DIVISION 6

2020 ANNUAL SUMMARY

Construction of Keller Ditch, Appropriation date October 1, 1885

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Division Engineer

July 30, 2021

COLORADO
Division of Water Resources
Department of Natural Resources

2020 ANNUAL SUMMARY

Table of Contents

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 2020.

Basin Hydrology

Snowpack

Table 1 shows the snow water equivalent for the period of October 2019 through May 2020. These numbers show that the snowpack started out above normal and ended right around normal.

Table 1

End of Month Snow Water Equivalent as Percent of Median
Water Year 2020

Drainage	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Laramie/North Platte River	113	133	93	96	101	112	107	104
Yampa/White River	110	113	85	90	97	104	101	98

Streamflows

Unlike the snowpack, spring runoff was well below normal at all of the below reported gages. Table 2 shows the February 1st, March 1st and May 1st runoff forecasts developed by the NRCS in comparison to the actual runoff between April 1 and July 31 as measured at the selected USGS gaging stations.

Table 2

2020 Runoff Forecast in 1000's of Acre-Feet

Station Name	Forecasted Feb-1		Forecasted Mar-1		Forecasted April-1		Actual April - July	
	Runoff	% Avg	Runoff	% Avg	Runoff	% Avg	Runoff	% Avg
North Platte nr Northgate (Apr-Jul)	210	93	280	124	265	118	236	105
White River nr Meeker (Apr-Jul)	230	82	230	82	250	89	274	98
Little Snake River nr Lily (Apr-Jul)	340	99	360	104	350	101	268	78
Yampa River nr Maybell (Apr-Jul)	930	99	1030	110	1010	108	930	99

Annual runoff values for the water year (WY) for these same stations and minimum daily average flow recorded at each station are provided in Table 3.

Table 3

Annual Runoff

Station Name	Historic Low (AF)	Total WY 2020 (AF)	Historic Average (AF)	Total WY 2020 as a % of Historic Average
North Platte River near Northgate	66,243	236,240	311,900	76
White River near Meeker	198,584	326,940	444,800	74
Little Snake River at Lily	79,564	320,440	406,650	79
Yampa River near Maybell	345,115	969,780	1,120,700	87

Lowest Daily Mean

Station Name	Minimum on Record (cfs)	Minimum WY2020 (cfs)	Date of Occurrence
North Platte River near Northgate	15	49.2	September 7, 2020
White River near Meeker	56.8	109*	August 19, 2020
Little Snake River at Lily	0	0	September 1, 2020
Yampa River near Maybell	1.8	69.1*	August 22, 2020

* Includes reservoir water in the river

Precipitation

Table 4 shows monthly precipitation data for the towns of Walden, Meeker and Steamboat Springs.

Table 4

Monthly Precipitation Data for Selected Sites
Water Year 2020

Site	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Walden (inches)	0.54	0.78	0.80	0.20	1.04	0.40	0.64	1.45	0.84	0.54	0.70	0.76	8.69
% Avg	55	104	129	34	163	56	56	95	69	40	55	57	72
Meeker (inches)	1.02	1.12	1.38	1.18	0.96	1.31	0.79	0.72	0.91	0.59	0.23	1.44	11.65
% Avg	59	85	115	101	97	106	40	40	89	54	16	82	70
Steamboat (inches)	2.24	1.12	2.54	2.13	2.65	1.16	1.86	2.10	1.04	0.87	0.96	0.32	18.99
% Avg	101	58	130	87	138	73	73	79	66	51	53	14	77

Monthly Precipitation Data for Selected Sites
Calendar Year 2020

Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Walden (inches)	0.20	1.04	0.40	0.64	1.45	0.84	0.54	0.70	0.76	0.75	0.47	0.21	8.0
% Avg	34	163	56	56	95	69	40	55	57	77	63	34	64
Meeker (inches)	1.18	0.96	1.31	0.79	0.72	0.91	0.59	0.23	1.44	0.91	0.89	1.02	10.95
% Avg	101	97	106	40	40	89	54	16	82	52	68	85	63
Steamboat (inches)	2.13	2.65	1.16	1.86	2.10	1.04	0.87	0.96	0.32	1.22	0.86	1.43	16.57
% Avg	87	138	73	73	79	66	51	53	14	55	45	73	67

Water Administration

Stream Calls

Calls occurred on the following systems in Irrigation Year 2020:

Yampa River Basin
- Bear River
- Elk River
- Fortification Creek
- Little Bear Creek
- Little Cottonwood Creek
- Oak Creek
- Smith Creek
- South Fork of Williams Fork
- Trout Creek
- Yampa River

Green River Basin

Talamantes Creek

White River Basin

Evans Gulch
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

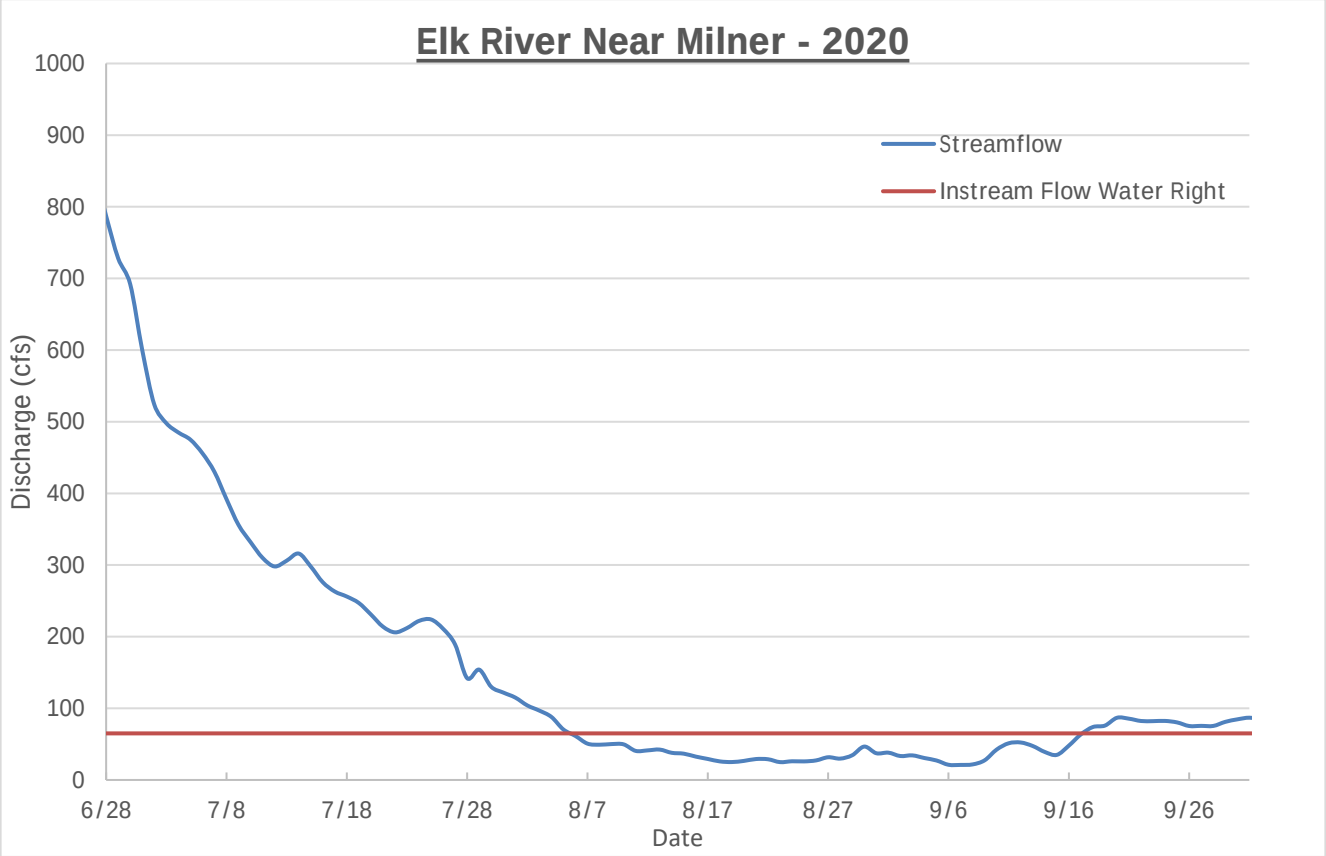
North Platte River

Illinois River
Michigan River

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

Elk River Administration

The Elk River was on call between August 8 and August 25 and September 3 through September 22 for the instream flow water right and between August 25 and September 3 under the Yampa River call. 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 during the call was 21 cfs on September 7. The following graph shows the flows during the summer and fall at the Elk River near Milner gage station.



The entire Elk River was designated as over-appropriated effective January 1, 2011. This action prompted the Upper Yampa Water Conservancy District (UYWCD) to file an application for approval of an augmentation plan in Water Court. The application was filed with the Court in December of 2015. A decree was entered in the case in August 2018. The plan is designed to provide a means for water users to divert water out of priority during administration on the Elk River or particular wells to pump water with their depletions replaced through the plan. When calls are honored on the Elk River itself, the replacement source of water will be from Steamboat Lake; whereas if a call is honored on the Yampa River below the Elk River, the replacement source will be Stagecoach Reservoir. To date, no contracts have been entered into with UYWCD for replacement of depletions.

Elkhead Creek Reservoir

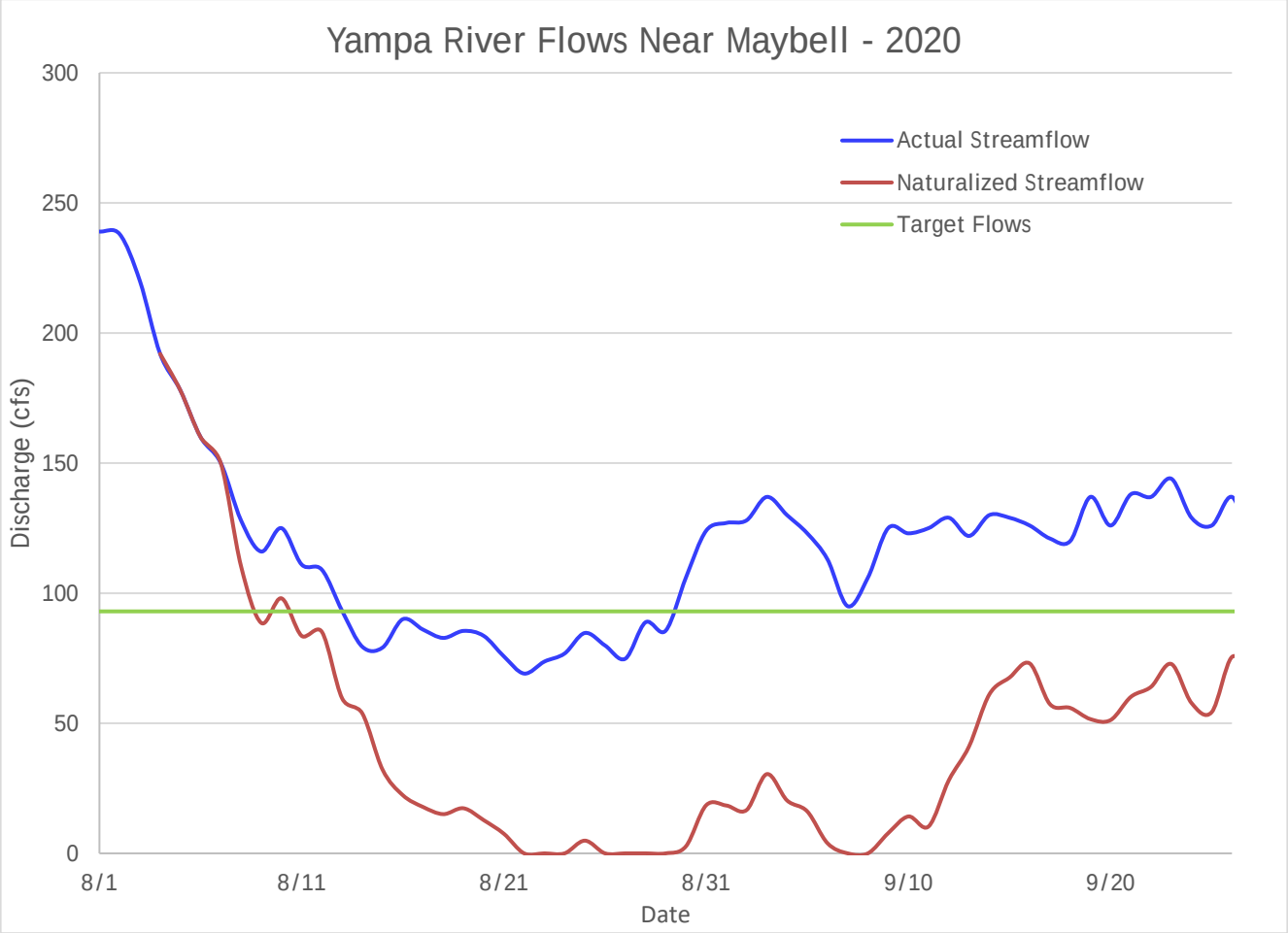
Releases were made from Elkhead Creek Reservoir between August 6 and October 8, 2020 for a total of 5,953 acre-feet. Releases were made for the purpose of in-river fish habitat and river flow maintenance and enhancement under the Upper Colorado River Endangered Fish Recovery Implementation Program (Recovery Program). The target flows established by the Recovery Program

for the Yampa River as measured at the Yampa River near Maybell gage station from August 1 to October 31 are:

Dry Years	93 cfs
Average Years	134 cfs
Wet Years	Under evaluation

Generally speaking, "dry" corresponds to hydrologic conditions of 75% or greater exceedance, "average" corresponds to 75% to 25% exceedance, and "wet" corresponds to 25% or less exceedance. The Recovery Program sets the corresponding flow target in June or July after considering the conditions on the river, forecasted streamflow, and the volume of water stored in Elkhead Creek Reservoir. In 2020, the flow target was set at 134 cfs (average year) and later modified to 93 cfs as streamflows continued to diminish and warm dry weather prevailed. Water released from Elkhead Creek Reservoir is protected by this office 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.

Shown in the following graph are the flows during the summer and fall on the Yampa River near Maybell in 2020. This graph shows that even with Elkhead Creek Reservoir water in the system dedicated to supporting the endangered fish, the flows dropped below the 93 cfs dry year target established. This graph also shows what the flows would have looked like had releases from Elkhead Creek Reservoir and Stagecoach Reservoir not been made. As discussed later in the report, flows were also released from stagecoach Reservoir for non-consumptive purposes though not for the Recovery Program.

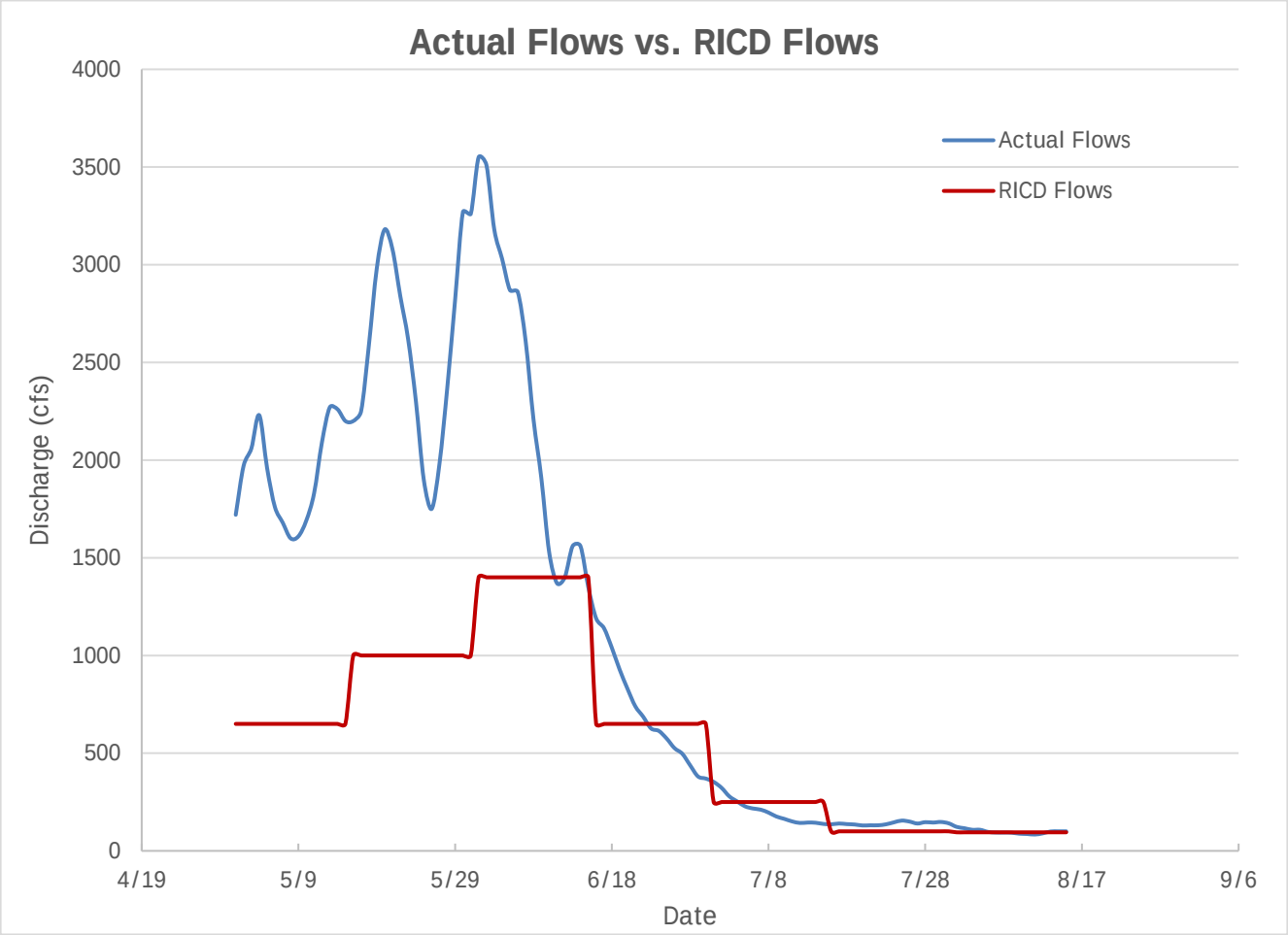


Yampa River RICD Flows

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 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. The average daily flow on the Yampa River below Soda Creek dropped below the decreed RICD flow rates on June 11, 12 and 15, and from June 23 through June 30, July 5 through July 15 and August 6 through August

12; noting that the flows from August 12 through September 10 include release of stored water from Stagecoach Reservoir.



Stagecoach Reservoir Releases

Releases were made from Stagecoach Reservoir for the Colorado Water Trust and City of Steamboat Springs to reduce streamflow temperatures at the City's waste water discharge point on the Yampa River and during the call on the Yampa River to fulfil the needed augmentation releases. Releases for the Colorado Water Trust and City of Steamboat Springs occurred between August 12 and September 10 and the augmentation releases occurred between August 25 and September 3.

Yampa River Administration

For the first time ever, the Yampa River went on call in 2018. Despite the fact that the snowpack in 2020 was near average, with well below average rainfall in June, July, August and September, another

call was placed on the Yampa River in 2020. Table 5 below shows some historic snowpack comparisons for recent extreme low snowpack years and high snowpack years.

Table 5

Snowpack Comparison

Year	Jan	Feb	Mar	Apr	May
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%

In March 2019, this office mailed Notices to the owners of all known structures that were not equipped with an operable headgate and/or measuring device. The Notices requested that water right owners install these devices by July 31, 2019. 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 500 orders were issued to individual owners.

Due primarily to weather reasons, many people were unable to comply with the November 30, 2019 deadline. As a result, water users opted to either not divert water in the spring until they had complied with the order or requested an extension of time to comply with the order. Extensions were granted to those requesting such and those extension, for the most part, varied through July 31, 2020 to October 31, 2020.

As of April 2021, our records still show a significant number of structures, that we maintain records on, not equipped with operable measuring devices. Below is a breakdown of the number of structures the Division 6 office maintains records on, structures with measuring devices and structures without measuring devices.

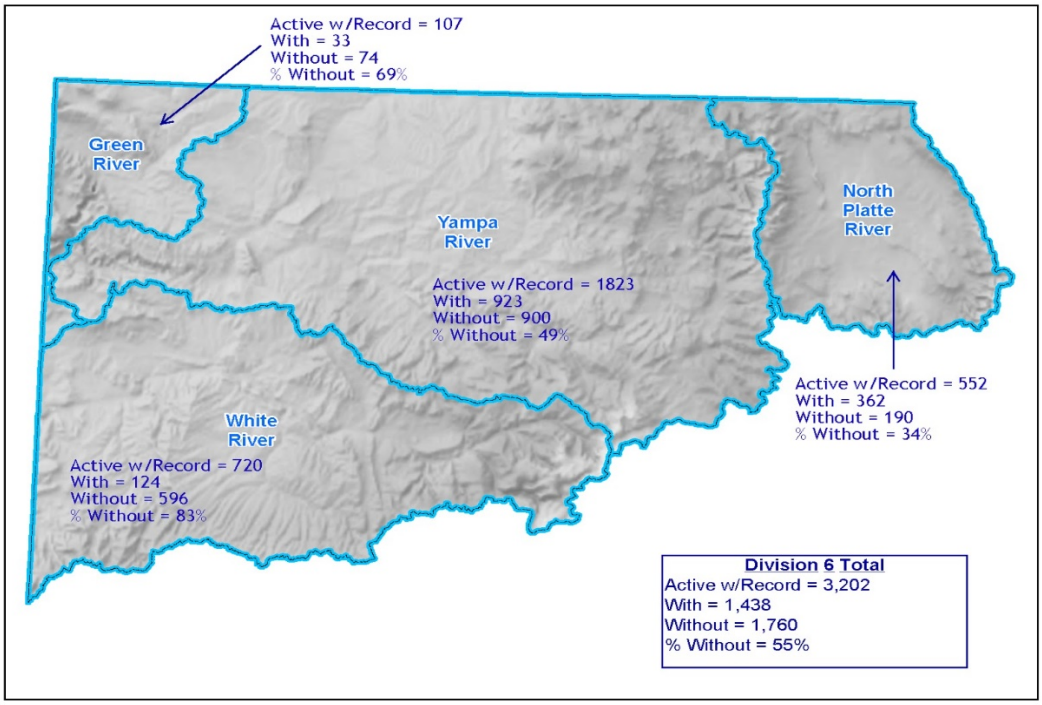


Figure 1 – Division 6 measuring device count January 2020

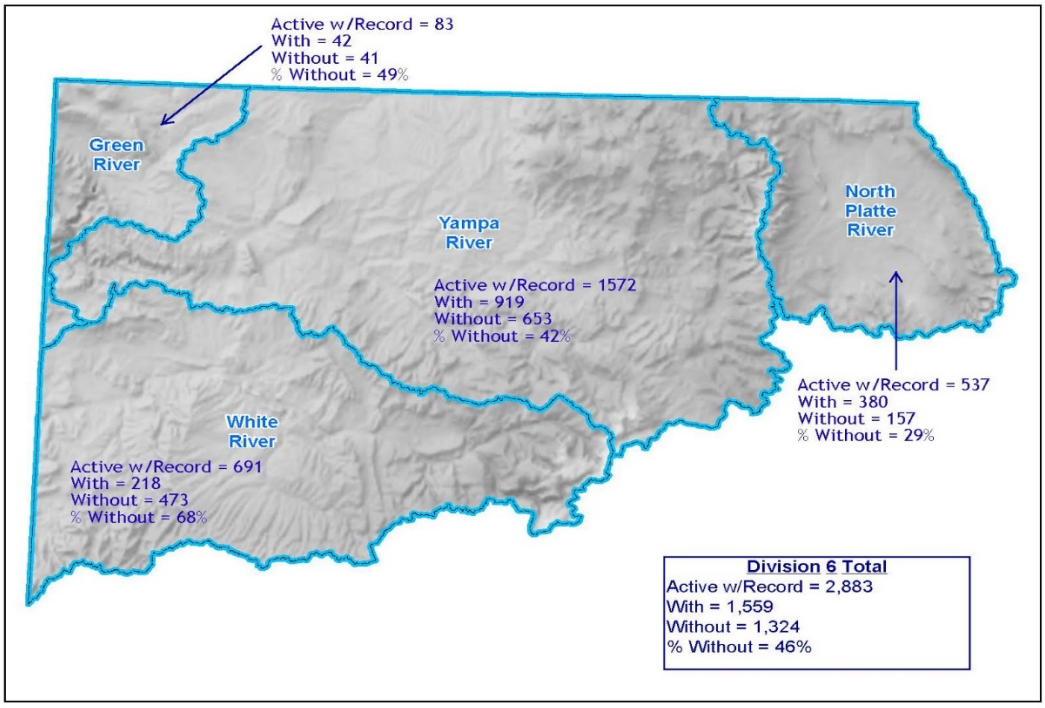


Figure 2 – Division 6 measuring device count April 2021

Below are pictures of some of the measuring devices installed as a result of the order.

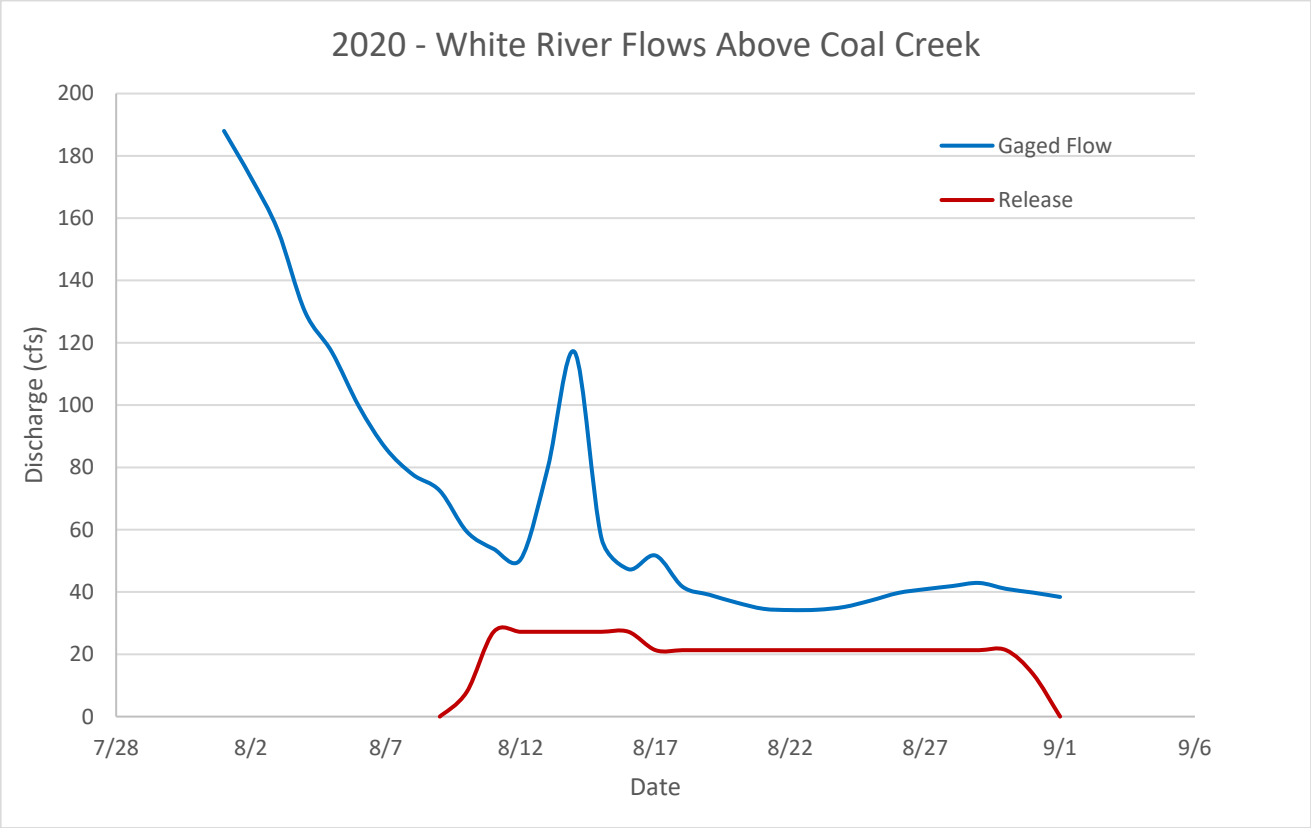
White River Administration

The mainstem of the White River was not subject to an administrative call in 2020; however water was released from Lake Avery under the temporary loan agreement between the Colorado Water Conservation Board (CWCB) and Colorado Parks and Wildlife. In 2012, the Colorado Water Conservation Board (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 the confluence with Piceance Creek as the downstream

terminus. The agreement allows 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. The first year of releases under the loan occurred in 2012, the second in 2018 and the third in 2020. The following releases were made from Lake Avery under the loan agreement in 2012, 2018, and 2020: 1,225 acre-feet, 1,550 acre-feet and 973 acre-feet, respectively.

In 2020, water was released from Lake Avery between August 10 and August 31 to support the instream flows. Release were made in 2020 when flows at the White River above Coal Creek near Meeker dropped considerably low. This gage is located below several large ditches that divert a considerable amount of water and above where the return flow from these ditches returns to the River. The following graph shows the actually flows at this gage during the month of August 2020. The CWCB instream flow on the White River is 200 cfs. As you can tell from the below graph, flows, even with the reservoir water, were well below this amount. Further, had the reservoir water not been introduced into the system, the natural streamflow would have dropped to as low as approximately 13 cfs.



Within the White River basin, the only administrative calls in 2020 were on Piceance Creek and Evans Gulch.

North Platte River Administration

In October 2016 and January 2017, this office mailed Notices to the owners of all known structures that were not equipped with an operable headgate and/or measuring device. The Notices requested water right owners to install these devices. 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 80 orders were issued to individual owners. As with the Yampa River orders, for many people the November 30, 2019 deadline could not be met and many extensions were granted. Currently, approximately 29% of the structures in the North Platte River basin do not have measuring devices which equates to approximately 150 structures.

Only the Michigan River and the Illinois River were on call during the summer of 2020. The Michigan River call, encompassing the Illinois River, was on call between May 25 and June 16 and between August 24 and September 8; and not encompassing the Illinois River, between June 26 and July 25. The Illinois River, independent of the Michigan River, went on call between June 26 and August 14.

Groundwater and Well Permitting

Nearly the entire Yampa River went on call in 2018 and 2020. 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. In March 2021, the Division Engineer formally recommended to the State Engineer that the basin be considered over-appropriated. Designating the entire Yampa River as over-appropriated will have a large impact on how wells are permitted in those areas not already designated as such.

In irrigation year 2020, 94 well permits, including monitoring/observation wells, were issued in Division 6. Excluding the monitoring/observations wells, the number of permits issued was 72. This number is down considerably from 2019. This is likely due to the fact that all permits were being issued out of the Denver Office since the well permitting position in Division 6 was vacant from April 1, 2020 through June 2021.

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 2020 at this gage was 969,779 acre-feet compared to 1,379,200 acre-feet in 2019 and 727,600 acre-feet in 2018. The ten-year (2011 to 2020) aggregate flow was 11,012,431 acre-feet; obviously well above that required under Article XIII (a). The lowest 10-year consecutive year total over the 104 years of data at the Maybell gage is 9,419,800, which occurred in 1943.

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. There was no water rights administration on the Little Snake River in 2020. Releases were however made from High Savory Reservoir, located in Wyoming, for use by Wyoming water users.

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 discuss whether or not the water rights should be administered per strict priority administration.

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 2020, a total of 97,398 acres were irrigated and 8,723[1] acre-feet was stored for irrigation purposes. Transmountain diversions out of the basin totaled 4,171

[1] May be subject to change

acre-feet. The cumulative ten-year transmountain diversion out of the basin was 33,274 acre-feet. None of the limits established by the Decree were exceeded in 2020.

A Division 6 representative attended the North Platte Decree Committee meetings held virtually in April 2020 and October 2020.

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, 2020), Dry Lake Reservoir (located in Colorado) was dry and Offield Reservoir (also located in Colorado) was storing approximately 13 AF. Conditions on Pot Creek in 2020 were very dry with only 242 AF delivered past the state line in June. The water delivered into the state of Colorado was that water stored out of priority during the winter months in the Utah reservoirs. This water stored out of priority was released from the Utah reservoirs starting on June 3. The majority of water released from the Utah reservoirs was stored in Offield Reservoir.

The 2020 Pot Creek Distribution System Water Users meeting was held virtually on February 24, 2021. The 2019 Pot Creek Distribution System Water Users meeting was held on March 4, 2020 in Vernal, Utah where Division 6 representatives were in attendance.

Division Highlights

Lysimeter Project

The Yampa-White Lysimeter Study (Study) was a five-year study that began with the installation and operation of a weather station in fall 2011 and installation and operation of the lysimeter plots in the

spring of 2012. The funding for the study ended in early spring 2016; however, because it was believed that not enough high quality data was obtained during the study period, the Colorado Climate Center and Division 6 Water Resources applied for and received additional grant money through the Roundtable process to allow five additional years of operation of the Study. The purpose of the Study is to provide a quantitative assessment of irrigated hay meadow consumptive use and its relationship to local weather conditions.

In 2020, Division 6 staff visited the site on regular intervals between April and October. Measurements were taken twice on each day of each visit. The plots are weighed upon arrival (referred to as the dry weights) and then weighed again several hours after saturation (referred to as the wet weights). The project concluded in 2020.

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. The listing of these rights were considering a listing of the water rights in part as only alternate points of diversions were listed. These partial rights were removed due to concern of these being a component of a pre-compact right. Many objections to the abandonment list were received prior to the July 1, 2021 deadline to object. Division staff continue respond to these and anticipate having responses completed by November 30, 2021.

Water Court Activity

The State Engineer and Division 6 Engineer are increasingly filing more statements of opposition in new cases filed with the Water Court. In 2013, 2014 and 2017, no statements of opposition were filed; in 2015 and 2016, two statements of opposition were filed each year; in 2018, a motion to intervene was filed; in 2019, one statement of opposition and three motions to intervene were filed; and lastly, in 2020, five statements of opposition and/or motions to intervene were filed. No protests to any of the referee rulings were filed in 2020. Further, one case was set for trial commencing on January 4, 2021. The issues in this case were resolved just prior to the close of 2020.

Today, there are several cases still pending in which the State and Division Engineers are opposers; one of which the opposition was filed in 2006 in a Division 5 case when the White River cases were before the Division 5 Water Court.

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

Year	# of Reports Filed
2013	69
2014	79
2015	90
2016	89
2017	72
2018	59
2019	75
2020	62

Involvement in the Water User Community

Regardless of the pandemic and working from home, the Division 6 staff successfully assisted the public in preparing water court and well permit applications by providing water right and diversion record information, providing information on proper selection and installation of water measuring devices, and assisting dam owners with completing Notices of Intent to Construct Non-Jurisdictional Dams, Livestock Water Tank Permits and Emergency Action Plans.

Following is a list of meetings attended by Division 6 staff in 2020; many of which were attend virtually. This list is not intended to be all-inclusive, but rather to 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

Division 6 staff also made several presentations virtually in 2020.

Division 6 Organization Chart (as of 12/31/2020)