

DIVISION 6

2019 ANNUAL SUMMARY



AND



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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 2019.

Basin Hydrology

Snowpack

Table 1 below shows the snow water equivalent for the period October 2018 through May 2019. These numbers show that the snowpack was above normal throughout the winter.

Table 1

End of Month Snow Water Equivalent as Percent of Median Water Year 2019

Drainage	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Laramie/North Platte River	73	129	105	105	106	121	104	228
Yampa/White River	75	133	106	109	110	120	102	247

Streamflows

As with the above median snowpack, actual streamflows were above average at all of the below reported gages. Table 2 below 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

2019 Runoff Forecast in 1000's of Acre-Feet

<u>Station Name</u>	<u>1-Feb</u>		<u>1-Mar</u>		<u>1-May</u>		<u>Actual</u>	
	Runoff	% Avg	Runoff	% Avg	Runoff	% Avg	Runoff	% Avg
North Platte nr Northgate (Apr-Jul)	235	104	245	109	230	123	374	156
White River nr Meeker (Apr-Jul)	265	95	295	105	325	116	378	136
Little Snake River nr Lily (Apr-Jul)	320	93	345	100	390	113	375	109
Yampa River nr Maybell (Apr-Jul)	890	95	935	100	1020	109	1247	132

Provided in Table 3 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 3

2019 Annual Discharge

Station Name	Historic Lowest (AF)	Total 2019 (AF)	Historic Average (AF)	% of Average
North Platte River near Northgate	66,243	436,708	312,148	140
White River near Meeker	198,584	525,720	446,031	118
Little Snake River at Lily	79,564	418,336	407,857	103
Yampa River near Maybell	345,115	1,379,090	1,112,220	123

Lowest Daily Mean

Station Name	Minimum on Record (cfs)	Minimum WY2019 (cfs)	Date of Occurrence
North Platte River near Northgate	15	50.2	October 1 and 2, 2018
White River near Meeker	56.8	188	January 2, 2019
Little Snake River at Lily	0	0	October 1, 2, 3, and 4, 2018
Yampa River near Maybell	1.8	38.3*	October 2, 2018

* Includes reservoir water in the river

Precipitation

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

Table 4

**Monthly Precipitation Data for Selected Sites
Water Year 2019**

Site	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Walden (inches)	1.63	0.7	0.08	0.57	0.58	2.12	1.82	2.02	3.5	1.19	0.85	0.74	15.8
% Avg	165	78	13	104	91	268	156	141	267	84	71	54	128
Meeker (inches)	3.34	0.71	1.12	1.33	1.06	2.35	1.76	2.51	2.52	0.66	0.77	1.0	19.13
% Avg	175	47	91	121	99	158	98	157	203	51	51	58	110
Steamboat (inches)	3.1	3.12	1.8	2.31	2.05	3.51	2.07	4.38	4.94	1.06	1.21	1.31	30.86
% Avg	143	139	72	100	108	195	86	196	279	70	78	60	125

**Monthly Precipitation Data for Selected Sites
Calendar Year 2019**

Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Walden (inches)	0.57	0.58	2.12	1.82	2.02	3.5	1.19	0.85	0.74	0.54	0.78	0.8	15.51
% Avg	104	91	268	156	141	267	84	71	54	55	87	125	125
Meeker (inches)	1.33	1.06	2.35	1.76	2.51	2.52	0.66	0.77	1.0	1.02	1.12	1.38	53
% Avg	121	99	158	98	157	203	51	51	58	53	75	112	100
Steamboat (inches)	2.31	2.05	3.51	2.07	4.38	4.94	1.06	1.21	1.31	2.24	1.12	2.54	28.74
% Avg	100	108	195	86	196	279	70	78	60	103	50	102	117

March, May and June were very wet and cooler months. On the first day of summer, it snowed while there was also flooding in areas.



Water Administration

Water administration in Irrigation Year 2019 consisted of calls on the following systems:

Yampa River Basin

- Bear River
- Elk River
- South Hunt Creek

Green River Basin

- Talamantes Creek

White River Basin

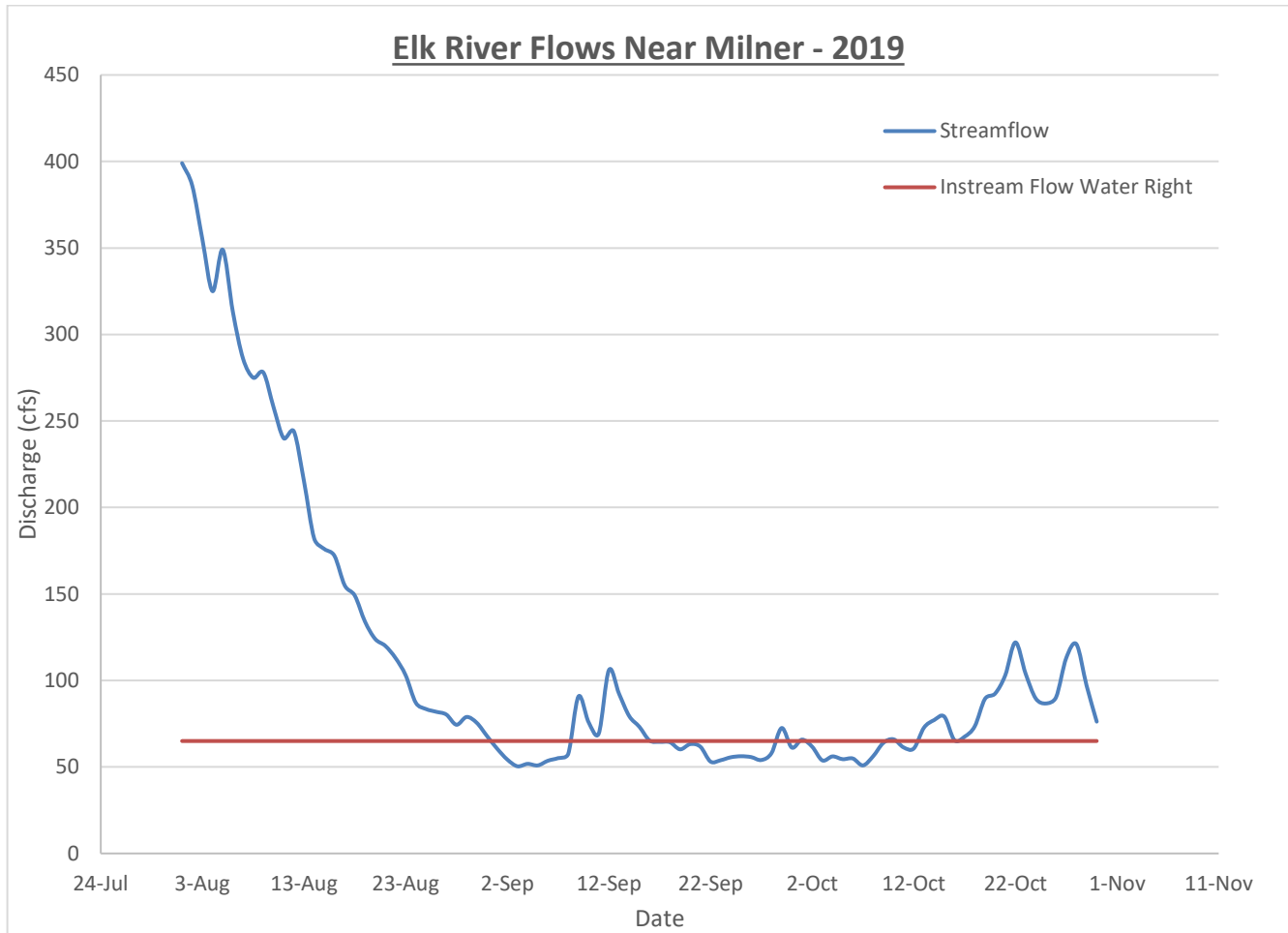
- Evans Gulch
- Piceance Creek from the Metz and Reigan Ditch upstream to a dry up point below the Schutte Ditch
- Piceance Creek from the Schutte Ditch upstream to the headwaters.

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

Elk River Administration

The Elk River was under administration between September 4 and October 15. The Elk River instream flow water right, the calling water right on the river, is decreed in the amount of 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 50.9 cfs on September 5 and October 7.

Shown in the following graph are the flows during the summer and fall at the Elk River near Milner gage station, which typically drop below 65 cfs.



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 in Water Court a request for approval of an augmentation plan. This application was filed with the Court in December 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, yet have 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.

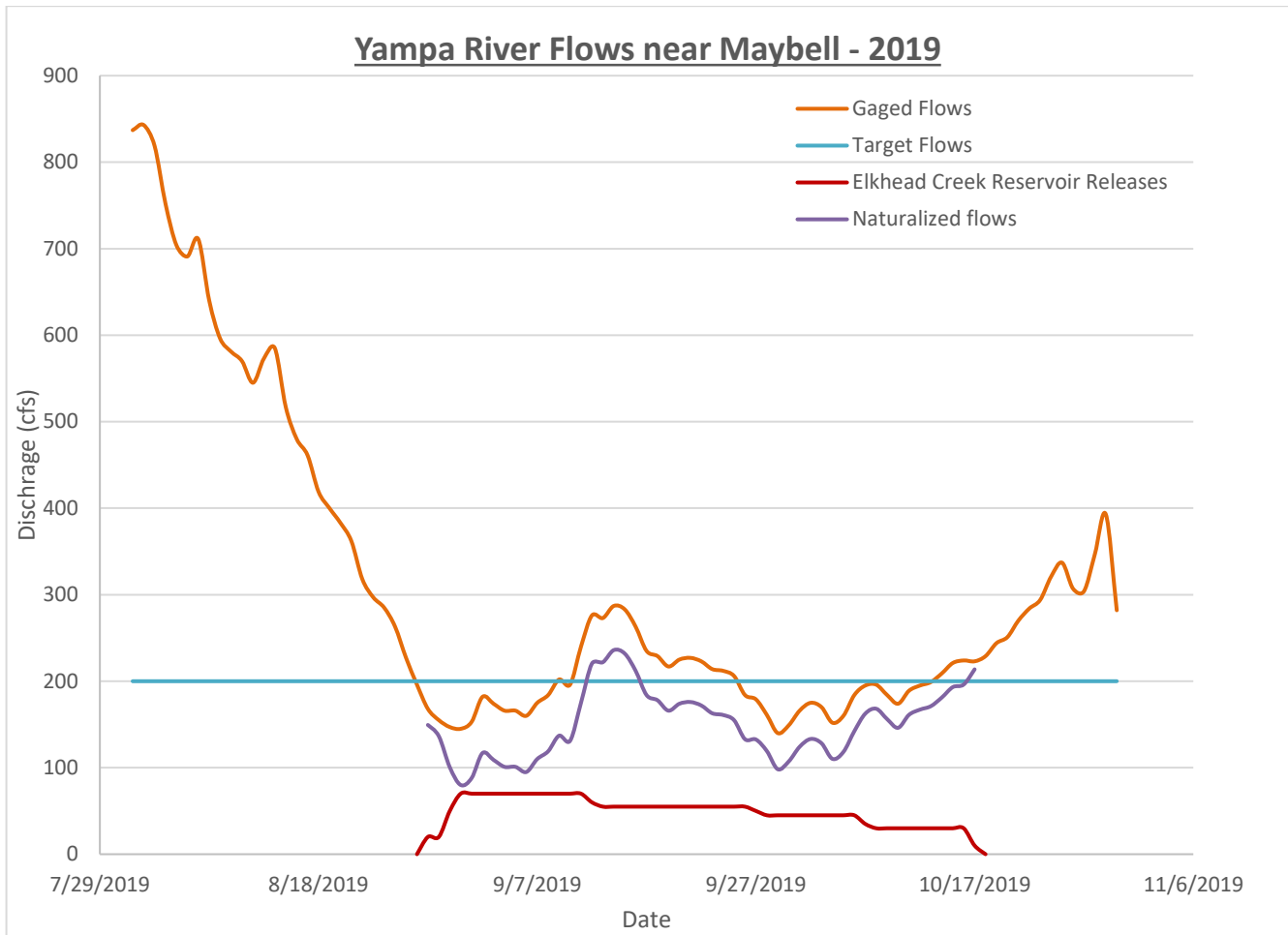
Elkhead Creek Reservoir

Releases were made from Elkhead Creek Reservoir between August 28 and October 17, 2019 for a total of 5,000 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 2019, the flow target was set at 200 cfs (wet year). 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.

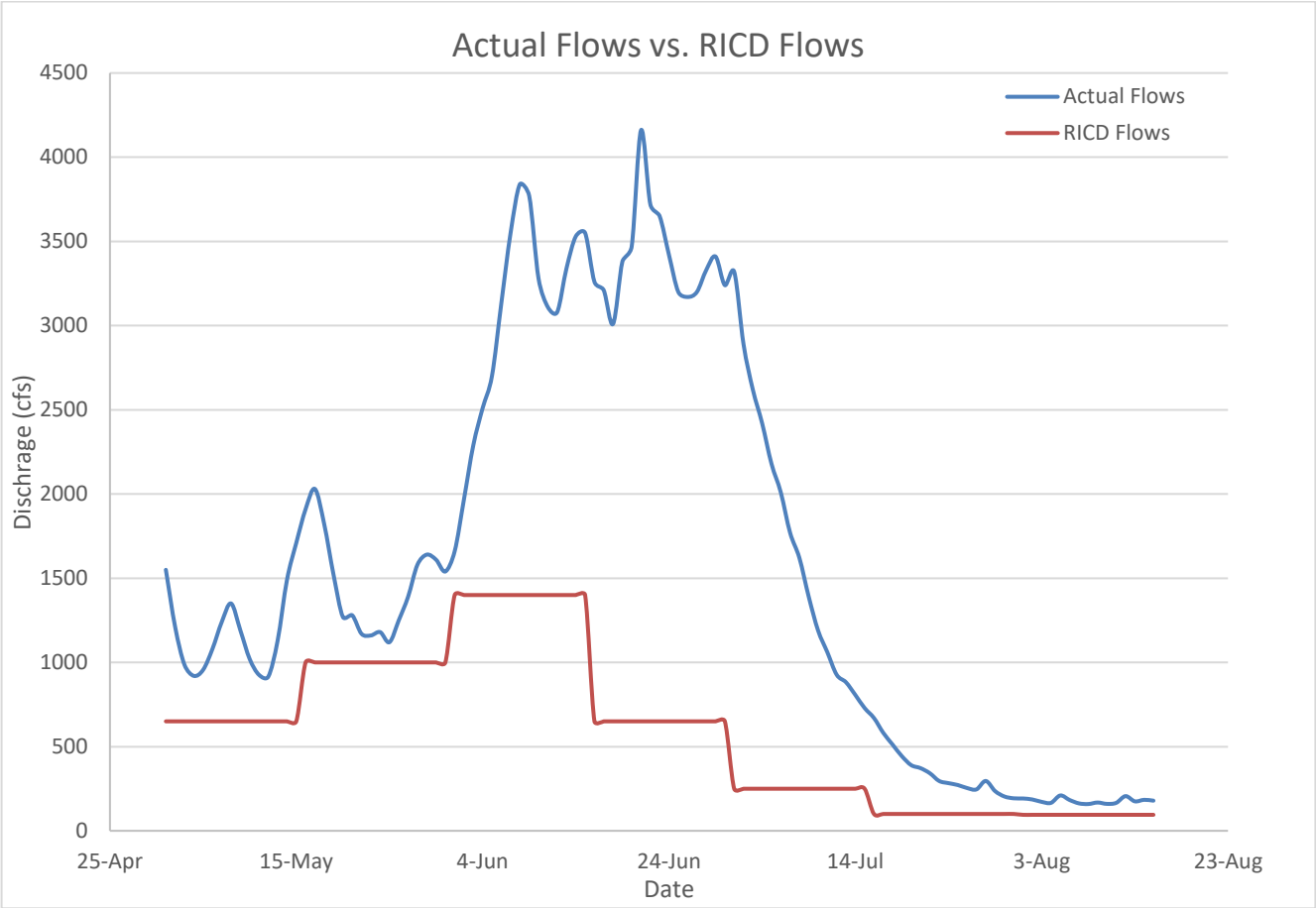
Shown in the following graph are the flows during the summer and fall on the Yampa River near Maybell in 2019. This graph shows that even with Elkhead Creek Reservoir water in the system dedicated to supporting the endangered fish, the flows dropped below the 200 cfs target established for the year. This graph also shows what the flows would have looked like had releases from the reservoir not been made.



Yampa River RICD Flows

Though the Yampa River has never been subject to administration as a result of a call for water by the City of Steamboat Springs for their Recreational In-Channel Diversion (RICD) water right, this office tracks the flows through the diversions in the event a call for administration is requested. The decreed amounts for the RICD are: 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, and as such, a call would not be honored prior to May 1 unless they begin operation of the gage station prior to this date.

The following graph shows the average daily flows for the period of May 1 through August 15, 2019 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 did not drop below the decreed amounts of the RICD in 2019.



Stagecoach Reservoir Releases

No releases were made from Stagecoach Reservoir in 2019 with the exception of release for hydropower production.

Yampa River Administration

For the first time ever, the Yampa River went under administration in 2018. However, in 2019, the snowpack was quite high and though the basin experienced little rain in July, August and September, the snowpack sustained the base flows and no administration of the Yampa River was

necessary. Table 5 below shows some historic snowpack comparisons for recent extreme low snowpack years and high snowpack years.

Table 5
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%

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 water right owners to install these devices by July 31, 2019 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, 2020. 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. Extension were granted to those requesting such and those extension, for the most part, varied from July 31, 2020 to October 31, 2020.

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



White River Administration

The mainstem of the White River was not subject to administration in 2019 and water was not released from Lake Avery under the temporary load agreement between the Colorado Water Conservation Board (CWCB) and Colorado Parks and Wildlife. Within the White River basin, administration only occurred 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 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, 2020. 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 extension have been granted.

Because of the drought in 2018, we were concerned about exceeding the Nebraska v. Wyoming Decree limitation for the amount of water the State of Colorado is allowed to store for irrigation purposes in the North Platte River basin. The limitation was exceeded in 2003 and 2013, following the drought years of 2002 and 2012. Colorado's limit for storage in a given year is 17,000 AF. Reservoir levels in 2019 were closely monitored and fortunately the State of Colorado did not exceed its limitation and no administration of the reservoirs was required.

Groundwater and Well Permitting

As mentioned above, nearly the entire Yampa River went under administration for the first time in 2018. This raised the question of whether all remaining portions of the Yampa River should be designated as over-appropriated. After consideration and discussion with the State Engineer, we decided to not designate the basin as over-appropriated at this time and to rather wait to see what the next few years look like as to water availability during the dry summer months. Designating the entire Yampa River as over-appropriated would have a large impact on how wells are permitted in those areas not already designated as such.

In irrigation year 2019, 375 well permits, including monitoring/observation wells, were issued in Division 6. Excluding the monitoring/observations wells, the number of permits issued was 193.

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 2019 at this gage was 1,379,200 acre-feet compared to 727,600 acre-feet in 2018 and the ten-year (2010 to 2019) aggregate flow was 11,059,100 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 2019. Releases were however made from High Savory Reservoir, located in Wyoming, for use by both Colorado and Wyoming (primarily) 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”). Several meetings were held both in person (once in Cheyenne, Wyoming and once in Denver, Colorado) and by phone. Though much progress was made, the MOA has been put on hold in order to further flush out 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 2019, a total of 112,464 acres were irrigated and 14,863 acre-feet was stored for irrigation purposes. Transmountain diversions out of the basin totaled

6,404 acre-feet. The cumulative ten-year transmountain diversion out of the basin was 32,737 acre-feet. None of the limits established by the Decree were exceeded in 2019.

A Division 6 representative attended the North Platte Decree Committee meeting held in Torrington WY in April 2019 and October 2019.

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 was abandoned, for the most part, many years ago and its low level outlet was filled with concrete. As such, when water is released from Matt Warner or Calder Reservoirs for delivery to Colorado users, Crouse Reservoir must fill a large dead pool before water can be released from it.

At the end of the storage season (April 30, 2019), Dry Lake Reservoir (located in Colorado) was dry and Offield Reservoir (also located in Colorado) had in storage approximately 30 AF. Unlike in 2018, there was an abundance of water in the Pot Creek drainage in 2019. Both Matt Warner and Calder Reservoirs filled and spilled while Crouse Reservoir did not. Delivery of water stored out of priority during the winter months in the Utah reservoirs was released beginning on May 1, 2019. Additionally, the Miles Ditch and Offield Ditch (both located in Colorado) water users called for their direct flow water around that same time and was delivered to them in May and June. Approximately 700 AF of water was passed through or released from Crouse Reservoir to the Colorado water users and almost 600 AF made it across the Utah-Colorado Stateline. The State of Colorado owns and operates a gaging station located on Pot Creek just upstream of the state line.

The 2019 Pot Creek Distribution System Water Users meeting held on March 4, 2010 in Vernal, Utah was attended by Division 6 representatives. Likewise, the 2018 Pot Creek Distribution System Water Users meeting held on March 6, 2019 in Vernal, Utah where again 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 2019, the water commissioner 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).

Abandonment Process

In 2019, water commissioners began their efforts conducting field inspections in preparation of the 2020 Abandonment List.

Important Court Cases

The State Engineer and Division 6 Engineer have filed very few statements of opposition in new cases or filed protests to cases. 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 and statement of opposition were filed; and in 2019, one statement of opposition and three motions to intervene and statements of opposition were filed. No protests to any of the referee rulings were filed in 2019. Today, there are three 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. Two of the cases in which a motion to intervene was filed in 2019 has been resolved and a stipulation entered between the applicant and the Engineers. The third case where the Engineers intervened is still pending and is set for trial in January 2021. Following is a list of the number of Reports of the Division Engineer filed in individual irrigation years.

<u>Year</u>	<u># of Reports Filed</u>
2013	69
2014	79
2015	90
2016	89
2017	72
2018	59
2019	75

Involvement in the Water User Community

The Division 6 staff continues to assist 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. The Division 6 field office in Craig continues to be a vital aspect of our public relations.

Following is a list of meetings attended by Division 6 staff in 2019. 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 held in Torrington, WY
- Fall North Platte Decree Committee meeting held in Torrington, WY
- 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

- Bear River Irrigators annual meeting
- Stillwater Ditch Company annual meeting
- 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 presentations at water workshops and conferences in 2019.

Division 6 Organization Chart (as of 12/31/2019)

