COLORADO
Division of Water Resources
Department of Natural Resources

Division 7 Annual Report

Water Year 2021
(November 1, 2020 – October 31, 2021)

by
Robert B. Genualdi, P.E.
Division 7

April 2022

Jared S. Polis
Governor

Dan Gibbs
Executive Director, DNR

Kevin G. Rein
State Engineer/Director

Robert B. Genualdi
Division Engineer, Division 7

CONTENTS

1 Water Supply

Snowpack in the San Juan and Dolores River Basins during the winter of 2020-21 (Water Year 2021) was slightly below average. Although there have been many years with less snowfall, 2021 proved to be difficult due to reservoirs that started at very low levels. The back-to-back dry years limited the water supply to many water users.

During the summer and fall of the prior year (Water Year 2020), there was little precipitation in the summer and fall, which required water users to rely heavily on water stored in reservoirs. Subsequently, most reservoirs did not fill during the spring of 2021 due to a limited snowpack, resulting in water users being without sufficient water later in 2021.

Although the snowpack was below average, the peak runoff occurred during early June. A cool and wet May tempered the runoff, which delayed the peak runoff. However, once the peak arrived, the flowrates decreased very quickly in late June.

The summer monsoonal rains once again provided only a minimal amount of relief. All rivers saw typical administration during the summer, however the reservoirs were not available to provide critical water later in the season.

2021 is a year that stressed many irrigators. The snowpack leading into 2022 will be critical in order to avoid a repeat of 2021.

2 Surface Water Issues

Much like the 2018 and 2020 water years, surface water administration was very demanding. In many of the basins, only the senior water right holders remained in priority and diverted water. Different from prior years, there was not significant carryover in reservoirs from the year prior to help augment the limited water.

There were 146 administrative calls placed on 11 different stream systems in Division 7. From the total eight of the calls were on the Florida River, 31 of the calls were on the La Plata River, 25 of the calls were on the Pine River, 36 of the calls were on the Mancos River, and 36 calls were on McElmo Creek. Administrative calls also occurred on Cherry Creek, Coal Creek, Devil Creek, Elbert Creek, Fourmile Creek, and Junction Creek.

McPhee Reservoir, with a capacity of 382,000 +/- AF, contained 170,620 AF at the start of the water. The prior year, McPhee carried over 292,172 AF. McPhee released water through the fall and winter at a rate greater that the inflow, drooping to a low of 167,226 AF on February 20, 2021. McPhee was able to store water for through June 9, 2021, when it contained the maximum volume of the year, 190,566 AF. At the end of water year 2021, McPhee contained 160,977 AF. The amount of diverted water from the Dolores River basin in to the McElmo Creek Basin totaled 114,722 AF, which well below the 200,000 AF that has been regularly diverted. The Colorado Water Conservation Board did not place a call on the Dolores River downstream of McPhee Reservoir this year.

Vallecito Reservoir, with a capacity of 126,000 +/- AF, did not fill, however it did once again attenuate peak streamflows, providing flood protection to downstream properties. The peak flowrate was only 666 cfs. Contrary to prior years, minimal water was bypassed in the spring and early summer. A total of 169,918 AF was measured at the gage below Vallecito, whereas 200,000 AF is more normal. The reservoir contained 31,325 AF at the start of the water year. Vallecito Reservoir only partially-filled to a volume of 87,530 on June 15, 2021 and later dropped to a low of 24464 AF on October 3, 2021. Ending the 2021 water year and heading into the 2022 water year, Vallecito contained 29483 AF.

Lemon Reservoir, with a capacity of 40,000 +/- AF, contained 11,227 AF to start the 2021 water year. In order to conserve water, Lemon Reservoir limited winter releases to only 5.0 cfs, which is below the average of 10 cfs. Lemon Reservoir stored water all winter and spring. On June 9, 2021, Lemon contained 20,108 AF, the maximum volume for the year. The reservoir elevation began to drop on June 10 in order to provide water to irrigators. The maximum release from Lemon Reservoir was 229 cfs. On July 22, reservoir releases dropped to 38 cfs, down from 163 cfs. This marked the end of the irrigation season. At the end of water year 2021, Lemon Reservoir contained 13227 AF. A total of 34,340 AF was measured at the gage below Lemon Reservoir, well below the prior year's total of 44,000 AF, and 2020's total of 80,000 AF.

Long Hollow Reservoir, with a capacity of 5,300 AF, contained 116 AF at the start of the water year. Long Hollow Reservoir filled to a volume of 1388 AF on April 1, 2021 and dropped to a low of 0 AF on August 12, 2021, where it ended the water year.

The San Juan-Chama Project, which diverts water from Colorado into New Mexico, diverted 56,280 AF during the year, which is more than the 45,082 AF that was diverted in 2020. However, the diversion in 2021 was only 65% of average since diversion started in 1971.

3 Ground Water Issues

There were 280 well permits issued in Division 7 in calendar year 2020. Of these, 192 residential wells permits and 40 monitoring well permits were processed in the Durango office. There were also 48 non-exempt well permits, 7 monitoring wells, 1 Geoexchange System Loop, 11 monitoring holes permits, and 4 oil and Gas (Coal Bed Methane) well permits processed in the Denver office. There were no dewatering wells or rooftop precipitation collection permits issued in Division 7 during the 2021 calendar year.

There are currently over 3,900 coal bed methane (CBM) wells in Division 7, 90% of which lie within the Southern Ute Indian Reservation boundary. The Colorado Supreme Court upheld the question of the State's authority to administer non-tributary groundwater within the Ute Reservation. Stayed applications pending a Supreme Court decision resumed, and consultation with the Attorney General continued in 2021 to address these wells and associated applications for water rights and plans for augmentation.

4 Compact Issues

4.1 La Plata River Compact

New Mexico placed a call on April 1 for half the flow as measure at the La Plata River at Hesperus gage, up to a maximum of 100 cfs. Different than in prior years, NM sent an email on March 15, 2021 notifying DWR that Colorado shall begin making compact deliveries commencing on April 1. Compact administration was rather straightforward this year, involving a small amount of deliveries from Long Hollow. The peak flowrate at Hesperus was only 90.7 cfs, which occurred on May 7.

Long Hollow Reservoir filled to a capacity of 1388 AF on April 1, 2021. Irrigators immediately began diverting water by exchange in early April. The 300 AF pool used for compact purposes was exhausted. The entire volume of Long Hollow Reservoir was release, partially in need to inspect the outlet works of the dam to determine if an oil leak was occurring.

A unique delivery of water to the State line occurred in April. After completion of the Treanor Ditch exchange on April 14, there was a pause in exchange. Rather than sending water down the main stem of the river, the Treanor Ditch conveyed compact water via Long Hollow drainage. Approximately 50% of water diverted at the Treanor made it to the Long Hollow drainage, where it passed through Long Hollow Reservoir for delivery to Stateline. At the time, this was preferable to using themain stem, where it would have taken much longer to get water down to New Mexico with potentially equal losses to the Treanor option. Exchange began again on April 26 with the Slade, at which time compact conveyance via the Treanor ended.

In March 2021, the installation of a Parshall flume on the smaller valve channel provided the first accurate value for a release from Long Hollow Reservoir in many years.

On July 12, Hesperus averaged 8.47 cfs; observation indicated water flows were low enough and conditions dry enough that main stem river conditions were futile. With the futile call in place on July 12, releases from the compact pool began and continued through August 5 when the compact pool emptied. With the compact and exchange pool empty and the river futile, the only water going to New Mexico was water bypassed through Long Hollow Reservoir. Subsequently, Colorado was short on its compact obligation to New Mexico for the remainder of the water year. This was a year when a larger compact pool would have helped with deliveries to the Stateline for compact compliance.

Due to the efficiency of operating the exchange from Long Hollow, the use of Cherry Creek to convey water to satisfy the Compact was not utilized.

4.2 Animas - La Plata Compact

4.2.1 A-LP Release and Diversions

398 AF of water was delivered from Ridges Basin Reservoir to Johnson Reservoir (Lake Durango).

413 +/-AF of water was released, at a maximum rate of 44 cfs, to Basin Creek. The release of water was used to test the delivery of water to San Juan Water Commission in New Mexico to be picked up and stored in Farmington Lake. DWR staff were involved in calculating the transit loss to the state line. The transit loss was measured at approximately 11% from Lake Nighthorse outlet to the confluence of Basin Creek and the Animas River. The transit loss was approximated to be 5% from the confluence of Basin Creek and the Animas to the State line. The total travel time from the outlet to the stateline was approximately 14 hours.

In 2020, no water was pumped from the Animas River into Lake Nighthorse to replace diversions and evaporative losses from Ridges Basin Reservoir, therefore the pumping in 2021 was increased to replace two years of diversions and evaporative losses. In 2021, 8245 AF was

pumped from the Animas River into Lake Nighthorse. Localized runoff from Basin Creek provided minimal storage, due to the dry conditions.

4.2.2 Lake Durango Pipeline Construction

Construction on infrastructure to deliver water from Lake Nighthorse to the western part of La Plata County continued. The project is a joint venture between the La Plata West Water Authority, Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and Lake Durango Water Authority.

5 *Problems Solved*

5.1 Long Hollow Reservoir Exchange and La Plata River Administration

Long Hollow Reservoir provided valuable water to irrigators on the La Plata River. Those irrigators upstream of Long Hollow diverted water out of priority in exchange for releases from Long Hollow Reservoir. Those irrigators downstream of Long Hollow were able to receive water directly from releases out of Long Hollow.

The entire 300 AF compact pool was also used in order help with meeting the compact obligations to New Mexico.

Although Long Hollow Reservoir was completely drawn down to empty, it provided an opportunity to service the outlet structure. Additionally, DWR staff was able to install a new bubbler in a buried conduit to nearly the bottom of the reservoir. DWR staff also was able to replace the parshall flume on the outlet of the dam.

Figure 1 - Long Hollow Reservoir at minimum level

5.2 Infiltration pit off Freed Ditch in Church Hollow

DWR staff visited the infiltration pit located above Church Hollow, tributary to Long Hollow Reservoir, tributary to the La Plata River. The intent of this project is to divert water under a junior priority and infiltrate the water into the aquifer above Long Hollow Reservoir. No water was diverted this year into infiltration pit, however DWR staff will continue to work with all parties in the future.

5.3 Dredging of McPhee Reservoir

The Bureau of Reclamation and the Dolores Water Conservancy District were able to rent a dredge for one month in order to improve the connection from the Great Cut Dike to Lake McPhee. There was a high spot in the channel that prevented the full active capacity of McPhee to flow into the Great Cut Dike.

Figure 2 - Dredge used by Bureau of Reclamation to dredge canal at Great Cut Dike at McPhee Reservoir

5.4 Storage Release from Lake Nighthorse to State of New Mexico

In March of 2021, the San Juan Water Commission requested 400 AF +/- be released from Lake Nighthorse to be delivered to New Mexico. DWR staff provided real-time flow data during the release. Overall, the release was successful, and only small problems were identified.

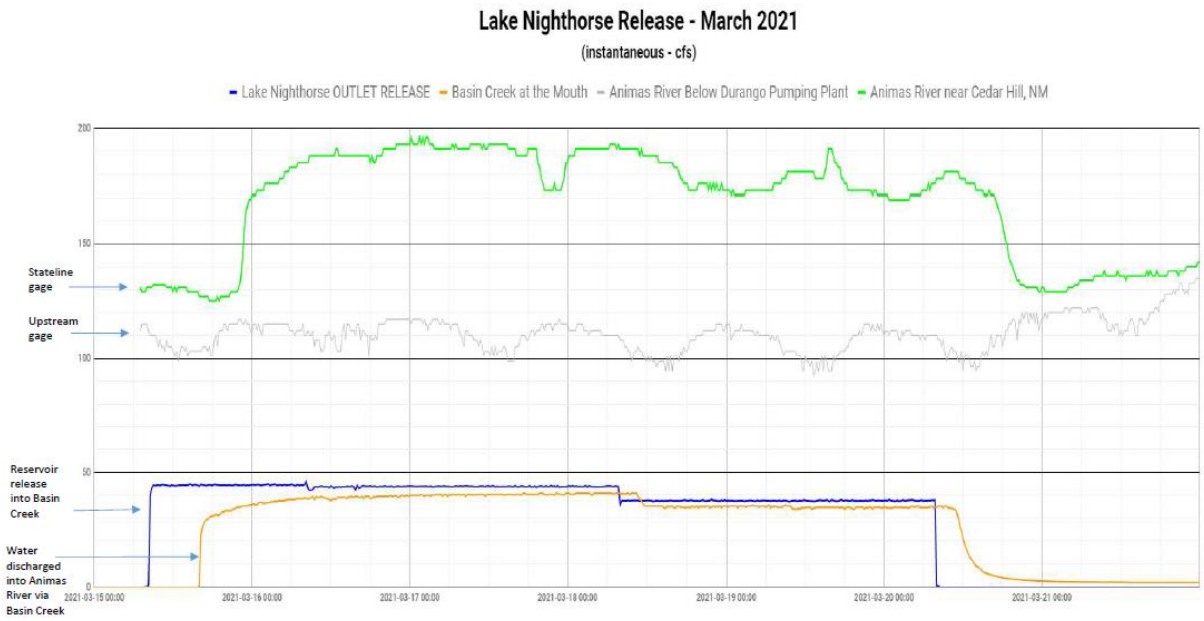


Figure 3 - Real time data provided by DWR to monitor release of water from Ridges Basin

6 Community Involvement

Water year 2020-2021 was another year that was affected by the Corona Virus Disease 2019 (COVID-19), however staff has adapted to the challenges that come with this disease. Employees are working both in the office and at home, meetings are held both in person and virtually.

Division 7 was however still able to attend virtually meetings with the Southwestern Water Conservation District; Animas-La Plata Operation Maintenance, and Replacement Association; Animas-La Plata Water Conservancy District; Dolores Water Conservancy District; San Juan Water Conservancy District; Montezuma Valley Irrigation Company; Pagosa Area Water and Sanitation District; and other water user group meeting they were invited to attend.

The Division also made efforts to keep the public at large informed of water issues by participating in interviews for articles in the local newspapers and television stations. The Division worked closely with local, city and county governments on water issues.

Division staff did not attend conferences presented by the Southwestern Water Conservation District, Colorado Water Officials Association, and Colorado Water Congress due to cancellations caused by COVID-19.

7 Highlights

7.1 2020 Abandonment

Division 7 staff assisted in the 2020 abandonment process. As required by statute, the Division Engineer's abandonment list was published and notices were mailed to all water right holders on the abandonment list.

A total of 1,497 water rights were initially identified as being subject to abandonment. Of the total, 621 were identified as "post-compact" and subject to abandonment. Follow a review by Water Commissioners and DWR Staff, a total of 182 water rights were added to the Division Engineer's abandonment list. DWR staff worked with those water users who contacted the Division Office to request that their water right be removed from the abandonment list. A total of 134 water rights will be included on the final abandonment list that will be included in the abandonment court case in 2022.

7.2 Important Court Cases

There were no court cases that went to trial this year in Division 7.

7.2.1 14CW3013 and 14CW3049 – Edgemont Ranch Metropolitan District (ERMD)

ERMD filed an application to change the use of water on the Abling Cash Ditch in order to obtain a more senior water supply for the growing subdivision. Multiple opposers, in particular the Florida Water Conservancy District, have stipulated with ERMD. This case was scheduled to go to trial in 2021, however a decree was agreed upon by all parties that allowed for a change of use.

As part of the settlement, parties came to terms on the newly constructed Edgemont Reservoir. A portion of Edgemont Reservoir was granted absolute status and a portion was abandoned.

7.2.2 15CW3023 – Florida Water Conservancy District (FWCD)

FWCD filed a dilligency application for a junior storage water right in Lemon Reservoir. As part of the negotions in case 14CW3013 and 14CW3049, this case has not made progress for many years. As part of the settlement agreements with ERMD, the court granted diligence on this water right in 2021.

7.2.3 17CW3038 – Big Stick Ditch Company

Big Stick Ditch Company filed an application for a junior trans-basin water right that diverts water from the Animas River Basin and is delivered to the La Plata River Basin. DWR filed a statement of opposition in this case. In 2021, a final decree was issued that addresses all opposers' concerns.

7.2.4 18CW3052 – Montezuma Valley Irrigation Company (Change of Use)

Montezuma Valley Irrigation Company filed an application for change of water right and for confirmation of relocated points of diversion. The Applicant seeks a change of their 87.3 cfs conditional water right from a direct flow right on the Dolores River to a storage right that may be stored in either McPhee Reservoir and/or Narraguinnep Reservoir, for subsequent irrigation. As part of the change of this conditional water right, the Applicant submitted an analysis of the "contemplated draft" that this water right would have on the Dolores River. The Applicant requests to store a maximum of 22,755 AF in any calendar year, with maximum monthly volumetric diversion limits. As an alternative claim, the applicant seeks judicial confirmation that relocation of the points of diversion to the Great Cut Dike and the Dolores Tunnel Inlet is consistent with C.R.S. § 37-86-111 because the decreed points of diversion were inundated by McPhee Reservoir.

The State Engineer and Division Engineer filed a Statement of opposition, requesting that the proposed change be held to strict proof of the contemplated draft to ensure the change does not result in expansion of the original water right. The State and Division Engineer ask to consider whether this water right has been abandoned as it has not been used for over 100 years. Additionally, the State and Division Engineer ask that the Applicant be held to show they can and will beneficially use the changed conditional water for the decreed purposes.

7.2.5 19CW3005 – Montezuma Valley Irrigation Company (Diligence)

Montezuma Valley Irrigation Company filed an application for finding of reasonable diligence for the Main No. 1 Canal and the Main No. 2 Canal. The Applicant owns 87.3 cfs of an irrigation water right on the Dolores River with an appropriation date of November 25, 1885.

The State and Division Engineer filed a Statement of Opposition, indicating that the Applicant needs to demonstrate the water right has not become speculative over time. This water right is the same water right in Case No. 18CW3052, in which the State and Division Engineer have filed a Statement of Opposition.

7.2.6 17CW3036 – Pine River Irrigation District Basin Wide Augmentation Plan

Pine River Irrigation District filed for a basin wide augmentation plan. Division staff continues to work through the Attorney General to conclude this case.

7.2.7 07CW37 – Pine River Irrigation District 2nd Fill of Vallecito Reservoir

Pine River Irrigation District (PRID) filed for a second fill of Vallecito Reservoir. Division staff has worked with PRID to include terms and conditions that will address the claim for flood control.

7.2.8 15CW3017 – Town of Bayfield

The Town of Bayfield filed for a change of water use on the Los Pinos Ditch. Division staff continues to work through the Attorney General to conclude this case. It appears this case will be concluded in 2022.

7.2.9 21CW3002 – United States of America

The United States Bureau of Reclamation (BOR) filed a change of point of diversion and place of use for the Earl Hart Ditch. The BOR desires to use the senior water at the Simons Wetlands. DWR filed a statement of opposition and continues to work through Attorney General to conclude this case. The Earl Hart Ditch is also listed for abandonment in the 2020 abandonment process.

7.3 Hydrography

7.3.1 Long Hollow Reservoir

Division 7 Hydrographers worked with La Plata Water Conservancy District to upgrade the instrumentation of Long Hollow Reservoir.

DWR staff buried conduit and installed a bubbler to measure the stage of water upstream of Long Hollow Reservoir. DWR installed a bubbler, but also built the system that will allow for the installation of a pressure transducer.

Figure 4 - Installation of conduit in Long Hollow Reservoir

Additionally, DWR staff upgraded the parshall flume on the outlet of Long Hollow Dam. A new concrete flume was installed and an underground vault was installed that houses the electronics.

Figure 5- Long Hollow flume prior to replacement

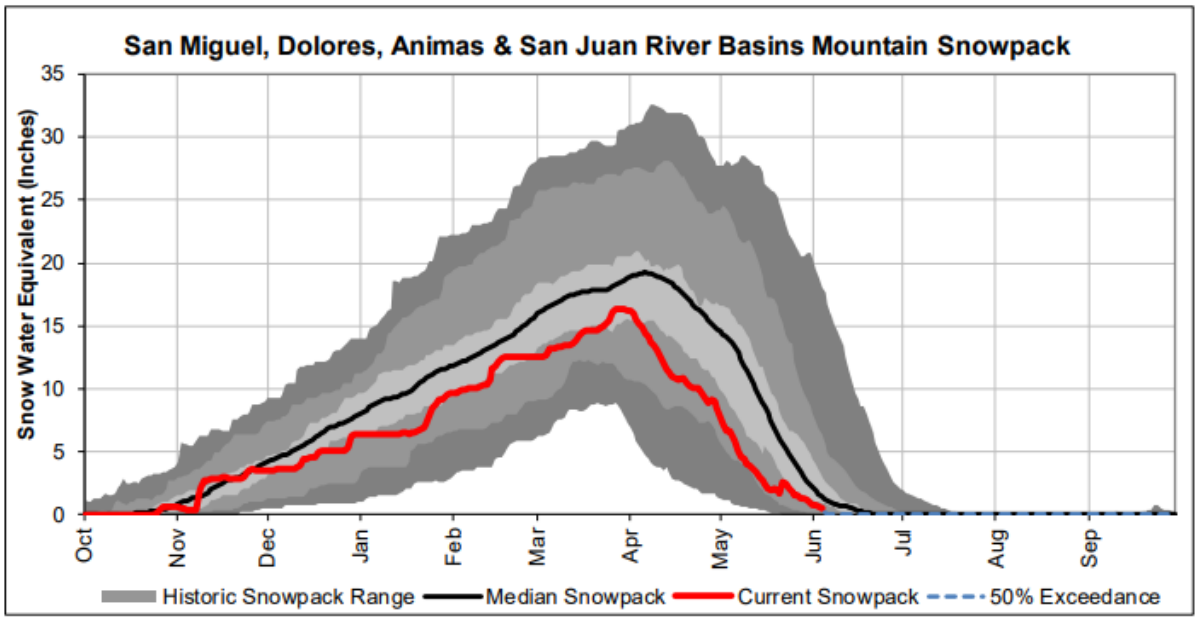
Figure 6 - Long Hollow flume after replacement

8 *Appendix*

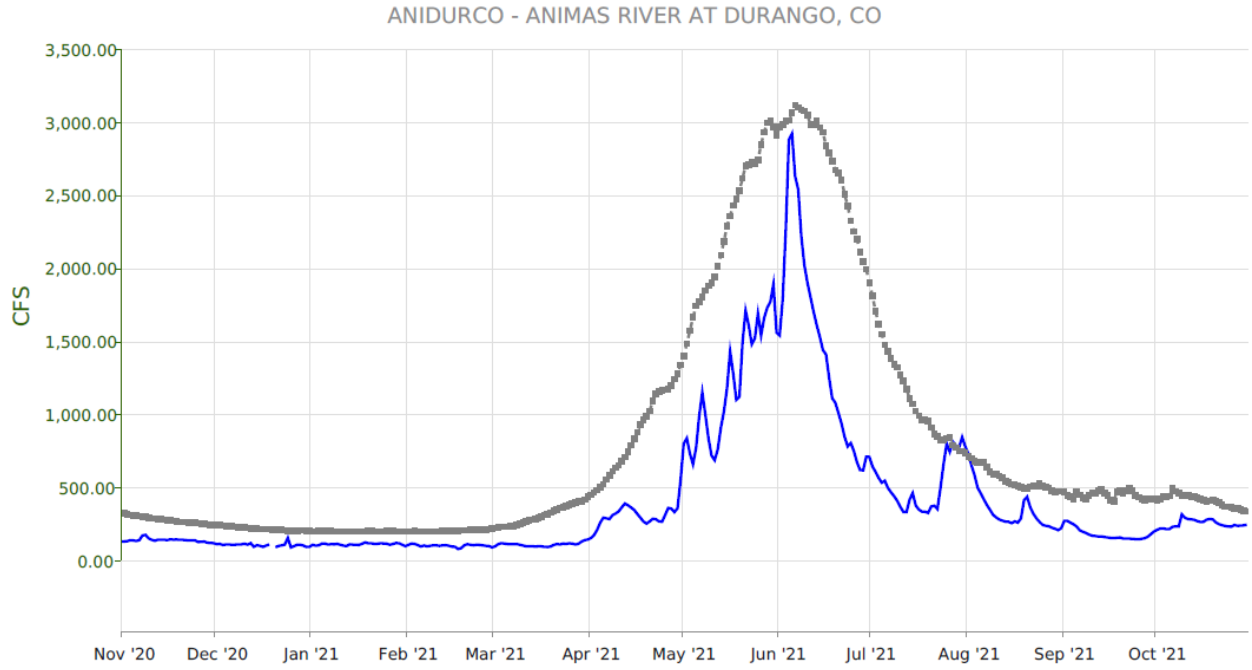
SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS

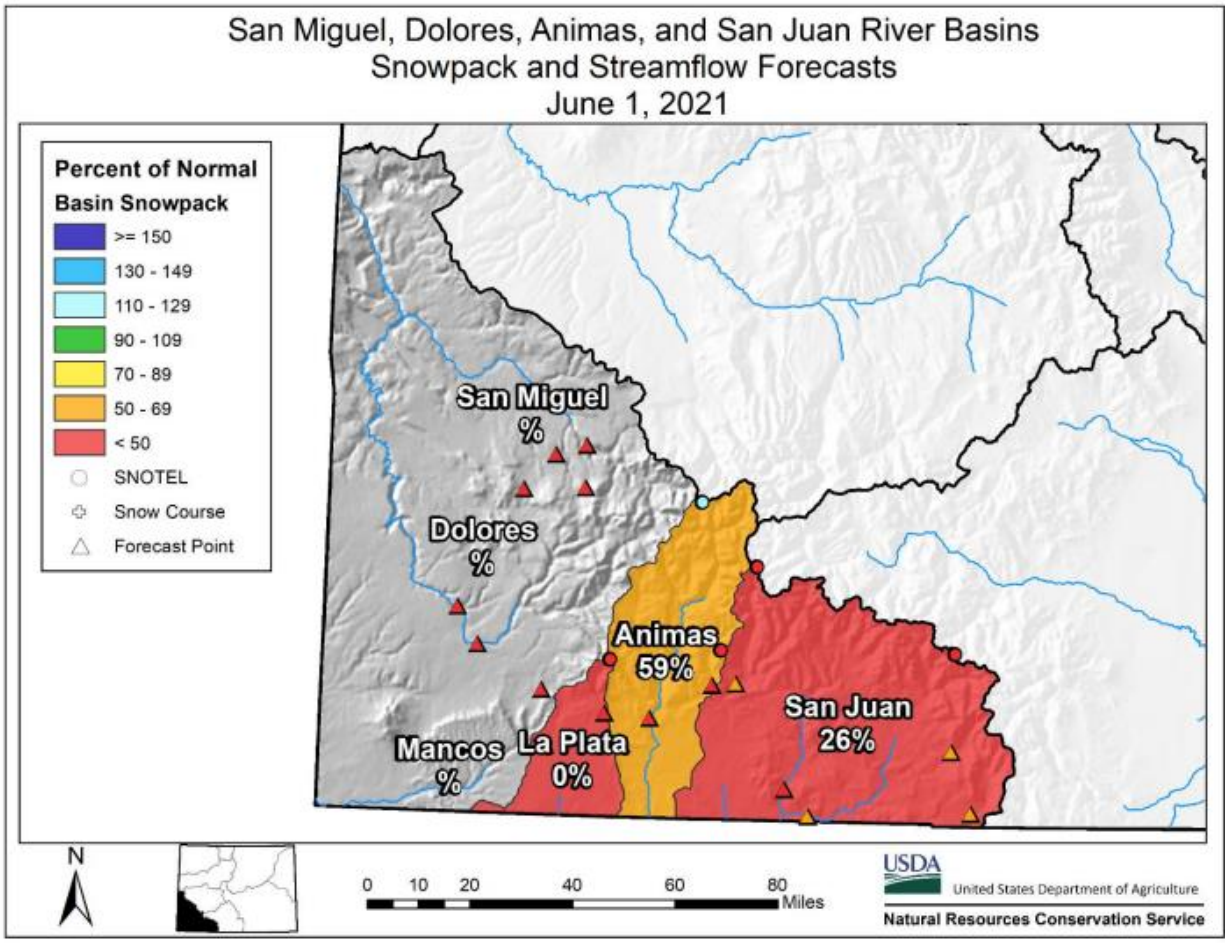
June 1, 2021

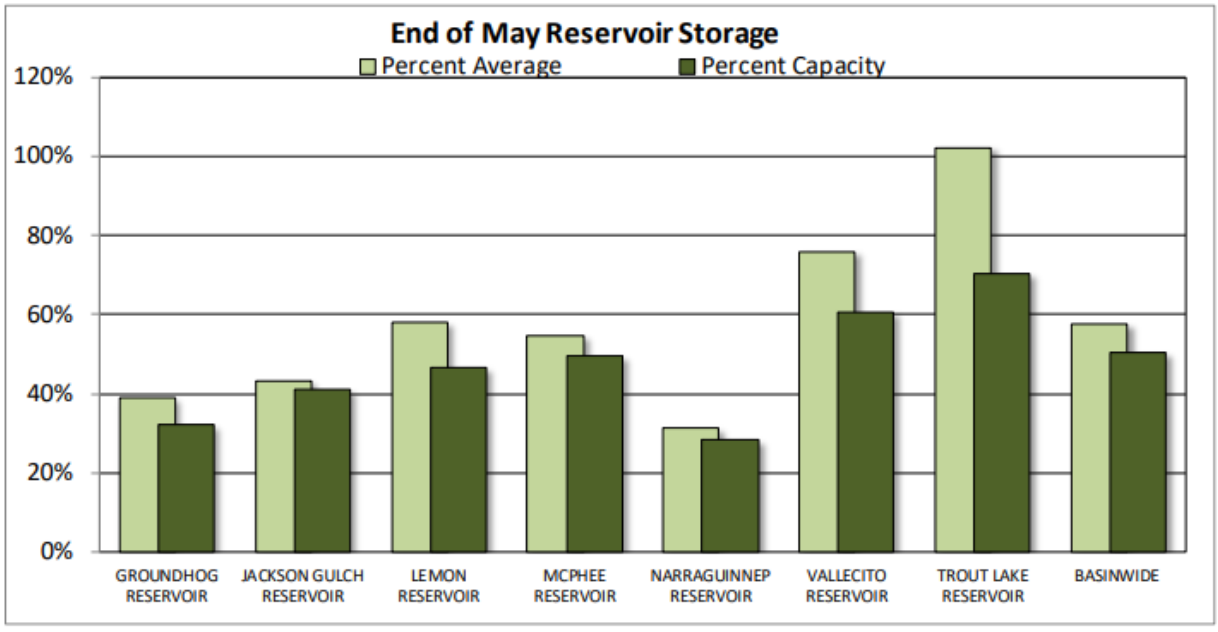
Snowpack in the combined southwest river basins is below normal at 38% of median. Precipitation for May was 111% of average which brings water year-to-date precipitation to 70% of average. Reservoir storage at the end of May was 58% of average compared to 92% last year. Current June – July streamflow forecasts range from 52% of average on the Rio Blanco at Blanco Diversion to 19% of average on the Mancos River near Mancos.



*SWE values calculated using daily SNOTEL data only




San Miguel, Dolores, Animas, and San Juan River Basins
Snowpack and Streamflow Forecasts
June 1, 2021
Percent of Normal
Basin Snowpack
>= 150
130 - 149
110 - 129
90 - 109
70 - 89
50 - 69
< 50
SNOTEL
Snow Course
Forecast Point
San Miguel
%
Dolores
%
Animas
59%
San Juan
26%
Mancos
%
La Plata
0%
N
0 10 20 40 60 80
Miles
USDA
United States Department of Agriculture
Natural Resources Conservation Service


End of May Reservoir Storage
Percent Average
Percent Capacity
120%
100%
80%
60%
40%
20%
0%
GROUNDHOG RESERVOIR
JACKSON GULCH RESERVOIR
LEMON RESERVOIR
MCPHEE RESERVOIR
NARRAGUINNEP RESERVOIR
VALLECITO RESERVOIR
TROUT LAKE RESERVOIR
BASINWIDE