

DIVISION 6

2021 ANNUAL SUMMARY



Stillwater Reservoir, August 10, 2021

Erin Light, P.E.
Division Engineer
August 29, 2022



COLORADO
Division of Water Resources
Department of Natural Resources

2021 ANNUAL SUMMARY

Table of Contents

Introduction	2
Basin Hydrology.....	2
Snow Pack	2
Streamflows.....	2
Water Administration.....	4
Stream Calls.....	4
Elk River Administration	5
Elkhead Creek Reservoir	5
Yampa River RICD Flows	7
Stagecoach Reservoir Releases.....	7
Yampa River Administration	7
White River Administration.....	8
North Platte River Administration	9
Measurement Devices and Measurement Rules.....	9
Ground Water and Well Permitting.....	12
Compacts and Inter-State Agreements	12
Upper Colorado River Compact	12
Nebraska v. Wyoming.....	13
Pot Creek MOU.....	13
Division Highlights.....	14
Abandonment Process	14
Important Court Cases.....	14
Involvement in Water User Community.....	15
Organizational Chart.....	16

Introduction

The following report summarizes the activities of the Division 6 office of the Colorado Division of Water Resources, presents an overview of the administration activities that took place and provides statistical data for 2021.

Basin Hydrology

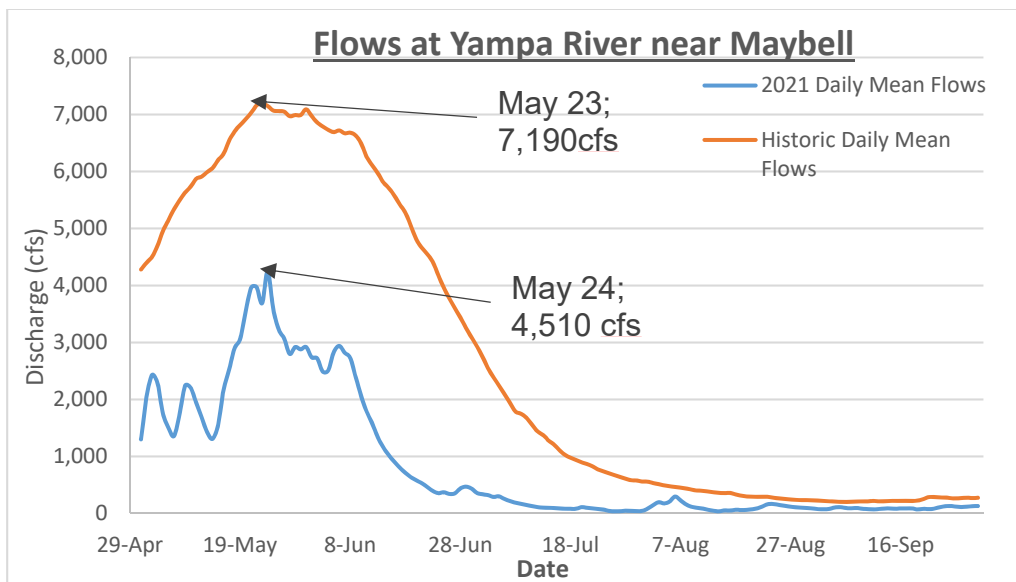
Snowpack

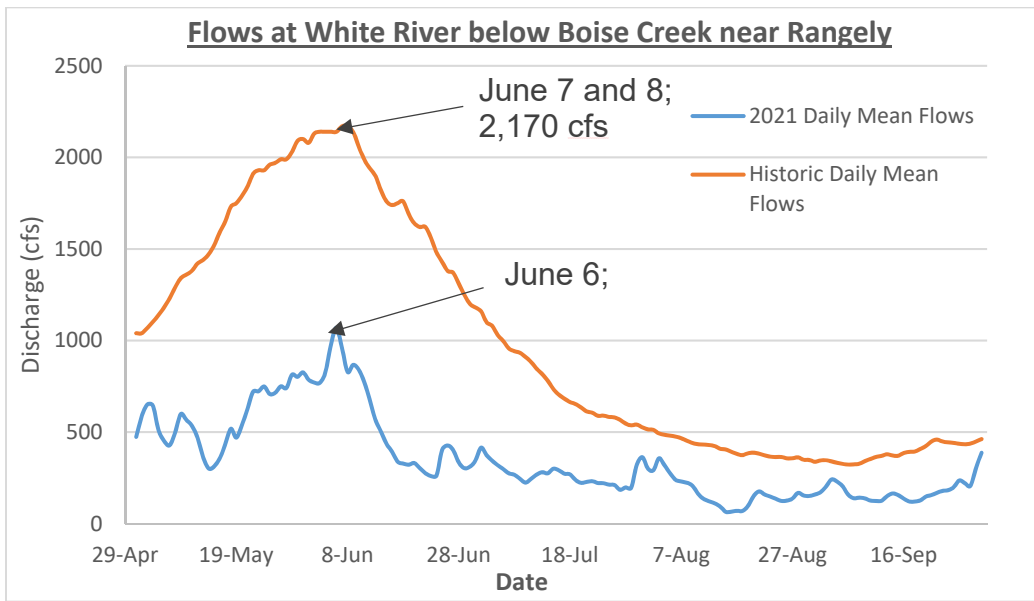
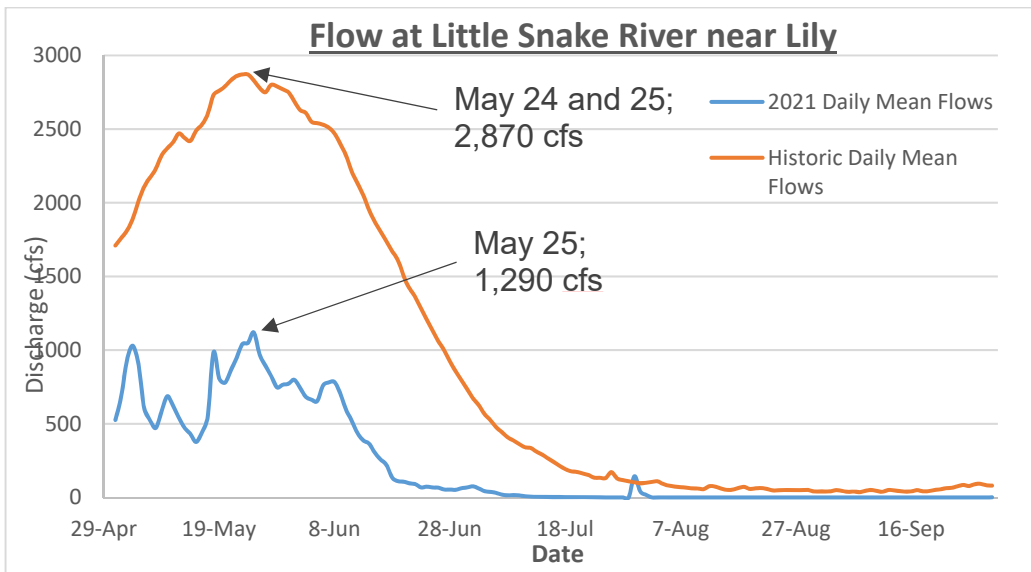
Peak snowpack in the Yampa-White-Little Snake basins peaked on March 29 at 18 inches; while the median snowpack based on the period 1991 through 2020 is 20.2 inches with the median peak occurring on April 8.

Peak snowpack in the Laramie-North Platte basins peaked on April 2 at 20.8 inches; while the median snowpack based on the period 1991 through 2020 is 23.3 inches with the median peak occurring on April 2.

Streamflows

Like the snowpack, spring runoff was below normal in all of the basins: Yampa, White, Little Snake and North Platte. The graphs below depict the runoff on the Yampa, White and Little Snake Rivers. Not shown in a graph below, the North Platte River at Northgate peaked on June 8 at 953 cfs; while the peak occurs in the middle of June with the average peak being 3,080 cfs





Provided in Table 1 below are the annual runoff values for the water year for these same stations as well as the minimum daily average flow recorded at each station.

Table 1

2021 Annual Discharge

Station Name	Historic Lowest (AF)	Total 2021 (AF)	Historic Average (AF)	% of Average
North Platte River near Northgate	66,243	138,567	310,220	45
White River Below Boise Creek	240,936	244,484	497,944	49
Little Snake River at Lily	79,564	126,042	403,901	31
Yampa River near Maybell	345,115	376,463	1,113,461	34

Lowest Daily Mean

Station Name	Minimum on Record (cfs)	Minimum WY2021 (cfs)	Date of Occurrence
North Platte River near Northgate	15.0	43.8	September 19, 2021
White River below Boise Creek	52.6	64.6	August 15, 2021
Little Snake River at Lily	0	0	August 20, 2021
Yampa River near Maybell	1.8	39.2*	August 14, 2021

* Includes reservoir water in the river

Water Administration

Stream Calls

Calls occurred on the following systems in Irrigation Year 2021:

Yampa River Basin

- Bear River
- Brinker Creek*
- Elkhead Creek*
- Fortification Creek
- Hunt Creek*
- Little Bear Creek
- Little Cottonwood Creek
- Little Snake River
- Morapos Creek
- North Hunt Creek
- Oak Creek
- Smith Creek

South Hunt Creek
Trout Creek
Willow Creek
Yampa River

Green River Basin

Talamantes Creek

White River Basin

Piceance Creek from the Metz and Reigan Ditch upstream to a dry up point below the Schutte Ditch
Piceance Creek from the Schutte Ditch upstream to the headwaters

North Platte River

Illinois River
Michigan River
Rock Creek

(* - *First ever call on system*)

A complete list of the calls that occurred within Division 6 can be found on the Colorado Decision Support System (CDSS) website. Additionally, releases of reservoir water were made from Elkhead Creek Reservoir, Stagecoach Reservoir, Yamcolo Reservoir, Stillwater Reservoir, Walden Reservoir and Meadow Creek Reservoir that were protected and delivered by our office to their point of diversion or use.

Elk River Administration

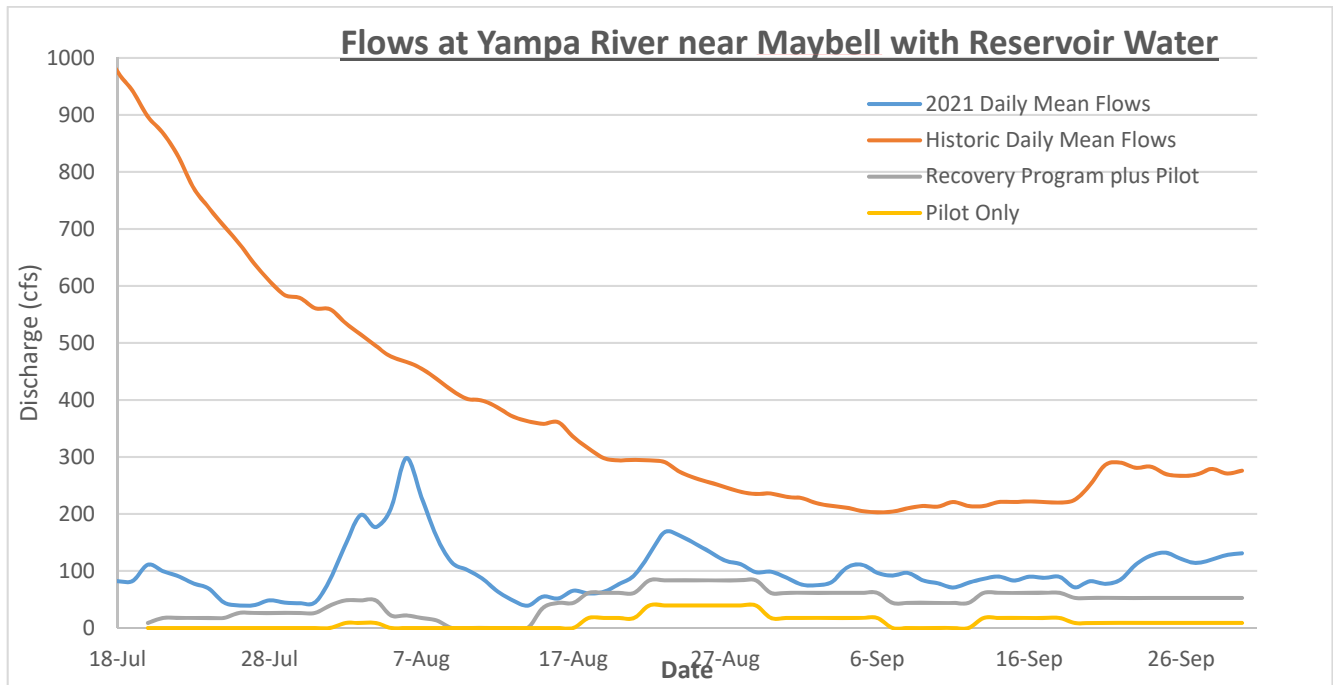
The Elk River did not go on call in 2021 though the flows dropped below the Colorado Water Conservation Board (CWCB) instream flow water right amount. The Elk River instream flow water right, the calling water right on the river, is decreed for 65 cfs year round. The lowest daily mean flow, as measured at the Elk River near Milner gage station that occurred in 2021 was 29.8 cfs on September 11. Furthermore, the daily mean flows dropped below 65 cfs for 42 days between August 13 and September 28.

Elkhead Creek Reservoir

Releases were made from Elkhead Creek Reservoir between July 16 and October 7, 2021 for a total of 6,498 acre-feet for the purpose of in-river fish habitat and river flow maintenance and enhancement under the Upper Colorado River Endangered Fish Recovery Implementation Program (Recovery Program). Water released from Elkhead Creek Reservoir for the Recovery Program was protect through the entire length of the critical habitat reach, which extends from the City of Craig downstream to the confluence of the Yampa River and Green River.

In addition to the water released for the Recovery Program, 1,754 acre-feet was released from Elkhead Creek Reservoir and protected to the Yampa River near Maybell gage station under a Pilot Project of the Colorado River District's. The purpose of this release was first to help maintain and enhance habitat conditions for various native fish between City of Craig and the Yampa River near Maybell gage station and second, to keep the call of the Yampa River by protecting water only to the Yampa River near Maybell gage, after which point the water became waters of the state and was sufficient to satisfy the downstream calling water right.

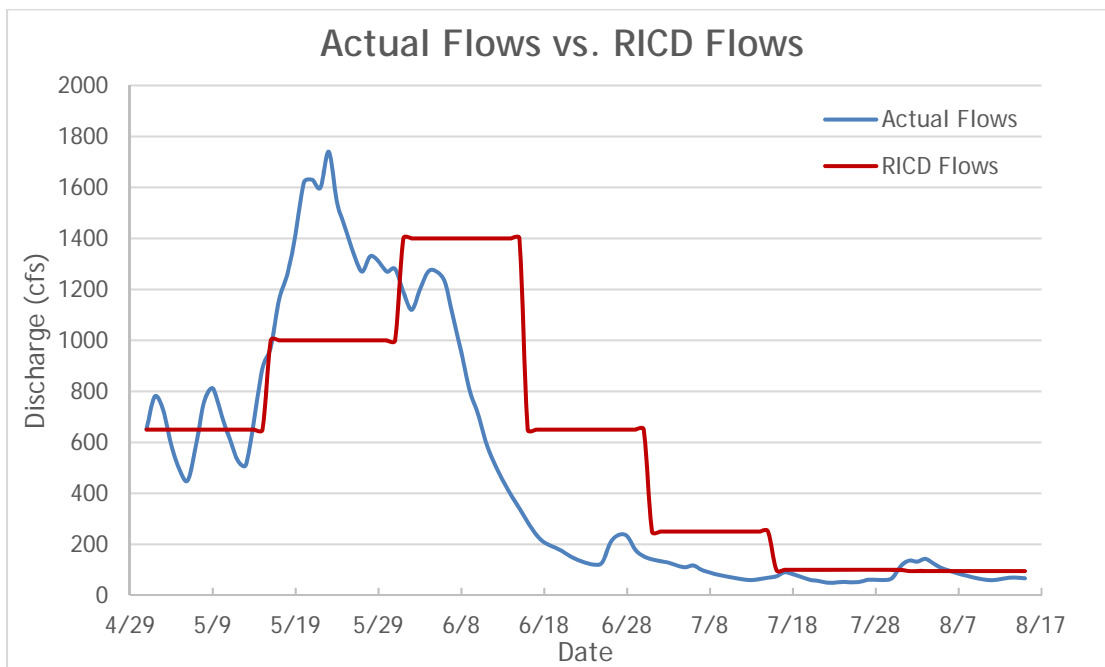
Shown in the following graph are the flows during the summer and fall on the Yampa River near Maybell in 2021. This graph shows that even with Elkhead Creek Reservoir water in the system dedicated to supporting the endangered fish and under the Pilot Project, the flows dropped below 93 cfs, which is the dry year target for the recovery of the endangered fish. Had the reservoir water not been released, the amount of water in the River would have been the difference between the Historic Daily Mean Flows and the Recovery Program plus Pilot water introduced into the River. As discussed later in the report, flows were also released from Stagecoach Reservoir for non-consumptive purposes, though not for the Recovery Program.



Yampa River RICD Flows

The City of Steamboat Spring recreational in-channel diversion (RICD) water right is decreed for 400 cfs from April 15 to April 30, 650 cfs from May 1 to May 15, 1000 cfs from May 16 to May 31, 1400 cfs from June 1 to June 15, 650 cfs from June 16 to June 30, 250 cfs from July 1 to July 15, 100 cfs from July 16 to July 31 and 95 cfs from August 1 to August 15. The City of Steamboat Springs does not begin operation of the gage station that acts as their measurement device for their water right (Yampa River below Soda Creek) until May 1 of each year.

The following graph shows the average daily flows for the period of May 1 through August 15, 2020 at the Yampa River below Soda Creek gage station in comparison to the decreed flows. From this graph one can see that the flows were below the decreed RICD flow rates for the majority of the period.



Stagecoach Reservoir Releases

Releases were made from Stagecoach Reservoir for the Colorado Water Trust and City of Steamboat Springs. Releases for the Colorado Water Trust and City of Steamboat Springs occurred between July 26 and September 25. A total of 1,767 cfs was released. These releases are made in an effort to reduce streamflow temperature at the City of Steamboat Springs waste water discharge point into the Yampa River. Once the water released goes past this discharge point, it becomes waters of the state available for any in-priority downstream water user to divert and beneficially use.

Yampa River Administration

For the first time in history, the Yampa River went on call in 2018. Despite the fact that the snowpack in 2020 was near average, however because rainfall was well below average in June, July, August and September, another call was placed on the Yampa River in 2020. In 2021, a call on the Yampa River was placed again but only for a very short period of time; July 30 through August 2. The reasons for this short lives call was due to a rain event and the Colorado River District requesting a release of water from Elkhead Creek Reservoir to help maintain and enhance habitat conditions but to primarily take the call off as described above.

Table 2 below shows some historic snowpack comparisons for recent extreme low and high snowpack years.

Table 2
Snowpack Comparison

<u>Year</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>
2002	80%	75%	73%	75%	40%
2011	143%	136%	145%	192%	481%
2012	64%	66%	79%	52%	22%
2018	72%	81%	83%	75%	36%
2019	105%	110%	120%	102%	247%
2020	90%	97%	104%	101%	98%
2021	73%	91%	91%	73%	48%

White River Administration

The mainstem of the White River was not subject to an administrative call in 2021; however water was released from Lake Avery under an expedited loan agreement between the CWCB and Colorado Parks and Wildlife. In 2012, the CWCB entered into a temporary loan agreement with the Colorado Parks and Wildlife, pursuant to section 37-83-105(2) C.R.S, to help maintain CWCB's instream flow water rights on Big Beaver Creek and the White River. The White River instream flow reach is from the confluence of the North Fork and the South Fork of the White River as the upstream terminus to its confluence with Piceance Creek as the downstream terminus. The agreement allowed for the release of water from Big Beaver Creek Reservoir (AKA Lake Avery) three times in ten years to

support the flows in Big Beaver Creek and the White River. Water was released under this 2012 agreement in 2012, 2018 and 2020.

In 2021, water was released from Lake Avery between August 16 and September 16 to support the instream flows. Throughout this period the release rate was approximately 13 cfs for a total release of 805 AF. These releases were made as a result of flows dropping considerably low at the White River above Coal Creek near Meeker gage station. Between August 16 and September 16, the flows in the White River ranged between 30 and 40 cfs at this gage with the exception of a few times when the flows came up as a result of rain events. The CWCB instream flow on the White River is 200 cfs.

Within the White River basin, the only administrative calls in 2021 were on Piceance Creek.

North Platte River Administration

The Michigan River, Illinois River and Rock Creek were on call during the summer of 2021. The Michigan River call ran from May 12 through July 6. The Illinois River call ran from April 1 through May 10 and October 18 through December 6 for storage to fill Walden Reservoir; and independent from the Michigan River call, from June 17 through August 16 for irrigation demands. A total of 2,857 acre-feet of water was released from Walden Reservoir for irrigation use by several ditches and a total of 3,282 acre-feet was released from Meadow Creek Reservoir for irrigation use by several ditches and municipal use by exchange for the City of Fort Collins.

Measurement Devices and Measurement Rules

In October 2016 and January 2017, this office mailed Notices to the owners of all known structures within the entire North Platte River basin that were not equipped with an operable headgate and/or measuring device. Likewise, in March 2019, this office mailed Notices to the owners of all known structures within the entire Yampa River basin that were not equipped with an operable headgate and/or measuring device. The Notices requested water right owners to install these devices and failure to do so would result in an Order being issued by the Division Engineer pursuant to CRS 37-92-502. After inventorying which structures had not complied with the Notices, Orders were issued on September 30, 2019 requiring installation of operable headgates and measuring devices by November 30, 2019. In total, approximately 580 orders were issued to individual owners.

In March and May 2020, this office mailed Notices to the owners of all known structures within the entire White River basin and Green River basin of Colorado that were not equipped with an operable headgate and/or measuring device. The Notices requested water right owners to install these devices and failure to do so would result in an Order being issued by the Division Engineer pursuant to CRS 37-92-502. As a result of COVID and extreme drought, the issuance of Orders was delayed.

As of November 2021, our records still show a significant number of structures, that we currently maintain records on, not equipped with an operable measuring device. The below Figure shows the breakdown of the number of structures with records maintained, structures with measuring devices and structures without measuring devices for all of Division 6.

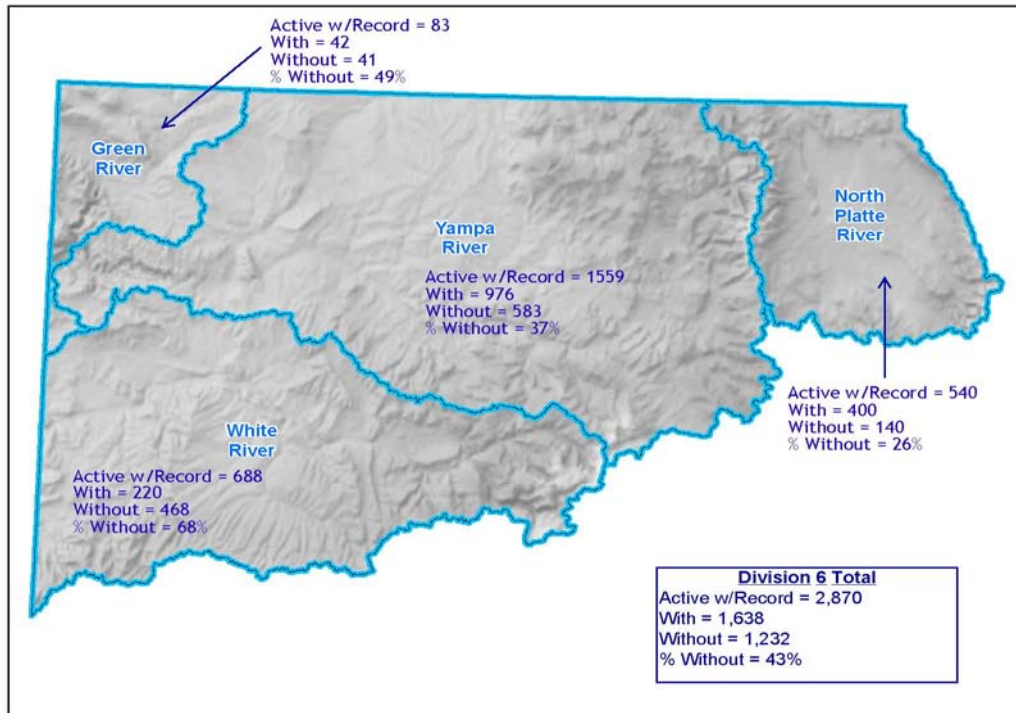


Figure 1 - Division 6 measuring device count November 2021

These numbers are only reflective of the number of wells, ditches, pipelines and pumps needing measurement. They do not include ponds/reservoirs.

Below are pictures of newly installed measurement devices in Division 6.



In the fall of 2021, the State Engineer started the Measurement Rules process for Division 6. The rules are referred to as “Rules and Regulations for Governing the Measurement of Surface Water and Groundwater Diversion and Storage of Water Located in Division 6” (referred to herein as “Measurement Rules”). These Rules are applicable to all surface water diversions, groundwater diversions, and the storage and release of surface water and groundwater located within Water Division 6. The purpose of these Rules is to establish consistent and reliable standards to assist the State Engineer and Division Engineer in the administration, distribution, and regulation of the waters of the state in Water Division 6 and are intended to: (1) establish standards for the selection and installation of Measurement Methods and Diversion Structures for the purpose of controlling and measuring Diversions; (2) establish consistent and reliable standards for the recording and reporting of data for water diversions, the storage and release of water, and the means by which the Division Engineer will receive the data; and (3) establish consistent and reliable standards for assessing compliance with the State Engineer’s and Division Engineer’s authority to implement and enforce the statutory requirement for installation of Measurement Methods and headgates. As currently written, the Measurement Rules will require many more structures to be equipped with measurement devices compared to the number that Division 6 currently requires measurement devices on, which are those structures that we currently maintain records on. The biggest increase will likely be the requirement for many more ponds/reservoirs to be equipped with measurement devices.

To introduce the Measurement Rules, in October 2021, the State Engineer held 6 in-person Measurement Rule stakeholder meetings located in Steamboat, Oak Creek, Craig, Rangely, Meeker and Walden, and in November 2021 he held a virtual stakeholder meeting. Many of the meetings were well attended. Then in February 2022, the State Engineer distributed to all the attendees of the meetings a draft of the Measurement Rules giving them an opportunity to provide comments. Many comments were received and several modifications were made to the Measurement Rules to address these comments.

Groundwater and Well Permitting

Nearly the entire Yampa River went on call in 2018, 2020 and 2021. This raised the question of whether all remaining portions of the Yampa River upstream of its confluence with the Little Snake River should be designated as over-appropriated. The Division Engineer, in March 2021, recommended to the State Engineer, that the basin be considered over-appropriated. Designating a basin as over-appropriated has a large impact on how wells are permitted in those areas not already designated as such. In preparation for the basin becoming over-appropriated, the Division 6 office held several meetings to educate the public on the impacts of the designation as well as did other outreach to help educate the public.

In irrigation year 2021, 334 well permits, including for monitoring/observation wells, were issued in Division 6. Excluding the monitoring/observations wells, the number of permits issued was 245. This number is up considerably from 2020.

Compacts and Inter-State Agreements

Following is a description of the interstate compacts and agreements administered by Division 6.

Upper Colorado River Compact

Under Article XIII (a) of the Upper Colorado River Compact, the State of Colorado will not cause the flow of the Yampa River at the Maybell gage to be depleted below an aggregate amount of 5,000,000 acre-feet for any period of ten consecutive years. The annual runoff for water year 2021 at this gage was 376,406 acre-feet compared to 969,779 acre-feet in 2020, 1,379,200 acre-feet in 2019, 727,600 acre-feet in 2018, 541,820 acre-feet in 2012 and 363,938 acre-feet in 2002. The ten-year (2012 to 2021) aggregate flow was 9,141,644 acre-feet; obviously well above that required under Article XIII (a) but down considerably due to the poor 2021 runoff. The lowest 10-year

consecutive year total over the 105 years of data at the Maybell gage is 9,141,644, which occurred in 2021.

The Little Snake River is administered jointly with the State of Wyoming during times of shortage pursuant to Article XI of the Upper Colorado River Compact. A call on the Little Snake River occurred between July 16 and July 30, 2021 and between August 26 and September 21, 2021. Additionally, releases were made from High Savory Reservoir, located in Wyoming, for use primarily by Wyoming water users though Colorado water users benefit from the added return flows from the reservoir water applied to irrigation.

In 2019, the States of Colorado and Wyoming worked together to develop a Memorandum of Agreement (MOA) for the administration of Battle Creek. Battle Creek is a tributary of the Little Snake River which starts in Wyoming and then comes into Colorado where it enters the Little Snake River more than 100 feet upstream of the confluence of Savory Creek and the Little Snake River (“compact point”). Though much progress had been made, the MOA has been put on hold in order to further develop how Wyoming and Colorado water rights should be administered.

[Nebraska v. Wyoming, U.S. Supreme Court Decree](#)

Under the “North Platte River Decree”, Colorado is limited to a total of 145,000 acres of irrigation, no more than 17,000 acre-feet per year of storage for irrigation purposes and no more than 60,000 acre-feet of transmountain diversions in any period of ten consecutive years from the North Platte River drainage in Colorado. In water year 2021, a total of 89,105 acres were irrigated and 8,283 acre-feet was stored for irrigation purposes. Transmountain diversions out of the basin totaled 2,291 acre-feet. The cumulative ten-year transmountain diversion out of the basin was 34,966 acre-feet. None of the limits established by the Decree were exceeded in 2021.

A Division 6 representative attended the North Platte Decree Committee meetings held virtually in April 2021 and November 2021.

[Pot Creek MOU](#)

Pot Creek is a small tributary of the Green River; the headwaters of which are in Utah and enter the Green River in Colorado. Pot Creek water is apportioned among the users of Utah and Colorado under a Memorandum of Understanding (MOU) last updated and signed by the State Engineers of Utah and Colorado on March 1, 2005.

The Pot Creek system is comprised primarily of five reservoirs; three of which are located in Utah and two of which are located in Colorado. The three Utah reservoirs are Matt Warner, Calder and Crouse with Matt Warner being the highest, most upstream reservoir in the system, and Crouse the lowest. Matt Warner Reservoir is used primarily for recreation and is considered a gold water fishery. Crouse Reservoir on the other hand is no longer used.

At the end of the storage season (April 30, 2021), Dry Lake Reservoir and Offield Reservoir (both located in Colorado) were dry. Conditions on Pot Creek in 2021 were very dry with zero acre-feet delivered past the Stateline the entire water year.

The 2021 Pot Creek Distribution System Water Users meeting was held in person in Vernal, Utah on February 23, 2022. The 2020 Pot Creek Distribution System Water Users meeting was held virtually on February 24, 2021. Division 6 staff attended both meetings.

Division Highlights

Abandonment Process

In 2020, Division 6 staff completed and published the 2020 Division Engineer's Abandonment List. The list included just over 700 water rights listed in whole or in part. Of the 700 rights listed, approximately 200 of such rights were alternate points of diversion for pre-compact water rights. Prior to the objection period ending, all of the alternate points of diversion associated with a pre-compact water right were removed from the list since they are a component of a pre-compact right. Furthermore, several other rights were removed from the list based on further evaluation of the rights. The Division received objections to the inclusion of 250 water rights on the abandonment list, all of which were responded to by mid-December 2021. After the removal of water rights for the above listed reasons and in response to the objections received, the Final Revised Abandonment List filed with the Court in December 2021 included 301 water rights.

Important Court Cases

The State Engineer and Division 6 Engineer are currently objectors in Case Nos. 06CW243 (Division 5), 19CW3003, 20CW3018, 20CW3019, and 20CW3020. The Engineers filed a statement of opposition in only one case filed in 2021, which has now been resolved.

Below is a table showing the number of Reports of the Division Engineer (Summaries of Consultation) filed with the Water Court each year.

<u>Year</u>	<u># of Court Cases Filed</u>	<u># of Reports Filed</u>
2013	71	69
2014	69	79
2015	88	90
2016	77	89
2017	65	72
2018	77	59
2019	49	75
2020	84	62
2021	84	66

Involvement in the Water User Community

Regardless of an office move at the end of 2021 and moving to hybrid working, the Division 6 staff successfully assisted the public in preparing water court and well permit applications by providing water right and diversion record information, assisted in providing information on proper selection and installation of water measuring devices, and assisted dam owners with completing Notices of Intent to Construct Non-Jurisdictional Dams, Livestock Water Tank Permits and Emergency Action Plans. Since being able to work in-person, the Division 6 office hours were established as Tuesdays and Thursdays from 9:00 AM to 3:00 PM or by appointment.

Following is a list of meetings attended by Division 6 staff in 2021; many of which were attend virtually. This list is not intended to be all-inclusive, but rather provide an idea of the types of meetings attended.

- Spring North Platte Decree Committee meeting
- Fall North Platte Decree Committee meeting
- Annual meeting of the Pot Creek Distribution System in Vernal, UT
- Board meetings held by the Upper Yampa Water Conservancy District
- Board meetings held by Yellow Jacket Water Conservancy District in Meeker, CO
- All roundtable meetings for the Yampa/White River and North Platte River
- Colorado Water Congress Annual Convention held in Denver, CO
- State of the River Conferences held by the Colorado River District

Division 6 staff also made several presentations virtually in 2021.

Division 6 Organization Chart (as of 12/31/2021)

