

**STATE and LOCAL  
FISCAL IMPACT**

**Drafting Number:** LLS 14-0829  
**Prime Sponsor(s):** Rep. Fischer  
 Sen. Hodge

**Date:** April 11, 2014  
**Bill Status:** House Agriculture  
**Fiscal Analyst:** Clare Pramuk (303-866-2677)

**SHORT TITLE:** SOUTH PLATTE RIVER BASIN WATER MANAGEMENT

Fiscal Impact Summary*	FY 2014-2015	FY 2015-2016
<b>State Revenue</b>	Potential increase. See State Revenue section.	
<b>State Expenditures</b>	<b><u>\$5,934,773</u></b>	<b><u>\$86,365</u></b>
Cash Funds	5,921,262	74,512
Centrally Appropriated Costs**	13,511	11,853
<b>FTE Position Change</b>	1.2	1.0
<b>Appropriation Required:</b> \$5,898,674 - Department of Natural Resources (FY 2014-15)		

\* This summary shows changes from current law under the bill for each fiscal year.

\*\* These costs are not included in the bill's appropriation. See the State Expenditures section for more information.

**Summary of Legislation**

House Bill 12-1278 required the Colorado Water Conservation Board (CWCB) in the Department of Natural Resources (DNR), in consultation with the State Engineer and the Colorado Water Institute (CWI) at Colorado State University, to conduct a comprehensive study to compile and evaluate available historic hydrologic data for the South Platte River Basin. A final report was presented to the General Assembly on December 31, 2013. This bill implements the recommendations from that report by requiring the CWCB to contract with the CWI to:

- further study the movement of water in the alluvial aquifer, or portions of the alluvial aquifer, and the time, location, and amount of any contributions that the alluvial aquifer makes to surface flows, in Districts 1, 2, and 64 in Water Division 1;
- develop additional information to support a potential rule-making process regarding administration of the call on the South Platte River;
- perform further investigation into the feasibility of creating a basin-wide management entity;
- investigate the viability of basin-wide management principles and processes;
- identify and investigate methods for increasing conjunctive use and maximizing use of the alluvial aquifer on a regional, coordinated basis while maintaining deliveries to water users with decreed water rights in priority;
- coordinate with the State Engineer, the division engineer for Division 1, the Division of Water Resources (DWR) in the DNR, other interested agencies, and water users to implement the technical recommendations in the HB12-1278 study including a hydrogeologic study of conditions in Gilcrest, LaSalle and surrounding areas; and
- establish a public outreach process to share information and gather feedback from interested parties.

**Study administration.** The CWI will perform the study independently under the direction of a 7-member study advisory board made up of representatives from water conservancy districts, water roundtables, the CWCB, and the State Engineer's Office. The CWCB is directed by the bill to fund CWI's work with existing sources and additional funding available from state and federal grants or other gifts, grants, and donations.

The CWI, with the advisory board's approval, will appoint an engineering subcommittee of at least five members with experience and qualifications specific to the South Platte River Basin to advise the CWI on technical matters. Beginning in the 2015 session of the General Assembly, the CWI will present annual progress reports to a joint meeting of the House and Senate agriculture committees. The CWI will present a final report during the 2019 session of the General Assembly.

**Aquifer management plan pilot program.** The CWCB may approve up to five pilot aquifer management plans in the South Platte River Basin to test management strategies intended to mitigate damaging high groundwater levels. Plans must meet certain specifications included in the bill. The CWCB will provide a 30-day period for interested parties to comment on a proposed aquifer management plan. After the 30-day comment period the CWCB will approve or deny a proposed aquifer management plan. The CWCB will establish a high groundwater mitigation grant program to provide financial assistance to persons implementing approved aquifer management plans.

On or before November 1 of each year, the CWCB will report to the Water Resources Review Committee on the progress of mitigating damaging high groundwater levels in the study area, with a final report on the effectiveness of the high groundwater management strategies on or before November 1, 2019.

**Reports on alluvial aquifer recharge facility applications.** The bill requires the state engineer and the division engineer in the DWR to issue an advisory report on the viability and potential damage of all alluvial aquifer recharge facilities for which an applicant has requested approval through the water court.

**Rulemaking.** The State Engineer is required to initiate rulemaking in Water Division 1 to:

- establish reporting standards for augmentation plan accounting practices, designed for integration with basin-wide data collection, modeling, and management; and
- establish a framework to administer the voluntary movement of excess water supplies.

**Interactive water transfer application.** The State Engineer is required to develop an interactive, internet-based application that provides a platform for:

- voluntary reporting of the time, location, and amount of an augmentation plan's excess recharge credits;
- voluntary reporting of the time, location, and amount of excess direct flow or storage water supplies available;
- a searchable report of excess water supplies;
- interactive, real-time information regarding water exchange potential and downstream delivery protocols; and
- an on-line, printable, and electronically transferable form that allows parties to make water transfers while providing notice to the division engineer and water commissioners.

## **Background**

District 1 of Water Division 1 runs along the main stem of the South Platte River from just above the confluence of the South Platte River and the Cache La Poudre River at the upstream (west) end to the point at which the South Platte River intersects the Morgan County/Washington County line at the downstream (east) end. District 1 includes the watersheds that contain the tributaries that flow into the South Platte River along that reach, with the exception of the Cache La Poudre River watershed, which has its own water district, District 3.

District 2 of Water Division 1 runs along the main stem of the South Platte River from just above the confluence of the South Platte River and Clear Creek at the south end to just above the confluence of the South Platte River and the Cache La Poudre River at the north end. District 2 includes the watersheds that contain the tributaries that flow into the South Platte River along that reach, with the exception of the Boulder Creek, St. Vrain Creek, and Big Thompson River watersheds, which each have their own water districts.

District 64 of Water Division 1 runs along the main stem of the South Platte River from the point at which the South Platte River intersects the Morgan County/Washington County line at the west end to the point at which the South Platte River flows out of the Colorado at the Nebraska state line. District 64 includes the watersheds on the north and south sides of the river that contain the tributaries that flow into the South Platte River along that reach.

## **State Revenue**

The bill may increase revenue to fund the CWI study from gifts, grants, and donations, but no such source of funding has been identified.

## **State Expenditures**

This bill is expected to increase expenditures from the CWCB Construction Fund by **\$5,934,773 and 1.2 FTE in FY 2014-15 and \$86,365 and 1.0 FTE in FY 2015-16**. The bill will also increase workload for the DWR and CWCB beginning in FY 2014-15. The study identified in the bill can be broken down into eight components. Each component of the study and the associated cost are shown in Table 1. The total costs for the bill are shown in Table 2 and explained below.

**Assumptions.** The following assumptions were used to determine the fiscal impact of the bill:

- DWR and CWCB staff on the project will be high-level professionals and managers and unless otherwise specified, DNR staff time does not require a new appropriation;
- contractors working on the study charge a rate of \$180 per hour;
- the South Platte Decision Support System (SPDSS) alluvial groundwater model will be used for analysis;
- each groundwater model scenario requires 200 hours of contractor time, for a cost of \$36,000 per run;
- each surface water model scenario requires 140 hours of contractor time, for a cost of \$25,200 per run;
- half-day meetings of the CWCB are \$1,555 each for travel, printing, and contractor attendance and will occur during a regular meeting;

- full-day meetings of the CWCB are \$4,272 and include the same resources as the half-day meeting plus facility rental, meals, and CWCB staff;
- the Chief of Water Information position will be approved by the General Assembly;
- the Office of Information Technology (OIT) will fill two existing vacancies for DWR program developers; and
- OIT continues to support DWR with a geographic information systems developer.

<b>Table 1. Cost of Study Under HB14-1332</b>	
<b>Study Components Identified in the Bill</b>	<b>Cost</b>
1. Study the movement of water in the alluvial aquifer	\$698,400
2. Develop additional information to support a potential rule-making process regarding administration of the call on the South Platte River	829,388
3. Investigation into developing a basin-wide management entity	85,168
4. Investigate the viability of basin-wide management principles	682,210
5. Identify and investigate methods for increasing conjunctive use and maximizing use of aquifer	633,600
6. Implement the technical recommendations of the HB12-1278 Study	1,528,975
7. Establish public outreach process	34,176
8. Contract with the Colorado Water Institute	162,640
<b>TOTAL</b>	<b>\$4,654,557</b>

**Study and workload costs.** The study is expected to cost \$4,654,557 over five years and will be conducted by the CWI with support from the DWR and CWCB.

*Component 1.* In order to study the movement of water in the alluvial aquifer, historical data will be studied and scenarios run on the SPDSS ground water model to establish a relationship between aquifer levels and stream gains. The impact of pumping on aquifer levels and changes in river gain will also be studied, using gain measurements taken over three years. The SPDSS will need to be enhanced to address the modeling requirements of the study.

*Component 2.* To develop additional information to support a potential rulemaking process regarding administration of the call on the South Platte River, the CWCB, CWI, and DWR will need to investigate the potential for increased efficiency through active management of reservoir filling. This will involve meeting with the South Platte and Metro basin roundtables to develop hypothetical management scenarios. Scenarios will be simulated in the SPDSS surface water and groundwater models, refined based on feedback, and simulated again.

*Component 3.* Investigation into developing a basin-wide management entity will require meetings with stakeholders to develop a plan for such an entity and then to gather input on a proposed plan. Meetings would be with the public, water users, and water groups such as conservancy districts, ditch companies, and municipalities. The findings will be summarized in a final report.

*Component 4.* Investigation into the viability of basin-wide management principles will be a complex process that will require meetings with water users, round tables and conservation groups, numerous simulations of both the SPDSS surface water and groundwater models in an iterative manner, comparisons with historical information, and analysis of the findings. Facilitating communication for basin-wide management will require development of a website.

*Component 5.* To identify and investigate methods for increasing conjunctive use and maximizing use of aquifer resources will require model simulations on both the SPDSS surface water and groundwater models. To evaluate losses from evaporation and phreatophytes (vegetation) will require an inventory of areas with shallow groundwater and phreatophytes and an analysis of the potential for non-beneficial evapotranspiration (ET). The SPDSS surface water and groundwater models will be used to study the effects of non-beneficial ET.

*Component 6.* To implement the technical recommendations of the HB12-1278 Study will require the installation of a well monitoring network. The network will utilize 150 existing wells, of which 20 will have monitoring equipment installed at a cost of \$330,000 in order to fulfill the real-time monitoring requirement in the bill. Well sites will be visited quarterly for four years, and costs shown include travel and contractor staff time for those visits. This component also includes the helicopter electromagnetic and magnetic hydrogeologic survey of the Gilcrest-LaSalle area which is estimated to cost \$870,000.

The DWR's hydrogeological team will manage the creation of the well network under Component 6. This is estimated to require 1,040 hours for existing DWR staff and require 0.2 FTE for a temporary employee during the initial start up period.

The HB12-1278 Study also recommended an increase in staffing in the DWR. The fiscal note includes one new scientist position responsible for improving water data collection methods and analysis.

*Component 7.* Establishing a public outreach process will include two public meetings held annually during the study.

*Component 8.* The CWCB will contract with the CWI to administer the study. CWI will then form an advisory board and engineering subcommittee. Both the advisory board and engineering subcommittee will have meeting costs. This component includes the costs for preparation of the annual and final reports.

<b>Table 2. Expenditures Under HB14-1332</b>		
<b>Cost Components</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>
Personal Services	\$88,274	\$73,562
FTE	1.2 FTE	1.0 FTE
Operating Expenses and Capital Outlay Costs	5,843	950
Legal Services (\$91.08 x 248 hours)*	22,588	
Computer Programming	650,000	
Grants	500,000	
Cost of Study (from Table 1)	4,654,557	
Centrally Appropriated Costs*	13,511	11,853
<b>TOTAL</b>	<b>\$5,934,773</b>	<b>\$86,365</b>

\* Legal services and centrally appropriated costs are not included in the bill's appropriation.

**Aquifer management plan pilot program.** Each plan reviewed and evaluated under the pilot program is expected to require 25 hours of staff time.

**Grant Program.** To implement the high groundwater grant program, the CWCB requires \$500,000 to fund five grants of \$100,000 each. CWCB staff are expected to spend 520 hours to administer the grant program.

**Review of Recharge Facilities.** The State Engineer and division engineer will issue a report on the viability and potential damage of all alluvial aquifer recharge facilities that are subject of a request for approval through the water court. This will increase the number of recharge facilities analyzed with each augmentation plan requiring an additional 420 hours of staff time.

**Computer programming.** To implement the bill, the DNR will need increased funds for modifications to computer systems other than the SPDSS. The time service tool (TSTOOL) requires \$150,000 in modifications and the related GIS architecture requires \$100,000 in updates. The development of an interactive internet-based application to facilitate the transfer of water will have a development cost of approximately \$500,000.

**Rulemaking.** The State Engineer will conduct rulemaking to establish reporting standards for augmentation plan accounting and to establish a framework for the voluntary movement of excess water supplies. This is expected to require 860 hours of staff time and 248 hours of legal services provided by the Department of Law. The fiscal note assumes that the DNR has sufficient funding for legal services to accommodate this rulemaking; it will seek additional funding through the annual budget process if necessary.

**Judicial Branch.** The bill may have a limited impact upon the administration and adjudication of water rights in the South Platte Basin. The pilot projects may be appealed to the Division 1 Water Court, but because these are limited to five projects, such litigation will be minimal. The Water Court will need to approve any rulemaking by the State Engineer but accounting issues are generally not overly contentious. Overall, the bill should not create significant additional workload for the Division 1 Water Court.

**Centrally appropriated costs.** Pursuant to a Joint Budget Committee policy, certain costs associated with this bill are addressed through the annual budget process and centrally appropriated in the Long Bill or supplemental appropriations bills, rather than in this bill. The centrally appropriated costs in the DNR subject to this policy are estimated in the fiscal note for informational purposes and summarized in Table 3.

<b>Cost Components</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>
Employee Insurance (Health, Life, Dental, and Short-term Disability)	\$7,381	\$6,151
Supplemental Employee Retirement Payments	6,130	5,702
<b>TOTAL</b>	<b>\$13,511</b>	<b>\$11,853</b>

\*More information is available at: <http://colorado.gov/fiscalnotes>

**Local Government Impact**

The following entities will have increased workload by serving on the advisory board and participating in the stakeholder process:

- Northern Colorado Water Conservancy District;
- Central Colorado Water Conservancy District;
- Lower South Platte Water Conservancy District;
- South Platte Roundtable; and
- Metro Roundtable.

Local governments in the South Platte Basin may also have increased workload to participate in the development of a basin-wide management entity.

**Effective Date**

The bill takes effect upon signature of the Governor, or upon becoming law without his signature.

**State Appropriations**

For FY 2014-15, the Department of Natural Resources requires an appropriation of \$5,898,674 and 1.2 FTE. Legal services from the Department of Law do not require an appropriation as the DNR is assumed to use its existing legal services appropriations.

**State and Local Government Contacts**

Natural Resources                      Law                      Judicial