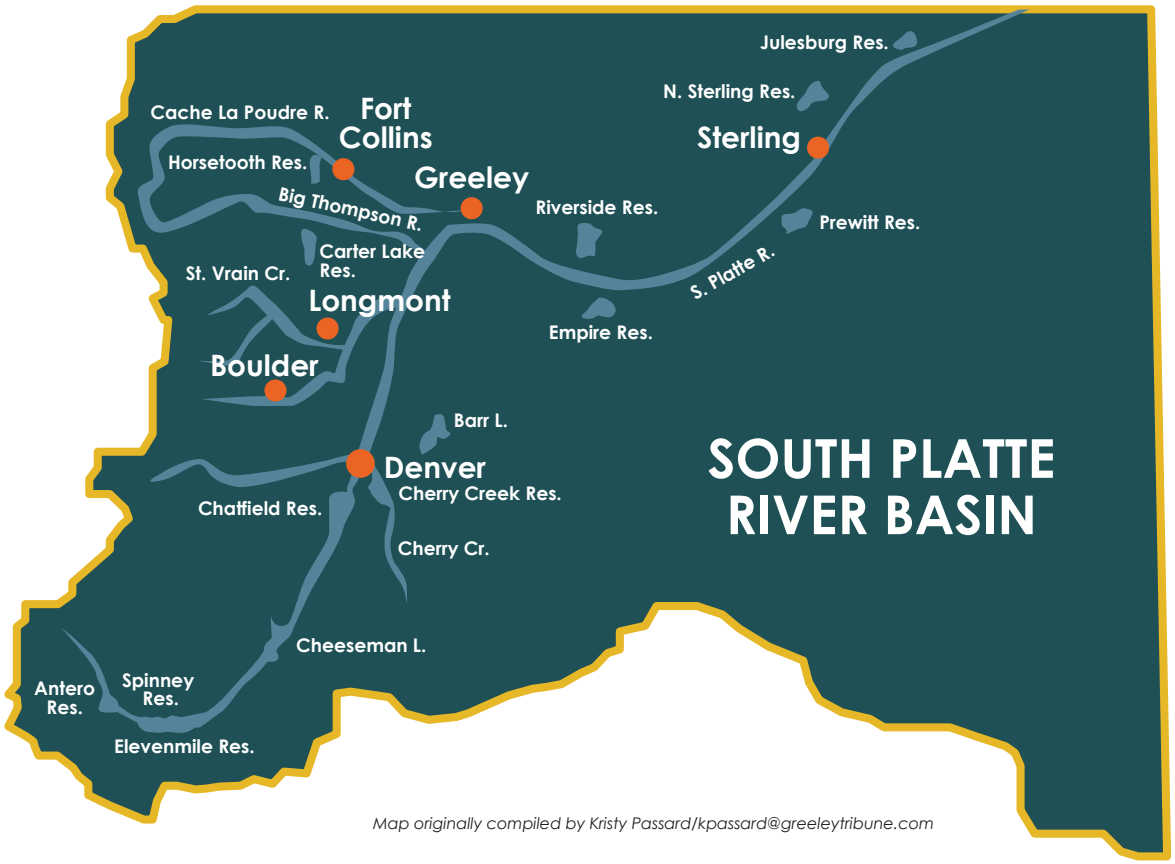
South Platte Regional Opportunities Water Group (SPROWG) Study

Fact Sheet

About the South Platte River Basin

The South Platte River originates in Colorado's Park County and flows for about 380 miles before reaching the Nebraska state line. The South Platte Basin (Basin) encompasses 23 counties and is home to approximately 3.8 million people, which includes the Denver Metropolitan area and growing northern Colorado communities such as Loveland, Greeley and Fort Collins. Seven of the 10 top agricultural producing counties in Colorado are in the Basin as well as recreational amenities for fishing, hiking, boating, skiing and visitors to state and national parks – all which contribute to the state's economy.



Map originally compiled by Kristy Passard/kpassard@greeleytribune.com

Basin water managers rely on a network of facilities and a vast system of public and privately-owned water rights to provide water for their customers. Limited water supplies have resulted in long standing efforts by water managers and citizens to conserve and maximize the use of water in the river. It is estimated that river water is used seven times before it flows into Nebraska.

Identifying Needs and Solutions

The Basin is challenged with the greatest projected water supply gap of any of Colorado's river basins and home to most of the state's population, which is expected to grow from 3.8 million to 6 million people by 2050. The recently completed Analysis and Technical Update to Colorado's Water Plan projected a municipal and industrial supply gap in the Basin ranging from 185,000 to over 540,000 acre feet annually by the year 2050 depending on future demand and supply scenarios.

Diverse interests in the Basin are working to develop water supply and infrastructure projects that benefit municipal, industrial, agricultural, recreational and environmental considerations. The South Platte Basin Roundtable and Metro Basin Roundtable published the South Platte Basin Implementation Plan (SP BIP) which identified water demands and evaluated various strategies that could be used to meet the identified water supply gap. Included in the plan, a "Conceptual Future In-Basin Multipurpose Project" is identified as one strategy in which South Platte supplies can be used with the greatest potential benefit (SP BIP, Section 4.6.2). This conceptual project relies on developing several types of South Platte water supplies to meet multiple benefits.

In 2015, a group of Front Range water managers called the South Platte Regional Opportunities Work Group (SPROWG) began exploring strategies for advancing the "Conceptual Future In-Basin Multipurpose Project" described in the SP BIP. Their work resulted in a framework for developing collaborative water projects in the South Platte basin. In a parallel effort, the South Platte Storage Study, authorized by the Colorado General Assembly (HB 16-1256), evaluated the South Platte River between Kersey and the Nebraska state line for potential water storage that could meet the considerable water gap identified in Colorado's Water Plan. It found that on average, the South Platte River carries almost 300,000 acre-feet of water per year out of Colorado in excess of the amount needed to satisfy the South Platte River Compact with Nebraska.

SPROWG Concept Study

To further develop these concepts, the Colorado Water Conservation Board provided a grant to fund additional research to build on the work of the SPROWG group and the South Platte Storage Study.

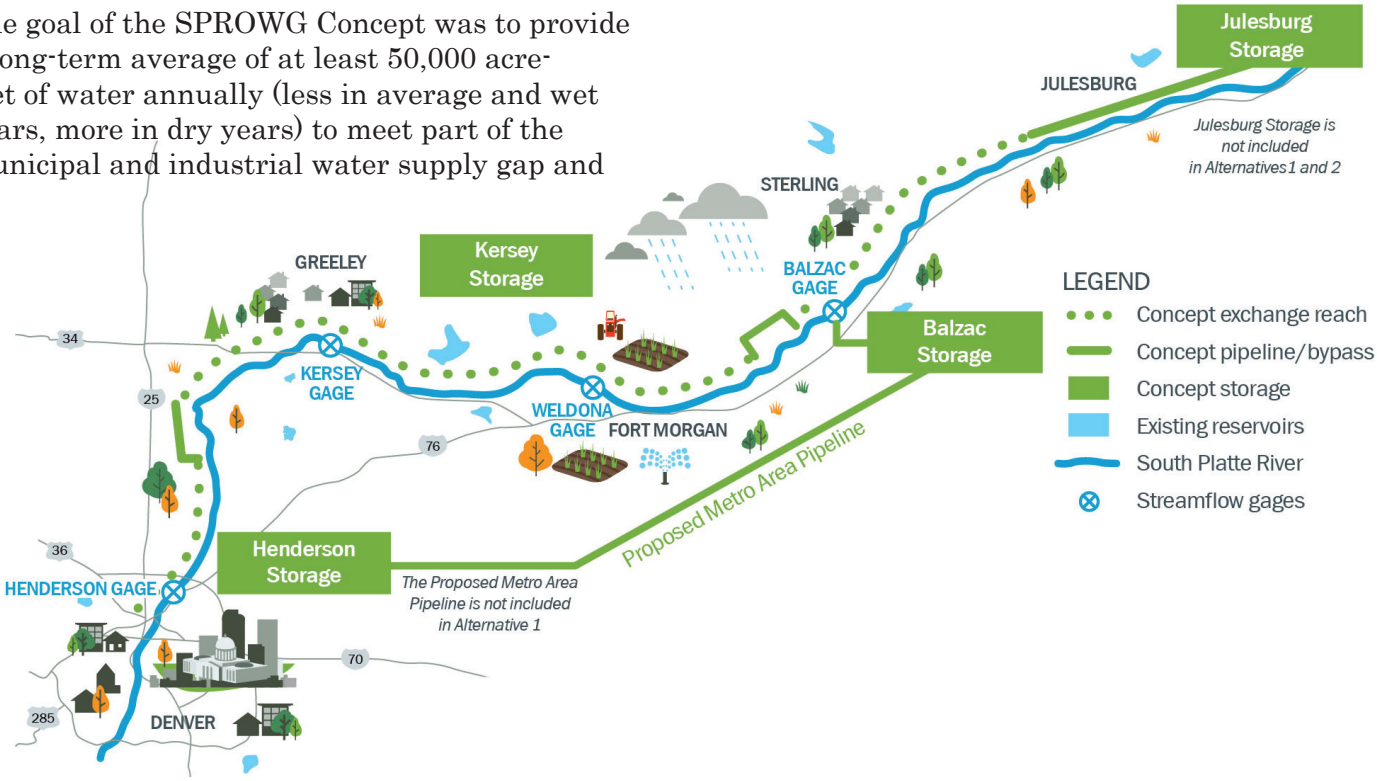
A contractor team was selected in February 2019 and was led by an advisory committee comprised of members from the South Platte Basin Roundtable, the Metro Basin Roundtable, and other interested stakeholders. Additionally, a 90+ member task force, which was open to any interested stakeholder, provided input on the project. Meetings with the advisory committee and task force were held between March 2019 and February 2020. The study approach included gathering input from a broad and diverse group of stakeholders to ensure that all interests were heard and considered. A major part of the effort focused on outreach to municipal, industrial, agricultural, recreation and environmental interest groups. A final report was completed in February 2020.

The SPROWG study investigated a holistic approach to meet diverse water needs in the Basin. Water supply concepts included multiple, operationally linked storage facilities (above and/or below ground) capable of holding more than 200,000 acre-feet of water in total at various locations between Denver and the state line. In addition, infrastructure was considered to transport the water to users within the South Platte Basin, and water treatment strategies were investigated. Potential organizational structures for developing and managing a regional water project were compared and contrasted.

SPROWG Concept Description

The study investigated four conceptual alternatives that were developed to explore a range of delivery goals and the infrastructure needed to meet the goals. The SPROWG Concept would store water that could be drawn from the unappropriated native flow, reusable return flows, and agricultural water derived from Alternative Transfer Methods (ATMs).

The goal of the SPROWG Concept was to provide a long-term average of at least 50,000 acre-feet of water annually (less in average and wet years, more in dry years) to meet part of the municipal and industrial water supply gap and also additional supplies for the agricultural gap in the South Platte Basin. A significant portion is targeted for smaller rapidly growing communities along the I-25 and Highway 85 corridor between Denver and Greeley, larger communities in the metro Denver and northern Colorado, and smaller communities east of Greeley.



Alternative concepts included different storage volumes to meet a range of target demands. Water would be moved to demand areas using exchanges or a new pipeline from a potential reservoir just downstream of Fort Morgan to potential storage facilities at the northern end of the Denver Metropolitan area. Alternatives involving delivery of treated water to municipal participants assumed reverse osmosis treatment technology and brine disposal. Nonpoint source control measures were considered as companion strategies to improve source water quality. The chart below outlines the concepts evaluated and the differences between them.

SPROWG Concept Alternatives				
	Alternative 1 Refine the Initial Concept	Alternative 2 Balzac First	Alternative 3 Add Julesburg Storage	Alternative 4 Additional Delivery
Size of Infrastructure				
Henderson Storage (acre-ft)	45,000	40,000	40,000	85,000
Kersey Storage (acre-ft)	150,000	100,000	100,000	200,000
Balzac Storage (acre-ft)	25,000	75,000	75,000	95,000
Julesburg Storage (acre-ft)	-	-	8,000	29,000
Total Storage (acre-feet)	**220,000**	**215,000**	**223,000**	**409,000**
Balzac to Denver Pipeline Capacity (cfs)	-	**30**	**30**	**30**
Delivery Goals (wet and average years / dry years) – data in AF per year				
Total Municipal Delivery	**42,000/82,000**	**45,000/85,000**	**50,000/90,000**	**65,000/115,000**
Total Ag Delivery	**3,000/10,000**	**3,000/10,000**	**8,000/22,000**	**14,000/35,000**

SPROWG Study Findings

- The study validated previous findings that the SPROWG Concept is technically and financially feasible. Many facility configurations could meet concept objectives.
- Several potential organizational frameworks could be feasible, including a new water conservancy district, a private non-profit company, regional water authority, or interim organizations such as an intergovernmental agreement or memorandum of understanding.
- Conceptual capital cost estimates are competitive with other large regional water projects ($18,400 to $22,800 per acre-foot for raw water and $33,600 to $43,200 per acre-foot for treated water).
- Additional outreach is needed to inform potential participants, explore use of ATMs, and clarify environmental and recreation goals.

South Platte and Metro Basin Roundtables will include the SPROWG Concept in the South Platte Basin Implementation Plan Update. SPROWG Advisory Committee participants and other interested parties plan to seek additional funding to promote the SPROWG Concept to water users, conduct further technical studies, and advance organizational and financing options.

Guiding SPROWG Principles

A set of principles agreed to by stakeholders describes the characteristics of the SPROWG Concept.

SPROWG will:

- Meet a portion of the municipal, industrial, and agricultural water supply gaps
- Address environmental and recreational needs in the basin
- Enhance the ability to conduct alternative water transfers or leases with agriculture
- Use multiple sources of available water (e.g. available river flows, existing reusable return flows, etc.)
- Maximize use of in-basin supplies
- Improve integration of water quality and quantity planning

SPROWG is not intended to:

- Be a substitute for existing or planned water projects
- Facilitate the permanent dry up of farmland in the basin
- Store supplies from an existing or new transmountain diversion project (though it will provide a means to utilize unused reusable return flows from transmountain diversions)

To learn more about the South Platte River and planning, please visit

www.southplattebasin.com.