



# Annual Report

to the Water Quality Control Commission  
and Colorado Legislature

2015



*Submitted by the Water Quality Control Division  
October 2015*

## FOREWORD

I am pleased to submit the Water Quality Control Division's Annual Report to the Water Quality Control Commission for the period of July 1, 2014 through June 30, 2015 (SFY2015). Pursuant to CRS Section 25-8-305, the division is to file with the commission, on an annual basis, a report on the effectiveness of its efforts under the state Water Quality Control Act. In particular, the division is to:

Include in such report such recommendations as it may have with respect to any regulatory or legislative changes that may be needed or desired. Such report shall include the then current information that has been obtained pursuant to Section 25-8-303 [monitoring] and information concerning the status of the division's implementation of the discharge permit program established in part 5 of this article.

Further, in accordance with the requirements of section 25-8-305 of the Colorado Water Quality Control Act, this report is also filed with the House Agriculture, Livestock and Natural Resources Committee and the Senate Agriculture, Natural Resources and Energy Committee.

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October 2015

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## **I. EXECUTIVE SUMMARY**

The mission of the Water Quality Control Division (division) is to protect and restore water quality for public health and the environment in Colorado. The vision of the division is to be a top performing organization that implements its programs in such a way that Colorado's drinking water and natural waters are of the highest attainable quality. The division will achieve its mission by pursuing the following Clean Water and Drinking Water Program goals:

- Protect all designated uses by fully attaining water quality standards through improved implementation of the federal Clean Water Act and Colorado Water Quality Control Act and their 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 their associated regulations;
- 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; and
- Deploy resources to achieve the greatest benefit for public health and the environment while pursuing a strategy of organizational improvement that includes increasing efficiency.

Despite the partial success in the 2015 legislative session with respect the modernization of the clean water fees, the division continues to struggle with resourcing related to the clean water program. The division will plan and implement improvements to its monitoring and permitting programs in the effort to maximize efficiencies and focus on those areas where there is the greatest potential for substantive water quality improvement. The division will continue these efforts by evaluating work processes to make systems more efficient by reducing or eliminating redundancy or waste. This may be done with the involvement of stakeholders where appropriate.

In addition, given the renewed focus on the impacts that legacy mining activities have on water quality, the division will continue to review how these continuing issues impact the state's water resource. Additional monitoring information is needed to better characterize site specific impacts. This information will then be used to identify appropriate source controls and pursue potential funding sources.

## **II. LEGISLATIVE AND REGULATORY UPDATE**

### **A. Budget Status**

For many years, there has been a significant gap in the demand placed on the division and the resources available to address that demand. Since 2006 the division has been required to submit an annual report to the Joint Budget Committee (JBC). The report summarizes the division's current and anticipated workload levels, including the impact of existing and proposed federal and state program requirements, as well as the associated funding and staffing needs based on those workload levels. The 2014-15 report documented that the current clean water program costs more to execute than the annual funding provided and reduces the applicable fund balance at an accelerated rate.

Federal funds provided to the division continue to be in jeopardy, but no funding reductions were implemented in federal fiscal year 2015. If additional future federal funds are cut, the division will evaluate its program activities to set new priorities and will deploy resources to meet the

most pressing water quality problems/needs. Water quality issues that are not deemed to be priorities will likely not be addressed.

## B. Legislative Changes

During the 2015 session of the general assembly, three bills and one joint resolution were passed that affect the division:

- H.B. 15-1249 - Recodify water pollution control fees;
- H.B. 15-1252 - Extend healthy rivers fund voluntary contribution;
- HJR-1006 - Approval of water project revolving fund eligibility lists administered by the Colorado Water Resources and Power Development Authority;
- S.B. 15-121 - Drinking water fund assistance for nonprofit entities.

The division launched a stakeholder process to evaluate the current fees and structure and to develop a proposal that would provide fiscal sustainability for the division as a result of SB14-134. This process included more than 31 meetings resulting in over 50 hours of time with stakeholders to collaborate and develop a path forward. At the conclusion of the stakeholder process, the department requested each participant to complete a sector specific survey to gain feedback on the overall stakeholder process, modernization of the fee structure, and implementation of a fee increase to sustain the program for the next three years. At the end of the process, there was no consensus among stakeholders to support a bill to increase fees during the 2015 Legislative Session. H.B. 15-1249 was proposed and adopted in place of a comprehensive fee increase which revised the current fee structure to create five sectors: Commerce and Industry; Construction; Public and Private Utilities (includes MS4); Pesticides; and Water Quality Certification. The bill created new fees for Water Quality Certifications Pesticides, and created a new fee structure and increased fees for the Construction sector beginning in FY2016-17. The division will continue to engage with stakeholders regarding the sectors that were not updated by H.B. 15-1249 with the intent that those sectors will be updated in a future legislative session.

H.B. 15-1252 allows a taxpayer a state income tax credit in an amount determined by the Colorado water conservation board for qualified expenditures the taxpayer has made for one or more watershed health projects during the income tax year for which the taxpayer claims the credit. The bill also allows a taxpayer to transfer all or any portion of a tax credit granted to another taxpayer for the other taxpayer, as transferee, to apply as a state income tax credit subject to certain requirements specified in the bill.

HJR-1006 identifies drinking water and clean water infrastructure projects eligible for funding through the respective state revolving funding mechanisms.

S.B. 15-121 provides assistance to governmental agencies and private nonprofit entities for projects that appear on the drinking water project eligibility list. The Colorado Water Resources and Power Development Authority may now spend moneys in the drinking water revolving fund for financial assistance to governmental agencies and private nonprofit entities for eligible projects.

## C. Regulatory Changes

With reference to regulatory changes that are required or desired, the commission is fully aware of the ongoing efforts of the division to address a variety of issues through collaborative work group processes, including those formed under the auspices of the Water Quality Forum. The stakeholder community is advancing many work group proposals. A current list of new and ongoing work groups is provided in Appendix A. Division staff substantially participated in these work groups through the current reporting period.

The division provided staff support to the commission for several rulemaking and administrative action hearings in SFY15. The regulations and topics discussed were as follows:

### August 2014

Rulemaking hearing that combined the Domestic Wastewater Treatment Grant Funding System, Regulation #53 (5 CCR 1002-53), and the Drinking Water Grant Fund, Regulation #54 (5 CCR 1002-54), with the Water Quality Improvement Fund, Regulation #55 (5 CCR 1002-55). Regulation #55 was renamed State Funded Water and Wastewater Infrastructure Programs and Regulations #53 and #54 were repealed. Additional revisions were made to Regulation #55.

Rulemaking hearing that considered revisions to Animas/Florida Segment 13b in the Classifications and Numeric Standards for San Juan River and Dolores River Basins, Regulation #34 (5 CCR 1002-34).

### October 2014

Administrative action hearing that considered the 2015 intended use plans for the Water Pollution Control and the Drinking Water Revolving Funds.

### November 2014

Administrative action hearing that considered revisions to the Guidance for Implementation of Colorado's Narrative Sediment Standard in Regulation #31, Section 31.11(1)(a)(i), WQCC Policy 98-1.

### December 2014

Rulemaking hearing that considered revisions to temporary modifications of water quality standards set to expire on or before December 31, 2016 in multiple segments in basins through the state, Regulations #32-38.

Rulemaking deliberations that considered revisions to Upper Gunnison Segment 13 in the Classifications and Numeric Standards for Gunnison and Lower Dolores River Basins, Regulation #35 (5 CCR 1002-35).

Rulemaking deliberations that considered revisions to the Housed Commercial Swine Feeding Operations in section 61.13 of the Colorado Discharge Permit System Regulations, Regulation #61 (5 CCR 1002-61).

### January 2015

Rulemaking hearing that considered revisions to the Colorado Primary Drinking Water Regulations, Regulation #11 (5 CCR 1002-11).

### March 2015

Administrative action hearing that considered the list of FY 15 projects for Clean Water Act Section 319 nonpoint source funds.

Rulemaking deliberations that considered revisions to the Procedural Rules, Regulation #21 (5 CCR 1002-21).

Administrative action hearing that considered an updated Clean Water Act Section 303(d) Listing Methodology to be used for development of Colorado's 2016 Section 303(d) List of waters still requiring total maximum daily loads (TMDLs) and an accompanying 2016 Monitoring and Evaluation List, Regulation #93 (5 CCR 1002-93).

### April 2015

Rulemaking hearing that considered revisions to Section 61.14(1)(b) of the Colorado Discharge Permit System, Regulation #61 (5 CCR 1002-61), and adoption of a Graywater Control Regulation, Regulation #86 (5 CCR 1002-86).

Rulemaking hearing that considered revisions to Lower Arkansas Segment 1a in the Classifications and Numeric Standards for Arkansas River Basins, Regulation #32 (5 CCR 1002-32). (This rulemaking hearing was vacated.)

### June 2015

Rulemaking hearing that considered revisions to water quality classifications, standards and designations for multiple segments in the Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, Regulation #38 (5 CCR 1002-38).

#### D. New Drinking Water Contaminant Standards

According to CRS section 25-1.5-202(3), the division is required annually to establish and revise a priority list of contaminants or substances for which new standards may be considered and shall submit the list to the commission for review and approval. This topic was discussed at the June 2011 Safe Drinking Water Program workshop with the commission. It was agreed that this requirement would be covered via inclusion in the annual report. As has been the case for at least the past fifteen years, the division is not considering developing new standards for any contaminants or substances independent of the process established in the Safe Drinking Water Act whereby EPA develops and establishes national standards. Promulgating new standards is a time consuming, resources intensive and very expensive process. The Colorado Department of Public Health and Environment (CDPHE) does not have the resources either in number or type of personnel to undertake such activities at this time. EPA is in the process of evaluating numerous contaminants for drinking water standards development.

#### E. Cross Connection Control Technician Certification Process Evaluation

Section 11.37(4)(b) of the Colorado Primary Drinking Water Regulations requires the division to conduct an evaluation of the cross connection control technician certification process of the American Society of Sanitary Engineering (ASSE) and the American Backflow Prevention Association (ABPA) and report the results to the Water Quality Control Commission. The evaluation is to be conducted no less often than once every two years. If the division were to find that the certification process employed by one or more of these organizations is deficient in some way, then the division may request that the commission hold a rulemaking hearing to



remove that organization from the list of approved certification bodies. To the best of the division's knowledge, no such formal evaluations or reporting have taken place in at least the last eleven years. Through informal means and ongoing interactions with stakeholders, the division believes that the certification processes utilized by ASSE and ABPA remain satisfactory.

#### F. Regulation 85

Regulation 85 (Nutrients Management Control Regulation) became effective September 30, 2012. This control regulation establishes numerical effluent limitations for many domestic wastewater treatment plants and industrial wastewater dischargers that are likely to have significant levels of nutrients in their discharges. It describes requirements for other point source dischargers and voluntary steps for nonpoint sources to address nutrients. The control regulation also establishes monitoring requirements for point source dischargers and a program aimed at monitoring surface waters for nutrients and related parameters. This effort is geared toward better characterizing nutrient sources and current nutrient conditions to help inform future regulatory decisions regarding nutrient management.

The sampling and analysis certifications for domestic wastewater treatment works and industrial discharges required to conduct monitoring of effluent and surface waters were due to the division on March 31, 2013. To date, approximately 390 sampling and analysis plan certifications have been received. The first two submittals for 2013 and 2014 data were due to the division on April 15<sup>th</sup> of 2014 and 2015. To date, approximately 230 reports have been received. The Municipal Separate Storm Sewer System (MS4) discharge assessment data reports were due by October 31, 2014. The reports concluded that using Event Mean Concentration of pollutants for specific land uses provides the best representative estimates for nutrient concentrations in discharges from MS4s. The division agrees that this approach is appropriate.

Of the approximately 45 domestic wastewater treatment works currently subject to the Regulation 85 effluent limits, the division has implemented the applicable requirements in 14 permits that authorize the discharge of nutrients. Of those, three met the dilution exception and the division did not apply effluent limits. Effluent limits were applied in the remaining 11 permits.

Of the 45 domestic wastewater treatment works currently subject to the Regulation 85 effluent limits 26 have submitted applications to the division for review or completed the review and approval process. The nutrient grant funding available through H.B. 13-1191 seems to have stimulated nutrient improvements projects. The division provided nutrient grant funding to 21 entities with domestic wastewater treatment works. Nineteen have submitted applications to the division for review or completed the review and approval process. Outside of the approximate 45 domestic wastewater treatment works currently subject to Regulation 85 effluent limits, at least 10 other domestic wastewater treatment works have improved their treatment facilities to meet the minimum requirements of Regulation 85.

Since September 2014, the division has conducted four stakeholder meetings to update interested parties regarding the development of the materials that will be presented as part of the Regulation #85 Triennial Review Informational Hearing in October 2015. These meetings included information about the data developed as part of Regulation #85, the status implementing Regulation #85 requirements into permits, and information about the technologies utilized to address the Regulation #85 effluent limits.

## G. Regulation 86 - Graywater Control

House Bill 13-1044 encouraged the use of graywater by providing definitions and a framework for adoption and implementation by the Colorado Plumbing Board, Water Quality Control Commission, Department of Natural Resources, and cities and counties. The house bill did not address operator certification. Before initiating a stakeholder process, the division reached out to the various commissions, boards and departments that have jurisdictional authorities related to graywater. These initial contacts sought a coordinated regulatory effort and identification of potential pitfalls. No other parties were interested in a coordinated stakeholder effort.

In June of 2013, the division took the lead in developing a graywater control regulation for consideration by the Water Quality Control Commission. Division staff reached out to as many potential stakeholders as possible for assistance with the creation of Regulation No. 86. In July 2013, preliminary stakeholder outreach meetings were held for approximately 65 stakeholders at three (3) locations: Denver, Pueblo West, and Glenwood Springs. The division led two stakeholder work groups of approximately 25 people from mid-August 2013 through October 2014 for local implementation and uses/treatment. The local implementation work group focused on the minimum requirements for local ordinances or resolutions. The uses/treatment work group focused on the allowed graywater use categories, graywater control measures and graywater treatment works minimum requirements. Throughout the stakeholder process, the division staff continued to update the Colorado Plumbing Board, the Water and Wastewater Facility Operators Certification Board and the Colorado Directors of Environmental Health.

The division sent a draft version of Regulation No. 86 to over 200 stakeholders during June 2014, received 171 comments, sent a revised draft during September 2014, and received 32 comments. The division addressed these comments where possible. The 22 remaining comments could not be further resolved through the stakeholder process. The Water Quality Control Commission held a hearing and adopted Regulation #86 on May 11, 2015 with an effective date of June 30, 2015. The commission requested a minor reorganization and revision of Regulation #86. A written only comment period is currently open and the hearing will take place on November 9, 2015.

Since promulgation, stakeholders have expressed interest in allowing agricultural irrigation with graywater in future regulation revisions. The division believes that agricultural irrigation with water reuse sources (e.g., graywater and reclaimed water) should be considered holistically so that division staff can thoroughly review research documents and gauge potential human health impacts. Stakeholders also expressed interest in less stringent treatment requirements for indoor toilet flushing and a research allowance (or pilot) program. The division may consider these options in the future with more pointed and supporting graywater research.

## III. MONITORING ACTIVITIES

The division's surface water monitoring activities for SFY15 were grouped into six general types: (A) routine sampling; (B) special studies; (C) lake and reservoir monitoring; (D) aquatic life and habitat studies; (E) nonpoint source monitoring requirements; (F) cooperative monitoring activities; and (G) augmented monitoring funds .

### A. Routine Sampling

The division uses a rotating basin approach for primary stream monitoring. The entire state is sampled on a five year cycle that matches the commission's schedule for triennial reviews of basin standards and classifications. For the purposes of conducting the triennial reviews, the

state has been divided into four major river basins. Each of the four major river basins is sampled intensively once every five years. This allows the division to concentrate its limited resources on one basin in order to provide data for the triennial review scheduled for that basin and for other data objectives such as impairment determination and source control investment targeting and evaluation. Sampling is more evenly allocated among the long term trend sites in the four basins, where special studies are conducted, and where specific data gaps may be filled.

In every fifth year of the cycle, Regulation No. 31 (Basic Standards and Methodologies for Surface Water) is reviewed by the commission, and there is no need to intensively sample one of the major basins.

The number of sites and the number of times a specific site is sampled each year is controlled by the division's monitoring budget for laboratory analyses, which in SFY15 was \$515,816. The samples collected are analyzed by the department's Laboratory Services Division. Depending upon the amount of data sought for a particular site and the accessibility of the site, sites are visited on a regular schedule, such as monthly or bimonthly, or when weather and road conditions allow access. In SFY15, the specific river basin focus targeted the San Juan River and Gunnison River basins.

Routine water chemistry samples were collected from a network of 412 sampling sites located across the state. Of the 412 total sites, 29 sites are classified as trend sites, sites to be maintained annually and independent of the sites selected for the focus basin in a particular fiscal year. The trend sites are distributed as follows: 7 within the South Platte River Basin, 10 within the Colorado River Basin, 6 within the Arkansas/Rio Grande River Basins, and 6 within the San Juan/Gunnison River Basins. Of the total number of sites, 13 percent are within the Platte River Basins, 28 percent within the Colorado River Basin, 42 percent within the Arkansas/Rio Grande River Basins and 17 percent within the San Juan/Gunnison River Basins. This sampling resulted in the collection of 1,180 sample sets. Samples were analyzed for a suite of constituents including metals, inorganics, and nutrients, including low level total nitrogen in some instances. Field parameters such as dissolved oxygen, pH, conductance and temperature were also collected.

Sampling needs of other parts of the division as well as citizen and performance partner demands for water quality sampling services exceed the fiscal and staff resources currently available to the division. Increasing analytical costs and a relatively fixed monitoring budget have caused fewer water body locations to be sampled on an annual basis in past years which results in less information for future water quality management decisions. The small increases in sampling sites are currently supported by additional funding from EPA and may not be permanent.

## B. Special Studies

Special studies monitoring includes synoptic sampling events for total maximum daily load determinations, fish tissue sampling and other water quality investigations. One study focused on the variability of macroinvertebrate data collected via kick net sampling to be used in future revisions to the WOCC Aquatic Life Use Policy 10-1 and/or biennial 303(d) listing methodologies. The goal of this precision and accuracy study is to identify the variability in multi-metric index (MMI) scores of semi-quantitative kick-net samples collected within the same day and across three consecutive months within each of three different MMI biotypes. In 2014, the division visited three sites in MMI biotype 3. The division visited each site once per month

from July to September to collect three replicate samples each day within the same habitat type, typically a riffle. This resulted in 9 samples per site (3 samples per day x 3 months). Streams sampled were West Fork Cherry Creek and Cherry Creek.

An additional study involved collecting 20 benthic macroinvertebrate samples in conjunction with a Nutrient Substrate Diffusion survey of western Colorado streams in order to characterize how macroinvertebrate communities respond to the limiting nutrient component.

Another study involved collecting 10 water chemistry and 4 benthic macroinvertebrate samples in the remote Zirkel Wilderness as part of a High Alpine study to better characterize water quality in first and second order streams and potentially add more reference sites to the division's reference site network.

Twenty-four reservoir and river sites across the state were sampled for fish tissue mercury from July 1, 2014 through June 30, 2015. No new fish consumption advisories (FCAs) were issued on the basis of results from these 24 water bodies. However some changes were made to existing FCAs to include or exclude certain species or size classes of fish based on the fish tissue levels from the most recent data. FCAs for Berkeley Lake, Big Creek Reservoir and Rocky Mountain Lake were modified. As of July 1, 2014 there are 23 FCAs for lakes and reservoirs in Colorado (22 for mercury and one for selenium), the same number of advisories as last year. The division has also worked with the Colorado Division of Parks and Wildlife (CPW) to provide more clarity in sampling requirements and rationales behind priority sampling sites to facilitate better collaboration between the division, the Fish Consumption Advisory Technical advisory Committee, and the CPW biologists.

Since 2007, there has been an advisory to avoid consumption of fish in Willow Springs Ponds due to tetrachloroethylene (PCE) contamination resulting from contaminated groundwater. This contamination also led to a 303(d) listing due to PCE levels in fish tissue. After extensive remediation, CPW, CDPHE, and EPA Region 8 conducted a follow-up study of levels of PCE in fish. PCE levels were examined in 30 fish samples from Willow Springs Ponds with particular focus on those species included in the advisory. The levels of PCE in fish from Willow Springs Ponds collected in 2014 were all well below health risk-based action levels. Therefore, the division removed the consumption advisory and recommended to the Water Quality Control Commission that the 303(d) listing also be removed; the commission will make a decision in December 2015.

The division also has continued to monitor selenium levels of Colorado fish in anticipation of the EPA's new selenium criterion. Additionally, the division is working in collaboration with CPW and Colorado State University (and possibly USGS) to better understand bioaccumulation, trophic transfer and toxicity of selenium in naturally exposed fish. For selenium, fish tissue concentrations are generally not a concern for human consumption. Instead, the criterion protects the fish themselves from toxic effects including mortality, decreased growth rates and reproductive effects such as increased rate of mortality and deformities in offspring. The EPA draft criterion consists of both fish tissue based and water column based elements. Data collected may help answer questions about whether Colorado fish, which may be naturally exposed to relatively high levels of selenium due to the geology, are as sensitive to the fish with which the criterion was developed. These data may also help answer questions regarding reproductive and hatching success of Colorado fish with relatively high selenium tissue levels. The division may continue to monitor fish tissue levels in water bodies which have been previously listed for exceedances of water column standards.

A nonpoint source funded project sponsored by Colorado State University continued in 2014 on two mercury impaired reservoirs on Colorado's 303(d) list (Horsetooth and Elkhead Reservoirs). Extensive biological and water quality data was collected in a collaborative effort with the CPW, the City of Fort Collins and the Northern Colorado Water Conservancy District. This project is to support TMDL development and evaluate ways to reduce mercury bioaccumulation through food web manipulation. Draft results suggests that food web manipulation (i.e., stocking prey fish) can alter mercury bioaccumulation dynamics (i.e., decrease levels of mercury in predator fish), but final results are not yet available.

### C. Lake and Reservoir Monitoring

The division continued its lake and reservoir sampling in SFY2015. The division focused sampling efforts on the San Juan and Gunnison River Basins in order to provide data for the upcoming triennial review. Ten lakes from the San Juan and Gunnison basins were sampled three times each during the growing season. Twenty lakes were also sampled one time each from the Arkansas and Rio Grande basins to help focus sampling efforts for SFY2016 monitoring. At each lake, depth profiles of dissolved oxygen, pH, conductivity and temperature were collected at one-meter intervals. Water quality samples were taken from near the surface and near the bottom. Samples were analyzed for a suite of chemical parameters including nutrients, metals and inorganics. In addition, the surface sample was analyzed for the chlorophyll a content as a measure of trophic status and for the phytoplankton population to determine the algal species composition.

As part of an effort to expand the lake monitoring program in Colorado, the division established a partnership with Colorado Parks and Wildlife (CPW). This lake sampling partnership began as a pilot program in the summer of 2013 and will result in data collection at over 100 lakes and reservoirs. The partnership will continue using a rotating basin approach as long as funding is available. The field work will be completed by the CPW field staff while the analytical funds have been set aside from the 106 Monitoring Initiative grant. A limited suite of lake monitoring parameters were tested from each lake. Through this partnership, Colorado can increase the percentage of assessed acres in Colorado for the Integrated Report. The division will also be examining these results and developing a strategy for the future of this partnership. The division plans on summarizing results from this work in the 2016 Integrated Report.

### D. Aquatic Life and Habitat Studies

The division collected macroinvertebrate and habitat samples at multiple locations in the state. At each of the habitat sites, water quality samples were taken and analyzed for a specific suite of chemical constituents. These data, plus habitat scores, periphyton samples and occasional substrate measurements, will be used in assessment of aquatic life use and 303(d) or Monitoring and Evaluation (M&E) listing decisions.

The aquatic life studies included targeted sampling of a 303(d) and M&E listed stream segment (Deer Creek at County Road 8a); characterizing the benthic macroinvertebrate communities at sites with naturally occurring high concentrations of total phosphorus at five trend sites across the San Juan and Gunnison River basins; year three of a precision and accuracy study to investigate variability in MMI scores within day and across months at the same site; investigating aquatic life use upgrades; investigating and visiting candidate reference sites in the San Juan and Gunnison River basins; gathering aquatic life data to inform nutrient use attainability analysis; and characterizing macroinvertebrate communities at several Nutrient Substrate Diffusion study sites.

The division worked collaboratively with and provided the necessary sampling equipment and training for the Town of Carbondale Utilities and Owl Mountain Partnership in order to collect macroinvertebrates samples at monitoring stations of particular importance to these watershed groups or utilities.

#### E. Nonpoint Source Monitoring Requirements

The division's nonpoint source work group (NPS work group) is required to report to EPA measurable results from projects funded through its Clean Water Act Section 319 grant. For implementation projects, these results are measured through monitoring, and the NPS work group assists project sponsors with monitoring through its Measurable Results Program. The NPS work group is also encouraged as part of its Section 319 grant to collaborate with the Natural Resource Conservation Service (NRCS) on the National Water Quality Initiative (NWQI) for the three priority NWQI watersheds in Colorado. The NPS work group's role in NWQI is to monitor the effectiveness of conservation practices that NRCS helps producers to implement.

##### *NPS Work Group Measurable Results Program*

Through the Measurable Results Program (MRP), the NPS work group provides project sponsors with technical assistance in the form of sampling and analysis plan development, pre- and post-contract monitoring and data analysis and access to sampling protocols that have been adopted by the division's Environmental Data Unit (EDU). The NPS work group implements the MRP in partnership with the EDU for the collection of NPS monitoring data. The following discussion provides some examples of project results.

##### 1) Alamosa River Restoration Project

The NPS work group funded a three-phased implementation project along the Alamosa River near Capulin, Colorado. Results of data analysis indicated widespread improvement of channel width-to-depth ratios, decreased sedimentation rates, as well as good long-term stability ratings for 7 of 8 in-channel structures.

##### 2) Rio Grande Restoration Project

NPS funds were used to implement riparian habitat improvement, streambank stabilization and fishery enhancement along the main stem of the Rio Grande near Monte Vista, Colorado. At each of six long-term monitoring sites, improved width-to-depth ratios were observed. Reductions in sediment and nutrient loadings were also calculated, with annual calculated reductions of 2,828 tons of sediment, 3,879 pounds of phosphorus and 5,962 pounds of nitrogen.

##### 3) Eagle River Restoration Project

The NPS work group funded a two-phased project designed to reduce sediment runoff and accumulation in the Eagle River near Edwards, Colorado. Monitoring indicated a general improvement in channel width-to-depth ratios, though some issues occurred as a result of a high-water event in 2011. Reductions in sediment and nutrient loadings were calculated, with annual calculated reductions of 329.8 tons of sediment, 386.9 pounds of phosphorus and 779.4 pounds of nitrogen. Embeddedness and fine sediment levels generally showed improvements throughout the study area. These improvements were more predominant in the upper sections as compared to the lower reaches due to the distinctive geomorphic boundary approximately halfway through the reach where the slope flattens out and forms a natural depositional area.

##### *National Water Quality Initiative*

Through the National Water Quality Initiative (NWQI), NRCS assisted local producers with implementation of conservation practices in the Grape Creek/DeWeese Reservoir NWQI priority

watershed near Westcliffe, Colorado. To date, approximately \$1.25 million of NWQI funding has been spent to implement conservation practices on approximately 1,800 acres of agricultural land in the Grape Creek watershed. These conservation practices reduce nutrient runoff into Grape Creek which flows into the Arkansas River near Cañon City, Colorado. The NPS work group collaborated with NRCS and EDU to develop a monitoring approach for the watershed and collected water quality samples in SFY14 and 15. Monitoring results will be summarized in next year's annual report.

#### F. Cooperative Monitoring, Data Management and Data Assessment Activities

To ensure that the maximum amount of relevant data are assessed each year, the division issues a call for data to numerous cooperators, including federal and state entities, basin authorities, dischargers, watershed groups, as well as River Watch and nonpoint source management project sponsors. Through this mechanism, the division accumulates a considerable amount of data beyond what it can directly sample and analyze.

As a member of the Colorado Water Quality Monitoring Council (council), the division has discussed cooperative monitoring efforts with other stakeholders. To facilitate data sharing, the council works with the Data Sharing Network. The Data Sharing Network is a statewide, web-based water quality database and interactive map. The water quality database and interactive map are housed on the council's website at [www.coloradowaterquality.org](http://www.coloradowaterquality.org). A Clean Water Act Section 319 grant from the division supported this project.

#### G. Augmented Monitoring Funds

In order to upgrade state monitoring efforts and implementation of the Monitoring and Assessment Strategies for States, Colorado applies for Clean Water Act Section 106 monitoring initiative grant money every year. Colorado received \$170,000 of these monitoring initiative funds to facilitate the implementation of EPA's 10 Elements document and to conduct a statewide probabilistic survey of water quality as part of a national project. Additional monitoring projects were completed in SFY15. The division has designated these funds for additional monitoring of rivers and lakes, supplemental nutrient data collection at USGS gages to address nutrient data gaps, data collection to support stressor identification and aquatic life use attainment studies. This program continues to fund Colorado's effort to expand its monitoring and assessment capabilities.

In SFY2015, four studies evaluated the water quality changes in receiving streams as a result of the implementation of Water Pollution Control Revolving Fund assisted infrastructure projects. These studies included Boxelder Sanitation District's Wastewater Treatment Facility, Town of Cedaredge's Wastewater Treatment Facility, Glenwood Springs Regional Wastewater Treatment Facility, and the Town of Red Cliff's Wastewater Treatment Facility.

Additionally, in SFY2015, five studies evaluated water quality impacts and quantified pollution contributions from abandoned hard rock mines. Each of these studies exist in water quality limited water bodies and are done in coordination with the Division of Reclamation Mining and Safety (DRMS). DRMS contributes significantly through sampling, report generation and restoration expertise. Projects include the Daisy Mine in the Redwell Basin, Illinois Gulch near Breckenridge, several abandoned mines in the upper Uncompahgre drainage, the Waldorf Mine in the Leavenworth Creek Drainage and Evans Gulch near Leadville. Each of these assessments is at different points of completion.

## IV. PERMIT PROGRAM

### A. Permitting

#### Program Areas

Process Wastewater Discharges to Surface Water. Traditional sources were the first to be permitted following promulgation of the Clean Water Act in 1972, and these are referred to as process wastewater discharges. This includes discharges from domestic sewage systems, or domestic wastewater treatment facilities, and discharges from a variety of industrial sources such as manufacturing, food processing, natural resource extraction, transportation, electric services and construction. About 1425 permits authorizing these types of discharges are in effect, about 365 of which are individual permits and about 1060 of which are authorizations under 13 general permits. These comprise the majority of the permits included in the permit backlog and high priority permit performance measures discussed later.

Municipal Separate Storm Sewer Systems (MS4). Operators of MS4s in urban areas are required to obtain permit coverage for discharges from their MS4s to waters of the state. Operators of MS4s include cities and counties (referred to as "standard" MS4s) and other governmental organizations such as the Department of Transportation, special districts and school districts (referred to as "non-standard" MS4s). The permits require the implementation of control measures to prevent or reduce the discharge of pollutants to waters of the state. Discharges from five of the largest MS4s in the state are authorized under individual permits. Discharges from approximately 60 MS4s operated by cities and counties (standard MS4s) are authorized under two general permits, and discharges from approximately 60 MS4s operated by other governmental organizations (non-standard MS4s) are authorized under a third general permit. The division has been working on the renewal of the two general permits for standard MS4s for about 2 years and expects to complete that process early in the next federal fiscal year.

Industrial and Mining Stormwater. Operators of industrial and mining facilities in certain categories are required to obtain permit coverage for discharges of stormwater from their facilities, or certify that their industrial activities are not exposed to precipitation. Discharges from two facilities are authorized under individual permits and discharges from approximately 1550 facilities are authorized under general permits. Another 400 facilities have certified that their industrial activities are not exposed to precipitation.

Construction Stormwater. Site operators engaged in clearing, grading, and excavating activities that disturb 1 acre or more, including smaller sites as part of a larger common plan of development, must obtain permit coverage for their stormwater discharge. The division authorized all construction stormwater discharges in the state under one general permit. The number of authorizations under this general permit varies significantly year to year and seasonally, and has been on an increasing trend in the last several years commensurate with an increasing trend in the number of active construction projects.

Pesticides. A 2009 federal appeals court decision resulted in a requirement for entities applying pesticides in or near waterways to obtain discharge permit coverage for their discharges by an October 31, 2011 court ordered deadline. In November 2011, the division issued a short-term (two year) general permit based on the final EPA permit. This allowed the department time to seek permitting and compliance oversight resources to issue permits and conduct a reasonable level of compliance oversight. Those resources were secured in the 2013 legislative session, and



the permit was extended later that year. The division renewed the permit in 2014 for a 5 year term.

Groundwater. The division issues permits authorizing discharges to groundwater from domestic sewage systems with a design capacity greater than 2,000 gallons per day (discharges from smaller systems are subject to county authority). This is a state only permit program. The division estimates that there are approximately 200 facilities that should be permitted; however, many of these facilities do not have current permits. The division continues to implement a process to ensure that the owners of these facilities do obtain the appropriate permits. This process is resource intensive because many facilities without appropriate permit coverage need to upgrade their level of treatment. To assist these operators, the division is working with them to upgrade their systems prior to issuing new permits or including compliance schedules in permits that outline the steps they need to take to comply with effluent limits. The division continues to make incremental progress in permitting these discharges.

Biosolids. The division implements a state biosolids program consistent with the direction provided in Regulation 64. The regulation provides authority to the division for implementation independent of, and more stringent than, the federal biosolids requirements for land application. Both the federal and the Colorado regulations governing beneficial use of biosolids identify allowable levels of heavy metals and pathogens in the biosolids, setting restrictions, and management requirements. The regulations require that application rates be based upon the nutrient requirements of the crops under cultivation. In 2014, approximately 85 percent of the biosolids generated by municipal wastewater treatment facilities in Colorado was beneficially reused and is regulated under the program. Because Colorado has not been formally delegated authority to implement the federal biosolids program, EPA retains ultimate authority over the federal program.

Pretreatment. The division implements a state pretreatment program consistent with the direction provided in Regulation 63. The division's administration of the program focuses on issuing permits or control mechanisms to significant industrial user facilities that discharge to domestic sewage systems without a federally approved local pretreatment program. The regulation provides authority to the division for implementation of requirements equivalent to and more stringent than the federal program. The division currently has two state authorized pretreatment programs and ten permits or control mechanisms for industrial user facilities. This tool is a strong complement to the federal pretreatment framework. Because Colorado has not been formally delegated authority to implement the federal pretreatment program, EPA retains ultimate authority over the federal program.

Reclaimed Water. The division implements a state reclaimed water program consistent with the direction provided in Regulation 84. There is not a corresponding federal regulation that addresses uses of reclaimed water. Regulation No. 84 requires permitting by the entity that treats and distributes the reclaimed domestic wastewater as well as each entity that uses the reclaimed water. A total of 27 entities are authorized to treat and distribute reclaimed water which allows for the reuse of up to 124 million gallons per day (MGD) of reclaimed water in Colorado. Approximately 400 entities are authorized to use reclaimed water and 96% of the authorized uses are for irrigation. If the authorized capacity was used, the quantity of reclaimed water distributed would be equivalent to the estimated average daily domestic water consumption of about 1 million Coloradans (based on the 2005 estimate of 121 gallons per day per capita provided in *Ivahnenko, Tamara, and Flynn, J.L., 2010, Estimated withdrawals and use of water in Colorado, 2005: U.S. Geological Survey Scientific Investigations Report 2010-5002*).

## Permitting Performance Measures: Permit Backlog and High Priority Permits

Backlog is a measure of uncompleted work. A backlogged permit is defined as a permit that has not been renewed prior to its expiration date or a new individual permit that is not issued within 180 days of receipt of the permit application. In May of 2000 as part of a national backlog reduction initiative, EPA required a permit backlog reduction plan for the division due to its inability to keep up with permit renewals and requests. EPA first approved the division's backlog reduction plan shortly thereafter and backlog maintenance expectations have been included in the annual state EPA performance partnership agreement ever since.

Approximately 1,500 permits are currently included in EPA's permit backlog measure. This includes a subset of permits authorizing discharges to surface water, more specifically all individual permits, general permits for confined animal feeding operations, and general permits for process water discharges. The performance partnership agreement between the department and EPA for FFY14 (October 2013 - September 2014) included a goal that 80 percent of the permits included in EPA's backlog reduction program would be current (20 percent backlogged). The division's backlog as of October 1, 2014 was 62 percent current (38 percent backlogged) which was short of the 80 percent target. We do not have 2015 numbers available as of the date of this report.

Because this was also short of a 70% current benchmark level, the division developed a backlog reduction plan and submitted that to EPA in March 2015. The plan identified primary causes of the higher than expected permit backlog and key actions needed to meet the FFY15 PPA commitment. The two main causes included unexpected delays associated with issuance of two general permits (sand and gravel and MS4), and vacancy and staffing changes. Key actions included issuance of two general permits, sand and gravel and hydrostatic testing, and issuance of 72 individual permits. The division did not complete the renewal of the two general permits. The division exceeded the goal of issuing 72 individual new and renewal permits. The PPA commitment for FFY2015 (October 2014 - September 2015) is 74 percent current (26 percent backlogged), and the division anticipates that by the end of September 2015, 62 percent of permits will be current (38 percent backlogged). The division expects to fall short of meeting the backlog commitment primarily due to the fact that the two general permits were not renewed.

Another EPA measure is priority permits. Priority permit issuance has been used as a performance measure in the PPA between the department and EPA since FFY2005. The measure and procedures have changed over time; however, EPA has always considered any expired permit for which a renewal application has been submitted and which has been administratively extended for two years or more, or any application for a new permit that has not been acted upon for two years or more, to be a priority permit. Since FFY2013, EPA and states are required to select 20 percent of candidate permits. Candidate permits include new and renewal permit applications that have not been acted upon for two years or more, plus permits eligible for environmental significance or state/national program priority reasons. Of the selected candidate permits, the states must commit to issue approximately 80 percent of these selected priorities. For FFY14, the division committed to issuing 22 of 27 high priority permits and was able to issue 9 by September 30, 2014. For FFY15, the division has 31 high priority permits and committed to issue 25. The division expects to issue 19 of those permits by September 30, 2015.

## B. Environmental Agriculture Program

The Environmental Agriculture Program administers regulatory, permitting, compliance assistance and compliance assurance activities for animal feeding operations (AFOs), concentrated animal feeding operations (CAFOs - e.g., large dairies, feedlots, poultry facilities) and housed commercial swine feeding operations (HCSFOs). The Ag Program utilizes a sector-based approach that takes into account the interaction and environmental impact of air, water and soil resources when making regulatory and policy decisions.

The program oversees 94 swine farms covered by 10 individual HCSFO permits, 75 CAFO permits, 116 registered CAFOs and hundreds of AFOs. The program administers Water Quality Control Commission Regulation No. 61, the Colorado Discharge Permit System Regulations; Regulation No. 81, the Animal Feeding Operations Control Regulation; Regulation No. 66, the Financial Assurance Criteria Regulation for Colorado Housed Commercial Swine Feeding Operations; and Air Quality Control Commission Regulation No. 2, Part B, Odor Emissions regulation for HCSFOs.

During SFY15, the Ag Program completed a total of 385 inspections at animal feeding operations. Of these inspections, 48 were conducted at CAFOs and 337 were conducted at HCSFOs. CAFO inspections included 11 permitted CAFOs, 29 non-permitted CAFOs and eight other permitted and non-permitted CAFOs to verify compliance with corrective actions identified during the previous inspection year. The Ag Program conducted 180 water quality inspections at HCSFOs and 157 odor inspections. Overall compliance rates at CAFO facilities remained consistent in SFY15. Approximately 76% of inspected non-permitted CAFOs and approximately 80% of inspected permitted CAFOs were in full compliance with applicable regulatory requirements. In addition, approximately 93% of HCSFO facilities were in full compliance with applicable air and water regulatory requirements.

The Ag Program completed the renewal of two CAFO permits and issued three new CAFO general permit certifications in SFY15. Three additional CAFO permit applications have been received and are pending program approval once additional information is received from the facilities. The Ag Program also completed the renewal of one HCSFO individual permit in SFY15.

Program goals for SFY16 include conducting a mandatory review of Regulation No. 66 (completed in August 2015); continuing to refine the program's inspection processes to improve efficiency and reduce the number of days facilities are out of compliance; conducting individual and group trainings with livestock producers to facilitate the development and implementation of complete nutrient management plans; and continued implementation of program improvements to maintain an efficient and effective program that meets stakeholder expectations and supports the department's strategic plan.

## C. Water Quality Information Systems

The division currently utilizes a Microsoft 2010 SharePoint (Aquifer) platform to share information and track workflows.

The division has successfully implemented a pilot program for electronic submittal of discharge permit monitoring data. This information is submitted through EPA's NetDMR system. The current permitted universe requiring a DMR is 2,420. There are currently 336 permits submitting DMR's through NetDMR.

On July 2, 2014, the Safe Drinking Water Program obtained Cross-Media Electronic Reporting Regulation (CROMERR) approval from the EPA for its Colorado Drinking Water System (CDWS) electronic document receiving system. This CROMERR approval provides the Safe Drinking Water Program with the much needed authorization to receive compliance data and reports electronically. The Safe Drinking Water Program has been conducting a limited pilot of the CDWS system with a small group of drinking water stakeholders and labs over the past few months and is currently working with department environmental programs and the state Office of Information Technology to obtain necessary approvals and to purchase the necessary cloud server space to bring the pilot into full production. Implementation of the CDWS system will provide significant improvements in efficiency and effectiveness in the Safe Drinking Water Program's receipt of required compliance data and other reports. There are currently approximately 2000 public water systems that are required to submit compliance data. Stakeholders have been requesting that the program provide a reliable, easy to use electronic submittal mechanism for several years now. Feedback from stakeholders and labs on the CDWS system to date has been overwhelmingly positive. It is planned that CDWS will ultimately become incorporated into the Customer Interface Modernization Project for a Lean Environment (CIMPLE) system that is discussed below.

The EPA has been working on development of a new rule requiring electronic reporting for current paper-based NPDES reports for several years. In 2014 the EPA solicited a second round of public input on some revised components of the draft rule. The division supports electronic reporting as it saves time and resources for permittees, the State of Colorado, and the EPA while improving compliance resulting in better protection of the nation's waters. The rule would require permittees and regulators to use information technology to electronically report information and data related to the NPDES permit program in lieu of filing written reports.

CDPHE environmental programs will be embarking on a new five year project called CIMPLE (Customer Interface Modernization Project for a Lean Environment). This initiative is designed to create an umbrella system for customers to interface with all of CDPHE's environmental programs. This umbrella system will provide a single point of entry for customers to provide and obtain electronic information related to the Department's environmental programs.

For the fiscal year 2015, the division will implement a new standards database for the commission that will manage and organize all of the water quality standards, designations, classified uses and temporary modifications. This database will include over 30,000 data records across 900 plus water body segments.

## **V. STATE FUNDED GRANT PROGRAMS**

### **A. Water Quality Improvement Fund**

During the 2006 legislative session, the general assembly created the Water Quality Improvement Fund (WQIF) (CRS 25-8-608[1.5]), and the commission adopted Regulation #55. The WQIF was created to provide grants to local communities/entities to improve water quality, health and safety. The source of revenue to the fund is penalties assessed on polluters who have committed water quality violations.

During the 2012 legislative session, the general assembly authorized an additional \$600,000 for capital construction funding. Historically, \$167,000 was appropriated annually with a requirement that the funds be expended within the fiscal year. The 2012 changes provided

additional funding, required grants be issued for stormwater management training, and provided the flexibility to expend the funds over multiple years.

B. Nutrients Management Grant Fund

During the 2013 legislative session, the general assembly created a new Nutrients Management Grant Fund (H.B. 13-1191) within the WQIF. The general assembly authorized \$15 million in general funds to provide grants to domestic wastewater treatment works owned and operated by local governments and subject to the first phase implementation of Regulation #85. State general funds were provided for projects to plan, design, construct or improve a wastewater treatment works in order to comply with the effluent limits of Regulation #85. Per the legislation, the Nutrient Management Grant Fund is scheduled to be repealed in its entirety on September 1, 2016.

C. Natural Disaster Grant Program

During the 2014 legislative session, the general assembly created a new Natural Disaster Grant Program to assist communities with water/wastewater infrastructure projects as a result of any natural disasters. Further, the general assembly appropriated \$17 million to assist water and wastewater entities with rebuilding as a result of the September 2013 floods.

D. Small Community Grant Program

Senate Bill 14-025 revised and consolidated the small communities water and wastewater grant fund to be codified in CRS, Section 25-1.5-208 - concerning the establishment of a grant program under the Colorado Water Quality Act to assist suppliers of water and domestic wastewater treatment works that serve a population of not more than 5,000 people with meeting their responsibilities for the protection of public health and water quality.

The following tables illustrate the state grants awarded in SFY15 to assist with these efforts.

TABLE I WATER QUALITY IMPROVEMENT FUND SFY15 GRANT

Association of General Contractors	\$25,000
Urban Drainage and Flood Control District	\$25,000
	<b>\$50,000</b>

TABLE 2 NUTRIENT GRANTS

Boulder, City of	\$1,080,000.00
Broomfield, City of	\$1,000,000.00
Colorado Springs Utilities	\$1,000,000.00
Durango, City of	\$1,080,000.00
Eagle River Water and Sanitation District	\$80,000.00
Eagle River Water and Sanitation District: Avon DC	\$292,400.00
Eagle River Water and Sanitation District: Edwards DC	\$1,000,000.00
Fort Collins, City of	\$1,000,000.00
Grand Junction, City of	\$80,000.00
Greeley, City of	\$1,080,000.00
Louisville, City of	\$1,000,000.00
Loveland, City of	\$1,080,000.00
Lower Fountain Metro Sewage District	\$1,080,000.00
Pueblo, City of	\$1,080,000.00
Security Sanitation District	\$80,000.00
Snowmass Water and Sanitation District	\$80,000.00
Silverthorne/Dillon Joint Sewer	\$1,080,000.00
South Adams County Water and Sanitation District	\$1,000,000.00
Superior Metro District #1	\$473,000.00
Tri-Lakes WWT	\$1,080,000.00
Widefield Water and Sanitation District	\$80,000.00
Windsor, Town of	\$894,600.00
	<b>\$16,700,000.00</b>

TABLE III FLOOD GRANTS SFY15

Berthoud, Town of	\$310,000.00
Boulder, City of	\$1,895,000.00
Colorado Springs Utilities	\$188,000.00
El Dorado Springs (Boulder Co Gov)	\$8,000.00
Evergreen Metropolitan District	\$114,487.00
Jefferson County Public Schools	\$999,000.00
Longmont, City of	\$371,600.00
Loveland, City of	\$264,750.00
Morrison, Town of	\$202,590.00
Pine Brook Water District	\$1,984,375.00
Pinewood Springs Water District	\$206,250.00
Evans, Town of	\$1,000,000.00
Estes Valley Recreation & Park District	\$360,500.00
Jamestown, Town of	\$1,000,000.00
Larimer County Big Elk Meadows	\$780,000.00
Louisville, City of	\$312,125.00
Lyons, Town of	\$1,671,316.00
Milliken, Town of	\$324,715.00
Nederland, Town of	\$249,000.00
Red Rock Valley Water District	\$874,523.00
Woodmen Hills Metro District	\$400,000.00
Boulder County Government	\$1,311,806.00
Jefferson County	\$250,000.00
Larimer County	\$1,322,300.00
Weld County	\$405,000.00
	<b>\$16,805,337.00</b>

TABLE IV Small Community Grant Program SFY15

Cedaredge, Town of	950,000.00
Cripple Creek, City of	498,870.00
Eckley, Town of	950,000.00
Florissant Water and Sanitation District	200,000.00
Florissant Water and Sanitation District	950,000.00
Hot Sulphur Springs, Town of	350,000.00
Larkspur, Town of	769,500.00
Mill Creek Park Water & Improvement Association	950,000.00
Mountain View Villages Water and Sanitation District	87,000.00
Pagosa Springs Sanitation District	363,000.00
Rocky Ford, City of	500,000.00
Sheridan Lake Water District	240,432.00
Silver Plume, Town of	950,000.00
Tranquil Acres Water Supply	791,198.00
Yampa, Town of	950,000.00
	<b>9,500,000.00</b>

## VI. CLEAN WATER PROGRAM FEE STRUCTURE PROCESS

### A. Background

The general assembly created a permit fee structure to supplement federal and state general funding for the WQCD clean water program. Fees that the division can assess have been listed in statute (both fee category and amount) since 1983. The ability to make changes to the fee structure has been very limited with only five fee adjustments in more than 30 years. The current structure does not accurately reflect the nature of the program and services provided today because services have evolved since 1983. There is a need for flexibility to address fees that reflect the current regulatory climate and program today.

### B. Fee Category Structure Changes Completed

During the 2014 Legislative Session, the Joint Budget Committee proposed S.B. 14-134 to modernize the Clean Water Program's outdated fee structure and to increase fees to sustain the program over a three-year period. The bill was postponed indefinitely with direction from the legislature to establish a fee stakeholder process between the department and the regulated community. The stakeholder process began in July 2014 and included representatives from throughout the regulatory community. After the introductory meetings, the department worked with stakeholders and held individual meetings for distinct permitted sectors in order to more thoroughly address specific concerns within each area and to improve financial transparency. As a result, six sector work groups were formed: Commerce and Industry (C&I); Construction; Municipal Separate Storm Sewer System (MS4); Public and Private Utilities (PPU); Pesticides; and Water Quality Certification. Over a six month period, the department held 34 meetings totaling 56 hours of formal dialogue between the department and its stakeholders.

At the conclusion of the stakeholder process, the department requested each participant to complete a sector specific survey to gain feedback on the overall stakeholder process, modernization of the fee structure, and implementation of a fee increase to sustain the program

for the next three years. At the end of the process, there was no consensus among stakeholders to support a bill to increase fees during the 2015 legislative session. However, H.B. 15-1249 was proposed and adopted in place of a comprehensive fee increase which revised the current fee structure to create five sectors: Commerce and Industry; Construction; Public and Private Utilities (includes MS4); Pesticides; and Water Quality Certification.

C. Fee Category Structure Changes Pending

As noted in the previous section, the Commerce and Industry and Public and Private Utilities sectors were created in H.B. 15-1249. The bill created new fees for the Water Quality Certifications and Pesticides sectors, and a new fee structure and increased fees beginning in FY2016-17 for the Construction sector. The remaining two sectors will be the focus of future discussions on the appropriate level of service and associated fees.

D. Authorized Funding Information

For the 2015 state fiscal year, the clean water program operated from a budget total of \$13,345,942 that includes personal services, operating and contracts authorized in the Long Bill. This total can be broken down into federal funds received from EPA through the Performance Partnership Grant, cash funds collected from current permitting based fees, and general funds received from the general assembly on an annual basis. The amounts are as follows:

Source	Amount	Percent
Federal funds	\$6,445,600	48%
Cash funds	\$4,018,581	30%
General funds	\$2,881,761	22%
Total	\$13,345,942	100%

In sum, revenue from state sources total 52%.

E. Stakeholder Engagement Process

The clean water program fee structure full stakeholder group met on December 16, 2014 to discuss the overview of feedback received for group policy considerations including statute vs. commission, general fund and the overall stakeholder process. The questions and feedback were as follows:

- Policy Considerations for Overall Process. Overall, accountability of fee funding and fee certainty in statute are of the highest priority to stakeholders. Many commented that fiscal transparency and further definition of the complexity tiers for a la carte services are also important.
- What do you think is an appropriate frequency to review fees and fee structure? A majority of individual and group respondents identified an acceptable fee review frequency of five years.
- What do you think is the best method to adjust for inflation? A small majority of individual and group respondents identified a consumer price index as the preferred means to adjust for inflation.
- Statute vs. commission fee setting authority. The majority of individual and group respondents indicated that fees should be retained in statute and not established by the Water Quality Control Commission. The public and private utilities sector showed support for moving reclaimed water fees out of statute and giving authority to the Water Quality Control Commission. A small number of individual and group respondents support a la carte services



fees being established and reviewed by the Water Quality Control Commission. Biosolids fees are currently set by the Water Quality Control Commission, and no change is proposed.

- Use of legislative general funds for program funding. The MS4, pesticides, and water quality certification sectors did not identify a common theme. Public and private utilities identified that the general fund allocation be maintained and support for funding to go to small public systems. The Construction sector identified that the general fund allocation be maintained, but varied on its application in the program (government entity use, state infrastructure, areas of most need, etc.). The commerce and industry sector identified that the general fund allocation be maintained and using general fund monies for permitting activities or public comment costs.
- Experience of the overall process. Respondents felt there was a lack of financial information transparency and accountability, critical of the overall participation level within each sector, felt there was not enough time to complete discussions, and had industry specific business process concerns.

The large stakeholder group met in February 6, 2015 to review and discuss draft legislation and commitments of the Water Quality Control Division. A brief background of the stakeholder process, review of the draft bill, and next steps were discussed.

#### F. Potential Ramifications Due to Lack of Funding

If additional funding is not secured, the clean water program will not have sufficient funding to continue its current level of operations. In order to stay within program estimated revenue projections the division will keep positions unfilled and reduce operations commensurate with the lack of available funds. An equivalent reduction of FTE in the Clean Water Program will be required in FY2016-17. A reduction of FTE will reduce the division's ability to provide timely services and may result in less protection of public health and the environment. Stakeholders may experience service reductions such as: a notable decrease in compliance assistance activities; project delays because of an increasing backlog in processing permit and design review applications; a decline in stakeholder outreach for regulation and policy development; and potential loss of public health and environmental protections because of fewer inspections of regulated facilities.

## VII. LEGACY MINING IMPACTS TO WATER QUALITY

#### A. Mining Nonpoint Source Impacts

The discharge of low pH metals laden water into the Animas River on August 5, 2015, at the Gold King Mine near Silverton highlights the potential impacts of past mining activities on water quality in Colorado. The Colorado Nonpoint Assessment Report (WQCD, 1989) was one of the first efforts by the division "to identify waters in Colorado that are impacted by nonpoint sources of water pollution". The report found that "the impacts of nonpoint source water pollution are widespread in Colorado. All of the seven major drainage basins are affected by these sources. In general, heavy metals impacts are noted in areas of historic (abandoned/inactive: mining in Colorado's Rocky Mountains. These impacts relate to mine drainage and spoils areas, as well as tailing from milling activities".

Table 2 of the 1989 report illustrated the wide spread nature of these impacts.

**Miles of Streams Affected by Various Nonpoint Source Pollutants**

Basin/Pollutant	Metals	Sediment	Salinity	Nutrients	Bacteria
Platte	192.7	434.5	299.0	260.5	58
Republican	0.0	15.0	0.0	15.0	15
Arkansas	302.8	371.5	338.5	50.0	0
Rio Grande	93.9	146.0	133.0	53.0	0
San Juan	134.3	215.0	194.0	0.0	0
Colorado	431.4	623.5	406.0	135.5	0
Green	158.3	348.5	163.0	229.0	0
Total	1313.4	2154.0	1533.5	743.0	73

**B. Nonpoint Source Mining Impacts to Animas River**

The San Juan River Basin Nonpoint Source Problems section discussed its tributaries, specifically the Animas River as follows:

“The headwaters of the Animas River drain a heavily mineralized area which includes the Eureka, Red Mountain, and Animas mining districts. Total lead concentrations are in excess of domestic water supply standards from the headwaters to the State line with New Mexico. Above Elk Creek, the pollution from metals is so severe that the Animas River is not classified for aquatic life, agriculture, or water supply. Pyritic alteration is common to varying degrees throughout the mineralize areas in the mining districts, and massive pyrite occurs in the veins. Gold, silver, lead, copper, and zinc were chief metals produced in the district.”

“Cement Creek is heavily impacted with lead and manganese levels above water supply standards, and cadmium, copper, iron, and zinc concentrations exceed aquatic life standards. No fish are present in Cement Creek. Mineral Creek is also heavily impacted by the Red Mountain mining district, with somewhat lower concentrations of metals; however, no fish are present in Mineral Creek either.” The South Fork of Mineral Creek, Clear Creek, Cunningham Creek, and Maggie Gulch also contained elevated metals concentrations and did not meet various water quality standards.

“From Elk Creek to Junction Creek, the Animas River exceeds basic standards for aquatic life, silver, cadmium, and iron are the metals of concern in this reach. Basic standards for agriculture are exceeded for manganese is the same reach. From Junction Creek to the state line, zinc, copper, and chromium exceed the basic standards for aquatic life. The source of the metals in the lower Animas is the inactive/abandoned mining in the upper reaches of the Animas River near Silverton. Below Junction Creek, a below average fishery exists in the Animas, indicating possible chronic metals problem. Above Junction Creek few fish are found in the Animas River.”

**C. Animas River Water Quality Status**

This general description of abandoned mine impacts to water quality in the Animas River and its tributaries has continued to the present time. The most recent assessment work was done for the 2012 303(d) listing cycle. The San Juan River basin was not reassessed for the 2016 303(d) listing cycle unless external parties submitted the additional data. In most cases, the assessment results stated below were from data collected from 2005 to 2010. The preliminary water quality assessment information, where available, in advance of the 2016 Integrated Report is as follows:

- Animas River above Silverton - Segment COSJAF03a has site specific standards for cadmium, manganese and zinc. Last assessment done for the 2012 303(d) listing cycle and the following exceedances were found: cadmium, copper, manganese, lead, zinc. A TMDL was written for this segment in 2002 that covered aluminum, cadmium, copper, iron and lead and while it is still considered impaired, it is not included on the 303(d) list for these parameters.
- Animas River below Silverton - Segment COSJAF03b has recreation use standards only. Regulation 34 (Classifications and Numeric Standards for San Juan River and Dolores River Basins) states "The concentration of dissolved aluminum, cadmium, copper, iron, lead, manganese and zinc that is directed toward maintaining and achieving water quality standards established for segments 4a and 4b." Table value criteria exceedances were found for the following parameters: pH, aluminum, cadmium, copper, iron, manganese, lead, zinc. These do not constitute a finding of impairment since there are no standards adopted for this segment for these parameters.
- Animas River - Mineral Creek to Bakers Bridge includes two segments - COSJAF04a and COSJAF04b. Segment COSJAF04a has site specific standards for aluminum, iron, and zinc. Table value criteria exceedances have historically been found for this segment for the following parameters: pH, aluminum, cadmium, copper, iron, manganese, and zinc. A TMDL was written for this segment in 2002 that covered pH, copper, iron and zinc and while it is still considered impaired, it is not included on the 303(d) list for these parameters. Segment COSJAF04b has exceeded standards for cadmium, manganese, selenium and zinc standards. A TMDL was written for this segment in 2002 that addressed zinc and while it is still considered impaired, it is not included on the 303(d) list for this parameter.
- Animas River - Bakers Bridge to the Southern Ute Indian boundary. COSJAF05a includes the full suite of standards to protect aquatic life, water supply, recreation and agriculture. Segment COSJAF05a has exceeded standards for manganese and zinc. This segment is included on the 2012 303(d) List for manganese.
- Cement Creek - Segment COSJAF07 does not have aquatic life standards for metals. Regulation 34 states: "The concentration of dissolved aluminum, copper, iron, lead, manganese and zinc that is directed toward maintaining and achieving water quality standards established for segments 4a and 4b." There are total recoverable metals standards adopted for this segment. The division has not collected water quality data in Cement Creek since the early 1990s. External data was not received to be assessed for this segment for the 2012 or 2016 listing process. A TMDL was written for this segment in 2002 to address aluminum, cadmium, copper, lead and iron.
- Mineral Creek - Segment COSJAF08 does not have aquatic life standards for dissolved metals. Regulation 34 states: "The concentration of dissolved aluminum, copper, iron, lead, manganese and zinc that is directed toward maintaining and achieving water quality standards established for segments 4a and 4b." There are total recoverable metals standards adopted for this segment. External data was not received to be assessed for this segment for the 2012 or 2016 listing process. A TMDL was written for this segment in 2002 to address aluminum, cadmium, copper, lead and iron.

- South Fork Mineral Creek - Segment COSJAF09 has site specific standards for aluminum, copper, iron, and zinc. There is no recent division data to report on. External data was not received to be assessed for this segment for the 2012 or 2016 listing process. A TMDL was written for this segment in 2002 to address aluminum, cadmium, copper, lead and iron.
- Clear Creek - Segment COSJAF06 includes the full suite of standards to protect aquatic life, water supply, recreation and agriculture. There is no recent data to report on. External data was not received to be assessed for this segment for the 2012 or 2016 listing process.
- Cunningham Creek - Segment COSJAF06 includes the full suite of standards to protect aquatic life, water supply, recreation and agriculture. Some data was collected on Cunningham Gulch in 2009 and 2010. There were no standards exceedances reported for this segment.
- Maggie Gulch - Segment COSJAF06 includes the full suite of standards to protect aquatic life, water supply, recreation and agriculture. There is no recent division data to report on. External data was not received to be assessed for this segment for the 2012 or 2016 listing process.

#### D. Future Actions

The division has formed an internal task force to examine the impacts to water quality from mine activity throughout the state. The initial focus of this task force will be to identify data available regarding mining impacts to water quality, and make recommendations as to how to close any data gaps. The division will continue to coordinate with the Department of Natural Resources, Division of Reclamation, Mining, and Safety to identify potential source control projects that will improve water quality in the Animas River basin and pursue appropriate funding sources. The division will also coordinate with local public health, the Hazardous Materials and Waste Management Division, and EPA Region VIII regarding long term water management activities that will address the problems exemplified at the Gold King Mine.

## VIII. CONCLUSION

Despite the partial success in the 2015 legislative session with respect the modernization of the clean water fees, the division continues to struggle with resourcing related to the clean water program. The division will plan and implement improvements to its monitoring and permitting programs in the effort to maximize efficiencies and focus on those areas where there is the greatest potential for substantive water quality improvement. The division will continue these efforts by evaluating work processes to make systems more efficient by reducing or eliminating redundancy or waste. This may be done with the involvement of stakeholders where appropriate.

In addition, given the renewed focus on the impacts that legacy mining activities have on water quality, the division will continue to review how these continuing issues impact the state's water resource. Additional monitoring information is needed to better characterize site specific impacts. This information will then be used to identify appropriate source controls and pursue potential funding sources.

## APPENDIX A

### Colorado Water Quality Forum Work Groups

<u>Work Group Name</u>	<u>Commission Contact(s)</u>
• Basic Standards	David Baumgarten, Barbara Biggs, Lauren Evans, Mary Fabisiak, Rick Hum, Jim Rada, Jon Slutsky, Andrew Todd, Chuck Wanner
• Permit Issues Forum	Mary Fabisiak, Barbara Biggs, Lauren Evans
• SDWA and CWA Nexus	Mary Fabisiak, Barbara Biggs
• Revisions to Regulation 43 (Onsite wastewater treatment systems)	Jim Rada, Jon Slutsky, Rick Hum, Chuck Wanner

Note: For the latest work group status, please visit the Colorado Water Quality Forum website.  
<http://colowqforum.org>