

# North Platte River Basin Facts

Colorado Water Conservation Board

March 2002

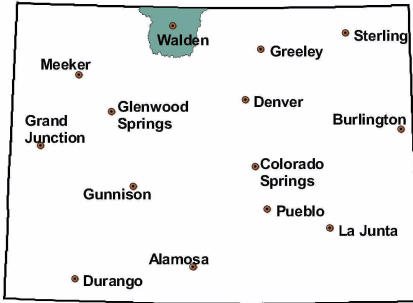


Bill Owens  
Governor

Greg Walcher  
DNR Executive Director

Rod Kuharich  
CWCB Director

Robert O. Burr  
CWCB Member,  
North Platte River Basin



Lost Lake (Photo courtesy of Bill Green)

## Overview

The North Platte River Basin drains the north central portion of the state and consists of the North Platte River and two tributaries, the Laramie River and Sand Creek, which originate in Colorado and join the North Platte River in Wyoming. The Michigan, Illinois and Canadian Rivers and Grizzly Creek are tributaries to the North Platte River in Colorado.

The major water use in the basin is the irrigation of approximately 120,900 acres (in 1998). Most irrigated land is in the North Platte River drainage (115,500 acres) with smaller acreage on the Laramie River (5,000 acres) and Sand Creek (350 acres).

Administration of the North Platte River Basin is divided between Divisions 1 (South Platte River) and 6 (Yampa and White Rivers). The Laramie River and Sand Creek are administered as part of Division 1, and the North Platte River is administered as part of Division 6.

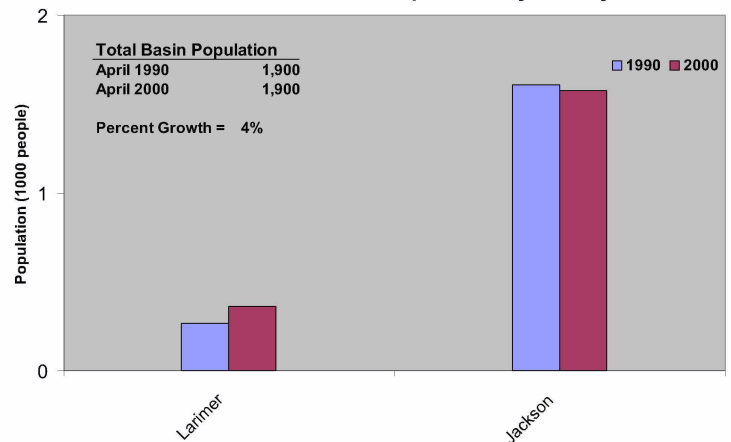
## Water Conservancy Districts

Jackson County  
Michigan River

## Growth

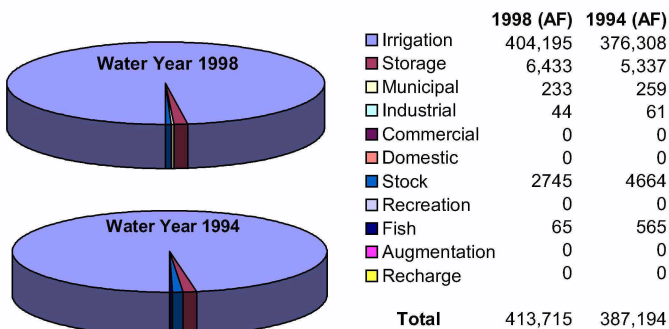
The North Platte River Basin is comprised of portions of Larimer and Jackson counties. Between 1990 and 2000, the population in this region increased by 4 percent and now accounts for about 0.04 percent of the state's total population. The graph below lists populations for the portions of the counties that are in this basin.

North Platte River Basin Population by County



Source: Colorado Department of Local Affairs

## Surface Water Diversions in Acre-feet by Use



Source: Division 6, Water District 47 and Division 1, Water District 48 and 76 Annual Reports

Additional information about this river basin is available at <http://cwcb.state.co.us>

## Major Storage Projects

Reservoir	Normal Storage (acre-feet)
Lake John	7,092
MacFarlane Reservoir	6,951
Walden Reservoir	4,506
Meadow Creek Reservoir	4,400
Laune Reservoir	3,722
Pole Mountain Reservoir	1,905
North Michigan Creek Reservoir	1,730
Lower Big Creek Reservoir	1,434
Agua Fria Reservoir	550
Seymour Reservoir	525
West Arapahoe Reservoir	497
Buffalo Reservoir	350

Source: Colorado Division of Water Resources Office of Dam Safety Database

## Major Water Rights Calls

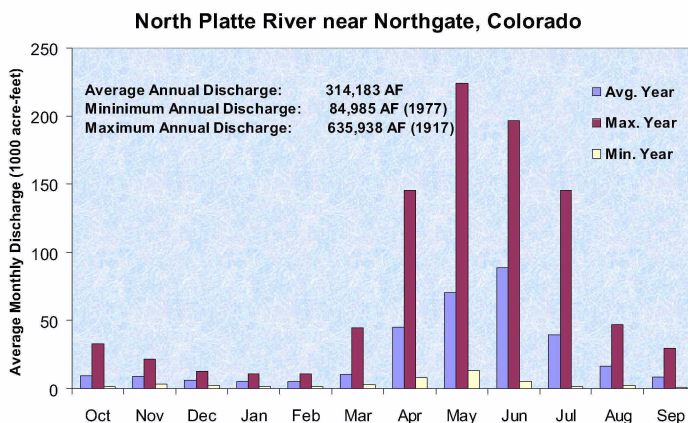
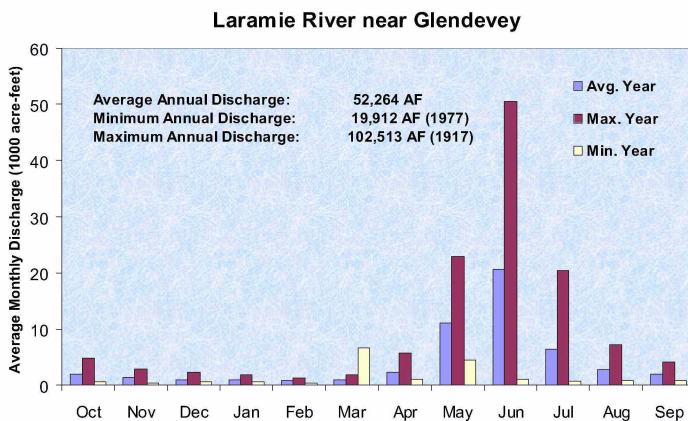
Most water rights calls occur on the tributaries to the North Platte River and not on the mainstem. The major tributaries generally are under administration in dry years and may be under administration in average years. The priority call varies throughout the year and from ditch to ditch when the system is on call. The Wolfer Creek Ditch on the Roaring Fork; Midland Ditch on the Illinois River; Mutual Ditch on Grizzly Creek; and the Cumberland, Lost Treasure and Kiowa Ditches on the Michigan River represent some of the frequently calling rights on the tributaries.

Reservoir storage is administered in order to comply with North Platte Decree requirements for storage in Colorado reservoirs in the basin; these storage limitations have never been exceeded.

## Hydrological Variations

Examples of annual/seasonal variations for the North Platte are presented below and in the annual discharge graphs.

## Annual Discharges



Gage	Maximum Recorded Flow (cfs)	Minimum Recorded Flow (cfs)
Near Northgate	6,450 (1923)	19 (1934)
Near Glendevey	1,140 (1923)	6.0 (1920)

Source: U.S. Geological Survey Water Data Reports

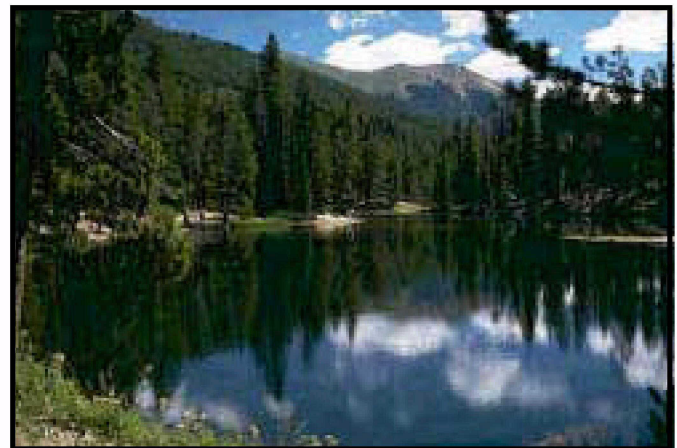


Photo courtesy of Colorado State Parks

Source: Colorado Department of Natural Resources and U.S. Geological Survey Water Data Reports



## Major Exports from the Basin

Name	Diversions (acre-feet)
1* Laramie-Poudre Tunnel	16,104
2 Michigan Ditch	4,410
3 Wilson Supply Ditch	1,673
4 Other	461
Total	22,648

## Major Imports into the Basin

None

\* Numbers in the above table correspond to numbers that accompany arrows on the basin map (p. 5).

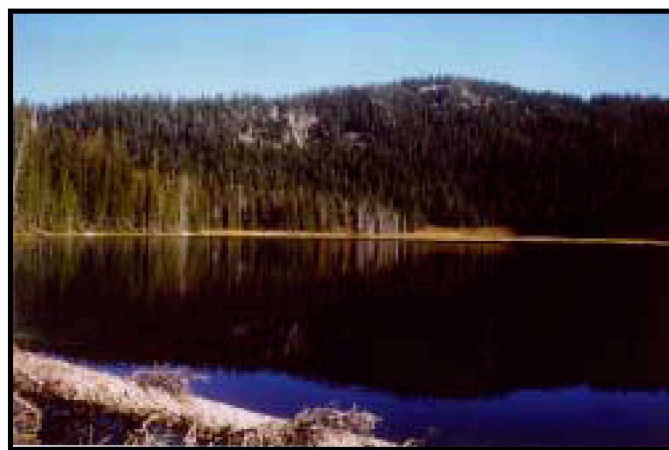
Source: Division 1 and Division 6 Engineer's 1998 Annual Report, 10-year average.

Photo courtesy of Colorado State Parks

## Stream and Lake Protection

There are 40 instream flow segments totaling approximately 227 stream miles in this basin. There are also 29 lakes with decreed natural lake levels. These decreed water rights are held by the CWCB to "protect the natural environment to a reasonable degree." The decreed flow or lake level for each of these instream flow segments and natural lakes is based on the flow or lake level required to maintain water-dependent natural habitat.

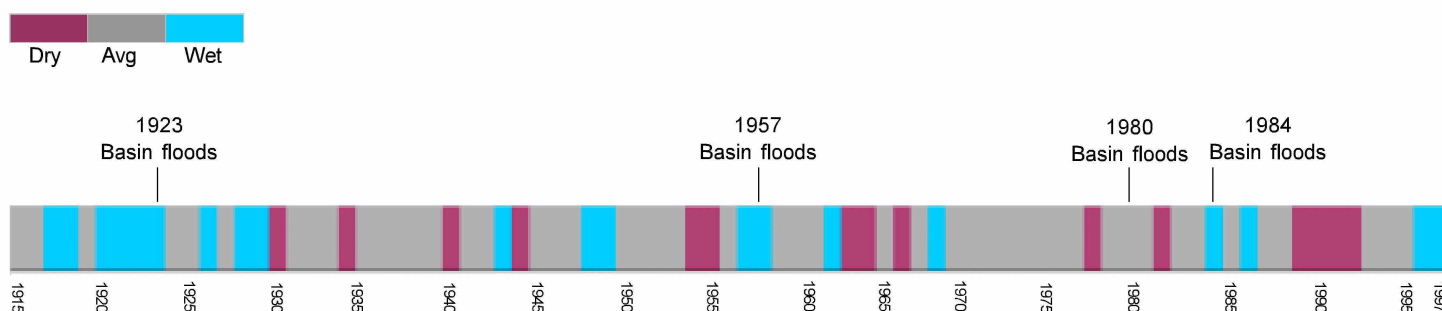
Source: Colorado Water Conservation Board



Three Island Lake (Photo courtesy of Bill Green)

## Wet and Dry Periods

Every year, Colorado experiences at least one 100-year flood somewhere in the state. Colorado's flood losses have been documented to be \$4.9 billion. The basin's most recent major flood event was May-June 1957. The estimated total historic damages for this basin are \$110,000 to date.



Source: Division 6 Engineer's Office

## Endangered Species

In 1994, the Secretary of the Interior and the Governors of Colorado, Nebraska and Wyoming entered into the “Platte River Memorandum of Agreement” (MOA), in which they agreed to negotiate a program to conserve and protect the habitat of four species listed as endangered under the Endangered Species Act. Three bird species, the interior least tern, whooping crane, and piping plover, occupy the Central Platte River Valley between Lexington and Chapman, Nebraska. A fourth species, the pallid sturgeon, is a fish that lives in the lower Platte River below its confluence with the Elkhorn River in Nebraska. The land and water habitat in these areas has been modified by a combination of events, including flow alteration as a result of upstream water development and land uses in Nebraska.

Pursuant to the MOA, the states and the Department of the Interior signed a Cooperative Agreement which outlines a “Recovery Implementation Program” to improve and conserve habitat for these species. The Program specifies both flow measures in Colorado, Wyoming and Nebraska, and habitat measures in Nebraska that will be implemented to improve habitat.

## Unique Characteristics

- Administration of the North Platte River Basin is divided between Divisions 1 and 6.
- Present use and future development of water resources in the North Platte River Basin are controlled by the Supreme Court Decree for the North Platte River. Present litigation, primarily between the States of Nebraska and Wyoming, has created some uncertainty concerning present and future management and development of the North Platte River which will not be resolved until conclusion of this litigation.
- The Recovery Implementation Program for the Central Platte River in Nebraska has potential for creating uncertainty concerning present management and future water resources development potential for the North Platte River Basin in Colorado.

## Compact Facts

<b>What it is:</b>	<b>Nebraska v. Wyoming 325 U.S. 665 (1945) and 345 U.S. 981 (1953)</b>
<b>What it does:</b>	Equitably apportions water in the North Platte River between Colorado, Nebraska and Wyoming.
<b>How:</b>	Limits total irrigation in Jackson County to 145,000 acres and 17,000 acre-feet of storage for irrigation during any one irrigation season. Limits total water exports from the North Platte River in Colorado to no more than 60,000 acre-feet during any 10-year period.
<b>What it is:</b>	<b>Wyoming v. Colorado, 260 U.S. 1 (1922) and 309 U.S. 572 (1940)</b>
<b>What it does:</b>	Establishes the rights of Colorado and Wyoming to water in the Laramie River Basin.
<b>How:</b>	Limits total diversions from the Laramie River in Colorado to a total of 39,750 acre-feet, divided among specific water facilities, including 15,500 acre-feet through the Laramie-Poudre Tunnel; 18,000 acre-feet through the Skyline Ditch; and 4,250 acre-feet through various “meadow land appropriations.”

The purpose of the Program is to enable existing and new water uses in the Platte River Basin to proceed without additional actions required (beyond the Program) under the Endangered Species Act. A Governance Committee with members from the three states, water users, environmental groups, and two federal agencies has been established to implement the Cooperative Agreement. Over the next three years, an evaluation will be conducted to measure the impacts of

the proposed Program and a range of alternatives, as required under the National Environmental Policy Act. At that point, the parties intend that a long-term program will be developed and they will enter into an agreement for its implementation. The State of Colorado will need to determine how it will participate in the program with respect to this basin.

Source: Colorado Water Conservation Board

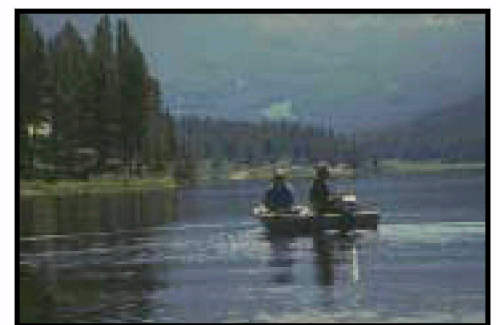
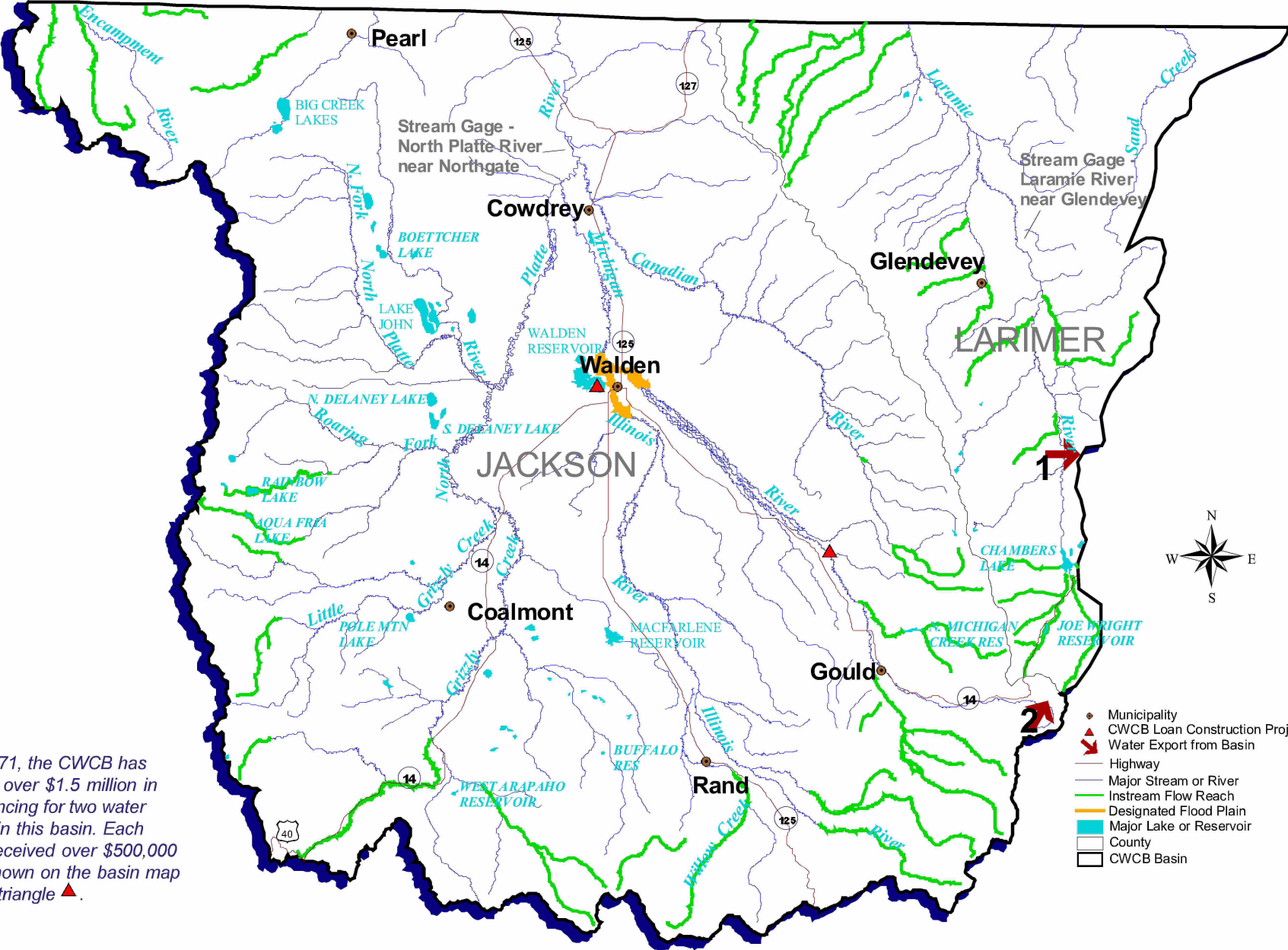


Photo courtesy of Colorado State Parks

# North Platte River Basin



Since 1971, the CWCB has provided over \$1.5 million in loan financing for two water projects in this basin. Each project received over \$500,000 and is shown on the basin map as a red triangle ▲.