

**ANNUAL REPORT
OF ACTIVITIES PERFORMED
BY THE
STATE ENGINEER'S OFFICE
IN 2016**

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



COLORADO

Division of Water Resources

Department of Natural Resources

INTRODUCTION

According to the provisions of Senate Bill 89-181 (SB-181), the Colorado Division of Water Resources/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 2016.

Few major water quality related problems actually fall within the jurisdiction of the SEO, per past experience. 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 in 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 to Groundwater

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 a professional engineer or professional geologists if the well does not penetrate a confining layer. The BOE takes corrective actions against licensed drillers or pump installers who violate the rules for proper well construction, including fines and suspension or revocation of their licenses. In the case of unlicensed contractors performing well construction activities, fines are levied and legal proceedings are initiated. Well owners have the ultimate responsibility to bring an improperly constructed well into compliance. Otherwise, the State Engineer may order the well plugged and abandoned to prevent contamination of ground water.

In 2016, the BOE investigated 24 new complaints and resolved 21 complaints. Fourteen (14) fines were levied for rule violations totaling \$7,400. No licenses were suspended or revoked; but 22 letters of admonition or reprimand were sent out during 2016, an increase of 38% over 2015. The staff reviewed and processed 98 requests for variances from the Water Well Construction Rules, including infiltration gallery well construction - 8% fewer than the previous year. Approximately 7,295 work reports (3,980

well construction reports, 2,050 pump installation reports, and 1,265 well abandonment reports) were reviewed by staff for compliance with BOE/SEO rules and the data captured in the Well Database. Well abandonment reports document the plugging and sealing of a well. The Board licensed 239 contractors in 2016, 6 more than 2015. All licensed contractors are required to obtain at least 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 supports 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 800 inspections in 2016, a 32% increase over 2015, in which there was a position vacancy for part of the year. In recent years, the annual rate of BOE Well Construction Rule violations per the total number of well inspections has been near 1%; for 2016, the rate was 1.75%.

The SEO well permitting staff received and acted upon 6,220 new well permit applications in 2016, an increase of 20% over 2015. Of this total, 545 were for replacement wells. The majority of the replacement wells were for exempt domestic/household uses. In addition, the staff processed 1,027 notices to drill monitoring holes, just 1% more than 2015.¹ Monitoring holes are predominantly used for temporary monitoring of groundwater quality at environmental remediation sites. The SEO can request water quality data from the applicants when necessary.

During 2016 the BOE completed rulemaking to update the Water Well Construction Rules (2CCR 402-2). The twin goals of the Water Well Construction Rules are to safeguard public health and welfare and to protect Colorado's groundwater resources. The formal hearing took place on March 17 and 18, 2016. The final rules were adopted by the BOE at its quarterly meeting on May 16 and were effective as of September 1, 2016. Rule changes strengthened casing and grouting requirements for all wells penetrating confining layers and for wells producing from the Laramie-Fox Hills aquifer.

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

¹ Applicants are required to notify the SEO before constructing monitoring holes. These holes are required to be plugged and abandoned within 18 months unless a "monitoring well" permit is obtained for each hole.

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 on 248 general SWSPs, an 8% increase from 2015. Of these, 86 were related to gravel pits. The majority of substitute supply plans use river water as the source of substituted water.

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 the Water Judge makes water quality monitoring a part of the decree. 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 (includes 2016 and 2017)

Every year, staff at the SEO and its Division offices cooperate with public and private agencies and participate in various forums where water quality and quantity issues are considered. Staff at the SEO play an important role by providing input and advice on the impacts of proposed water policies and regulations on the water-using community.

Instead of the previous multi-agency meeting to discuss SB-181 topics, the SEO and WQCD staff met directly in 2017 to discuss issues of common interest.

As required by Colorado Water Quality Control Act (25-8-104 C.R.S.), SEO staff members respond to referrals from the Water Quality Control Commission (WQCC) to comment on the potential for injury to water rights from actions related to discharge permit applications. These referrals stem from the Act's declaration that no provision of Article 8 of Title 25 will injure rights to put water to beneficial use. A memorandum of understanding outlining the procedures and scope of consultation between the

WQCC, SEO and Colorado Water Conservation Board (CWCB) under 25-8-104(2)(d) C.R.S. was updated and signed in January 2017.

In August 2016, pursuant to 25-8-104 C.R.S., the WQCC Administrator requested consultation with the SEO and the CWCB on a rulemaking proposed by Cherokee Metropolitan District to adopt a site-specific groundwater standard for total dissolved solids for the Upper Black Squirrel Creek Alluvial Aquifer, El Paso County. The request was to determine whether the proposal would cause material injury to water rights. The SEO worked with CWCB to review the rulemaking materials, relevant statutes, and Ground Water Commission Rules and wrote a response letter to WQCC. The review found that the proposed change in groundwater quality standards would not result in a reduction of water supplies available in the basin and therefore will not materially affect water rights.

The SEO and CWCB have recently (November 2017) been involved in another consultation with WQCC regarding proposed revised standards for molybdenum and any potential effects these might have on water rights. The results of this consultation will be reported in next year's 2017 SB-181 report.

Robert Hillegas of WQCD has maintained communication with the SEO on the Widefield aquifer perfluorinated compound (PFC) groundwater contamination issue in his quarterly reports to the BOE. The municipalities that previously relied on groundwater from the aquifer switched to surface water as their primary water source through agreements with Pueblo Reservoir, the Fountain Valley Authority Pipeline, and the Southern Delivery System Pipeline.

Division Engineer (DE) staff in the Arkansas River Basin (DWR Division 2) identified three illegally constructed dams in the Fourmile Creek basin near Cripple Creek. The DE ordered the owners of the dams to breach them to allow impounded water to flow downstream. Eventually, Division 2 Water Court issued consent decrees in two cases enforcing the DE's order. Water quality concerns were considered in evaluation of the breach plans and gradual release rates combined with close on-site monitoring were instrumental in limiting entrainment of sediment in the released water.

The Division Engineer in the Colorado River Basin (DWR Division 5) reports that a number of reservoirs were drained in 2016 and early 2017, but these included reservoir pools that are normally drained or were drained for repairs. Included in these was a "high water" flush of the Shoshone Power Plant Dam and the Grand Valley Water Users Association's Roller Dam. These activities did not cause any downstream water quality issues.

The above information completes the Senate Bill 89-181 report from the SEO to the WQCC for 2016.