

STATE OF COLORADO



Colorado Department
of Public Health
and Environment

**Annual Report to the
Colorado Legislature and
Water Quality Control Commission
Fiscal Year 2010-2011**

Submitted to the Colorado Legislature and Water Quality Control Commission
by the Water Quality Control Division
Colorado Department of Public Health and Environment
October 2011

FOREWORD

I am pleased to submit the Water Quality Control Division's (Division's) Annual Report to the Water Quality Control Commission (Commission) for the period from July 1, 2010 through June 30, 2011 (FY 2011). 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 2011

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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 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; 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.

Unfortunately, over the past several years, the Division has experienced a growing resource gap which will make achieving these goals extremely challenging. The workload has substantially increased due to new EPA drinking water and clean water rules and policies, more stringent water quality standards, increasing population growth that is placing more demands on a static or declining water supply, and aging and failing infrastructure. Additional staff resources are necessary to fully implement all water quality programs. On November 1 of each year, the Division submits a report to the General Assembly with a projection of the additional Division staffing needs for the following three year period in order to fulfill all of its regulatory obligations. In the latest report the Division had identified an immediate need of 31.8 FTE in 2011-2012. Based on national models for full implementation of new and existing requirements under both the Safe Drinking Water Act and Clean Water Act Programs, the Division will need an additional 34.5 FTE over the next three years for a total increase of 66.3 FTE.

This information should be used as the backdrop for reviewing the effectiveness of the Division's efforts under the state Water Quality Control Act.

II. LEGISLATIVE AND REGULATORY UPDATE

A. Legislative Changes

During the 2011 session of the General Assembly, HB 11-1026 was passed and signed by the Governor. This bill establishes criteria for the designation of stormwater management system administrators that may conduct third party audits of permitted stormwater sites to help improve regulatory compliance.

B. Regulatory Changes

With reference to regulatory changes that are required or desired, the Commission is fully aware of the on-going 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 recent status report on work group efforts is attached as Appendix A.

Of particular note is the effort underway to address the effect of nutrients (nitrogen and/or phosphorus) on Colorado's rivers, lakes and reservoirs, likely the largest regulatory undertaking that the Division has ever experienced. Nutrient criteria and source reduction strategies were first identified and developed in Colorado as early as 1985 when the first of four regulations establishing acceptable nutrient levels in reservoirs across the state was adopted. Division staff has been working on developing scientifically-based state-wide nutrient criteria for over 10 years. A nutrients stakeholder work group was initiated in 2001 to provide a discussion forum for a Nutrient Criteria Development Plan. There have been almost 40 stakeholder work group meetings since then. More recently, these work group meetings have been held on a monthly basis. Nutrient issues have more recently been discussed under the auspices of the Colorado Water Quality Forum Nutrients Work Group. This group includes a distribution list of approximately 350 stakeholders and a typical meeting can be attended by close to 100 participants. Attendees include representatives from the municipal and industrial dischargers, drinking water providers, water conservancy districts, agricultural production, environmental groups, and local, state, and federal agencies. Over the last year, several subgroups were organized to discuss topics such as effluent limits for municipal and industrial facilities, storm water monitoring, nonpoint source management, and protection of water supplies.

EPA has strongly encouraged states to make progress on determining appropriate levels of nutrients in their water bodies and to implement the appropriate source controls where necessary. Progress has been demonstrated in Colorado on both aspects, but states including Colorado have been firm in stating that a one size approach does not fit all areas across the country. Recently, EPA Headquarters and Region 8 offices have recognized that states need flexibility in developing approaches to address this difficult water quality issue. Colorado is taking a unique approach that would reduce nutrient concentrations from the largest sources between 2012 and 2022 or later while providing for a robust monitoring program to identify whether additional controls might be necessary to meet more specific water quality goals anticipated to be set in that (2022) time frame. The Division will continue to work with stakeholders across the state to find a good balance between protecting Colorado's water resources and setting limits for discharges that are attainable.

The Commission held several rulemaking and administrative action hearings in FY 2011. Those regulations discussed were as follows:

1. July 2010 – Rulemaking hearing to adopt revisions of expiration dates for temporary modifications so that they would coincide with the newly revised basin review schedule.
2. October 2010 – Administrative Action hearing to adopt Policy 10-1, Aquatic Life Use Attainment: Methodology to Determine Use Attainment for Rivers and Streams. The procedure detailed in the guidance relies upon direct measurement

of the aquatic life use rather than on comparing existing water quality to numeric standards for individual pollutants set to protect aquatic life.

3. December 2010 – Annual Temporary Modifications hearing for temporary modifications that were set to expire on or before December 31, 2012 (Regulations # 32 through 38).
4. December 2010 – Rulemaking hearing to adopt resegmentation of segment 13a of the Lower Colorado sub-basin in Regulation #37.
5. Administrative Action Hearing was held in October 2010 to approve the 2011 Water Pollution Control and Drinking Water Revolving Fund Intended Use Plans and Project Eligibility Lists. The total infrastructure needs identified on the Project Eligibility Lists exceeds \$4 billion.

C. 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 Water Quality Control Commission for review and approval. This topic was discussed at the June 2011 Safe Drinking Water Program workshop with the Commission, and 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 ten 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. The Department 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.

III. MONITORING ACTIVITIES

The Division's surface water monitoring activities for FY 2011 were grouped into four general types: (1) routine sampling; (2) special studies; (3) lake and reservoir monitoring; and (4) aquatic life and habitat studies.

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 in 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. 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. Sampling is more evenly allocated among the long-term trend sites in the four basins, special studies are conducted, and specific data gaps may be filled.

The number of sites and the number of times a specific site is sampled each year is controlled by the Division's fixed monitoring budget for laboratory analyses, which in FY2011 was \$442,557. 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 were visited on a regular schedule, such as monthly, bimonthly or when weather and road conditions allow access. In State FY2011, the specific river basin focus was the Arkansas and Rio Grande River basins, and routine water chemistry samples were collected from a network of 322 sampling sites located across the state. The Division concentrated 15 percent of the sampling in the South Platte River Basin, 13 percent in the Colorado River Basin, 64 percent in the Arkansas and Rio Grande Basins, and 8 percent in the San Juan and Gunnison River Basins. This sampling resulted in the collection of 988 sample sets. Samples were analyzed for a suite of constituents including metals, inorganics, nutrients and *E. coli*. 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. Synoptic sampling was performed on many of the Lower Colorado River tributaries. This sampling is intended to characterize selenium contributions associated with smaller tributaries that, for the most part, have only been sampled infrequently. Selenium and uranium sampling continued for three reservoirs within the basin that are impaired for selenium: Lake Meredith, Lake Henry, and Adobe Creek Reservoir.

Several synoptic sampling events were also completed on Boggs Creek (selenium, uranium and zinc), Rifle Gap and Elkhead Reservoirs (mercury) and the Cache la Poudre River (selenium).

Fish tissue sampling to detect the presence of mercury was completed at 9 reservoirs across the state from July 1, 2010 through June 30, 2011. Of these 9 water bodies, none exceeded the action level for mercury and therefore were not candidates for issuance of fish consumption advisories. As of July 1, 2011, there are 24 fish consumption advisories for lakes and reservoirs in Colorado.

Arsenic and selenium were also analyzed in fish tissues from these reservoirs. The Division is currently working with the Department's Disease Control and Environmental Epidemiology Division to determine a risk assessment approach for both of these parameters.

A focused study by Colorado State University researchers began in 2011 on two mercury impaired reservoirs on Colorado's 303(d) list (Horsetooth and Elkhead Reservoirs). Extensive biological and water quality data are being collected in a collaborative effort with the Colorado Division of

Wildlife, the City of Fort Collins, and Northern Colorado Water Conservancy District. This project is to support TMDL development and evaluate ways to reduce mercury bioaccumulation through food web manipulation.

C. Lake and Reservoir Monitoring

The Division continued its lake and reservoir sampling in FY2011 and focused on the Arkansas/Rio Grande basins in order to provide data for the upcoming triennial review. Eight lakes from the Arkansas/Rio Grande were sampled three times each during the growing season. An additional 15 lakes from the Upper and Lower Colorado basins were sampled one time each to help determine which lakes would be the focus of sampling for the following year (FY2012). Lakes from other basins were also sampled. 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.

In conjunction with the development of nutrient criteria, sampling was undertaken to study direct use water supply reservoirs and to provide a statistical basis for establishing relationships between chlorophyll and disinfection byproducts (DBPs) production. Recent studies of disinfection byproduct formation potential in New York lakes provided the basis for developing proposed nutrient and chlorophyll criteria to protect drinking water. The Division is testing the applicability of the New York proposals to Colorado reservoirs.

D. Aquatic Life and Habitat Studies

The Division collected macroinvertebrate and habitat samples at multiple locations primarily within the South Platte River basin, but also at other 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 occasionally 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 303(d) and M&E listed stream segments (Lower South Platte River, Black Gore Creek, and Gore Creek), a special study of sediment impacted streams in the Deckers area (Trout Creek sub-basin), and a special study to investigate the expected aquatic community above lagoon treatment facilities in the San Juan River basin as part of an ammonia recalculation project. The Division also began a pilot project where macroinvertebrate samples were simultaneously collected with water chemistry samples.

The Division worked collaboratively with a sciences professor at Western State College to collect and analyze macroinvertebrate data at several sites in the Upper Gunnison River basin. The Division also provided the necessary sampling equipment and training for the Bear Creek Watershed Association, the Grand County Watershed Information Network and the Mancos River Watershed Group in order to collect macroinvertebrates samples at monitoring stations of particular importance to these watershed groups.

E. Nonpoint Source Monitoring Requirements

Grant requirements under the Clean Water Act Section 319(h) prescribe that measurable results be reported for nonpoint source projects that pertain to on-the-ground restoration and remediation. EPA defines measurable results as “restoring waters to partial or full uses and standards, or as a minimum, reducing pollutant loads such as nutrients and sediment.” To accomplish this, existing nonpoint source impacts need to be more accurately quantified in order to provide a water quality baseline from which to measure improvements. Surrogate measures, such as a record of the best management practices installed, can be used to evaluate the total project effort but do not provide data that equate to water quality improvements.

Few nonpoint source project sponsors have the expertise needed to prepare an adequate sampling and analysis plan that can be used to assess changes in water quality. As a result, the Division modified its approach to monitoring and evaluating nonpoint source projects. Starting with the 2004-2005 Nonpoint Source Section 319 project cycle, sponsors are required to provide more definitive water quality data to substantiate project outcomes during the terms of the project contract. This additional monitoring requirement was continued during FY 2011. Improvements such as a sampling and analysis plan template have been developed to assist project sponsors in complying with the increased emphasis on measurable water quality outcomes. This additional monitoring requirement has increased staff workload. Staff is required to assess the data collection methods and to determine the effectiveness of nonpoint source management activities. Additional staff data evaluation capacity is needed to meet this increasing federal grant requirement.

A Measurable Results Project (MRP) was continued in FY2011 to increase the Division’s capacity regarding base-line and post-project monitoring of Nonpoint Source projects. The MRP assists the Division and project sponsors through the development of policies and practices that enable NPS projects to monitor projects on multiple scales. The MRP identifies the effectiveness and efficiency of implemented BMPs to reduce targeted pollutants at the project level and is also able to monitor the success of the BMP(s) to address impairment issues at the segment level. The MRP has developed a toolbox of methods and analytical tools and approaches consistent with other WQCD data collection efforts so that NPS projects are evaluated with consistency across the program and are integrated in the WQCD regulatory process. Macroinvertebrates, water chemistry, sediment/nutrient loading, geomorphological (stability survey, pebble counts, etc.) are all components frequently employed by MRP. The MRP works with project sponsors in sampling and analysis project plan (SAPP) development, characterization of pre-project conditions, post-project follow up (beyond the timeline of the NPS 5 year contract with Sponsors), and in data analysis to provide a comprehensive strategy to determining project effectiveness.

Nonpoint source management activities are implemented by using a focused watershed-based approach. This approach was initiated by synchronizing nonpoint source monitoring needs with the five-year, basin-monitoring schedule used to collect water quality data in support of the triennial review of basin classifications and standards. For FY2011, the nonpoint source management activities focused on state-wide activities watershed planning and priority watershed restoration across the state.

F. Cooperative Monitoring 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, and 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.

In 2011, Division staff provided assistance to the Eagle River Watershed group in coordinating sampling efforts on Gore Creek and Black Gore Creek. The Division is also working with the Coal Creek (Gunnison) watershed group to assist with some monitoring on Tomichi Creek and the Slate River.

As a charter 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 has initiated a 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 (www.coloradowaterquality.org). Version 1.0 of the new water quality data map utility, powered by Google Earth technology, is currently under development and will allow users to find and download data. A Clean Water Act Section 319 grant from the Division was continued in 2011 in order to support this project.

G. Augmented Monitoring Funds

In order to upgrade state monitoring efforts and encourage implementation of the Monitoring and Assessment Strategies for States, the EPA placed an additional \$17 million in the Clean Water Act Section 106 state grants in Federal FY 2007 to be used for monitoring purposes. Colorado received \$374,000 of these “Monitoring Initiative” funds for a two-year period to facilitate the implementation of EPA’s 10 Elements document and to conduct a state-wide Probabilistic Survey of water quality as part of a national project. The Division has earmarked these funds for additional monitoring of rivers and lakes, a high alpine lake monitoring study, increased data management capabilities, and a pilot volunteer lake monitoring program. This program continues to fund Colorado’s effort to expand its monitoring and assessment capabilities.

A new position was created to design and formulate complex water quality investigations that entail the collection of additional surface water physical, chemical, and biological samples, and to assess the laboratory analysis data relative to applicable water quality standards and impairments throughout the state. The additional monitoring data generated by these activities will be used to 1) monitor surface water quality above and below point and nonpoint source control projects, and 2) monitor surface water quality prior to and after the construction of wastewater infrastructure projects that are funded using state revolving funds. The resulting data assessments will be used to evaluate the effectiveness of new and existing point and nonpoint source control projects. The information will also be used to prioritize areas for future point and nonpoint source control infrastructure investment. This additional funding is necessary to further implement the WQCD 2009-11 Strategic Plan Goals to 1) protect all designated uses fully attaining water quality standards; and 2) restore impaired water quality to attainable standards. This position, as well as the associated analytical

costs, is funded through the Colorado Water Resources and Power Development Authority (CWRPDA) Board.

IV. PERMIT PROGRAM

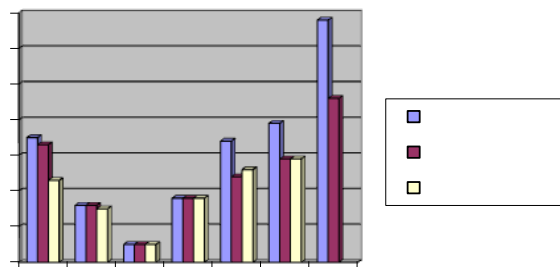
A. Permit Backlog

A backlog is defined as a permit that has not been renewed prior to its expiration date or a new permit that is not issued within 180 days of receipt of the permit application. In May of 2000, the 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 agreement ever since.

Approximately 1500 permits are included in the backlog measure. Since 2000, EPA's backlog reduction program has expanded to include individual process water and stormwater permits and general process water permits. Of these, approximately 350 are for facilities covered by individual permits and approximately 1150 are general permit covered facilities. The Performance Partnership Agreement between the Department and EPA for Federal FY 2010 (October 2009 – September 2010) 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 best estimate of backlog as of October 1, 2010 was 74 percent current (26 percent backlogged), which was short of the 80 percent target. The PPA commitment for Federal FY 2011 (October 2010 – September 2011) is 80 percent current (20 percent backlogged), and the Division anticipates that by the end of September 2011, 71% percent of permits will be current (29 percent backlogged). Looking at these areas independently, individual permits are expected to be approximately 73 percent current (27 percent backlogged) at the end of September 2011. This represents a significant decrease in the backlog from that reported in the last two years (44% in 2010 and 35% in 2009) without an increase in permitting resources. This is attributed to the development and retention of qualified staff and efficiencies reducing the amount of time spent working with permittees in advance of the permit being sent out for public comment. The backlog in general permits fluctuates greatly since the number of facilities under a single general permit varies from 13 to 280. The Division estimates that approximately 70 percent of general permits will be current (30 percent backlogged) at the end of September 2011. The primary reason that the backlog target will not be met for FY11 is that the Division was not able to issue all of the general permits that were targeted for renewal due, in part, to spending more time than anticipated conducting outreach with industry on several general permits planned to be issued by September 30th that are now delayed until December.

Another important element of EPA's backlog reduction efforts is priority permits. EPA considers 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. As part of the Performance Partnership Agreement between the Department and EPA, the Division makes a priority permit issuance commitment. For federal FY 2010, the Division committed to issuing 29 of 40 high priority permits and was able to issue 30 by September 30, 2010. For Federal FY 2011, the Division committed to issuing 46 of 68 high priority permits and expects to meet that commitment. As

indicated in the graph below, the number of high priority permits has increased substantially over the last few years. This can be attributed to an expansion of the universe of permits defined as high priority permits (such as permits that have a TMDL wasteload allocation to be implemented), continued backlog in individual permits, and the inability to issue 100% of all priority permits each year, which compounds the number. The Division agrees with EPA that these permits are a high priority, and would like to commit to issuance of 100% of these permits each year. However, because of resource limitations, the Division has been able to commit to issue only a fraction of the high priority permits the last couple of years. The Division expects this trend to continue until additional resources can be obtained or priorities are revised.



The Colorado Discharge Permit System Regulations require any domestic sewage system that discharges to groundwater to obtain a permit. 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 has been implementing 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 owners, the Division is working with them to upgrade their systems prior to issuing new permits. Progress has been slow due to the lack of adequate compliance assistance resources to spend working with these small businesses (e.g., campgrounds, lodges) and towns. In addition, the engineering work to review and approve the required facility treatment upgrades was not anticipated and will exceed the Division’s capacity to complete reviews within a reasonable time. The Division continues to make incremental progress in that 46% of the 200 facilities have new permit coverage, up from 38 % a year ago.

While the challenges that exist today are large, they are expected to grow in the coming years for several reasons. Many of the general permits are due for renewal. These renewals will be resource intensive due to the large number of discharges covered under the general permit, and the fact that increasingly complex regulatory requirements must be met. This will require more analysis by the Division and increased contact with permittees. The Division must also implement new water

quality standards adopted by the Commission, which requires additional analysis to issue the permits. Engineering reviews are required for new wastewater treatment facilities needed to meet discharge limits based on the new standards, and compliance assistance/assurance resources are needed to work with permittees, most of which are smaller municipalities or private entities.

B. Permits Required for Application of 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. Since the Division has exclusive authority to issue NPDES permits for non-federal activities in Colorado, the EPA permit will not apply to the vast majority of applications in Colorado and the Division is required to issue a permit for the use of pesticides in the state. EPA noticed its draft National Pollutant Discharge Elimination System (NPDES) general permit for comment on June 2, 2010. EPA has been conducting formal consultation under Section 7 of the Endangered Species Act with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS). On June 24, 2011 EPA announced that it was seeking public comment on the Draft Reasonable and Prudent Alternative in NMFS' Draft Biological Opinion on the Proposed Pesticide General Permit. EPA plans to respond to comments received, make any appropriate changes to the permit, and issue a final permit for the discharge of pesticides by the October 31st court deadline.

The Division intends to issue a short-term (18 months to 2 years) general permit based on the final EPA permit. This will allow the Department time to seek through new state legislation permitting and compliance oversight resources to issue permits that require more robust applicant information for larger applicators and to conduct a reasonable level of compliance oversight. The general permit will provide automatic authorization of pesticide applications statewide without the need to submit a permit application. Submittal of a post card to the Division identifying the entity and the location (county) where pesticides are intended to be applied will be required. The Division is working with the Department of Agriculture to coordinate activities since that department is responsible for licensing many of the larger applicators under the Federal Insecticide, Fungicide, and Rodenticide Act.

C. EPA's Clean Water Action Plan

EPA is finishing the second year of implementing its October 2009 Clean Water Act Action Plan which lays out the strategic direction for permitting, compliance oversight, and enforcement at the federal and state levels. The Plan includes three basic tenants. First, EPA must hold the states accountable to meet the performance requirements for delegation of the federally delegated NPDES permit program. Second, the Plan requires improved transparency of the compliance status of permitted facilities so that the public can weigh in on how violations are being resolved. Third, the plan requires that EPA and the states target compliance oversight and enforcement resources to the most important water pollution problems.

The Division met several times with EPA Region 8, to revisit priorities for permit issuance, responses to reported violations, and inspection discovered violations. This resulted in several changes to the Performance Partnership Agreement between the Department and EPA that reduced

the Division's burden on certain less important activities in favor of focusing efforts on improving efficiency and addressing more important compliance issues. Finally, the Division and Region 8 decided to continue the 2010-2011 work sharing agreement under which EPA Region 8 will continue to perform stormwater inspections at construction sites.

EPA continues to work on the development of an electronic reporting rule and the Division has been participating on calls between EPA and the states to provide feedback to make sure the rule does not create issues for Colorado's regulated community. The Division has successfully implemented a pilot program for electronic submittal of discharge permit monitoring data with numerous permittees and these entities will now be authorized to discontinue submittal of paper reports. Many other permittees have taken the training and are in the process of becoming "certified" to submit electronic reports in lieu of paper versions.ata.

D. Addressing Single Event Violations

The Division completed the evaluation of its existing and needed processes and associated electronic tools to measure, track, and appropriately escalate unresolved field-discovered single event violations (SEVs) in accordance with its grant agreement with EPA. The project has the following objectives:

1. Establishment of standard data collection methods for all work units collecting violation data in the field.
2. Automate work flows in the Division's SharePoint (SPIGOT) tracking and work flow management system.
3. Decision points in the work flows that reflect Division-adopted policies for resolving violations.
4. Transmittal of violation data to the EPA ICIS database
5. Make available reports from ICIS or SPIGOT to Division programs in order to facilitate compliance activities.
6. Training of managers and staff to implement the new processes and work flows; and making documentation available for future training.

The Division has completed item 1 and the work flows have been developed and are awaiting improvements in its SharePoint system (Spigot) before being implemented. The remaining items to complete the project are included in the Divisions IT work plan for FY 2012. At that time, the Division will be able to manage these violations in a way that produces the best measurable outcomes.

E. Environmental Agricultural Program

The Environmental Agriculture Program is housed within the Division of Environmental Health and Sustainability. The Ag Program administers the Department's regulatory, permitting, compliance assistance and compliance assurance activities for animal feeding operations (AFOs), concentrated animal feeding operations (CAFOs - i.e., larger dairies, feedlots, poultry facilities) and housed commercial swine feeding operations (HCSFOs). The goal of the Ag Program is to approach

environmental issues using a sector-based approach taking into account the interaction and environmental impact of air, water and waste issues when making regulatory and policy decisions.

The program oversees 92 permitted swine farms that are covered by 11 individual permits, 69 large CAFOs such as dairies, feedlots and poultry facilities certified under Colorado's general CAFO permit, and 115 non-permitted CAFOs that are registered with the state. 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 and 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 FY 2011, the Ag Program completed 40 CAFO inspections. These inspections were conducted at 15 permitted CAFOs, 23 non-permitted CAFOs and two AFOs. The Ag Program also conducted 11 follow-up inspections; held five stakeholder meetings in preparation for an August 2011 rulemaking on Regulation No. 61; responded to 32 CAFO, HCSFO and smaller animal feeding operation (AFO) complaints, updated the state CAFO inventory to more accurately reflect the current known universe of CAFOs in Colorado, i.e., 184, and secured financial assurance instruments from all permitted HCSFOs as required by Regulation No. 66.

In addition to administering the state's regulatory program for animal feeding operations, the Ag Program coordinates environmental issues impacting the agricultural sector such as nitrogen deposition concerns in Rocky Mountain National Park. The Ag Program assists other environmental programs with cross-cutting issues such as air, water and solid waste permitting and regulatory questions including questions related to waste-to-energy technologies, nutrient criteria, septage issues, et. al., at AFOs.

Future goals of the Ag Program include: revising the Colorado CAFO general permit, developing a template document(s) for new nutrient management plan requirements and renewing all CAFO permits starting in the spring of 2012; addressing the sunset clause included in Colorado statute for program-related fees; and migrating Ag Program data into the Division of Environmental Health and Sustainability's Digital Health Department (DHD) database.

F. Water Quality Information Systems

Consistent with the Department's strategic plan and the goals of the National Environmental Information Exchange Network, the Division has undertaken a major modernization effort. Investments in database improvements have focused on replacing multiple legacy systems and providing an integrated system which includes the EPA-required national NPDES database (ICIS) and Safe Drinking Water (SIDWIS) database. Over the last few years the Division has developed a Microsoft 2007 SharePoint (SPIGOT) platform where information is shared and workflows are initiated. The Division has contracted for IT services to help migrate and rebuild the current functionality into Microsoft 2010. The Division initiated a pilot program that allows permittees to electronically submit required monitoring data. This information is submitted through EPA's NetDMR system. The Division plans to implement a solution for capturing, tracking, and responding to Single Event Violations (SEVs) to implement the processes described previously.

Additionally, EPA requires that states maintain a local database for environmental information that has the ability to upload information into the EPA national database. EPA has provided this database in the past, but will no longer provide this support to the states in the future. Colorado has acquired a new system to manage this data (EQUIS). In addition to meeting EPA needs, this system will provide much more capability to manage data internally, to have third parties submit information for WQCD use, and to make our information available to the public in a variety of forms. Testing of the EQUIS system is underway. The identification of all of system requirements has been completed; database design and initial testing are currently underway. Database development and deployment is an extremely resource intensive effort, and timely support of all of the Division's programs' information management needs continues to be a significant problem.

V. INFRASTRUCTURE FINANCING PROGRAMS

A. Water Quality Improvement Fund

During the 2006 legislative session the Colorado General Assembly created and the Commission approved the Rules for the WQIF (CRS 25-8-608[1.5] and 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. In accordance with the statute and Rule 55, the WQIF "shall" be expended for the following purposes:

- Category 1 - Improve the water quality in the community or water body impacted by the violation;
- Category 2 - Fund storm water projects and assist with planning, design, construction, or repair of domestic wastewater treatment works; or
- Category 3 - Provide the nonfederal match funding for nonpoint source projects.

To date the Division has been unsuccessful at obtaining legislative support to increase the WQIF spending authority from the current \$117K per year and allow for the grants issued from the fund to be expended over multiple fiscal years. Currently there are no FTE allocated to the administration of this fund and all funds awarded during the grant cycle must be expended by June 30. Due to the limited spending authority and the compressed grant period, only 12 grants have been awarded since the inception of the program despite significant need in Colorado communities. Since the inception of the WQIF, \$2.489 million in penalties has been paid into the fund.

Only a limited number of grants have been awarded since inception of the program. Inquiries received about the grants indicated that they could not complete their proposed project(s) within the fiscal year.

The Division has only been able to consider small, limited scope projects for funding as a result of the limited spending authority. In addition, the WQIF Rules cap the amount available for each grant category:

- Category 1 = 40% or \$46,878
- Categories 2 and 3 = 30% or \$35,159

Consequently construction projects such as repairing failing septic systems or storm water infrastructure systems are often not feasible.

The following grants have been awarded to date:

Entity	Project Description	Total Project Cost	WQIF Grant Award
2007			
Pueblo City - County Health Department	The project provided educational outreach to community members and stakeholders on best management practices to minimize the potential water quality impacts of leaking or failing septic systems and agricultural runoff.	\$39,730	\$28,885
Palmer Lake Sanitation District	Wastewater collection line expansion to eliminate health hazards from failed septic systems. Failure to repair these systems would likely result in pollution of Monument Creek/Fountain Creek.	\$325,000	\$21,664
Colorado Foundation for Agriculture	This project encourages middle school students to become watershed defenders and protect Colorado's waters from runoff pollution. It provides them with information on sources of water pollution and encourages personal action to prevent non point source pollution.	\$75,000	\$21,655.
2008			
City of Commerce City	Commerce City storm water staff coordinated with permitted industrial dischargers to develop a spatial database. This database will allow Commerce City staff to begin identifying pollutants within their jurisdiction. This will allow the City to focus water quality mitigation activities on specific pollutant issues and at specific storm water outfalls.	\$38,000	\$36,072
Idalia Sanitation District	Construction of wastewater treatment plant improvements that will minimize the increasing levels of nitrates in the Ogallala groundwater. Without these improvements contamination of drinking water wells would have been likely.	\$396,869	\$27,054
League of Women Voters of Colorado Education Fund	The project will print the "Understanding Water Quality Activities Book" which will be used in many elementary and middle school classrooms as the text book on water. This book will also complement many of the science kits being used in elementary schools. The objective of the book is to educate on pollution runoff and its prevention	\$60,000	\$30,335
2009			
Department of Natural Resources	The goal of this project is to reduce the amount of pollution, in the form of excess sediments and chemicals, reaching the Arkansas River. The WQIF helped implement the public education component of this project by producing professional grade signs that will be posted along the river. The signs will inform the public about the pollution concerns and measures that have been taken to prevent the pollution from harming the water quality in the river.	\$796,500	\$ 24,980
Colorado Foundation for Agriculture	This project will incorporate all the pollution prevention educational materials that have been produced over the years into the Colorado Content Standards. The educational materials have been partially paid for by CDPHE NPS funds and WQIF and have been incorporated in and enriched the science curricula of middle and high schools in Colorado.	\$286,000	\$8,421
2010			

City of Delta	This project is the first phase of a \$6.9 million project at the City of Delta's wastewater treatment facility that has a capacity of 2.45 million gallons per day. The overall project maintains primary clarification, adds a new parallel rotating biological contactor (RBC), provides a new secondary clarifier, and uses an innovative effluent river diffuser to meet water quality standards. The Phase 1 Effluent Diffuser project has an estimated capital cost of \$999,000 and additional phases will be pursued in the future to upgrade the remaining. As a result of the project the plant will meet revised discharge limits of E. Coli, total residual chlorine, total ammonia, dissolved copper and selenium limitations.	\$999,000	\$33,400
Woodmen Hills Metro District	This project addresses the Paint Brush Hills Wastewater Treatment Facility which is a complete-mix lagoon process utilizing three lagoons and is not currently able to consistently meet BOD removal requirements largely due to a lack of detention time. This project includes placing an existing out of service pond (#3) into service in order to extend detention time and provide greater BOD reduction. Components include placement of a synthetic liner, equipping the pond with surface aerators and associating piping and inlet/outlet appurtenances. As a result the project will help meet permit conditions.	\$400,000	\$44,500
2011			
Mountain Water & Sanitation District	Violators causing harm to the watersheds results in stricter PEL limits. The existing RBC plant is nearing the end of its design life and will not be able to meet stringent future discharge permit limits of BOD, TSS, ammonia, and nitrogen ultimately improving the overall condition of the watershed.	\$2,300,000	\$44,534
Hot Sulphur Springs, Town of	This project consists improvements or replacement of the aeration system and improvements to the existing wastewater lagoon treatment system, resulting in benefits of reduction of BODs and solid loading into the Colorado River. The Town is also responding to C&D Order MO-100426-1 of April 26th, 2010. This segment was impacted by a WQ violation due to improper management of SW by Colorado Regional Construction.	\$550,000	\$33,401

In 2009 the WQIF fund balance of \$700k was redirected to the state's general fund to assist with balancing the state's budget shortfall. On September 16, 2010 Governor Ritter issued an executive order making \$900k available to communities to help them protect drinking water supplies in the aftermath of the recent Fourmile Canyon and Reservoir Road wildfires. The money for these emergency efforts came from the fund balance in the WQIF. Grants awarded under the Executive Order included:

- \$500,000 to Boulder County for debris removal, aerial mulching and seeding to prevent erosion.
- \$192,500 awarded to Pine Brook Water District for drinking water treatment plant improvements.
- \$1,950 provided to Columbia analytical Services to pay for the drinking water monitoring costs for Pine Brook Water District and Boulder County.

All unexpended funds will be returned to the WQIF.

B. American Recovery and Reinvestment Act

The Division's Drinking Water State Revolving Loan Fund provided \$32,290,880 in American Recovery and Reinvestment Act (ARRA) funds to 22 public water systems. Projects receiving funding from ARRA were identified as the state's highest priority drinking water infrastructure projects. In addition, \$687,040 ARRA grants were provided to 22 public water systems for various activities including planning, design and CO-RADS pilot projects. All ARRA funds were required to be under contract by February 17, 2010; the Division had all ARRA dollars under contract by December 31, 2009, far exceeding the required deadline. As of August 2011, sixteen ARRA drinking water construction projects have been completed, and 95% of ARRA drinking water funds have been expended. As of August 2011 the average number of jobs created is 52.56 with ARRA related drinking water infrastructure projects. Five of the remaining drinking water infrastructure construction projects are anticipated to be completed by December 2011, with the remaining project to be completed by early 2012.

Conditions of the ARRA grant required that states provide 50% of the funds in additional subsidy (e.g., lower interest rates, loan forgiveness, or grants) and 20% of the funds were required to be expended on "green" infrastructure. Over \$17.1 million for drinking water infrastructure was awarded to Colorado communities in the form of principal forgiveness (e.g., grant). Funding in the amount of \$9.9 million was awarded to public water systems that implement green components as part of their drinking water infrastructure projects. A significant number of green projects involved the replacement of aging and failing drinking water distribution lines resulting in an annual savings of more than 45 million gallons of potable water. Colorado exceeded the 20% green infrastructure requirement by nearly 9%.

The Water Pollution Control State Revolving Fund provided over \$30 million in ARRA funds to 12 of the state's highest priority wastewater/water quality projects. All wastewater related ARRA dollars were under contract by September 30, 2009 far exceeding the required deadline.

As of August 31, 2011, nine of the 12 projects were completed and 90% of the ARRA funds have been disbursed. As of August 2011 the average number of jobs created is 50.36 with ARRA related wastewater infrastructure projects. More than \$15.6 million was awarded in form of principal forgiveness; the remaining funds were loaned out at interest rates of 0%-2%. Colorado awarded 25% of the ARRA funds to wastewater/water quality projects that implemented green components of the project. Two of the remaining wastewater infrastructure construction projects are anticipated to be completed by December 2011, with the remaining project to be completed by mid-late 2012.

VI. CONCLUSION

The Division continues to 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 identifying work processes (e.g., permitting and facility design) to be evaluated through the Lean process, a process designed to make systems more efficient by reducing or eliminating waste. This may be done with the involvement of stakeholders where appropriate.

The Division continues to experience a growing resource gap based on increased workload due largely to population growth and the requirement to implement new federal and state requirements. The Division is evaluating its program activities to set new priorities that 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.

APPENDIX A

Water Quality Forum Work Groups Status

Last Updated September 16, 2011

Work Group	Chair/Coordinator/ WQCC Contact	Next Meeting(s)	Status
1. Nutrients	Chair: Paul Frohardt (3468) Coordinator: Mary Fabisiak (303-658-2187) Andrew Todd	August 29, 2011 1:00 p.m. CDPHE Sabin Room September 26, 2011 1:00 p.m. October 12, 2011?	Nutrient criteria rulemaking delayed to March 2012, to provide time for completion of a cost-benefit study. In early July the Division circulated a second draft of proposed regulatory language and in early August stakeholders submitted comments on the new draft. The cost-benefit study is continuing.
2. Practical Quantitation Limits Guidance	Chair: Dave Akers (x3591) Coordinator: Michelle Ryerson (303-286-3360) Andrew Todd	Full Group Meeting TBD Technical Subcomm. TBD	Guidance for organic chemicals finalized. The technical subcommittee delivered and is receiving responses to a survey of laboratories to gather data on detection levels/methods for inorganic parameters and metals. The survey also requested the above information for organic parameters to reevaluate organics PQLs. Work to evaluate the responses using the approach in the PQL Guidance is being discussed between the WQCD and the Lab.
3. Permit Issues Forum	Chair and Coordinator: Christine Johnston (303-294-2224) Jill McConaughy	August 30, 2011 1:30 p.m. Brown & Caldwell October 3, 2011 1:30 p.m.	The group is continuing to discuss issues identified on a 2010/2011 work plan. The Division participates in forum meetings every other month, in the even-numbered months.
4. E. coli Issues	Chair and Coordinator: Jim McCarthy (720-898-7765) Chris Wiant	November 9, 2011 9:30 a.m. UDFCD Board Room	Tentative 2011 topics: TMDL updates on Boulder Creek and Big Dry Creek; Denver's findings through implementation of the Segment 14 TMDL; an update on the findings and data available in the national BMP database; and a look at the revisions to EPA recreation water quality criteria.
5. Onsite Wastewater System Management	Chair: Dave Akers (x3591)	October 5, 2011 1:30 p.m.	A rulemaking hearing scheduled for October 2011 will be postponed to a later date. Two subcommittees are proceeding to develop draft proposals, which

	Coordinator: Barbara Dallemand (x2366) Chris Wiant	CDPHE DOC	will be discussed by the full work group.
6. Section 303(d) Listing Methodology	Chair: Becky Anthony (x3339) Coordinator: Amy Woodis (303-286-3240) Robert Sakata	No additional meetings scheduled.	The Administrative Action Hearing on the 2012 Listing Methodology was held on March 8, 2011. The work of this work group has concluded for the 2012 listing cycle.
7. Wastewater Design Criteria	Chair: Jennifer Miller (x3507) Coordinator: Connie O'Neill (970-962-2785) Lauren Evans	August 24, 2011 2:00 p.m. CDPHE Sabin Room September 14, 2011 9:00 a.m.	This work group has been established to consider revisions to Policy 96-1. Specific areas to be updated include both administrative and technical components of the policy. The Division provided a draft policy for public review in late June 2011. Three follow-up meetings are planned to discuss the draft and the public comments received. An Administrative Action Hearing scheduled for November 2011 will be rescheduled for a later date.
8. Water Reuse	Co-Chairs: Dave Akers (x3591)/Janet Kieler (x3599) Coordinator: Damian Higham (303-628-6537) John Klomp	October 13, 2011 1:00 p.m. CDPHE Room C1E December 8, 2011 1:00 p.m.	The work group is scheduled for three meetings to continue to discuss work being conducted by three subcommittees on (1) new uses, (2) reuse impoundments and (3) treater/user administrative issues. It is anticipated that a draft framework for regulatory revisions will be available by fall 2011, and a rulemaking hearing date recommended to the Commission by early 2012.
9. Water Pollution Control Revolving Fund	Chair: Dick Parachini (x3516) Coordinator: Robert Sakata	August 31, 2011, CDPHE Sabin Room, 8:30 a.m. September 16, 2011, SDA Conference - Beaver Run Resort, Room Peak 14, Breckenridge, 1:30 p.m. October 12, 2011, CDOT Auditorium, 10 a.m.	This work group is scheduled for four meetings to discuss the need for revising the Water Pollution Control Revolving Fund prioritization process and the associated Division work efforts. The Division will be presenting ideas on how to find a balance between funding point source and nonpoint source projects. It is anticipated that draft changes to the Intended Use Plan and WQCC Regulation No. 51 (Water Pollution Control Revolving Fund Rules) will be made available by early fall 2011 and a notice of rulemaking hearing submitted in late October 2011 to support the April 2012 rulemaking hearing.