valley.

The Gunnison basin has identified the following priorities:

- Preserve open space;
- Continue dialogue/negotiations between the Gunnison and other basin roundtables;
- Address aging infrastructure with the basin;
- Develop and implement a selenium management plan;
- Maintain agricultural viability;
- Provide for in-basin augmentation;
- Address compact delivery impacts to existing and future in-basin water rights;
- Ensure endangered species act compliance through Aspinall re-operations,
- Ensure adequate water for future needs (M&I, Agricultural, Environmental; and Recreational Uses).

The Gunnison basin roundtable has completed their basin-wide water needs assessments for their consumptive and nonconsumptive water supply needs and analyzed the basin's water supply availability. The basin roundtable conducted a separate study to examine their consumptive needs. This study, completed and adopted by the basin roundtable in August 2009, examined four specific areas: demands and supplies for smaller municipalities, rural domestic demands and supply, identified water supply vulnerabilities and snowmaking demands. The basin has completed their non-consumptive needs assessment (NCNA) mapping and is currently underway on the statewide effort with the Phase 2 of the NCNA which will identify specific projects addressing non-consumptive needs within the basin.

### **Metro Roundtable**

The Metro Roundtable is responsible for analyzing the water supply needs in the area with the state's largest municipal and industrial "gap" and they have undertaken a number of activities to further develop their needs assessment. The basin roundtable is using the statewide results for the 2050 M&I water use projections, and supplementing these projections with a WSRA funded study on the Upper Mountain Counties. The basin roundtable also underwent an evaluation of their nonconsumptive needs, and completed candidate focus area mapping in the basin. Finally, the basin roundtable participated in gathering additional data from providers throughout the basin to determine identified projects and processes to meet future need.

Over the past five years, basin roundtable members have significantly increased levels of cooperation. Members of the basin roundtable and the basin roundtable as a whole have supported a number of cooperative efforts. These include, shared infrastructure and the WISE Partnership between Denver, Aurora, and the South Metro Water Supply Authority members. The basin roundtable also partnered with the South Platte Roundtable to help support the Chatfield Reallocation, which involves 18 water providers. In addition the basin roundtable is partnering with the Arkansas to determine the feasibility of a Flaming Gorge Task Force.

The basin roundtable has also sought to advance the state of technical knowledge around reuse, conjunctive use, conservation, new cooperative infrastructure, and alternative agricultural transfer methodologies. They have done so by approving grants for Zero Liquid Discharge, Regional Aquifer Storage Recharge Supply Assessment and Lost Creek Aquifer Recharge and Storage Study, installation of rotary sprinkler nozzles, a feasibility study for infrastructure to serve rural communities in Douglas County, and a Joint project on the Rural/Urban Farm Model. Summaries of these grants are in the WSRA 2010 Annual Report.





On May 2, 2010 Chips Barry passed away on his farm in Hawaii. With his passing, Colorado lost one of its most charismatic and effective water managers.

Chips was the Legislative appointment to the Metro Roundtable and IBCC Representative from the beginning of the Interbasin Compact process.

Chips was planning to retire as manager of Denver Water in June, a position he had held since 1991. During his tenure at Denver Water, the utility implemented a conservation program that is nationally and internationally recognized, built a recycled water distribution system, invested millions in treatment facility improvements, monitored recovery from several devastating wildfires, and recovered from one of the worst droughts in the city's history.

Prior to his time at Denver Water, Chips was the executive director of the Colorado Department of Natural Resources for Governor Roy Romer from 1987 to 1990.



### North Platte Basin Roundtable

he North Platte basin roundtable was one of the first basins to complete the Phase 1 Nonconsumptive Needs assessment. Twelve environmental and recreational attributes were identified and mapped individually and as composite stream segment map with attribute counts per segment. Phase 2 is underway, including a prioritization (rating & ranking) of these attributes. The basin roundtable is now considering how to use this prioritization to define projects, some of which would be mutually beneficial to consumptive and nonconsumptive needs. The only consumptive need for the North Platte Basin identified in the SWSI report was 100 acre-feet M&I in Walden. An evaluation was completed in 2008, which recommended a Walden Water Supply Improvement Project. WSRA basin funds were allocated for this project, which is underway and should address the gap identified in SWSI 1. The basin roundtable is also considering additional consumptive needs and issues to be documented in the forthcoming SWSI updates. Several other projects have been recommended and funded thru WSRA grants, including a wetland plant community inventory (completed), a study of the impact of beetle kill forest treatments on the quantity and quality of water produced from that watershed (underway) and a study of North Platte Basin weather that will lead to an improved estimate of the high altitude hay meadow crop coefficient appropriate to this basin (underway).

One of the continuing benefits of the RT is the ongoing dialogue between the various water interests in the basin.





### Ray Wright 1953—2010

### **Rio Grande Basin Roundtable**

The Rio Grande basin roundtable (RGRT) makes an effort to have an educational element as part of each meeting. Initially these topics included information that was felt to be significant for all RGRT members to have a basic understanding of water the issues affecting the Rio Grande Basin (Basin). These topics included, the over appropriation of the Basin, Colorado Water Law, the doctrine of prior-appropriation, the Bureau of Reclamation's Closed Basin Project, the effect the Rio Grande Compact has on overall water management in the Basin, and Groundwater Management Sub-districts attempts to achieve sustainable use of groundwater. More recent educational topics have included the Super Ditch of the Lower Arkansas Basin, micro-hydro electrical generating plant technology and the permitting of such facilities, and the results of the application of water conservation measures in communities.

The RGRT has continued to develop their consumptive and nonconsumptive needs assessments. Through its Consumptive Use Subcommittee the Rio Grande Basin has performed its Consumptive Use Needs Assessments The major issues in the Basin including agricultural use and related groundwater shortages, increasing M&I demands, solar energy development, and oil and gas development. A total shortfall by 2050 of 180,000 acre-feet is documented, of which 160,000 acre-feet is the agricultural groundwater shortage to be addressed by pending State Engineer's well rules and regulations, and fallowing land via the Groundwater Sub-districts. Issues and needs noted by the Consumptive Use Subcommittee will be documented in the forthcoming SWSI updates. The Basin has completed and approved Phase I of its Nonconsumptive Needs Assessment through the creation of a map with attribute counts at the watershed level. Nearly all watersheds within the Basin had at least one environmental or recreational attribute present.

The WSRA funds have allowed important water projects to proceed that would not otherwise have happened. The Basin has been successful in obtaining \$4 million for these water related projects. Each project was carefully scrutinized to ensure they met the threshold criteria and proposals were reviewed by a Subcommittee of the RGRT. The projects have included groundwater studies relating to sustainability issues in the Basin, evaluation of rehabilitation needs and increased capacity of reservoirs, rehabilitation of a reservoir, improvements to the infrastructure of irrigation companies, water and natural resource conservation through conservation easements on lands adjoining the Rio Grande, riparian stabilization, and in-stream flows.

The RGRT has had little interaction with adjacent Roundtables, primarily because the Basin is over appropriated and focused on efforts to establish and maintain sustainability of the groundwater aquifers. This is anticipated to require 80,000 acres of irrigated agricultural lands coming out of production. The economic effects to the communities of the Basin are still unknown.



Doug Shriver 1956 - 2010

On March 19, 2010 Ray Wright and Doug Shriver passed away in a tragic accident. Both men were farmers in San Luis Valley and were highly involved in water issues. Their deaths are an enormous loss to the Rio Grande basin and the State of Colorado.

Ray Wright served as president of the Rio Grande Water Conservation District and as a legislative appointment to the Rio Grande Roundtable and IBCC Representative for the Rio Grande Basin from the beginning of the Interbasin Compact process.

Doug Shriver was on the Colorado Ground Water Commission and served as President of the Rio Grande Water Users Association. He was a member of the Rio Grande Roundtable and served as Vice Chair.





### South Platte Basin Roundtable

The South Platte basin roundtable covers approximately 22,000 square miles in northeast Colorado. The largest cities in the basin roundtable area are Boulder, Fort Collins, Longmont, and Greeley. The projected population in 2050 is estimated to almost double in size to between 1.9 and 2.6 million people.

The South Platte Basin has completed their basin-wide water needs assessments for their consumptive and nonconsumptive water supply needs and analyzed the basin's water supply availability. The basin consumptive needs assessment is divided into three separate parts. Part one of the consumptive needs assessment was completed in 2006 when the basin adopted the findings of SWSI Phase 1. Part Two of the consumptive needs assessment examined five key areas: competition for the same water supply, identification of any unappropriated water, current and historical river administration, increasing use of fully consumable water, and water conservation plans by M&I providers. Part Three of the consumptive needs assessment updated the M&I water demands and projected forecast out to the year 2050, projected agricultural demands, and recalculated the water supply gap for the basin. The basin has also completed the mapping of their nonconsumptive needs and is currently underway on the statewide effort with the Phase 2 of the NCNA.

Out of these efforts, the South Platte basin recognizes the following:

- Large-scale dry-up of irrigated agriculture has major adverse economic impacts
- Dry-up of ag lands also has major environmental impacts
- Success of IPPs is important to meeting the gap--to the extent they are not successful, other options will have to take their place (ag dry-up seems to be the most likely candidate)
- Additional water conservation efforts are crucial, but will not alone be enough
- In cooperation with the West Slope, Colorado River basin water should be developed to meet the State of Colorado's water demands.

The South Platte basin roundtable is active in helping to address the basin's water supply needs and issues. Some of the basin roundtables key priorities include:

- Addressing potential impacts of agricultural transfers and finding alternatives to permanent agricultural dry-up
- Addressing agricultural supply shortages for both surface and groundwater users
- Identifying opportunities to optimize existing and future water supply infrastructure
- Successfully implementing endangered species program to protect existing and future in-basin uses
- Developing new water storage facilities
- Ensuring adequate water for future needs for M&I, agricultural, environmental and recreational uses.

The basin roundtable also recognizes the importance of their basin's major IPPs including the Northern Integrated Supply Project, Windy Gap, and Halligan-Seaman Reservoir Enlargements; without the successful implementation of these projects, the South Platte's M&I gap will be larger.

# Jackson Gulch Dam-Gary Kennedy

### Southwest Basin Roundtable

N ew alignments have characterized the first five years of the Southwest basin roundtable. The individual sub-basins that make up the basin roundtable's area (San Juan, Dolores and San Miguel) are geographically and culturally distinct, with different needs and values. Through the dialogue provided by the basin roundtable, members have learned to align themselves in more holistic understandings and mutual support.

Another challenge has been to align consumptive and non-consumptive needs and values. The Roundtable held a series of meetings in all of our sub-basins to gather and document input on non-consumptive uses and values. The basin roundtable used this input and placed it in a geo-database that is integrated with the State non-consumptive layers, as well as the location of the basin's IPPs.

This ability to overlay locally generated data with information coming out of the statewide process characterizes another alignment that has emerged. The Southwest basins are isolated by mountain passes and are as far away from Denver as anywhere in the State. The relationship to State level water policy through the IBCC and CWCB staff has gone a long way to overcome this isolation. A good example of this is the basin roundtable's participation in the Colorado River Water Supply Availability Study. Since decisions concerning the Colorado River and its tributaries have a large impact on the Southwest Basin, basin roundtable members were very engaged in providing constructive feedback on this report.

Another alignment is an integrated approach to agricultural and M&I water needs. The Southwest basin roundtable has supported a number of M&I projects, which are designed to meet growing M&I needs without diminishing agricultural water supplies, by increased efficiency, storage capacity and more creative operational strategies.

Insight into all of these emerging alignments has been catalyzed by the opportunity and the responsibility for helping with the approval of the Water Supply Reserve Account. Decisions relating to these allocations have been the proving ground for all the alignments described above: co-operation among sub -basins, consumptive and non-consumptive needs, M&I and agricultural supplies, and local and State level water planning and policy.

In 2010, the Southwest Basin hosted the annual tour sponsored by the Colorado Foundation for Water Education. This experience re-enforced the area's identity as a Basin. In addition, the tour lead to plans for increased education and outreach efforts during the Southwest Basin Roundtable's next five years.

Gaining a Broader Geographic Perspective as a Result of Joint Roundtable Meetings

As a result of the annual West Slope Roundtable gatherings, Southwest Roundtable members have gained a broader geographic perspective. Basin roundtable members have learned about the political potential of the basin roundtables in jointly moving to protect the CWCB funding base in the face of the current budget crisis. The Southwest basin roundtable has also come to understand the alignment between diverse consumptive and nonconsumptive programs within CWCB, based on revenues from the loan programs supporting nonconsumptive and other programs.



# Timeline IBCC and Basin Roundtables

### Major Accomplishments <



Nonconsumptive needs Assemnt Focus Map

April 2006 9

IBCC adopts their

Charter and refers it to

the General Assembly.

### October 2006 9

January 2007 Roundtables submit

"Task Orders" to

consumptive and

nonconsumptive

needs assessments

The IBCC and **CWCB** jointly create and adopt Criteria and Guidelines for the disbursement of WSRA funds

August 2005 First Basin Roundtable meeting-Yampa/ White Roundtable meeting in Rangely.

### August-December 2005

First meetings of each basin roundtable to elect at-large members, establish by-laws, and elect IBCC representatives.

June 2005

### January 2005 Governor Owens calls for the establishment of the Interbasin Compact Process at his Stateof-the-State address.



January 2005 House Bill 05-1177 (Colorado Water for the 21st Century Act) sponsored by Rep. Penry and Sen. Isgar is introduced.  $\downarrow$ 

### 2004

### November 2006

First joint meeting of the three East Slope Basin Roundtables.

> March 2007 The first WSRA grants are awarded by the CWCB.

### March 2007

Governor Ritter appoints Harris Sherman as the second Director of Compact Negotiations.



Harris Sherman

General Assembly passes House Bill

06-1400 approving the IBCC Charter

and establishing funding for the Basin

General Assembly passes Senate Bill

06-179 establishing the Water Supply

First joint meeting of the four West Slope Basin Roundtables.

Roundtables and IBCC.

May 2006

May 2006

Reserve Account. May 2006

appoints Russ George as the first Director of **Compact Negotiations** and Director George holds the first meeting of the IBCC.

### January 2006 **Governor Owens**

Governor Owens signs the Colorado Water for the 21st Century Act in Grand Junction establishing the Interbasin Compact Process.

# TIVEOI Boucher and Perry and Corry, C Guiden, Suit, Yorky, Weppe, Jan, King, Participant, Status, Stat



September 2004

**Director Russ George** 

first describes the idea

of Interbasin Compacts

at the River District's

annual seminar.

Russ George

### IBCC and Basin Roundtables

### > Major Accomplishments



local elected officials.

### **9** September 2007 Joint meeting of the

South Platte and Yampa/White Basin Roundtables to discuss the Yampa Pumpback Project.



### 9 March 2008 IBCC drafts a vision statement and vision goals, and agrees to work on combinations of strategies for meeting Colorado's future water



### January 2008

**Director Sherman addresses** the Colorado Water Congress asking the IBCC and the water community to embark on a "Visioning Exercise."



IBCC agrees that the status quo solution for meeting future water needs is the "buy-anddry" of irrigate Ag water and that the status quo is not acceptable.



### JOINT BASIN ROUNDTABLE MEETINGS

### Yampa-South Platte basin

roundtables met in September 2007 in Walden, Colorado to discuss each basin's water supply needs and to begin a "cross-basin" dialogue. The discussion focused on the Yampa Project.

### Gunnison—Arkansas basin

roundtables met in June, July and September 2010 to discuss potential uses of water from the Blue Mesa Reservoir to protect existing depletions for Colorado's citizens. The basin roundtables have committed to continued discussions on this topic which could produce a partial solution to our state's water issues.

### Yampa/White Basin Roundtable

The Roundtable covers a region of the state rich in agriculture, tourism, environmental values, including endangered fish species, and large energy resources, including the potential of oil shale. This is combined with rapid population growth in some parts of the basin. Since the basin roundtable first met in August of 2005, it has worked to understand how these unique qualities contribute to its needs assessments, using WSRA grants to conduct specific studies. These include:

- Agricultural Needs Assessment: the basin is the only one that expects to have an increase in irrigated lands. This specific study details where that increase might be.
- Energy Needs Assessment: in partnership with the Colorado basin roundtable, this study explores the future of the energy sector and its impact on water usage throughout the Yampa, White, and Colorado River basins. The study projects future water use for extractions uranium, coal, natural gas, and oil shale.
- Nonconsumptive Watershed Flow Evaluation Tool: With an eye towards potential negotiations with the Front Range over a water transfer, the basin roundtable decided it was important to have some initial flow information for their nonconsumptive need focus areas. In addition, it is expected that the tool will show where additional water might be able to be developed without causing environmental harm, and where some reaches might be overdeveloped with regard to the environment. This work builds on the significant work the basin roundtable put towards mapping their focus areas, working with the environmental and recreational representatives as well as water users.
- 2050 M&I Water Use Projections: Although a specific WSRA grant was not needed for this, the basin roundtable did form a committee made up of municipal water suppliers throughout the basin to verify the population and water use numbers. In addition this committee provided identified projects and processes (IPPs) that are being planned for meeting future water needs.

The basin roundtable utilized WSRA grants to help meet these growing needs. These grants include the Stillwater Reservoir Seepage project, Town of Yampa Water Facilities Plan and storage tank upgrades, Sparks Reservoir Feasibility Study, Morrison Creek Reservoir Feasibility Study, a grant to better determine consumptive use in the basin by putting in a new lysemeter, and the Yellow Jacket Water District Water Storage Feasibility Study. Summaries of these grants are in the WSRA 2010 Annual Report.



### "Colorado Water for the 21<sup>st</sup> Century" at Five Years

**In**<sup>2005</sup>, with water development in Colorado at a virtual standstill, Colorado's water providers and state legislators decided to try a radical measure: an infusion of democracy.

The growth of water-based outdoor recreation after World War II, coupled with the mass of new environmental legislation in the 1960s and 70s, had broken the onceconsensual western emphasis on utilitarian water uses - domestic, agricultural and industrial – and brought powerful new stakeholders into the water policy arena. This, on top of long-standing antagonism across the Continental Divide between East Slope water users and West Slope water users, brought the development of at least three traditional urban water projects to a complete halt around 1990.

Meanwhile, the population of Colorado continued to grow. In 2004, the state's water-policy organization, the Colorado Water Conservation Board, completed the study phase of the Statewide Water Supply Initiative (SWSI), and projected a gap between known water supply and estimated municipal and industrial demand that has since been refined to approximately 800,000 acre feet – the equivalent of more than three Dillon Reservoirs – by 2050. This was the point at which Russell George, then director of Colorado's Department of Natural Resources, proposed the idea of a statewide structure for "grassroots" water negotiations, within and between river basins, that might lead to water development "compacts" between basins of the state. This structure, officially created by the Colorado Water for the 21<sup>st</sup> Century Act (HB 05-1177), was envisioned as a way to break the courtroom stalemate. The fact that this significant addition to Colorado's somewhat sacrosanct water allocation processes passed on its first trip to the Legislature is an indication of the concern Colorado's water communities feel about future water supply. Now the Colorado Water for the 21<sup>st</sup> Century process – CW21, for short is at the five-year mark. How is it working out?

The nine basin roundtables that are the foundation of the CW21 program are probably its most visibly successful elements at this point. Early on, there was a dawning realization that entities within the natural river basins of the state basins encompassing communities as diverse as high mountain resort towns and prairie farms and cities – did not really have the big picture of their basin-wide, water-related challenges and opportunities. Just

(Continued on page 19)



By George Sibley, member of the Gunnison basin roundtable

### WSRA FUNDED PROJECT S THAT DEMONSTRATE MULTI-INTEREST/ MULTI-BASINS

### Fountain Creek Vision Task Force :

The Fountain Creek Vision Task Force consisted of over 200 members from various entities and communities in the watershed representing a wide range of interests. This project developed a detailed strategic plan for Fountain Creek Watershed, identifying the consumptive and nonconsumptive water needs in the basin along with methods and projects for addressing those needs. The plan leveraged existing studies into specific solutions to meet the needs and problems in the watershed and was a consensus-based document, agreed to by the diverse members of the Task Force. This effort led directly into the establishment of the Fountain Creek Watershed Flood Control and Greenway District, serving to manage, administer, and fund the capital improvements necessary in the Fountain Creek Watershed.





### WSRA FUNDED PROJECT S THAT DEMONSTRATE MULTI-INTEREST/ MULTI-BASINS (continued)

### Upper Colorado Endangered Fish Recovery Alternatives Analysis (10825) :

Four warm water fish species that inhabit the lower reaches of the Colorado River watershed in western Colorado have been listed as endangered under the federal Endangered Species Act. East Slope and West Slope water providers in the Upper Colorado Basin have committed to permanently supply 10,825 acre-feet of water per year (10825 water) to assist with the recovery of the endangered fish. This water is supplied to the "15-Mile Reach" of the Colorado River near Grand Junction during the late summer months. During this time of year the stream flow of the Colorado River within the 15-Mile Reach is substantially impacted by upstream water diversions, and the supplemental 10825 water is beneficial to the endangered fish recovery program. The commitment to provide 10825 water is divided equally between East Slope and West Slope water providers, with each responsible to supply 5,412.5 acre-feet per year on a permanent basis. Currently, the

(Continued on page 20)

"Colorado Water for the 21<sup>st</sup> Century" at Five Years (continued)

the process of bringing all parts of each basin together in one room was a positive experience for every basin roundtable.

The basin roundtables have since made considerable progress on their legislated charge: to complete needs assessments for their basin's consumptive and nonconsumptive (recreational and environmental) needs, and then to develop a plan for projects to meet any identified, unmet needs. Most of the basin roundtables have completed their consumptive needs assessments and have at least mapped their nonconsumptive needs. The nonconsumptive needs analyses have been more difficult, especially for the West Slope basins where recreational and environmental water uses have become such integral parts of the local economies and culture and are sometimes in tension with traditional agricultural or industrial uses. There is still active discussion among the basin roundtables over how much quantification is necessary, or even meaningful, for the nonconsumptive uses of water - and if quantification is necessary, how it should be performed. It can still be said that, at CW21's five-year mark, the people of the state have never before had available so much knowledge of their own water situations.

Moving on from the needs

assessments to the larger challenge of initiating projects to address "The Gap," both in the individual basins and statewide, is the larger task that still lies ahead. The Interbasin Compact Committee representatives from the nine basin roundtables plus some appointees from the governor and Legislature has met the Legislature's charge to create "a negotiating framework and foundational principles to guide voluntary negotiations between basin roundtables," but the basin roundtables have not yet generated any interbasin project ideas to apply the "framework and principles" to. This is due in part to their occupation with their needs assessments.

Another factor in the absence of project ideas requiring IBCC mediation is probably an unfamiliarity with the kind of "grassroots" process required. Russ George was emphatic, in a 2005 presentation on CW21, that "the process must be driven by the people and not dominated by governmental entities." But for the second half of the 20<sup>th</sup> century, Colorado water development was almost entirely initiated and driven by governmental or quasi-governmental agencies municipal utilities, water districts, the Bureau of Reclamation, and the CWCB, which has developed state water policy for more than 70 years.



Gunnison Whitewater Park-P Kasper

### Americans, in general, got out of the practice of proactive grassroots democracy after World War II; programs like this require a relearning period.

Another explanation for the dearth of water project ideas at this time is the difficulty in deciding exactly what a "water project" is going to look like in the 21<sup>st</sup> century. Historically, water projects involved the development of undeveloped water, but as Justice Greg Hobbs of the Colorado Supreme Court has put it, "We are no longer developing the water resource; we are learning how to share the developed resource." This is a new game, and many of the players are also new.

Some basin roundtable and IBCC members are concerned that, despite the presence at the table of more stakeholders, the discourse is still dominated by the "big dogs." These influential players include the metroregion utilities, the big water conservancy districts and other large user groups who have been accustomed to working out water supply solutions by appropriating or purchasing water and working their projects through the water court and permitting process. Critics of CW21 feel that the voices of smaller communities, rural counties, and recreational and environmental interests are often discounted, despite their legislatively-delegated involvement.

Not everyone agrees with that assessment, however. The big dogs themselves are not able to move the process forward in accordance with the urgency they feel. Six major water providers - Denver Water, Aurora Water, Colorado Springs Utilities, Pueblo's Board of Water Works, and the Northern and Southeastern Colorado water conservancy districts - wrote a letter to the IBCC and the CWCB in the summer of 2009 complaining that the program is too cumbersome: "The discussions have been laborious and largely unproductive ... and there does not yet exist a clearly defined end point." They are concerned about the lead time necessary to get major water projects underway and wonder if the state can afford the luxury of this level of democratic process.

Members of West Slope basin roundtables have observed, however, that west of the Divide, where environmental and recreational concerns lie closer to the surface, the new stakeholder voices are stronger. A member of the Colorado basin roundtable said, "Many of the upper basin municipal, water user and county representatives have fairly strong environmental and recreational water needs and

(Continued on page 21)

### WSRA FUNDED PROJECT S THAT DEMONSTRATE MULTI-INTEREST/ MULTI-BASINS (continued)

10825 water is provided on a temporary and interim basis by Denver Water (from Williams Fork Reservoir) and by the Colorado River Water Conservation District (from Wolford Mountain Reservoir). The water providers must have permanent agreements in place that identify the permanent source of the 10825 water by December of 2009. The East and West Slope water providers have agreed to cooperatively analyze and compare a wide range of alternatives to meet their obligations to provide summer and fall flow enhancements to the 15-Mile reach on a permanent basis. The 10825 Water Supply Study will develop and assess these cooperative alternatives. The study is managed by Grand River Consulting and is directed by a Steering Committee made up of a broad coalition of water providers who use water from the Colorado River basin.

Halligan-Seaman Water Management Project: Shared Vision Planning Model : The City of Greeley is working with the City of Fort Collins,

(Continued on page 21)





### WSRA FUNDED PROJECT S THAT DEMONSTRATE MULTI-INTEREST/ MULTI-BASINS (continued)

North Poudre Irrigation Company, CSU, and the Nature Conservancy to move forward on the Halligan Seaman Water Management Project via a Shared Vision Planning (SVP) model. The SVP model is a collaborative stakeholder process intended to bring about more effective permitting for water projects. This SVP effort is proposed to improve stream flows on the North Fork and main stem of the Cache la Poudre River above the confluence with the North Fork. The SVP Work is related to the ongoing review of two Section 404 permits to expand storage at two existing reservoirs on the North Fork to provide the water supply needed for future population growth and some agricultural production. Preferred alternatives have been identified as the expansion of Halligan Reservoir in 2010 and the expansion of Seaman Reservoir in 2030. The SVP study will consider only subalternatives that avoid or minimize negative environmental impacts. It will incorporate operational, hydrologic, water rights, and flow recommendations, as well

(Continued on page 22)

# "Colorado Water for the 21<sup>st</sup> Century" at Five Years (continued)

sympathies. ... But then that's not too surprising as the upper Colorado Basin economy is more heavily dependent on environmental and recreational water than it is on the more traditional uses." A member of the Gunnison basin roundtable made a similar observation.

In other words, the basin roundtables may actually be developing in diverse ways that reflect each area's own strongest water-related economic and cultural concerns. Will this ultimately work to resolve statewide problems? Some early experiences suggest the CW21 process may not make statewide solutions any easier. For example, in 2007 the CWCB, at the urging of the large metro-area water providers. decided to study the feasibility of possible water projects to bring West Slope water to the Front Range. But the West Slope basin roundtables reacted vigorously to that idea, suggesting instead through the IBCC that the place to start was with a study of West Slope water availability; why study projects when you don't even know if there is enough water for them? So in addition to its study of feasible projects, the CWCB initiated the Colorado River Water Availability Study. At this point neither study has provided very definitive answers either about water availability or economically and politically

acceptable projects. But the balanced move of pursuing both studies does suggest that traditional protagonists are at least beginning to accept the necessity of listening to and accommodating each other's concerns.

That particular situation also seems to illustrate how the working relationship and "flow of information" is evolving between the basin roundtables, the IBCC and the CWCB. While Russ George wanted more "power to the people" in water decision making, HB 1177 stated that "the current system of allocating water within Colorado shall not be super ceded, abrogated, or otherwise impaired" by the CW21 process, nor would any other "contractual and property rights." This was undoubtedly essential to get the act passed, but it did seem to leave the IBCC and the basin roundtables with nothing but an advisory role to the power players. Some participants consider this lack of legislated authority to be a shortcoming of the process. But success in getting the Colorado River Water Availability Study implemented suggests that "the people" do in fact have some power when the basin roundtables come up with good ideas that have broad grassroots stakeholder support.

Skeptics – and some outright cynics – believed that the CWCB,



Colorado's traditional power in water policy, with 40-some experienced staff members, might dominate an IBCC that started with a staff of two. But – thanks in part to structural changes in CWCB leadership - a kind of "symbiosis" seems to be developing between the two organizations. The CWCB and the IBCC are sharing the CWCB staff and its expertise, without either organization being "staff-driven," as often happens with highly qualified technical staffs in a culture that tends to hope that enough information will provide "the answer." "Several months ago," said one IBCC member, "[we] basically told [staff] that we were tired of being bombarded by powerpoints developed by the hired consultants and wanted to get back to an open dialogue between the IBCC members on issues."

But the proof-in-the-pudding question remains: Will CW21 help the state develop projects and programs to meet "The Gap?" Some IBCC members see the "water divide," that split between entities needing more water and those from whom water would have to come, as wide as ever. The challenge, according to one IBCC member, is "how 130 years of East-West conflict has poisoned the ability to sit down as statesmen and logically and rationally discuss the issues facing *all* Coloradans in the future in terms of developing the water supply we will need. It takes a long time to tear down those prejudices and lack of understanding of each other's problems. I think we are moving in that direction."

One positive step in that direction is a series of meetings between members of the Gunnison and Arkansas basin roundtables that began in the summer of 2010. Although the various basin roundtables on opposite sides of the Divide have previously met among themselves, these meetings tended to focus on information sharing. The Gunnison-Arkansas basin roundtable joint meetings are the first interbasin discussions actually addressing specific points of contention between two basins that lie across the Divide from each other. In this case, they are discussing the role of Blue Mesa Reservoir in addressing statewide water problems on the one hand, and how far beyond "passive conservation" urban demand reduction can and should go on the other hand. Ultimately, "sharing the developed resource" is going to come down to guid pro guo tradeoffs across issues like these.

An observer with a background in facilitation points to a core issue that will continue to hinder progress unless resolved: "What's missing is the know-how to move beyond the volley of polarized positions back and *(Continued on page 23)* 

### WSRA FUNDED PROJECT S THAT DEMONSTRATE MULTI-INTEREST/ MULTI-BASINS (continued)

as criteria for ecological and biological components into a river flow regime in order to fully assess reservoir operations alternatives in the context of the required NEPA permitting process. The SVP uses traditional US Army Corps of Engineers planning principles but modifies them to include earlier and more intensive collaboration with wide variety of stakeholders. If successful, SVP could become a model for other water projects in the United States.



### "Colorado Water for the 21<sup>st</sup> Century" at Five Years (continued)

forth. Folks don't know how to engage in interestbased dialogue on the issues; they don't know how to engage in deep listening, creating a shared ownership of the thorny problems. Society as a whole lacks these abilities; the time is ripe for us to learn them."

In other words, the Colorado Water for the 21<sup>st</sup> Century Act may have set up a very viable structure for the democratic resolution of problems with multiple stakeholders, all of whom will be heard and must be ultimately satisfied to some extent. The challenge now is to learn how to use that structure effectively in addressing 21<sup>st</sup>-century problems. "If we were willing to invest as much time and energy researching how to improve our problem-solving process as we spend in researching technological fixes," observes one IBCC participant, "we could make huge strides. I believe we are on the cusp of doing just that."

\*\*\*



### **Finance and Expenditures**

O ver the past three years, Colorado has invested \$3.3 million in the Interbasin Compact Process (see Figure 3). The 2010 expenditures (see Figure 2) totaled a little over \$1 million with approximately 620K of that total going towards consumptive M&I and Ag related tasks, nonconsumptive tasks, and water supply strategies.

The Interbasin Compact Process is authorized to receive approximately \$745,000 per year. The majority of this funding will continue to be invested in technical support for the basin roundtable's and the IBCC with the remainder split between education efforts, holding basin roundtable and IBCC meetings, and staff and member travel.







Figure 3: Fiscal Year '08 - '10 Combined Expenditures

### ARKANSAS BASIN ROUNDTABLE MEMBERSHIP LIST

Alan Hamel, Legislative Appt Anthony Nunez, Pueblo County Bud Elliott, Lake Muni Cardon Berry, Kiowa Muni Carl McClure, Crowley Muni Chris Haga, Custer Muni Dan Henrichs, At-Large Representative Dave Stone, Lincoln Muni Deb Entwistle, U.S. Forest Service (liaison) Dennis Smith, Lake County Doug Montgomery, Prowers Muni Ed Warner, BOR (liaison) Frank Wallace, Bent County Gary Belew, Ft. Carson (liaison) Gerald Barber, El Paso County Glen Ausmus, County Advocates James Fernandez, Las Animas Muni James Broderick, Southeastern Colorado Water **Conservancy District** Jane Rawlings, Industrial Representative Jay Skinner, Division of Wildlife (liaison) Jay Winner, Lower Arkansas Valley Conservation District Jeff Tranel, CSU Extension Service (liaison) Jeris Danielson, Purgatoire River WCD Joe Kelley, Otero Muni John Proctor, At-Large Representative John Schweizer, At-Large Representative John Tonko, Division of Wildlife (liaison) John Reid, Lincoln County Jonathon Fox, Agricultural Representative Karen Dietrich, Crowley County Municipal Rep Keith Hood, Custer County Kevin Karney, Otero County Larry Reeves, Elbert County Lawrence Sena, Bent Muni Lindsay Case, Huerfano County Lisa Pinello, Local Domestic Water Provider Representative Loretta Kennedy, Non-Voting At Large Member Max Smith, Baca Muni Misty DeSalvo, U.S. Forest Service (liaison) Patricia Alderton, Chaffee Muni Phil Overeynder, Non-Voting At Large Member Ralf Topper, Colorado Geological Survey (liaison) Reed Dils, Recreational Representative Reeves Brown, At-Large Representative

Ricky Kidd, Pueblo Conservancy District Rod Brown, Kiowa County Roy Vaughan, BOR (liaison) SeEtta Moss, Environmental Representative Steve Witte, Division of Water Resources (liaison) Terry Rusher, Crowley County Terry Scanga, Upper Arkansas WCD Thomas Florczak, Pueblo Muni Tim Glenn, Chaffee County Tom Brubaker, At-Large Representative Tom Piltingsrud, Fremont Muni Tom Verquer, Las Animas County Van Truan, U.S. Army Corps of Engineers (liaison) Wayne Vanderschuere, El Paso Muni

### COLORADO BASIN ROUNDTABLE MEMBERSHIP LIST

Art Bowles, Basalt Water Conservancy District Bonie Pate, CO. Water Quality Control Division (liaison) Brent Uilenberg, BOR (liaison) Bruce Hutchins, Grand Muni Carlyle Currier, Collbran Water Conservancy District Caroline Bradford, Eagle County Chuck Ogilby, Eagle Muni Clay Altenbern, Bluestone Water Conservancy District Dale Tooker, At-Large Representative Dan Crabtree, BOR (liaison) David Graf, Division of Wildlife (liaison) David Merritt. Elected Officials Don Carlson, Non-Voting At Large Member Duane Scholl, At-Large Representative Ed Olszewski, West Divide Water Conservancy District Ed Warner, BOR (liaison) Eli Beeding, Gunnison County Greg Trainor, Mesa Muni Jaci Gould, BOR (liaison) James Carter, Industrial Representative James Broderick, Southeastern Colorado Water **Conservancy District** Jay Skinner, Division of Wildlife (liaison) Jim Pokrandt, CO. River Water Conservation District John Redifer, CWCB Member Karl Hanlon, Garfield Muni Ken Baker, Non-Voting At Large Member Ken Neubecker, Environmental Representative Ken Ransford, Non-Voting At Large Member



### **Basin Roundtable Members**

Kim Albertson, At-Large Representative Kirk Klancke, At-Large Representative Lane Wyatt, Summit Muni Linda Bledsoe, Forest Service (liaison) Louis Meyer, Garfield County Lurline Curran, Grand County Mark Fuller, Legislative Appointment Melvin Rettig, Agricultural Representative Patty Schrader Gelatt, Fish and Wildlife Service (liaison) Paula Belcher, BLM (liaison) Peter Barkmann, Colorado Geological Survey (liaison) Phil Overeynder, Non-Voting At Large Member Richard Proctor, Mesa County Rick Sackbauer, Recreational Representative Rod Sharp, CSU Extension Service (liaison) Scott Hummer, Division of Water Resources (liaison) Scott Stoddard, U.S. Army Corps of Engineers (liaison) Stanley Cazier, Middle Park Water Conservancy District Steve Ryken, Ute Water Conservancy District Thomas Clark, At-Large Representative Tom Long. Summit County Wayne Vanderschuere, Non-Voting At Large Member William Bates, Non-Voting At Large Member

### GUNNISON BASIN ROUNDTABLE MEMBERSHIP LIST

Allen Brown, Hinsdale County Austin Keiser, Grand Mesa WCD Bill Trampe, Colorado River Water Conservation District Bonie Pate, CO. Water Quality Control Division (liaison) Cary Denison, Ouray County Chuck Mitisek, Ute Water Conservancy District Dan Crabtree, BOR (liaison) David Graf, Division of Wildlife (liaison) Dennis Murphy, BLM (liaison) Dennis Steckel, Gunnison County Dixie Luke, At-Large Representative Ed Warner, BOR (liaison) Frank Kugel, At-Large Representative Gary Shellhorn, Forest Service (liaison) George Sibley, At Large Representative Greg Clifton, Ouray Muni Henry LeValley, Crawford Water Conservancy District

Hugh Sanburg, Industrial Representative Jay Skinner, Division of Wildlife (liaison) John McClow, Legislative Appointment Ken Spann, Upper Gunnison River Water **Conservancy District** Kenny Smith, Non-Voting At Large Member Marc Catlin, At-Large Representative Michelle Pierce, Hinsdale Muni Mike Ahlberg, At-Large Representative Mike Berry, Tri-County Water Conservancy District Neal Schwieterman, Recreational Representative Olen Lund, Delta County Patty Schrader Gelatt, Fish and Wildlife Service (liaison) Peter Barkmann, Colorado Geological Survey (liaison) Richard Margetts, Local Domestic Water Provider Representative Richard Kullman, Montrose Muni Rick Brinkman, Mesa Muni Ronald Shaver, At-Large Representative Scott Stoddard, U.S. Army Corps of Engineers (liaison) Steve McCall, BOR (liaison) Steve Glazer. Environmental Representative Steve Shea, Agricultural Representative Thomas Alvey, North Fork Water Conservancy District Tim Pollard, Mesa County Tyler Martineau, Gunnison Muni Wendell Koontz, Delta Muni

### **METRO ROUNDTABLE MEMBERSHIP LIST**

Alan Berryman, Non-Voting At Large Member Barbara Biggs, CWCB Member Bill Ray, Jefferson Muni Carl Wilson, CSU Extension Service (liaison) Courtney Brand, El Paso County Dana Ehlen, Aurora Muni David Allen, Broomfield City/County David Nickum, Environmental Representative Ed Warner, BOR (liaison) Gary Thompson, Upper South Platte Water **Conservancy District** James Lochhead, Legislative Appointment Janet Bell, At-Large Representative Jay Skinner, Division of Wildlife (liaison) Jim Reasoner, Central Colorado River Water **Conservancy District** John Hendrick, Local Domestic Water Provider Representative

Jonathon Kahn, Recreational Representative Julia Murphy, At-Large Representative Julio Iturreria, Arapahoe County Larry Cerrillo, Non-Voting At Large Member Manuel Montoya, Non-Voting At Large Member Mark Koleber, Adams Muni Mark Uppendahl, Division of Wildlife (liaison) Mark Harding, Non-Voting At Large Member Michael Glade, Industrial Representative Pete Conovitz, Division of Wildlife (liaison) Peter Nichols, At-Large Representative Phyllis Thomas, Non Voting At Large Member Polly Hays, Forest Service (liaison) Ralf Topper, Colorado Geological Survey (liaison) Randal Ristau, CO. Water Quality Control Division (liaison) Rob Sakata, Agriculture Representative Rod Kuharich, Douglas Municipality Roy Laws, Jefferson County Scott Ludwig, Forest Service (liaison) Tim Murrell, Douglass County Tim Carey, U.S. Army Corps of Engineers (liaison)

Tom Acre, At-Large Representative/Metro Liaison

Tracy Bouvette, Non-Voting At Large Member

### NORTH PLATTE BASIN ROUNDTABLE MEMBERSHIP LIST

Ann Timberman, Fish and Wildlife Services (liaison) Barbara Vasquez, Environmental Representative Bob Burr, Jackson County Water Conservancy District Bonie Pate, CO. Water Quality Control Division (liaison) Carl Trick, CWCB Member David Meyring, At-Large Representative Deb Alpe, CSU Extension Service (liaison) Dirk Ramsey, Local Domestic Water Provider Representative Ed Perkins, Division of Wildlife (liaison) Erin Light, Division of Water Resources (liaison) Hal Hagen, Recreational Representative Jaci Gould, BOR (liaison) Jay Skinner, Division of Wildlife (liaison)

Jim Baller, Michigan River Water Conservancy

District

Kent Crowder, Legislative Appointment Lucy Meyring, At-Large Representative Michael Wright, Forest Service (liaison) Mike Allnutt, Agricultural Representative Mike Hohnholz, At-Large Representative Paula Belcher, BLM (liaison) Pete Conovitz, Division of Wildlife (liaison) Peter Barkmann, Colorado Geological Survey (liaison) Richard Wyatt, Jackson Muni Sandra Knox, At-Large Representative Tom Hackleman, At-Large Representative Ty Wattenberg, At-Large Representative

### RIO GRANDE BASIN ROUNDTABLE MEMBERSHIP LIST

Allen Brown, Hinsdale County Cathee Wilson, NRCS (liaison) Charles Spielman, Rio Grande Muni Charles Stillings, At-Large Representative Dale Pizel, Mineral County Dan Dallas, Forest Service (liaison) Dennis Garcia, U.S. Army Corps of Engineers (liaison) , At-Large Representative Ed Warner, BOR liaison) Edwin Nielsen, Saguache County Fred Bauder, Local Domestic Water Provider Representative Glen Wiescamp, Costilla Muni Greg Higel, Alamosa County J.B. Alexander, Mineral Muni Jay Skinner, Division of Wildlife (liaison) Jerry Gallegos, Costilla County John Shawcroft, Alamosa La Jara CD John Tonko, Division of Wildlife (liaison) Maclovio Martinez, Costilla Water Conservancy District Mike Blenden, Fish and Wildlife Services (liaison) Mike Gibson, San Luis Valley Water Conservancy District Mike Sullivan, Division of Water Resources (liaison) Mike Willett, Conejos Water Conservancy District Nathan Cherpeski, Alamosa Muni Paul Robertson, At-Large Representative Peter Clark, Rio Grande County



### **Basin Roundtable Members**

Pete Stagner, Saguache Muni Peter Barkmann, Colorado Geological Survey (liaison) Raymond Valdez, Agriculture Representative Karla Shriver, Legislative Appointment Rick Basagoitia, Colorado Division of Wildlife (liaison) Rio de la Vista, Environmental Robert Bagwell, Conejos County Steve Vandiver, Rio Grande Water Conservation District Travis Smith, CWCB Member Zeke Ward, At-Large Representative

# SOUTH PLATTE BASIN ROUNDTABLE MEMBERSHIP

Adam Bergeron, At Large Representative Allyn Wind, Morgan County Amy Willhite, Industrial Representative Bert Weaver, Clear Creek County Bill Ray, Jefferson Muni Bill Buckhanan, Teller County Bob Streeter, Environmental Representative Brent Nation, Morgan Muni Brett Gracely, Non-Voting At Large Member Bruce Gerk, Sedgwick Muni Carl Chambers, Forest Service (liaison) Chuck Powell, Sedgwick County Clay Hurst, Elbert Muni Dave Little, Non-Voting At Large Member David Colver, Phillips Muni Dennis Kaan, CSU Extension Service (liaison) Douglas Rademacher, Weld County Earl Mortemeyer, Park Muni Ed Perkins, Division of Wildlife (liaison) Eric Wilkinson, CWCB Board Rep Eugene Bauerle, Republican River Water Conservation District Forrest Whitman, Gilpin County Frank Eckhardt, Central Colorado River Water **Conservancy District** Fred Walker, At-Large Representative Fred Rios, U.S. Army Corps of Engineers (liaison) Gary Herman, At-Large Representative Gene Manuello, Agricultural Representative Harold Evans, Weld County Municipal Jaci Gould, BOR (liaison) James Ford, Gilpin Municipality Jay Skinner, Division of Wildlife (liaison) Jim Yahn, At-Large Representative

Jim Hall, Division of Water Resources (liaison) Joe Kiolbasa, Logan Muni Joe Frank, Lower South Platte Water Conservancy District Joel Schneekloth, CSU Extension Service (liaison) John Wolforth, Jefferson County John Stencel, Legislative Appointment John Tighe, Park County Julio Iturreria, Arapahoe Countv Ken Huson, Boulder Muni Kent Swedlund, Logan County Kevin Lusk, El Paso County Larry Howard, Larimer Muni Leon Allen, Cheyenne County Les Williams, St. Vrain Left Hand Water Conservancy District Lisa McVicker, Center of Colorado Conservancy District Mike Shimmin, At-Large Representative Pete Conovitz, Division of Wildlife (liaison) Ralf Topper, Colorado Geological Survey (liaison) Randal Ristau, CO. Water Quality Control Division (liaison) Richard Mann. Kit Carson Muni Rick Anderson, Adams County Robin Wiley, Yuma County Sean Conway, Weld Muni Stan Holmes, Yuma Muni Stephen Spann, Upper South Platte Water Conservancy District Steve Meakins, Phillips County Tom Donely, Larimer County Webster Jones, Local Domestic Water Provider Representative

# SOUTHWEST BASIN ROUNDTABLE MEMBERSHIP

Bob Moomaw, Archuleta County Daniel Beley, CO. Water Quality Control Division (liaison) Bruce Smart, Montezuma Muni Carrie Weiss, San Juan Conservancy District Charles Lawler, Southern Ute Indian Tribe DNR Chuck Wanner, At Large Representative Daniel Fernandez, CSU Extension Service (liaison) David Graf, Division of Wildlife (liaison) April Montgomery, CWCB Member Ed Warner, BOR (liaison) Fred Kroeger, La Plata County

### **Basin Roundtable Members**

Gary Kennedy, Mancos Water Conservancy District Gerald Koppenhafer, Montezuma County Ann Oliver, At-Large Representative Don Schwindt, Dolores Water Conservancy District Jay Skinner, Division of Wildlife (liaison) Jennifer Russell, San Miguel County and **Municipalities** Mark Garcia, Archuleta Muni Meghan Maloney, Environmental Representative Mike Cantebury, Agricultural Representative Jack Rogers, La Plata Mui Jim Siscoe, At Large Representative John Ey, Florida Water Conservancy District John Porter, Southwestern Water Conservation District Kara Hellige, U.S. Army Corps of Engineers (liaison) Kay Hartman, San Miguel Water Conservancy District Kelly Palmer, BLM (liaison) Ken Beegles, Industrial Representative Larry Deremo, Dolores County Dean Naslund, Montrose County Val Valentine, At-Large Representative Mary Helen de Koevend, Montrose Muni Michael Preston, At-Large Representative Pat Greer, Animas-La Plata Water Conservancy District Pat Page, BOR (liaison) Peter Barkmann, Colorado Geological Survey (liaison) Peter Ortego, Ute Mountain Ute Tribe Carrie Lile, Local Domestic Water Provider Representative Ronald Shaver, At-Large Representative Russell Kennedy, La Plata Water Conservancy District Rege Leach, Division of Water Resources (liaison) Stephen Fearn, San Juan County Steven Harris, Legislative Appointment Tim Hunter, Recreational Representative Vern Harrell, BOR (liaison)

### YAMPA/WHITE/GREEN BASIN ROUNDTABLE MEMBERSHIP LIST

Bill Haffner, Non-Voting At Large Member Bob Lange, Bruce Lindahl, At Large Representative CJ Mucklow, CSU Extension Service (liaison) Dan Birch. Colorado River Water Conservation District Dan Craig, Routt Muni Darryl Steele, Juniper Water Conservancy District David Graf, Division of Wildlife (liaison) David Smith, Rio Blanco County Don Jones, Moffat Muni Doug Monger, Routt County Kelly Sheridan, Yellow Jacket Water Conservation District Ed Warner, BOR (liaison) Erin Light, Division of Water Resources (liaison) Forrest Luke, Industrial Representative Geoff Blakeslee, Environmental Representative/CWCB Representative (liaison) Jay Skinner, Division of Wildlife (liaison) Jeff Comstock, At-Large Representative Jeff Devere, Rio Blanco Muni Jon Hill, At Large Representative Kai Turner, Alt. Rio Blanco County Kent Vertrees, Recreational Representative Kevin McBride, Non-Voting At Large Member Mary Brown, Agricultural At-Large Representative Mike Brennan, At-Large Representative Nate Dieterich, BLM (liaison) Patty Schrader Gelatt, Fish and Wildlife Service (liaison) Paul Strong, Legislative Appointment Peggy Rector, Rio Blanco Water Conservancy District Peter Barkmann, Colorado Geological Survey (liaison) Ren Martyn, At Large Representative Scott Stoddard, U.S. Army Corps of Engineers liaison) Stephen Colby, Local Domestic Water Provider Representative T. Wright Dickinson, At-Large Representative Green **River Basin** Tom Gray, Moffat County Tom Sharp, Upper Yampa Water Conservancy District Traute Parrie, BLM (liaison)



### **IBCC Members**

Director of Compact Negotiations Alex Davis

Arkansas Basin Representatives Jay Winner Jeris Danielson

Colorado Basin Representatives Carlyle Currier Stanley Cazier

Gunnison Basin Representatives Bill Trampe Marc Catlin

Metro Representatives Mark Pifher Rod Kuharich North Platte Basin Representatives Carl Trick Kent Crowder

Rio Grande Basin Representatives Travis Smith Steve Vandiver

South Platte Basin Representatives Eric Wilkinson Mike Shimmin

Southwest Basin Representatives John Porter Steven Harris Yampa/White Basin Representatives Dan Birch Jeff Devere

### **Governor Appointments**

Melinda Kassen Peter Nichols R. Eric Kuhn T. Wright Dickinson Taylor Hawes Wayne Vanderschuere

Senate Agriculture Committee Senator Bruce Whitehead

House Agriculture Committee Representative Randy Fischer





**House Bill 2005-1177 (***HB 05-1177***):** The Colorado Water for the 21<sup>st</sup> Century Act provides a permanent forum for broad-based water discussions in the state. It creates two new structures: 1) the Interbasin Compact Committee, and 2) the basin roundtables. There are nine basin roundtables based on Colorado's eight major river basins and the Denver metro area.

**Interbasin Compact Committee (***IBCC***):** A 27-member committee established to facilitate conversations between basins and to address statewide issues. The IBCC is made up of two representatives from each basin roundtable, six governor appointments, a member each from both the Senate and House Agriculture Committees, and the Director of Compact Negotiations.

**Basin Roundtable** (*BRT*): The nine basin roundtables bring over 300 citizens into water discussions across the state. The diversity of basin roundtable membership broadens the range of stakeholders who are actively participating in Colorado's water decisions. The basin roundtables are each made up of a set of designated members (county, municipal, and water district representation), ten at-large members (agricultural, recreational, domestic water provider, industrial, environmental, and water right holder representation), nonvoting members, agency liaisons, and the CWCB board member from that basin.

**Colorado Department of Natural Resources (DNR):** The department oversees parks, forests, wildlife, water resources, geology, mining, and soil management. DNR's mission is to develop, preserve and enhance the state's natural resources for the benefit and enjoyment of current and future citizens and visitors.

**Colorado Water Conservation Board (***CWCB***):** An agency within DNR, which was created in 1937 for the purpose of aiding in the protection and development of the waters of the state. The agency is responsible for water project planning and finance, stream and lake protection, flood hazard identification and mitigation, weather modification, river restoration, water conservation and drought planning, water information, and water supply protection.

Intrastate Water Management & Development Section (*IWMD*): HB06-1385 created CWCB's IWMD Section, which implements the Statewide Water Supply Initiative, the Water Supply Reserve Account, develops reconnaissance level water supply alternatives, tracks and supports water supply projects and planning processes, and supports the IBCC and basin roundtables.

**Statewide Water Supply Initiative (***SWSI***):** In 2003, the CWCB commissioned SWSI, an 18-month study to explore, basin by basin, existing water plans, supplies, and existing and project demands through 2030, as well as a range of potential options to meet that demand.

**Water Supply Reserve Account (***WSRA***):** In 2006, to help address Colorado's future water needs, the Colorado General Assembly passed Senate Bill 06-179, which establishes the

WSRA. The WSRA provides money for grants to complete water activities. Water activities are broadly defined and include water supply and environmental projects and/or studies. Requests for monies from the WSRA must be approved by the local basin roundtables. Once approved by the Basin Round table the request is forwarded to the CWCB to evaluate and make decisions regarding funding.

**Nonconsumptive Needs Assessment (***NCNA***):** HB 05-1177 indicated that each basin roundtable should produce a nonconsumptive, or environmental and recreational, water supply needs assessment.

**Watershed Flow Evaluation Tool** (*WFET*): A tool piloted in Colorado to assist in the quantification of nonconsumptive needs.

**Identified Projects & Processes (***IPPs***):** A term developed in SWSI to specify planned methods to meet water supply needs by water providers.

Municipal and Industrial (*M&I*): A term referring to the water needs of cities and towns throughout Colorado.

**Self Supplied Industrial (SSI):** A term referring to those industries that typically provide their own water, such as power plants and snowmaking facilities.

**Colorado Division of Water Resources (***DWR***):** An agency within DNR providing water rights administration.

**Decision Support System (***DSS***):** A general term referring to a tool that integrates a broad set of data and modeling to allow for better decision making at a regional scale.

**Colorado Decision Support System (CDSS):** A water management system developed by the CWCB and DWR. The goal of this system is to assist in making informed decisions regarding historic and future use of water.

**Basin Needs Decision Support System (***BNDSS***):** Formerly known as the IPP database, the BNDSS will provide a database for consumptive and nonconsumptive projects and methods and assist in calculating the water supply gap.

**Colorado River Water Availability Study (CRWAS):** Examines what water may be available within the Colorado River Basin in the future. The study models future hydrologies based off tree ring and climate change data. It then considers what water is available to meet existing and future demands.

**Department of Local Affairs (***DOLA***):** The Department works in cooperation with local communities to help build on the strengths, unique qualities and priorities of Colorado. It does so through financial and technical assistance, emergency management services, property tax administration and programs addressing affordable housing and homelessness.





For more information, please contact: Colorado Water Conservation Board Water Supply Planning Section 1580 Logan St., Suite 200 Denver, CO 80203 Phone: 303-866-3441 Email: <u>ibc@state.co.us</u> <u>http://cwcb.state.co.us</u>