

**ANNUAL REPORT
OF ACTIVITIES PERFORMED
BY THE
STATE ENGINEER'S OFFICE
IN 2012**



**To Satisfy Requirements
of Senate Bill 89-181
Regarding Water Quality**

INTRODUCTION

According to the provisions of Senate Bill 89-181 (SB-181), the Colorado Division of Water Resources, the State Engineer's Office (SEO), has been assigned as one of the agencies responsible for implementing the water quality standards and classifications adopted by the Colorado Water Quality Control Commission (WQCC). The SEO will implement water quality standards and classifications only where water quality statutes other than the Water Quality Act require the SEO's involvement. This report provides an update on the activities undertaken by the SEO and its Division offices to accomplish its responsibilities pursuant to the provisions of SB-181 in calendar year 2012.

According to our past experience, few major water quality related problems actually fall within the jurisdiction of the SEO. However, the SEO takes a proactive stance in this matter by cooperating with other agencies and organizations in the development of comprehensive and practical solutions for managing the quantity and quality of the state's waters.

There are three major areas where the SEO exercises its authority on implementing water quality standards and classifications. These are:

- Adoption of points of compliance for discharges to ground water
- Approval of substitute water supply plans and non-decreed water exchanges
- Adjudication process of plans for augmentation including water exchanges

A. Points of compliance for discharges

The SEO ensures that well construction activities do not result in a pollution discharge to state waters through well permitting activities. All wells must be constructed in accordance with the rules and regulations established by the State Board of Examiners of Water Well Construction and Pump Installation Contractors (BOE). Domestic and commercial water wells are constructed by licensed well drillers. Monitoring and recovery wells can be constructed either by licensed drillers or under the supervision of professional engineers and geologists. The BOE will take corrective actions against the drillers who violate the rules for proper well construction including suspension or revocation of their licenses. The well owners have the ultimate responsibility to bring the improperly constructed well into compliance. Otherwise, the State Engineer may order the well plugged and abandoned to prevent contamination of ground water.

In 2012, the BOE investigated 16 new complaints and resolved 20 complaints; 5 of those resolved were from previous years. Nine (9) fines were levied for rule violations. No licenses were suspended or revoked; but four (4) letters of admonition or reprimand were sent out during 2012. The staff reviewed and processed 140 requests for variances from the Water Well Construction Rules and plans for the construction of gallery-type wells – an increase of 20% compared to the previous year. More than 5,776 work reports (well construction, pump installation, and well abandonment) were reviewed by staff and the data captured in the Well Database. Of these, 1,166 were well abandonment reports. The Board licensed 229 contractors in 2012, 8 fewer than 2011. License renewal for 2012 marks the eighth year that each contractor is required to obtain a minimum of eight hours of continuing education for license renewal.

The *Well Inspection Program* was authorized by the legislature in Senate Bill 03-45 and funded by a \$40 increase in well permit application fees. Presently, the program consists of a Chief Well Inspector headquartered in Denver and two additional well inspectors who perform inspections throughout the state. The Chief Well Inspector coordinates the activities of the program and provides additional support to the BOE. The primary objective of the program is to assist the Board with the enforcement of its rules and regulations for well construction and pump installation. A key focus of the well inspectors and the inspection program is to locate and initiate action against unlicensed contractors working illegally in the state. The well inspectors conducted more than 1,276 inspections in 2012, an increase of 13% over the previous year. Over the history of the Well Inspection Program, there has been a decrease in the proportion of violations discovered as a result of inspections. In recent years, the annual rate of BOE Well Construction Rule violations per the total number of well inspections has leveled at about 1%; for 2012 that rate was 0.7%. Since inception of the inspection program, it is evident that licensed contractors have refined their well location and construction practices to ensure full compliance with the Board's Rules.

The SEO well permitting staff received and acted upon 5,103 new well permit applications in 2012, an increase of 15% over 2011. Of this total, 868 were applications for replacement wells. The majority of the wells were to be used for domestic purposes. In addition, the staff processed 551 notices to drill monitoring holes (increase of 8%).¹ Many of the monitoring holes are used for monitoring ground water quality at environmental remediation sites. The SEO can request water quality data from the applicants when necessary.

B. Substitute Water Supply Plans and Non-Decreed Water Exchanges

Substitute water supply plans (SWSP) provide water users the flexibility of exchanging and replacing out-of-priority depletions on an interim basis or, if the applicant was to continue such operation permanently, until a court approved plan for augmentation is obtained. For approval of substitute water supply plans, the State Engineer requires that the quality of the substituted water meet the use requirements to which the senior appropriators have normally put the water. The SEO reviewed and acted upon 254 general SWSPs (including emergencies) and 107 SWSPs related to gravel pits. These totals are roughly 30% more than last year. The majority of substitute supply plans use river water as the source of substituted water.

The Hewlett Park and High Park Fires in May and June 2012 burned approximately 95,000 acres and over 260 homes west of Fort Collins, mostly in the Cache la Poudre River basin. Ash and sediment from the burn areas were entrained in runoff from late-summer monsoonal rains. This caused the city of Fort Collins to cease direct diversions from the Poudre River for their water supply. As a result, the SEO worked with Fort Collins and irrigation canal water users on a SWSP that, allows Fort Collins an alternate point of diversion from the Munroe canal, which flows out of Horsetooth Reservoir, instead of their normal diversion structures on the Poudre River when the need arises. The SWSP was finalized in early 2013 and may be renewed annually through 2017. Post-fire issues in the Waldo Creek/Manitou Springs area did not result in any SWSPs for water quality reasons.

¹ Applicants are required to notify the SEO before constructing monitoring holes. These holes are required to be plugged and abandoned within one year unless a specific use well permit for each is obtained.

Also in the South Platte River basin (Division 1), the SEO approved a SWSP related to the Suncor Refinery hydrocarbon plume remediation in both 2012 and 2013. The SWSP allows for the operation of three new recovery wells, four sump wells, and ten existing tributary wells and combines Suncor's two existing decreed plans for augmentation into a single plan. The current plan is valid until August 2014, but may be renewed.

Non-decreed water exchanges generally do not involve written approval. They are limited to daily or seasonal timeframes and require the local water commissioner's approval prior to the exchange occurring. The water commissioners keep records of these exchanges in the diversion records for the structures involved. The exchanged water usually comes from reservoirs or from bypassing stream diversions. Seldom has an applicant used treated wastewater or other supplies in a non-decreed exchange. Therefore, the water used in these exchanges generally does not create water quality problems.

C. Decreed Exchanges and Plans for Augmentation

The SEO may oppose applications to Water Court for augmentation plans and exchanges in which the substituted water does not meet the use requirements to which the senior appropriators have normally put the water. The SEO generally does not participate in Water Court cases where the parties who are directly impacted can be expected to raise concerns with respect to water quality issues. However, the SEO will become involved in two instances. First, where there are exchanges involving treated wastewater, the SEO requires the exchanged water be of a quality that meets the requirements of use to which other vested water rights have normally been put or that exchanged water meet the existing water quality standards for discharges to the receiving stream. Second, the SEO, in administering water decrees, will become involved with issues of water quality where water quality monitoring is made a part of the decree by the Water Judge. The Water Judge has the ultimate responsibility to determine the adequacy of water quality when approving new water right applications, plans for augmentation, or exchange plans.

D. Other Activities

To help the state come into compliance with the Republican River Compact, Bonny Reservoir on the South Fork Republican River was drained during the period of September 2011 through February 2012. The reservoir was deliberately drained slowly to minimize the amount of sediment being entrained in the discharge, thus keeping total suspended solids as low as possible. The SEO communicated with the WQCD throughout this process.

The Division of Oil & Public Safety (OPS) requested that monitoring holes under their regulation have an 18-month period as a monitoring hole, before formal monitoring well permits are required. Current BOE rules require that any monitoring *hole* (drilled under a notice of intent; permit not required) must be plugged and abandoned within one year. This extension would allow environmental remediation wells to obtain the minimum four quarters of monitoring needed to support subsequent regulatory decisions. The BOE passed a motion to allow this under a specific request for an "OPS variance" submitted by the well owner, licensed contractor, or authorized individual. This new variance is only allowed for sites under OPS regulatory purview.

In November 2012, a water quantity/quality issue arose in Teller County (Division 2) regarding the Broken Shamrock Pond and its illegal retention of water. The Division Engineer issued an order to the pond's owner to devise a plan to release stored water and prevent future water retention and to do so in a manner that would not cause downstream damage. Normal breaching of the pond could potentially cause sediment-related water quality and aquatic life habitat damage. Therefore, the SEO communicated and worked with the Water Quality Control Division help ensure an appropriate solution was enacted. The owner has initiated work to comply with the SEO order. No water quality issues have arisen, but water rights issues still remain.

Another sediment-release issue arose in Teller County related to the Cathedral Pond, but with the assistance of Colorado Parks and Wildlife staff, on-site mitigation measures have controlled sediment and suspended solids water quality issues.

The staff at the SEO and its Division offices cooperated with several public and private agencies and participated in various forums where water quality and quantity issues were considered. The staff at the SEO plays an important role by providing input and advice on the impacts of proposed water policies and regulations on the water using community.

Water quality (e.g. salinity and selenium) continues to be discussed in the Arkansas River basin in a variety of forums including compact meetings, water court cases and the Basin Roundtables. We have periodic discussions and contacts at public and interagency meetings about water quality concerns relating to the discharge of produced water from oil and gas operations. Predominantly, this has concerned the discharge of coalbed methane production water to drainages in the Raton Basin (Division 2) and the San Juan Basin (Division 7). Also, the SEO regularly receives water quantity and quality questions related to hydrofracturing operations.

The State Engineer and SEO representatives continued to meet quarterly with other DNR agencies, WQCD managers, representatives of the Department of Agriculture, and various board members from WQCC and CWCB to discuss improved coordination on water quality and quantity issues. DWR staff members regularly respond to referrals from the WQCD to comment on potential for injury from actions related to discharge permit applications.