

WATERMASTER'S REPORT

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Department of Water Resources
Eastern Region

From March 1st, 20 19 To February 29th, 20 20

Water District No. 34

Name of Watermaster Lucas Yockey

Mailing Address P.O. Box 53 / Mackay, ID 83251

AFFIDAVIT OF WATERMASTER

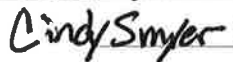
STATE OF IDAHO)
COUNTY OF Butte & Custer) ss.

Lucas Yockey, being first duly sworn, deposes and says that he/she is Watermaster of Water District #34, having been lawfully appointed by Gary Spackman, Director, Idaho Department of Water Resources, and that the volumes of water, as stated in this report and prorated by him/her to the water right holders of the district are correct.



(Deputy) Watermaster District No. #34

Subscribed and sworn to before me, this 28th day of January, 20 20



Notary Public

My Commission expires 4/20/2023

Boise, Idaho _____, 20 _____

I, Cindy Smyer, that _____ was lawfully appointed by me as Watermaster of Water District No. _____, and that the information contained in this report, as herein sworn to, is, to the best of my knowledge and belief, correct.

Director, Department of Water Resources

By _____



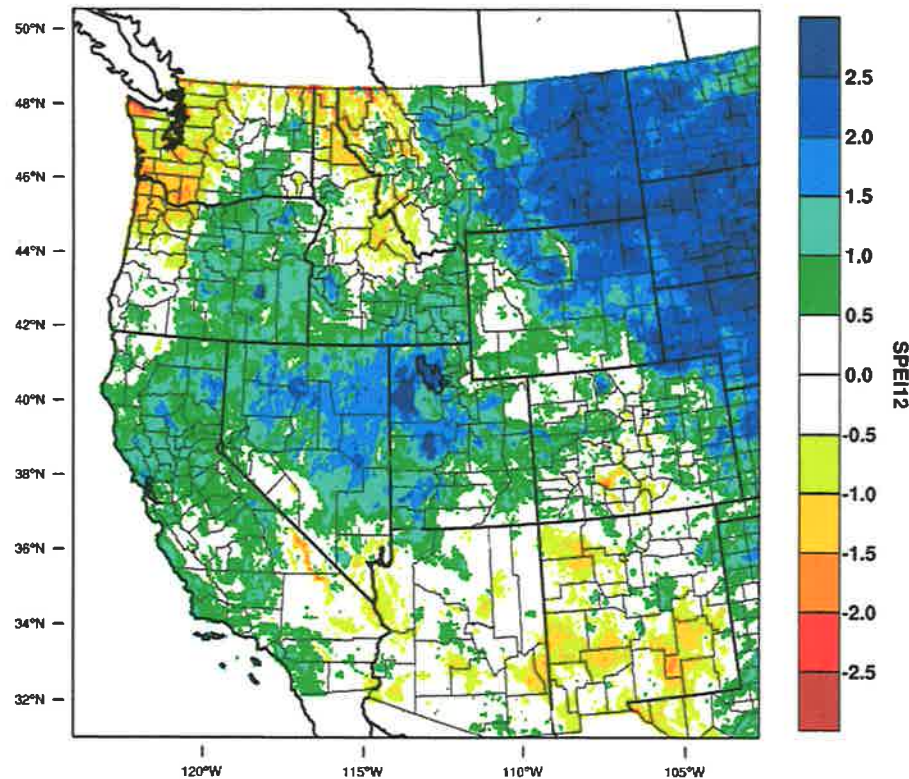
Water District 34 Water Right Accounting 2019

David Hoekema, Hydrologist, IDWR
March 2, 2020

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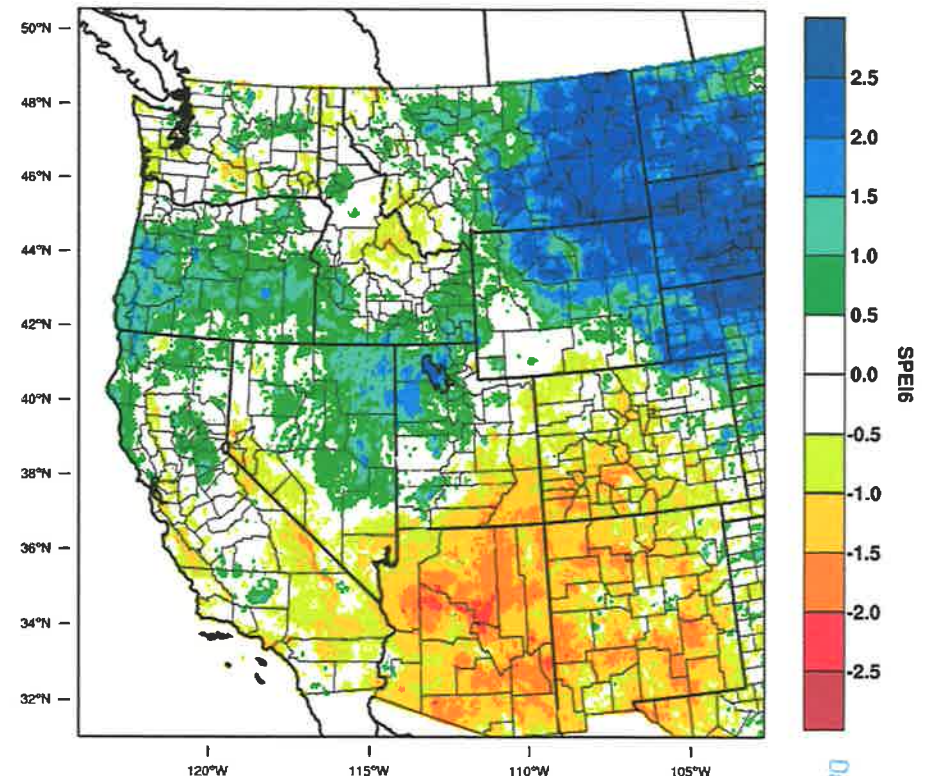
Water Year 2019

Western United States - 12 month SPEI
September 2019



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 16 OCT 2019

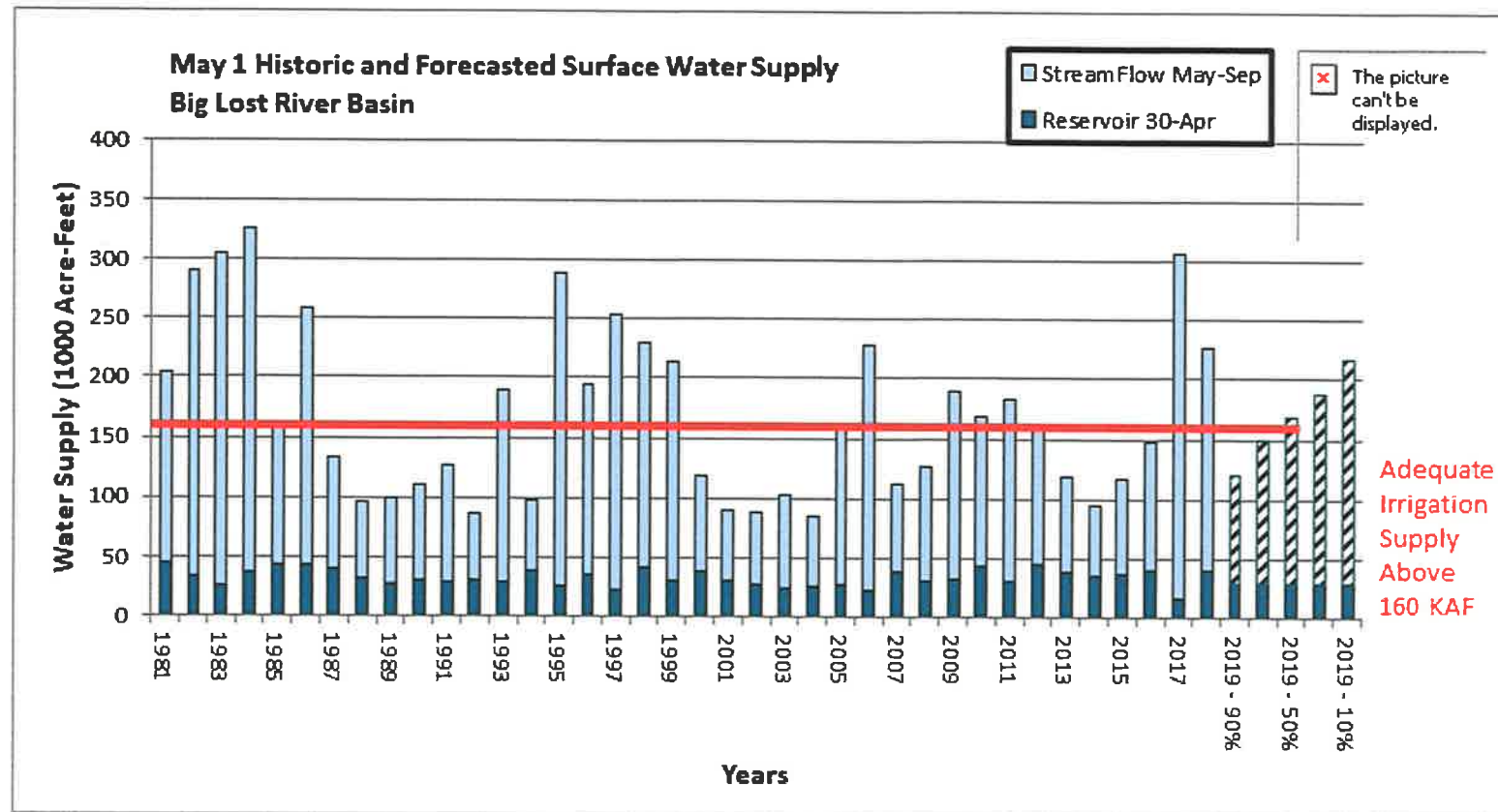
Western United States - 6 month SPEI
September 2019



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 16 OCT 2019

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May 1: Forecast & Reservoir Content



May 1: Forecast & Reservoir Content

Big Lost River Basin SWSI			Anticipate Water Supply Greater than -0.1 SWSI or 160 KAF				
Station ID	Station Name	Period	Data Type	Years	# of Years		
13127000	Big Lost R b/w Mackay Reservoir	May-Sep	strm	1981-2018	38	Units KAF	
13126000	Mackay Reservoir	30-Apr resv		1981-2018	38	Units KAF	
ENSO Classification							
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina							
Rank	Year	Enso	Stream Flow May- Sep	Reservoir 30-Apr	Streamflow + Reservoir Sum	Non- Exceedance Probability	SWSI
1	1984	N	290	37	327	97%	4.0
2	2017	LN	291	17	307	95%	3.7
3	1983	SE	280	25	305	92%	3.5
4	1982	N	256	34	291	90%	3.3
5	1995	SE	264	26	289	87%	3.1
6	1986	N	215	44	259	85%	2.9
7	1997	N	232	23	254	82%	2.7
8	1998	SE	188	42	230	79%	2.5
9	2006	N	206	23	229	77%	2.2
10	2018	N	187	40	227	74%	2.0
2019 20% Chance Exceedance Forecast							
11	1999	SL	183	30	214	72%	1.8
12	1981	N	159	45	204	69%	1.6
13	1996	N	158	36	194	67%	1.4
14	1993	EN	161	29	190	64%	1.2
15	2009	N	158	32	189	62%	1.0
2019 30% Chance Exceedance Forecast							
16	2011	SL	152	31	183	59%	0.7
2019 50% Chance Exceedance Forecast							
17	2010	EN	125	44	168	56%	0.5
18	2005	EN	134	27	161	54%	0.3
19	2012	LN	116	44	160	51%	0.1
20	1985	N	116	43	159	49%	-0.1
2019 70% Chance Exceedance Forecast							
21	2016	SE	108	40	148	46%	-0.3
22	1987	N	92	41	133	44%	-0.5
23	2008	N	97	31	127	41%	-0.7
24	1991	N	98	29	126	38%	-1.0
2019 90% Chance Exceedance Forecast							
25	2013	N	80	39	119	36%	-1.2
26	2000	N	79	39	118	33%	-1.4
27	2015	EN	81	37	118	31%	-1.6
28	2007	EN	74	39	113	28%	-1.8
29	1990	N	80	30	110	26%	-2.0
30	2003	EN	79	24	103	23%	-2.2
31	1989	SL	72	28	100	21%	-2.5
32	1994	SE	60	39	98	18%	-2.7
33	1988	SE	64	32	96	15%	-2.9
34	2014	N	60	35	94	13%	-3.1
35	2001	LN	59	31	90	10%	-3.3
36	2002	N	61	27	88	8%	-3.5
37	1992	EN	56	31	87	5%	-3.7
38	2004	N	59	26	85	3%	-4.0

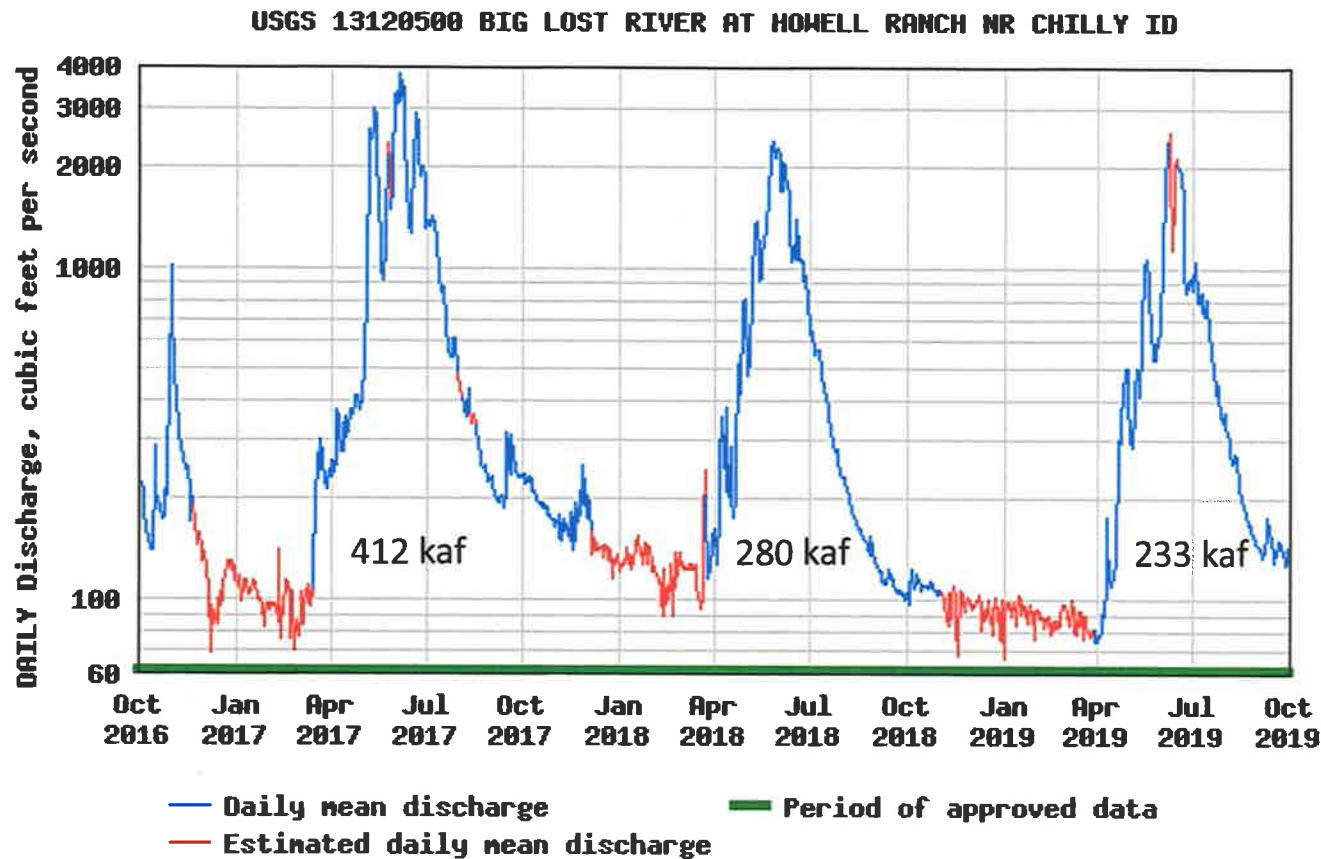
Exceedance Probability Forecast

10%	188 kaf
30%	160 kaf
50%	140 kaf
70%	121 kaf
90%	92 kaf

Actual **159.8 kaf** -63th percentile

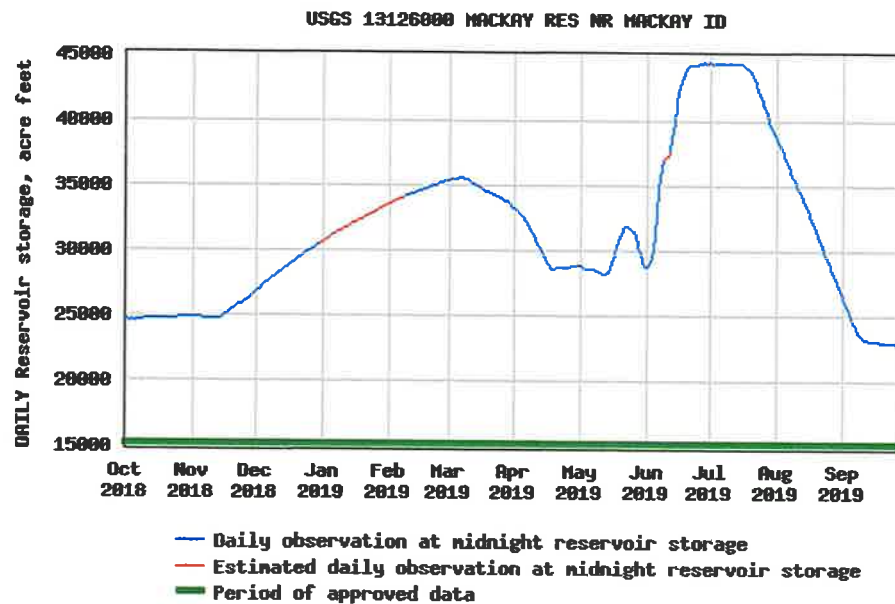
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Water Years 2017, 2018, 2019: Streamflow



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Mackay Reservoir 2019 Water-Year



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Basin Water Balance: above Reservoir

Above Chilly Reach (May 1 to October 15)		
Howell Gage	185,921	ac-ft
Diversions	29,528	ac-ft
Reach Gain	-36,389	ac-ft
Chilly Bridge	120,005	ac-ft

Warm Springs Reach		
Nielsen Injection	866	ac-ft
Diversions	5,368	ac-ft
Reach Gain	14,945	ac-ft
Shoupe Gage	10,443	ac-ft

Chilly to Reservoir Reach		
Chilly Bridge	120,005	ac-ft
Thousand Springs Gage	7,013	ac-ft
Shoupe Gage	10,443	ac-ft
Diversions	6,583	ac-ft
Reach Gain	37,450	ac-ft
Calculated Res. Inflow	168,328	ac-ft

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Basin Water Balance: below Reservoir

			Inflow	Diversion	Decree	Storage	Groundwater IN	Groundwater OUT	Reach Gain	Outflow	% Conveyance
Reservoir to 2B Gage			174,605	2,421	2,340	81	0	0	0	172,184	
2B Gage to Leslie Bridge			172,184	44,198	33,632	10,566	0	0	6,614	134,600	4%
Leslie Bridge to blw Moore			134,600	50,164	37,102	13,062	0	0	-19,566	64,870	-15%
blw Moore to Sunset Bridge			64,870	17,640	11,831	3,252	3,284	2,558	-14,251	32,979	-22%
Sunset Bridge to Arco Gage			32,979	625	519	106			-3,882	28,472	-12%
			174,605	115,048	85,424	27,066			-31,084	28,472	-18%
								78%		Shrink	82%

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Water Right Accounting: July 20th to Oct. 15th

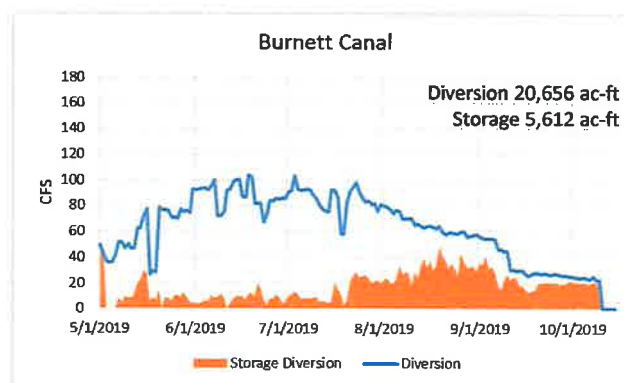
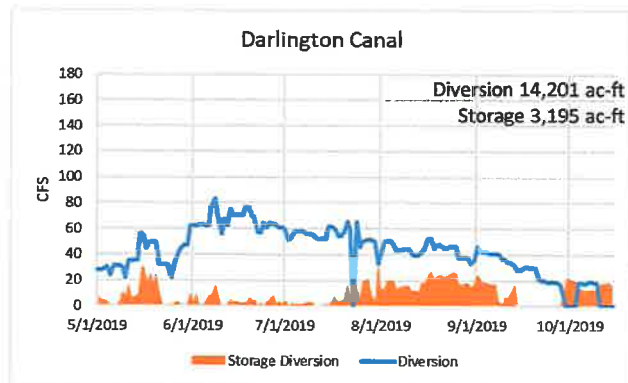
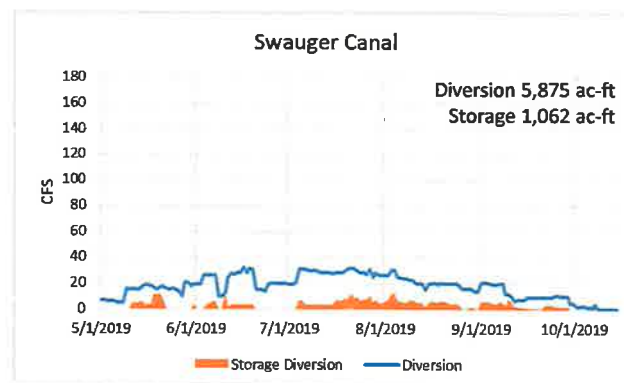
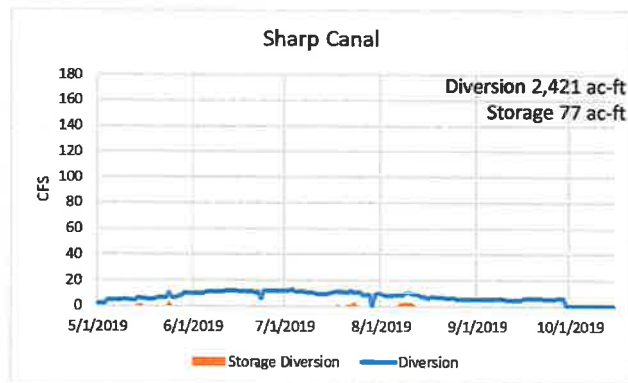
Saturday, July 20, 2019			
RESERVOIR BALANCE CALCULATION (AF)			
Beg Storage (4/30)			28870.0
Allocated Storage			67740.3
Total Storage Loss			-41493.6
Total Storage Deliver			-10062.3
Total Evaporation			-1404.2
Accounting Balance			43650.2
Current Reservoir Content			43650.0
Storage Balance Error			0.2

Tuesday, October 15, 2019			
RESERVOIR BALANCE CALCULATION (AF)			
Beg Storage (4/30)			28870.0
Allocated Storage			76916
Total Storage Loss			-54186.7
Total Storage Deliver			-26030.3
Total Evaporation			-2765.7
Accounting Balance			22803.3
Current Reservoir Content			22800.0
Storage Balance Error			3.3

Change from July 20th to October 15th			
RESERVOIR BALANCE CALCULATION (AF)			
Storage morning July 20th			43650.0
Allocated Storage			9175.7
Total Storage Loss			-12693.1
Total Storage Deliver			-15968.0
Total Evaporation			-1361.5
Accounting Balance			22803.1
Current Reservoir Content			22800.0
Storage Balance Error			3.1
Storage Shrink			56%

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Canal Deliveries below the Reservoir



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Canal Deliveries below the Reservoir

Beck Diversion

Diversion 2,855 ac-ft
Storage 271 ac-ft

Pehrson Diversion

Diversion 611 ac-ft
Storage 0.9 ac-ft

UC Canal Diversion

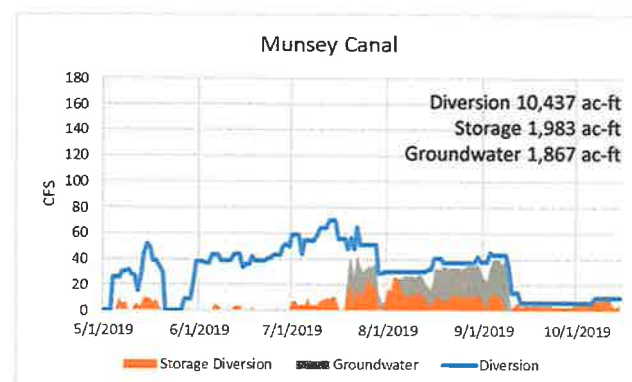
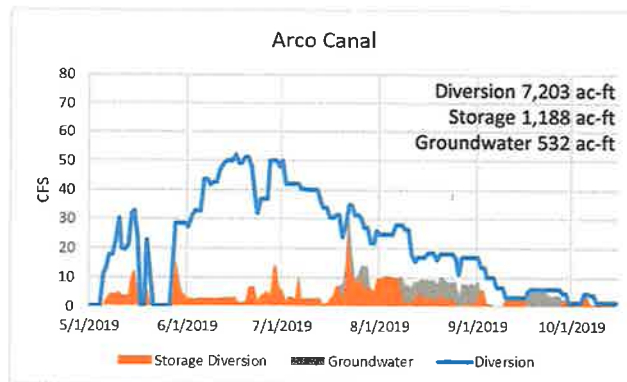
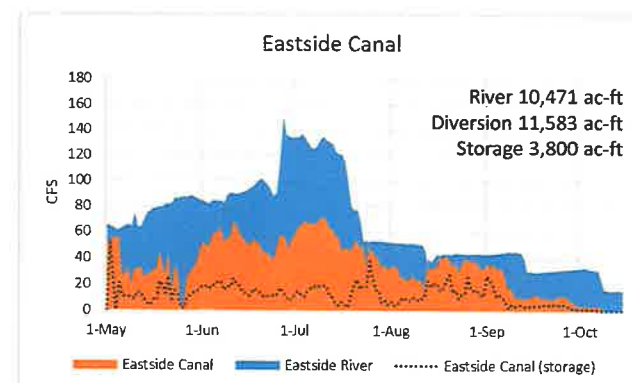
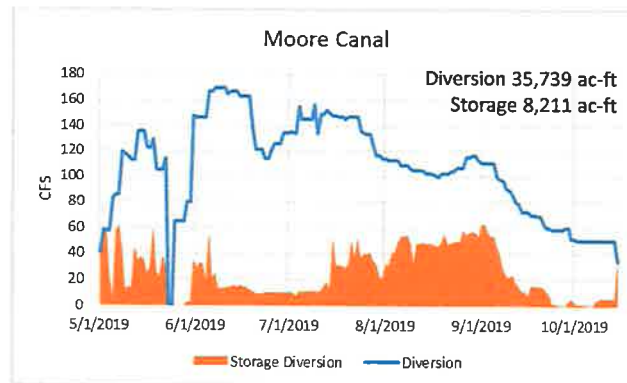
Diversion 744 ac-ft
Storage 417 ac-ft

3 in 1 Canal

Diversion 1,720 ac-ft
Storage 152 ac-ft

Crawford Pump

Diversion 393 ac-ft
Storage 59 ac-ft



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Storage Use Corrections

Storage Use below Mackay Reservoir			
Canal	Storage with error	Storage corrected	Difference
Sharp	78	77	-1
Swauger	1,062	1,062	0
Darlington	3,205	3,195	-10
Burnett	5,644	5,612	-32
Beck	280	271	-9
Pehrson	1	1	0
UC Canal	417	417	0
3 in 1	153	152	0
Crawford Pump	59	59	0
Moore	8,242	8,211	-31
Eastside	3,810	3,800	-10
Arco	1,146	1,188	42
Munsey	1,964	1,984	20
Quist	159	158	0
Total	26,218	26,188	30

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Sacramento Region

Contact Information

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(714) 697-3203 (cell)

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Boise, Idaho

BARTON FLATS AREA – Jake Johnson

The area South of the Bartlet Point Road and downstream of the intersection of the Chilly Slough and the Big Lost River to the Mackay Reservoir.

MOORE AREA – Vacant

The area downstream of the Moore Diversion being south of County Road 3450 North to 3400 West then north to 3500 North turning East to the Moore substation then to the Moore Diversion. From the Moore Diversion East on a straight line to the Lost River Electrics switch yard on the east side of the valley,
And East of Highway 93 down to the Arco Diversion.

LOST RIVER AREA – Darrell Lee McDonald

That area South of Antelope Point and West of and following Highway 93 down to the Arco Diversion then West following the section line (county road 2600 North) to the point it intersects the Old Highway. Then North West on the Old Highway to the Big Lost River and continuing North West up the Big Lost River channel to the point it meets the Lower Blaine Canal then Westerly following the Lower Blaine Canal to the point it reach's the end of the Moore Canal and connects with the Blaine Canal (Timber Dome).