

ANNAUL SUMMARY

Table of Contents

Water Year 2011

Introduction	1
Basin Hydrology.....	1
Snow Pack	1
Stream Flows	2
Precipitation.....	3
Water Administration	4
Ground Water and Well Permitting	5
Compacts and Inter-State Agreements	5
Upper Colorado River Compact	5
Nebraska v. Wyoming.....	6
Pot Creek MOU	6
Division Highlights	6
Lysimeter Project.....	6
Abandonment Process.....	7
North Platte River 1952 Irrigated Acres.....	9
Important Court Cases	10
Involvement in Water User Community	12
Organizational Chart.....	13

Introduction

This report summarizes the activities of the Division 6 office of the Colorado Division of Water Resources in 2011. It presents an overview of the administration activities that took place during both the calendar and irrigation year 2011 and statistical data for both the water and irrigation year 2011.

Year 2011

Basin Hydrology

Snow Pack

Table 1 below shows the snow water equivalent for the period October 2010 through May 2011. For each month, the snow water equivalent was well above average.

TABLE 1

**End of Month Snow Water Equivalent as Percent of Average
Water Year 2011**

Drainage	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
North Platte River	213	147	151	134	133	137	164	273
Yampa/White River	159	134	146	124	125	128	163	272

The highest snow depth and snow water equivalent ever recorded in the state of Colorado was measured at the end of May at just over 79 inches of water at a SNOTEL site just northeast of Steamboat Springs referred to as the Tower site. Following is a picture of the snow depth being “scientifically measured” in the vicinity of this site.



Additionally, the snow water equivalent as reported on June 30, 2011 was well above average at 828% of average for the North Platte River basin and 283% of average for the Yampa and White River basins.

Stream Flows

As one can imagine given the substantial amount of snowfall that fell throughout the fall, winter and spring months, the runoff was substantial. However, Mother Nature was kind in keeping temperatures mild so that the melting occurred slowly and there was no flooding that was considered out of the ordinary. Table 2 shows the January 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 gauging stations.

TABLE 2
2011 Runoff Forecast in 1000's of Acre-Feet

<u>Station Name</u>	<u>1-Jan</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)	365	149	360	147	450	220	622	263
White River nr Meeker (Apr-Jul)	335	116	330	114	460	148	514	184
Little Snake River nr Lily (Apr-Jul)	435	119	470	129	790	216	893	258
Yampa River nr Maybell (Apr-Jul)	1,280	129	1,350	136	1,930	195	2,010	213

Provided in Table 3 below are the annual runoff values for the water year for these stations as well as the peak flow at each station.

Table 3
Annual Runoff

Station Name	Maximum Of Record (AF)	Total Flow 2011 (AF)	Average (AF)	% of Average
North Platte River near Northgate	~635,900	728,700	312,800	233
White River below Boise Creek	~973,700	753,100	531,500	142
Little Snake River at Lily	~906,400	1,008,000	417,600	241
Yampa River near Maybell	~2,190,000	2,247,000	1,135,000	198

Peak Flow Rate and Date of Occurrence

Station Name	Peak of Record (cfs)	Peak Flow in 2011 (cfs)	Date
North Platte River near Northgate	6,720	5,110	June 10
White River below Boise Creek	6,440	5,170	June 8
Little Snake River at Lily	16,700	10,300	June 9
Yampa River near Maybell	25,100	20,300	June 9

Though the peak flows did not exceed the historic peak of record at any of these sites, the annual volume of water recorded at these sites in water year 2011 did exceed the historic annual maximum, with the exception of the annual flow at the White River below Boise Creek station.

Precipitation

Table 3 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 2011**

Site	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Walden (inches)	2.11	0.68	1.01	0.32	0.80	0.46	2.09	0.84	0.23	3.21	0.81	0.87	13.43
% Avg	237	82	171	52	131	56	195	56	22	251	77	72	117
Meeker (inches)	2.04	1.61	1.78	0.5	1.21	1.83	2.71	2.68	0.53	2.67	1.22	--	--
% Avg	124	146	198	62	161	136	194	179	53	205	98	--	--
Steamboat (inches)	4.84	2.33	3.14	2.07	3.04	--	5.47	2.66	0.78	3.52	0.68	2.90	--
% Avg	252	99	132	80	141	--	237	115	55	241	47	169	--

**Monthly Precipitation Data for Selected Sites
Calendar Year 2011**

Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Walden (inches)	0.32	0.80	0.46	2.09	0.84	0.23	3.21	0.81	0.87	1.02	0.70	0.11	11.46
% Avg	52	131	56	195	56	22	251	77	72	115	84	19	100
Meeker (inches)	0.5	1.21	1.83	2.71	2.68	0.53	2.67	1.22	--	1.44	1.11	0.18	--
% Avg	62	161	136	194	179	53	205	98	--	87	101	20	--
Steamboat (inches)	2.07	3.04	--	5.47	2.66	0.78	3.52	0.68	2.90	--	1.24	0.25	--
% Avg	80	141	--	237	115	55	241	47	169	--	53	11	--

Water Administration

Water administration in water year 2011 was unusual with regard to two stream systems in particular. Both the Bear River and the Hunt Creek systems were NOT under administration in 2011. This was the first time in over 20-years that Bear River had not been subject to administration. Administration was actually limited to two stream systems: West Fish Creek of Fish Creek of Trout Creek and Talamantes Creek of Vermillion Creek of the Green River.

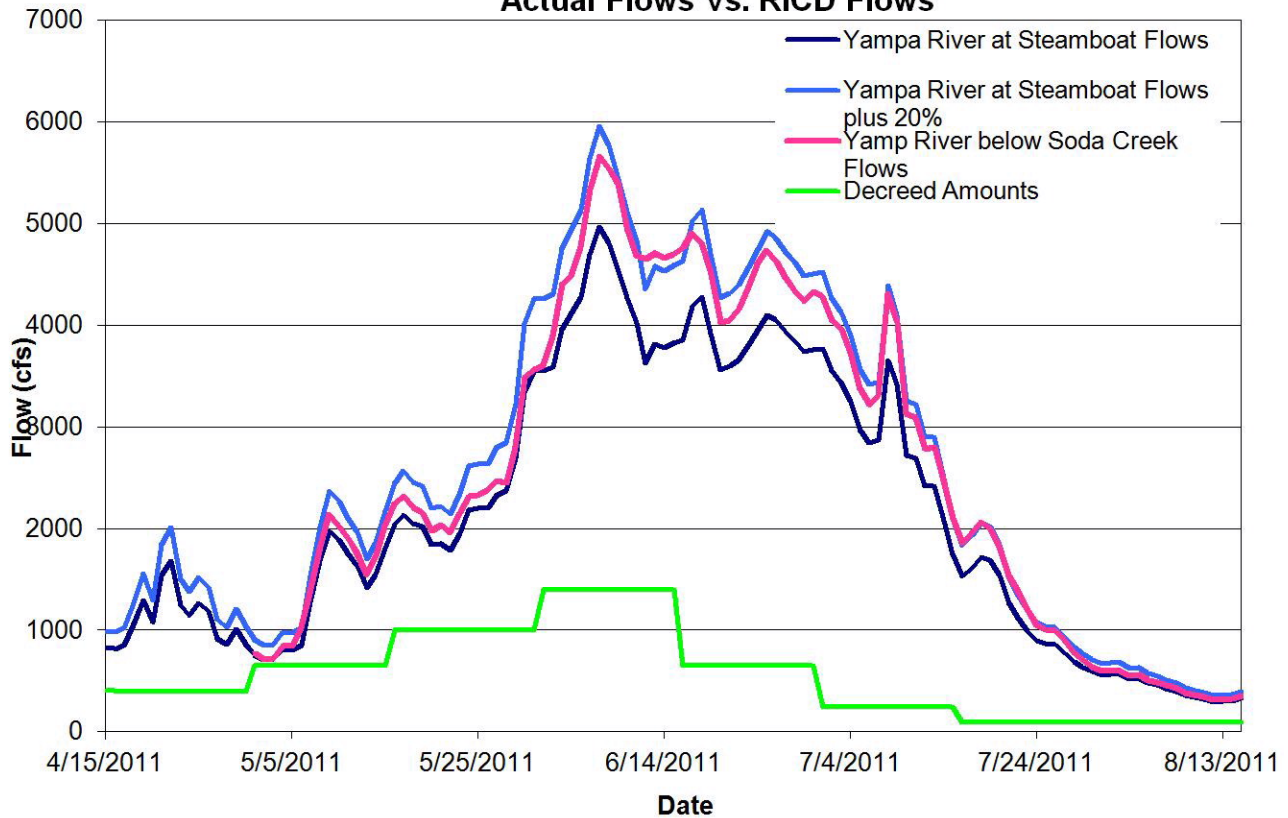
Though the administration on Talamantes Creek always presents its own challenges, in 2011 these challenges were minimized with more water to go around. A new gauging station has been installed on Talamantes Creek which will hopefully assist in our administration efforts on the system.

Releases were made from Elkhead Creek Reservoir in 2011. A release of 3,520 AF was made between August 18 and August 21 from Elkhead Creek Reservoir. The Upper Colorado River Endangered Fish Recovery Implementation Program (Recovery Program) was conducting additional studies to observe the effects of such increased flows and the non-native species. Because there was more than sufficient water in the Yampa River and the release was solely for study purposes, the releases were not protected by this office.

The Upper Yampa Water Conservancy District began construction of a 4-foot raise to the spillway of Stagecoach Reservoir in September 2010. The project was fully completed in 2011 and the reservoir was filled to its capacity and spilled in June 2011.

In March 2006 the Water Court decreed the City of Steamboat Springs' Recreational In-Channel Diversion (RICD) water right and in previous annual reports, this office has reported on the flows through this reach and we constantly track such flows in the event they drop below the decreed amounts. The decreed amounts for this water right 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 Yampa River at the location of the RICD structures never dropped below the decreed amounts between April 15 and August 15. Figure 1 below shows the average daily flows at the Yampa River at Steamboat Springs gage station; these daily flows plus an additional 20% assumed by the City of Steamboat Springs in the Water Court application as being those flows contributing from Soda and Butcherknife Creeks between the Yampa River at Steamboat Springs gage and the RICD structures; flows at the Yampa River below Soda Creek gage; and the decreed flows.

Figure 1
Actual Flows vs. RICD Flows



Groundwater and Well Permitting

There were no unusual groundwater administrative issues in 2011.

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 2011 at this gage was 2,247,000 acre-feet and the ten year (2002 to 2011) aggregate flow was 11,315,700 acre-feet, obviously well above that required under Article XIII (a).

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 were no calls placed on the Little Snake River in water year 2011.

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 drainage of Colorado. In water year 2011, a total of 116,674 acres were irrigated and 6,620 acre-feet were stored for irrigation purposes. Transmountain diversions out of the basin totaled 641 acre-feet. The ten-year total transmountain diversions out of the basin were 42,616 acre-feet. None of the limitations of the Supreme Court Decree were exceeded in 2011. A Division 6 representative was able to attend the North Platte Decree Committee meeting held in Torrington, Wyoming in October 2011, but was unable to attend the meeting held in Scottsbluff, Nebraska in April 2011 due to weather conditions.

A substantial amount of effort was put forth this year to establish a consistent manner in which to determine the number of acres irrigated each year within the North Platte River basin of Colorado. In the past, the number of acres irrigated each year was determined by adjusting what the water commissioners knew to be a base number of acres irrigated under each ditch to what they believed was occurring in the field that year. However this year, in a joint effort with the CWCB, master irrigated acres maps were developed based on 2010 aerial photography. These maps were then provided to the water commissioners to QA/QC. Once the comments provided by the water commissioners were incorporated into the maps, the 2010 maps were used as a base for determining the irrigated acres for 2011. The 2011 irrigated acreage was developed by overlaying the 2010 irrigated acres map over three different sets of aerial photos taken at various times during the summer to determine any changes in irrigation. This methodology is believed to be much more accurate and will continue to be used in future years.

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. Pot Creek was administered in 2011 pursuant to the MOU with no substantive issues.

Division Highlights

Lysimeter Project

The Division 6 office and Colorado Climate Center submitted a grant application to the Yampa/White Roundtable for funds in the amount of approximately \$20,000 to install new lysimeter plots and a weather station, and the grant was awarded in September 2010. This office discontinued the operation and maintenance of the CYCC lysimeter site in 2011 with the thought that the new lysimeter

plots, which are to be located on the Carpenter Ranch near Hayden, Colorado, would be installed and operational by late spring. It was not until November 2011 however before we were able to get a signed contract between The Nature Conservancy, Colorado Climate Center and the Division of Water Resources to allow access and use of the property. With the signed contract complete, the weather station was installed and construction of the lysimeter plots began. The following photos show some of the construction that occurred in 2011.



As of November 2011, the weather station has been fully operational and as of April 2012, the lysimeter plots have been fully operational.

Abandonment Process

The Division Engineer's 2010 Abandonment List (List) or Initial Abandonment List included a total of 218 water rights as shown in Table 5 below. Pursuant to Section §37-92-401(3) of the Colorado Revised Statutes, any person wishing to object to the inclusion of any absolute water right or portion thereof in the decennial abandonment list had to file a statement of objection with the division engineer no later than July 1, 2011. In total there were 93 objections filed which included 127 water rights. This office invested a great deal of time investigating the water rights objected to, to determine whether or not they should be removed from this List and detailed letters were written in response to the objections outlining and fully explaining the reasons for our ultimate decision. Once all of the objections had been addressed, we were able to produce the Revised Abandonment List (Revised List) which was filed with the Water Court on December 21, 2011 and was assigned Case No. 11CW37. In total, 201 water rights were included on the Revised List either in whole or in part.

Table 5
**Number of Water Rights on Abandonment List and
Number of Water Rights Objected To**

Water District	Number of Water Rights on List	Number of Water Rights on List Objected To	% of Total Objected To
43	16	10	56%
44	17	9	53%
47	85	70	82%
54	6	3	50%
55	3	1	33%
56	6	1	17%
57	27	12	44%
58	58	22	38%
Total	218	127	58%

Owners of the 201 water rights included on the Revised List have until June 30, 2012 to file a protest with the Court.

As one can see in Table 5, there were a substantial number of objections to water rights included on the List in District 47. Early in 2011, the Jackson County Water Conservancy District (JCWCD) submitted a letter to this office expressing their opinion that much like the pre-November 24, 1922 water rights within the Colorado River basin were removed from the List, water rights appropriated within the North Platte River basin prior to the 1953 decree in Nebraska v. Wyoming (Decree) should also be removed. The Colorado River Compact specifically states that present perfected rights to the beneficial use of water of the Colorado River System are unimpaired by this compact and the Upper Colorado River Compact states that in the event of curtailment, use of water under rights perfected prior to November 24, 1922 shall be excluded. Unlike the Colorado River Compact, neither the Decree nor the Platte River Recovery Implementation Program (PRRIP) exclude pre-1953 water rights from curtailment. The water users in the North Platte River basin are not precluded from obtaining new water rights for irrigation purposes while still falling within the limitation set forth in both the Decree and PRRIP. Up until the point where 134,467 acres of land are irrigated in the North Platte River basin any one can obtain a new water right for irrigation purposes. The average number of acres irrigated in the last 30 years in the North Platte River basin is 111,248 with a maximum of 117,463 acres and a minimum of 66,385 acres in 2002. Ultimately, the State Engineer and Division Engineer did not concur with this argument and thus did not remove any water rights based it.

Additionally, the JCWCD adopted a resolution to create a Water Conservation Program pursuant to CRS §37-83-105(1) whereby an owner of a water right decreed and used solely for agricultural irrigation purposes may loan all or a portion of the water right to another owner of a decreed water right on the same stream system, and it is used solely for agricultural purposes for no more than one hundred eighty days during any one calendar year if the division engineer approves such loan. In order for the division engineer to determine whether injury will occur, the proponent must file a request for approval of the loan. One of the components of the approval process is the requirement that the proponent provide a reasonable estimate of the historic consumptive use of the loaned water. This effort was also done in an attempt to get all of the surface water rights decreed for irrigation removed from the List. Given the fact that the water rights of concern are on the List in whole or in part there would be no historic consumptive use credit available for a minimum of the last 10-years. Though State Engineer and Division Engineer believed this Program may be worth pursuing in the future, we also believed it should not be retro-active. That is to say that we did not feel it to be appropriate to toll water rights which have already been included on the List.

The State Engineer and Division Engineer's decisions on these matters did not deter the JCWCD. After these decisions were made, JCWCD mailed letters to all the owners with a water right on the List encouraging them to file a Statement of Objection with this office. Given the fact that 82% of the water rights on the List were objected to, it would appear they were successful in their efforts. In the end, adjustments were made to several water rights as to the amount included on the List, but very few were removed in their entirety.

North Platte River 1952 Irrigated Acreage

An investigation undertaken by this office that trickled out of the issues surrounding the JCWCD's efforts to have as many water rights as possible removed from the List was an investigation into the 1952 irrigated acres. Under the Nebraska v. Wyoming Decree (Decree), the State of Colorado within the North Platte River basin is limited to the irrigation of up to 145,000 acres. This number is based on the maximum acreage irrigated that occurred within the basin up to and including the timing of the Decree (1953) plus a buffer of approximately 10,000 acres to allow for future growth in agriculture. The maximum irrigated acreage that had occurred within the basin was in 1952 and was reported to be 134,467 acres. The maximum number of acres irrigated in the last 30 years in the North Platte River basin is 117,463 acres in 1987, as reported to the states of Nebraska and Wyoming and the Bureau of Reclamation.

Additionally, under the PRRIP, the depletions associated with the irrigation of up to 134,467 acres constitutes existing uses and the depletions associated with the irrigation of between 134,468 and

145,000 acres within the North Platte River basin in Colorado constitutes new water related activities. The first increment of the PRRIP runs through 2020. Because of the increasing concern that at the conclusion of the first increment of the PRRIP the number of irrigated acreage associated with existing uses will be highly in question and possibly even reduced based the State's reported acreage being substantially lower than 134,467, the Division of Water Resources believed it was necessary to investigate why there is such a discrepancy between that reported in 1952 and today. One thought was that the 1952 mapping of acreage included sub-irrigated lands while the mapping and reporting done today does not include such lands. In an attempt to determine whether or not this is the source of the discrepancy, DWR entered into a contract with Leonard Rice to digitize and georectify the 1952 aerial photos which include the delineated irrigated lands for that year and compare the lands irrigated in 1952 to the lands irrigated today (specifically those lands irrigated in 2001).

Once Leonard Rice's tasks were complete, Denver GIS staff QA/QC'd the results and made modifications to individual irrigated parcels where needed. It was ultimately determined that in 1952, 122,972 acres were irrigated, which included land sub-irrigated as a result of irrigation by a ditch. The number reported however, as stated above, was 134,467 acres. The source of the amount reported for the Decree is unknown. The 1952 data was also compared to the 2001 data, where the State of Colorado reported that 106,460 acres were irrigated, and no reasons could be found as to why the irrigated acreage between the two years is so vastly different. As stated above, the number of acres determined to have been irrigated in 2011 was 116,674 acres, which we know for certain did include sub-irrigated land as a result of irrigation by a ditch, yet the numbers still vary by over 8,000 acres.

Ultimately this office will continue to determine the number of acres irrigated each year within the North Platte River basin in a similar fashion to what was done for 2011 and report these numbers to the States of Wyoming and Nebraska and the Bureau of Reclamation. The numbers speak for themselves, and if at the end of the first increment of the PRRIP the number of irrigated acres considered as existing uses is reconsidered, we will have to address and consider the implications of an adjustment to this number at that time.

[Important Court Cases](#)

Water Court Case No. 03CW53

In Division 6 Water Court Case No. 03CW53, the Upper Yampa Water Conservancy District (UYWCD) requested a new conditional water right in the amount of 50 cfs for a multitude of uses that were to occur subsequent to filling Stagecoach Reservoir. This case went to trial in January 2009 and the Court ultimately dismissed the UYWCD's application arguing that they did not prove a need for its claimed conditional water rights to meet a future demand for water from Stagecoach Reservoir, above its current supply. The Water Court also found that the UYWCD's existing water rights are sufficient

to meet its existing and future demands for hydropower at the dam. The UYWCD appealed the Courts decision to the Supreme Court which was assigned Case No. 09SA118. Oral arguments before the Supreme Court were heard on June 9, 2010 and they rendered their opinion on April 11, 2011. The Supreme Court ruled that because the applicant's evidence of existing demands included contracts for stored water that had admittedly not yet been put to beneficial use and for which no specific plan for beneficial use was offered, and because the applicant failed to adequately demonstrate a reasonably anticipated future need based on projected population growth, its evidence was insufficient to establish that it had made the required "first step" to obtain a conditional water right. The judgment of the Water Court was therefore affirmed.

Water Court Case No. 06CW43

In Division 6 Water Court Case No. 06CW43, the UYWCD filed an application to make absolute in part some of their Four Counties conditional water rights. The Four Counties water rights were conditionally decreed by the Routt County District Court in Civil Action Nos. 3538 and 3926. All of the Four Counties water rights that were decreed in Civil Action No. 3538 share priority 40, based on an appropriation date of June 2, 1958. The cumulative rate of diversion decreed under these rights is 915 cfs. All of the Four Counties water rights that were decreed in Civil Action No. 3926 share priority 45, based on an appropriation date of May 20, 1963. The cumulative rate of diversion decreed under these rights is 864 cfs. The total rate of diversion conditionally decreed to the Four Counties water rights under both priorities is 1,779 cfs. Stagecoach Reservoir is decreed as an alternate point of diversion for all of the Four Counties water rights and all of which are decreed for the same purposes.

In previous cases, the UYWCD was successful in making absolute 151 cfs under the Four Counties water rights with priority 40. In the subject case, the UYWCD sought to make more of the Four Counties water rights absolute based on diversion into and storage of 108 cfs in Stagecoach Reservoir which presumably occurred on June 9, 2006. The UYWCD admitted that its claimed rate of filling on that date was less than the rate of diversion already decreed absolute under the Four Counties water rights and are either of the same priority as the 151 cfs already absolute or junior to them, but argued that they had the right to round out their water rights portfolio by making other water rights absolute. They also argued that the act of storing water for later beneficial use was sufficient to warrant an absolute water right. In an Order by the Water Court in this case, the Judge held that to make its conditional rights absolute, the District must first demonstrate a need for more water than that available under its existing vested absolute storage rights diverting at the same location, for the same purposes and under the same priority, and that the District may not claim absolute water storage rights until the District can show both actual storage and actual beneficial use of a specific amount of water. Subsequent to this Order, UYWCD filed a confession of judgment providing that it

could not meet its burden of proof based upon the law of the case and the Water Court issued an Order denying the application based on said confession.

Subsequent to this Order however, UYWCD filed an appeal with the Supreme Court which was assigned Case No. 09CW352. In their appeal UYWCD requested that the Supreme Court reverse the Water Court's holdings in its first Order. Oral arguments in the case were heard by the Supreme Court on November 30, 2010 and a decision was rendered on June 27, 2011. The Supreme Court affirmed the Water Court's determination that in order to perfect a conditional water right that allows storage, Colorado water law requires the applicant to show actual storage and actual beneficial use of a specific amount of water. They also affirmed the Water Court's determination that the UYWCD must show with quantifiable evidence that it in fact appropriated water in excess of its existing absolute decrees allowing for storage in Stagecoach Reservoir.

Involvement in the Water User Community

The Division 6 staff continues to assist the public in preparing Water Court and well permit applications, provide water right and diversion record information, assist water users with the proper selection and installation of water measuring devices, and provide assistance to 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 staff in 2011.

- North Platte Decree Committee meeting in Torrington, WY
- Annual meeting of the Pot Creek Distribution System in Vernal, UT
- All board meetings held by the Upper Yampa Water Conservancy District
- Bear River Irrigators annual meeting
- Stillwater Ditch Company annual meeting
- The majority of the HB1177 Roundtable meetings for the Yampa/White River and North Platte River
- Two employees attended the CWOA annual meeting in South Fork

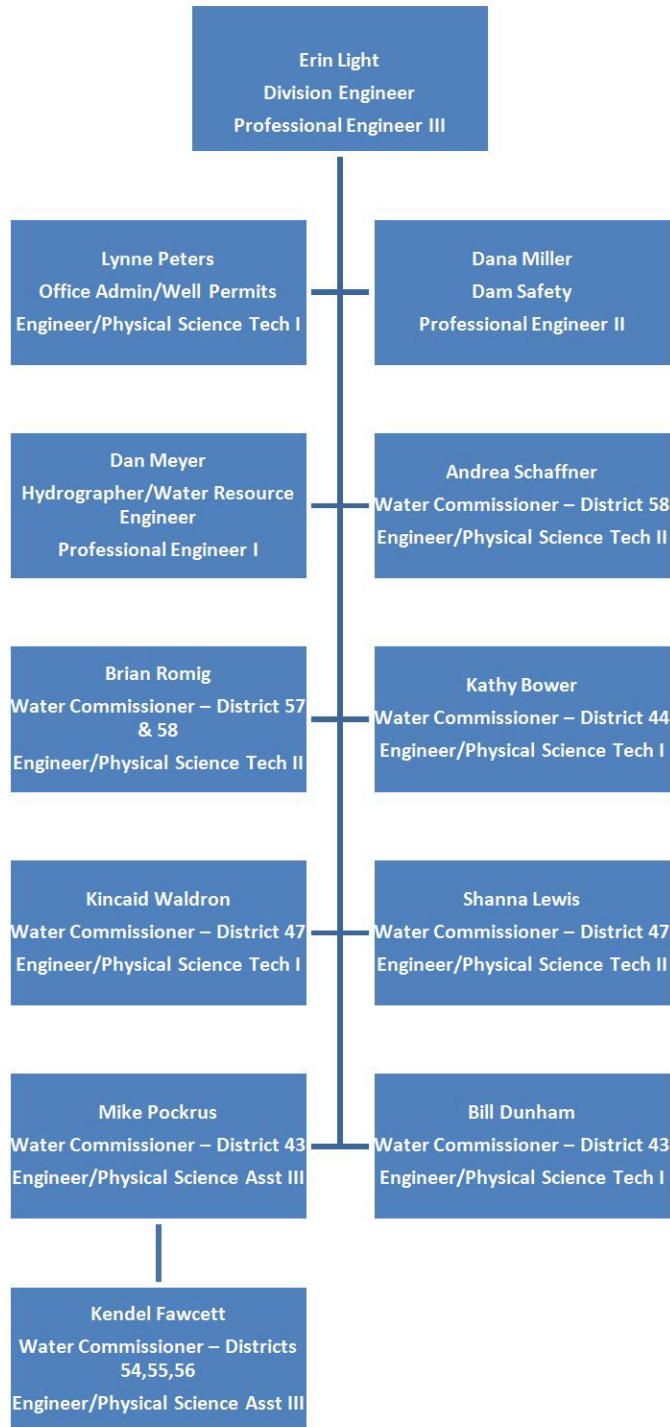


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**End of Month Snow Water Equivalent as Percent of Average
Water Year 2011**

<u>Drainage</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>
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