

STATE OF COLORADO

Colorado Water Conservation Board Department of Natural Resources

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TO: Basin Roundtable Members

FROM: Water Supply Planning Section, CWCB

DATE: June 4, 2010

SUBJECT: Status of Basin Roundtable Needs Assessments

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Governor

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Introduction

House Bill 05-1177 (“Colorado Water For the 21st Century Act”) requires each Basin Roundtable to develop basin-wide water needs assessments, analyze available unappropriated water within the basin, and propose projects or methods for meeting those needs. Provided below is a short paragraph summarizing CWCB’s understanding of where each basin roundtable’s efforts are in completing their basin-wide needs assessments. Also included is a table depicting major milestones in this effort. Each roundtable is encouraged to provide any clarifications, additions, or corrections.

Arkansas Basin: 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 21st Century Act. Since the Arkansas Basin Roundtable first convened in September 2005, the BRT 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 three major subcommittees (transfer guidelines, consumptive and nonconsumptive). Through a task order, the BRT completed the *Arkansas Basin consumptive Use Water Needs Assessment: 2030* (July 2008). This report updated the analysis of SWSI and re-examined the “Gap” and the IPP’s contemplated by the major providers. Through a series of BRT 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 NCNA and determining how to best support and/or implement the projects and methods identified.

Colorado: For their M&I needs, the Colorado BRT actively participated in the statewide process of gathering accurate demand data. The basin helped gather the most up-to-date water demand data across the basin, resulting in water demand data for 15 new providers and updating another 18 providers. In addition, the Colorado BRT is currently undertaking Phase II of the Energy Water Needs Study in partnership with the Yampa/White Basin. Phase II will explore the sources for water that could support the oil shale industry and confirm demand scenarios.

For its nonconsumptive needs, the Colorado BRT has completed Phase I, which developed a map and associated table that reflects the areas at risk that have important environmental and/or recreational values. The BRT is currently conducting a basin-wide quantification using the Watershed Flow Evaluation Tool and validating the results with site-specific quantification.

Gunnison Basin: The Gunnison 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 conducted a separate study to further examine their consumptive needs. This study, completed and adopted by the BRT 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 mapping (phase 1) and is currently underway on the statewide effort with the Phase 2 of the NCNA.

Metro: For their M&I needs, the Metro BRT actively participated in the statewide process of gathering accurate demand data. Additionally, the south metro area expects that approximately 26,000 AF of existing annual supplies will no longer be available by 2050 as the Denver Basin Aquifer's water table continues to fall. The roundtable also approved its Phase I nonconsumptive needs assessment maps, which selected reaches where environmental and recreational attributes were focused. The primary environmental concerns are the imperiled minnow species found on river systems such as Plum Creek. The roundtable identified the South Platte, Bear Creek and Clear Creek as being areas with a recreational focus.

North Platte Basin: The only consumptive need for the North Platte Basin identified in the SWSI report was 100 acre-feet in the Walden area. As a result, a roundtable task order was used to complete a comprehensive water supply evaluation for the Town of Walden, published in March 2008. Water Supply Reserve Account basin funds were then used to execute the Walden Water Supply Improvement Project as recommended in the evaluation. This project is nearing completion, successfully addressing the consumptive needs identified in the North Platte Basin. The North Platte Basin has completed and approved Phase I of its nonconsumptive needs assessment through the creation of a map with subcategory counts by stream segment. The roundtable is currently discussing potential prioritization of nonconsumptive needs identified in Phase I. The roundtable is also considering potential consumptive needs and issues to be documented in the forthcoming SWSI updates.

Rio Grande Basin: Through its Consumptive Use Subcommittee the Rio Grande Basin has performed its consumptive needs assessments as documented in letters to the CWCB dated May 12, 2009 and November 30, 2009. The letters note 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 SEO rules and regulations and fallowing land via the Groundwater Subdistrict. Issues and needs noted by the Consumptive Use Subcommittee will be documented in the forthcoming SWSI updates. The Rio Grande Basin has completed and approved Phase I of its nonconsumptive needs assessment through the creation of a map with subcategory counts 12-digit HUC. Nearly all HUCs within the Rio Grande Basin had at least one environmental or recreational subcategory present.

South Platte Basin: 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 consumable effluent 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 completed the mapping of the nonconsumptive needs and is currently underway on the statewide effort with the Phase 2 of the NCNA.

Southwest Basin: The Southwest Basin has collected updated information on projects and processes for its consumptive needs assessment through the roundtable process. This updated information on consumptive needs will be documented in the forthcoming SWSI updates. The Southwest Basin has completed and approved Phase I of its nonconsumptive needs assessment through the creation of a map with subcategory counts by stream segment. A large portion of the streams and lakes contained at least one environmental or recreational subcategory.

Yampa/White: For their M&I needs the roundtable is actively involved in the state process and is conducting an Energy Water Needs Study focusing on oil shale. As part of the statewide process, the roundtable gathered a subcommittee of city and county representatives to ensure the accuracy of population projections, per capita water demands, and identified projects and processes. The inclusion of oil shale is a new addition compared to SWSI, which was a concern of the roundtable. In addition, the Yampa/White BRT is currently undertaking Phase II of the Energy Water Needs Study in partnership with the Colorado Basin. Phase II will explore the sources for water that could support the oil shale industry and confirm demand scenarios. In addition, the roundtable funded an agricultural needs assessment study through a Water Supply Reserve Account (WSRA) grant. Roundtable members believe that the Yampa/White is likely the only basin that could see an increase in irrigated agricultural acres over the next 40 years. The Yampa/White completed the Phase I mapping of the nonconsumptive needs assessment (NCNA). The roundtable's approach was to select reaches where environmental and recreational attributes were focused. In addition to the endangered species concerns on the Green and lower Yampa and White rivers, cutthroat trout were identified in upper White River tributaries, Elk River, Slater Creek, Elkhead Creek, South Fork of the Little Snake, and South and East forks of the Williams Fork. Significant recreational areas include sections of the Yampa, White, Willow Creek, Fish Creek, Little Snake River, and several reservoirs and lakes. The roundtable also received a WSRA grant to conduct the Watershed Flow Evaluation Tool within its nonconsumptive focus areas.

Basin	Identified M&I Consumptive Needs	Ag Consumptive Demands	Identified Projects to Meet Consumptive Needs	Identified Non-Consumptive Needs (mapping)—Phase 1	Identified Projects to Meet Non-Consumptive Needs—Phase 2	Analysis of Unappropriated Waters & Projects to Utilize Available Water
Metro	SWSI 1 2050 M&I Demands	Ongoing—Statewide Process to Update Agricultural Demands to 2050	SWSI 1 Ongoing—Statewide Process to Collection Data for Basin Needs DSS	Mapping Complete	NCNA Phase 2—Ongoing Statewide Process	Used SWSI 1 as baseline Assume no additional water available in basin
Yampa	SWSI 1 2050 M&I Demands WSRA Grant for Energy Water Needs Phase I & II Studies	WSRA Grant examining potential for addition irrigated lands. Ongoing—Statewide Process to Update Agricultural Demands to 2050	SWSI 1 Ongoing—Statewide Process to Collection Data for Basin Needs DSS	Mapping Complete	NCNA Phase 2—Ongoing Statewide Process WSRA Grant for Watershed Flow Evaluation Tool to Quantify Nonconsumptive Needs	Participating in the Colorado Water Availability Study
Colorado	SWSI 1 2050 M&I Demands WSRA Grant for Energy Water Needs Phase I & II Studies	Ongoing—Statewide Process to Update Agricultural Demands to 2050	SWSI 1 Ongoing—Statewide Process to Collection Data for Basin Needs DSS	Mapping Complete Watershed Flow Evaluation Pilot Study Completed for Roaring Fork River	NCNA Phase 2—Ongoing Statewide Process WSRA Grant for Watershed Flow Evaluation Tool to Quantify Nonconsumptive Needs	Participating in the Colorado Water Availability Study

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Arkansas	<p>Used SWSI 1 as baseline needs Assessment</p> <p>Updated SWSI 1 Identified Projects and Processes</p> <p>2050 M&I Demands</p> <p>2008 Update: Arkansas Basin Consumptive Use Needs Assessment</p> <p>“Projects/Methods to Meet the Needs of the Ark. Basin” (Nov 2009)</p>	<p>Ongoing—Statewide Process to Update Agricultural Demands to 2050</p>	<p>SWSI 1</p> <p>Ongoing—Statewide Process to Collection Data for Basin Needs DSS</p> <p>Projects to meet consumptive needs are identified in “Projects/Methods to Meet the Needs of the Ark. Basin” (Nov 2009)</p>	<p>Mapping Complete</p> <p>Watershed Flow Evaluation Completed for Fountain Creek</p>	<p>Projects to meet non-consumptive needs are identified in “Projects/Methods to Meet the Needs of the Ark. Basin” (Nov 2009)</p>	<p>Used SWSI 1 as baseline</p> <p>Assume no additional water available in basin</p>
Rio Grande	<p>Used SWSI 1 as baseline needs Assessment</p> <p>Consumptive Use Subcommittee 2050 M&I Demands</p>	<p>Ongoing—Statewide Process to Update Agricultural Demands to 2050</p>	<p>SWSI 1</p> <p>Ongoing—Statewide Process to Collection Data for Basin Needs DSS</p>	<p>Mapping Complete</p>	<p>NCNA Phase 2—Ongoing Statewide Process</p>	<p>Total Gap by 2050 of 160,000 to 180,000 acre feet of agricultural groundwater shortage is predicted.</p>

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Southwest	SWSI 1 Currently Working on Consumptive Needs Assessment 2050 M&I Demands	Ongoing—Statewide Process to Update Agricultural Demands to 2050	SWSI 1 Ongoing—Statewide Process to Collection Data for Basin Needs DSS Currently Updating Provider's Projects (Consumptive)	Mapping Complete	NCNA Phase 2—Ongoing Statewide Process	Participating in the Colorado Water Availability Study
North Platte	SWSI 1 2050 M&I Demands	Ongoing—Statewide Process to Update Agricultural Demands to 2050	SWSI 1 Identified 100 Acre-Foot Consumptive Gap in Walden	Mapping Complete	NCNA Phase 2—Ongoing Statewide Process	WSRA Project to Address Water Supply Gap in Walden is Underway.

Basin	Identified Consumptive Needs	Ag Consumptive Demands	Identified Projects to Meet Consumptive Needs	Identified Non-Consumptive Needs (mapping)—Phase 1	Identified Projects to Meet Non-Consumptive Needs—Phase 2	Analysis of Unappropriated Waters & Projects to Utilize Available Water
Gunnison	SWSI 1 2050 M&I Demands Consumptive Use Task Order (Approved by BRT on Aug 2009)	Ongoing—Statewide Process to Update Agricultural Demands to 2050	SWSI 1 Ongoing—Statewide Process to Collection Data for Basin Needs DSS	Mapping Complete	NCNA Phase 2—Ongoing Statewide Process	Participating in the Colorado Water Availability Study
South Platte	Used SWSI 1 as baseline needs Assessment Analysis of competing supplies, examine unappropriated water, discussion of river appropriation, examination of conservation plans 2050 M&I Demands	Ongoing—Statewide Process to Update Agricultural Demands to 2050	SWSI 1 Ongoing—Statewide Process to Collection Data for Basin Needs DSS	Mapping Complete	NCNA Phase 2—Ongoing Statewide Process	Used SWSI 1 as baseline Part 2 of South Platte Consumptive Needs Assessment Identified any Unappropriated Sources of Water