

# Water Quality Control Division 2011 Request for Information Report

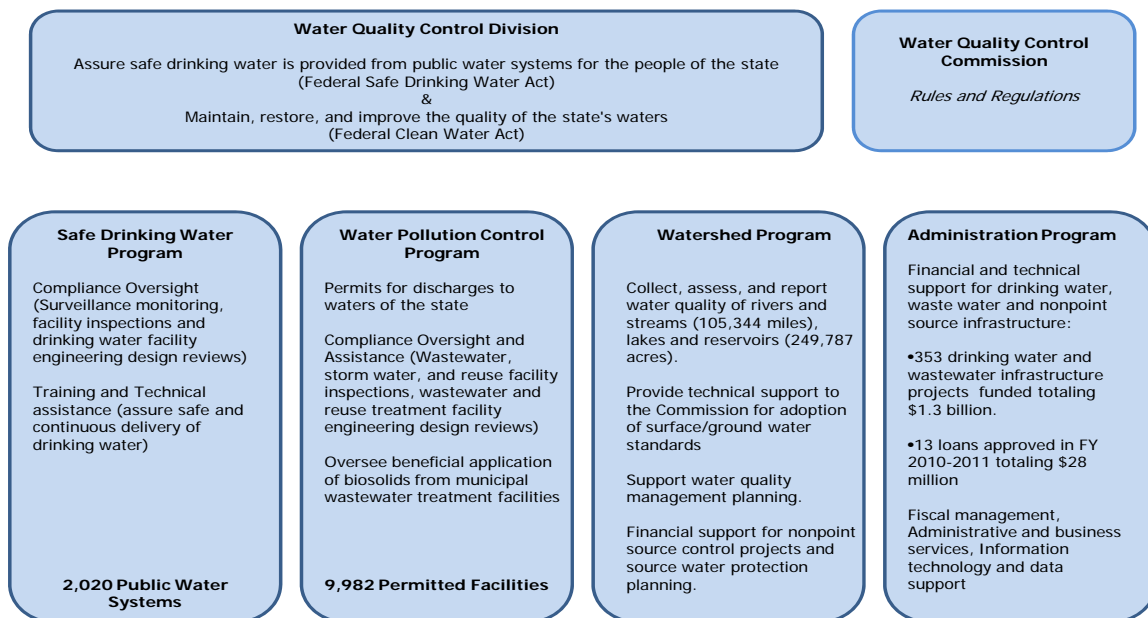
The management of Colorado’s water quality is crucial to the continued development of the State, and to the quality of life the state offers to its citizens. The Water Quality Control Division (Division) plays an important role in the protection and restoration of the State’s streams, lakes and reservoirs and in assuring that the citizens of Colorado have safe water to drink.

**Mission: Protect and restore water quality for public health and the environment**

**Strategic Goals:**

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

The Division is organized into three programs: Safe Drinking Water, Clean Water (includes the Water Pollution Control and Watershed Programs) and Administration.



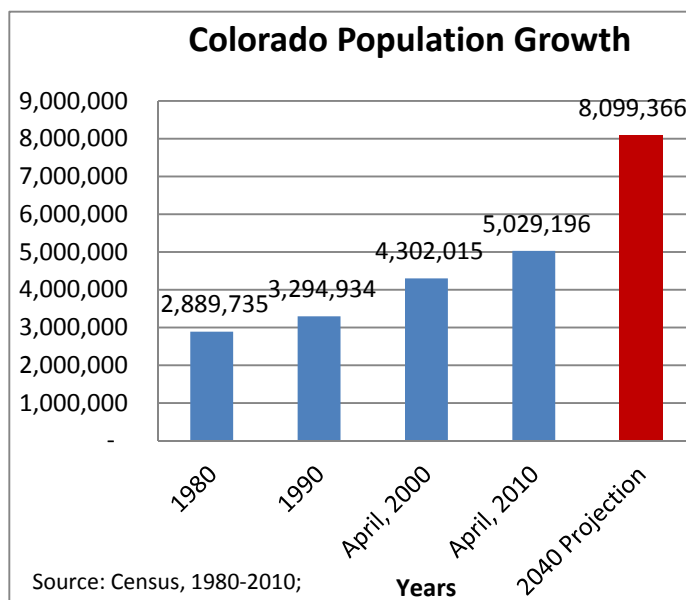
In order to protect water quality and public health, the water quality Control Division implements and enforces water quality management policies and rules established by the Water Quality Control Commission (Commission) consistent with the authorities established in the Colorado Water Quality Control Act, C.R.S. § 25-8-101 et. seq. The Governor-appointed Commission develops the rules for water quality management in Colorado. It holds hearings in each of the state’s major river basins to set water quality use classifications and standards, and develops regulations to ensure protection of those uses and standards. The Commission is also responsible for adopting safe drinking water regulations.

**Executive Summary**

Protecting, maintaining and restoring Colorado’s water resources is a dynamic process that continues to change due to population growth in the state and the attendant pressure on a limited supply, and a regulatory framework that continues to evolve as our understanding and knowledge of water quality issues improves and science and technology advances.

Providing appropriate regulatory oversight and technical assistance to 2,050 public water systems, 9,982 permitted facilities and 840 individual water bodies to protect the health of Colorado’s citizens, visitors and its environment is challenging with the current resource levels.

Current population projections estimate a 39% increase over the next three decades. This will result in increased demands on all water supplies for drinking water use and subsequent municipal wastewater treatment. The additional population will also result in increased stormwater flows from the expanding urban areas across the state. Increased impacts to water quality will occur without proper planning and implementation of appropriate source controls.



This report provides an overview of the regulated universe, summarizes a few program highlights, discusses strategies for achieving program objectives and compliance with federally established drinking water standards, documents the upcoming challenges and attempts to quantify existing and future resource needs.

The Division has identified an immediate need of 25.5 FTE for full implementation of the Safe Drinking Water and Clean Water Act Programs. 36 additional FTE will be needed over the next three years for an overall resource need of 61.5 FTE. The justification for the resource needs is provided in the following pages. The Division utilizes federal funds (61%), cash funds (26%) and general funds (13%). Cash funds used to support the Division are derived from fees paid by public water systems and permitted facilities. These fees are established in statute (25-8-502 and 25-1.5-209) and require legislative action to modify.

This report is divided into two distinct sections providing information on both the Safe Drinking Water and the Clean Water Programs. This report demonstrates the improvement in compliance rates in the Safe Drinking Water Program when additional resources were added to address

compliance related issues. This information is provided as a basis to support the additional resources needed to continue to provide appropriate regulatory oversight and technical assistance.

## Safe Drinking Water Program

The Safe Drinking Water Program strives to prevent waterborne disease and reduce chronic public health risks from drinking water by implementing the federal Safe Drinking Water Act and Colorado’s drinking water statutes and regulations. The Program provides compliance oversight, assistance, support, and training to public drinking water systems so they provide safe drinking water to the public.

### The regulated universe

Public drinking water systems come in a variety of shapes and sizes. A public drinking water system is not necessarily publicly owned, it is simply a water system that has more than 15 water taps or serves more than 25 people per day. People who own their own private wells are responsible for their well’s operation and maintenance. These wells are not regulated by the state. The state regulates the quality of water provided by public community and non-community water systems to ensure its safety.

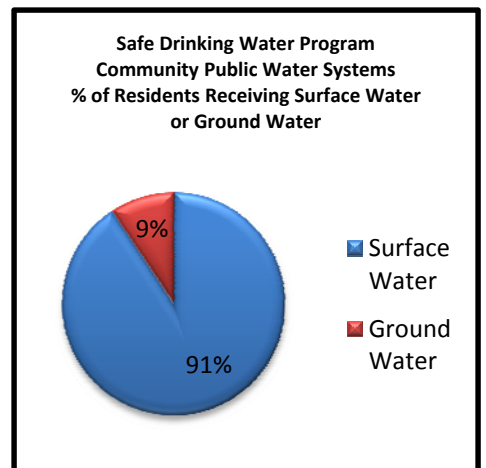
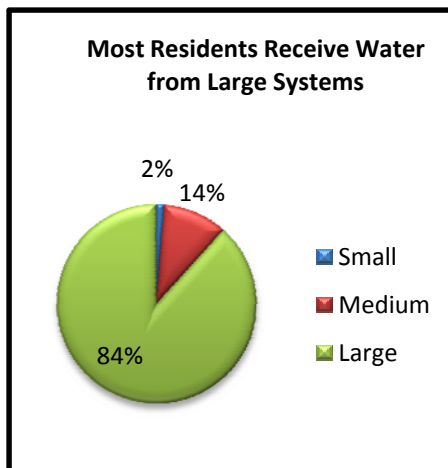
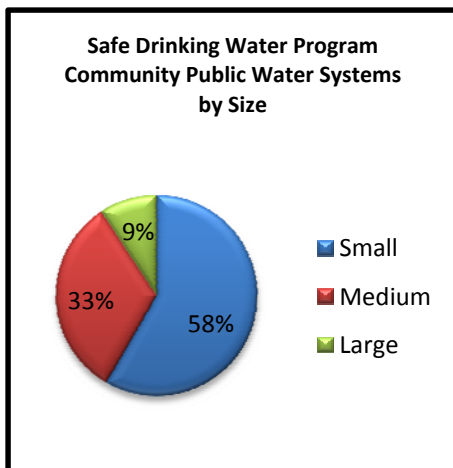
**Public Water Systems**

**Community Water Systems** (877 systems in Colorado) are public water systems that serve the same people year-round. Most residences are served by community water systems.

**Non-Community Water Systems** (1176 systems) are public water system that do not serve the same people year-round. There are two types of non-community systems:

- **Non-Transient Non-Community Water Systems** (179) serves the same people more than six months of the year, but not year-round (e.g., a school with its own water supply),
- **Transient Non-Community Water Systems** (997) serves the public but not the same individuals for more than six months (e.g., rest area, lodges, or campgrounds).

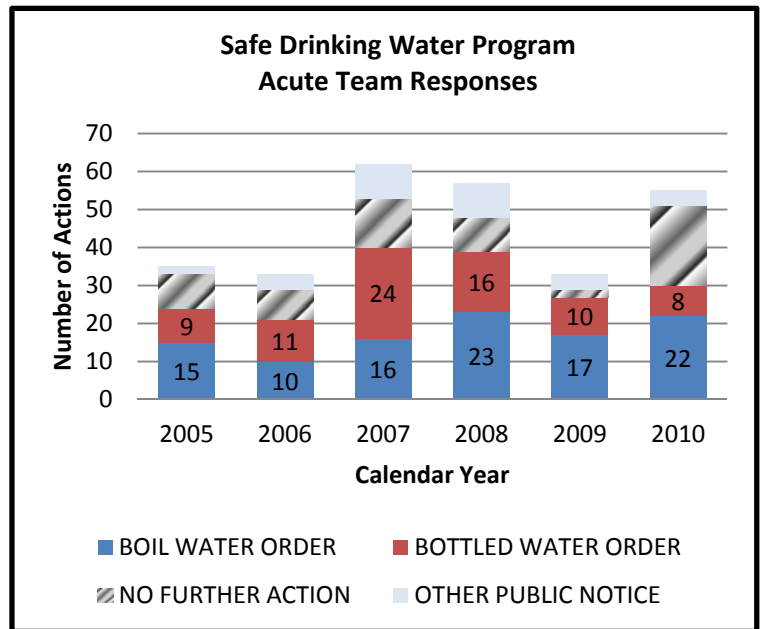
Most community public water systems are small, serving fewer than 500 people as compared to medium or large systems that serve 501 – 10,000 and more than 10,000 people, respectively. Most of the small systems get their water from wells that draw water from beneath the ground surface (groundwater). However, most people live in the more populated cities in the state like Denver, Colorado Springs, Grand Junction, etc. These large systems get their water from rivers or storage reservoirs, and are referred to as surface water systems. Thus, most Colorado residents drink surface water after it is filtered and disinfected.



## Program Highlights

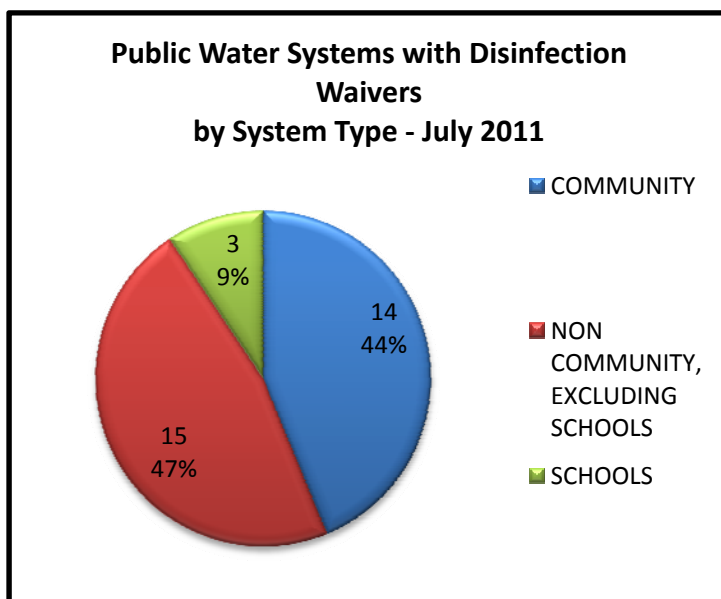
### Preventing Waterborne Illness

Responding to situations that present an imminent risk to public health in the form of waterborne illness is the Safe Drinking Water Program's number one priority. Major water main breaks or failure of filtration or disinfection equipment may result in bacteria or other disease-causing organisms at the consumers' taps. When the Division becomes aware of such situations, a specialized team assesses risk, and assists the water system to correct the problem and notify the public. These situations often result in the issuance of a boil or bottled water advisory. The graph, on page 3, shows the number of times the Acute Team has responded to these situations in the past six years, and the numbers of boil/bottled water notices that have resulted.



### Disinfecting Colorado's Drinking Water

Colorado's drinking water regulations have always required disinfection, but allowed for waivers from this treatment requirement for some groundwater systems. In March 2008, the City of Alamosa experienced a major waterborne disease outbreak that sickened about 1,300 people and resulted in one death. Alamosa had a waiver from disinfection.



In 2010, the Water Quality Control Commission adopted new regulations preventing the issuance of new disinfection waivers. The new regulations, effective November 30, 2010, also provide for more stringent controls for systems with existing waivers.

In July 2007, there were 126 public water systems operating with disinfection waivers. From 2007 through 2010, the Division reviewed the 126 waivers; 89 waivers were either withdrawn in accordance with regulation or no longer applicable because the water system chose to disinfect. Currently, 32 public water systems are operating with disinfection waivers.

Numerous public water systems without disinfection waivers struggle to disinfect properly. The Division addresses this important public health issue by providing assistance, and ultimately taking enforcement if needed. In fiscal year 2011, an inter-disciplinary team of compliance professionals

provided assistance to 34 systems that are required to disinfect but are not doing so. All but five of these systems serve non-community populations. *Because the Division often discovers lack of disinfection or inadequate disinfection during inspections, the assistance and/or enforcement resources needed to address disinfection failures is expected to increase in the future.*

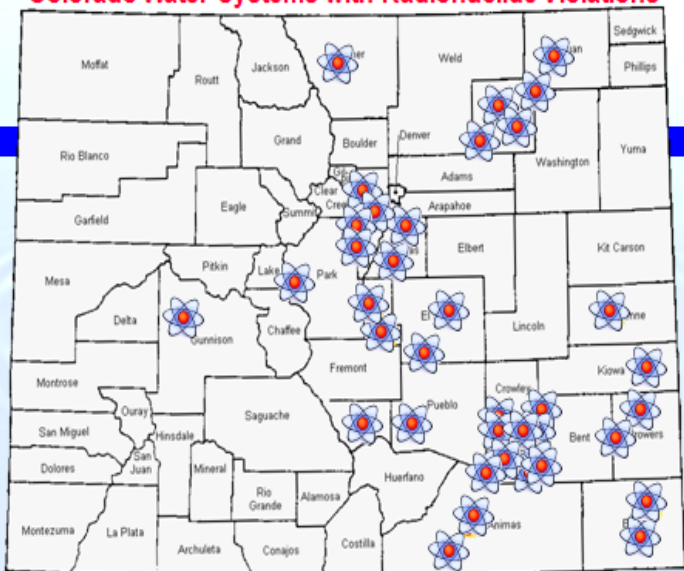
**Radionuclides in Our Drinking Water: The Number One Chronic Contaminant**

Naturally occurring radium and uranium in groundwater wells that serve small communities represent the largest, long-term cancer and kidney toxicity risks to the public in Colorado from drinking water. Historically, approximately 54 systems serving more than 75,000 people have experienced these problems. These are very complicated problems to solve and can take a very long time.

**Current Public Water Systems Exceeding a Radionuclide Standard**

County	Number of Water Systems	Population Affected
Baca	2	205
El Paso	3	348
Gunnison	1	265
Jefferson	3	1,155
Kiowa	1	80
Logan	2	14,029
Morgan	1	300
Otero	12	2,894
Prowers	1	1,500
Pueblo	1	100
Teller	1	80
<b>Total</b>	<b>28</b>	<b>20,956</b>

**Colorado Water Systems with Radionuclide Violations**



The Division has focused resources on assisting these systems, and in 2010 the number of systems and people impacted has dropped to 28 and 21,000, respectively. Most of the systems are located in Otero County, although most of the affected population is served by two systems in Logan County; the City of Sterling is the largest system and expects to have treatment installed by early 2013. In spite of the progress mentioned above, many of the systems with radium and uranium in their water supplies are unable to secure the funding needed to address the problem due to various issues including affordability and maintainability of a new drinking water treatment facility.

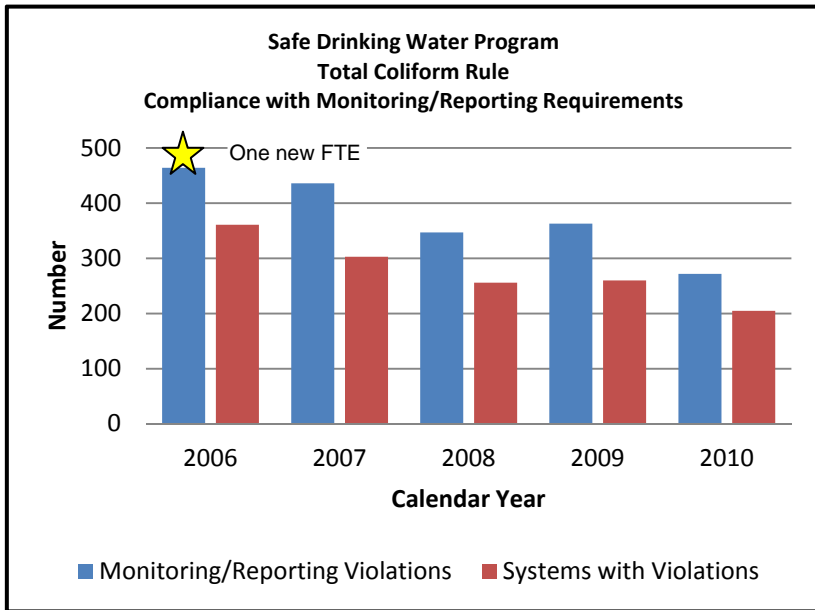
***Twelve communities located in the Lower Arkansas River Valley may not have safe drinking water until the Arkansas Valley Conduit from Pueblo Reservoir is completed, possibly in 2022.***

**STRATEGIES FOR ACHIEVING PROGRAM OBJECTIVES**

The Safe Drinking Water Program measures public water systems’ compliance through self-reported monitoring data, identified health based violations, and inspections.

**Self-Reported Data**

Compliance monitoring of regulated facilities by the Division is one important component of the Safe Drinking Water Program. Drinking water treatment plants are required to collect water samples, conduct chemical or biological testing, and submit the results to the Division according to schedules established in regulation. The Division relies on facilities to “self-report” monitoring results as the foundation for determining if facilities are providing safe drinking water.

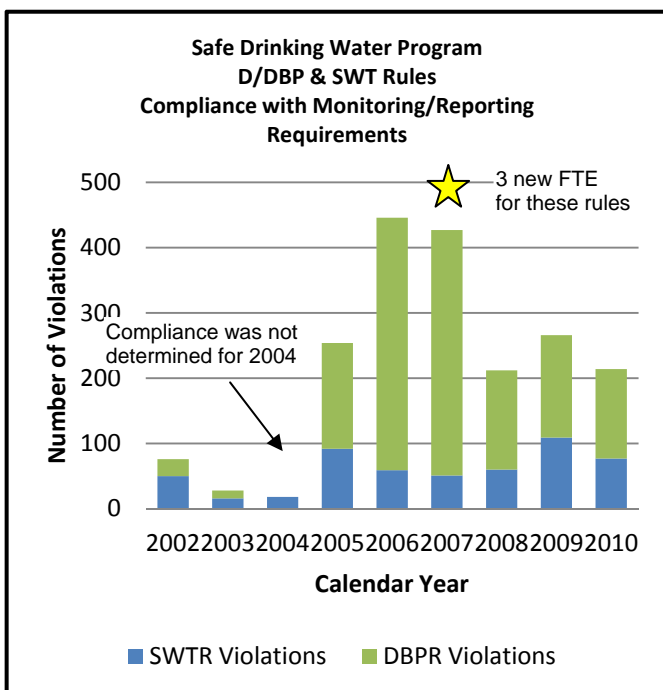


Example One: Increased Compliance with Bacteria Monitoring Requirements

If facilities do not report the results of chemical and biological testing, then the Division cannot determine if the quality of drinking water provided to the public meets federally established standards. If the facilities do not conduct the sampling and testing, then neither the facility nor the Division is able to know whether a risk exists. Furthermore, the public will have no access to information regarding the quality of the water they drink. *Historically, compliance rates with the self-reporting requirements have been low. Because of the importance of these data, addressing these shortfalls has been, and will continue to be a priority.*

The Safe Drinking Water Program has made significant progress in improving compliance with self-reported data requirements. Progress is due, in part, to an increase in compliance assurance staffing levels since fiscal year 2007. *The following examples illustrate that with additional staff, the Division is better able to identify violations and assist public water systems struggling to meet monitoring requirements.*

In late fiscal year 2005, the Division used federal funding to add an FTE to manage the federally mandated total coliform rule – that is, the requirement to monitor for bacteria in our public water supplies. As a result of the additional FTE, the number of systems that failed to perform this important testing began to decrease and was at an all-time low in calendar year 2010 (Example One above).



Example Two: Increased Compliance with the DBP & SWT Rules

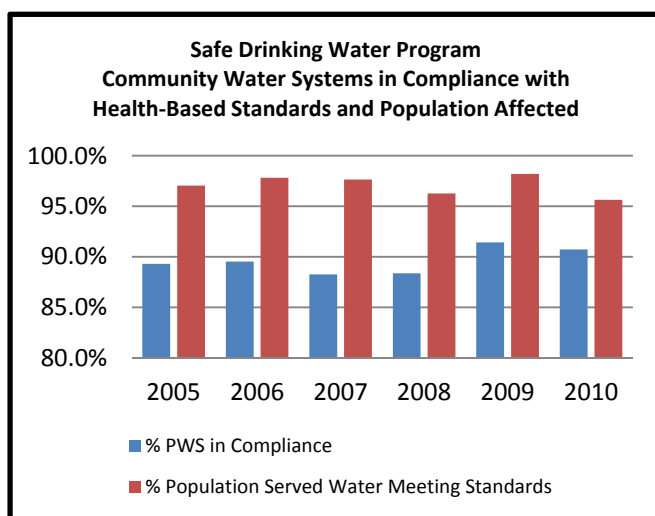
In fiscal year 2007, the legislature approved three FTE to address the state’s inability to implement the Disinfection/Disinfectant Byproducts Rule (DBPR) and the new aspects of the Surface Water Treatment Rule (SWTR). These two rules, adopted by the Board of Health in 2002, establish standards for certain treatment chemicals and for improved reduction of pathogens (such as giardia and cryptosporidium) in surface water, respectively. Almost all systems must comply with the DBPR, and most of Colorado’s population (91%) receives water subject to the SWTR. The seemingly low number of violations in 2004 is actually a result of the Division’s inability to determine compliance for that period due to lack of resources (Example Two).

*Overall, the addition of new staff, improved data systems and efficiency efforts have resulted in improved compliance rates with all monitoring requirements in aggregate.*

### Health-Based Violations

“Health-based violations” is the term used to identify exceedances of federally mandated primary drinking water standards, such as the presence of chemicals in drinking water, or a filtration failure at a treatment plant. These conditions are usually discovered through the review of self-reported monitoring data, but may also be identified during inspections. *The Division currently is able to report with confidence health-based compliance rates based on self-reported data. However, due to inadequate data management systems and insufficient staff the division has difficulty identifying and following up on field-discovered health-based violations.* The Division is working on new information transfer protocols that should allow for reliable measures of all health-based violations by calendar year 2013.

The Division monitors compliance for 2,050 public drinking water systems; staff are responsible for reviewing self-reported data, detecting violations, and assisting systems with monitoring requirements. The Division provides all operators with written monitoring schedules, a monthly email reminder to collect samples, and other directed compliance assistance. Although some public drinking water systems struggle to meet monitoring requirements, *the Division sees its current ability to prevent, discover, track and resolve this type of non-compliance as an area of success.*



*In 2010, 91% of community water systems serving 96% of Colorado’s population provided water that met health-based standards. The national compliance goals for system compliance and population-served are 90% and 91%, respectively. The overall compliance rate for community drinking water systems for all self-reported requirements was 71% in 2010.*

### Inspections

Inspections by Division technical staff are another important means of providing technical assistance and measuring compliance. Inspectors document conditions that have the potential to result in production of finished drinking water that poses an unacceptable risk to health and welfare of the public served by the water system, as well as clear violations of the regulations. All significant findings, whether considered deficiencies or violations, require follow-up, with the goal of tracking each issue to ultimate resolution within time frames that protect consumers.

In 2010, the Division conducted 560 inspections on its own and oversaw 200 inspections at simple systems conducted by the local health departments, which resulted in more than 3500 findings that required entry into the data system. Forty one percent (230) of the Division’s inspections found one or more significant deficiencies and 85% (476) of those inspections required some level of follow-up activity. Twenty seven percent (151) of water systems the Division inspected could not resolve the significant deficiencies within a reasonable time frame, which is one criterion for a referral for possible formal enforcement, and at least 90 enforcement referrals per year are expected going forward.

Although correction of inspection-discovered deficiencies and violations has always been a requirement, the Division's data systems and practices do not adequately support the management and reporting of inspection results. Due to recent process changes the Division feels that the 2010 inspection data are sufficiently reliable to be predictive of the compliance assistance and enforcement follow-up workload expected in future years. *That is, the Division expects that most inspections will require follow-up, and approximately 25% will result in an evaluation for formal enforcement.*

In addition to compliance oversight activities, the Division provides technical assistance and training; reviews design documents for treatment and storage facilities, and when necessary enters into formal enforcement orders against systems who fail to comply. Furthermore, the Division provides infrastructure funding through the State Revolving Loan Fund, as discussed later in this report, to assist water systems to make infrastructure upgrades that will ensure compliance in order to protect health.

### Assistance and Training

When public drinking water systems struggle to meet fundamental requirements to collect water samples that demonstrate the safety of our water supplies, it is often because they have failed to adequately plan these sampling activities. The Division provides coaching assistance to impacted water systems to help them develop sampling plans. Based on rapidity of filling training classes and turning away interested water systems, the demand for training and compliance assistance is about double the current level of service. The current backlog of systems that could benefit from coaching assistance is about 200 systems. Staff estimates that there are *approximately 600 additional public water systems that could also benefit from technical assistance if Division resources were increased and two additional coaches were added.*

### Review of Treatment and Storage Facility Designs

Review of designs for new treatment and storage facilities and changes to existing facilities is another important mechanism for protecting public health. The Division's review and approval of these designs help to ensure that source water is adequately treated, that treated water is adequately protected from contamination and that the facilities can be properly operated and maintained. The technical staff of the Division work with communities and their consultants to ensure the drinking water infrastructure is designed, funded and constructed in a manner that ensure safe drinking water.

### Enforcement Escalation

The Department exercises its statutory duty and responsibility to protect public drinking water supplies using all available tools. When assistance efforts do not result in systems correcting violations, then the Division must take steps to compel compliance. In all cases, formal action establishes achievable deadlines for which the Division and the water system are accountable. In many cases, these deadlines actually support long-term capital improvement efforts of publicly-owned systems.

Colorado's Safe Drinking Water Program operates a well-run and respected formal enforcement program. Colorado has primary enforcement responsibility for the Safe Drinking Water Act. The U.S. EPA establishes national criteria for escalating non-compliance to formal enforcement actions; primacy agreements with the EPA require that the state take timely action to address non-compliance that meets the national criteria. "Timely action" may take a variety of forms including more robust technical assistance, or issuance of a formal enforcement action. Each formal action issued by the Department requires extensive follow-up, particularly when the corrective actions involve building new treatment plants or other longer term activities.

Historically, an average of 35 systems meets the national enforcement criteria each calendar quarter. Some systems remain on the targeting list for more than one quarter. In fiscal year 2011, 69 systems met the EPA criteria for formal action. Of those 69 systems, the Division was able to utilize compliance or technical assistance and avoid formal action for 43; formal enforcement was necessary for 26 systems. These numbers do not include systems identified for enforcement evaluation as a result of inspections. *Based on 2010 inspection results, the Division expects the enforcement work load to nearly double.*

Currently, the enforcement program is staffed by three enforcement specialists and a 0.5 FTE legal assistant. In addition to addressing new cases each quarter, the 3.5 FTE are responsible for tracking and following-up on orders issued in previous quarters; currently, they are tracking 83 open orders. With no administrative support, professional staff must perform the administrative functions, such as entering data and filing documents. *In order to handle the additional enforcement work associated with inspections, the Division will need to nearly double its enforcement staff resources.*

## **Challenges facing the Safe Drinking Water Program**

### **Swimming Pools**

Due to lack of resources, The Division is unable to provide regulatory oversight for public swimming pools and other aquatic recreational facilities. There is a swim pool regulation establishing the proper design and operation of public swimming pools, but there has never been FTE-funding for its implementation. *Due to the lack of funding, the regulations are implemented at the local level with the Division serving a limited assistive, consultative role for the local health departments and other agencies.*

Outbreaks of Cryptosporidiosis associated with swimming pools and other aquatic recreational facilities in other states have shown that the illness rapidly reaches epidemic levels and has caused fatalities - especially to those with compromised immune systems.

*The number of essentially unregulated public swimming pools and other aquatic recreational facilities in Colorado is unknown.* As local agencies have struggled with budgetary issues, some have made a decision to discontinue the local swimming pool programs. *The Division does not have the capacity to assume any of these responsibilities for which the counties and other local agencies have decided to discontinue support.* This situation unfortunately increases the public health risk associated with swimming pools and other aquatic recreational facilities.

***In August of 2011, there was an outbreak of cryptosporidium, which causes diarrhea/gastrointestinal illness and can cause death in vulnerable populations. The outbreak was linked to the public swimming pools in Walsenburg and the surrounding areas. Twenty-two people got sick.***

### **Disinfection By-Products, Stage Two**

The transition from federally mandated Stage 1 to Stage 2 disinfection by-product requirements, starting in 2012 and continuing through 2014, will result in a broader range of public water systems being regulated under the rule. The Stage 2 federal requirements are more stringent than Stage 1 requirements and, as a result, the Division may see a greater number of non-compliant systems. This will result in increased volume of compliance, technical assistance and enforcement activities.

Given the greater number of systems being regulated:

- there will also be a larger volume of data processing required

- the current EPA data system does not automate all compliance tracking needs and the Division will need to perform some of these activities manually.

Based on our experience with implementing Stage 1 federal requirements:

- outreach and training activities will need to be increased
- bringing systems with DBP issues into compliance is difficult and often requires staff to provide additional technical assistance to the systems.

Given the greater stringency of Stage 2 federal requirements:

- more staff time will need to be devoted to providing the technical assistance to public water systems
- more systems may be out of compliance and there will be a need for more enforcement actions to be taken.

As a result, additional FTE will be needed to provide technical assistance, data processing and enforcement. The need for additional FTE is expected to occur in fiscal year 2014, and the Division will be able to estimate resource needs beginning in calendar year 2012, as more compliance data are available.

### The Revised Total Coliform Rule

The Revised Total Coliform Rule will be effective in Colorado in 2015. The Revisions to the Rule will require public drinking water systems that may be vulnerable to fecal contamination to do an assessment to identify whether any sanitary defect is present, correct the defects and perform public notice. The rule will apply to all of Colorado's approximately 2,050 public water systems.

Water systems routinely test for bacteria in the drinking water. Under current rules, a positive test result mostly just triggers more sampling. Under the new rules, water systems have to conduct assessments and fix problems detected. Thus, the Division will need to take a more proactive approach to positive bacteria results including better tracking of repeat sampling, overseeing assessments conducted by water systems, issuing violations if those assessments don't get done in a timely fashion, reviewing assessment reports, ensuring that detected deficiencies are corrected and changing our approach to public notice. Based on sample and violation data from 2010, the Division estimates that additional resources will be needed to address and assist 40 systems per year with the new requirements. An additional two – three FTE beginning in 2015 is a conservative estimate of the resource need.

## Clean Water Program

The Clean Water Program strives to protect and maintain Colorado's lakes, reservoirs, streams and groundwater and restore impaired water quality by implementing the federal Clean Water Act and Colorado's water quality regulations. The protection, maintenance and restoration of Colorado's water resources is managed by the Watershed and Water Pollution Control Programs. Clean water activities include monitoring and assessing Colorado's water quality, establishing protective water quality standards in accordance with scheduled frequency set by the Water Quality Control Commission, providing discharge permits that are protective of the established standards and providing compliance oversight, technical and financial assistance for approximately 10,000 facilities. The Clean Water Program relies on data-based decisions to implement their various regulatory and non-regulatory components. These decisions are founded on the collection, analysis, interpretation, and reporting of the physical, chemical, and biological conditions of the water bodies across the state.

## Water Quality Status

Understanding water quality across Colorado is dependent upon the ability to sample water bodies of interest, analyze the samples, assess the quality of the water and report that information in a timely and comprehensive manner.

	River and Streams Total Miles	Lakes and Reservoirs Total Acres
Attain Standards	51.6%	30.1%
Not Attain Standards	12.0%	30.9%
Insufficient Data	36.4%	39.0%

Every two years, in accordance with Section 305(b) of the federal Clean Water Act, the Division must submit a report to EPA that documents the status of water quality around the state. A summary of water quality status across Colorado in 2010 is summarized in the table.

This table illustrates the past efforts of protecting existing water quality, but highlights the need to also pursue activities that will address water bodies that do not attain water quality standards. In addition, it also identifies that there are a considerable number of water bodies where data is insufficient to determine if standards are being attained and the classified uses protected.

***There are currently over 840 individual water bodies defined by the Commission that require periodic monitoring.***

The Division develops and the Water Quality Control Commission approves the 303(d) List of Impaired Water Bodies in conjunction with the 305(b) report. The current list identifies a total of 338 water bodies impaired for one or more pollutants. Broad categorization of these impairments is summarized as follows:

Pollutant	Percent Total	Use Classification Impaired
Metals, pH	49%	Aquatic Life
Selenium	17%	Aquatic Life
<i>Escherichia coli</i>	10%	Recreation
Dissolved Oxygen, Nitrates, pH (Lakes/Reservoirs)	10%	Aquatic Life, Recreation, Water Supply
Uranium, Temperature, Sediment	8%	Water Supply, Aquatic Life
Mercury, Other	6%	Aquatic Life (Fish Tissue), Misc.

The list of impairments illustrates the impact of Colorado's rich mining heritage in that precious metal mining brought the first settlers to the state, which resulted in the release of acid mine drainage into Colorado waters. The development of water resources for agricultural and urban use has resulted in the leaching of selenium from the underlying geologic formations into streams and poisoning fish. The other identified pollutants reflect the impact of the combination of rural and urban development across the state.

### Water Quality Restoration

The maximum pollutant load that a water body can assimilate and still attain a standard is referred to as the "Total Maximum Daily Load" (TMDL). In instances where a water body does not attain an assigned water quality standard it is identified as "impaired", added to Colorado's 303(d) List of Impaired Waters Still Requiring establishment of a TMDL, and a TMDL is subsequently developed to address the impairment. In developing a TMDL for an impaired water body, the Division must quantify the pollutant sources and allocate allowable loads to the contributing sources, both point (permitted waste load allocations such as from treatment plants) and nonpoint (uncontrolled load allocations such as from storm run-off), so that water quality standards can be attained for that segment. The Division submits completed TMDLs to EPA for approval as required by the federal Clean Water Act.

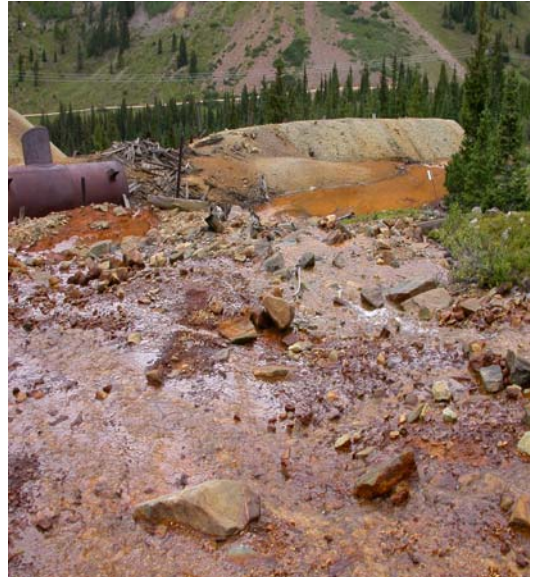
***The majority of the completed TMDLs identified nonpoint sources as the primary pollutant source.***

To date, approximately 90% of Colorado's approved TMDLs address legacy mining impacts. Of this total, approximately 55% have been developed to address cadmium, copper and zinc impairments, all of which is associated with pollution from mine sites, most of which are abandoned. The remaining 10% of completed TMDLs have addressed a range of pollutants, including such impairments as sediment, nitrates and mercury. At this point in time, *less than 5 segments out of a total of 79 impaired segments have been restored to attain the applicable water quality standards over the last 5 years using nonpoint source management funding.*

### Water Quality Protection - Nutrient Control Efforts

Of particular note is the effort underway to address the effect of nutrients (nitrogen and/or phosphorus) on Colorado's rivers, lakes and reservoirs, perhaps 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. At that time nutrient regulations were established for a handful of major reservoirs in the state. Division staff have 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. The

**Pennsylvania Mine Impacts on Peru Creek**



**Barr Lake Impacted by Nutrients**



work 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.

EPA has strongly encouraged states to make progress in determining protective levels of nutrients in their water bodies and to implement the appropriate source controls where necessary. Colorado has insisted to EPA that the state be provided flexibility in determining how to address this difficult problem. 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 after 2022. 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.

### **Challenges facing Water Quality Status, Restoration and Protection**

#### **Water Quality Status**

Current staffing levels and a fixed laboratory analytical budget limit the amount of information that can be collected to determine the status of these water bodies. *Population growth and water use has increased the need for more water quality and quantity related information.* At current resource levels, the Division does not have adequate information to effectively respond to current and future challenges to protect and restore the integrity of Colorado's water bodies.

#### **Water Quality Restoration**

Future improvement of water quality across Colorado is dependent upon the ability to coordinate appropriate source control project implementation, nonpoint source control funding, and the measurement of the results of nonpoint source control infrastructure investments. Additional improvement of water quality across Colorado will also be dependent upon the ability to specifically characterize pollutant sources, allocate source control responsibility, and fund appropriate source controls in a timely manner. *The demand for these activities will continue due to the complexity and non-regulatory nature of the nonpoint source controls strategies.*

#### **Water Quality Protection**

The resources necessary to implement future nutrient control strategies is dependent upon the regulations adopted by the Water Quality Control Commission and EPA requirements.

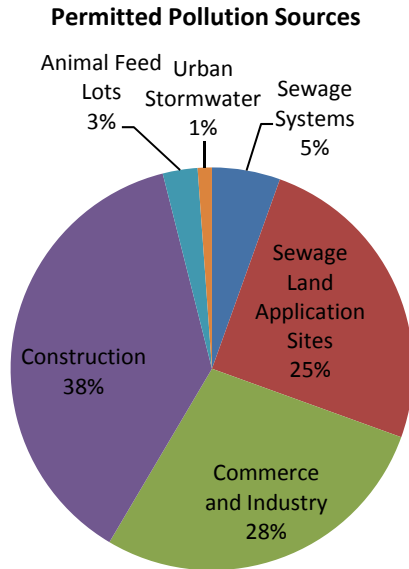
#### **The Regulated Universe**

The Division implements Colorado Statutes and Regulations that require pollution sources to control their operations in a manner that protects the quality of Colorado's water resources and minimizes public health risks. Background information is provided on the types of facilities regulated by the Division. This information is provided to demonstrate the size, diversity and complexity of the Division's permitted universe and exemplify the Division's resource needs.

***A total of 9,982 facilities have control mechanisms (permits or authorizations) in place that implement Colorado's statutes and regulations (as of Sept 2011).***

## Pollution Sources

Pollution sources, or facilities, with permits or authorizations in place are distributed among sector based classifications as follows:



**Publicly Owned Treatment Works (POTWs)** are sewage systems that are owned and operated by counties, municipalities, and special districts which have jurisdiction over the area in which the wastewater that flows to the treatment facility. Approximately 56% of the permitted sewage systems are POTWs.

**Non-POTWs.** These are facilities with another primary business or service where on-site sewage treatment is provided, and comprise 44% of the permitted sewage systems. Approximately 50% of these businesses are tourism related (hotels, campgrounds and summer camps), 28% provides service to groups of private residences (mobile home parks and homeowners associations) and 22% provide public services (prisons, schools, airports, highway rest areas).



## Sewage Systems

A sewage system includes the treatment plant, and sewers, pipes, and pumps that collect and convey wastewater to the treatment plant. Sewage systems have been a major pollutant source addressed under the Colorado Water Quality Control Act since its adoption in 1973 and many reductions in pollutant loadings have been achieved.

Sewage systems remain a focus of pollution control efforts because of their large number and the relatively large volume discharged in many locations in comparison to the flow of the stream receiving the discharge or the dilution available in the groundwater aquifer.

*542 sewage systems have active permits and authorizations.*

### Sewage Land Application Sites

Sewage systems that have treated their wastewater can elect to reuse that water for landscape irrigation or industrial use in lieu of discharge to surface water or groundwater. Sludge that is a waste byproduct of the sewage treatment process can be beneficially reused or disposed of at a landfill.



***3,716 construction sites have permits that set authorized pollutant levels that can be discharged as well as other controls that must be in place.***

### Construction

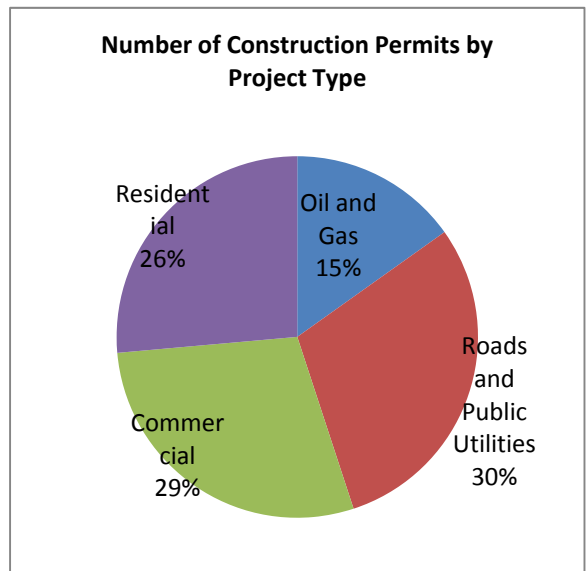
Construction activities can have a significant impact on water quality if adequate controls are not in place while activities occur. Ground-disturbing activities, such as clearing and grading, create a situation where pollutant sources come into contact with water and are carried off the site into rivers and lakes. As stormwater flows over a construction site, it can pick up pollutants like sediment, debris, and chemicals and transport these to a nearby storm sewer system or directly to a river or lake causing damage in that river or lake.

Pumping groundwater to install building foundations, bridge abutments, and other infrastructure provides a direct conduit for large volumes of sediment to be conveyed to nearby rivers and lakes. In urban areas, these dewatering activities often mobilize legacy toxic pollutants that are present in the groundwater due to human practices such as uncontrolled landfilling, leaky

underground gasoline tanks, and historic manufacturing activities that deposited industrial wastes directly onto the ground from where it leached into the subsurface water table.

Polluted stormwater runoff and polluted groundwater extracted during construction can harm or kill fish and other aquatic life. Sedimentation can destroy aquatic habitat, and high volumes of runoff can cause stream bank erosion. Trash and other debris can clog waterways and interfere with use of the water resources. Once a waterway is impacted by construction discharges, restoration can be a difficult and expensive undertaking.

Construction operators are required to obtain permits for discharges resulting from dewatering activities and for their stormwater discharges. The chart at the left illustrates the distribution of construction permits by the type of construction work being performed, based on number of permit authorizations.



### Urban Stormwater

Roads, parking lots and sidewalks are constructed during land development. Rain and snowmelt generate runoff and pollutants deposited on these impervious surfaces are carried in stormwater to storm drains. There are many pollutant sources in the urban environment. Building materials such as galvanized gutters are a source of zinc, and asphalt is a source of hydrocarbons. Lawn fertilization is a source of phosphorus and nitrogen, and pesticide application is a source of toxics. Vehicle maintenance is a source of detergents and oils and greases. Roads and highways are sources of cadmium and lead from brake pad wear, and salts from road de-icing. Pollutant impacts to urban rivers and lakes affect aquatic life and the public's ability to use these water resources as a water supply and for recreation.



Local governments including cities, counties, and special districts in urbanized areas and areas of high growth are required to obtain permits for discharges from their municipal storm sewer systems (MS4s.). The permits require these entities to develop and implement stormwater management programs to minimize pollutant sources and remove pollutants from the runoff before it enters rivers and lakes. It has become clearer that urban stormwater plays a significant role in the pollution of local water bodies. The Division and regulated MS4s face a big challenge to reduce the level of pollutant discharges to prevent the water body from exceeding the applicable water quality standards.

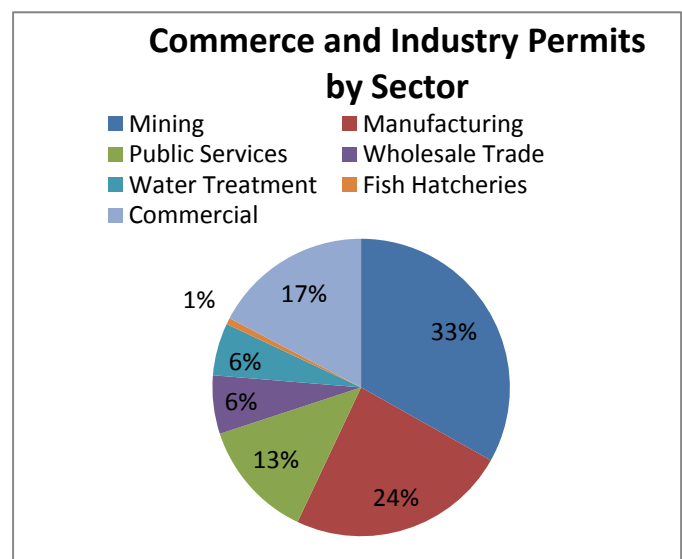
*The Division currently permits 118 municipalities, schools, and special districts in urban areas. Based on the 2010 census data, the Division expects that number to increase by 25%, and the number of large municipalities, those with populations greater than 100,000, to more than double.*

There is large variability in quality and quantity of stormwater discharges, which make it difficult to characterize pollutant loadings and to design effective control measures. Integration of stormwater quality management principals into local building and zoning codes, and engineering standards and practices that guide urban development is happening, but the change is slow and there are multiple competing demands.

### Commerce and Industry

Pollution control is a significant aspect of business management in many sectors that produce economic goods and services in Colorado. Controlling or treating pollutant sources can represent a large expense for a business and the Division strives to ensure that businesses implement these controls on time to prevent a competitive advantage that could result from delay of these expenditures.

Businesses with permits or authorizations in place are distributed among sectors based on classifications indicated above. Mining includes hard rock, coal, sand and gravel, and oil and gas operations. Manufacturing includes food products, wood and paper building materials, and fabricated metal. Public services include power generation, airports, vehicle



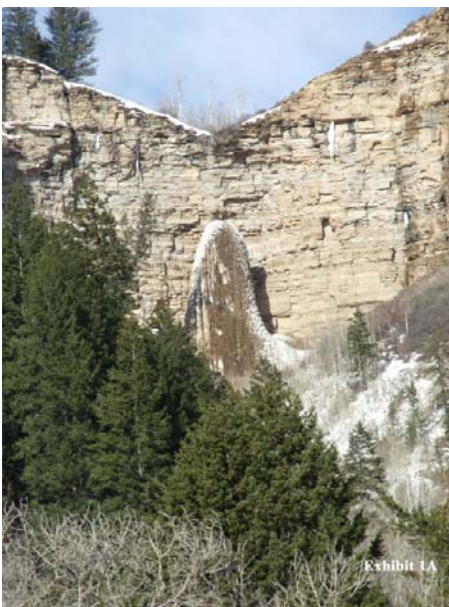
*Approximately 2,768 businesses in Colorado have permits authorizing them to discharge pollutants to rivers and streams.*

maintenance, rail, and trucking. Wholesale trade includes auto recycling.

### Pesticide Permits

In 2009 the United States Court of Appeals overturned an EPA rule that exempted the application of pesticides in or near waters from the requirement to obtain a discharge permit. The applications of pesticides in Colorado must be done in accordance with a permit issued by the Division. This includes pesticide applications for purposes such as control of mosquitoes and aquatic weeds. This requirement is estimated to result in an increase of approximately 2,000 permits. Permit fees, which are in statute, do not include a fee for pesticide permits. Therefore, the Division does not have the ability to fund a pesticides permitting and compliance program unless authorized by the Colorado Legislature and Governor through statutory change.

### Statutory and Regulatory Implementation Work Assigned to the Division Responding to Imminent Environmental Risk Events



**The “Mud-sicle.” In 2008, construction activities related to oil & gas development in the Garden Gulch Headwaters area on the Roan Plateau caused significant harm to McKay Gulch, Corral Gulch, Garden Gulch and Parachute Creek. The Division filed a Temporary Restraining Order and Preliminary Injunction. Within three weeks of discovery of the environmental damage, the responsible parties began the work necessary to prevent the polluted runoff.**

Spills and other types of releases of pollutants into State waters are of significant concern to the public and to the Division and responding to these events is a high priority. Spills can include releases of raw sewage, petroleum products, metals, organic chemicals, or sediment and can result in fish kills. Aside from the potential environmental impacts, spills and other releases have the potential to contaminate drinking water sources for water systems and water bodies in which citizens and visitors to Colorado recreate which makes these events a public health concern. The Division’s response efforts are formalized and involve a significant amount of coordination internally and externally. Depending on the nature and scope of the event, response efforts may consume a considerable amount of Division resources. The number of spills reported to the Division has leveled out in the past three years – to approximately 325 per year.

The very nature of spills is unpredictable, and resources must be immediately diverted from other core work when spills occur. In many cases, the Division has a statutory duty and responsibility to require the violator to clean-up the spill and prevent future spills, resulting in enforcement work that persists for years. In some cases, the event is so significant and damaging, that the Division must take immediate legal action. Although spill response presents a considerable work load, response efforts have led to multiple successes – environmentally and with respect to public health.

The Division’s response to an unpermitted discharge of high levels of uranium near the Schwartzwalder Mine in Ralston Creek, which supplies drinking water to three front-range public water systems, is one recent example of such Division action. Division action resulted in the company’s quickly installing treatment equipment to prevent contamination. Within a year, contamination in Ralston Creek was decreased by half.

**Filing an Application for a Discharge Permit** The Division works to inform legal entities of their statutory obligation to obtain permit coverage and advises and where necessary, compels, these entities to file a permit application. The term “non-filer” is used to describe legal entities subject to the requirement to obtain permit coverage that have not yet filed an application. *The Division estimates that non-filer rates vary considerably by sector, and may be particularly high in commerce and industry.* Research conducted by the states of California and Vermont quantified that approximately 50-90% of businesses subject to industrial stormwater permit requirements were non-filers (*National Research Council, 2008*). On the flip side, *municipally-owned and operated facilities have very low non-filer rates.* Sewage systems that are publically owned treatment works (POTWs) have universally obtained permit coverage where needed and 100% of MS4s contacted to date regarding the requirement to obtain permit coverage are permitted. A higher non-filer rate is expected for sewage systems that are non-POTWs (e.g., private businesses), particularly those that discharge via large underground leach fields which can be more difficult to detect. For the construction sector, the Division estimates a higher rate of site owners that have obtained a permit in urban areas, due to efforts by local municipalities to control discharges within their municipal boundaries, versus outside urban areas where municipal oversight is not required. The Division relies heavily on trade associations to educate their members regarding their duty to apply for a permit and on the eyes and ears of the public in identifying unpermitted facilities

### **Issue Permit Actions**

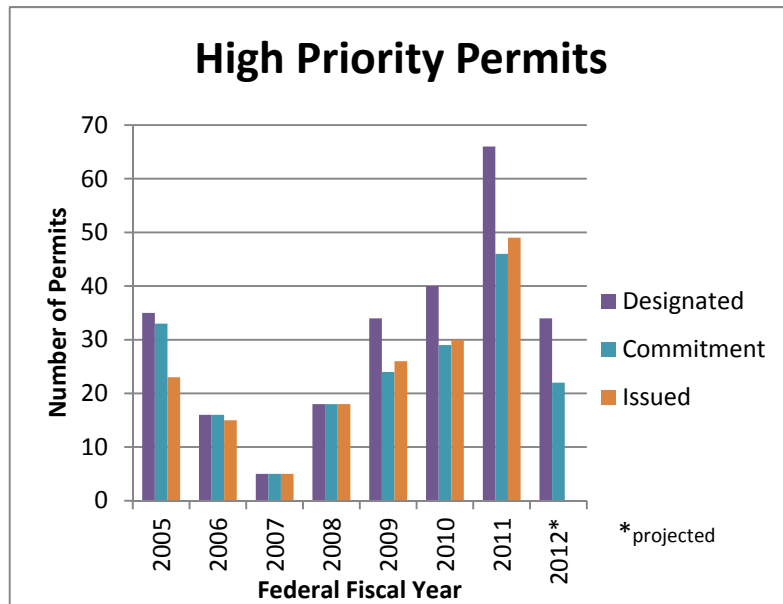
Permits establish pollutant levels that can be discharged to surface water and groundwater of the state. Permits also establish details regarding discharge monitoring and recordkeeping, and include instructions on when notification of the Division is required such as in times of poor treatment plant performance. For sewage systems, a process for review and approval of the location and design of a treatment facility or pumping station is required before a permit can be issued. This review work for sewage systems provides a mechanism for ensuring that proposed facilities are located, designed, and will be properly operated and maintained to meet permit requirements and prevent spills and other events that would impact public health and/or the environment. The site location review process also ensures that the provision of proposed wastewater collection and treatment services is consistent with local water quality management planning.

A core statutory requirement is that all permits are subject to routine review, since the requirements and conditions under which the discharge was authorized are subject to change. On that basis, the most significant workload demand is to issue renewal permit actions. The Division also administers a large number of new discharge authorizations, permit modifications, and permit terminations.

Permit quality and permit production are two important measures of permitting implementation. Permit quality is measured based on the extent to which permits adequately implement state and federal statutes and regulations, and the extent to which they are clear, so that facilities can comply with permit requirements and compliance can be measured.

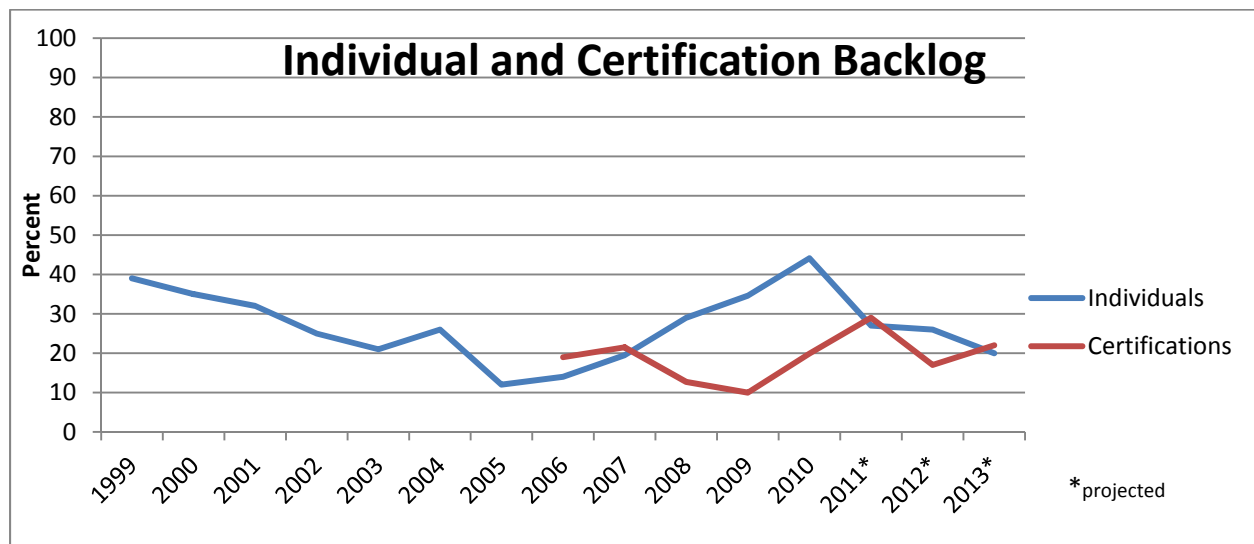
Two measures are currently used to evaluate permit production, backlog and high priority permits. *Permit backlog has been used as a measure both in the state and nationally since the late 1990s and the values reported during the period since are illustrated on the left. Only a portion of the permitting work done by the Division has been included in the backlog measure,* and the portion and measurement rules have changed over time, making it difficult to trend reported results. However, *reported backlog data demonstrate that the Division has not had*

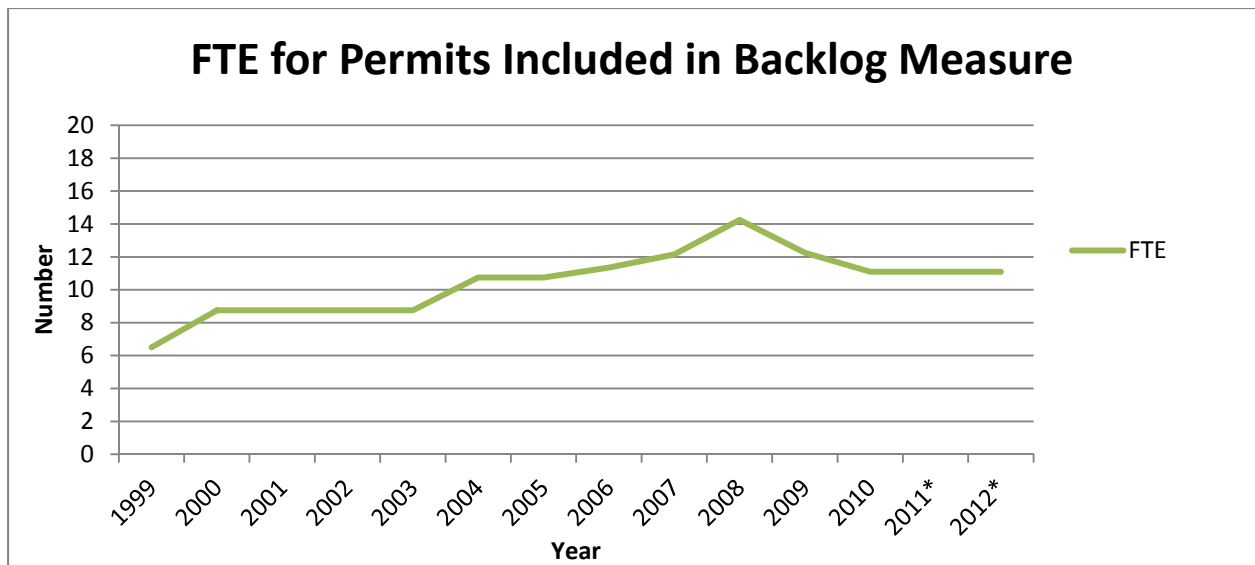
*the resources needed to reach the national goal, and to meet the state statutory requirement to issue a permit action in 180 days.*



*EPA introduced the high priority permit measure in 2005 after determining that backlog alone was not a good measure of program productivity.* High priority permits are those that have not been issued in two years or more, or have a strong nexus to an environmental outcome such as reducing pollution to restore an impaired water body. The measure is effective in ensuring the program balances competing demands, so that complex, time consuming permits and permits that are not counted in the backlog calculation are not “set aside” solely for the sake of meeting established standards.

FTE assigned to write permits and the backlog of individual permits and general permit certifications are illustrated separately in the charts below. Trends are more apparent in reviewing permit backlog for individual permits over time, since this measure has been in place since 1999. As illustrated in the chart below backlog for individual permits was at 40% in 1999. The Division obtained some additional resources in 2000 and a significant reduction was achieved by the end of 2005. *Starting in 2006 the backlog measure was expanded to include general permit certifications. In addition the high priority permit measure was introduced to ensure that other competing priorities were also addressed in permit production. Permit quality also became a bigger focus of permit production at that time. As can be seen, these competing demands resulted in an increase in permit backlog in individual permits between 2006 and 2010.* However in the same time frame efficiencies were gained through a greater reliance on electronic development tools and streamlined public involvement processes. Today the Division continues to optimize permitting FTE by balancing competing demands including permit quality, permit backlog, and high priority permits.





### Measuring Compliance

Key to the Division’s existing strategic plan and the department plan under development is the ability to establish clear, specific, and measurable goals. The Colorado Water Quality Control Act directs the Division to administer and enforce the water quality control programs adopted by the Commission. *Currently the Division is not able to measure compliance rates for many water pollution sources.* The primary means of measuring compliance rates are through review of self-reported numerical data and reports, and through field inspections.

### Self-reported Numerical Data

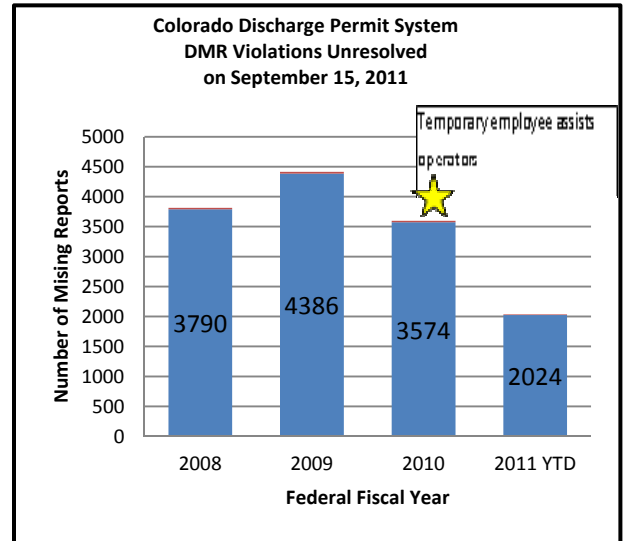
Compliance monitoring of regulated facilities by the Division is one important component of the Water Pollution Control Program. Permitted facilities are required to collect water samples, conduct chemical or biological testing, and submit the results to the division according to schedules established in regulation or permit. The Division relies on facilities to “self-report” sampling results as the foundation for determining if facilities are meeting the requirements of their discharge permits.

If facilities do not report the results of chemical and biological testing, then the division cannot determine if the facilities are complying with their permits, nor can the Division assess the risk to Colorado’s lakes and rivers from pollutants coming from these facilities or sites. If the facilities do not conduct the sampling and testing, then neither the facility nor the division is able to know whether a risk exists. Furthermore, the public will have no access to information regarding the impacts of pollutants on the quality of the water in Colorado’s rivers and lakes.

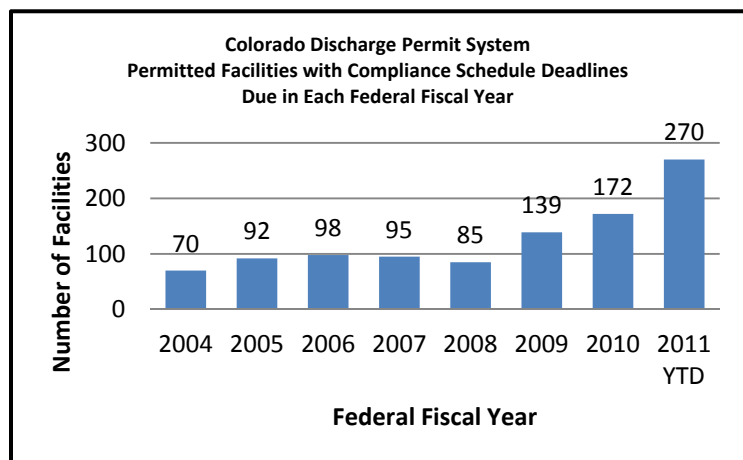
Overall, compliance rates with the self-reporting requirements have been low. Because of the importance of these data, addressing these shortfalls is a priority.

Of the almost 10,000 regulated facilities, approximately 3,500 have a requirement to routinely submit self reported compliance information, either through discharge monitoring reports (DMRs) or annual reports. 1,662 of those have a requirement to monitor and report levels of pollutants in their discharged water and have those results entered into an electronic database. The Division is scheduled to receive more than 34,000 such reports each year from those 1,662 facilities. In 2012 and 2013, the Division plans to enter results from an additional 950 facilities into the electronic database, adding another 3,800 reports per year to this measure.

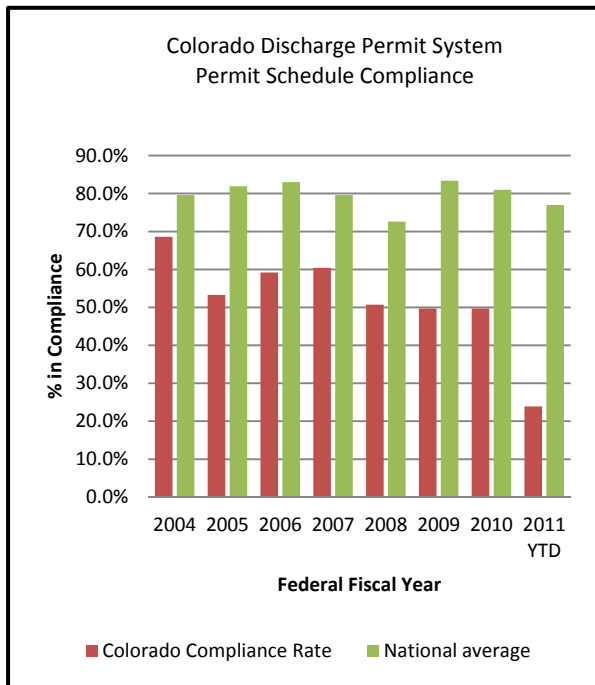
The Division attempted to address the backlog of missing reports in the Fall of 2010 by hiring a six-month temporary employee to perform the administrative work associated with notifying operators of the missing reports for the three-year period 10/1/2007 – 9/30/2010. The Division made some progress working with facility operators to resolve old reporting violations, and is seeing a slight improvement in reporting for fiscal year 2011, as seen in the chart below. However, many violations remain unresolved, and non-compliance with reporting requirements continues at a high rate. *Existing staffing levels are not sufficient to sustain the 2010 effort to reduce the non-compliance and implement the other essential components of the program. With additional FTE, the division would respond to monitoring/reporting violations more quickly, and provide assistance to facility operators with a goal of reducing the occurrence of this type of violation.*



Currently 657 permits issued for sewage systems and removal of pollutants from industrial waste water include permit conditions with a schedule. As can be seen in the chart, right, the *number of permit schedules that compliance staff must monitor each year is rising*; the 2011 workload is almost four times what it was in 2004. Yet, *the Division has added no staffing resources to accommodate this increase in workload.*



The Program has a total of seven FTE, including the unit supervisor, who are responsible for reviewing self-reported data for wastewater facilities, responding to violations based on those data, responding to significant violations discovered during inspections of permitted wastewater facilities, assisting facilities, responding to unpermitted discharges, developing and issuing formal enforcement actions for all authorized activities, calculating civil penalties, and negotiating settlements. The workload is such that existing staff has been unable to address non-compliance due to failure to routinely report discharge data or for failure to meet the requirements of permit schedules as well as to issue enforcement actions for wastewater facilities and stormwater discharges determined to be in significant non-compliance. In addition, existing staff have not had time to make progress on measuring compliance with these requirements. Staff in the Administration program are responsible for entering the self reported data into the database of record.

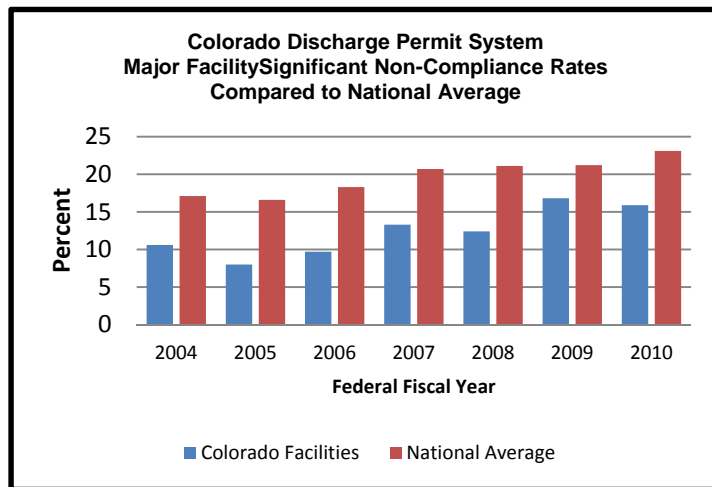


*The lack of adequate staffing to track permit schedules, or to provide assistance to facilities with pending permit schedule deadlines, has resulted in compliance rates well below the national average; and as the number of permit schedules increases, the compliance rates are decreasing.* For the purposes of measuring program success, the U. S. EPA considers a 20% or greater difference between a state's compliance rate and the national average as a reason for concern about the state's ability to conduct appropriate compliance activities. Colorado has failed to adequately manage permit compliance schedules in six of the last eight fiscal years. The chart shows how Colorado facilities compare to the national average for compliance with permit schedules:

### Significant Polluters

Significant non-compliance (SNC) is a measure the Division is currently applying only to the largest waste water discharges. *A major facility is considered in SNC when its discharge of pollutants exceeds its permitted limits by large percentages,* as reported to the State by the facilities. SNC is calculated by the U. S EPA's compliance data system.

Colorado's major facilities perform better than the national average on this measure, generally more than five percentage points better. In addition to responding to the EPA-determined SNC, the Division is required to determine SNC manually for non-compliance reported by at smaller facilities as well as for non-compliance found at any facility during an inspection. *The Division currently lacks the staff and the data systems*

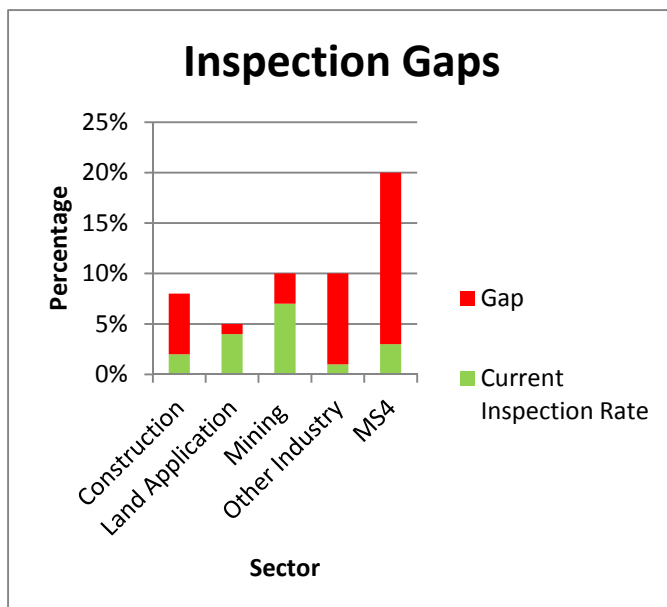


*necessary to review and respond to inspection-discovered non-compliance.*

The chart shows how Colorado's major facilities compared with the national average for this measure.

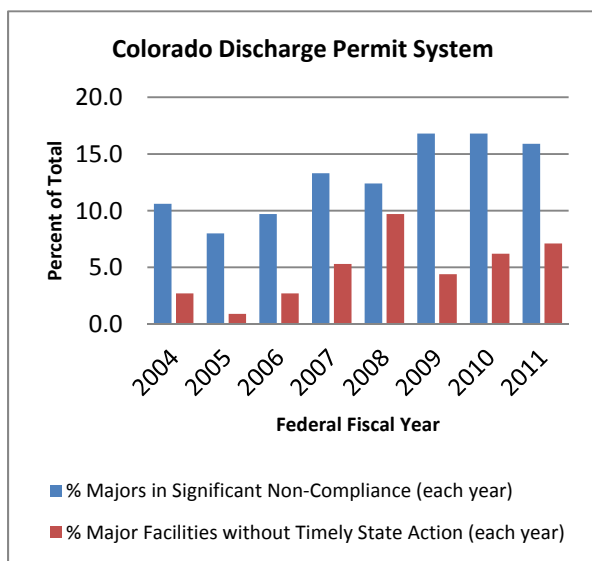
### Inspections

Inspections are another important means of measuring compliance with regulations that protect safety and public health. Inspectors evaluate facility compliance with permit conditions and statutory and regulatory requirements, and during the



inspection process assist facilities in understanding those requirements. The level of inspection presence also has a significant impact on compliance rates, in that they increase knowledge in the regulated community that compliance inspections routinely occur. All significant findings require follow-up with the goal of tracking each issue to ultimate resolution within time frames that protect water users. There are significant gaps in the resource levels needed to measure compliance rates through inspections for certain types of pollutant sources. Additional resources are needed to provide follow up with facilities when violations are discovered during inspections. The Division feels that working with systems to resolve violations prior to referral to enforcement is a better business approach to addressing compliance.

### Compliance Assistance - Efforts to Increase Compliance

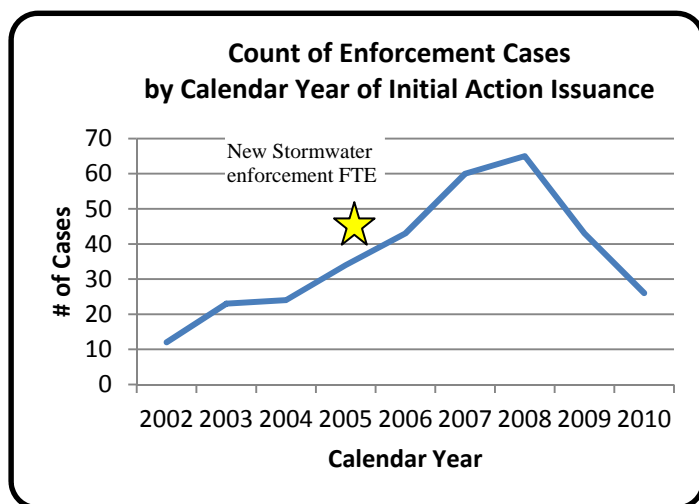


### Enforcement Escalation, Penalties and Settlements

The Division has developed an Enforcement Management System that requires significant non-compliance and field-discovered violations to be escalated to formal enforcement action according to established criteria. The U. S. EPA also establishes national criteria for escalating non-compliance to formal enforcement actions. Delegation agreements with the EPA require that the state take timely action to address non-compliance that meets the national criteria. Timely action may include more aggressive compliance assistance. However, the time frames for addressing serious violations are tight and the Division does not have the resources for quick

infusions of compliance assistance. Therefore, serious violations are generally addressed through issuance of formal enforcement actions. The same FTE who monitor self-reported data and permit schedules are responsible for developing formal actions for serious violators. The graph, left, shows the trends in the State’s ability to address serious violators in a timely manner.

In fiscal year 2004, as the Division increased its construction stormwater inspection presence, it also acquired an FTE to address serious violators of the stormwater regulations. The graph, right, shows the effect on enforcement activity that resulted from the increased attention to pollution from uncontrolled stormwater run-off from construction sites. The decline in cases initiated in 2008 occurred as the one enforcement specialist became overwhelmed with the case load, and management deferred many cases that met the criteria for enforcement. The Division currently has 1.3 FTE available



for enforcement of stormwater requirements.

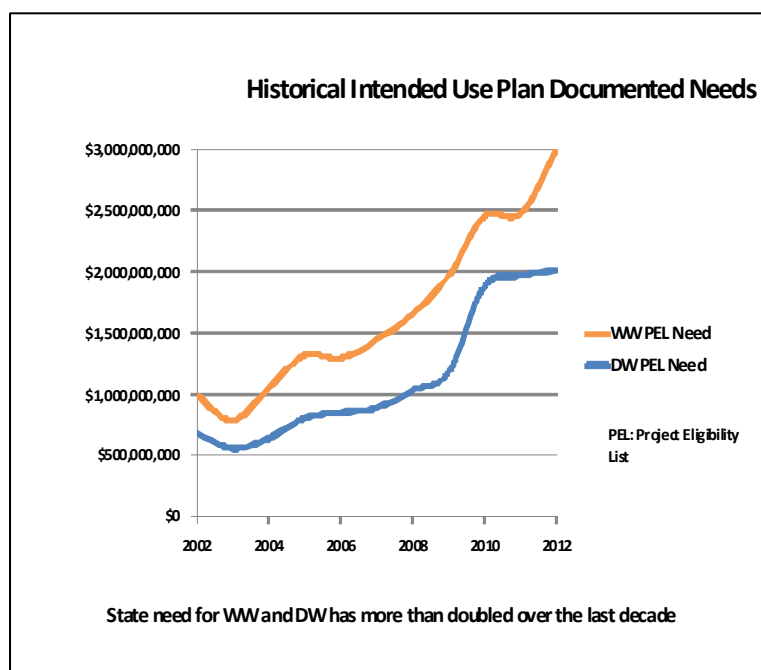
Each formal action issued by the Division requires extensive follow-up, particularly when the corrective actions involve improvements to or new treatment plants or other longer term activities. The Water Pollution Control Program has a long-standing practice and public expectation that any facility receiving a formal action will be subject to monetary penalties. Since 2002, the division has assessed more than \$11.7 million in penalties for violations of clean water act laws, regulations and permits. Penalties deter non-compliance and level the playing field by recovering economic benefit. In addition, affected communities often realize environmental improvements, conservation or pollution prevention from penalties. Penalties are directed to the State's Water Quality Improvement Fund unless the violator agrees to complete a Supplemental Environmental Project (SEP) as allowed by the Department's SEP Policy. These SEP projects generally result in a specific benefit to public health and/or the environment at or near the location of the facility or in improvement in the quality of the discharge where the violator agrees to go above and beyond what is legally required for compliance. Environmental improvement efforts have realized nearly \$8 million in funding support from supplemental environmental project contributions and penalties directed to the State's Water Quality Improvement Fund as a direct result of the work of the seven enforcement staff.

### Administration Program

The Administration Program supports the Division by providing fiscal and budgetary services, data and record management, and Information Technology Support. In addition, the Administration Program staff provides financial and technical support for drinking water, wastewater and non point source infrastructure through the State Revolving Loan Funds.

### Data systems and data management

The Division is not able to collect, monitor, analyze, store and effectively retrieve data on 12,000 regulated facilities and 840 individual water bodies. To fulfill the Division's mission and protect public health and the environment the Division depends on accurate and timely data. There is a critical and escalating need for resources to support data management, implement an electronic records center, install and manage disaster recovery systems, and upgrade legacy database systems. There is a significant risk of failure to recover critical public health information in the event of a disaster. Additional resources in this area are critical to the continued success of the Division.

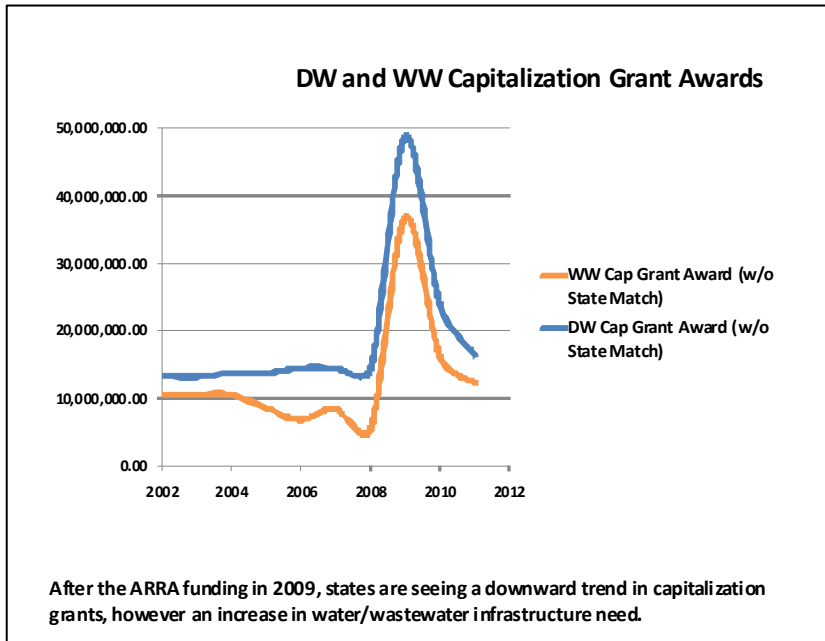


### Infrastructure Funding

The State Revolving Loan Fund is a key tool used to assist public water systems and the regulated communities with protecting public health and the environment. The State Revolving Loan Funds provide low interest loans to water and wastewater facilities across the state. The estimated drinking water and wastewater infrastructure needs for Colorado exceeds \$5 billion and is growing. As the chart indicates the documented water and

wastewater needs have more than doubled over the last decade. This is due to the aging/failing infrastructure of existing drinking water and wastewater treatment facilities, failing distribution and collection lines, new, more stringent drinking water and water quality protection standards, and statewide population increases. There are currently over 150 active water and wastewater projects that have received funding through the State Revolving Loan Fund and these numbers are expected to increase.

The documented infrastructure needs continue to grow during a time when the federal funding provided to the State Revolving Funds has continued to decrease. During 2009 there was a onetime infusion of American Recovery and Reinvestment Act funds. The 2012 federal funding is anticipated to be at or below the 2008 funding levels for the State Revolving Loan Funds. the State’s Small Community Drinking Water and Wastewater Grant Programs has been funded by the legislature since 2006.



Affordable funding for water and wastewater infrastructure is critical to help address the challenges facing Colorado’s municipal water and wastewater treatment facilities.

### Resource Gap – Summary of Needs

Year	Function		Brief Narrative	FTE
1	Drinking Water	Administration	Data Specialist	0.5
			Record Center Technician	0.5
		Compliance Assurance/Enforcement	Administrative Assistant	1.0
			Enforcement specialist: Follow-up on unresolved inspection deficiencies and violations	1.0
	Clean Water	Support	Administrative, Supervisors	4.0
		Administration	Data Specialist	0.5
			Record Center Technician	0.5
			Address Non-Filers	1.0
		Measuring Compliance	Self Reported Data	3.0
			Inspections	3.0
		Increasing Compliance	Responding to violations	3.0
		Water Quality Status	Sampling, assessing, and reporting	3.5
	Water Quality Protection	Standards development	2.5	
Water Quality Restoration	Planning and Nonpoint source project management	1.5		
Operating costs associated with IT hardware support including servers, disaster recovery automation of Records Center, system upgrades, establish/maintain web presence, increase bandwidth and automate submission of electronic records.				<b>\$100,000</b>
<b>Total FTE Needed</b>				<b>25.5</b>
2	Drinking Water	Capacity Building	Coach: Provides assistance to systems	2.0
		Compliance Assurance/Enforcement	Legal assistant: Evaluate and develop formal enforcement actions	0.5
			Administrative Assistant	1.0
			Measures and assists with compliance with new rules	1.0
	Engineering	Swim Pools	1.0	
	Clean Water	Support	Administrative, Supervisors	1.5
		Permitting	Permit Measures (Quality, Backlog, High Priorities)	2.0
			Address Non-Filers	1.0
		Measuring Compliance	Self Reported Data	1.0
			Inspections	3.0
		Increasing Compliance	Responding to violations and Inspection Follow-up Coordinator	1.5
		Water Quality Status	Sampling, assessing, and reporting	2.0
		Water Quality Protection	Standards development	1.0
Water Quality Restoration	Planning and Nonpoint source project management	1.0		
<b>Total FTE Needed</b>				<b>19.5</b>
3	Drinking Water	Capacity Building	Coach: Provides assistance to systems	2.0
		Compliance Assurance/Assistance	Measures and assists with compliance with new rules	1.0
			Enforcement specialist	1.0
			Swim Pools	1.0
	Clean Water	Support	Administrative, Supervisors	1.5
		Permitting	Permit Measures (Quality, Backlog, High Priorities)	1.0
			Address Non-Filers	1.0
		Measuring Compliance	Self Reported Data	1.0
		Measuring Compliance	Inspections	3.0
		Water Quality Status	Sampling, assessing, and reporting	1.0
		Water Quality Protection	Standards development	1.0
		Water Quality Restoration	Planning and Nonpoint source project management	2.0
	Operating costs associated with IT hardware support including servers, disaster recovery automation of Records Center, system upgrades, establish/maintain web presence, increase bandwidth and automate submission of electronic records.			
<b>Total FTE Needed</b>				<b>16.5</b>