STATE OF COLORADO

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Colorado Department of Public Health and Environment

MEMORANDUM

TO:	Water Quality Control Commission
	Trisha Oeth, Administrator, WQCC

FROM: Nicole Rowan, Watershed Section Manager, Tammy Allen, Restoration and Protection Unit Manager, Water Quality Control Division

SUBJECT: Water Quality Subsection of Colorado's Water Plan

DATE: April 30, 2014

In cooperation with the Colorado Water Conservation Board (CWCB), the Water Quality Control Division (division) is developing Colorado's Water Plan Subsection 5.4 Water Quality which is due in draft to CWCB at the end of May. Information about the division's work on the water quality subsection and opportunities for public input is available at the Colorado's Water Plan page on the WQ Forum's website, <u>http://colowqforum.org/</u>. The following attachments are included with this memorandum:

- Attachment 1: Draft Framework for Colorado's Water Plan.
- Attachment 2: Draft Subsection 5.4 Water Quality, Version 3.
- Attachment 3: Response to Comments.

This memorandum discusses feedback the division will be requesting from the Water Quality Control Commission (commission) at its May meeting, includes a summary of the major changes that were incorporated into version 3 of the draft subsection 5.4 water quality and identifies next steps.

May 2014 Commission Meeting Discussion

At the May 13, 2014 commission meeting, the division will request feedback from the commission on the following:

- 1) Based on stakeholder feedback and the discussion at the April 24, 2014 commission meeting the division drafted a strategic water quality goal for the commission's consideration. The division also simplified the quality and quantity integration goal based on stakeholder feedback. These changes are in section 5.4.2. In order to finalize the draft subsection for submittal to CWCB in May, the division will ask for the commission's final input on both these goal statements.
- 2) The division provides responses to stakeholder comments received to-date in Attachment 3 and will summarize this information during the May meeting. Stakeholder comments on the attached version 3 of the subsection are due to the division May 8. The division will summarize these new stakeholder comments and

proposed comment resolution during the May meeting. The division will ask for the commission's final thoughts and questions about responsiveness to stakeholder input.

3) In this memorandum, the division discusses the schedule for submittal of a final draft subsection to CWCB and also recognizes the need to finish work on the subsection after the May commission. The division will ask for the commission's perspective on the schedule, especially the work the division anticipates will happen after the May meeting.

Draft Subsection 5.4 Water Quality, Version 3

Based on comments received from the commission and stakeholders on the initial draft of the subsection (version 1 dated 04/02/14), the primary change in the first revision of the draft was the inclusion of a water quality goal discussion (version 2 dated 04/18/14). Version 2 also incorporated input received about the recommendations subsection and addressed comments that requested clarification and refinement of the text throughout the document.

Following the commission's special subcommittee meeting to discuss the goal statement and the receipt of additional stakeholder comments, the division produced the attached version 3 of the subsection. The integration goal in version 3 is slightly revised from that discussed with the Commission on April 24. The revision is based on stakeholder input and does not change the substance of the goal statement.

In response to the on-going discussion with the commission and stakeholders about including an environmental outcome goal, the division added an environmental outcome goal in Section 5.4.2 that would be the commission's goal for water quality. The proposed commission's environmental outcome goal is a broad, water quality goal statement, which is then linked to the integration goal that is more specific to the water quality and quantity nexus and the water plan executive order directive.

Version 3 also includes changes to the recommendations section that were discussed with the commission on April 24. In addition, Section 5.4 more specifically links information to other sections in the water plan (Attachment 1), and there are better correlations made between the recommendations subsection and information provided in preceding subsections. Version 3 includes summary discussions about discharge permits and the Safe Drinking Water Act and a revised reference section. The division also addressed requests from the commission to make recommendations more actionable, strengthen the tone of the document (especially through using an active voice), and simplify and clarify language throughout the document.

Stakeholder Feedback on Draft Subsection 5.4 Water Quality

The majority of comments received from stakeholders were addressed through changes in the document (Attachment 3). There are a number of comments the division did not specifically address because they are integral to CWCB efforts as it produces other sections of the plan (comments shaded in Attachment 3). The division will continue discussing these comments and potential comment resolution with CWCB. The primary, policy-related comments provided on versions 1 and 2 of the plan were those requesting an environmental outcome goal with targets and measures identified for meeting the goal. A broad, water quality goal is included in version 3 for the commission's consideration. Depending on decisions made about the water quality goal, targets and measures can be developed over time and separate from the water plan.

CWCB Coordination

As the division refined the attached draft subsection, CWCB staff provided additional input. CWCB staff agreed with the content and approach taken in the first two drafts of the subsection and identified water managers, water policy decision-makers, agency staff, legislators and staff, and local government officials as the target audience for Colorado's water plan. CWCB staff also provided initial feedback from two CWCB Board members on version 1 of the water quality subsection. The input indicated general agreement with the content, requested

clarification of some water quality terms and made suggestions about improving readability. These suggestions were incorporated in the attached version 3 of the subsection.

Next Steps

The process for finalizing Subsection 5.4 Water Quality is:

Timeline	Activities and Opportunities for Input	
April 30	Final draft subsection is submitted to the commission, distributed to the WQ Forum,	
	and posted to the WQ Forum website for review and comment	
May 8	WQ Forum written comments on the final draft subsection are due to the division	
May 12	Commission and public input on the final draft subsection	
May 15	Final draft subsection is distributed to the WQ Forum and commission and posted	
	to the WQ Forum website	
May 19	Final draft subsection is presented to WQ Forum	
May 30	Final draft subsection is submitted to CWCB	

The division plans to work until May 30 on:

- A submittal memorandum to CWCB documenting the process we used to develop the section.
- Simplifying language, reviewing for grammar, and making sure we have linked information appropriately throughout the document. The substance of the subsection will not change, especially as it relates to policy direction given throughout the development process.
- Graphics that help clarify main points.

The division also plans on-going conversations with CWCB as the water quality subsection is finalized.

The division looks forward to input from the commission and the public at the meeting on May 13, 2014.

Attachments

cc: Becky Mitchell, CWCB Jacob Bornstein, CWCB Brent Newman, CWCB

COLORADO'S

Draft Framework

Colorado's Water Plan framework continues to evolve. Below is the updated framework based on CWCB Board feedback received during the January 2014 meeting and subsequent public comment. Items that have been changed due to additional input since the November Board meeting are in red. Dates for when the initial draft of each section are *grey*, and the items for consideration in January are *bolded*.

Executive Summary

- 1. Introduction and Background (draft January, 2014)
 - 1.1. Summary of Colorado water and summary of plan
 - 1.2. Description of State, local, and Federal entities that are involved in water administration, study, planning and project permitting
 - 1.3. Description of Colorado Water Law & Administration
- 2. Overview of Each Basin (draft March, 2014)
- 3. Water Demand by Sector (draft September, 2014)
- 4. Water Supply, Including Description of Historical and Projected Supply (draft September, 2014)
- 5. Water Management
 - 5.1. Scenario planning and adaptive management and no and low regrets (draft January, 2014)
 - 5.2. Natural disaster management (*draft January*, 2014)
 - 5.3. Watershed health/management (draft September, 2014)
 - 5.4. Water quality (*draft May*, 2014)
 - 5.5. Meeting the consumptive and nonconsumptive gaps (*draft September*, 2014)
 - 5.6. Conservation and reuse (*draft May*, 2014)
 - 5.6.1. M&I conservation, reuse, and land use
 - 5.6.2. Agricultural conservation
 - 5.6.3. Self-supplied industrial (e.g. conservation of mining and energy water use)
 - 5.6.4. State agency conservation (e.g. Parks and Wildlife, Corrections, State Land Board, etc.)
 - 5.7. Alternative Agricultural to Urban Transfers (draft May, 2014)
 - 5.8. Municipal, industrial, and agricultural infrastructure projects and methods (*draft September*, 2014)
 5.8.1. Water supply projects and methods
 5.8.2. Existing water supply operation and maintenance
 - 5.9. Environmental and recreational projects and methods (*draft September*, 2014)
 - 5.10. Framework on more efficient water project permitting processes (*draft May, 2014*)
 - 5.11. Cross-basin conceptual agreements and points of consensus (draft September, 2014)
- 6. Alignment of State Resources and Policies (draft September, 2014)
 - 6.1. Funding/financing
 - 6.1.1. Analysis of the cost to fully implement the CWP
 - 6.1.2. Economic benefit of implementing the plan
 - 6.1.3. Alignment of state funding resources and analysis of other funding opportunities
 - 6.2. State water rights and alignment
 - 6.3. Alignment of other State policies and resources
- 7. Outreach and Public Engagement (draft September, 2014)
- 8. Legislative Recommendations to Assist Fully Implementing the CWP (TBD based on plan's content)
- 9. Process for Plan Update (draft December, 2014)

Attachment 2

Section 5.4 Water Quality

COLORADO'S

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5.4 Water Quality

NOTE: This draft section will be modified and supplemented upon receipt of the draft Basin Implementation Plans from the Basin Roundtables and additional work completed by the IBCC.

Coloradans have a strong connection to water. The quality of water in the state needs to be protected and in some cases restored to support Colorado's heritage, communities and way of life - now and into the future. Executive Order D 2013-005 recognizes this by stating "Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address them conjunctively." The Executive Order also lists "a strong environment that includes healthy watersheds, rivers and streams and wildlife" as one of three core Colorado values. In addition, recent public survey results highlight the value Coloradans place on safe, clean water. These surveys indicate Coloradans believe the quality of both surface and groundwater is very important as a source of drinking water received in homes. Coloradans also believe the quality of water in streams and lakes is very important to support recreational uses. The survey shows public health is the most motivating reason to improve water quality, followed by wildlife and fish habitat (Water Quality Control Division 2007 and Colorado Water Conservation Board 2013).

Water quality and quantity are inextricably connected. Understanding water supply and demand alone is an incomplete picture. Not only must there be enough water available for use, but the quality of water must also be sufficient for irrigation, drinking water, recreational uses and the protection of aquatic life. Over the past 40 years Colorado's water quality management programs have benefitted those exercising water rights by ensuring clean water for such uses as growing crops to providing drinking water to enjoying water-based recreation. In fact, Colorado's water quality management programs benefit all Coloradans because clean water is essential to the state's healthy environment, diverse economy and quality of life. This is why both protecting and restoring water quality are fundamental to supporting Colorado's water values and implementing Colorado's Water Plan.

Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address them conjunctively.

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As Colorado plans for its water future, better integration of water quality and quantity planning and management activities is critical. Opportunities to address existing water quality impacts and minimize future impacts must be prioritized to ensure Coloradans continue to have access to safe and clean water. Balancing increasing quantity demands with water quality protection and restoration requires on-going dialogue with all Coloradans and collaboration at all levels of government. Colorado's Water Plan offers a framework for moving forward with the quality and quantity conversation.

The following information is a starting point for this on-going conversation. The discussion below first describes how quality and quantity are related to create a foundation for understanding this complex subject and then identifies a goal to improve these relationships in support of protecting and restoring water quality. Current water quality management is described as context for identifying ways to improve integration, and recommendations are made to move forward with meeting the integration goal.

5.4.1 Water Quality and Quantity Relationships

Water quality in Colorado is protected by state and associated federal statutes as well as local, state, and federal regulations. The Water Quality Control Commission adopts regulations, guidance and policies required pursuant to the federal Clean Water Act, the Colorado Water Quality Control Act and the federal Safe Drinking Water Act. The Colorado Department of Public Health and Environment, Water Quality Control Division is the primary agency implementing these regulations, guidance, and policies. This water quality management structure is different from what is in place for water quantity management. Understanding the existing relationships between these distinct management frameworks and looking for opportunities to improve coordination and integration is important for protecting the state's water resources.

5.4.1.1 Water Quality and Quantity Connections

Managing water quantity may cause a change in water quality. When water is diverted to farms or cities, stored for future use or flood control, or managed as return flows to address downstream water rights, water quality can be affected. For example:

 Recreational fishing is a way of life in Colorado and is important to local and state economies. Deep reservoirs tend to thermally stratify in summer, with cold water settling to the bottom of the reservoir. Many reservoirs release water downstream from the bottom where the stratified water is very cold. There are a few places where cold water releases from the bottom of reservoirs have impacted downstream native fish and aquatic life. However, most of Colorado's Gold Medal Fisheries, which are managed by Colorado Parks and Wildlife, are downstream of dams. Other surface water structures such as diversions to canals and off-stream reservoirs can also impact water quality and fisheries. These



Black Lake No. 1 and No. 2 were enlarged so that stream flows could be maintained during snowmaking season.

modifications can result in low stream flows that can cause low oxygen concentrations, high water temperatures, and higher concentration of pollutants. In Colorado, solutions are explored to mitigate problems caused by these modifications in a way that protects water quality while still meeting project needs.

• One option for addressing future municipal water supply needs is through alternative agricultural transfers such as rotational fallowing and interruptible supply options. However, high concentration of salts and other pollutants from this source water may require advanced water treatment technologies such as reverse osmosis to make the water useable for communities. The waste product from reverse osmosis has very high salt levels and cannot be discharged into the stream. Other disposal options for the waste product are limited. However, if a municipal provider has higher quality source water to blend with lower quality sources then this issue can be avoided. For example, Aurora Water recently completed the Prairie Waters

Project where both natural and constructed treatment allow for potable water reuse to proceed without requiring any new Clean Water Act permits.

• Implementing and maintaining drinking water and wastewater treatment in a semi-arid environment is challenging today and will continue to be in the future. Treatment infrastructure is critical to protecting public health and the environment. The ability of the Understanding the cause and effect between water quality and quantity is integral to making sound water management decisions.

stream to accept pollutants in wastewater without a negative impact to quality depends on the amount of water flowing in the stream. Water diversions upstream can result in fluctuating stream levels and therefore affect water quality. Changes in treatment process necessary to meet new, more stringent discharge limits or needed upgrades to aging infrastructure can increase operational costs for wastewater treatment facilities. However, protecting water quality through wastewater treatment and other measures can result in cost savings for downstream drinking water treatment facilities because it results in a higher quality of source water that could require less treatment.

• The Colorado Water Conservation Board (CWCB) is responsible for the appropriation, acquisition, protection and monitoring of instream flow and natural lake level water rights to preserve and improve the natural environment to a reasonable degree. These water rights are established exclusively by CWCB for nonconsumptive, in-channel or in-lake water uses in support of minimum flows between specific points on a stream or levels in natural lakes. These rights are administered within the state's water right priority system. While Colorado law explicitly prohibits the Water Quality Control Commission and Water Quality Control Division from taking any action that requires minimum instream flows, the instream flow program has provided tangible water quality benefits across the state specifically for aquatic life classified uses.

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These water quality and quantity cause-and-effect connections are integral to making sound water management decisions and are considered during decision-making processes that are dependent on water quality and quantity statutory, regulatory and management relationships.

5.4.1.2 Statutory and Regulatory Relationships

At the state level, water quality and quantity are managed separately based on different constitutional, statutory and regulatory provisions. However, state and federal statutes that protect in-stream water quality recognize the importance of protecting water rights while still providing the authority to impose water pollution controls. The federal statute that protects drinking water quality also recognizes integration with water quantity by including protections for source water that reduces treatment costs.

Many state and federal water quality-specific regulations intersect with quantity management. The quantity of water available is integral to establishing water quality standards and ensuring standards are attained as required in state and associated federal water quality regulations. Water quality is also recognized in state regulations via addressing the quality of substitute water supplies used in exchanges and substitute water supply plans. Regulations governing reuse also support integration between water quality and quantity management.

One of the primary examples of the regulatory quality and quantity relationship is the Water Quality Control Division's water quality certification of federal permits and licenses under Section 401 of the federal Clean Water Act as implemented through Water Quality Control Commission Regulation No. 82 (known as 401 certification). Section 401 of the Clean Water Act directs states to certify that activities needing federal permits and licenses, such as many water development projects, will maintain the state's water quality use classifications, standards and designations during both construction and operation over time. Water Quality Control Commission



Expansion of Gross Reservoir is part of the proposed Moffat Collection Expansion Project. This project will require 401 certification.

Regulation No. 82 gives the Water Quality Control Division three certification options for federal permits or licenses including the ability to certify, conditionally certify through identified mitigation measures or deny certification. Certification by the Water Quality Control Division means that when the federal permit or license is implemented, the proposed project will comply with surface and groundwater standards regulations, classifications and all other applicable water quality requirements for the affected waters. For example, if a project requires a Clean Water Act Section 404 individual permit from the Army Corps of Engineers, a 401 water quality certification is required from the Water Quality Control Division. Section 5.10 discusses the 401 water quality certification in more detail.

Another example of a quantity and quality regulatory relationship is the Water Quality Control Commission's adoption of site-specific standards and designations. Site-specific standards and designations are often adopted to reflect a lower level of water quality than would have existed



before a hydrologic modification such as a dam, diversion or return flows associated with exercising water rights throughout Colorado.

The Water Quality Control Commission is solely responsible for the adoption of water quality standards and classifications; however, local government regulations can also have a water quality and quantity connection. For example, local governments have been delegated permit authority over certain matters under the Areas and Activities of State Interest Act. Under the act, local governments can adopt regulations that address the impact of municipal and industrial water projects. These regulations, referred to as 1041 regulations, often require mitigation of water quality impacts from these water projects. Associations of local governments also prepare Regional Water Quality Management Plans that establish water quality goals and recommendations for regional water quality management. Typically, local 1041 regulations require new water projects to comply with these plans.

5.4.1.3 Water Management Relationships

The roles and responsibilities defined in the statutes and regulations are shared by a number of entities, which creates a complex system for overseeing the state's water resources. At the state level alone, there are many entities involved with protecting water quality which requires coordination and integration to make sure water resources are appropriately managed.

The Water Quality Control Commission and Water Quality Control Division have defined water quality roles and responsibilities. The Colorado Water Quality Control Act also identifies several additional water quality implementing agencies:

- The Division of Reclamation, Mining, and Safety.
- The State Engineer.
- The Oil and Gas Conservation Commission.
- The Colorado Department of Public Health and Environment Hazardous Materials and Waste Management Division.
- The Division of Oil and Public Safety at the Department of Labor and Employment.

These agencies have initial responsibility for implementing groundwater quality classifications and standards adopted by the Water Quality Control Commission. These implementing relationships are defined through Memoranda of Agreement. The Water Quality Control Commission has residual authority to intervene in the event it determines an implementing agency is not assuring compliance with water quality classifications and standards.

The Department of Natural Resources (DNR) plays a critical role in managing water quantity in the state. The Division of Water Resources within DNR is responsible for water administration, while the CWCB, another division within DNR, sets water policy, completes water planning and reviews state wildlife mitigation plans. DNR's Colorado Parks and Wildlife develops state wildlife mitigation plans, which address fish and wildlife resources affected by the construction, operation or maintenance of water diversion, delivery or storage facilities.

The Water Quality Control Commission and the Water Quality Control Division are required by the Colorado Water Quality Control Act to consult with the CWCB before making any decision or

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adopting any rule or policy that has the potential to cause material injury to water rights. This agency receives copies of all Water Quality Control Commission rulemaking hearing notices and all notices include a provision requesting information from the public regarding potential impacts on water rights.

5.4.2 Water Quality and Quantity Integration Goal

Executive Order D 2013-005 states "Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address them conjunctively." As section 5.4.1 described, the quality of Colorado's waters is important to both consumptive and nonconsumptive water needs. Therefore, it is important to establish a goal related to quantity and quality integration between now and 2050. To inform development of this goal the federal Clean Water Act, federal Safe Drinking Water Act, the U.S. Environmental Protection Agency's strategic plan, Colorado's Water Quality Control Act, the Water Quality Control Division's strategic goals, the Water Quality Control Commission's strategic water quality goal and the Basin Roundtable Implementation Plans were reviewed. These laws, goals and plans focus on broader actions than quality and quantity integration but provide important insight for developing a quality and quantity integration goal as part of Colorado's Water Plan.

The federal Clean Water Act sets a national goal "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters", with interim goals that all waters be fishable and swimmable where possible. The federal Safe Drinking Water Act authorizes the U.S. Environmental Protection Agency to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. The U.S. Environmental Protection Agency, states, and water systems work together to make sure that these standards are met. The U.S. Environmental Protection Agency's current strategic plan has a goal regarding protecting America's waters to "protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities."

The legislative declaration of the Colorado Water Control Act includes the following goals:

- To achieve the maximum practical degree of water quality in the waters of the state.
- Provide that no pollutant be released into any state waters without first receiving the treatment or other corrective action necessary to reasonably protect the legitimate and beneficial uses of such waters; to provide for the prevention, abatement and control of new or existing water pollution; and to cooperate with other states and the federal government in carrying out these objectives.

In addition, there are several Colorado Water Quality Control Act provisions that are related to water quantity and water rights:

• A primary goal of the Water Quality Control Act is protect, maintain and improve the quality of state waters for beneficial uses including domestic, wildlife and aquatic life, agricultural, industrial and recreational uses.

- Dischargers of pollutants may be required to meet a high degree of treatment in order to protect water rights.
- The Water Quality Control Commission and Water Quality Control Division must consult with the CWCB before making any decision or adopting any rule or policy that has the potential to cause material injury to water rights.
- The Water Quality Control Commission and Water Quality Control Division shall not require an instream flow for any purpose.

The Water Quality Control Division's mission is to protect and restore water quality for public health and the environment in Colorado. The Water Quality Control Division's strategic plan states that it will achieve its mission by pursing the following goals:

- Prevent waterborne disease and reduce chronic public health risks from drinking water through improved implementation of the federal Safe Drinking Water Act and Colorado's drinking water statutes and regulations.
- Protect all designated uses by attaining water quality standards through improved implementation of the federal Clean Water Act and Colorado Water Quality Control Act and associated regulations.
- Restore impaired water quality to attainable standards through improved implementation of the federal Clean Water Act and Colorado Water Quality Control Act and associated regulations.

F inally, the Water Quality Control Commission's strategic water quality goal is that Colorado's waters will fully support their designated uses by 2050 and these uses could include drinking water, agriculture, recreation, aquatic life and wetlands.

Better integration of water quality and quantity will be required to address the Water Quality Commission's overall goal for water quality. Based on review of the laws, goals and plans summarized above a quality and quantity integration goal was developed. The recommendations in section 5.4.4 address the following quality and quantity integration goal:

Strategies designed to meet Colorado's current and future consumptive and recreational/environmental needs will recognize the inter-relationship between quality and quantity in order to protect and restore water quality.

The following steps further refine and advance this goal:

- The Basin Roundtables should actively incorporate water quality into decision making processes for consumptive and nonconsumptive projects. To help facilitate this effort the Water Quality Control Division will provide basin scale water quality information to the Basin Roundtables for their use in updating their future Basin Roundtable Implementation Plans. This information was developed as part of the Statewide Water Quality Management Plan.
- Project proponents must understand the water quality and quantity nexus and work to avoid or mitigate water quality impacts of a project through the implementation of best management practices, whether associated with 401 certifications or otherwise. The Water Quality Control

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Division will develop guidance on the 401 certification application process and will identify best management practices guidance documents to increase project proponent understanding.

- The Water Quality Control Division, in concert with other stakeholders including watershed groups and those with point and nonpoint discharges, will continue to employ available programs to maintain and in some cases improve water quality at a basin scale and will document this over time in the Water Quality Control Division's Integrated Report (discussed in 5.4.2.1) and Water Quality Control Division's Statewide Water Quality Management Plan (discussed in 5.4.3). The Integrated Report is typically updated every two years and this document will be used to track progress on the quality portion of the integration goal over time. The Water Quality Control Division will develop a baseline for tracking water quality improvements by 2016.
- The information reported in the Water Quality Control Division's Integrated Report can also be used in CWCB's scenario planning efforts when evaluating the status of future *signposts* (see Chapter 5.2). By tracking this information through time, water quality and quantity managers will know if efforts to integrate water quantity and quality are successful and can make course corrections as part of CWCB's adaptive management plan efforts.

5.4.2.1 Current Water Quality Conditions

As plans for meeting consumptive and nonconsumptive needs are produced that recognize the many interactions of statute, regulation and management activities, it is important to understand current water quality conditions in the state. These current conditions provide a baseline for evaluating potential impacts, mitigation and measuring how we are meeting our water quality and quantity integration goal. Understanding current water quality conditions is also fundamental to water supply planning and implementation activities for ensuring compliance with water quality regulations.

Evaluating the status of surface water quality in Colorado requires understanding the classified uses identified for waterbodies throughout the state. A classified use is a specific type of use for an identified waterbody and can include domestic water supply, agriculture, recreation, aquatic life and wetlands. After classified uses are assigned to stream segments by the Water Quality Control Commission, water quality standards are adopted for many different pollutants to protect these waterbody-specific uses.

The state is also required to have an antidegradation policy as part of its water quality standards. Antidegradation protects the intrinsic value of high quality surface waters. Colorado's antidegradation policy establishes that at a minimum for all surface waters, the existing classified uses and the level of water quality necessary to protect such uses are to be maintained; these are *use protected waters*. The antidegradation policy also provides extra levels of protection for two types of waters that are designated by the commission. *Outstanding waters* receive the highest level of protection requiring that quality must be maintained at the current levels (no degradation). *Reviewable waters* are high quality waters which receive an intermediate level of protection. The rules for antidegradation review require a public review process before the natural capacity of a waterbody to dilute and absorb pollutants and prevent harmful effects is completely allocated to a

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project or permit where a new or increased impact is proposed. Use of such capacity is allowed if the review shows it would accommodate important economic or social development for the area in which the waters are located.

Standards are the basis for evaluating the status of water quality for each waterbody. When available data show water quality standards are not being met, the waterbody is identified in regulation as impaired. These impaired waterbodies, as well as other information about water quality in the state, must be identified in a biennial report to the U.S. Environmental Protection Agency (Integrated Water Quality Monitoring and Assessment Report (Integrated Report)).

Based on the 2012 Integrated Report (reporting period 2010-2011):

- 65% of rivers and streams miles and 28% lakes and reservoirs acres evaluated statewide attain water quality standards.
- 25% of rivers and streams miles and 49% of lakes and reservoirs acres statewide do not have enough data to determine if water quality standards are being met.
- 10% of rivers and streams miles and 23% of lakes and reservoirs acres evaluated statewide are not meeting water quality standards for one or more pollutant (impaired waterbodies).

The most common causes of river and stream impairments in Colorado are selenium, pathogens such as E. coli and iron. For lakes and reservoirs, the most common causes of impairment are selenium, mercury and dissolved oxygen saturation. When water quality standards are not attained, the ability to use water for domestic



water supply, agriculture, aquatic life or recreation can be impacted.

The water quality information presented here is statewide and is based on available water quality data. Different regions or basins within the state have varying water quality conditions and may have unique water quality challenges. Water quality impairments may also exist in streams or lakes that either have little to no available data or have not yet been assessed through the Integrated Report process.

5.4.2.2 Future Water Quality Conditions

Many changes will happen over the next 35 years that have the potential to affect both regional and statewide water quality. Understanding these changes is important as plans are under development

for addressing the municipal and industrial supply gap as well as meeting environmental and recreational needs over the next 35 years.

Future water quality conditions will not only be affected by water quantity decisions but will also be influenced by changing water quality regulations. Currently, there are additional proposed regulations designed to further protect and restore water quality. Examples include increased nutrient controls, more stringent arsenic standards and a revised selenium standard. There is also a renewed emphasis on implementing actions that will produce measureable, positive changes in water quality. Recognizing the possibilities associated with potential change, both water quantity and quality managers need to seek opportunities to protect and enhance water quality in the future.

Other factors affecting future water quality condition are also important. As the economy and population grow and land uses change, there will be increased water quantity demands and additional stressors on water quality. Future land use decisions are a factor as water quality can be impacted by increased urbanization and associated stormwater runoff, volumes of discharged municipal wastewater, and industrial discharges including those from the energy sector. As streams are depleted from additional diversions, existing concentrations of pollutants increase, and water treatment and wastewater treatment processes relying on those streams will become more difficult. New issues may also arise from emerging contaminants or interactions between different constituents that are not now known. These potential impacts could be negative though there can also be opportunities for positive change which reinforces the critical nature of informed, integrated water resource management decisions.

The potential for future positive or negative water quality impacts is compounded by climate change. Predicted effects from a changing climate on water quality include (EPA 2013):

- Potential streamflow volume decreases in the Rockies and interior southwest, and increases in the east and southeast coasts.
- Higher peak streamflow will increase erosion and sediment transport; loads of nitrogen and phosphorus are also likely to increase in many watersheds.
- Many watersheds are likely to experience significant changes in the timing of streamflow and pollutant delivery. In particular, there will be a tendency to shift from snowmelt-dominated spring runoff systems to rain-dominated systems with greater winter runoff.
- Changes in nutrient and sediment loads are generally correlated with changes in hydrology.

Planning for water quality impacts from these potential fundamental system shifts is challenging and highlights the need to make measurable progress on the water quality and quantity integration goal.

5.4.3 Water Quality Management

Current water quality decisions are made in the context of a management system based on statutes, regulations and implementation processes. This system defines the boundaries to protect and restore water quality, and it also offers opportunities for flexible, integrated approaches for meeting consumptive and nonconsumptive needs. The existing water quality management system

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is a starting point for finding opportunities and maximizing them to facilitate improved integrated water resource management decisions.

The statutory and regulatory framework for water quality discussed in Subsections 1.2 and 5.4.1.2 establishes the requirements for protecting and restoring water quality in the state. This framework is implemented through processes at the state and local level. Subsection 5.4.2.1 discusses classified uses and the water quality standards established to protect these uses. Both are critical to protecting and restoring water quality in the state and are established through Water Quality Control Commission processes with public input.

Water quality management processes also include monitoring, data assessment and reporting. Monitoring and data assessment are essential to identifying and characterizing water quality problems, revising water quality standards, and developing and evaluating the results of control programs. Monitoring is completed in conjunction with many statewide partners. The Water Quality Control Division utilizes its own data as well as partners' data in assessments that support evaluating the status of statewide and basin-scale water quality with respect to meeting water quality standards. Information about attainment of water quality standards is provided in the Integrated Report discussed in 5.4.2.1 and is also identified in regulation (Water Quality Control Commission Regulation No. 93, Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List); both are adopted by the Water Quality Control Commission through public processes.

Once streams and lakes are identified as not meeting water quality standards, a restoration plan is produced that defines how much of the pollutant causing the impairment can be in the stream or lake to ensure water quality standards are attained. The allowable amount of the pollutant is then divided between all the different sources of the pollutant, both point and nonpoint. A point source is a sewage treatment plant or industrial facility discharge and nonpoint sources are diffuse sources of pollution such as runoff from agricultural field or abandoned mines. This restoration plan is called a Total Maximum Daily Load (TMDL). There is a public notice process associated with TMDL development. Once the TMDL is approved by the U.S. Environmental Protection Agency, the TMDL is the basis for implementing necessary actions to bring the stream or lake back into attainment. As an alternative to implementing point or nonpoint source controls to meet existing water quality standards, TMDLs can also result in a re-evaluation of standards and sometimes classifications. Implementation actions can be defined in a TMDL implementation plan, in a locally-driven watershed plan or in a locally-driven regional water quality management plan (208 plan). Watershed plans and 208 plans identify stressors to water quality and address other water quality improvement and protection activities necessary to meet local and regional goals. The Water Quality Control Division works with local partners and local plans to implement priority projects to restore and maintain water quality at a watershed or regional scale.

The Water Quality Control Division also uses information from local plans to support its own planning efforts. The Water Quality Control Division produces a Statewide Water Quality Management Plan (SWQMP) for approval by the Water Quality Control Commission. The SWQMP compiles water quality information at a statewide and basin scale in support of implementation activities. This compilation, as well as the information in the Integrated Report, Water Quality

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Control Commission policies, and other Water Quality Control Division reports, agreements and documents, supports Water Quality Control Division strategic planning that promotes progress toward national water quality goals and provides specific metrics for measuring that progress.

The purpose of these plans at different scales by numerous partners is defining and prioritizing actions for the improvement, restoration and protection of water quality. Implementation tools utilized by the Water Quality Control Division include Section 401 water quality certifications (discussed in subsection 5.10), permits that allow discharges to streams and lakes as long as certain limits or control measures are met, and funding support for partners. The federal Clean Water Act prohibits the discharge of pollutants from a point source to surface water without a permit. Because the state has developed a program that meets the requirements of the federal Clean Water Act, the primary discharge permit program in Colorado is administered by the Water Quality Control Division rather than by the U.S. Environmental Protection Agency. The permits issued to point sources specify the limits or controls that are required to meet Colorado's water quality standards.

These implementation tools often require the development of strategies or best management practices that when completed result in the improvement, restoration and protection of water quality. Strategies are also used to address consumptive and nonconsumptive needs. These are summarized in sections 5.6 through 5.9 of this plan. Examples of strategies that have a quality and quantity nexus include, but are not limited to:

- Water reuse including direct potable reuse, indirect potable reuse, non-potable reuse and graywater use. These strategies are further described in section 5.6.
- Storage including reservoirs and aquifer storage and recovery.
- Source water protection best management practices such as proper storage and disposal of pesticides and proper management of septic systems.
- In Colorado, stormwater has not typically been considered a source of supply but this could be explored in the future. Stormwater best management practices including retention and detention could improve the quality and quantity of this supply.
- Nonpoint source best management practices will be critical to improving water quality for nonconsumptive and consumptive needs in the future. Examples of nonpoint source best management practices include mine tailings removal, riparian buffers, constructed wetlands and habitat restoration.
- The concept of green infrastructure is being discussed at a national level and application of these concepts are being explored in Colorado. The focus of green infrastructure is to weave natural processes into the built environment, which can provide stormwater management, flood mitigation and air quality management.
- Water quality trading is based on the fact that sources in a watershed can face very different costs to control the same pollutant. Trading programs allow facilities facing higher pollution control costs to meet their regulatory obligations by purchasing environmentally equivalent (or

superior) pollution reductions from another source at lower cost, thus achieving the same water quality improvement at a lower overall cost.

Funding and financing is discussed in detail in Chapter 6, however, the Water Quality Control Division provides various financial assistance opportunities to assist with the efforts to protect public health and the environment. Financial assistance programs administered by the Water Quality Control Division include:

- State Revolving Funds provide low-interest loans to governmental entities for drinking water and water quality improvement projects.
- The Water Quality Improvement Fund provides grant funds for water quality improvement projects using civil penalties from water quality violations. State House Bill 11-1026 amended the statute to authorize grants for stormwater management training and best practices training to prevent or reduce the pollution of state waters.
- Source water protection grants provide funding for pilot planning projects and development and implementation projects.
- The Small System Training and Technical Assistance set-aside provides grant funding to assist with the costs of planning and design for small drinking water systems serving less than 10,000 people
- State statutes 25-8-703 and 25-1.5-201 authorize funding, when appropriated by the legislature, for small community domestic wastewater and drinking water projects. These programs provide grants to municipalities for costs associated with planning, design and construction of drinking water and wastewater treatment plants.
- Nonpoint source grant funds are distributed through a competitive process to local project sponsors to implement projects which restore impaired waters, prevent future impairments or raise public awareness.

5.4.4 Recommendations

In developing this section, the Water Quality Control Division worked with the Colorado Water Quality Forum and the Water Quality Control Commission in developing recommendations. Because this is the first water planning effort to integrate water quantity and water quality, these recommendations are general in nature. As Colorado's Water Plan is updated in the future, these recommendations serve as a starting point for implementation efforts focused on:

- Integrated water quality and quantity management.
- Policy considerations.
- Financial considerations.
- Stakeholder and public outreach.

In addition, these recommendations need to be assigned to a responsible party and prioritized for implementation over time.

5.4.4.1 Integrated Water Quality and Quantity Management

Recommendations to promote increased integration of water quality and quantity management include:

- Evaluate water quality impacts associated with proposed solutions and scenarios presented in the Basin Implementation Plans and in Sections 5.6 through 5.9 of Colorado's Water Plan. Identification of impacts will define the scope of strategies that need to be explored to protect and restore water quality.
- Define opportunities, in cooperation with Basin Roundtables and others, to address potential water quality impacts that arise from implementing water quantity solutions through projects and processes that restore and enhance existing water quality conditions. An initial step to implement this recommendation is to assist the Basin Roundtables in developing water quality goals, objectives and measurable outcomes based on current water quality information for each basin that they could use when the updating their Basin Implementation Plans. This collaboration supports the Basin Roundtables in identifying projects and methods that integrate water quality and quantity management to protect and restore water quality.
- Define green infrastructure approaches for the arid west and explore how green infrastructure can be utilized to address Colorado's consumptive and nonconsumptive gaps. For example, green infrastructure in the arid west can go beyond stormwater management activities and low impact development methods to include landscape-scale land use planning that addresses where activities should occur on the landscape in order to meet dynamic goals, including protecting and restoring water quality. Existing information developed by green building and stormwater management groups provides a starting point for developing and maintaining a catalog or library of green infrastructure options.
- Evaluate new water supply projects and the potential for multiple benefits, including water quality protection and enhancement. Strive to ensure that all water quality benefits are incorporated into the project plans.
- Examine how new or existing supply projects can be designed and/or operated to advance water quality objectives. Actively pursue incorporation of these design/operation considerations into proposed projects.
- Identify the role of reuse by developing a catalog of reuse examples such as direct potable reuse, indirect potable reuse, non-potable reuse, graywater use and the associated water quality issues that need to be addressed for each type of reuse. Ensure that these issues are addressed in any initiative that desires to utilize these resources.
- Promote use of aquifer storage and recovery as the water quality impacts associated with this storage strategy are minimal.
- Explore the role of stormwater management from both a quality and quantity perspective to determine if stormwater is a viable additional source of supply to address consumptive needs.

- Address nonpoint sources through on-going management activities that play an important role in protecting and restoring water quality for the benefit of future water uses. These activities should include cataloguing and evaluating local government land use planning tools that minimize nonpoint source pollution associated with development. A comprehensive approach to nonpoint source management including water quality trading should be explored.
- Identify the risks of climate change as it relates to integrated water quality and water quantity management and develop specific recommendations for addressing these risks.
- Explore how CWA requirements and SDWA requirements can be most efficiently and cost effectively integrated. Develop specific recommendations for implementation.

5.4.4.2 Policy Considerations

Chapter 8 of the water plan summarizes legislative recommendations. In addition to the legislative recommendations, policy considerations related to quality and quantity integration include:

- Continue to engage in creative, solution-oriented actions such as site-specific standards, temporary modifications, discharger specific variances and pollutant trading. Maintain ongoing, non-regulatory programs including nonpoint source management and source water protection planning. These solution orientated actions will also be necessary when addressing impacts from climate change.
- Establish a more complete understanding of the concept of net environmental benefit as wastewater reuse continues to be maximized in Colorado. This concept is focused on the demonstration that the ecological value of using effluent to support riparian and aquatic habitats exceeds the ecological benefits of removing the discharge from the waterbody.
- Review and appropriately modify existing regulations, guidance and policy documents for new types of wastewater reuse so that all revisions will protect public health and the environment while also providing sufficient flexibility for water suppliers to develop new water reuse projects across the state.
- Consider and document the water rights implications of water quality strategies as they pertain to integrated water quality and quantity management. For example, integrated stormwater management may have impacts on downstream flows and possible water rights impacts would have to be understood and addressed before such a strategy could be implemented.
- Continue to work with neighboring states to address interstate water quality and quantity issues to protect Colorado's compact entitlements.
- Continue statewide monitoring that supports assessment of the quality and quantity integration goal and measures.

5.4.4.3 Financial Considerations

Future efforts to integrate water quality and quantity will require funding. The recommendations outlined below may be further detailed in Chapters 6 and 8 of Colorado's Water Plan. Because this

is the first water planning effort that includes integration of water quantity and quality, the following recommendations are general:

- Continue to fund nonpoint source pollution management efforts and identify new funding opportunities and nonpoint source pollution control strategies.
- Identify costs and funding sources for implementation of green infrastructure and reuse.
- Pursue state funding of regional watershed-based water quality planning to better integrate current and future water quantity efforts.
- Develop and implement state funding mechanisms for future water projects that implement consumptive and nonconsumptive strategies consistent with Colorado's Water Plan, with emphasis placed on funding those portions of water projects that result in a public benefit.
- Develop and implement state funding mechanisms for implementation of mitigation activities required under a state water court water rights decision or a federal or state water quality protection regulatory action.
- Develop and implement funding mechanisms for the protection, restoration or enhancement of water quality values in river or stream reaches.
- Explore ways to facilitate innovative treatment and engineering solutions through technology transfer and liability management techniques.

5.4.4.4 Stakeholder and Public Outreach

Stakeholder and public outreach is critical to meeting the water quality and quantity integration goal. The recommendations outlined below may be further detailed in Chapter 7 of Colorado's Water Plan. Because this is the first water planning effort that includes integration of water quantity and quality, the following recommendations are general:

- Use a watershed approach for outreach and community engagement around water quality, ways to protect water quality and solutions to address water quality issues. Colorado's many watershed groups already utilize a watershed approach to effectively plan for and implement actions that protect and restore water quality and this approach can be used when developing and implementing strategies that integrate water quality and quantity management.
- Monitor public attitudes and opinions about water quality as it relates to domestic water supply as well as environmental and recreational uses of water to inform refinement of future water quality goals and measurable outcomes.
- Develop additional water quality goals and performance measures based on the completed Basin Implementation Plans from the Basin Rountables.
- Conduct joint CWCB and Water Quality Control Commission meetings at least annually to discuss water quality and quantity integration issues.
- The Water Quality Control Commission should consider holding workshops as part of its annual basin rulemaking process. These workshops with basin roundtable representatives for the

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basin that is the subject of the annual rulemaking hearing will help to gather input on water quality and quantity integration efforts.

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ATTACHMENT 3

04/30/14 Response to Public Comments

Subsection 5.4 - Water Quality, Colorado's Water Plan

#	Entity	Date	Comment	Resolution
1	Janet Hillary	1/21/2014	Verbal comment: Where did the water demands information come from? How are water demands being calculated?	No change in outline. Answered during WQ Forum meeting: CWCB is responsible for summarizing demands by sector, and this question is best addressed by CWCB. The Division assumes CWCB will use information from the 2010 Statewide Water Supply Initiative for this section of the water plan.
2	Barbara Green	1/21/2014	Verbal comment: There is no mention of the local piece in the regulatory section. What about 208 Plans, NPS management, land use plans, 1041?	Change in outline. Local regulatory and planning information was added to Subsections 5.4.1.2 Statutory and Regulatory Relationships 5.4.2 Water Quality Management.
3	Mark Pifher	1/21/2014	Verbal comment: Where will climate change be considered?	No change in outline. Answered during WQ Forum meeting. Potential stressors on water quality are proposed for discussion in the water quality gap section of the outline.
4	Theresa Conley	1/21/2014	Verbal comment: Where can I see Mark Pifher's papers?	No change in outline. Answered during WQ Forum meeting. The Division posted the paper on the WQ Forum website.
5	Theresa Conley	1/21/2014	Verbal comment: How have dams and diversions been considered in standards development and impairment decisions?	No change in outline. Answered during WQ Forum meeting. There is no exclusion for dams and diversions with respect to water quality standards. This issue is currently being addressed through the Division's 401 certification process. If a site-specific standard for a reach downstream of a diversion or dam is evaluated, the historic water management practices could be considered an irreversible man-induced condition, and that is a factor considered in setting site-specific standards.
6	Tad Foster	1/21/2014	Verbal comment: A plan should address a problem, but there is no statement of the problem in the draft outline. Some sense of the problems should be added.	Change in outline. A problem statement was added to added to Introduction, and the outline was rearranged to better highlight the discussion of the problem statement.
7	Tad Foster	1/21/2014	Verbal comment: How are we looking at the role of reuse, 401, and ground water storage?	Change in outline. Reuse and green infrastructure are highlighted in Subsection 5.4.3 Recommendations.
8	Gabe Racz	1/21/2014	Verbal comment: Water quality direction specific to resources and funding are missing and should be addressed in Section 6 of the water plan.	No change in outline. The Division will recommend to CWCB that water quality- specific information be included in Section 6.
9	Steve Glazer	1/21/2014	Verbal comment: The nexus of Division activities related to Superfund should be summarized.	No change in outline. The discussion in this first water plan is at a broad, statewide scale which does not allow for a more in-depth look at many Division activities and relationships of those activities to other programs.
10	Barbara Green	1/21/2014	Verbal comment: There should be a statement of the problem by CWCB. We should be looking at water quality impacts associated with the proposed solutions.	Change in outline. Subsection 5.4.3 Recommendations, recognizes the need to look more specifically at water quality impacts associated with proposed solutions, something that most likely will not happen during the development of this first water plan because of timing and other factors.
11	Mely Whiting	1/21/2014	Verbal comment: There is no statement of goals in the water gap analysis, and how will we get there?	No change in outline. Water quality goals are generally discussed in 5.4.2 Water Quality Management.
12	Mely Whiting	1/21/2014	Verbal comment: The Clean Water Act goals are 100% fishable/swimmable. Our goals in the Division Strategic Plan are much lower. How will we address the 100% goal?	Change in outline. Division strategic planning and national water quality goals are generally discussed in 5.4.2 Water Quality Management.
13	Mely Whiting	1/21/2014	Verbal comment: When will the draft of Section 5.10 (5.9) be available?	No change in outline. Answered during WQ Forum meeting: This section is currently schedule to be completed in May 2014.

ATTACHMENT 3

04/30/14 Response to Public Comments

Subsection 5.4 - Water Quality, Colorado's Water Plan

#	Entity	Date	Comment	Resolution
14	Dave Akers	1/21/2014	Verbal comment: We need to clearly identify the roles and responsibilities of the WQCC, WQCD, and CWCB in the introduction in the context of what we are trying to accomplish.	Change in outline. The Introduction, 5.4.1 Water Quality and Quantity Relationships, 5.4.1.2 Statutory and Regulatory Relationships, 5.4.1.3 Water Management Relationships, and 5.4.2 Water Quality Management provide a summary of roles and responsibilities.
15	Fred Linton	1/21/2014	Verbal comment: Has the CWCB seen the outline and is it aligned with the direction they would like this to go?	No change in outline. The Division is meeting with CWCB regularly to share the feedback we receive regarding water quality and to make sure we are aligned.
16	Theresa Conley	1/21/2014	Verbal comment: In addressing the gaps and through the IBCC and Roundtables, there has been a focus on green infrastructure. We need to work smarter with green infrastructure, something that should be included in the recommendations section.	Change in outline. Subsection 5.4.3 Recommendations, highlights green infrastructure as an opportunity.
17	Theresa Conley	1/21/2014	Verbal comment: How is this streamlining the permitting process?	No change in outline. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Subsection 5.10.
18	Steve Glazer	1/21/2014	Verbal comment: The plan should recommend the language in Section 25-8-104, water quality cannot interfere with water rights, be revised to address the conflicts between quality and quantity issues.	No change in outline. The Division will share this recommendation with CWCB for consideration in Section 8.
19	Barbara Green	1/21/2014	Verbal comment: We have been working with CWCB to change the "streamlining" reference to the permitting process, perhaps coordinated or complementary.	No change in outline. Comment noted.
20	Barbara Green	1/21/2014	Verbal comment: We need to revisit the permitting process from a number of years ago that went to the local level. We need to consider a process where entities are talking to all agencies at the same time.	No change in outline. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Subsection 5.10.
21	Aurora Water	1/21/2014	Written comment: We perhaps are getting too much in the weeds with what we are proposing to include in the Plan. Much of the background information, particularly on CWA, SDWA, etc. can be found in other documents such as CFWE (Colorado Foundation For Water Education) Citizen Guides, the Statewide Water Quality Management Plan, etc. and thus it seems redundant to reiterate this information in the Colorado Water Plan. It would seem more prudent to spend time and effort focusing on the real water quality issues such as quantity/quality nexus, 401 certification and associated permitting process and source water/watershed protection. Following up on the comments made by Tad and Mark, it might make more sense to focus our efforts around a specified problem statement(s) and to develop a series of recommendations on how to address that/those problem(s) within the plan.	Change in outline. The revised preliminary draft outline places more emphasis on defining focus areas upfront in the discussion, followed by a very summary presentation of information about existing tools to address these focus areas.
22	Conservation Colorado (COCO)	1/29/2014	Written comment: Clarify the best way to respond to some parts of the Pifher document where we disagree or think there are other considerations. Should comments be submitted on the paper itself or should comments be directed at the draft text of the chapter that may rely on information in the paper?	Change in outline. The references to the Pifher paper were removed to clarify that the Pifher paper is only one of many resources that may be used to draft the text of the water quality section. Comment opportunities will be specific to the text produced from these various information sources, rather than specific to the sources themselves.
23	сосо	1/29/2014	Written comment: The introduction to the Water Quality Section should describe the purpose of the section: describe how water quality regulations in Colorado have preserved and improved public health and the environment; describe how protecting water quality has benefitted those exercising water rights by ensuring clean water for beneficial uses from growing crops to providing drinking water to enjoying water-based recreation safely; and focus on opportunities to protect water quality in the management of water development.	Change in outline. An introduction was added to discuss the purpose of the Water Quality subsection.

#	Entity	Date	Comment	Resolution
24	coco	1/29/2014	Written comment: Section 5.11.1.1: One aspect of the crosswalk should be the CWCB's instream flow program. While the Water Quality Control Act forbids water quality regulations requiring baseline flows, there is a CWCB program that holds water rights explicitly to preserve mininum flows. Local government land use regulations, 1041 regulations, 208 plans etc. and water/wastewater treatment systems should be included in the discussion.	Change in outline. The CWCB instream flow program is discussed in 5.4.1.1 Water Quality and Quantity Connections. Local regulatory and planning information was added to Subsections 5.4.1.2 Statutory and Regulatory Relationships 5.4.2 Water Quality Management.
25	сосо	1/29/2014	Written comment: Section 5.11.1.2: Add a discussion about the antidegradation policy. Discuss how Colorado has adopted a classification and standards system that embeds the many adverse effects historical hydrologic modifications have had on water bodies. Address the general trend of water quality regulations increasing the categories of pollutants regulated, and the stringency of regulation over time. In the last decade the Commission has added not only temperature but nutrients standards. Newly recognized pollutants like emerging contaminants, and more stringent standards for other pollutants, like selenium and arsenic are on the horizon.	No change in outline. The comment concepts are addressed in the summary at 5.4.1.1, 5.4.1.5, and 5.4.2.
26	сосо	1/29/2014	Written comment: Section 5.11.1.2, Planning, implementation, and measuring: Add a discussion of 208 regional planning and implementing agencies identified in 208 plans. Identify the role of community master plans, watershed plans and development regulations in protecting water quality from impacts of land use changes, protection of existing infrastructure like wastewaer treatment, etc. In describing the scope of 401 certification program, mention for context the two situations where EPA threatened to intervene in Colorado's 401 certification, both of which involved permits for hydrological modifications (Two Forks Dam and Arapahoe Basin snowmaking). Note: it will be important to supplement the points made in the Pifher Q/Q paper if they are imported into Colorado's Water Plan to provide a more complete understanding of the issues. Also, with regard to TMDLS, it is important, again, to explain that Colorado has not listed water bodies for impairment that results from hydrologic modifications (e.g., the Dolores River below McPhee).	Change in outline. Local planning and implementation discussions were added to 5.4.2 Water Quality Management. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Subsection 5.10.
27	сосо	1/29/2014	Written comment: Section 5.11.2.1: As noted above, the Pifher paper is incomplete and could therefore lead to a wrong impression with regard to certain issues. For example, while water quantity administration usually trumps water quality protection in Colorado, a string of federal cases consistently confirms water users' responsibility to comply with Clean Water Act permitting requirements. There are also important exceptions under Colorado law where water rights holders have water quality obligations. Moreover, something like the federal battle over the scope of the Clean Water Act plays out differently in Colorado where the definition of waters of the state is much broader (so that issue is about federal permits and 401 certifications, not state permits). Moreover, as demonstrated during the nutrients rulemaking hearing, different water rights holders with different responsibilities react differently to the need for protective water quality standards; some water supplies favor more protective regulation.	Change in outline. The references to the Pifher paper were removed to clarify that the Pifher paper is only one of many resources that may be used to draft the text of the water quality section.
28	сосо	1/29/2014	Written comment: Section 5.11.3.2: Describe how Colorado's system already incorporates many of the water quality effects from historical hydrologic modifications into its existing programs. This long-standing practice may make the gap appear smaller. Potential implications of climate change extend far beyond the zero discharge permit example in the Pifher paper. There will be many issues, including around the potential need to change aquatic life and recreation classifications, and other changes in the nature of the receiving waters that may merit discussion. The Division should incorporate as many ideas as are relevant from the state's climate change task force report.	No change in outline. Identification of the water quality gap will be based mainly on existing water quality condition versus existing standards or goals/planning metrics. References to the Pifher paper were removed to clarify that a number of information sources will be used. Information in the state's climage change task force report will be considered for inclusion.

#	Entity	Date	Comment	Resolution
29	COCO	1/29/2014	Written comment: Add Section 5.11.4.2 in between the Water Quality Values and Water Quality Recommendations Sections. Title for the section should be Potential New Opportunities and should talk about all of the creative opportunities that exist to improve water management and quality: 1. Green Infrastructure. The state agencies should use this plan as an opportunity to discuss, if not promote, the role that green infrastructure and other non-traditional solutions to water quality problems can play in providing both water quality improvements and water availability benefits. For example, getting rid of hard urban landscapes can reduce localized flooding and allow precipitation to see through the ground back to the stream, so that you get cleaner water back in the river, and less flashy systems or localized flooding. 2. Permitting. Addressing the water quality gap should be about using our system, and finding new means, such as green infrastructure and other creative, cooperative means to improve water quality. The emphasis in the outline (and certainly in Commissioner Pifher's white paper from last summer) was mostly about permitting requriements for new water projects. Streamlining permitting should not be the goal of this section of Colorado's Water Plan if it translates to relaying rigor. That said this may be a good place to explore using a process similar to the former	Change in outline. Rather than creating a separate, potential new opportunities subsection, ideas about these new opportunities provided in the comment were evaluated for inclusion in 5.4.3 Recommendations. Pursuing green infrastructure and reuse was added to 5.4.3 Recommendations. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Subsection 5.10. References to the Pifher paper were removed to clarify that a number of information sources will be used. Because of timing and the focused, concise approach for this first water plan, specific local examples of watershed protection and restoration will not be included.
30	Council of Governments (NWCCOG)	1/29/2014	written comment: The tenor of section 5.11 should encourage the plan to focus on the opportunities to protect water quality in the management of water development rather than casting water quality as an impediment to water development.	Introduction. Examples of opportunities for integrated quality/quantity management were added to Subsection 5.4.3 Recommendations.
31	NWCCOG	1/29/2014	Written comment: Section 5.11.1.2: Add antidegradation policy to the discussion of classifications, standards, and designations.	No change in outline. Antidegradation is discussed in 5.4.2 Water Quality Management.
32	NWCCOG	1/29/2014	Written comment: Planning for water quality should include 208 regional planning and implementing agencies identified in 208 plans. Identify the role of community master plans, watershed plans, and development regulations in protecting water quality from impacts of land use changes, protection of existing infrastructure like wastewater treatment, etc.	Change in outline. Local planning and implementation discussions were added to 5.4.2 Water Quality Management.
33	NWCCOG	1/29/2014	Written comment: We have real concerns wih the Pifher paper because it is written from the perspective that water quality protection is a barrier to water projects rather than an important element of any water planning effort. Case law shows that there has to be reasonable accommodation between water quality and water quantity concerns. The paper is not available to the public and if it is going to be referenced in the plan, there should be an opportunity for comment on that paper itself. Or the WQCD legal staff, or Martha Rudolph, should read it closely and correct any misconceptions that it leaves.	Change in outline. The references to the Pifher paper were removed to clarify that the Pifher paper is only one of many resources that may be used to draft the text of the water quality section. Comment opportunities will be specific to the text produced from these various information sources, rather than specific to the sources themselves.
34	NWCCOG	1/29/2014	Written comment: Section 5.11.3.2: Add a discussion about degradation of water quality due to hydrologic modifications and standards have been rewritten to reflect this change.	No change in outline. Identification of the water quality gap will be based mainly on existing water quality condition versus existing standards or goals/planning metrics.
35	NWCCOG	1/29/2014	Written comment: Section 5.11.3.2: Climate change goes beyond discussion in the Pifher paper. The work of the climage change task force should be cited here.	No change in outline. References to the Pifher paper were removed to clarify that a number of information sources will be used. Information in the state's climage change task force report will be considered for inclusion.
36	NWCCOG	1/29/2014	Written comment: Section 5.11.4.2 should be added between the Water Quality Values and Water Quality Recommendations Sections. Section 5.11.4.2 should be titled Opportunities for Water Quality Protection and should include a discussion of: 1. streamlining permitting should not be the goal if it translates to relaxing rigor. Discuss opportunities to use a process similar to the former Colorado Joint Review Process managed by DNR where all local state and federal regulatory requirements are discussed and applied in a complementary process that is initiated by a permit applicant; 2. reuse opportunities and examples of successful projects to-date; and 3. an inventory of exemplary local government efforts to protect and improve watersheds.	Change in outline. Rather than creating a separate, water quality protection subsection, the opportunities for water quality protection identified in the comment were evaluated for inclusion in 5.4.3 Recommendations. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Subsection 5.10. Pursuing reuse was added to 5.4.3 Recommendations. Because of timing and the focused, concise approach for this first water plan, specific local examples of watershed protection and restoration will not be included.

#	Entity	Date	Comment	Resolution
37	Colorado Wastewater Utility Council (CWWUC)	2/14/2014	Written comment: The role of the wastewater plants in meeting the anticipated gap in water supply and in helping to meet the water demand for potable water should be discussed in the outline. Potential uses of wastewater treatment plants' effluents include: reuse of wastewater for meeting drinking water needs by direct reuse or indirect reuse through blending with raw water supplies. Cases of direct and indirect purposeful reuse for drinking water supply should be provided. California and Texas have such examples; Discharge to streams meeting drinking water quality standards applied to surface streams enables downstream diversion. Such standards must protect the "domestic water supply" use along with "recreational uses", and "agricultural uses" including the Uses downstream. But uncontrolled nonpoint sources between the discharge and the diversion can foul the clean river water and necessitate repeated drinking water rueatment. How to share the treatment costs is an ongoing controversy; Discharge to streams meeting aquatic life water quality standards for protecting aquatic life are generally far more stringent than those to protect the other users interformed nonpoint diversion. These other uses interformed nonpoint water streament to emphasize that the standards for protecting aquatic life are generally far more stringent than those to protect the other uses interformed nonpoint water uses.	Change in outline. Pursuing reuse was added to 5.4.3 Recommendations. Focus on nonpoint source control measures is addressed in 5.4.3 Recommendations.
38	CWWUC	2/14/2014	Written comment: Point sources are required to meet more and more stringent standards per the Clean Water Act. This will automatically lead to the necessary tighter controls of nonpoint sources, including urban and agricultural runoff, storm water management systems and in rare cases water transfers	No change in outline. Focus on nonpoint source control measures is addressed in 5.4.4.4, Recommendations.
39	CWWUC	2/14/2014	Written comment: The Colorado Water Plan is an opportunity for a holistic view of water quality and the relationships of point, nonpoint, natural conditions and other human activities impacting water quality of streams, rivers and watersheds.	No change in outline. Comment noted.
40	cwwuc	2/14/2014	Written comment: This Plan has a significant role under the Federal Clean Water Act As noted in EPA's "Agency Interpretation on Applicability of Section 402 of the Clean Water Act to Water Transfers" issued August 5, 2005, at page 8, water quality planning, water resource planning, and land use planning should be used to address multiple sources of water quality problems. Statutory provisions supporting this approach include Colorado Water Quality Act 102(b) (reservoir planning); Clean Water Act 208(b)(2)(F) (land use planning to reduce agricultural nonpoint sources of pollution; (2)(G) to reduce mining sources; (2)(H) construction related sources; (2)(J) all residual waste sources); and CWA 401 (state certification of federally licensed projects).	Change in outline. Local planning and implementation discussions were added to 5.4.2 Water Quality Management.
41	cwwuc	2/14/2014	Written comment: Reduced and limited role of 208 planning remains in Colorado and should be expanded to return to the intended integration of point sources and nonpoint source controls. This could include management of water transfers. Current 208 planning remains in the areas where wastewater plants are willing to pay for the program. The Colorado Water Plan should incorporate greater funding, by all water users and others, of 208 planning efforts, so as to remove hurdles to water transfers and encourage water reuse.	Change in outline. Local planning and implementation discussions were added to 5.4.2 Water Quality Management. Please also see response to Comment 8.
42	cwwuc	2/14/2014	Written comment: Watershed based permitting and planning is emerging. A watershed can be as small as the Bear Creek watershed, or as large as the Upper Colorado River Basin. It should include 208 area-wide and basin planning and participation by all stakeholders, including nonpoint sources, stormwater dischargers, diverters, and agricultural activities. Watershed Basin Authorities similar to the Cherry Creek Basin Authority with local tax support for nonpoint source control and area-wide remediation programs are needed.	Change in outline. Local planning and implementation discussions were added to 5.4.2 Water Quality Management.

#	Entity	Date	Comment	Resolution
43	CWWUC	2/14/2014	Written comment: Clean Water Act 303(d) requires waters in non-attainment of standards be listed as impaired and a total maximum daily load developed. Impairment typcially is due to both point and nonpoint sources; however, TMDL requirements are laid out differently for attainment of each. Non-attainment of standards is relevant to water diversion and transfer such that 401 Certification by the State of water diversion facilities may be denied or strongly conditioned. Thus setting priorities for the conduct of TMDLs should include consideration of anticipated water project permitting schedules. Other TMDL program to determine if it is working: how long does it take waters to meet goals of the TMDL, which waters are incapable of meeting the TMDL, are the water uses classified correctly, are the data requirements for determining non-attainment appropriate, etc. As water quality standards in Colorado become more and more stringent, more waters are being classified in non-attainment. Is this a correct application and assessment of the water quality in Colorado? How will water transfers and water withdrawals be impacted in the future and (currently) due to more stringent tandards?	No change in outline. TMDLs are discussed in 5.4.2 Water Quality Management, and 5.4.3 Recommendations, includes discussions of meeing goals and results/performance measures, exercising regulatory flexibility, and looking for opportunities to address potential water quality impacts, all of which are tied to the comment concepts. Because the discussion in this first water plan is at a broad, statewide scale, the level of TMDL program analysis suggested in the comment will not be performed. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Subsection 5.10.
44	cwwuc	2/14/2014	Written comment: Where 401 Certification of federally permitted projects raises water quality issues impacting water transfer as well as the point sources upstream or downstream of such transfer related activity, then state funding needs to be available to conduct planning and evaluation, via a 208 plan or watershed wide or cross watershed wide planning and mitigation measures.	No change in outline. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Subsection 5.10.
45	CWWUC	2/14/2014	Written comment: Where local or county based implementation of "1041 permitting" on water or wastewater projects or related land use projects results in water quality standards driving the decisions by the 1041 permitting authority, the limitations of CRS 25-8-104 (1) must be explicitly affirmed. Similarly, 25-8-102(4) must be affrimed that the Water Quality Control Commission and the Division and other Implementing Agencies are the final authority in the administration of water pollution prevention, abatement and control. It must be recognized that local and county governments in the exercise of 1041 permitting powers are exercising powers of "statewide concern" similar to the Commission and Division, but are likely responsive to the needs of its own wastewater and stormwater entities at the expense of entities in other counties with a water diversion for use in other watersheds. In such cases, the role of the Commission as the truly final "statewide concern" authority should be maintained. That the discharge is to groundwater and not surface water exempts the treatment process from CWA requirements. New wastewater treatment facilities using innovative technology when beginning startup must not be expected to be in immediate compliance. The Total Dissolved Solids (TDS) standard for secondary division water standard protection should not easily prevent the development of such	Change in outline. The Introduction, 5.4.1 Water Quality and Quantity Relationships, 5.4.1.2 Statutory and Regulatory Relationships, 5.4.1.3 Water Management Relationships, and 5.4.2 Water Quality Management provide a summary of roles and responsibilities. 5.4.3 Recommendations includes discussions of exercising regulatory flexibility and looking for opportunities to address potential water quality impacts, both of which are tied to the comment concepts.
46	CWWUC	2/14/2014	Written comment: The role of stormwater as a water supply should be understood. Treatment of stormwater to meet best management practices or even water quality standards prior to discharge will be so costly as to discourage the discharge to streams and will justify recapture and return to water supply systems, if water rights issues can be resolved.	No change in outline. The Division will share this comment with CWCB for consideration in other sections of the plan.
47	cwwuc	2/14/2014	Written comment: Colorado needs to bring back major funding for water projects, be it upgrades to wastewater treatment facilities, nonpoint source improvements, stormwater system upgrades, etc. The SRF has diminished to almost nothing. It was the intention of the EPA that as federal funds diminished states were to be positioning themselves to pick up the slack. If the citizens of Colorado are truly "willing to pay" then we must develop a large fund for all kinds of water associated projects, i.e. small town wastewater treatment plant upgrades due to increasingly stringent water quality standards, etc.	Please see response to Comment 8.
48	CWWUC	2/14/2014	Written comment: Nutrient standards, nitrogen and phosphorus, adopted in Colorado as interim values will cause a projected \$1.5 billion in wastewater treatment plant upgrades. Costs for nonpoint source control will increase. Funding must continue to be considered a statewide concern.	Please see response to Comment 8.
49	CWWUC	2/14/2014	Written comment: The EPA Partnership Agreement is an annual contract with the State to define water quality performance goals and tasks to be completed by the State with EPA funding. That process should be more transparent, subject to Legislative review, and utilized to support ways to overcome water quality hurdles to meeting water supply gaps.	No change in outline. The discussion in this first water plan is at a broad, statewide scale which does not allow for a more in-depth look at many specific Division activities and the processes associated with those activities.

ATTACHMENT 3

04/30/14 Response to Public Comments

Subsection 5.4 - Water Quality, Colorado's Water Plan

#	Entity	Date	Comment	Resolution
50	Melinda Kassen	3/17/2014	Verbal comment: The Potential Approach discussion that prefaces the draft outline focuses on addressing the municipal and industrial supply gap which seems to be a change in focus for the division. Nonconsumptive uses should be included in this discussion	Change in annotated framework information. The annotated framework text was revised and provided to CWCB to reflect both consumptive and nonconsumptive uses.
51	Barbara Green	3/17/2014	Verbal comment: Support for Ms Kassen's comment, especially because most nonconsumptive projects NWCCOG is focusing on to address the nonconsumptive gap have a strong water quality emphasis.	Please see response to Comment 50.
52	John Parson	3/17/2014	Verbal comment: It seems there are a lot of water quality issues tied to permitting including ties to 401 water quality certification. Has the permitting section been written yet, and will the water quality section go into this information more or only the permitting section?	No change in outline or text. Answered during WQ Forum meeting. The Division is contributing 401 water quality certification information to CWCB's permitting process discussion in Section 5.10 which is currently being drafted and will share this comment with CWCB. It was also discussed that because of the limited length for the water quality section, 401 certification information will be prioritized in Section 5.10 rather than 5.4 Water Quality.
53	John Parson	3/17/2014	Verbal comment: Where is groundwater discussed?	No change in outline or text. Answered during WQ Forum meeting. Groundwater is discussed in the Current Water Quality Conditions, Water Management Relationships, and Water Quality Management sections.
54	Jane Clary	3/19/2014	Written comment: Suggestions for additions to the recommendations section: promote source control practices, particularly those that have both water quality and quantity benefits (e.g., landscape best management practices (BMPs)); inventory already-developed water quality BMP guidance (e.g., UDFCD's Volume 3, GreenCO BMP Manual, etc.) that can be used to support the objectives of the Plan; develop a framework for implementation of innovative practices such as rainwater harvesting and graywater reuse that addresses regulatory and legal barriers; and promote interdisciplinary communication among water disciplines (i.e., water suppliers may not know stormwater issues and vice versa.	Change in text. Concepts were generally incorporated into 5.4.3 Recommendations.
55	сосо	3/24/2014	Written comment: The Objective discussion that prefaces the outline should not only recognize the importance of considering the role of water quality in water quantity management but also how water supply and demand management affects Colorado's ability to comply with its water quality classifications, standards and designations.	Change in annotated framework information. Concept was incorporated in annotated framework text provided to CWCB and generally incorporated into 5.4.3 Recommendations.
56	сосо	3/24/2014	Written comment: The Potential Approach discussion that prefaces the outline should: consider the context of both water quality and water supply and demand management; show not only how water quality plays an important role in water management but also how water management affects water quality control; maximize use of limited page length for the water quality section by referencing other water plan sections where applicable; address through constraints and opportunities discussion all water supply and demand gaps, both consumptive and non-consumptive; ensure Roundtables and contractors have relevant water quality data in support of Basin Implementation Plans; and work with Roundtables and contractors after Basin Implementation Plans are complete to understand basin goals, objectives and metrics so this information can be incorporated into the division's water quality management processes.	Change in annotated framework information and in draft subsection text. The concepts were incorporated where applicable. With respect to working with Roundtables on Basin Implementation Plans and outcomes of those plans, the division will coordinate with the Roundtables as resources allow.
57	сосо	3/24/2014	Written comment: The Supporting Information discussion that prefaces the outline should include reference to Colorado's Climate Action Plan and the recently updated CWCB climate report now in draft.	Change in annotated framework information to reflect Colorado's Climate Action Plan. CWCB's climate report will not be referenced because it is still in draft and is therefore not available for citation

#	Entity	Date	Comment	Resolution
58	сосо	3/24/2014	Written comment: 5.4.1 Introduction: Conservation Colorado finds this section to be well written. Because of a change to the outline, it does need now to include a reference to the Executive Order values and information about water quality from the CWCB 2013 survey on public attitudes about water. In addition, as suggested in our January 29, 2014 comments, this section should describe how Colorado's water quality control program has preserved and improved public health and the environment as well as that the program has benefitted those exercising water rights by ensuring clean water for beneficial uses from growing crops to providing drinking water to enjoying water based recreation safely. Conservation Colorado finds this section to be well written.	Change in text. The suggested information was included in 5.4.1.
59	сосо	3/24/2014	Written comment: 5.4.2 Water Quality/Quantity Relationships: add a reference at the end of the 1st sentence to the discussion of relevant statutes and regulations in chapter 1; to avoid leaving the reader with any misunderstanding of the Water Quality Control Commission (Commission) and WQCD roles, please change the 2nd sentence to clarify that the Commission 'adopts regulations, guidance and policies required pursuant to the Clean Water Act, Water Quality Control Act and Safe Drinking Water Act' (rather than 'makes decisions'), while the Division implements 'those regulations, guidance and policies.'	Change in text. The suggested information and revisions were included in 5.4.2.
60a	COCO	3/24/2014	Written comment: 5.4.2.1 Water Management Relationships: the 1st bullet gives two examples about recreational fishing. These should be reversed. While reservoirs may stratify and release cold water from the bottom, in fact, many of Colorado's gold medal fisheries are reservoir tail waters, suggesting that this dynamic more often than not improves recreational fishing. There are places where cold water at the bottom of a reservoir has insufficient oxygen or is too cold for a warm water native fish swimming below the dam. However, compared to the instances where cold water releases from reservoirs maintain high quality recreational fisheries, these are less common. Therefore, this example – that cold water releases may adversely affect fisheries – should be listed after the far more common situation, that hydrological modifications adversely affect water quality. That hydrological modifications adversely affect fisheries – should be listed after the far more common situation, that hydrological modifications adversely affect mater quality. That hydrological modifications adversely affect fisheries as currently drafted. It is a far more common problem: dams and diversions too often result in low flows that create conditions with low oxygen, high nutrient loads that cause algae to develop, high Total Dissolved Solids (TDS) and water temperatures that are too hot for the fishery in the receiving water. When a dam (e.g., on Bear Creek) releases may a to so the reservoir (e.g., McPhee Reservoir on the Dolores or Windy Gap on the Upper Colorado) or diversion reduces flows, the reach is often left with too little remaining that is too warm, too silty and too shallow to sustain a fishery. This can result in closures to fishing in the summer (like what happens every few years on the Eagle River). In the winter, without mitigation, diversions for snowmaking at ski areas can result in icing in the waterbody that substantially increases over-winter fish mortality. From a technical standpoint, it may also be important to note	Change in text. Information was added/revised in 5.4.2.1 to address the majority of the comments provided. The economic benefit associated with clean water was not specifically addressed in text changes, and the comment provided about potentially reconsidering the Colorado Water Quality Control Act limiting the state from adopting regulations that are more stringent than federal requirements will be shared with CWCB for consideration in Section 8.

#	Entity Date	Comment	Resolution
60b	COCO 3/24/2014	Moreover, while it is true that water quality regulations are designed to become tighter over time (to reach the Clean Water Act 1983 goal of 100% fishable/swimmable waters and 1985 goal of zero discharge of pollutants), our nation's and Colorado's commitment to clean water has enormous economic benefit as well. Clean water in streams has saved billions of dollars of health costs and is a basis for Colorado's \$9B recreation economy. Finally, the Colorado Water Quality Control Act currently limits the state from adopting regulations that are more stringent than federal requirements. In the long term (50 year) planning horizon of Colorado's Water Plan, it may be appropriate to reconsider this limitation. The benefits that accrue from protecting the relatively high water quality of many of Colorado's waterbodies may outweigh the additional costs of regulatory compliance where clean water supports the state's recreation economy and keeps sensitive species off federal lists. Conservation Colorado cardo may of colorado's unter bullet to discuss how Colorado's instream water rights program assists in the maintenance of water quality standards in some waterbodies in the State. While Colorado law explicitly prohibits the Commission and Division from taking any action that requires minimum stream flows, Colorado's Water Plan should recognize that the CWCB program has tangible benefits for Colorado's water quality control. And the CWCB worked to narrow the channels below the Rio-Chama diversions on the Rio Blanco to create a stream within a stream that collected the water to keep it cooler and flowing more quickly during low flow conditions. The 2nd bullet gives a negative example about how requiring reverse osmosis can lead to a brine waste stream too salty to discharge back into the waterbody. Aurora's recently completed Prairie Waters Project provides a counter example of a reuse project where the city was creative and used both natural and constructed means to allow potable water reuse to proceed – all without needing	Change in text. Information was added/revised in 5.4.2.1 to address the majority of the comments provided. The economic benefit associated with clean water was not specifically addressed in text changes, and the comment provided about potentially reconsidering the Colorado Water Quality Control Act limiting the state from adopting regulations that are more stringent than federal requirements will be shared with CWCB for consideration in Section 8.

#	Entity	Date	Comment	Resolution
61	сосо	3/24/2014	Written comment: 5.4.2.2 Statutory and Regulatory Relationships: in the 3rd paragraph, for those who are not immediately conversant in Clean Water Act sections, add the explanation after the current 1st sentence both of what 401 certifications are, and why they may be relevant for water development projects. These sentences could read: Section 401 directs states to certify that activities needing federal permits and licenses will maintain the state's water quality use classifications, standards and designations. Many waterdevelopment projects require either a federal dredge and fill permit under section 404 of the Clean Water Act, or a hydropower license from the Federal Energy Regulatory Commission. Then continue with the existing 2nd sentence, changing it to start "Regional 82" (from 'This regulation'). Later in that paragraph, change "comply with water quality use classifications, standards and designations, another use classifications, standards and designations." In addition to section 401 certifications, another 'primary' example of the regulatory quality/quantity relationship is the way that, over the years, the Commission has adopted water quality classifications, standards and designations that reflect current conditions. Often, these conditions represent a lower water quality than would exist without the hydrologic modifications that occur from the exercise of a water right (e.g., dams and diversions that lower flows), or the polluted runoff that returns to the waterbody as a result of the exercise of water rights. Section 5.4.2.2 should add a paragraph about this dynamic as well.	Change in text. 5.4.2.2 was revised to reflect the suggestions.
62	сосо	3/24/2014	Written comment: 5.4.2.3 Current Water Quality (formerly 5.4.3.1): even though the 3/14 outline removes any discussion of a water quality "gap," Conservation Colorado would urge retention of the first four paragraphs of the text on the top of page A3-3 in the new 5.4.2.3, "current water quality condition." Assuming that this text does remain, it should include another paragraph about water quality designations in Colorado, as required pursuant to federal regulation and EPA's and the state's antidegradation policy. The Division's response to our comment about the need to discuss the state's antidegradation policy from our January 29, 2014 comments stated that this would be an appropriate section where this discussion could be included. Conservation Colorado agrees. In addition, in the first sentence of the second paragraph, while "Standards are the basis for evaluating the statute of water quality for each waterbody," it would be more accurate to say that, "The Commission sets water quality standards to protect classified uses and designations to protect existing water quality."	No change in text. 5.4.2.3 retains the suggested information but does not make the recommended change to the first sentence of the second paragraph because the discussion in its entirety addresses the concepts provided in the comment. Please note antidegradation is discussed in 5.4.2 Water Quality Management.
63	сосо	3/24/2014	Written comment: 5.4.2.4 Future Water Quality Condition (formerly 5.4.3.2): this section should include, as suggested in our January 29, 2014 comments, a brief discussion not only of how water supply and demand actions and climate change may affect water quality, but also the additional water quality standards EPA is likely to require in Colorado. These include at least: increased nutrient control, more stringent arsenic standards, a new selenium standard and possibly control of emerging contaminants. Achieving these standards should make water quality in Colorado even better than it is now, and thereby maintain our quality of life, important ecosystems and recreation economy.	New 5.4.1.5 text (formerly 5.4.2.4 and 5.4.3.2) includes suggested information.
64	сосо	3/24/2014	Written comment: 5.4.3.1 Statutory and Regulatory Framework (formerly 5.4.4.1): as suggested above, given the need to keep this section of Colorado's Water Plan at ten pages or fewer, it would make sense simply to reference the discussion in Chapter 1.	New 5.4.2 text (formerly 5.4.3.1 and 5.4.4.1) includes suggested change.

#	Entity	Date	Comment	Resolution
65	coco	3/24/2014	 Written comment: 5.4.4 Water Quality Recommendations: Conservation Colorado suggests the following additional specificity for the bulleted recommendations: Reuse: The Division and Commission will review existing regulations, guidance and policy documents to consider revisions that will protect human health and water quality while also providing sufficient flexibility for water suppliers to develop a substantial number of new water reuse projects across the state. To the extent that it is appropriate, the Division and Commission will seek input on regulatory improvements from the Water Quality Forum and the CWCB. Green Infrastructure: Similar to above. In addition, consultation with green building groups and storm water ananagement interests may provide additional opportunities for using green infrastructure to maintain or improve water quality while conserving water supplies and meeting increased water demands at competitive if not lower costs. The Division and Commission should consider development guidance documents that would enable Colorado to grow the number of communities, water suppliers and dischargers who rely on green infrastructure. Goals & Performance Measures: The recommendations should include quantified targets and commitments, consistent with the goals, objectives and measurable outcomes in the BIPs related to water quality. In addition, consistent with some of the earlier comments from the Wastewater Utility Council, there should be a recommendation (or two) about using Colorado's Water Plan as an opportunity to consider adding water quality program elements that improve control of pollutants entering the state's waterbodies through non-point sources (polluted runoff). 	Change in text. 5.4.3 was revised to incorporate the comment concepts.
66		3/24/2014	Written comment: Concluding remarks: water quality control in Colorado is critical to the quality of life we currently enjoy, and will remain critical to quality of life for future generations. Conservation Colorado appreciates the Division's efforts in putting together this section of Colorado's Water Plan. We agree with Governor Hickenlooper's Executive Order that integration of water quality control with water quantity management is important for Colorado's future. As work on Colorado's Water Plan proceeds, we hope to see the information and ideas in §5.4 make their way into other relevant parts of the Plan, including the assessment of water demands, the Basin Implementation Plans, the descriptions of other water management strategies elsewhere in Chapter 5 and the Recommendations that the Plan will make in Chapter 8. Chapter 8. Chapter 6 of the Plan will include discussions of funding. Conservation Colorado urges the Division to participate in the crafting of that section of the Plan. Many sources of funding exist to protect water quality in the State, including Colorado's revolving fund created through Clean Water Act funds, the Salinity Control Program that also receives federal money and a number of Farm Bill loan programs. Recently, Colorado made funds available to small wastewater treatment facility operators to help them comply with nutrient standards and regulations. These kinds of responsive programs will continue to be important as the state more closely integrates water quality control and water quantity management.	Input will be shared with CWCB.

#	Entity	Date	Comment	Resolution
67	NWCCOG	3/24/2014	Written comment: Potential Approach preface to outline: we believe the Potential Approach section of the outline could be read by some to downplay the importance of water quality to all aspects of water planning because water quality is described in terms of the municipal and industrial gap. The Colorado Water Plan will identify both the municipal, industrial and agricultural gap (consumptive gap) and the non-consumptive gap. As the non-consumptive gap is refined, basin roundtables will identify projects and processes in their basin implementation plans that will affect water or be affected by water quality. Revised Potential Approach text for consideration: Develop a basic description of quantity/quality relationships in context of water resource management. This basic description should provide insight on the technical, statutory and regulatory nature of the quantity/quality relationship. Current water quality status, and constraints and opportunities for future water quality based on strategies that will be used to address consumptive and nonconsumptive gaps will be described. Managing water quality in the future will be discussed in relation to the statutory and regulatory framework, water quality planning, and implementation. Work produced by the CWCB, the IBCC scenario planning effort, and basin roundtables will be used to characterize the future. In addition, subsection 5.4 will summarize recommendations to support future water quality opportunities and address future water quality constraints.	Change in annotated framework language was provided to CWCB.
68	NWCCOG	3/24/2014	Written comment: Supporting Information preface to outline: please consider adding Regional Water Quality Management Plans to the list of supporting information.	Please see response to comment 67.
69	NWCCOG	3/24/2014	Written comment: Section 5.4.2.4 Future Water Quality Conditions: please consider revising the first bullet as follows: further discussion of potential impact to water quality from municipal, industrial and agricultural infrastructure projects and methods, and environmental projects and methods described in Section 5.8 and 5.9.	No change in text. As the Future Water Quality Conditions subsection was developed beyond the outline, the focus for the subsection was on other potential future stressors more so than potential impacts from municipal, industrial and agricultural infrastructure projects and methods and environmental projects and methods described in Section 5.8 and 5.9. One of the recommenations in the recommendation section does highlight the need to evaluate impacts associated with proposed actions in other parts of the water plan.
70	сосо	4/10/2014	Written comment: Introduction: Add the Executive Order's value statement about a strong environment with healthy rivers and streams.	Change in text: the Executive Order language was added to the Introduction.
71	COCO	4/10/2014	Written comment: Introduction: Add acknowledgement that clean water benefits all Coloradans.	Change in text: language was added to the Introduction to clarify the benefit of clean water to all Coloradans.
72	сосо	4/10/2014	Written comment: 5.4.1.1 Water Quality-Quantity Connections, Bullets 1, 3 and 4: Add language to clarify.	Change in text: suggested clarification language was added to 5.4.1.1
73	сосо	4/10/2014	Written comment: 5.4.1.3 Water Management Relationships: Possibly move some of the information in this section to 1.2 of the water plan.	No change in text. The division will discuss with CWCB the possibility of distributing information from the water quality subsection to other sections of the water plan.
74	сосо	4/10/2014	Written comment: 5.4.1.4 (now 5.4.2.1) Current Water Quality Conditions: Antidegradation: 1. Move the antidegradation discussion to the description of classifications and standards in earlier text. 2. Include a sentence stating new water projects often trigger antidegradation reviews for undesignated waters. 3. Remove "for its own sake" in the discussion about what antidegradation is 4. Include a description of the use protected designation. 5. Proposed rewording to remove "assimilative".	Change in text to incorporate all recommended changes except #2 which was not reflected in text changes because the purpose of this of this subsection is to present current conditions information, not necessarily how those conditions relate to new water projects.

#	Entity	Date	Comment	Resolution
75	сосо	4/10/2014	Written comment: 5.4.1.4 (now 5.4.2.1) Current Water Quality Conditions: The section needs to provide a more complete description of water quality impairment in Colorado by 1. Ackowledging the potential for impairment in unassessed streams 2. Discussing the many assessed waterbodies that have exceedances of standards or degradation that do not result in an impairment listing 3. Discussing the fact that segments with site specific standards or temporary modifications are not listed as impaired in Reg. 93 but are not of an acceptable quality.	Change in text to incorporate the concepts in 1 and 2. The text was not changed in response to #3 because the division believes the recommendation does not accurately reflect site-specific standards and temporary modifications.
76	сосо	4/10/2014	Written comments: 5.4.1.4 (now 5.4.2.1) Current Water Quality Conditions: Add a discussion about the division and commission sharing water quality information with the basin roundtables.	Change in text. A discussion was added about working with the basin roundtables.
77	сосо	4/10/2014	Written comments: 5.4.1.5 (now 5.4.2.2) Future Water Quality Conditions: It is important to be explicit that the future changes will happen both because regulations may become more stringent and because climate change and population increases may result in increased physical, chemical and biological impacts to water quality.	No change in text. The division believes the subsection addresses all the future potential stressors identified in the comment.
78	сосо	4/10/2014	Written comment: 5.4.1.5 (now 5.4.2.2) Future Water Quality Conditions: This section should suggest taking actions pro- actively to maintain and improve water quality in the face of the potential future changes and increased pressures.	•Change in text. A water quality goal discussion was added in the new subsection 5.4.2.
79	сосо	4/10/2014	Written comment: 5.4.1.5 (now 5.4.2.2) Future Water Quality Conditions: Recommend inclusion of information from EPA's 20 watersheds report.	Change in text. The recommended information was added to 5.4.2.2.
80	сосо	4/10/2014	Written comment: 5.4.1.5 (now 5.4.2.2) Future Water Quality Conditions: Recommend inclusion of targets for achieving water quality progress at a state level.	No change in text. A water quality goal discussion was added in the new subsection 5.4.2, but targets and measures specific to the water quality goal have not yet been defined.
81	сосо	4/10/2014	Written comment: 5.4.2 (now 5.4.3) Water Quality Management: Recommend clarification be added that TMDLs do not always result in improved water quality.	Change in text. The recommended information was added to 5.4.3.
82	сосо	4/10/2014	Written comment: 5.4.3.1 (now 5.4.4.1) Recommendations, Integrated Water Quality-Quantity Management: 1. Make recommendations action-oriented. 2. Strengthen language in bullet 2 to state the water plan should ensure the BIPs establish goals, objectives and measurable outcomes related to protecting and improving water quality and that the state plan include targets for water quality improvement. 3. Bullets 3, 5, 6, 7, 8 and 10 should explicitly call for the commission to study the issue and propose guidance or changes to regulations (or new regulations) that encourage these approaches.	Change in text to address #1. No change in text for #2 because CWCB is the lead for ensuring integration of BIPs into overall water plan. The division will discuss this recommendation with CWCB. No change in text for #3 beyond making the recommendations more action-oriented. There was not an explicit call for the commission to complete studies or propose guidance/regulations because in this initial water plan, especially before integration with the rest of the plan, the division feels it is premature to identify actions at this level of detail.
83	сосо	4/10/2014	Written comment: 5.4.3.2 (now 5.4.4.2) Recommendations, Policy Considerations: The use of the word "flexibility" should be clarified.	Change in text. "Flexibility" was removed from the text and replaced with a discussion about finding creative solutions.
84	NWCCOG	4/10/2014	Written comment: Introduction: Requested a number of text-specific changes to emphasize water quality is not just important to those exercising water rights.	Change in text. While the exact wording recommended in the comments was not incorporated, the division believes the Introduction was changed in response to NWCCOG's comments as well as other comments to reflect the intent behind the comments.
85	NWCCOG	4/10/2014	Written comment: 5.4.1.2 Statutory and Regulatory Relationships: Change "maintaining water rights" to "protecting water rights from material injury".	Change in text. The recommended change was made in subsection 5.4.1.2.
86	NWCCOG	4/10/2014	Written comment: 5.4.1.2 Statutory and Regulatory Relationships: Change the discussion of 401 certifications to more specifically match the regulation language.	Change in text. Language from the regulation was added.
87	NWCCOG	4/10/2014	Written comment: 5.4.1.2 Statutory and Regulatory Relationships: Recommended language changes in lines 140 - 149, especially with respect to the 1041 discussion.	Change in text. The recommended changes were incorporated.

#	Entity	Date	Comment	Resolution
88	NWCCOG	4/10/2014	Written comment: 5.4.1.4 (now 5.4.2.1) Current Water Quality Conditions: Recommendation for 1. Minor wording changes. 2. Move the discussion of antidegradation to this subsection. 3. Consider adding a statement that new water projects may be subject to an antidegradation review. 4. Recognize there are segments that do not meet water quality standards that have not yet been categorized as impaired. 5. Consider adding a discussion that there are other waterbodies with temporary modifications that might be impaired.	Change in text for 1, 2 and 4. No change in text for 3 and 5; please see comments #74 and #75.
89	NWCCOG	4/10/2014	Written comment: 5.4.1.5 (now 5.4.2.2) Future Water Quality Conditions: Recommended rewording to better represent the ideas that many nonconsumptive projects are designed to enhance or restore existing water quality, depletion due to diversions increases existing concentrations of pollutants which will lead to increased water and wastewater treatment and BIPs can provide templates for positive change at the basin and sub-basin scale.	Change in text either in this subsection or elsewhere in the text to reflect these concepts.
90	NWCCOG	4/10/2014	Written comment: 5.4.1.5 (now 5.4.2.2) Future Water Quality Conditions: Recommendation to add maintaining healthy watersheds as an endpoint of CWCB's scenario planning approach.	No change in text. Based on the division's understanding of the scenario planning tool, the endpoints are related to consumptive and nonconsumptive needs so the language was not expanced.
91	NWCCOG	4/10/2014	Written comment: 5.4.2 (now 5.4.3) Water Quality Management: Recommendation to add information about watershed and 208 plans to lines 301 - 304.	No change in text. The division believes these concepts are addressed in lines 311 - 317.
92	NWCCOG	4/10/2014	Written comment: 5.4.3.1 (now 5.4.4.1) Recommendations, Integrated Water Quality-Quantity Management: Recommendations for clarifying language.	Change to text/no change to text. All wording recommendations were incorporated except for the language suggesting new supply projects should be evaluated for compliance with basin implementation plans. The division believes this recommendation is outside the scope of the water quality subsection and will share the information with CWCB for consideration in other plan sections. The language specific to Dillon Reservoir was also not included because the scale of water quality subsection discussion is not consistent with specific, local examples.
93	NWCCOG	4/10/2014	Written comment: 5.4.3.2 (now 5.4.4.2) Recommendations, Policy Considerations: Recommend the statement about nonpoint source management be revised to reflect complementary actions to local government regulatory efforts.	No change to text. The discussion is meant to be broad and general, not necessarily at a specific scale that supports identifying local regulatory efforts or other specific mechanisms.
94	Sierra Club	4/10/2014	Written comment: 5.4.3.2 (now 5.4.4.2) Recommendations, Policy Considerations: Include: 1. Increased statewide monitoring of ground and surface water quality for old and emerging contaminants so as to generate a comprehensive complilation 2. Creation of a centralized statewide registry of wildlife impacts to serve as guidance in the choice of sites for water quality monitoring.	Change in text to reflect monitoring in the quality/quantity context: continue statewide monitoring that supports assessment of the quality and quantity integration goals and measures.
95	Trout Unlimited	4/10/2014	Written comment: 5.4 Water Quality: 1. Include a statewide water quality goal statement for the year 2050. This statement need not (and should not) be a quantitative statement such as provided by the Division's strategic plan. It should be a qualitative goal (e.g., water quality fully supports classified uses) that recognizes may not be met by 2050, followed by a description of the goals for the next five years and beyond. 2. Reinstate sections discussing the water quality gap and specify potential steps to meet water quality goals. While the current draft discusses existing conditions which clearly fall short from meeting classified uses, the short falls are not identified as an issue. Accordingly, recommendatins are general and vague rather than specific toward the goal of resolving the gap. 3. Identify specific measures to achieve goals and meet identified gaps, including assistance to rountables both in identifying basin-specific water quality gaps and needs and in evaluating projects and processes that will meet those needs. 4. Add more specificity and provide timeframes in the recommendations section.	Change in text for 1 and 4. A water quality goal statement was added in 5.4.2, and althought the recommendations do not have timeframes, the information was made more specific where possible. No change in text for 2 and 3. While there is a water quality goal, a discussion of a gap and targets and measures associated with addressing that gap are not defined because there needs to be additional conversation about the water quality goal and potential development of information associated with the water quality goal.
96	Trout Unlimited	4/10/2014	Written comment: 5.4.1.4 (now 5.4.2.1) Current Water Quality Conditions: Recommendation to acknowledge variability in water quality, water quality issues, impairment, etc.	Change in text. Recommended information was incorporated.

ATTACHMENT 3

04/30/14 Response to Public Comments

Subsection 5.4 - Water Quality, Colorado's Water Plan

#	Entity	Date	Comment	Resolution
97	Trout Unlimited	4/10/2014	Written comment: 5.4.2 (now 5.4.3) Water Quality Management: Recommendation to delete some of the antidegradation discussion because there is not consensus regarding the intent of the Clean Water Act's antidegradation review for high quality waters.	Change in text. "for its own sake, rather than for its ability to provide services to aquatic life or people" was deleted from the discussion.
98	Trout Unlimited	4/10/2014	Written comment: 5.4.3.1 (now 5.4.4.1) Recommendations, Integrated Water Quality/Quantity Management: Add a bullet stating basin roundtables efforts will be supported by providing water quality information.	Change in text. Recommended information was incorporated.
99	сосо	4/25/2014	 5.4.2 Water Quality and Quantity Integration Goal With regard to the primary goal statement, Commissioner Pifher's rewrite, which the Commission chose to use yesterday, limits the goal specifically to "identification of water management strategies." However, some of the projects and processes that Basin Roundtables will identify, especially for meeting non-consumptive needs, are not "water management strategies," but projects and processes that are broader than how that term is traditionally understood. For this reason, CoCO recommends dropping that phrase from the goal statement. In addition, CoCO agrees with Commissioner Wanner that the goal should include an outcome component, not just a process. Adding the phrase "as evidenced by waterbodies fully supporting their use classifications by 2050" would accomplish that. As a result of these two changes, the goal statement would read: In the identification of water management. Strategies designed to meet our <u>Colorado's consumptive</u> and recreational/environmental needs under both current and future conditions, such strategies should recognize the inter-relationship between water quality and water quantity and be designed to protect and restore water quality so as to assist in meeting such needs <u>as evidenced by waterbodies fully supporting their use classifications by 2050.</u> 	Change in text: added a draft commission water quality goal and simplified water quality and quantity goal.
100	сосо	4/25/2014	5.4.2 Water Quality and Quantity Integration Goal The Commission also discussed how best to measure progress on the goal, and made suggestions for changes to the three bullets that follow in the current draft. Based on our understanding of the Commission's direction at yesterday's meeting regarding the first bullet, CoCO supports having the Commission and Division provide the Roundtables with more information, including from the Statewide Water Quality Management Plan (SWQMP).	Change in text: the role of information from the SWQMP was clarified.
101	coco	4/25/2014	5.4.2 Water Quality and Quantity Integration Goal To complement the overall goal, as well as the regional goals and objectives related to water quality from the BIPs, this section of Colorado's Water Plan should establish interim targets for achieving water quality progress at the state level. Obviously, the SWQMP does establish four-year objectives; CoCO urges the Commission to use these as interim targets along the way to the more ambitious 35-year Water Plan goal. Thus, this section should not only refer to the SWQMP targets, but include them (and update them in subsequent iterations of the Water Plan, which will be on a five-year schedule).	No change in text: the commission has not yet reached consensus on whether they should adopt an environmental outcome goal and if they do adopt a goal similar to what is included in version 3 of section 5.4 targets to address this goal may have to be set outside of the water plan.
102	сосо	4/25/2014	5.4.2 Water Quality and Quantity Integration Goal Finally, CoCO agrees that, as an "inventory" or status check, the integrated 305(b) report does not establish any goals or targets, but is well suited as a means to measure progress towards both the SWQMP targets and a longer-term Colorado Water Plan goal.	Change in text: the division clarified the role of the integrated report in the version 3 of section 5.4.

#	Entity	Date	Comment	Resolution
103	сосо	4/25/2014	5.4.2 Water Quality and Quantity Integration Goal The Commission discussed strengthening the information flow to water project proponents who need 401 certifications. This rewrite should describe the provision in the current rule, § 82.5(A)(3), for project proponents to sit down with the Division and discuss (and potentially agree to include) certification conditions that may go beyond the Division's legally authority.	Change in text: the division did strengthen the language related to this quantity and quality goal measure but did not include a discussion regarding § 82.5(A)(3) as this issue is better addressed in Section 5.10 of the plan. The division will pass this recommendation on to CWCB for their consideration.
104	сосо	4/25/2014	5.4.2.1 Current Water Quality Conditions In the paragraph describing Antidegradation, p. 8 (or later in this section), please add the number of stream miles, or percent of reaches with a High Quality or Use Protected designation. Providing such a statistic will give readers a better understanding of the relative status of overall water quality in Colorado.	No change in text: this information is not readily available from the Integrated Report and the methods used to derive these statistics would need to be explained in this section and due to staffing constraints can not be included at this time. The division will consider including such information in the next version of the Integrated or 305(b) Report.
105	сосо	4/25/2014	 5.4.2.1 Current Water Quality Conditions This section needs a more complete description of water quality impairment in Colorado. Many assessed water bodies have exceedences of standards, or degradation without being listing as impaired. To acknowledge this fact, please add either to the paragraph that begins, "Standards are the basis for evaluating the status of water quality" or the subsequent paragraph, a sentence that reads along the following lines: Other waterbodies not regulated as impaired may still not routinely maintain the water quality necessary to support fully their use classifications, as evidenced by their having site-specific water quality standards, temporary modifications or periodic documented exceedences. 	No change in text: the division did not include this statement because site- specific water quality standards address a given segment's use classifications. Iln addition, stream segments with temporary modifications that are exceeding the underlying standards are included on the 303(d) list which document impaired waters. Exceedences of water quality standards and how these are accounted for are documented in the 303(d) listing methodology.
106	сосо	4/25/2014	5.4.2.1 Current Water Quality Conditions Towards the end of this section (after discussion of impairment) would also be a good place to celebrate that many of Colorado's waterbodies are of high quality, either better than necessary to support their classified uses or of outstanding value. CoCO suggests the addition of a paragraph to make that point, along the lines of: ## river miles in Colorado are designated as Outstanding Waters. While many of these waterbodies cross lands protected by government status, others are pristine without such protection. In addition, many additional miles of rivers are "high quality," which means their water quality is better than necessary to support the classified uses. This category would include, for example, all of Colorado Division of Parks and Wildlife designated gold medal fisheries. Maintaining the quality of these waters benefits Colorado's recreation and economy.	No change text: See response to # 104
107	сосо	4/25/2014	 5.4.2.2 Future Water Quality Conditions As suggested in our previous comments, CoCO asks that information from the following two documents be incorporated and that the References section cite them: - EPA's 2013 Watershed Modeling to Assess the Sensitivity of Streamflow, Nutrient, and Sediment Loads to Potential Climate Change and Urban Development in 20 U.S. Watersheds, analyzing the impacts of climate change on water quality in watersheds across the country, including the Rio Grande, Upper Colorado and South Platte; The recently released draft update of the CWCB's Climate Change in Colorado, http://cwcb.state.co.us/environment/climate-change/Pages/Draft2014ClimateChange-Report.aspx. 	Change in text: information from the EPA report was included in the text. Information from the CWCB was not included or referenced as it still draft.

#	Entity	Date	Comment	Resolution
108	сосо	4/25/2014	5.4.3 Water Quality Management After the paragraph describing the TMDL process, (again) it would be useful to insert a new paragraph that describes the process of setting – and then removing – a temporary modification. Such a paragraph could also include a description of the setting and reevaluation during triennial review of site specific standards and Use Protected designations.	No change in text: this level of specificity is not representative of the language in the section as written.
109	сосо	4/25/2014	5.4.3 Water Quality Management At the end of this section, please add a paragraph about funding. This paragraph could address funding mechanisms currently available to improve water quality, as well as a description of current unmet needs and potential strategies for filling those needs. There have been some interesting collaborative efforts between the CWCB and WQCD in the past (e.g., on the Rio Blanco) that would be interesting examples of cooperative funding and good results. Filling the non-consumptive gaps will present significant water quality opportunities (and challenges); a paragraph on funding would add to a realistic description of how Colorado will implement the actions necessary to improve water quality in the context of Colorado's Water Plan.	Change in text: information on funding was included in version 3 of 5.4 water quality.
110	сосо	4/25/2014	5.4.4 Recommendations; 5.4.4.1 Integrated Water Quality and Quantity Management In bullets 3, 6, 7, 8, 9 and 11 (about green infrastructure, reuse, aquifer storage and recovery, storm water management, nonpoint source control and the salinity program), in addition to cataloging strategies, each recommendation should explicitly call for the Commission to study the issue and propose guidance or changes to regulations (or new regulations) that encourage these approaches.	No change in text: in the policy recommendations guidance and regulations to address these issues is discussed.
111	сосо	4/25/2014	5.4.4 Recommendations; 5.4.4.1 Integrated Water Quality and Quantity Management In addition, CoCO urges the Commission to adopt an additional recommendation in this section containing Commissioner Slutsky's suggestion that Colorado adopt a policy for the State Engineer and Colorado Water Conservation Board to consult with the Commission before taking action (on their own or by approving a water user's proposal) that materially degrade water quality.	No change in text: In response to Commissioner Slutsky's suggestion the commission directed the division to strengthen the language related to the direction of the Water Quality Control Act. In addition, a broad water quality based goals is included in version 3 of Section 5.4 for commission consideration.
112	сосо	4/25/2014	5.4.4 Recommendations; 5.4.4.1 Integrated Water Quality and Quantity Management In the 1st bullet, CoCO had concerns with the phrase "regulatory flexibility" and supports Commissioner Baumgartner's proposed alternative: creative solution-oriented applications.	Change in text: Version 3 of Section 5.4 includes this change.
113	NWCCOG	4/24/2014	Page 1: Not only must there be enough water available for use, but the water must also be sufficient quality for irrigation, drinking water and <u>stream conditions must support</u> recreational uses <u>and aquatic life.</u> , as well as protection of aquatic- life.	No change in text: the division changed this text in response to feedback from the commission and this is wht is reflected in version 3 of Section 5.4.
114	NWCCOG	4/24/2014	Page 4: Section 401 directs states to certify that <u>the construction and operation of</u> activities needing federal permits and licenses will maintain the state's water quality use classifications, standards and designations.	Change in text: text was modified to include this redline.
115	NWCCOG	4/24/2014	Page 5 and 6 before 5.4.2: <u>Municipal and county governments regularly address the non point source impacts of new</u> <u>development by requiring sediment control practices, water body buffer zones, revegetation requirements, impervious</u> <u>surface area limitation and similar techniques that minimize impacts to water quality.</u>	No change in text: the focus of this section is a state level discussion.
116	NWCCOG	4/24/2014	Page 7: As Coloradans find solutions to address our consumptive and nonconsumptive needs now and in the face of future changes and pressures, water management strategies should prioritize water quality and quantity connections- that pro-actively protect and restore water quality for public health and the environment.	No change in text: this goal was revised based on commission and stakeholder feedback after the April 24, 2014 commission meeting.
117	NWCCOG	4/24/2014	Page 9: Is it possible to have a more complete picture of existing conditions without adding too much "bulk."? Also it would be helpful to include a section about high quality waters and outstanding waters .	No change in text: see response to # 104.
118	NWCCOG	4/24/2014	Page 11: Watershed plans and 208 plans also <u>identify stressors to water quality and</u> address other water quality improvement and protection activities necessary to meet local and regional goals.	Change in text: text was modified to include this redline.

#	Entity	Date	Comment	Resolution
119	NWCCOG	4/24/2014	Page 13 with respect to the term flexiblity: We are concerned about this term meaning a lot of different things to	Change in text: see response to # 104.
			different people. What about "Continue to engage in creative, solution-oriented application of regulations"	
120	NWCCOG	4/24/2014		No change in text: we did not refernece this document when developing the
			Suggested to add the following as a reference: <u>Coley/Forrest. "Water and its Relationship to the Economies of the</u>	text.
			Headwaters Counties," http://nwccog.org/docs/qq/QQStudy_Outreach%20Summary%20Jan%202012.pdf.	