

WATERMASTER'S REPORT

From January 1, 20 18 To December 31, 20 18

Water District No. 11

Name of Watermaster Josh Hanks

P.O. Address 2647 N. 200 E. North Logan, UT 84341

AFFIDAVIT OF WATERMASTER

STATE OF IDAHO }
COUNTY OF _____ } ss.

Josh Hanks, being first duly sworn, deposes and says that he is Watermaster of Water District Eleven, having been lawfully appointed by _____, Director, Idaho Department of Water Resources, and that the volumes of water, as stated in this report and prorated by him to the water right holders of the district are correct.

Josh Hanks
(Deputy) Watermaster District No. 11

Subscribed and sworn to before me, this 5TH day of February, 20 19



Tausha Vorwaller
Notary Public

My Commission expires 12-8-2021

Boise, Idaho, April 3, 20 19

I HEREBY CERTIFY, that Josh Hanks was lawfully appointed by me as Water Master of Water District No. 11, and that the information contained in this report, as herein sworn to, is, to the best of my knowledge and belief, correct.

Sally Brockman
Director, Department of Water Resources

By Dennis Dunn

2018 Annual Watermaster Report

Idaho Water District 11- Bear River



Bear Lake - Photo by NASA

**Submitted by Josh Hanks
Bear River Watermaster
February 5, 2019**

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- Pacificorp 2018 Summary of Water Year
- Watermaster Affidavit
- Income and Expense Reports
- Budget Report

Section 1 – Season Summary & Comments

Data within this report has been provided by the Idaho Department of Water Resources, PacifiCorp and Bear River watermaster records.

This season was nearly a 180 degree opposite of the 2017 irrigation season. Last year we dealt with flooding and large volumes of runoff throughout most of the Bear River watershed. The 2018 season saw a 55% of normal runoff into Bear Lake. There was a full allocation of irrigation storage water for this season due to the amazing amounts of water from the previous season.

Water supply outlook in the Bear River area, forecasted in April 2018, was around 84% of normal. This was much better than was predicted for regions south of Idaho. The water season ended up being quite dry and most of our areas did not receive the September rains that have saved us in years past. A few of our water users did come very close to running out of storage water due to the low natural flows that were in the river all season.

2018 Bear Lake Water Supply - Season Summary

10-01-2017	Bear Lake Beginning Elevation - 5,920.98 ft (87% full)
3-16-2018	Bear Lake Low Elevation - 5,919.12 ft (78% full)
6-11-2018	Bear Lake High Elevation - 5,920.44 ft (85% full)
5-26-2018	Outlet Canal Opened for Irrigation
6-19-2018	Outlet Canal Maximum Release - 1,519 cfs
9-30-2018	Bear Lake Ending Elevation - 5,916.48 ft (65% full)

Note: At the end of this report is more information concerning the 2018 irrigation season provided by Pacificorp.

2018 Water Delivery Cost

112,264.41 (24 Hour CFS) total delivered for irrigation. *(diverted from Bear River)*
1,005,152 (24 Hour CFS) delivered for power generation.

Total delivered for the 2018 season is 1,117,416.41 (24 Hour CFS) with \$75,188.79 total expenses.

Cost per 24 Hour Second Foot delivered = \$0.067

Note: Irrigation deliveries are a combination of Bear Lake storage water and natural flow water rights.

2019 Scenario - Next Season

The current elevation level of Bear Lake, as of, January 29th is 5916.74 ft. There is 120 cfs of flow at the Rainbow Canal. The lake is approximately 66% full, it does seem that we will have a better water runoff this year than last.

The USDA Water Supply Outlook Report as of January 1 has the Bear River Basin snowpack at 87% of normal and the Water Supply estimate at 91% of normal. We have had a few good snow storms since that report and it has been wetter than normal in many areas. The February forecast from the USDA is not available yet, but we are expecting increases in the snowpack and water supply outlook. However, these are estimates and actual water supply could change with a few months left before the season begins.

Based on Bear Lake level there will be a full allocation of storage water for the 2019 water year.

Telemetry System and Bear River Basin Website

The cellular repeater station in the Pegram area was relocated on the same peak and performed much better this season. I plan to do a cellular test on a peak that is to the west to see if the signal is stronger.

There was an announcement that the 3G Cellular network is going to be retired in 1 year. We may see 2 years of service, but eventually our 3G cellular modems would be obsolete. We acquired new cellular modems with this years budget and I will be replacing the old 3G modems this this coming season.

I will be adding telemetry to 2 sites this season. They will be uploading data to the bearriverbasin.org web site. One site is in the Riverdale area and one site is in Dingle.

We were able to acquire two, unused, but not new datalogger transmitters at the end of 2018 for a very good price. I will be looking to install those at strategic locations to create two more telemetry sites this coming season.

Section 2 - Individual Diversions Report

Note: The site numbers below are the Idaho Department of Water Site ID numbers.

#10043105 Miller Ditch

This ditch still struggles to get the amount of water that is listed in the water right. The water users are planning to do more work on the check structure to see if they can direct more flow through the diversion.

#10043110 Rigby Pump

The flow meter battery died at the end of the season and I will work with the user to get that replaced.

#10043120 Nuffer Canal

They replaced the flow sensor for this season and the site worked for the entire season.

#10043140 Sorenson Ditch

#10043150 Ure North Hills Diversions

Nothing has changed at this location, it still is in need of an approved measuring device and a lockable head gate.

#10043180 Smith/Lloyd Ditch

The flume at this location does not read correctly due to sediment in the ditch. It needs to be raised. I will work with the user to get the flume installed correctly. (still needs to be fixed)

#10043160 Jensen Ditch

This site was flooded for a few months at the beginning of the water season. The sensor and telemetry system are still in need of repair. There are new users at this site and I will work with them this coming season to get this site back in working condition. They were able to divert all of 2018 and I was able to manually measure to get data for reporting.

#10044060 Dingle Canal

This season we installed a area velocity sensor and the data was much better and worked well when flows were moved to the upper ditch. A more permanent mount and adjustments to the measurement location will be done for the 2019 season.

#10044070 Ream/Crockett Canal

The flume at this site needs to have the brush and trees cut back, the vegetation is beginning to grow into the flume and that does affect the

flumes ability to read flows correctly.

#10044200 Black Otter

The stilling well at this location is starting to lean over and there needs to be cleanup and tree/brush removal done around the flume.

#10044450 Preston/Montpelier Canal

There needs to be a permanent stream gauge installed in the correct location for this site. Currently I measure with a manual gauge and I know that it is not ideal. I will work with them to get a permanent staff gauge installed this season.

#10044450 Todd Lloyd Pump (Preston/Montpelier use)

#10044700 Keetch (Larocco-Kent) Pump

They replaced the magmeter with a new unit and all is working well.

#10044714 Fern Keetch Pump

I will be adding radio telemetry to this site and sending the data to the website for the 2019 season.

#10044800 Pugmire Pump

#10045800 West Fork Canal

Still using a water level sensor to calculate flow based on an old flow rating formula. It tracked fairly accurately, but still has issues when flow changes in large amounts. This site will need an area velocity sensor, or flume, installed to be able to read this flow accurately throughout the season.

#10067831 Charles Kunz (Pacifcorp #3)

#10047305 Wayne Kunz Pump

#10067705 Hardcastle Pump

#10067725 - L STEVENS (Rockin G Ranch)

This site now has a pivot and pump installed with a Magmeter for tracking and recording flows.

#10067870 & 10067874 Paul Kunz Pumps #1, #2 (Pacifcorp)

#10067834 Steven Kunz Pump

This meter is installed in a sprinkler box below ground surface and gets submerged frequently. I have changed the batteries a couple of times and

the meter seems to be starting to fail. I think due to the submergence.

#10067855 Dean Kunz

Storage contract - Allyn & Rhett Phelps Pump

The magmeter failed in the 2016 season and needs to be replaced.

#10068205 Chris Christensen or Alleman Pump

#10072550 Eight Mile (Harris Pump 1)

The sensor at this location will be installed on a better mount. The past few seasons have seen some high flows that caused the sensor to be torn off the bottom of the culvert and it needs better protection.

#10072550 Eight Mile 2 (Harris Pump2)

#10074805 Bear Meadows

#11-00449/11-00531C Soda Golf Transfer

#10078905 Soda Golf Pump

#10079600 Last Chance Canal

#10079800 Bench B Canal

#10080105 Gentile Valley Canal

#10080355 Wheeler Pump

#10080385 Matthews Pump (Wanlass Pump)

#10081650 & 10082550 Skabelund Pumps

One of these sites the flow meter has died and needs to be replaced.

#10083505 Mussler (Fox) Pump

#10086950 Smith/Bosen Ditch

Spoke to water users this past summer (2017) about a new flume to be installed. The old flume now becomes submerged during the season. Did not see that any progress was made by the end of the season for the new flume site. Have not heard any more about this project.

#10089820 Smith Pump (now the Boyack Pump)

#10089880 Upper Riverdale Canal and Pump

This site had an AVFM sensor in it for much of the season, but I removed it and will be moving it somewhere more useful. There are changes coming to the diversion water right and we will measure it differently this next season.

#10089850 Nelson Ditch

#10089950 Riverdale Irrigation Canal

#10089955 Higley Pump

Needs a new battery or power supply of some type.

#10089960 Riverdale/Preston Pump

#10089970 Lucia Pump

#10090250 West Cache Canal

#10091120 Hodges Pump

#10091110 Johnson Pump

#10091495 Griffith Pump (Bastion Pump)

#10091455 Floyd Jensen Pump

#10091460 Bear Grove LLC (S. Bobka Pump)

Meter seems to be reading but may need new batteries for next season.

#10091503 Inlet Lamont

Magmeter is no longer displaying values. Needs to be repaired or replaced.

#10091563 M Curry

New pivot and pumping site was installed. The new meter seemed to work well.

#10092755 Carol Whitney Pump

#10092650 Cub River Pumps

The cable for the flow meter has been run to the datalogger site, I need to work with the water users to find out which signal in the PLC to connect to for getting that data to our datalogger.

#10092900 West Cache Pumps

The area velocity sensor quit working and they bought a new one for the 2019 season, I will install it in March.

Section 3 - Individual Diversions Flow Data

The data below is gathered from the Idaho Dept. of Water website. This data is collected throughout the water season by way of meters, flumes, dataloggers, and manual flow measurements.

<u>Water District 11 Points of Diversion</u>	<u>Total 24 Hour CFS</u>
10043105 - MILLER CANAL	318.7
10043110 - RIGBY	87.1
10043120 - NUFFER CANAL	1612
10043140 - TRANSTRUM (SORENSEN)	51
10043150 - URE NORTH HILLS	147
10043160 - WILLIAMSON (JENSEN)	145.8
10043180 - J SMITH (LLOYD)	106.8
10044060 - DINGLE IRRIGATION CANAL	5170
10044070 - REAM-CROCKETT CANAL	2808
10044200 - BLACK OTTER CANAL	2986
10044450 - PRESTON-MONTPELIER CANAL	4495
10044700 - KEETCH (LAROCCO-KENT)	252.2
10044714 - FERN KEETCH	147.6
10044800 - J KEETCH (PUGMIRE)	173.3
10045800 - WESTFORK CANAL	7734
10047305 - STEWART	0.00
10067705 - HARDCASTLE	0.00
10067725 - Rockin G Ranch (Stevens)	92.5
10067831 - CHARLES KUNZ	0.00
10067834 - S R KUNZ	48
10067855 - PACIFICORP 3 (D. Kunz)	0.00
10067870 - PACIFICORP 2 (P. Kunz)	27.2
10067874 - PACIFICORP 1 (P. Kunz 2)	104.2
10068205 - ALLEMAN	0.00

10068210 - ALAN PHELPS	36.1
10072550 - EIGHT MILE RANCH (HARRIS)	439.6
10072554 - EIGHT MILE 2 (HARRIS)	62.5
10074805 - BEAR R MEADOWS LLC	40.6
10076000 - SODA CREEK TRANSFER FLOW	114.4
10078905 - SODA GOLF	54.2
10079600 - LAST CHANCE CANAL	26,408
10079800 - BENCH 'B' CANAL	19,707
10080105 - GENTILE VALLEY CANAL	5363
10080355 - WHEELER	18.1
10080385 - MATHEWS, B	102.5
10081650 - SKABELUND 1	24.8
10082550 - DAVID SKABELUND	0.00
10083505 - MUSSLER (FOX)	28.0
10086950 - SMITH-BOSEN CANAL	59.1
10086975 - TWIN LAKES PUMPS	0.00
10089820 - BOYACK	60.1
10089850 - NELSON CANAL	516.1
10089880 - UPPER RIVERDALE CANAL	94.5
10089950 - RIVERDALE CANAL	1222
10089955 - HIGLEY	.8
10089960 - RIVERDALE-PRESTON PUMP	476.7
10089970 - T LUCHIA	5.85
10090250 - WEST CACHE CANAL	18,986
10091110 - B JOHNSON PUMP	0.00
10091120 - L BRYCE	0.00
10091455 - FLOYD JENSEN	92.9
10091460 - BEAR GROVE LLC	11.9
10091495 - GRIFFITH	30.5
10091503 - B LAMONT	78.7
10091563 - M CURRY	35.1

10092650 - CUB RIVER PUMPS	10,987
10092755 - C WHITNEY	0.00
10092900 - WEST CACHE NO.2 (UTAH)	698
Total Irrigation Delivery 24 Hour CFS =	112,264.41

Daily use data for each of these sites is publicly available on the Idaho Department of Water website.

<https://idwr.idaho.gov/apps/wm/DiversionDataApplication>

SUMMARY OF WATER YEAR 2018 BEAR LAKE OPERATIONS

Date	Hydrologic Information/Event	Contents (% of Full) Discharge (% of Normal)
10-01-17	Bear Lake Beginning Elevation - 5,920.98 ft.	1,233,523 af (87%)
03-16-18	Bear Lake Low Elevation - 5,919.12 ft. (see note 1)	1,103,620 af (78%)
	Rainbow Inlet Canal Discharge	200,397 af (76%)
	Bear River Discharge Below Stewart Dam	1,757 af
	Bear Lake Net Runoff (Computed Total Inflow less Lake Evaporation)	177,000 af (55%)
06-11-18	Bear Lake High Elevation - 5,920.44 ft.	1,195,730 af (84%)
	Outlet Canal Releases: 5/26-9/26 (124 days)	487,650 af
06-19-18	Outlet Canal Maximum Release - 1,519 cfs	
	Bear Lake Storage Release (see note 2)	191,000 af
09-30-18	Bear Lake Ending Elevation - 5,916.48 ft.	921,348 af (65%)
	Bear Lake Settlement Agreement "System Loss" Volume	18,800 af

Notes:

1 Low contents prior to start of storage.

2 Net irrigation storage release from Bear Lake, subtracting Rainbow inflow and the decreed adjustment for the natural yield of Bear Lake and Mud Lake area. Includes system loss volume.

3 Due to uncontrolled flow from (welcome) rain events. Whenever water flows below Cutler during the irrigation season any storage water in the system at Cutler is the first water out. Natural flow goes to irrigators.

Current Status

Bear Lake elevation as of January 29, 2019 was 5916.74 feet. The Bear Lake Outlet Canal is closed. There is 120 cfs in the Rainbow Inlet Canal.

Summary of Water Year 2018

The Bear Lake Irrigation Storage Allocation for 2018 was 245,000 acre-feet. Runoff was lower than normal, with Bear Lake net runoff at 177,000 acre-feet (55% of normal). The Bear Lake Outlet Canal was opened for irrigation releases on May 26.

Water Year 2018 Operations

Flood control releases were made consistent with the *Operations Agreement for PacifiCorp's Bear River System*.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Eastern Region • 900 N Skyline Drive, Suite A • Idaho Falls ID 83402-1718

Phone: (208) 525-7161 • Fax: (208) 525-7177

Website: idwr.idaho.gov • Email: easterninfo@idwr.idaho.gov

BRAD LITTLE
April 12, 2019
Governor

GARY SPACKMAN
Director

Josh Hanks
2647 N 200 E
North Logan UT 84341

WATER DISTRICT #11

Dear Watermaster:

Enclosed herewith is a copy of the Watermaster's Annual Report for the past season.

The same has been prepared by the watermaster and approved by this Department in conformity with Sections 42-610, 42-614 and 42-615, Idaho Code.

During the 1993 legislative session, the legislature enacted a new law which amends Section 42-619(9), Idaho Code and removes the independent financial audit requirement for most state water districts. The new law, referenced by Section 67-450B, Idaho Code (copy enclosed) identifies minimum audit requirements for all local government entities. Under the new statute, the governing body of any local government entity (i.e., water district) whose annual budget does not exceed one hundred thousand dollars (\$100,000) has no minimum audit requirements under this section. This means that any district which handles its own money and whose budget is one hundred thousand dollars (\$100,000) or less does not have to have an independent public account firm conduct a financial audit every few years as previously required by Section 42-619(9).

Please note that only the statutory requirement regarding the independent financial audit has been changed. Districts handling their own fund (i.e., districts who collect and / or disburse their own funds) must still submit their own statement of the water district's financial affairs at the end of each fiscal year. As recommended in the Department's February 16, 1993 letter and the 1993 Watermaster Handbook, a copy of the financial statement may be submitted either with the annual water masters report or with the minutes of the annual meeting for the ensuing year. An example of an annual financial statement may be found in Appendix C of the 1993 Watermaster Handbook.

The purpose of this letter is to remind all water districts that workers compensation insurance is required for all water district employees. This requirement applies to all water districts in Idaho, regardless of annual budget. Insurance should be applicable at least to all paid water district staff, including the water master as well as watermaster assistants, advisory committee, secretary and treasurer. The costs associated with workers compensation insurance is paid directly by the water district and should be considered an expense of the district. For information about obtaining insurance costs etc., please contact the Idaho State Insurance Fund. The State Insurance Fund has offices in Boise, Coeur d'Alene, Idaho Falls, Pocatello and Twin Falls. Water Districts are also reminded that all paid water district staff may be subject to state and federal taxes. These tax requirements will vary depending on salaries and total income of each watermaster or employee. In many water districts, particularly smaller districts with part-time staff, payment of watermaster or each employee. Districts may wish to contact the State Tax Commission or the Internal Revenue Service for information about state and federal withholding taxes.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sharla Cox", is written over a circular blue ink stamp.

Sharla Cox
Administrative Assistant

Enclosure



State of Idaho

DEPARTMENT OF WATER RESOURCES

Eastern Region • 900 N Skyline Drive, Suite A • Idaho Falls ID 83402-1718
Phone: (208) 525-7161 • Fax: (208) 525-7177

Website: idwr.idaho.gov • Email: easterninfo@idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

April 12, 2019

Water District 11
Austin Moses
800 W Judicial
Blackfoot ID 83221

WATER DISTRICT #11

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Sincerely,



Sharla Cox
Administrative Assistant

Enclosures

