STATE OF COLORADO

Colorado Water Conservation Board
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TO: Colorado Water Conservation Board Members

FROM: Todd Doherty,
Water Supply Planning Section

DATE: May 4, 2012

SUBJECT: **Agenda Item 18, May 15-16, 2012 Board Meeting**
Water Supply Planning Section – SWSI Work Plan

Recommendation
Staff recommends that the Board approve the attached SWSI 2010 Work Plan.

Background
The Board approved the Statewide Water Supply Initiative (SWSI) 2010 and its final recommendations (Section 8) at its scheduled meeting in January 2011. A series of Board workshops were held in the months prior to this to refine the SWSI 2010 recommendations and formulate additional detail for each recommendation. At the final workshop in December 2010 the Board decided to publish only the final 16 recommendations, but retain the draft work that they had completed on each recommendation to serve as the basis of a SWSI 2010 Work Plan.

At the March 2012 CWCB meeting, staff has worked with the Board to refine and update this information into a draft SWSI 2010 Work Plan. The attached Work Plan includes the suggestions provided by the Board at the March meeting. The Work Plan is organized in the following manner:

- Final recommendations approved by the board (text in bold)
- Detailed sub-recommendations developed at the board workshops in 2010 but not officially approved (text in regular black)
- Current CWCB work (text in red)
- Potential future work items (text in blue).

It is envisioned that additional detail on many of the items will be included in individual scopes of work or other documents. The Work Plan is designed to advance implementation on each of the SWSI 2010 recommendations.

DRAFT SWSI 2010 Work Plan
(04/20/12)

Key

Text in **BOLD** are the recommendations approved by the Board.

Text in REGULAR BLACK are sub-recommendations the Board worked on over several workshops in 2010. They indicate work items to pursue over the next 5 years. They have not been approved by the Board, but received significant Board input.

Text in RED lists current CWCB work related to the recommendation.

Text in BLUE lists potential future work items (e.g. for an upcoming CDM Task Order). This is an initial brainstorm and is not meant to be comprehensive or binding.

Where possible, individuals or teams leading a particular work item are indicated in *ITALICS.*

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1. **Actively encourage new projects to address multiple purposes, including municipal, industrial, environmental, recreational, agricultural, risk management, and compact compliance needs.**
   a) Explore the advantages and disadvantages of implementing one or more state water projects.
   b) Explore opportunities to develop state/local partnerships in municipal and industrial (M&I) gap areas and to encourage new projects to address multiple purposes (projects that meld consumptive and nonconsumptive needs).
      i. Pursue local in-basin state/local partnerships in gap areas. Target CWCB support for reservoir rehabilitation projects as one method for meeting local water supply needs.

      Track potential projects in the Basin Needs Decision Support System (BNDSS)

      Continue discussions with outside interests to purchase Owl Creek Reservoir, while investigating a potential public/private partnership

      ii. Continue to explore options for utilizing the Animas-La Plata (ALP) project water to benefit the state.

      Finalize Board action on ALP purchase

      Continue discussions with La Plata Archuleta Water District towards the purchase of a portion of the State's water allocation (1,000 AF – Depletions)

      Continue discussions in developing a compact compliance bank with all ALP Project Sponsors

      iii. Build on CWCB's role with the Chatfield Reallocation Project.

      Determine if offering to be a project sponsor and/or the federal loan signatory on future projects would be helpful to water providers, especially where there are numerous partners and the project is providing multiple benefits.

      Investigate the purchase of Orphan Storage Allotments, which would assist Colorado Parks and Wildlife in its mitigation efforts and would improve CWCB's contractual relationship with other project beneficiaries.

   c) Work with willing project proponents to identify opportunities and funding for expanding a project's scope to facilitate multi-purpose projects and bring in a diverse set of partners.

Provide technical assistance for each basin roundtable to pick a limited number of consumptive, nonconsumptive, and/or multipurpose projects that need help getting to the next stage of implementation.

d) Pursue and continue new and existing partnerships and maintain existing ones with local water agencies, agricultural interests, and recreation areas to develop and maintain weather modification programs to support increased water supply for multiple purposes and benefits.

e) Review water supply projects requiring Individual 404 Permits and Statewide Wildlife Mitigation Plans according to 37-60-122.2. Cooperate with the Department of Natural Resources and the Colorado Parks and Wildlife Commission regarding review and approval of Mitigation Plans. Develop strategies to improve channel morphology as needed for conveyance efficiencies and habitat support as part of Mitigation Plans.

f) Utilize and expand the Risk Map scope and program to identify stream reaches where multiple purpose projects and floodplain protection can assist with nonconsumptive needs. Work with multiple partners as appropriate, including municipalities and counties.

2. Utilize existing and new funding opportunities to assist in implementing projects and methods to meet Colorado's consumptive and nonconsumptive water supply needs.

a) Work with the Governor, the Department of Natural Resources, Joint Budget Committee, and the General Assembly to maintain CWCB's existing funding opportunities since the state's water supply challenges are immediate and impending. Solutions to Colorado's water supply challenges will cost billions of dollars over the next 40 years.

Develop annual Legislative CWCB Projects Bill Fact Sheet

Work with the Water Infrastructure Network (WIN) Colorado to assist in educating the legislature on water infrastructure needs

Develop an annual legislation summary fact sheet for general distribution to water providers

Continue working with American Council of Engineering Companies

Maintain existing pre-qualification list to demonstrate the current fiscal year water infrastructure need to the General Assembly

Attend workshops and conferences to promote CWCB Loan Program

b) Explore funding mechanisms to help meet Colorado's water supply infrastructure needs, including new funding sources and new state roles in water projects (i.e., building off successes, like the Arkansas Valley Conduit, which maximizes a state loan and grant with federal matches, and the Chatfield Reallocation Project, where the state carries the loan guarantee to support water providers in conjunction with water entity funding).

Market new Water Supply Reserve Account (WSRA) grant/loan coordination as outlined in WSRA Criteria and Guidelines

Research the benefit of providing/issuing bonds within the CWCB Loan Program to fund projects

Expand statutory authority to fund treated water, limited to installation or rehabilitation of distribution system

Initiate pilot private/public water project that develops the framework to address long standing partnership issues, such as; funding, contracting, ownership, water rights, administration, operation and maintenance, etc.

3. **Continue to lead the dialogue and foster cooperation among water interests in every basin and between basins for the purpose of implementing solutions to Colorado's water supply challenges.**

   a) Support the ongoing implementation of the Colorado Water for the 21st Century Act by providing staff support and technical assistance to the nine basin roundtables and the Interbasin Compact Committee (IBCC).

   Complete the scenario planning process with the IBCC and Basin Roundtables.

   b) Encourage the establishment of subcommittees or technical work groups with broad geographic and stakeholder involvement to review technical work and implementation strategies.

   Continue work with the Conservation Technical Advisory Group (CTAG), Alternative Transfer Methods (ATM) subcommittees, and IBCC subcommittees.

   Basin Roundtable Project Exploration Committee: Flaming Gorge Water Supply Reserve Account (WSRA) grant.

   c) Because of the interdependency of Colorado's water supplies, encourage cross-basin discussions/negotiations by supporting joint basin roundtable meetings by initiating quarterly or bi-monthly meetings and hosting joint IBCC/basin roundtable statewide summits to help resolve issues across basins.

   Second Statewide Summit – March 1, 2012

   d) Establish quarterly call-in meetings with roundtable chairs to discuss issues/successes within their basins and issues/successes in running the meetings.

4. **Support water project proponents and opponents in resolving conflict and addressing concerns associated with implementing identified projects and processes (IPPs) that will reduce the M&I water supply gap. Identify IPPs that could be implemented by 2020.**

   Technical work to assist board in identifying IPPs that can feasibly move forward by 2020

   a) Track each basin's IPPs through the ongoing implementation of Basin Needs Decision Support System (BNDSS) and associated surveys and interviews. Report to the Board each year on the status of the IPPs, which IPPs are implemented, and how much they are yielding.

      Continue development and implementation of the BNDSS.

      BNDSS task order to implement select recommendations (such as datasheets, gap analysis methodology, and mapping) and coordinate BNDSS with 1051 data collection.

   b) Advocate creating a joint agency task force as outlined in the IBCC recommendations by 2013 and actively participate in the joint agency task force. If the joint agency task force is not created by 2013, CWCB will be a cooperating agency in all major water supply National Environmental Policy Act (NEPA) compliance processes within Colorado.

   IBCC recommendation currently being considered by the Department of Natural Resources and the Governor’s Office

c) Identify IPPs where there is disagreement about a proposed project and, if the project proponent requests it, convene stakeholders to help facilitate the resolution of conflicts around the IPP. Track IPP obstacles through the BNDSS by listing areas where success is being hindered. Identify possible strategies where CWCB or State assistance could assist with clearing those obstacles as appropriate.

d) Work with federal permitting agencies on best methods to address common roadblocks, challenges or recurring themes in the permitting process and coordinate with federal, state, and local agencies on permitting for IPPs.

Currently underway through collaborative work between the Army Corps of Engineers, Environmental Protection Agency, and the state, but not necessarily focused on "i" through "iv"

i. Support collaboration with the Department of Natural Resources/CWCB and the federal permitting entities to reduce the time from permit application to decision for water supply projects in Colorado.
    a. Establish protocols for "approvals" at intermediate steps and key milestones during the permitting process such as statement of purpose and need for the proposed action, project alternatives, etc.

ii. Explore with the permitting entities and water providers the potential to create incentives for multi-purpose projects and regional cooperation.

iii. Address permitting disincentives that drive agricultural dry-up.

Identify measurable goals and/or objectives

iv. Explore the possibility of developing regional and streamlined permitting for small enlargements, maintenance, and improvements of existing reservoirs where the nationwide permit does not apply.

Meeting with federal entities to discuss and determine what is needed for such a process

Finance Section to develop a list of small enlargements needing maintenance.

e) Create awareness for the major phases and expected timelines for developing water supply projects. Work with willing project proponents to identify ways CWCB can help at each stage, identify opportunities for multiple partners, facilitate multi-purpose projects, and reduce timelines and costly study delays.

f) Target loan and grant programs to help implement the IPPs and fill the remaining M&I water supply gaps.

Coordination efforts with Water Supply Reserve Account (WSRA) grants and CWCB loans in new WSRA Criteria and Guidelines.

g) Through the Risk Map Program, CWCB will work with federal, state and local agencies to support the use of established basic guidelines for hydrologic and hydraulic modeling, cumulative impacts assessments, and related technical information that will assist in the overall goal to reduce the M&I water supply gap.

5. **Support meeting Colorado's nonconsumptive water needs by working with Colorado's water stakeholders to help:**

   - **Promote recovery and sustainability of endangered, threatened, and imperiled species in a manner that allows the state to fully use its compact and decreed entitlements.**
   - **Protect or enhance environmental and recreational values that benefit local and statewide economies.**
   - **Encourage multi-purpose projects that benefit both water users and native species.**
   - **Pursue projects and other strategies, including use of CWCB's Instream Flow Program (ISF), that benefit consumptive water users, the riparian and aquatic environments, and stream recreation.**
   - **Recognize the importance of environmental and recreational benefits derived from agricultural water use, storage reservoirs, and other consumptive water uses and water management.**

   a) Expand the Basin Needs Decision Support System (BNDSS) to track and monitor nonconsumptive identified projects and processes (IPPs).

   Continue to develop the nonconsumptive database for entering and tracking projects, including potential integration with the BNDSS and streamlining map output.

   b) Target funding towards the focus areas, giving specific consideration first to planned and ongoing projects and methods and then to additional projects and methods meant to address the nonconsumptive gap areas.

   c) Pursue opportunities for ISF appropriations and acquisitions in the nonconsumptive gap areas.

   Coordinate with the Colorado Water Trust on focusing ISF acquisition efforts in gap areas.

   d) Work with basin roundtables, watershed groups, and other stakeholders and agencies to determine opportunities to address the remaining nonconsumptive gap areas, which nonconsumptive IPPs to support, and the sufficiency of existing protections.

   Near Term Implementation: Support IBCC roundtable action request 1.b. and 1.c.

   - Give presentations to basin roundtables or their nonconsumptive needs subcommittees on how the ISF Program works and how it can help to meet nonconsumptive needs.
   - Request Colorado Parks and Wildlife and the Bureau Land Management to evaluate existing ISFs to determine if increases are needed to sufficiently protect identified environmental attributes.
   - Invited basin roundtable members to the 2012 annual ISF Workshop to educate them on the ISF recommendation process and encourage communication between basin roundtables and the ISF recommending entities (Colorado Parks and Wildlife and the Bureau of Land Management).
   - Hold workshops on ways to implement 3-5 nonconsumptive and/or multi-purpose projects or methods that meet identified nonconsumptive needs by the end of 2012.

   Technical and financial support to move nonconsumptive projects to the next stage of implementation.

Mid-Long Term Implementation Planning: Support IBCC roundtable action request 1.a., 1.d, and 2.

Hold workshops on addressing projects & methods gap areas through ISF appropriations, ISF acquisitions, and stream restoration projects.

Technical analysis identifying where: (1) no projects or methods exist and (2) assistance is needed for roundtables to determine projects and methods to address nonconsumptive gap areas.

Technical assistance to roundtables in developing a nonconsumptive implementation Plan. Using input from CWCB's internal nonconsumptive team and the IBCC nonconsumptive subcommittee, develop a nonconsumptive tool box per the subcommittee's recommended next step.

e) Enhance multi-purpose projects by identifying nonconsumptive opportunities.

Look at current consumptive IPPs to determine if there is overlap with gap areas to enable CWCB staff and BRTs to work with project sponsors to add a nonconsumptive component.

Provide technical assistance for each basin roundtable to pick a limited number of consumptive, nonconsumptive, and/or multipurpose projects that need help getting to the next stage of implementation.

Rate consumptive projects that include a nonconsumptive component more favorably when evaluating eligibility for grant/loan combinations (Water Supply Reserve Account Criteria and Guidelines).

f) Examine technical methods to determine measures for how much of a specific attribute should be protected and work to ensure sufficient habitat and connectivity exist to meet the attribute's needs.

Identify stream reaches that (1) contain identified attributes (maybe focus on the Colorado River and its tributaries and greenback cutthroat trout) and (2) have connectivity issues (example would be a dry reach of stream that separates reaches that provide fish habitat).

g) For SWSI 2016, continue to provide technical support to:

i. Update areas with important nonconsumptive attributes

ii. Update the projects and methods that exist or are planned to quantify, protect, or benefit those attributes

iii. Update analysis of a nonconsumptive projects gap

6. Help meet Colorado's agricultural water supply needs by incorporating agricultural water needs into the development of water supply portfolios and supporting the implementation of multi-purpose agricultural water supply projects.

a) Expand the Basin Needs Decision Support System (BNDSS) to track and monitor agricultural identified projects and processes (IPPs).

b) Pursue opportunities to incorporate agricultural needs into portfolio development and multi-purpose projects.

Additional technical work on how much water from alternative agricultural transfers might be applied to the gap.

c) Partner with the Colorado Department of Agriculture, Colorado Farm Bureau, Colorado State University, Colorado Agricultural Water Alliance, Rocky Mountain Farmers Union, Western States Water Council, Western Governors' Association, and other agricultural interests to:

   i. Establish criteria that could lead to support for projects that help sustain irrigated agriculture and where appropriate, leverage CWCB funds with other funding programs.

   Implement coordinated Water Supply Reserve Account (WSRA) grant and CWCB loan program to help address this.

   ii. Determine the level of economic interconnectedness of agriculture across the state.

   iii. Encourage maintaining agriculture on the rural/ urban border for the benefit of open space and food security.

   iv. Ensure coordination and communication between the CWCB and the agricultural community.

   Continue CWCB's Alternative Agricultural Transfer Methods (ATM) program, IBCC agricultural subcommittee, Arkansas Basin effort to define its agricultural gap, and implementation of the Drought Plan.

d) Impacts to irrigated agriculture and rural economies should be minimized by supporting alternative agricultural transfer methods for filling a portion of the M&I water supply needs. Specific recommendations include:

   i. Build upon findings from past work on alternatives to permanent agricultural transfers, and implement next round of grant funding authorized in SB 2009-125 to facilitate the development of alternative transfer methods in Colorado.

   ii. Develop and help implement options for the Board's consideration of a potential new state role in implementing alternative transfer methods. Examples of options include water banks, grant and loan funds for infrastructure, and/or an alternative to traditional agriculture dry-up project.

   iii. Work with water interests to identify if there are needs for legislation facilitating the implementation of alternative agricultural transfers, and if needed, develop and support that legislation.

   iv. Continue financial support for alternative transfer method program leading to the development of demonstration projects that prove the concept can be successfully implemented.

   Continue to address Items "i" through "iv" through CWCB's ATM program.

e) Pursue opportunities for agricultural water conservation, including the next steps outlined in the 2008 "Opportunities and Challenges Associated with Potential Agricultural Water Conservation Measures" report. Assess challenges related to agricultural return flows to avoid unintended consequences for stream flows and related riparian habitats.

Potential CDM Task Order item to build on next steps outlined in the report.

7. **In order to determine the right mix of strategies (conservation, reuse, agricultural transfers, and the development of new water supplies) to fill the M&I water supply gap, CWCB will determine what it considers is achievable for each portfolio element and how those portfolio elements could be implemented.**

   a) Work with the IBCC, basin roundtables, water users, and other stakeholders to define reasonable expectations of water yielded from each portfolio element.

   Roundtables developed portfolios for the Statewide Summit on March 1, 2012 and shared lessons learned during the portfolio development process at the summit.

   b) Recommend a set of portfolios. Assess common elements between portfolios and identify specific projects and methods that need to be implemented.

   Roundtables refined portfolios and submitted them to the IBCC prior to the May 2012 meeting

   Technical work to determine commonalities between roundtable portfolios, common implementation elements, thematic portfolios, and tradeoffs of thematic portfolios

   IBCC will perform scenario planning exercise to review and integrate roundtable portfolios resulting in one or more portfolios that address each chosen scenario. Identify statewide implementation efforts that will be needed, regardless of which scenario presents itself in the future. Coordinate portfolio work with roundtable implementation plans discussed in recommendation 14.

   Portfolio development will involve risk management considerations pertaining to the development of additional Colorado River water as referenced in Recommendation 9.c.

   c) Continue technical analysis of strategies (conservation, reuse, agricultural transfers, and new supply development) for meeting the gap.

   Technical work to determine implementation elements of portfolios and a "no regrets" implementation strategy.

8. **Evaluate specific multi-purpose projects or packages of projects to develop new water supplies for use on the West Slope and the Front Range.**

   a) Continue to protect Colorado's ability to fully use its compact and decree entitlements by participating in federal and interstate processes and negotiations that may affect Colorado's ability to fully use these entitlements.

      Continuing efforts of the Interstate, Federal, and Water Information Section, such as the U.S.-Mexico negotiations, the Glen Canyon Dam Adaptive Management Work Group work; the Colorado River Basin Study; the work conducted with the Upper Colorado River Commission; the Colorado River Compact Compliance Study; the water bank working group study; and, the work associated with Recreational In-Channel Diversions (RICDs), Wild and Scenic Rivers, federal reserved water rights, etc.

      Participate in the Basin Roundtable Project Exploration Committee: Flaming Gorge

      Comparative analysis of potential new water supply projects

   b) Use existing Statewide Water Supply Initiative (SWSI) information and Colorado's Decision Support Systems (CDSS) to further evaluate opportunities

9. **Develop risk management strategies so that Colorado can fully use its compact and decree entitlements to best balance Colorado's diverse water needs.**

   a) Continue to develop risk management tools such as: Colorado River Water Availability Study (CRWAS) Phase 1 & 2; Drought Mitigation and Response Plan; Arkansas/Gunnison Aspinall Study; Water Banking Study; Compact Compliance Study; Basin Roundtable Flaming Gorge Committee; Yampa Projects and Methods; Interruptible Supply Agreements; Denver Basin Conjunctive Use / Aquifer Storage Grants; Alternative Agricultural Transfer Methods (ATM) Program; BOR Colorado River Basin Study; Water Conservation

   b) Complete the Compact Compliance Study to provide the basis for developing strategies to: 1) avoid a compact curtailment; 2) reduce the effects of compact curtailment, should it occur; and, 3) analyze different compact administration methods. In conjunction with the compact curtailment work, and the Colorado River Basin study, support the development of risk management strategies to minimize the impacts of curtailment due to a compact call on the Colorado River system. Examples include additional storage, one or more water banks involving temporary agricultural transfers/interruptible supply agreements, conjunctive use, and integrated operations and infrastructure of water supplies.

   c) Work with Board, IBCC, basin roundtables, interested stakeholders, and the Upper Division States to utilize the risk management tools (and the information obtained through the development of these tools) to develop risk management strategies for Colorado and the Upper Division States to consider and advance (if appropriate).

   d) Work with oil shale companies to utilize produced water and other technologies to minimize water demands associated with oil shale.

   e) Implement Colorado's Drought Mitigation and Response Plan

   f) Encourage municipal providers as well as all other water users (ag, nonconsumptive, etc) to adopt drought management plans to ensure critical needs are met during drought years.

   g) Encourage municipal providers to consider floodplain information when planning and developing critical infrastructure.

10. **Support, encourage, and incentivize water providers in planning for and implementing M&I active conservation best management practices and other demand management strategies. Specific recommendations include:**

   a) Evaluate the full costs of water conservation strategies, including utility costs and customer costs as well as the benefits to both. Conduct this analysis in consultation with water providers and other stakeholders through the Conservation Technical Advisory Group (CTAG).

   b) By 2014, develop standardized annual M&I water use data reporting through the implementation of HB 2010-1051. Coordinate this data reporting with the ongoing implementation of the Basin Needs Decision Support System (BNDSS) and associated surveys.

   c) In consultation with water providers, CTAG, the roundtables, the IBCC, and other stakeholders, determine how much active water conservation savings can be applied to meeting future demands.

   Currently underway through various roundtable and IBCC activities

Work with water providers to monitor timing, legal, and infrastructural opportunities and challenges for applying active water conservation savings to meet future needs

d) In consultation with water providers and stakeholders, investigate the relationship between long-term conservation and drought response.

e) In consultation with water providers and other stakeholders through the CTAG, continue to examine whether and to what extent current water conservation savings will persist and be permanent. Also examine the current rate of market saturation of these water conservation measures.

f) Work with water stakeholders to support water efficiency standards that meet or exceed Environmental Protection Agency's WaterSense fixture and appliance specifications in indoor building codes.

g) Work with state agencies in their efforts to prepare and implement a water use reduction and conservation plan.

IBCC Conservation Subcommittee recommendation being considered by the Department of Natural Resources and the Governor's Office

h) Work with other state and local agencies to encourage and support integration of land use and water planning at the local government level.

Currently reacting to requests to participate in this topic

Consider additional technical analysis needed to address "i" through "iv".

i. Study potential savings from changes in density patterns and other land use practices by working with counties and municipalities to confirm and update potential water savings from increases in density.

ii. Educate counties, municipalities, and land use planning professionals about the potential water savings.

Participating in educational activities as requested

iii. Partner with Department of Local Affairs (DOLA) to coordinate planning grant programs.

iv. Work with DOLA to determine if additional water supply considerations should be incorporated into their model land use code.

Continue coordination with DOLA

11. Work with water providers to identify opportunities where additional water could be made available by increased regional cooperation, storage, exchanges, and other creative opportunities.

Develop task order which investigates a) through c) for the South Platte Basin, building on information obtained through various Water Supply Reserve Account (WSRA) and Alternative Agricultural Transfer Methods ATM grants.

a) Examine exchange potential in various basins.

Construction Fund Non-Reimbursable Investment Grant Program and Severance Tax Operational Account Non-Reimbursable Investment Grant Program

b) Identify cooperative infrastructure projects, including the sharing of existing infrastructure and water resources.

Monitor and support the Water Infrastructure and Supply Efficiency Partnership in south metro Denver

c) Identify conjunctive use, aquifer storage recharge, and other storage opportunities.

Construction Fund Non-Reimbursable Investment Grant Program and Severance Tax Operational Account Non-Reimbursable Investment Grant Program

South Metro and Arkansas Aquifer Storage and Recovery WSRA grants

d) Identify nonconsumptive projects (e.g. channel–floodplain connectivity improvement efforts) that increase stream base flows and reduce flood magnitudes.

e) Partner with federal, state, and local agencies to develop projects that provide more accurate water supply forecasting.

Construction Fund Non-Reimbursable Investment Grant Program and Severance Tax Operational Account Non-Reimbursable Investment Grant Program

Possible Projects for consideration: Decision Support System for Colorado; Retrospective Ensemble Streamflow Prediction (ESP) analysis of forecasts; New "SNOTEL-lite" stations; Radar-SNODAS; Snow-covered area

12. Continue the evaluation of Colorado's water supply availability in all basins to help provide water users with viable analysis tools.

a) Further develop and maintain the Colorado Decision Support Systems (CDSS) as a statewide tool for determining baseline water availability.

i. Continue to maintain and operate the CDSS tools, data, and software to help water users have access to hydrologic related data by providing the appropriate funds for operation and maintenance for both CWCB & the Division of Water Resources (DWR).

ii. Complete Arkansas Basin DSS
    i. Get Board approval of feasibility study results
    ii. Get Board approval of a funding timeline to ensure implementation
    iii. Implementation of initial data gathering phase by 2012

iii. Complete South Platte Basin DSS, including North Platte components.
    i. Provide alluvial groundwater model dataset online by 2012
    ii. Complete WD 1&64 surface modeling in December 2011
    iii. Do a Board presentation or workshop on modeling results in 2012
    iv. Develop a timeline for implementation of other SW modeling basin efforts

iv. Continue maintenance of CDSS for the Yampa, White, Colorado, Gunnison, Southwest, and Rio Grande Basins.

v. Produce annual CDSS newsletter to share progress.

vi. Update SW basin model datasets for 2014 by 2015.

b) Complete the Colorado River Water Availability Study (CRWAS).

i. Address all comments for CRWAS Phase I.

Scheduled completion by December 2011, presentation to the Board in March 2012

Discuss next steps with the Board

CRWAS data web viewing tool online in January 2012

ii. Make modeling tools available to basin roundtables, CWCB, and the IBCC for determining water availability trade-offs between strategy alternatives. Potential topics may include:

- Model identified projects and processes (IPPs), 2050 irrigated acres, and nonconsumptive projects.
- Model any new strategies identified by the CWCB or IBCC, such as increased West Slope conservation and new supply projects, to determine strategy alternatives that optimize statewide benefit.
- Model additional projects, if any, that reduce risks and conflicts within the state. One example may be modeling potential triggers associated with allowable diversion of a new water supply project on the West Slope. This would help determine the effects different alternatives may have on the new diversion and existing users.

iii. Determine the impact of results of the Bureau of Reclamation's Colorado River Basin Study on Colorado.

13. Help safeguard Colorado's water supply during times of drought by incorporating drought mitigation and response in statewide and local water supply planning.

a) Support the implementation of the following eight goals for the state detailed in the 2010 Drought Mitigation and Response Plan:

i. Improve water availability monitoring and drought impact assessment.

ii. Increase public awareness and education about the importance of drought preparedness.

CWCB will host a statewide drought conference September 19-20, 2012.

iii. Augment water supply through mechanisms to transfer water from areas of surplus to areas of shortage during a drought.

iv. Coordinate and provide technical assistance for state, local, and watershed planning efforts.

v. Reduce water demand/encourage conservation.

vi. Reduce drought impacts to Colorado's economy, people, state assets, and environment.

vii. Develop intergovernmental and interagency stakeholder coordination.

viii. Further evaluate potential impacts from climate change on drought.

b) Develop a means to characterize water supply reliability at a more local level (i.e., by district) in future M&I drought vulnerability studies.

c) Develop methodologies or approaches for SWSI 2016 to incorporate extremes (flood and drought) into the state planning process.

14. **Support local water supply planning.**

a) Encourage Integrated Resource Plans and increased regional planning.

Investigate a program or common application for Water Supply Reserve Account (WSRA) and Water Efficiency grant funds to incentivize integrated resource planning (IRP) and/or regional planning.

b) Assist roundtables in developing implementation plans with measurable goals for their consumptive and nonconsumptive needs.

Technical support for roundtables to develop consumptive and nonconsumptive implementation plans.

c) Track progress towards these individual basin goals by tracking at a basin and state level amounts of conservation, successfully implemented identified projects and processes (IPPs), agricultural transfers, and progress towards the development of new water supplies.

Technical support for the Basin Needs Decision Support System (BNDSS)

15. **The CWCB, in consultation with other state agencies, shall develop and implement a plan to educate and promote stewardship of water resources that recognizes water's critical role in supporting the quality of life and economic prosperity of all Coloradoans.**

a) Develop a public relations campaign that results in a unified, consistent, and audience-appropriate message that increases the public's awareness, understanding, and stewardship of Colorado's water resources and their multiple uses and benefits.

b) Coordinate efforts between the Colorado Water Institute (CWI); the Public Education, Participation, and Outreach workgroup of the IBCC; the Colorado Foundation for Water Education (CFWE), and other state educational efforts (including those of other state agencies, local governments, and non-governmental organizations).

Initial work on a "value of water" campaign underway.

c) Promote and support the development of a statewide initiative to improve the professional development and training of Colorado's future water leaders (including the CFWE Water Leaders Program, the CWCB/CWI internship program, and other efforts).

d) Pursuant to the recommendations in the 2008 Colorado Water Education Task Force Report, maximize education opportunities by cross-collaborating with those working to educate about other natural resource issues (e.g., climate change, energy, wildlife, etc.)

e) Participate in education efforts for the public, municipal and county planning authorities, decision-makers, and elected officials on Colorado's future water supply needs and the potential solutions. Specific actions are:

i. Support development and implementation of basin roundtable education action plans to provide sufficient understanding in support of in-basin solutions. The first round of educational events completed at the end of 2011.

ii. Participate in forums and conferences locally, statewide, regionally, nationally, and internationally.

iii. Utilize the education efforts being developed for Water 2012 to educate stakeholders and the public on Colorado's future water supply needs and solutions.

16. Establish a 6-year planning cycle for assessing Colorado's long-term consumptive and nonconsumptive water needs and support the implementation of projects and methods to meet those needs.

a) Years one through four (2011 through 2014), implement the SWSI 2010 work plan elements described above.

b) Years two through four (2012 through 2014), review and update approaches and the technical methodologies used for SWSI 2010 in preparation for SWSI 2016.

i. Review methodologies for SWSI 2016, incorporating diverse stakeholder and basin roundtable input, and expanding the analysis to include flood and drought extremes.

ii. By 2014, the CWCB will approve a set of methodologies to be used for updating the needs assessments, calculating the water supply gaps, and analyzing potential solutions.

c) Years five and six (2015 and 2016), update basin roundtable needs assessments and SWSI, including an analysis of each basin's:

i. Consumptive water needs (municipal, industrial, agricultural, and energy),

ii. Nonconsumptive water needs (environmental and recreational),

iii. Available water supplies, and

iv. Proposed projects and methods to meet the basin's consumptive and nonconsumptive needs, including strategies and projects to fill the gap.

d) Year six (2016), finalize and adopt the SWSI 2016 as the state water plan, incorporating basin roundtable and statewide implementation plans to address future water supply needs.