

**ANNUAL REPORT
OF ACTIVITIES PERFORMED
BY THE
STATE ENGINEER'S OFFICE
IN 2011**



**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 2011.

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 2011, the BOE investigated 17 new complaints and resolved 40 complaints; 28 of those resolved extend back to previous years. Eleven (11) fines were levied for rule violations. No licenses were suspended or revoked; but three (3) letters of admonition or reprimand were sent out during 2011. In addition, the staff reviewed and processed 116 requests for variance from the Water Well Construction Rules and plans for the construction of gallery-type wells. More than 9,983 work reports (well construction, pump installation, and well abandonment) were reviewed by staff and the data captured in the Well Database. Of these 4,500 were well abandonment reports. The Board licensed 237 contractors in 2011, including 4 new contractors. License renewal for 2011 marks the seventh 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 1,128 inspections in 2011. 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 inspected wells has leveled at about 1%. For 2011 that rate was 0.9%. 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 4,445 new well permit applications in 2011. Of this total, 631 were applications for replacement wells. The majority of the wells were to be used for domestic purposes. In addition, the staff processed 509 notices to drill monitoring holes¹ and 2,656 well construction and test reports. Many of the monitoring wells are used for monitoring ground water quality. 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 198 general substitute supply plans (including emergencies) and 81 substitute water supply plans related to gravel pits. These totals are slightly less than in 2010. The majority of substitute supply plans use river water as the source of substituted water.

Water quality related to selenium concentrations of recharge water in recharge pits was addressed very specifically in the SWSP for the Super Ditch Pilot Project in the Arkansas River basin (Division 2). Ultimately, a term and condition was added to our approval to address this issue.

The non-decreed 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 any water quality problems.

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

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.

In 2011, water quality was also an issue involving the Division 1 Water Court Case regarding the exchanges of water involved between the new proposed WWTP near Brighton and the existing WWTP at Denver Metro.

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 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. 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 continues to be discussed in the Arkansas River basin in a variety of forums including compact meetings, water court cases and the Basin Roundtables. Also, water quality was one of the issues discussed in the negotiation meetings on the Colorado River Cooperative Agreement over the past two years. 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, as well as water quantity/quality questions related to hydrofracturing operations.

The State Engineer 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 regularly responds to referrals from the WQCD to comment on potential for injury from actions related to discharge permit applications.