

**ANNUAL REPORT  
OF ACTIVITIES PERFORMED BY  
THE STATE ENGINEER'S OFFICE  
2022**

**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 (DWR/SEO) is 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 2022.

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:

- 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). Licensed well drillers construct domestic and commercial water wells. 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 that should only be conducted by licensed contractors, legal proceedings are initiated, which usually conclude in significant monetary judgments. Well owners have the ultimate responsibility to correct the deficiencies of improperly constructed wells. Otherwise, the BOE, State Engineer, or both may order the well plugged and abandoned to prevent contamination of groundwater.

The SEO annual well permitting summary is captured in Table 1. The number of well permits issued decreased by 7% in 2022 from 2021; nevertheless, it was still the second most number of permits issued in the last five years. Monitoring hole notice-of-intent to drill (NOI) forms received by the SEO were up close to 7% over 2021. 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	2018	2019	2020	2021	2022
1. Permits Issued	6264	5621	5784	7267	6751
2. Monitoring Hole Notice-of-Intent	1028	921	975	1019	1088

Table 2 summarizes annual BOE activities (through the Well Inspection Program) for the last five years. The 2019 jump in total fines was a direct result of eliminating the use of a first-offense warning letter for late well construction reports. In 2020 and 2021, the late filing of well construction reports was down significantly, leading to a steep decline in stipulated settlements. In 2022, approved well construction variances (from the Construction Rules) were 18% higher than in 2021. This is due to the increased construction of wells that were permitted over the last two years. The Board licensed 237 contractors in 2022, 11 fewer than in 2021. All licensed contractors are required to obtain at least eight hours of continuing education annually for license renewal. Because of the COVID-19 pandemic, rules were amended to allow this continuing education to be obtained online. For 2023, the BOE has returned to its normal practice of requiring at least four hours of in-person training.

**Table 2 -Board of Examiners Annual Activity Summary**

BOE Activity	2018	2019	2020	2021	2022
1. Complaints Investigated	39	99	33	14	30
2. Resolved Complaints	29	68	52	15	22
3. Stipulated Settlements (total dollars)	19 (\$7600)	51 (\$45,600)	26 (\$13,800)	4 (\$1,500)	22 (\$15,400)
4. Licenses suspended or revoked	0	0	0	0	0
5. Letter of admonition/ reprimand	24	15	8	1	1
6. Inspections	722	705	1202	1182	1467
7. Well Construction Variances	155	85	107	105	124
8. Licensed Contractors	234	242	244	248	237

The *Well Inspection Program* was authorized by the legislature in Senate Bill 03-45 and funded by a \$40 increase in well permit application fee, which has not changed since 2003. 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 inspection program is to locate and initiate action against unlicensed contractors working illegally in the state. Well inspections in 2022 (1,467) increased by 24% from the previous year, primarily due to enhanced field availability of the inspection staff.

Long-time Chief Well Inspector Doug Stephenson retired at the end of 2022. The new Chief Well Inspector is Chris Jones who has been our well inspector for the South Platte and Arkansas River Basins.

## **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 a temporary basis or, if the applicant was to continue such operation permanently, until a court-approved plan for augmentation is obtained. For the approval of SWSPs, 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 254 SWSPs total in 2022. Of these SWSPs, 88 were related to gravel pits. The 2022 SWSP total represents a 12% increase from 2021 and a 38% increase since 2019. 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, in administering water decrees, the SEO 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 have a scheduled quarterly meeting to discuss water quantity and water quality topics of common interest. In 2022, very few topics of concern arose on which staff had the need to coordinate.

As required by the 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.

In August 2022, the WQCC requested a water rights consultation about WQCC's rulemaking for changes to nutrient water quality standards in lakes. WQCC's hearing is scheduled for April 2023. DWR has reviewed the party's prehearing statements, which describe their water rights concerns, and has met with interested parties to better understand those concerns. We understand the concerns are focused on the possibility that DWR would deny exchanges, plans for augmentation, or substitute water supply plans based on the quality of the substitute supply provided because of the application of new water quality standards in lakes filled by diversions downstream of the substitute supply. DWR will continue to review the documentation submitted by the parties and will provide a response to the request for consultation in early 2023.

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

##### South Platte River Basin (Division 1):

In 2022, there were several reservoir dewatering sites where sediment entrainment and other water quality concerns can become issues:

- Temporary operations to empty water from Ralston Reservoir were in-place beginning in the winter of 2021 and continuing into early Spring of 2022 to accomplish needed outlet repairs and remediation efforts. Notice was provided to CPW and WQCD by the Division 1 office on 10/8/2021 and we were advised by Denver Water, owner of Ralston Reservoir, that they were working closely with WQCD and others.
- On 9/26/2022 our office notified CPW and WQCD regarding possible irregular water operations activities at Left Hand Creek Reservoir located 4 miles above the Town of

Ward, Colorado. Concerns are the draining of the reservoir to accomplish outlet works replacement, and more importantly the potential changes to flow patterns below the reservoir during the subsequent refilling of the reservoir in late 2022 into Spring 2023.

- Denver Water began construction on the Gross Reservoir expansion in April 2022. Denver Water is working closely with WQCD and other agencies on water quality compliance during the multi-year construction project.
- Reservoir improvements were made to Lower Beaver Brook Reservoir located on a tributary to Clear Creek. This required temporary evacuation of Lower Beaver Brook Reservoir for the construction improvements including new outlet works completed in Fall 2022. Lookout Mountain Water District was in communication with WQCD and other agencies regarding water quality compliance.
- A low-head dam removal project will require the release of water from Lake George prior to removal. Water will be stored below Lake George in Eleven Mile Reservoir as well as other downstream reservoirs. This is a permanent removal with restoration of that portion of the stream. The dam being removed is located above Lake George and not the actual dam for Lake George.

Additional ongoing challenges with sediment loading in the Cache la Poudre River stemming from the 2021 wildfires have continued through 2022, primarily during precipitation and runoff events.

#### Arkansas River Basin (Division 2)

- In 2022, some interests in Division 2 have asked about water quality impacts that result from the operation of undecreed exchanges on the Arkansas River. DWR will review flow data and past undecreed exchanges as part of an informal review to determine whether there is a basis for concern about the degradation of water quality.

#### Colorado River Basin (Division 5)

- In irrigation year 2022 (November 1, 2021 - October 31, 2022) Division 5 experienced continued water quality impacts from the three major fires that occurred in 2020 – Pine Gulch in western Garfield County, Grizzly Creek in Glenwood Canyon, and East Troublesome in Grand County.
- Debris flows occurred on each of the burn scars this past summer and none were to the magnitude that occurred in the summer of 2021. Based on the USGS turbidity data reviewed, it appears that the Pine Gulch burn scar is having the highest impact on water quality affecting Roan Creek and the Colorado River below Roan Creek (which is also impacted by the two other upstream burn scars).
- Stream temperatures were a concern throughout the Colorado River basin and its tributaries above Glenwood Springs. The Colorado River Water Conservation District made releases from Wolford Reservoir in July to mitigate high temperatures along the mainstem of the Colorado River. Releases were made from Ruedi Reservoir from several entities in July to mitigate high temps along the Fryingpan and Roaring Fork rivers.

Grand County's Learning By Doing cooperative initiative conducted weekly phone calls during the irrigation season discussing stream conditions with water user entities to determine if operation changes could improve stream temperature conditions in the Fraser and Colorado River basins in Grand County. The Division of Water Resources participated in these meetings/discussions and administered water releases for instream uses and/or downstream uses.

- DWR was notified by the dam owners that Grizzly Reservoir (confluence of Grizzly Creek and Lincoln Creek, Tributary to the Roaring Fork River, in Pitkin County above the City of Aspen) will be drained in the summer of 2023 to complete maintenance on the dam. RJH Consultants, Inc. provided a project plan for the drawdown of Grizzly Reservoir and requested that interested parties provide comments on the plan by December 1, 2022. Pursuant to the MOU between DWR, CPW, and CDPHE, notification was provided by DWR to the other parties of the drawdown plan and the request for comments.

#### Yampa, White, and North Platte River Basins (Division 6)

- Similar to the past several years, DWR again protected releases from Stagecoach Reservoir to the City of Steamboat Springs wastewater discharge point on the Yampa River. Releases from the reservoir were needed to maintain lower stream temperatures to meet the Yampa River stream standards. When the Yampa River has very low streamflow, water temperatures can rise significantly. DWR protects these releases to ensure the increased streamflow is not diverted by water rights holders between the reservoir and the Steamboat Springs wastewater discharge location.
- Recreation (tubing and fishing) was closed in Yampa Creek through Steamboat Springs when streamflow went below 100 cubic feet per second at the Soda Creek gage. This is by agreement with the City of Steamboat Springs - not a WQCD requirement

The above information completes the Senate Bill 89-181 report from the SEO to the WQCC for the 2022 calendar year.