Yampa and White River Basin Facts

Colorado Water Conservation Board

March 2002

Fishhook Lake (Photo courtesy of Bill Green)

Overview

The White and Yampa River Basins drain the northwest corner of the state. Development of the basin yield is limited by interstate compacts with other Colorado River Basin States.

Major tributaries to the Yampa include the Little Snake, Williams Fork, Elk and Bear Rivers as well as Fortification and Elkhead Creeks. Major tributaries to the White include Piceance, Snell, Ripple, Marvine, Big Fish, Miller, Flag, Little Beaver, and Big Beaver Creeks; and the North and South Forks of the White. An average of 2.2 million acre-feet leaves the state via these two river systems each year. This represents 21 percent of the total flow leaving the state. The major water use in the basins is irrigation, with diversions of approximately 700,000 acre-feet annually for the irrigation of 113,000 acres.

Conservation and Conservancy Districts

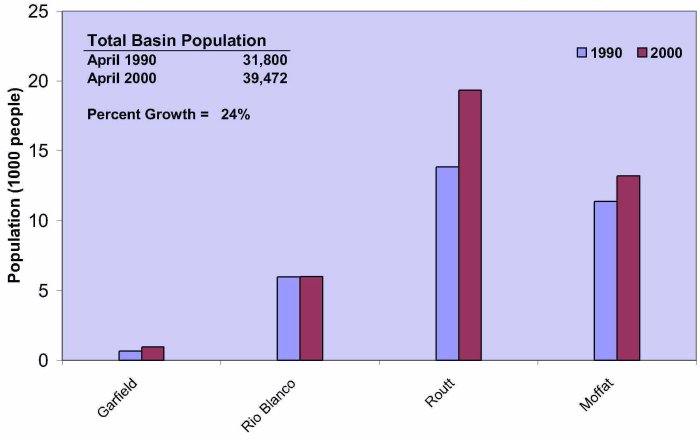
Water Conservation Districts
Colorado River

Water Conservancy Districts
Great Northern
Juniper
Savory Pot Hook
Upper Yampa
Yellow Jacket
Rio Blanco

Growth

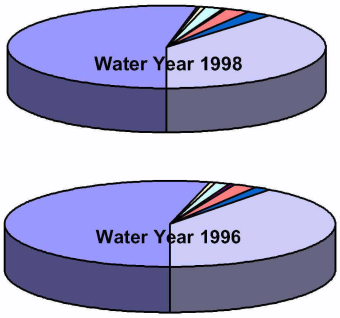
The basins are comprised of all or parts of four counties. Between 1990 and 2000, population in these basins increased by 24 percent, and now accounts for 0.9 percent of the state's total population. The graph below lists population for the portions of the counties that are in these basins.

Yampa and White River Basin Population by County



Source: Colorado Department of Local Affairs

Surface Water Diversions in Acre-feet by Use



	1998 (AF)	1996 (AF)
Irrigation	719,124	732,424
Storage	2,132	1,213
Municipal	8,103	8,324
Industrial	5460	4111
Transbasin	3,643	2,768
Stock	31,072	30,755
Fish	35,227	23,194
Power	525,649	541,768
Total	1,352,120	1,361,950

Source: Colorado Division of Water Resources Division 6 Annual Reports, 1996-1998

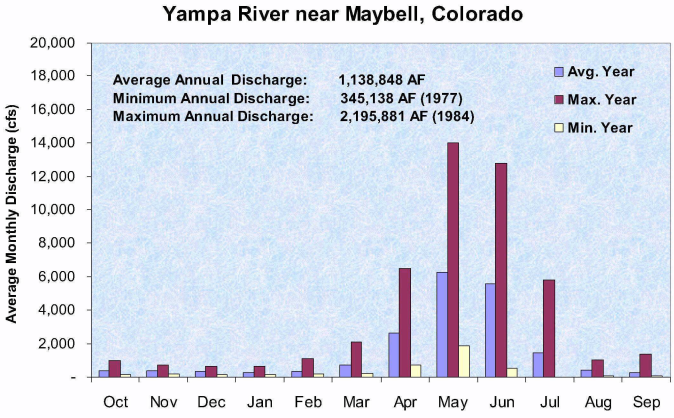
Additional information about these river basins is available at http://cwcb.state.co.us

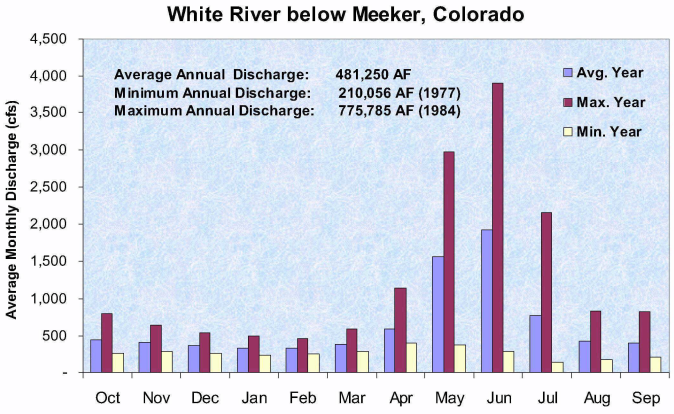
Major Storage Projects

Reservoir	Normal Storage (acre-feet)
Stagecoach Reservoir	33,275
Willow Creek Reservoir (Steamboat Lake)	23,064
Taylor Draw Reservoir	13,800
Elkhead Creek Reservoir	13,500
Yamcolo Reservoir	9,580
Big Beaver Reservoir (Lake Avery)	7,658
Stillwater Reservoir	6,088

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

Annual Discharges





Source: U.S. Geological Survey Water Data Reports

Major Water Rights Calls

Water rights calls in the White and Yampa Basins occur only on internally controlled tributaries where irrigation demands can exceed stream flows, such as Bear River; Piceance Creek; Fortification Creek; and North, Middle and South Hunt Creeks. On the mainstems there historically has not been administration of water right calls and water has been available for appropriation. Groundwater use is minimal and there is no administration of wells in the basins. Future administration of the Yampa and White may be affected by activities and projects in the Recovery Program for Endangered Fish.

Source: Office of the Division 6 Engineer

Stream and Lake Protection

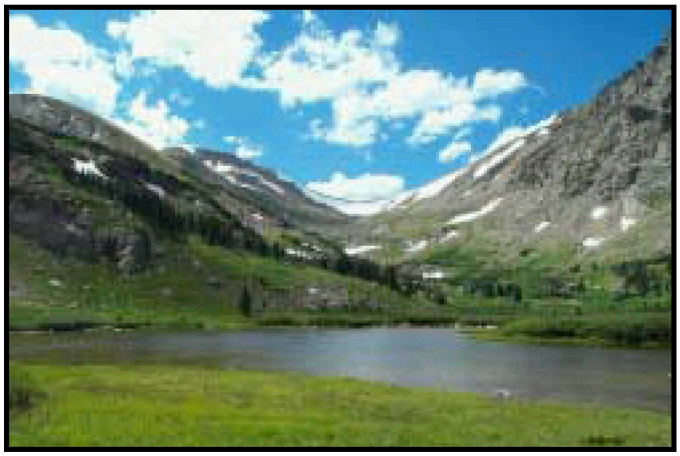
There are 132 instream flow segments totalling approximately 704 stream miles in these basins. There are also 14 lakes with decreed natural lake levels. These decreed water rights are held by the CWCB to "protect the natural environment to a reasonable degree." The decreed flow or lake level for each of these instream flow segments and natural lakes is based on the flow or lake level required to maintain the water-dependent natural environment.

Source: Colorado Water Conservation Board

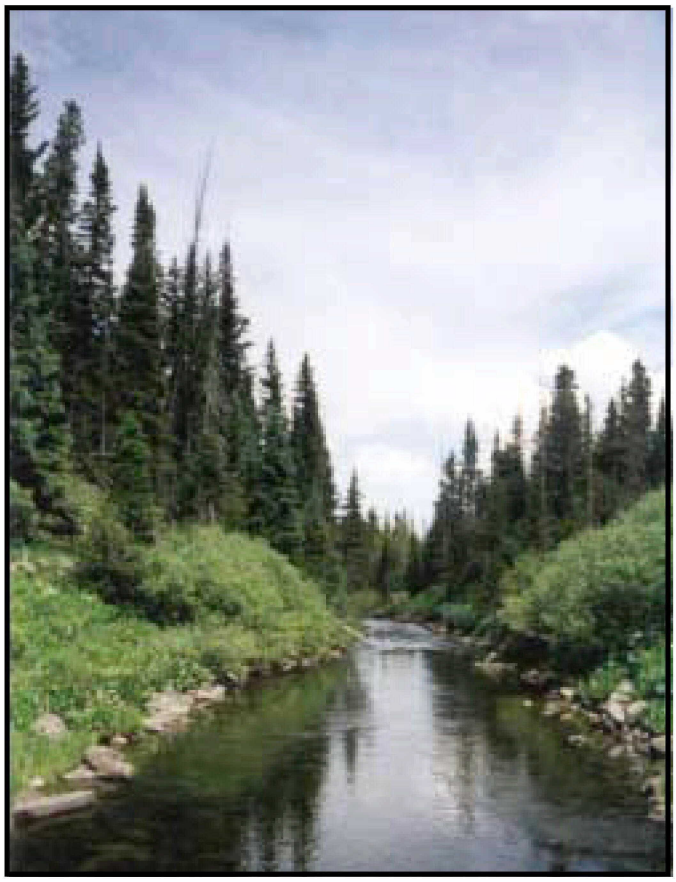
Extreme Flows

Gage	Maximum Recorded Flow (cfs)	Minimum Recorded Flow (cfs)
Yampa near Maybell	24,400 (1984)	2 (1934)
White below Meeker	6,060 (1983)	85 (1977)

Source: U.S. Geological Survey Water Data Reports



Trapper Lake (Photo courtesy of Barbara Goodrich)



Elk Creek (Photo courtesy of Barbara Goodrich)

Major Imports into the Basin

None

Major Exports from the Basin

Name	Diversions (acre-feet)
1* Stillwater Ditch	2,446
2 Sarvis Ditch	973
3 Dome Creek Ditch	232
Total	3,651

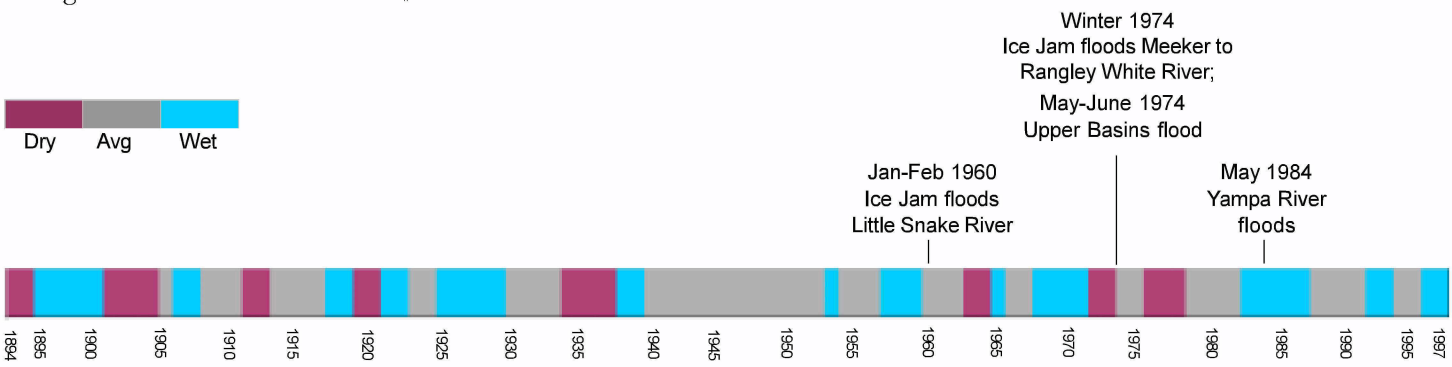
** Numbers in the above table correspond to numbers that accompany arrows on the basin map (p. 5).*

Source: Division 6 1998 Annual Report, 10-year averages

Trapper Lake (Photo courtesy of Barbara Goodrich)

Wet and Dry Periods

Every year, Colorado experiences at least one 100-year flood somewhere in the state. Colorado's total flood losses to date have been documented to be $4.9 billion. The basins' most recent major flood event was May 30-June 5, 1997. The estimated total historic flood damages for these basins have been $5.5 million to date.



Source: Colorado Water Conservation Board and Division 6 Staff

Endangered Species

Under the Endangered Species Act, four Colorado River native fish species are listed as endangered: Colorado pikeminnow (a.k.a. Colorado squawfish), humpback chub, bonytail chub, and razorback sucker. Causes for the decline of these species include alteration of stream flows by water projects, introduction of non-native species and efforts to remove the native fish from the system in the past.

In 1988, the States of Colorado, Utah and Wyoming; water users; hydropower customers; environmental organizations; and federal agencies developed a program to recover these species while allowing water use and development to continue. The Recovery Program for Endangered Fish of the Upper Colorado River Basin is designed to achieve recovery by (1) improving flow conditions by adding water to the river when needed by the fish, (2) improving and devloping habitat, (3) reducing non-native fish populations, and (4) developing native fish stocking programs. Implementation of the Recovery Program should allow Colorado to fully develop its entitlement to water under the compact.

Source: Colorado Water Conservation Board

Compact Facts

Colorado River Compact of 1922

Allocates 7.5 million acre-feet (maf) of consumptive use annually to (1) the Upper Colorado River Basin (those parts of Arizona, Colorado, New Mexico, Utah, Wyoming, and Arizona above Lee Ferry, Arizona) and (2) the Lower Colorado River Basin (those parts of Arizona, California, Nevada, New Mexico and Utah below Lee Ferry, Arizona). This Compact requires the Upper Colorado River Basin to deliver an average of 75 maf to the Lower Basin during any consecutive 10-year period. The Lower Basin may increase its consumptive use by 1.0 maf in the future.

Rio Grande, Colorado and Tijuana Treaty of 1944 between the United States and Mexico

Guarantees delivery of 1.5 maf of Colorado River water per year to Mexico. If there is not adequate surplus water to satisfy the obligation, the Upper and Lower Basins are to equally share the burden of reducing uses to make up any deficiencies.

Upper Colorado River Basin Compact of 1948

Allocates the Upper Basin consumptive use of water as follows:

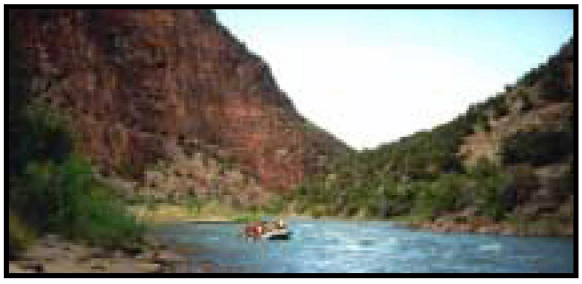
Arizona	50,000 acre-feet/year
Colorado	51.75%
Utah	23%
Wyoming	14%
New Mexico	11.25%

Additionally, the State of Colorado may not deplete the flow in the Yampa River below an aggregate of 5 maf over any 10-year period.

Depending upon the interpretation of the Compacts, other laws, and the amount of water in the river, Colorado's right to the consumptive use of water under the Compacts may range from 3.079 maf to 3.855 maf per year. Colorado currently consumes an average of 2.3 maf per year with facilities in place using up to 2.6 maf. Colorado's apportionment has not been divided among the various sub-basins within the state. The Yampa and La Plata River Basins have specific delivery obligations under the Compacts. The allocation and administration of any surpluses and shortages under the Compacts within Colorado remain open to discussion but ultimately will be subject to determination and administration by the State Engineer.

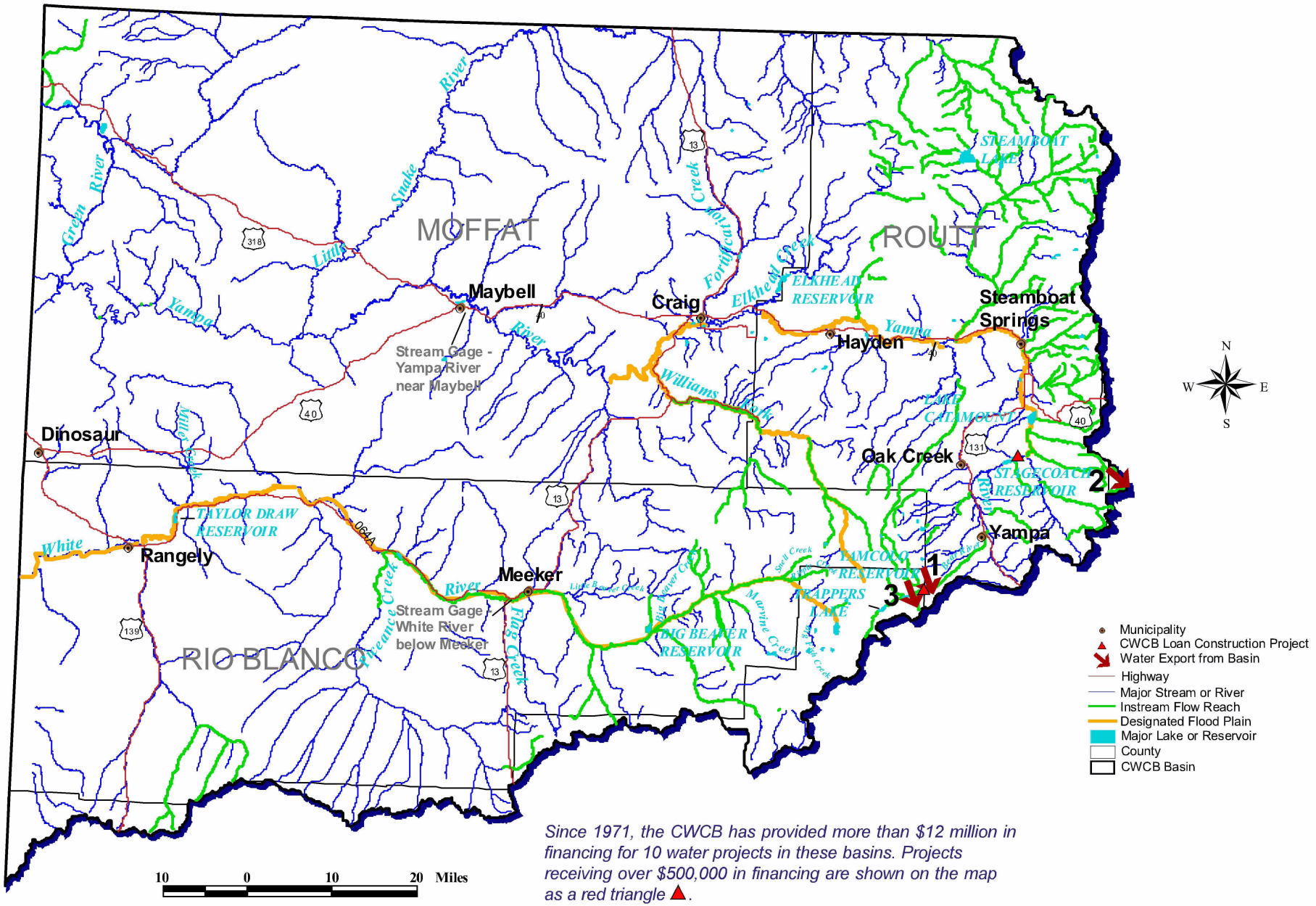
Unique Characteristics

- Water is available for appropriation on lengthy reaches of the mainstems.
- Minimal volume of in-basin storage.
- Water rights administration is limited to internally controlled tributaries.
- Water administration is centralized in the Division 6 office in Steamboat Springs, but water rights adjudication takes place in Division 5 Water Court in Glenwood Springs for the White and Division 6 Water Court in Steamboat Springs for the Yampa.



Green River (Photo courtesy of Dennis McQuillan)

Yampa and White River Basin



Since 1971, the CWCB has provided more than $12 million in financing for 10 water projects in these basins. Projects receiving over $500,000 in financing are shown on the map as a red triangle ▲.