



## **HB12-1278 PROGRESS REPORT TO THE COLORADO LEGISLATURE April 10, 2013**

**Reagan Waskom, Colorado Water Institute, Colorado State University**

In 2012 the Colorado Legislature passed HB12- 1278—a study of the interaction of the South Platte alluvial aquifer, by the Colorado Water Institute (CWI) at Colorado State University (CSU). By December 31, 2013, CWI shall prepare and present to the general assembly a final report.

### **The Study is intended to:**

1. Evaluate whether current laws and rules that guide water administration in the South Platte River Basin achieve the dual goals of protecting senior water rights and maximizing the beneficial use of both surface water and groundwater within the Basin.
2. Identify and delineate areas within the Basin adversely impacted by high groundwater levels and to conduct a feasibility-level evaluation of the causes of high groundwater levels in the affected area.
3. Provide information to use as a base for implementation of measures to mitigate adverse impacts in areas experiencing high groundwater levels.
4. Provide information to the General Assembly, the Colorado Water Conservation Board (CWCB), and the State Engineer to facilitate the long-term sustainable use of the South Platte water supplies.

### **In addition, CWI shall evaluate and report its findings and conclusions regarding:**

5. to what extent augmentation plans are preventing injury to other water rights holders or potentially causing over-augmentation of well depletions;
6. whether additional usage of the alluvial aquifer could be permitted in a manner consistent with protecting senior surface water rights; and
7. whether, and to what extent, the use of water in the basin could be improved or maximized by affording the state engineer additional authority to administer water rights while ensuring protection of senior surface water rights.

**Study Tasks:**

- Task 1. Data collection, organization and display
- Task 2. Groundwater mapping
- Task 3. Evaluation of existing groundwater level analysis conducted by USGS
- Task 4. Stakeholder involvement and public education

**Project Team:**

*Project Manager:* Dr. Reagan Waskom, CSU  
*Assistant to the Manager:* Shannon Whitstock, esq., CSU  
*Project Outreach and External communications:* MaryLou Smith, CSU  
*CWCB Liaison:* Tim Feehan  
*DWR Liaison:* Kevin Rein  
*Project Technical Adviser:* Dick Stenzel, Applegate Group

Dr. Steve Malers, Riverside Technologies; Dr. Ahmed Eldeiry, CSU; Takis Oikonomou, CSU; Wendy Ryan, Colorado Climate Center; Dr. Domenico Bau, CSU; Roy Cook, CSU; Dr. Luis Garcia, CSU; Dr. Suzanne Pashke, USGS; Dr. Tristan Wellman, USGS; John Bustos, Retired USFS; Beth Plombon, CSU

**Independent Science Panel:**

Dr. John C. Tracy, Idaho Water Resources Research Institute  
Dr. Deanna Durnford, CSU Civil Engineering Professor Emeritus  
Dr. Geoff Delin, Groundwater Specialist, U.S. Geological Survey, Lakewood  
Peter Barkmann, Colorado Geological Survey, Denver  
Dr. Willem Schreuder, Principia Mathematica, Lakewood

**Achieved to Date:**

- Groundwater Data: Collection, review, QAQC, mapping and analysis
- Climate Data: Development of a 50 year climate data set for the South Platte Basin
- Maps: Development of maps of ditches, recharge sites, and gauges
- Data Standardization and Automation: Development of methods to standardize and automate data queries on Hydrobase using South Platte Decision Support System (SPDSS) TS tools
- Historic Records: Development of data layers for diversion records, augmentation records, wells pumped, stream gauges
- Community meetings in Longmont, Sterling, Gilcrest
- Stakeholder/Public Input Responses from Community Meetings and Via Website
- Adverse Effects from High Water Tables Responses from Community Meetings and Via Website
- VIDEO Working the Waters: A Brief History of the South Platte River and its Alluvial Aquifer
- Independent Science Panel education/input regarding data collection, stakeholder outreach, South Platte Decision Support System
- Interviews with diverse thought leaders to gain insights
- Website [www.cwi.colostate.edu/southplatte](http://www.cwi.colostate.edu/southplatte)

**Major Challenges:**

- Incomplete nature of groundwater data
- Changing nature of South Platte Basin over time