

**ANNUAL REPORT
OF ACTIVITIES PERFORMED BY
THE STATE ENGINEER'S OFFICE
2017-18**

**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 years 2017 and 2018.

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 groundwater
- 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 geologist 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 groundwater.

The SEO annual well permitting summary is captured in Table 1. Over the last three years there has been a steady increase in permits issued. A similar increase with some variation is seen in the monitoring hole notice-of-intent to drill (NOI) forms received. These also include NOIs for temporary dewatering wells. Monitoring holes are used for temporary (<18 months) monitoring of groundwater quality at environmental remediation sites. The SEO can request water quality data from the applicants when necessary.

Table 1 -SEO Annual Well Permitting Summary

SEO Permitting Activity	2016	2017	2018
1. Permits Issued	6220	6498	7539 (-Nov 30)
2. Monitoring Hole Notice-of-Intent	1027	915	1220 (-Nov 30)

A comparative table summarizing annual BOE activities (through the Well Inspection Program) for the last three years is found in Table 2. Since 2016, significant increases in the number of complaints investigated, resolved, and resulting fines are apparent. This is primarily due to new DWR software that allows easier identification of reporting errors and increased staff time to review well construction reports. The increase in well construction variances issued reflects the overall increase in well permitting and construction over the last three years. The Board licensed 234 contractors in 2018, 5 fewer than 2016 and 2017. All licensed contractors are required to obtain at least eight hours of continuing education for license renewal.

Table 2 -Board of Examiners Annual Activity Summary

BOE Activity	2016	2017	2018
1. Complaints Investigated	24	29	39
2. Resolved Complaints	21	21	29
3. Fines (total dollars)	14 (\$7400)	15 (\$8995)	19 (\$7500)
4. Licenses suspended or revoked	0	0	0
5. Letter of admonition/reprimand	22	22	20
6. Inspections	800	855	740 (-Nov 30)
7. Well Construction Variances	98	122	155
8. Licensed Contractors	239	239	234

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. After an increase in inspections during 2017, the 2018 inspections returned to the same rate as 2016.

The process of reviewing and revising the BOE “Administration Rules” (2CCR 402-14) was completed in 2017. The hearing was held on November 7, 2017 at the regularly scheduled BOE meeting. The rules were adopted as proposed and went into effect on January 1, 2018. The most significant change was an increase in the contractor compliance bonding from \$10,000 to \$20,000.00 for all licensed contractors.

The Colorado Water Well Contractors Association requested a financial and performance audit of the Well Inspection Program. The audit request was supported by Senator Baumgardner (District 8), was reviewed and authorized by the Legislative Audit Committee, and was accepted by the Office of the State Auditor. The audit commenced in July 2018 and is scheduled to be completed and publicly released in June 2019.

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 on 169 SWSPs in 2017 and 116 SWSPs through November 30, 2018. The 2018 total was a 32% decrease from 2017. Of these, 65 (2017) and 63 (2018) were related to gravel pits. The majority of substitute supply plans use river water as the source of substituted water. The decrease is attributable to augmentation plans moving through the water court process and a decrease in SWSP applications over the last two years.

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 substitute supply 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 2017 and 2018)

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.

The SEO and WQCD staff met quarterly to discuss water quantity and water quality topics of common interest. A significant topic over the last year was the permitting of temporary groundwater discharges by wells when they are being constructed or later serviced and water is subsequently discharged onto the ground nearby. These discharges are currently covered under WQCD general permits scheduled to be renewed in the coming years. There is a question as to whether permitting of well discharges to groundwater are under the jurisdiction of the SEO, not WQCD, per section 25-8-202(7)(b)(II) of the Water Quality Control Act ("SB 181") and should be handled within the SEO. These questions are the subject of ongoing conversations.

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.

Other situations of SEO interaction with water quality issues around the state are described below:

South Platte River Basin (Division 1):

In 2018, SEO assisted WQCD on two separate occasions in estimating low flows on East Plum Creek in Douglas County for wastewater discharge permits.

Also in 2018, SEO and WQCD have been coordinating on issues related to MineWater LLC's re-opening of the London Mine west of Fairplay. As the mine is being dewatered by nearby wells, the pumped water will be used as a beneficial water supply. DWR is currently working on a contract with MineWater LLC to cooperatively operate surface water gaging stations at the London Mine and Hock Hocking Mine to monitor volumetric discharge

at both sites. The gage locations also will serve as water quality sampling sites, and may contain additional sensors related to water quality and temperature.

South Platte and Colorado River Basins (Divisions 1 & 5):

In November 2017, pursuant to 25-8-104 C.R.S., the WQCC Administrator requested consultation with the SEO and the CWCB on a rulemaking proposed by Climax Molybdenum Company to adopt revised standards for molybdenum, both in the table value standards and in segments of the Blue River and Colorado River. The request was to determine whether the proposal would cause injury to water rights. The SEO worked with CWCB to review the rulemaking materials and relevant statutes. The two agencies wrote a response letter concluding that a change in the molybdenum standard would not result in a reduction of water supplies available in the stream and therefore will not materially affect water rights.

Arkansas River Basin (Division 2)

Robert Hillegas of WQCD has continued 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. Some municipalities are testing new treatment systems to enable use of groundwater again.

The State Engineer ordered the lowering of the Cucharas #5 Dam, a high hazard dam located northeast of Walsenburg, because of the earthen dam's structural issues. Under a Nationwide Stream Rehabilitation Permit from the Army Corps of Engineers, the top 55 feet of the 135 foot tall dam has been removed, allowing the stream to pass freely over the dam. The lower part of the dam is being kept in place and structurally strengthened to retain the sediment built up behind the dam since its construction in 1913 and to prevent any catastrophic release of sediment downstream.

Division 2 staff identified two illegally filled ponds in the Fountain Creek basin on Cottonwood Creek near Colorado Springs. The Water Court ordered the owner of the ponds to drain them to allow impounded water to flow downstream. Water quality concerns were considered in evaluation of the drain plans and gradual release rates combined with close on-site monitoring were instrumental in limiting entrainment of sediment in the released water. CPW and WQCD were alerted about the draining of the ponds on July 30, 2018.

Rio Grande Basin (Division 3)

In 2018, the SEO notified both the CDPHE and the CPW of potential water quality issues as required under our MOU, due to the draining of several reservoirs in Division 3. Specifically, the CDPHE and CPW were notified of potential water quality issues due to the proposed draining of Mountain Home Reservoir, Smith Reservoir, and Rio Grande Reservoir. Of these, both Mountain Home and Rio Grande Reservoirs were ultimately drained in the fall of 2018. Smith Reservoir was drawn down substantially, but not completely.

Uncompahgre/Gunnison Basin (Division 4)

In September and October 2017 at Paonia Reservoir Dam, a planned project to rehabilitate the outlet works commenced. Because of this work a significant sediment release to the North Fork Gunnison River was expected as a necessary part of this repair work. The North Fork Water Conservancy District (NFWCD) set up monitoring stations prior to the release of sediment and developed a fate and transport model to estimate the magnitude and impact of the event. The NFWCD worked closely with multiple agencies to manage and document the fate and transport of the sediment released including WQCD, CPW, US Army Corps of Engineers, Bureau of Reclamation, and USGS.

Colorado River Basin (Division 5)

The annual flushing at the Shoshone and Cameo Dams continued in 2017 and 2018. They generally flush during runoff. However, the rolls at Cameo were lifted at the end of October in 2018, flushing silt down river through mid-November. 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 calendar years 2017 and 2018.