ANNUAL REPORT
OF ACTIVITIES PERFORMED BY
THE STATE ENGINEER'S OFFICE
2019

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 2019.

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. Though significant increases in “permits issued” occurred from 2015 through 2018, permits dropped by 4% in 2019. Similarly, monitoring hole notice-of-intent to drill (NOI) forms received by SEO were down 9%. These also include NOIs for temporary dewatering wells. Monitoring *holes* (in contrast to monitoring *wells*) are used for temporary monitoring (<18 months) of groundwater quality at environmental remediation sites. The SEO can request water quality data from applicants if necessary.

Table 1 –SEO Annual Well Permitting Summary

SEO Permitting Activity	2016	2017	2018	2019
1. Permits Issued	5821	5609	6264	5997
2. Monitoring Hole Notice-of-Intent	1038	862	1028	921

A comparative table summarizing annual BOE activities (through the Well Inspection Program) for the last four years is found in Table 2. In 2019, there was a marked increase in complaints (i.e. rules violations) and fines. This is a direct result of the State Auditor's review of the Well Inspection Program (described on page 3) which recommended eliminating the use of a first-offense warning letter for late well construction reports prior to assessing fines on rules violations. This change resulted in numerous late report fines during 2019. The decrease in well construction variances issued partly reflects the 2019 drop in well permits issued, but the drop is larger than expected. The Board licensed 242 contractors in 2019, 8 more than in 2018. All licensed contractors are required to obtain at least eight hours of continuing education annually for license renewal.

Table 2 –Board of Examiners Annual Activity Summary

BOE Activity	2016	2017	2018	2019
1. Complaints Investigated	24	29	39	99
2. Resolved Complaints	21	21	29	68
3. Fines (total dollars)	14 ($7400)	15 ($8995)	19 ($7600)	51 ($45,600)
4. Licenses suspended or revoked	0	0	0	0
5. Letter of admonition/reprimand	22	22	24	15
6. Inspections	800	855	722	705
7. Well Construction Variances	98	122	155	85
8. Licensed Contractors	239	239	234	242

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. Well inspections were down slightly this year due to turnover and a vacancy in one field inspector position for five months during 2019. This position was filled as of January 2, 2020.

In 2018, the Colorado Water Well Contractors Association requested a financial and performance audit of the Well Inspection Program. The Office of the State Auditor started the audit in July 2018 and the final report, *Water Well Inspection Program, Performance Audit*, was released in late May 2019. The Legislative Audit Committee held a hearing about the audit on June 11, 2019.

In summary, the audit found significant deficits in the program and detailed areas that need improvement. The program needs to

- effectively use a risk-based inspection program to focus inspections on wells that present the highest risk to public health and contamination of the aquifers;
- focus well inspectors time on key phases of well construction;
- more systematically use well construction work reports to verify compliance with the well construction requirements (i.e. rules and permit conditions);
- improve institutional controls on allocation of the well inspection cash fund's resources.

The State Engineer agreed to implement all the recommendations of the audit in cooperation with the BOE. The BOE is currently deliberating on policies that would address the audit recommendations.

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 approved 184 SWSPs total in 2019. Of these SWSPs, 70 were related to gravel pits. The 2019 SWSP total was a 17% decrease from the 2018 total of 223. The decrease is partly attributable to augmentation plans moving through the water court process as well as a general decrease in SWSP applications over the last few years. 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 substitute supply water usually comes from reservoirs or from bypassing stream diversions. Seldom has an applicant used treated wastewater or other supplies with water quality concerns 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 Issues and Activities

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. Interaction continued on the topic of temporary groundwater discharges by wells and the appropriate regulatory sphere. Agency discussions and consultation with the Attorney General's Office on the Water Quality Control Act ("SB 181", 25-8-202(7) C.R.S.) led to agreement that the WQCD appropriately regulates all temporary well discharges to surface water, whereas the SEO has regulatory authority for temporary well discharges to groundwater. The SEO intends to implement its authority in part through a new BOE low-risk discharge policy titled, "Short-Term Discharges to Groundwater from Water Well Activities". This new policy has been reviewed by WQCC and HMWMD and is near completion.

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.

Specific SEO activities around the state involving water quality issues are described in the sections below:

South Platte River Basin (Division 1):

The SEO and WQCD continued coordinating on issues related to MineWater LLC's re-opening of the London Mine west of Fairplay. New surface-water gaging stations are now in place at the London Mine and Hock Hocking Mine to monitor water discharge rates at both sites. The gage locations also serve as water quality sampling sites.

Arkansas River Basin (Division 2)

Cleaning and inspection of the stilling pool below John Martin Reservoir started around November 1, 2018 after the gates were closed. This project was long overdue because the last time the stilling pool did not have water in it was in 1949 when the reservoir was built. The project allowed inspection and repair of the dam abutments. Monthly progress meetings were held between Kansas DWR, CDWR and the U.S. Army Corps of Engineers (USACE). Colorado Parks and Wildlife (CPW) and CDPHE were also actively informed and involved in the water quality (silt loading) and wildlife aspects of the project.

The USACE hired a contractor to perform the work. The stilling basin was dewatered by pumping to two in-line settling ponds that allowed the water to clear before discharging into Lake Hasty below the last pond, and then, from Lake Hasty back to the Arkansas River. The operation included a fish salvage by CPW to move catchable species back above the dam. Over 50,000 tons of sediment were removed from the stilling basin. The sediment had to be drained out and then disposed of properly in a couple of designated areas nearby, but away from the runoff to the river or to John Martin Reservoir. The stilling pool project was completed in time to make a release to the Lamar Canal on April 15, 2019.

Sediment removal from the John Martin Reservoir stilling basin.

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 proposed draining of Rio Grande Reservoir for a large, multi-year dam rehabilitation project. The multiple drawdowns for construction purposes continued into 2019. Dam rehabilitation work is scheduled to be completed in the spring of 2020.

Colorado River Basin (Division 5)

At the Shoshone and Cameo dams the annual flushing of sediment during spring runoff continued in 2019. One of the rolls at the Highline Canal roller dam was raised at the end of October 2019, top allow some flushing of silt down river. These activities are coordinated with CDPHE and CPW.

San Juan and Dolores River Basins (Division 7)

Since the Gold King Mine blowout in 2015, DWR Water Commissioners work to keep water users aware of events affecting stream water quality in case they want to close their water diversion head gates. On October 9, 2019, the Bureau of Land Management notified the U.S. Environmental Protection Agency (EPA) that the Silver Wing Mine, north of Eureka, was releasing mine wastewater into the Animas River, causing discoloration of the waterway. Christina Progess, the EPA's lead for the Bonita Peak Mining District Superfund site, said EPA crews were sent to the site the next day to determine the size and scope of the spill north of Silverton. Anthony Edwards, a community liaison for the State of Colorado for the Superfund site, said it appeared the Silver Wing Mine was discharging more mine water than normal, which caused sludge to flow downstream. No water quality impacts potentially affecting human health and the environment were identified shortly after the event.

The above information completes the Senate Bill 89-181 report from the SEO to the WQCC for calendar year 2019.