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Natural Resources Conservation Service

The South Platte River in Colorado

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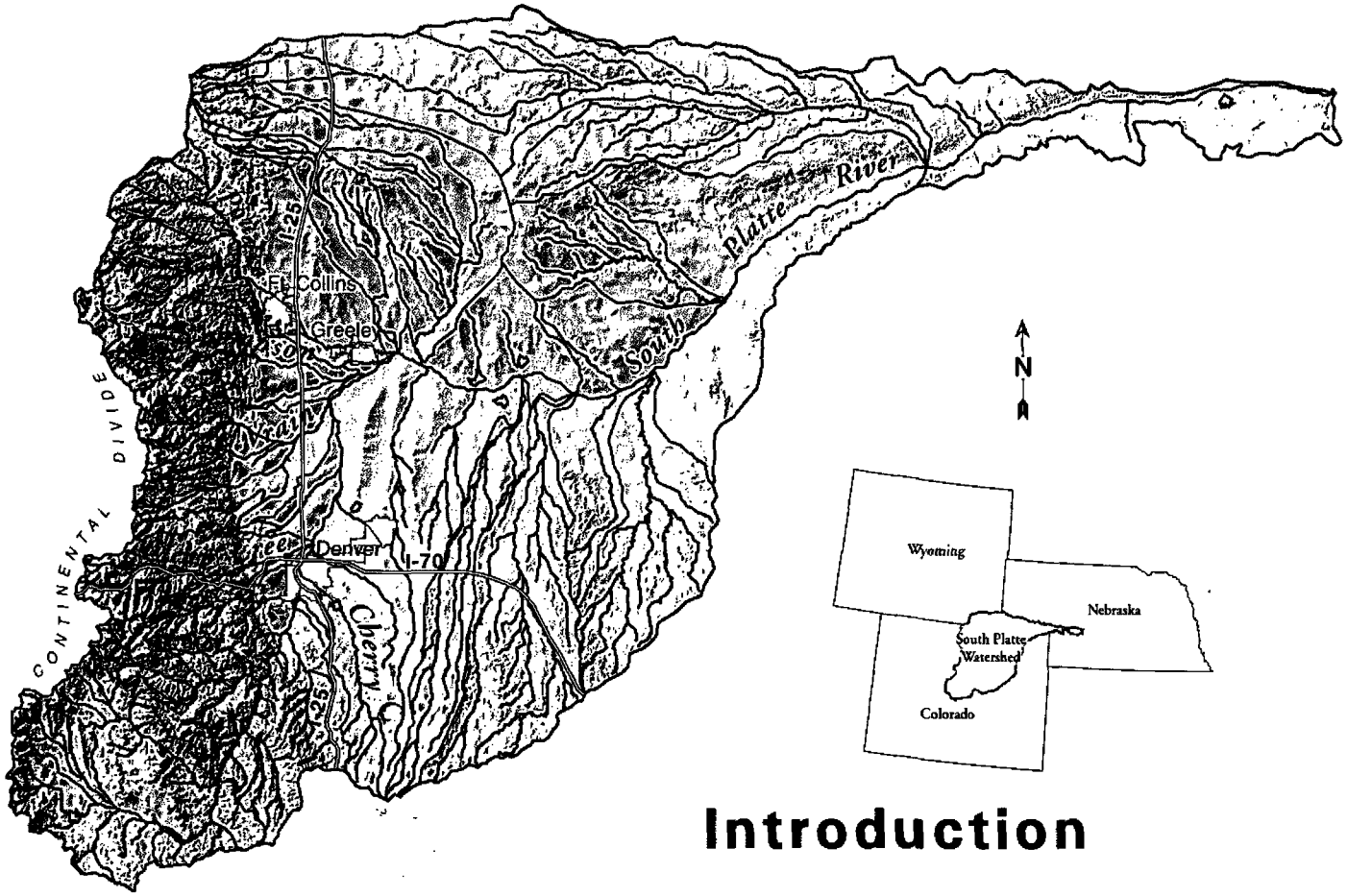

Introduction

The South Platte River begins its journey in the mountains of central Colorado and flows northeast for 450 miles across the Great Plains to its confluence with the North Platte River at North Platte, Nebraska. The South Platte watershed covers more than 23,000 square miles and is located in parts of three states: Colorado (79 percent of the basin), Nebraska (15 percent of the basin), and Wyoming (6 percent of the basin). At its source near the Continental Divide, the river flows through national forests, then out onto the plains through prairie and farmland of Colorado's northeastern counties. The South and North Platte Rivers join to form the Platte River, which flows to the Missouri River.

The river is as essential today as it was to the early human inhabitants who gathered along the foothills and plains river corridor to hunt and gather food. A variety of species, including prehistoric horses, mammoths and bison, thrived along the river. Many areas along the river are rich with prehistorical and historical clues as to who occupied the land.

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The Apache utilized the river area until 1700. Utes occupied the area from 1700 to 1750. Then the Comanche were in the area from 1750 to 1820. There is also evidence that the Arapaho and Cheyenne moved along the river during the 19th century until settlers from the eastern United States discovered the pristine area in the mid-1800s.

The river valley was very tempting to settlers, and an early agricultural community was established near Greeley. The settlers from the east built a canal system that is still the foundation for the third most productive agricultural community in the United States. Many properties along the South Platte have been placed on the National Register of Historic Places. Structures like churches, banks, courthouses, railroad depots, ranches, farms and schools remain in the river valley. Other properties include breweries, saloons, forts, fur trading posts, and the Rainbow Arch Bridge which was built in 1923 near Fort Morgan.

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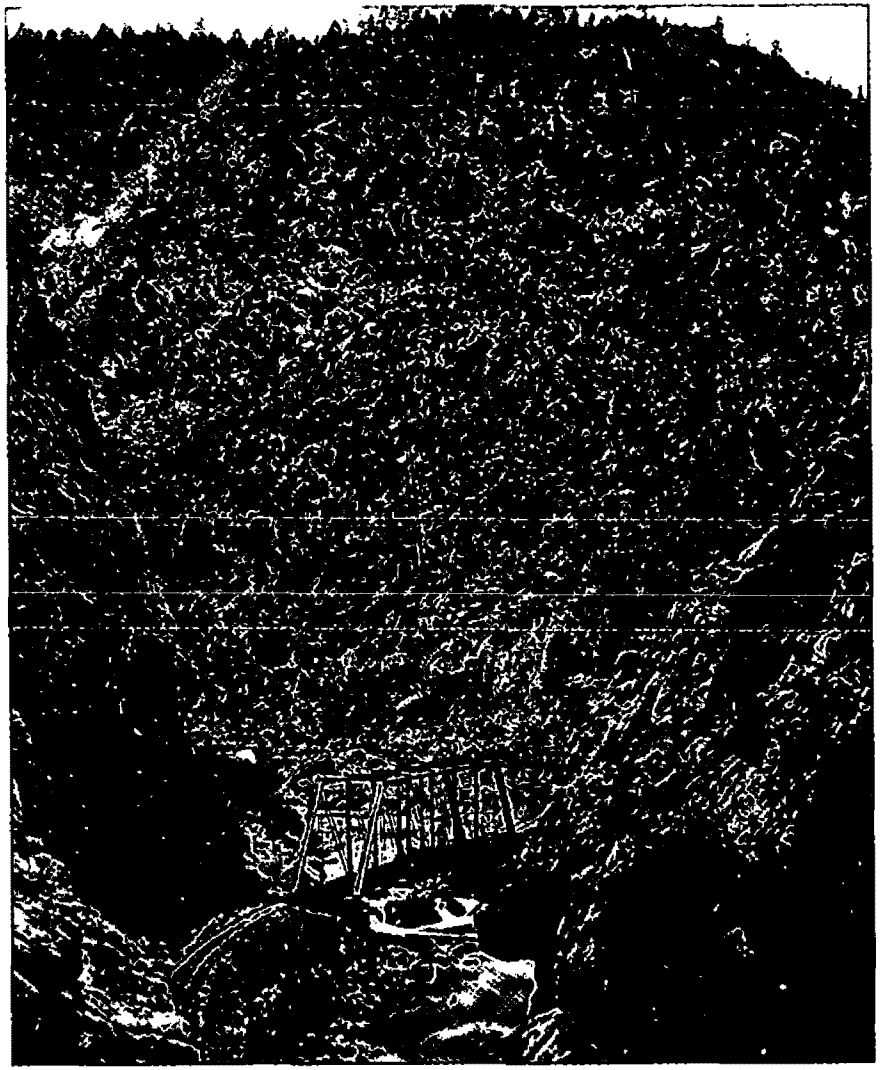
History

The South Platte watershed is rich in human history; has an abundance of spectacular scenery; and played a major role in the development of mining, agriculture and communities along Colorado's Front Range. From early people living in the area at the end of the last Ice Age, to the growth of modern cities and towns, and one of the richest agricultural regions in the United States, the watershed continues to be a scene of change. Some tributaries have been sites of past mining activities in places like Central City, Gold Hill, Caribou and Manhattan.

Major Stephen Long led an expedition in 1819-1820 to explore the Louisiana Purchase Territory, including the source of the South Platte. For whatever reason, he decided not to follow the river to its source. Instead, Long sent several of his party to climb Pikes Peak for the first time. The naturalists did find many new plants and animals, but their impression was that the plains along the South Platte were as barren as the deserts.

Fur forts appeared along the river at sites such as Fort Vasquez, Fort St. Vrain and Fort Lupton. Fur trappers from Canada and mountain men moving west from St. Louis made their way up the Cache la Poudre and other rivers searching for beaver. Other forts sprang up along the river in the northeastern corner of Colorado at Fort Morgan and Julesburg. But competition from Bent's Fort on the Arkansas River drove some out of business, and by the mid-1800s, most of the forts were abandoned. In 1858, gold was discovered at the confluence of Cherry Creek and the South Platte, not far from present-day downtown Denver. A year later, gold was discovered at the confluence of Ralston and Clear Creeks, starting the Pikes Peak Gold Rush and the beginning of the settlement of Colorado.

Much has changed along the South Platte in the last 140 years since the Long expedition. The river and some of its tributaries have been mined, dammed and channeled. Cities and towns have flourished along its banks and are home to several million people. Rivers and streams flowing through mountain and plains communities are the sources of water for domestic use, agriculture and recreation. Most recently, the South Platte through the Denver metropolitan area is being restored for natural recreational and aesthetic values. Though changed, the South Platte still reminds us of the past and offers challenges for the future.



Courtesy Colorado Historical Society

South Platte River, 1880

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Tributaries

Along the South Platte and its tributaries is some of the most impressive mountain and valley scenery to be found in Colorado. The South and Middle Fork headwaters of the South Platte are in the Mosquito Range. These forks flow down into South Park, a high-altitude grassland, then into Antero, Spinney Mountain and Elevenmile reservoirs. The river eventually flows into Platte Canyon, and from there into Chatfield Reservoir. From Chatfield, the South Platte flows through several communities, including Denver, then out onto the plains through small towns and farms. Tributaries join the South Platte in the mountains and on the plains. Many of these tributaries begin in national forests, wilderness areas and a national park. The St. Vrain River has its headwaters in the Indian Peaks Wilderness Area and in Rocky Mountain National Park. It joins the South Platte near the site of old Fort St. Vrain south of Greeley. These tributaries often have colorful names and histories, such as Cache la Poudre, named by Canadian fur trappers after they stored gunpowder along its banks in the early 1800s. On the eastern plains are small intermittent streams with names like Crow, Kiowa and Pawnee Creeks.

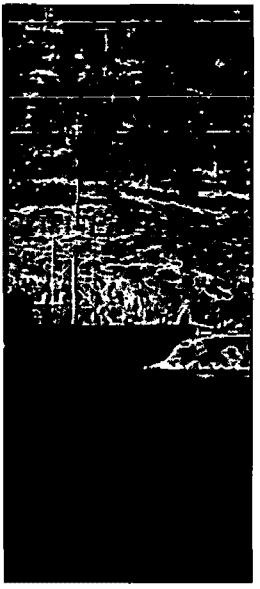
Cache la Poudre River, tributary of the South Platte

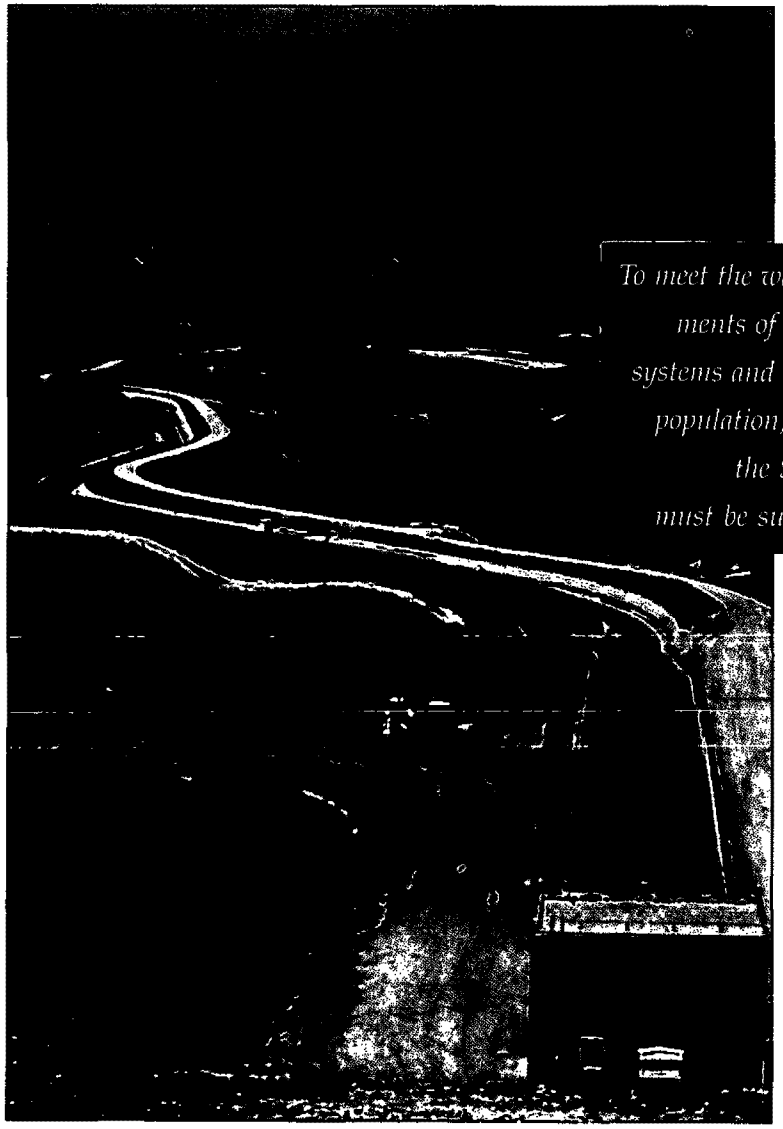
The watershed has endured disastrous floods. In May 1864, heavy rain caused 19 deaths along Cherry Creek and the South Platte in Denver. Heavy rains in August 1933 caused the Castlewood Dam on Cherry Creek to break, resulting in loss of life and property in Denver. The Denver area was flooded again in June 1965 from heavy rains. Floodwater reached as far as the lower downtown area, causing hundreds of millions of dollars damage. On the evening of July 31, 1976, a cloudburst dumped nearly a foot of rain in the Big Thompson River Canyon. More than 150 lives were lost amid extensive damage. High in the Mummy Range in Rocky Mountain National Park, Lawn Lake Dam failed on July 15, 1982. Fall River, a tributary of the Big Thompson, carried a wall of water through the town of Estes Park, causing damage of $30 million. On July 28, 1997, Colorado State University, in the path of a flood from a 10-inch cloudburst on a small tributary, sustained more than $100 million in damages.

Cheesman Dam

Marys Lake

Water Diversion





Canal in Northern Colorado Water Conservancy District

To meet the water requirements of natural ecosystems and the growing population, water from the South Platte must be supplemented.

Water users in the South Platte watershed include cities, industries, farmers and ranchers, and individual households. Water is also important to recreationists like boaters and anglers. And obviously, plants and animals in their natural habitats need water. In order to meet the water requirements of natural ecosystems and the growing population, the amount of water available from the South Platte basin must be supplemented.

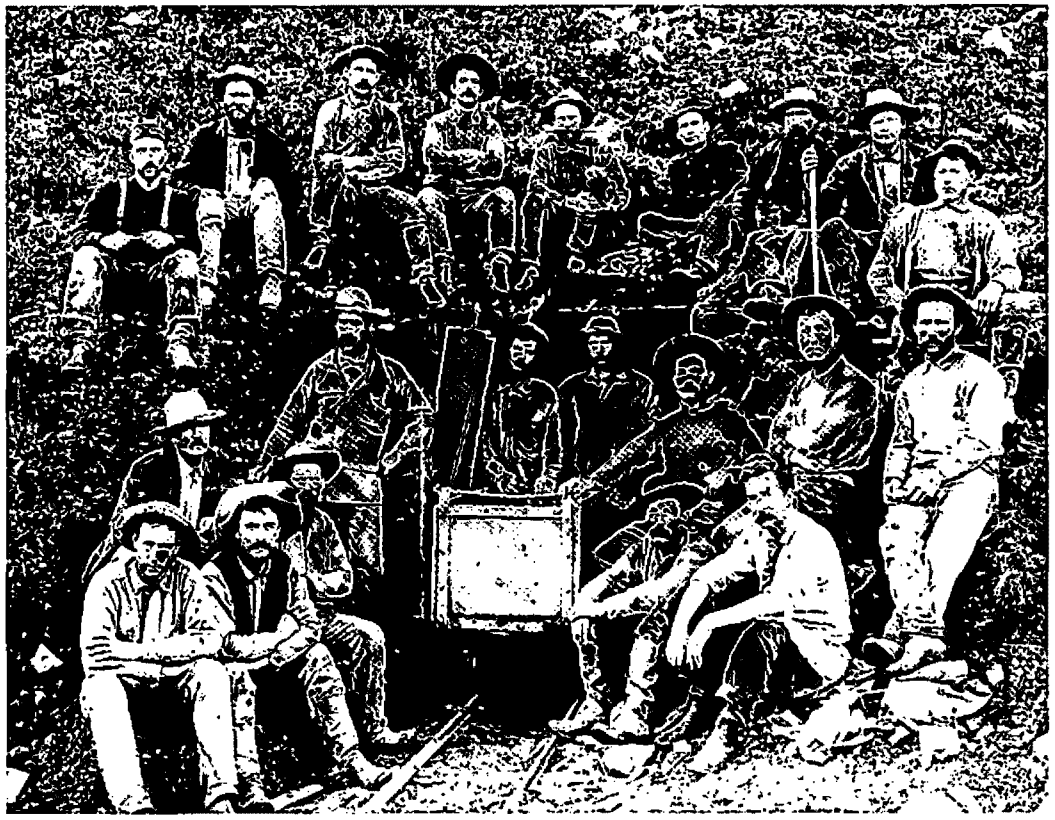
Water conservancy districts are the primary providers of water from the South Platte basin. They deliver water from the basin as well as water diverted from other watersheds. The Northern Colorado Water Conservancy District is a major water supplier in the basin. The district serves water users 150 miles east to west, and 65 miles north to south in northeastern Colorado. Lands along the South Platte and several of its major tributaries, including the Cache la Poudre and Big Thompson Rivers, are in the district. Water, including supplemental water, is delivered to 29 cities and towns, 120 ditch companies, 60 reservoir companies, and 620,000 acres of irrigated farmland—1.5 million acres altogether in Colorado's northern Front Range and northeastern plains.

A public agency created in 1937, the Northern Colorado Water Conservancy District's primary function is operation of the Colorado-Big Thompson Project. Built during 1938 to 1957, this is the largest transmountain diversion project in Colorado, transferring water from the upper Colorado River basin to the South Platte River basin. The project's West Slope Collection System in the upper Colorado River basin includes Lake Granby, Willow Creek Reservoir, Shadow Mountain Reservoir, Green Mountain Reservoir and Grand Lake. It can collect and deliver up to 310,000 acre-feet (an acre-foot is one foot of water covering one acre) of water annually. Water is transported under Rocky Mountain National Park through the 13-mile-long Alva B. Adams Tunnel, and delivered by the project's East Slope Storage and Distribution System.

Mining

Seekers of fortune rushed to the South Platte basin in 1859. Gold that could be washed out of sand and gravel in streams was found near the present site of Idaho Springs in January 1859. The discovery of gold in rock veins came just east of present-day Central City in May 1859. With its abundant water supply for sluices and water wheels, Black Hawk quickly became the milling center for gold ore mined. At first, primitive crushers were used, but these soon gave way to stamp mills where hammers pounded the ore into fine particles. Lastly, the gold was chemically separated with mercury. By 1864, the rich surface ores began to play out, and the deeper mines were yielding more complex sulfide ores. The simple stamp mills could recover only a fraction of the gold from these ores.

Smelting at high temperatures provided a solution. Successful smelting began in 1868 and the industry was revitalized. In 1872, the Colorado Central narrow-gauge railroad line ran through Clear Creek Canyon connecting Black Hawk with Denver. Coal was shipped to the smelters and mills along Clear Creek, and supplies were shipped to the growing mining towns. A tramway railway even smaller than the narrow-gauge was extended to Central City in 1878, making it easier and cheaper for the mines in the surrounding hills to get their ore to the mills.



Miners, late 1800s—Courtesy Colorado Historical Society

The economic boom was an environmental disaster. Streams were polluted by human, animal and mining waste. Trees were cut down for miles around for timbering mine shafts and fueling engines, mills and smelters. This made the narrow gulch subject to periodic flooding, eventually raising the level of Central City's Gregory Street by a full story in some places. Toxic fumes produced by coal dust and sulfur refining were dangerous and unsightly. The crashing stamp mills and screaming steam locomotives made for intolerable noise levels.

The 4 ½-mile Argo Tunnel was built to intersect the largest underground veins in the district, but the tunnel facilitated draining more than mining. Acid mine drainage from the tunnel, along with drainage from many other mines in the area, polluted Clear Creek, now a drinking water source for more than 250,000 people. The pollution of the Clear Creek basin resulted in specific sites in the area undergoing a Superfund cleanup.

Agriculture

Agriculture accounts for about 37 percent of the land use in the South Platte River basin. Essentially all of this acreage is located in the plains east of the Rocky Mountains.

Agriculture is vital to Colorado and the nation. It is of major importance in the South Platte basin. Agriculture accounts for about 37 percent of the land use in the South Platte River basin. Essentially all of this acreage is located in the plains east of the Rocky Mountains. The total amount of land in crops in the basin is about 4.1 million acres. Of this, about 1.4 million acres are irrigated, 1.6 million acres are non-irrigated, and the remainder is partially irrigated.

Corn, hay, dry beans, and barley represent the major irrigated crops in the basin. Winter wheat is the major non-irrigated crop grown in the basin, and in terms of acres harvested, represents the most important crop grown in the basin.

In addition to field-crop production, cattle and hog feeding operations represent large agricultural interests. There are approximately 298 cattle feeding operations in the basin and around 95 hog operations. Other livestock operations found in the South Platte River basin include lambs, chickens, turkeys, and exotics such as bison.

Agriculture has a strong history and tradition in the South Platte basin.

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The allure of Colorado encompasses many aspects of the state's natural resources and recreational opportunities. Fish and wildlife resources in the South Platte watershed are among the most outstanding in the nation. Great differences in elevation cause wide varieties of wildlife habitats, which provide diverse plant and animal species.

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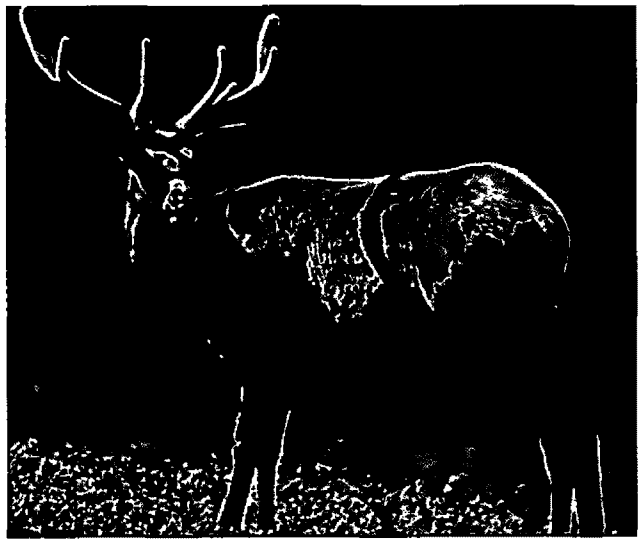
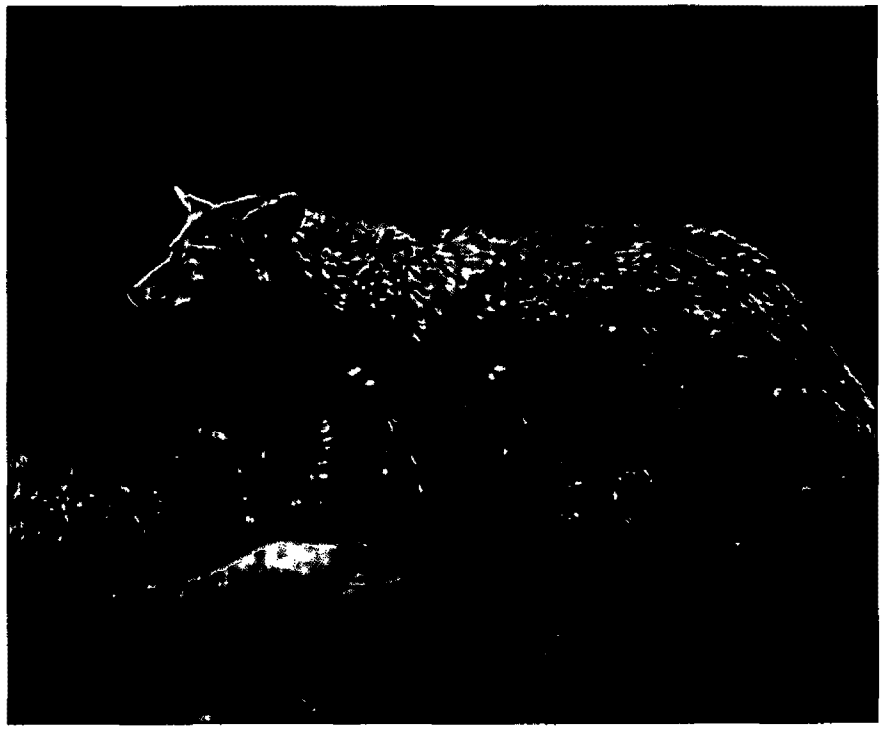
In the mountain areas of the watershed, mule deer, elk, black bear, mountain lions, bighorn sheep, mountain goats, snowshoe hares, bobcats, ground and tree squirrels, marmots, beaver, and other smaller mammal species are prevalent.



Elk

The foothills and plains—and especially the plains riparian areas—are home to rabbits, coyotes, pronghorn, white-tailed deer, foxes, prairie dogs, raccoons and muskrats, plus other small mammals.

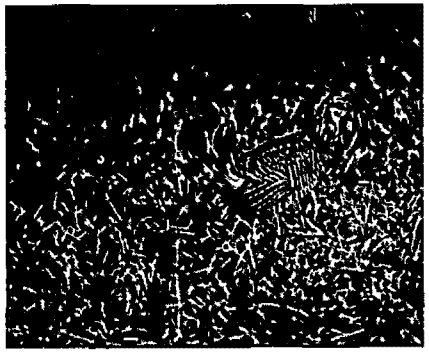
Birds that occupy the South Platte watershed, either year-round or seasonally, include bald and golden eagles; ospreys; numerous species of hawks, falcons and owls; a variety of ducks, geese, grouse, prairie chickens, herons, cranes, pelicans, rails, plovers and doves; and many species of songbirds.



Coyote

The importance of wetlands, both in the mountains and on the prairies, is reflected in the wide range of plants and animals that flourish in these essential habitats.

Aquatic wildlife is diverse and important in the watershed. The native greenback cutthroat trout is recovering from the brink of extinction and is now the Colorado



Prairie Chicken

Wil

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Greenback Cutthroat Trout

Ground Squirrel

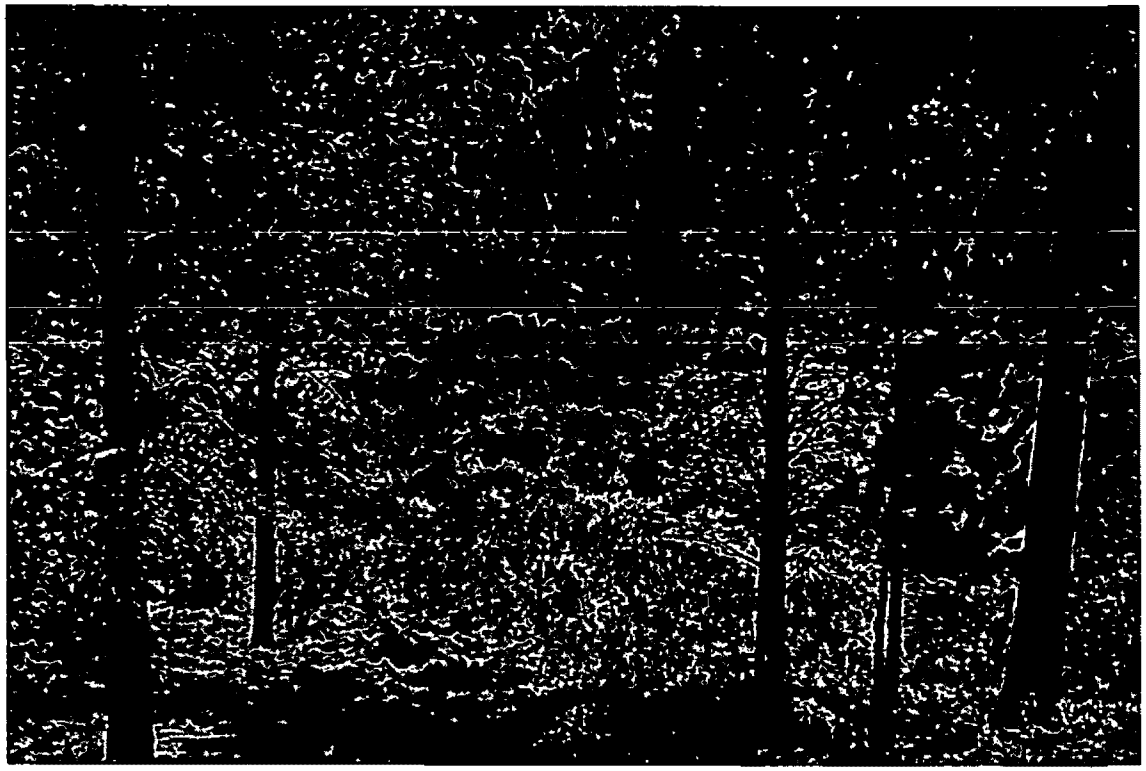
opportunities, from watching and photographing, to fishing and hunting. The Colorado Division of Wildlife has designated numerous viewing areas across the basin, and also owns and manages many state wildlife areas for recreation. Public lands managed by the USDA Forest Service, Bureau of Land Management and National Park Service are available to all.

Elephantella

Eagle

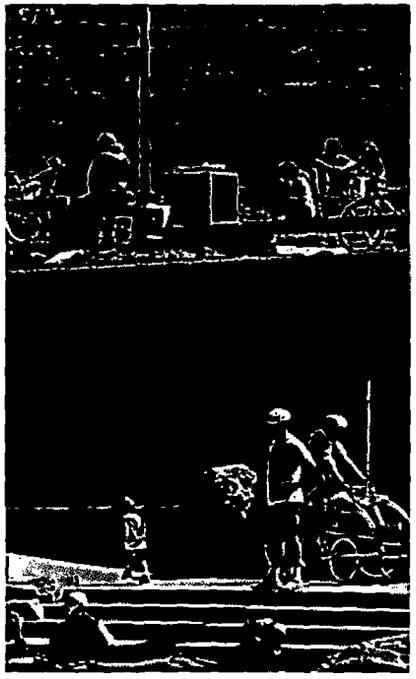
state fish. Other trout include rainbow, brown and brook. Mountain whitefish are found in many streams. Bass, bluegill, catfish, crappie, carp, muskie and pike have been introduced to warm-water ponds and reservoirs in the watershed.

Wildlife in the South Platte basin is important simply by existing. It also offers recreational



Wild Basin willows in Rocky Mountain National Park

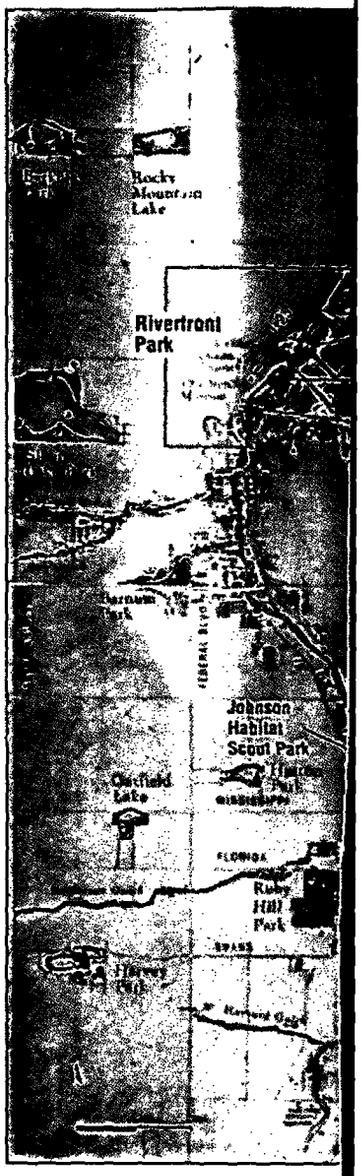
Enhancing recreational areas, open space and wildlife areas along the river are major priorities for local urban governments.



The South Platte River is vital to the quality of life in the Denver metropolitan area. For many years the river was a place to dispose of waste. Now the South Platte is an important amenity. From Chatfield Dam to Denver's southern boundary, the river is bordered largely by open space, and then by suburban Littleton, Sheridan and Englewood. In the 10-mile Denver stretch, 300,000 people live within a mile of the river's banks. As the river moves into Adams County, there is a concentration of commerce and industry, then farmland. Most of this 20-mile corridor is publicly owned.

Enhancing and maintaining recreational areas, open space and wildlife areas along the river are major priorities for local urban governments. The South Platte greenway now extends 25 continuous miles from Chatfield Dam well into Adams County. Many tributary trail connections, including trails along Cherry Creek, Bear Creek, Highline Canal and Sand Creek make this one of the best greenway systems in the U.S. The Denver Water Department manages a streamflow program in the summer months to improve rafting, kayaking and fishing. Metro area jurisdictions are improving water quality to enhance fishing and recreation. Open space and wildlife habitats along the river have been expanded, with many areas revegetated with native species.

Denver Urb



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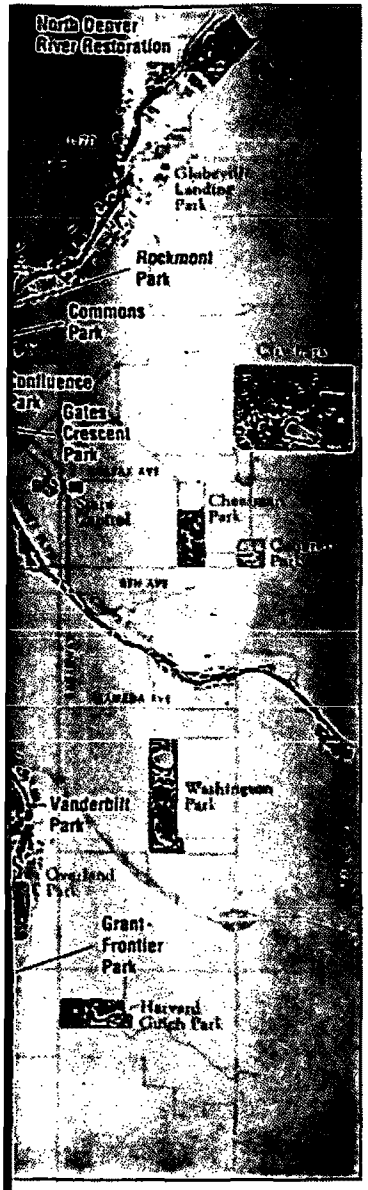

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Confluence Park

This cleaner, more scenic and enjoyable river front is a primary catalyst for economic growth. In Denver's central Platte valley, the 1.56-mile riverfront is a focal point for new housing and commercial development. The 29-acre Commons Park, built on reclaimed industrial land along the river, is the centerpiece of the 6-million-square-foot Commons Neighborhood. This area boasts a world-class fresh- and salt-water aquarium. Upstream of Denver, economic development has resulted in restaurants, an amusement park, two golf courses, a regional display garden, residences and office buildings, and relocated commercial enterprises adjacent to the river.

Partnering is an essential component to open space acquisition and economic growth. The Greenway Foundation led initial efforts to enhance the river corridor. Under Denver's South Platte River Commission, public entities have developed strong networks of local, state and federal agencies and non-profit and private interest groups. Local governments, including South Suburban Parks and Recreation District, City and County of Denver, and Adams County, provide leadership in managing the natural character of the 20-mile-long urban river corridor.

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