Deer Creek Reservoir/Jordanelle Reservoir Operating Agreement
&June Sucker Flow Work Group Meeting
April 24, 2019 – 9 a.m.
Held at Bureau of Reclamation's Provo Area Office
302 East 1860 South
Provo, Utah

1. Welcome and Introduction

The meeting was called to order by Rick Baxter, Manager, Water, Environmental, and Lands Division of the Bureau of Reclamation's Provo Area Office.

As per the signed roster, the following were in attendance:

Name	Representing	E-mail
Aitken, Robert	CUWCD	robert@cuwcd.com
Andersen, Kelton	UAMPS	kelton@uamps.com
Anderson, Ben	UDWR	benanderson@utah.gov
Babb, Jon	CUWCD	jonb@cuwcd.com
Baxter, Jared	USBR	jbaxter@usbr.gov
Baxter, Rick	USBR	rbaxter@usbr.gov
Bergondorf, Scott	Provo River Commissioner	scott.provoriver@gmail.com
Budge, Jeff	PRWUA	jdb@prwua.org
Calder, Gary	Provo City	gcalder@provo.org
Corson, Susan	CUWCD	susan@cuwcd.com
Crockett, Chris	DWR	chriscrockett@utah.gov
Denos, Keith	PRWUA	gkd@prwua.org
Devey, Daryl	CUWCD	daryl@cuwcd.com
Elliott, Scott	USBR	selliott@usbr.gov
Hansen, Jared	CUWCD	jhansen@cuwcd.com
Henrie, Gary	USBR	ghenrie@usbr.gov
Jones, Shane	Provo City	sjones@provo.org
Keleher, Chris	DNR	christopherkeleher@utah.gov
Kofford, Kent	USBR	kkofford@usbr.gov
Marvin, Annette	DOI	amarvin@usbr.gov
McKrola, Devin	CUWCD	devin@cuwcd.com
Mills, Mike	CUWCD	mikem@cuwcd.com
Pierpont, Paul	CUWCD	paul@cuwcd.com
Seegert, Sarah	UDWR	sseegert@utah.gov
Smith, Rick	WRWUA	ricks@davisweber.org
Stamp, Melissa	URMCC	mstamp@usbr.gov
Sutherland, Sarah	CUWCD	sarah@cuwcd.com
Thompson, Paul	DWR	paulthompson@utah.gov
Torgersen, Brian	Provo City	btorgersen@provo.org
Tuft, Wade	JVWCD	wadet@jvwcd.org
Tullis, Rich	CUWCD	rich@cuwcd.com

Weekley, George	USFWS	george_weekley@fws.gov
Wilson, Maureen	URMCC	mwilson@usbr.gov
York, Ryan	Provo City	ryork@provo.org

2. Actual and Projected Operations

a. Deer Creek Reservoir Operations – PRWUA – Presented by Jeff Budge
See Attachment 1, Provo River Water Users Association
Deer Creek/Jordanelle Public Meeting – April 24, 2019

- Historical volume was discussed through 2018.
- Trans-basin diversions, water year 2018
  Duchesne Tunnel: 23,202 acre-feet
  Weber-Provo Diversion: 29,974 acre-feet
  Total: 53,176 acre-feet
- Total water delivered through the PRA (acre-feet)
- Power generation, 2018 total generation 25,258,000 kWh
- Deer Creek Reservoir current operations are 5413.95 as of today (4/24/2019).
- Deer Creek Reservoir current estimated breakdown as of April 24, 2019. Total 140,656 acre-feet.
- Discussed delivery projections. A great water year; anticipating full allocations to shareholders. Will revise as needed.
- Question: if you reach full capacity, what water is delivered first? Warren Act contracts are fulfilled first.
- Question: Will there be flooding issues? It is entirely possible, but preparing for heavy runoff. Utah Lake will rise. Coordinating with all agencies. Weather, etc., continues to be a factor.

b. Jordanelle Reservoir Operations – Presented by Paul Pierpont
See Attachment 2, Central Utah Water (CUWCD)
Deer Creek/Jordanelle – April 24, 2019

- Paul discussed Jordanelle Dam/Reservoir. Current conditions as of today (4/24/2019). Current elevation at 6124.97; Content 204849 (65 percent); Release from Unit 1 (145 cfs); 41.43 ft. down (6166.4 is full); Inflow 735 cfs natural 452 cfs; lowest level was at 6120.26; percent full on 3/23/19 was 61 percent; low level 3/23/19 -46.14 feet; 35.5 inches water. Trial Lake 75 inches deep of snow. As of today, Jordanelle will fill.
- Jordanelle peak dates in 2016, June 20, 2016; 2017, June 13, 2017; 2018, June 3, 2018.
- End of Month Total Content Comparisons was shown.
- An End of Month Reservoir Status table was shown.
- The Jordanelle Hydro Monthly Power Generation for 2018 was shown. Total Generation Output Gross Energy, MWh: 50,122.66; Total General Output Net Energy, MWh: 47,619.12, for a difference of 2,503.54.
- Jordanelle Reservoir – Olmsted/Alpine System project and non-project water was shown, as well as Strawberry Reservoir statistics.
- Current conditions in the Heber and North Utah County Areas was shown.
- Paul provided updates on maintenance projects, including:
  Upper Lakes, including Washington/Trial/Lost, coating projects.
  Jordanelle gate chamber/shaft, ropes projects.

- Paul discussed the Bonanza Campout/Concerts, which have been held directly below Jordanelle Dam at the campground. Attended by thousands of people, the concert proved to be a security challenge for CUWCD personnel.
- CUWCD personnel and others celebrated the 25-year anniversary of Jordanelle.

c. Instream Flow/Sport Fisheries Issues/Concerns Daryl Devey (CUWCD) and Scott Bergondorf (Provo River Commissioner). General questions and answers included:

- Will changes in low flows occur below Olmsted? Per Daryl, Timp Canal water rights may be affected. Releases are scheduled to start next week, as soon as Murdock Canal starts taking their water. Water deliveries may be delayed based on weather.
- Is there any way to check the flow on the website? There is some information provided on the website. No meter is available on the bypass, but it is flowing. Any who have specific questions should contact Daryl.

3. Data Collection, Water Measurement/Accounting

a. Water Accounting reporting – Presented by Scott Bergondorf, Provo River Commissioner
Jordanelle, Deer Creek, Utah Lake
See Attachment 3, Water Accounting

- 2018 was the driest year on record since 1895. The Lower Provo Class A rights were cut to 50 percent.
- Upper Provo 1st class rights were cut to 15 percent.
- A teacup model diagram was shown.
- The State of Utah is working on other modeling, which is still in draft form.
- Utah Lake Contents, Imports, Natural, Primary, Inactive, Criteria, etc., were discussed.
- Question: Exchanges to Utah Lake? Strawberry, Deer Creek, Jordanelle all part. Rights to return flows in Utah Lake also discussed.
- According to Rich Tullis, CUWCD, over a foot of water in Utah Lake is being stored (Strawberry return flows down Diamond Fork, etc.). Instream flows or water delivery all affected.
- For future reference, Scott provided the following link: https://waterrights.utah.gov/wcat/Default.asp?id=157#/last.

4. June Sucker Flows in Provo River and Hobble Creek

Presented by Daryl Devey, CUP Manager, Central Utah Water Conservancy District

- Daryl discussed Jordanelle Reservoir Storage, currently 207,216 acre-feet; 106,700 acre-feet from full as of 04/24/19. Deer Creek Reservoir Storage, currently 114,870 acre-feet; 8,080 acre-feet from full as of 04/24/19.
- DRAFT Jordanelle Water Control Diagram was shown.
- Daryl discussed Trends and Elevation Data, including Jordanelle, Upper Lakes, and Utah Lake.
- Historical SCADA June Sucker Flows at Harbor Drive was shown.
- USGS Hobble Creek daily discharge data shown.
- Monthly Precipitation conditions throughout the west were shown.
- Colorado Basin River Forecast Center Tables were shown.
- Slides of various snowpack/SNOTEL sites were shown. Before and after slide comparisons was discussed.
- Water Supply Forecast slides shown.

Discussions and questions included the following (Mike Mills and others):

- Per Mike Mills, if we get a natural peak before June, there may be some spawning issues. Flow recommendations are based on runoff. Current conditions will get us through mid-May.
- Storage in reservoirs is a factor. Based on the wet spring we have experienced thus far, the natural peak is undetermined as of this date.
- Usually the peak spawn is before June.
- "Utah" Suckers vs. "June" suckers. Discussed the differences in spawning.
- 2017 information? Mike: we had to pull out antennas, as early as May and late June. Four different peaks.
- When reference is made to "our" water, what does that mean? Section 207 CUPCA, URMCC, and CUP Project Water. The United States has an "allotment" of CUP water.

Hobble Creek Flows

- Releases made from valve station on 400 East.
- 125 cfs out of valves.
- 2017, river peaked at 360 on 4/19/17.
- We will probably peak within the next 2 weeks. Same fluctuations as 2017.
- Question: Do you notify water users regarding Mapleton-Springville? Per Devin, we meet with various water users/companies and they are aware.
- It was suggested that Daryl/Devin/Mike meet to discuss.
- Packard Dam may be an issue.
- Suggestions/discussion: avoid plummets in water flow.
- Current models may be somewhat inaccurate based on weather and pushing back peak flows.
- Russ suggesting giving current update on readers. Pit tag readers up and running per Mike.
- Training: "Look back" session may be conducted in the fall after the current season. George Weekley coordinate.
- Mid-may re-visit topic/meet. Russ will send invite.

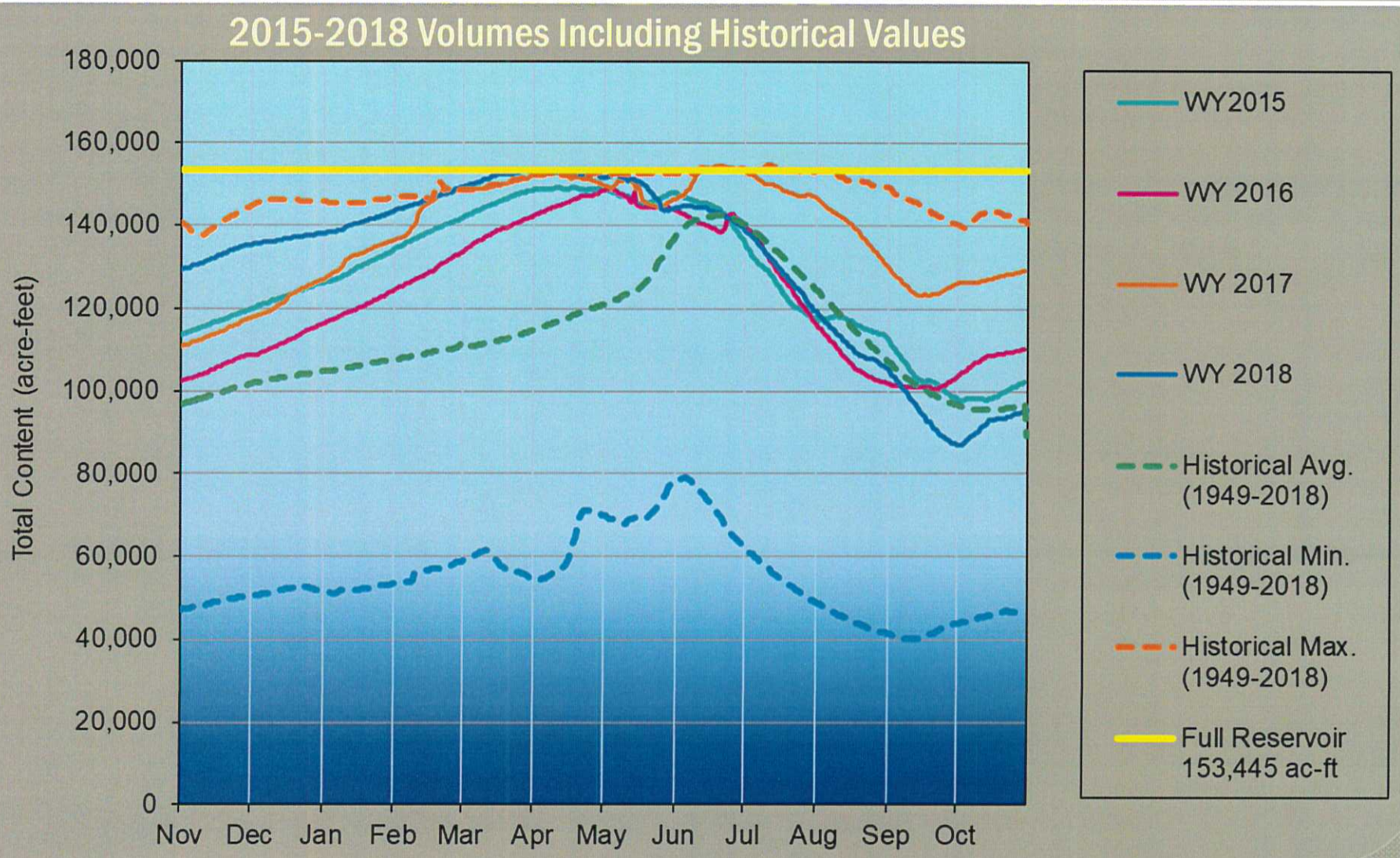
Attachment 1
Provo River Water Users Association
Deer Creek/Jordanelle Public Meeting
April 24, 2019

Provo River Water Users Association

Deer Creek / Jordanelle Public Meeting

April 24, 2019

Deer Creek Reservoir Historical Volume

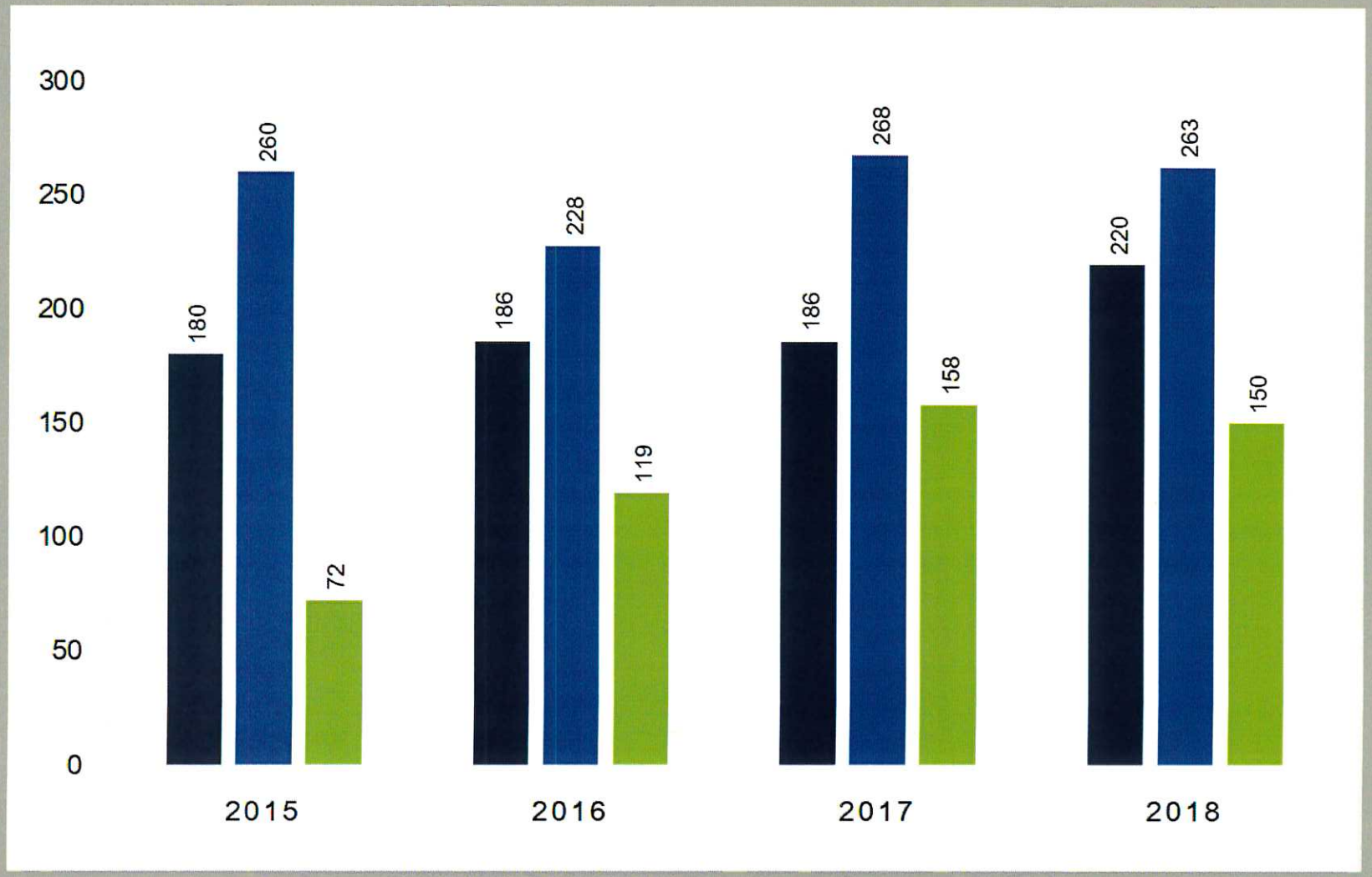


Trans-basin Diversions

Water Year 2018

Duchesne Tunnel:	**23,202 ac-ft**
Weber-Provo Diversion:	**29,974 ac-ft**
Total:	**53,176 ac-ft**

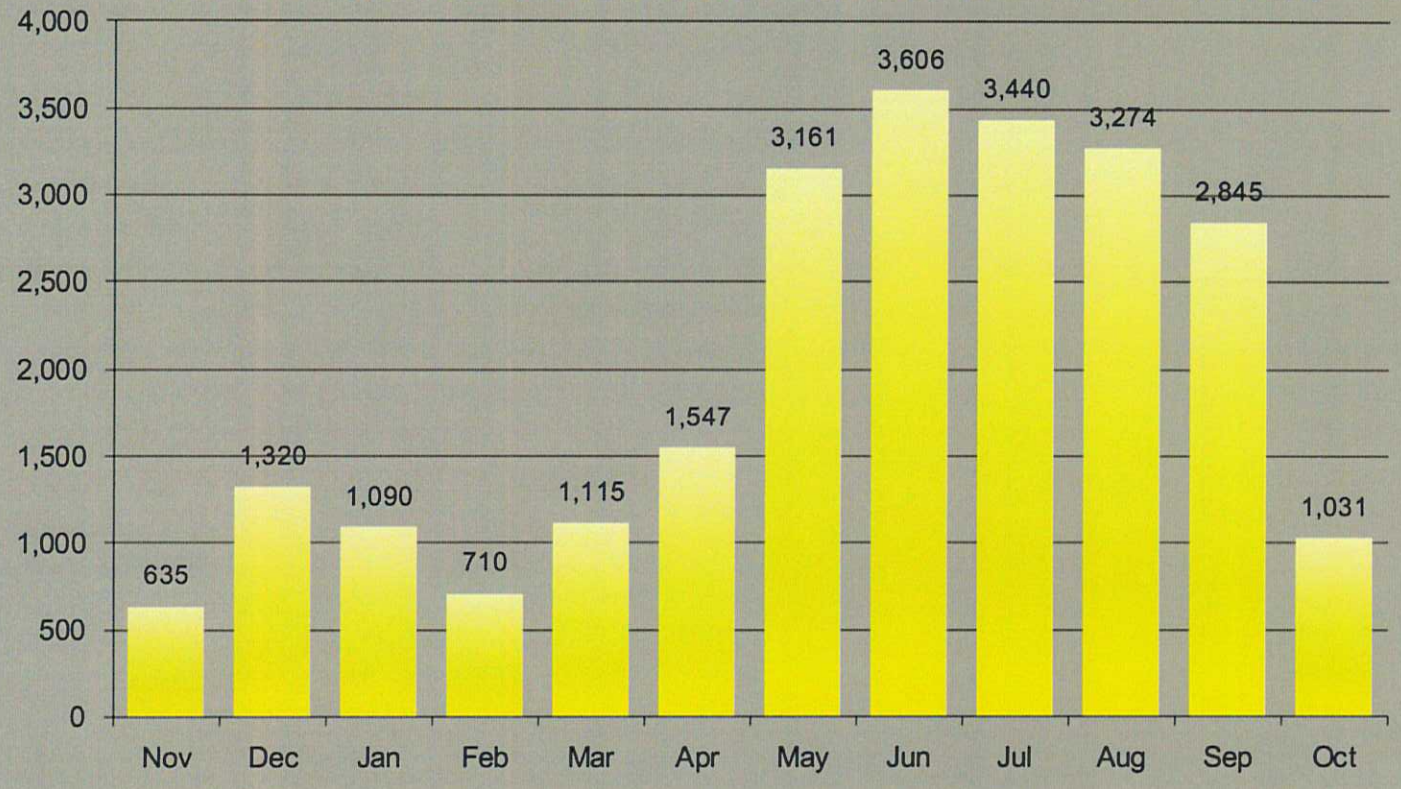
Total Water Delivered Through the PRA(ac-ft)



Power Generation

Deer Creek Power Plant

2018 Gross Generation kWh Thousands



2018 Total Generation 25,258,000 kWh

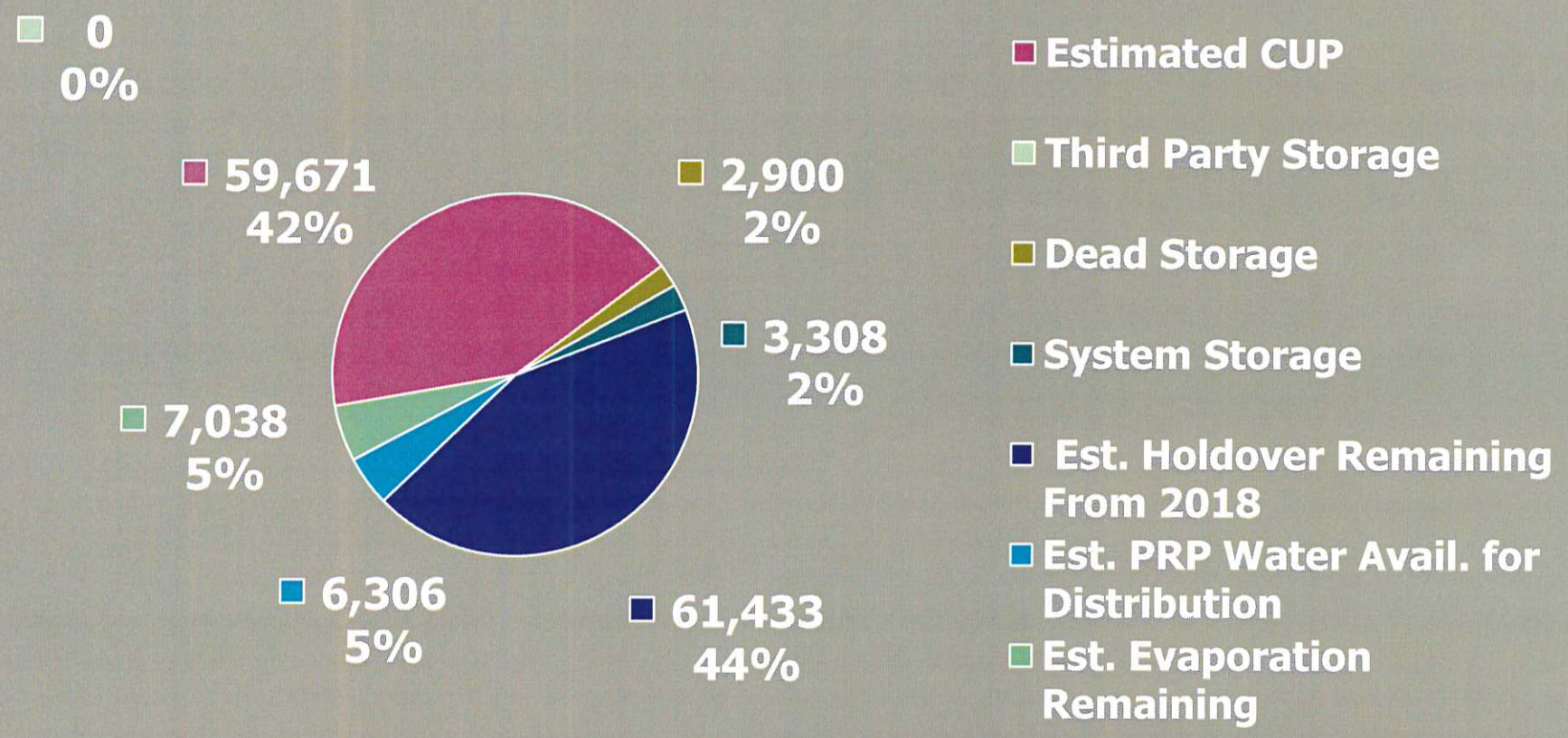
Deer Creek Reservoir

Current Operations:

Elevation:	5,413.95 feet	Volume:	144,536 ac-ft
To Fill:	3.05 feet		8,028 ac-ft
Generators:	101 cfs	SL Aqueduct:	15 cfs
Tube Valve:	4 cfs	River:	90 cfs
Spillway:	0 cfs	Total Releases:	105 cfs

Deer Creek Reservoir

Current Estimated Breakdown as of April 15, 2019



Total: 140,656 ac-ft

Delivery Projection

High Runoff Projected with the Great Snowpack

100% Allocation Currently Anticipated, This could vary with actual Run Off storage

May revise allocation following board of directors discussions in April – June board meetings

Attachment 2
Central Utah Water Conservancy District
Deer Creek/Jordanelle Public Meeting
April 24, 2019

CENTRAL UTAH WATER

Deer Creek/Jordanelle

Paul Pierpont (CUWCD)

April 24, 2019

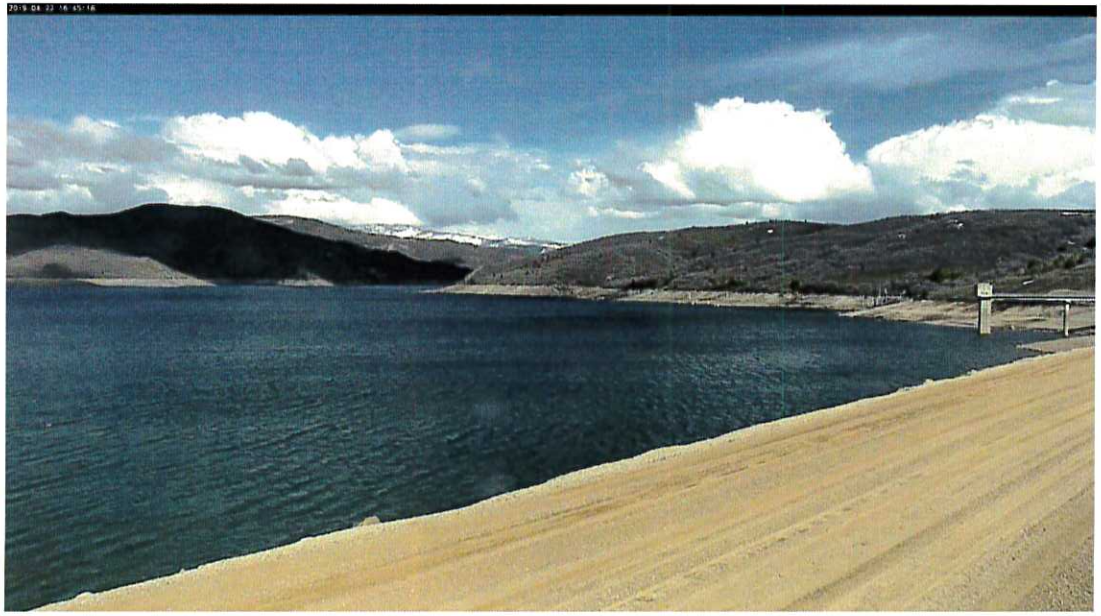
Lizard pic

4-26-15
Elevation 6129.59
Release from Unit 1 (251 CFS)
Content 214707 AF
68 percent full
36.81 ft. down
Inflow 335 CFS Natural 263 CFS
Peaked on 6-18-2015 6152.64
Content 274112 (87 percent)
32.4 Inches water, Trial Lake

4-22-16
Elevation 6112.90
Release from Unit 1 (200 CFS)
Content 177249 AF
56 percent full
53.5 ft. down
Inflow 309 CFS Natural 177 CFS
Peaked on 6-20-2016 6158.82
Content 291604 (93 percent)
35.9 Inches water, Trial Lake

4-28-2017
Elevation 6144.79
Release from Unit 1 (200 CFS)
Content 252870
80 percent full
21.6 ft. down
Inflow 1000 CFS Natural 500 CFS
Peaked on 6-13-2017 6167.43
Content 317140 (101 percent)
51.9 Inches water, Trial Lake

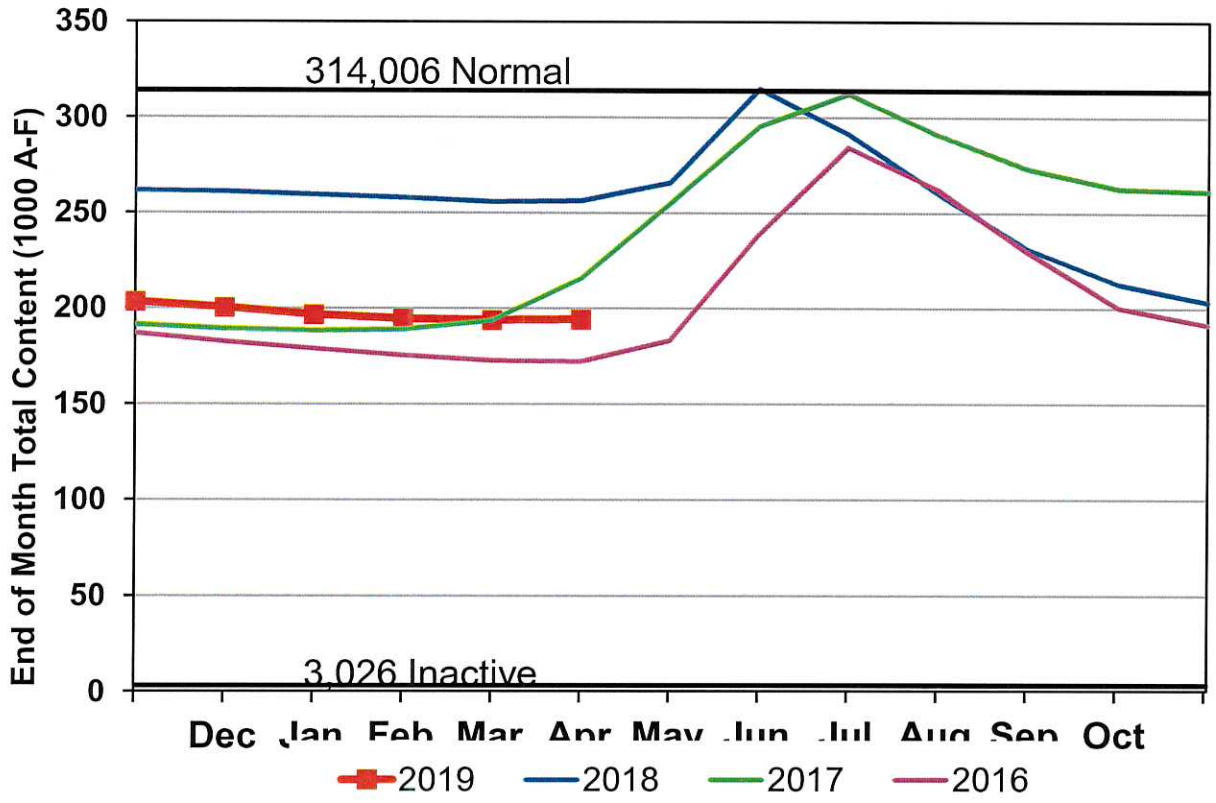
4-17-2018
Current elevation 6147.11
Content 259037 (83 percent)
Release from Unit 2 (145 CFS)
19.29 ft. down
Inflow 234 CFS Natural 157 CFS
Predicted 93 percent
Peaked on 6-3-18 6166.87
101 Percent 315307 AF
25.1 Inches water, Trial Lake



4-21-2019 Current Conditions
Current elevation 6124.97
Content 204849 (65 percent)
Release from Unit 1 (145 CFS)
41.43 ft. down (6166.4 is full)
Inflow 735 CFS Natural 452 CFS
Lowest level 3-23-19 6120.26
Content 3-23-2019 193203
Percent full 3-23-2019 61 percent
Low level 3-23-2019 -46.14 ft
35.5 inches water,Trial Lake
75 inches deep of snow
As of today Jordanelle will fill

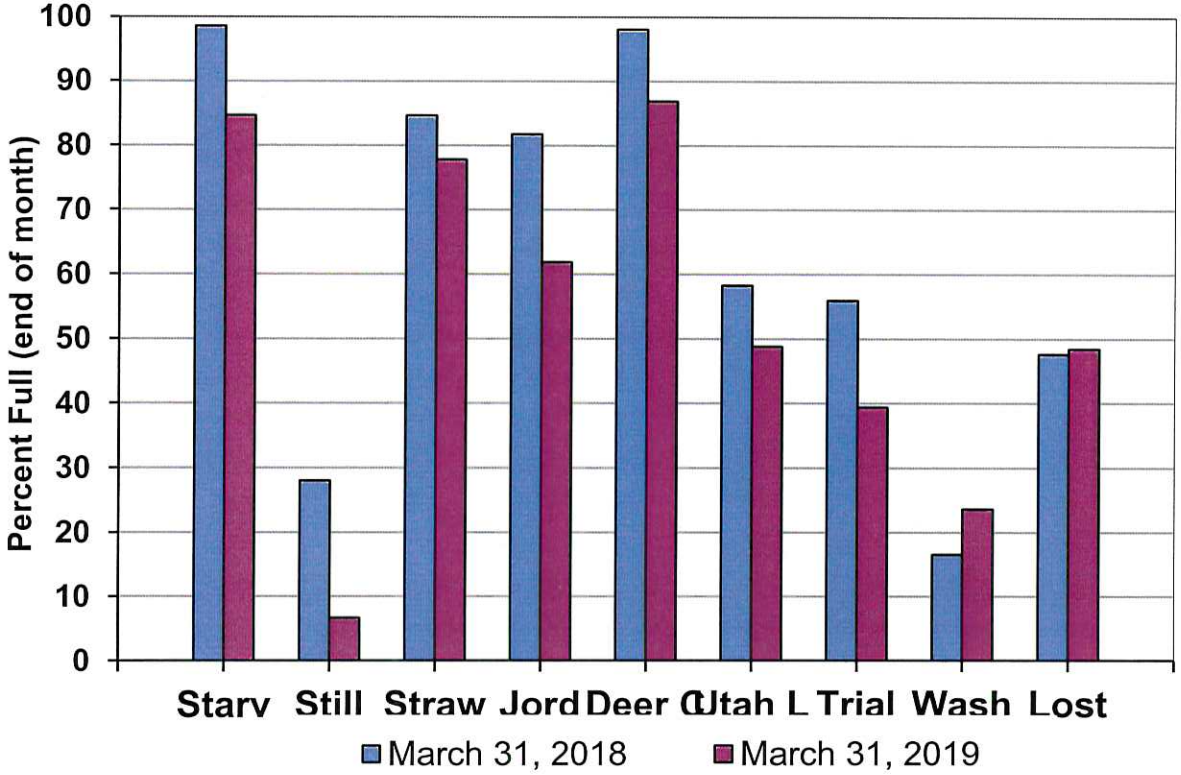
Year	Peak Date- % Full	precep	Low %
1995	7-21-1995, 69%	48.3	
1996	6-11-1996, 100%	39.7	
1997	6-23-1997, 102%	51.7	
1998	6-30-1998, 100%	41.9	
1999	7-03-1999, 98%	39.9	
2000	6-01-2000, 98%	33.8	
2001	5-31-2001, 99%	28.2	
2002	6-10-2002, 91%	30.9	
2003	6-10-2003, 96%	32.4	
2004	5-20-2004, 88%	31.9	75
2005	7-01-2005, 100%	45.1	68
2006	6-20-2006, 100%	41.6	87
2007	6-10-2007, 99%	31.5	77
2008	6-30-2008, 100%	37.2	72
2009	6-21-2009, 100%	41.9	72
2010	6-27-2010, 100%	33.5	72
2011	7-07-2011, 101%	54.6	66 may 6
2012	5-30-2012, 98%	26.9	84
2013	6-13-2013, 71%	31.3	58
2014	6-21-2014, 86%	42.8	50
2015	6-18-2015, 87%	32.4	64
2016	6-20-2016, 93%	35.9	55
2017	6-13-2017 101%	51.9	60 Jan 1
2018	6-3-2018 101%	25.1	81
2019	? 100%	35.5	62

Jordanelle Reservoir



Reservoir Status

End of Month



	Jan	Feb	Mar	Apr	May	2018 Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Generation Ouput Gross Energy, MWh	2,050.80	1,851.83	2,055.00	2,319.56	5,456.30	9,497.93	7,981.56	7,355.62	4,632.60	3,227.11	1,911.55	1,782.80	50,122.66
Generation Ouput Net Energy, MWh	1,994.67	1,802.27	2,000.15	2,250.31	5,190.90	8,814.87	7,493.64	6,934.19	4,432.90	3,108.63	1,861.15	1,735.44	47,619.12
Difference	56.13	49.56	54.85	69.25	265.40	683.06	487.92	421.43	199.70	118.48	50.40	47.36	2,503.54

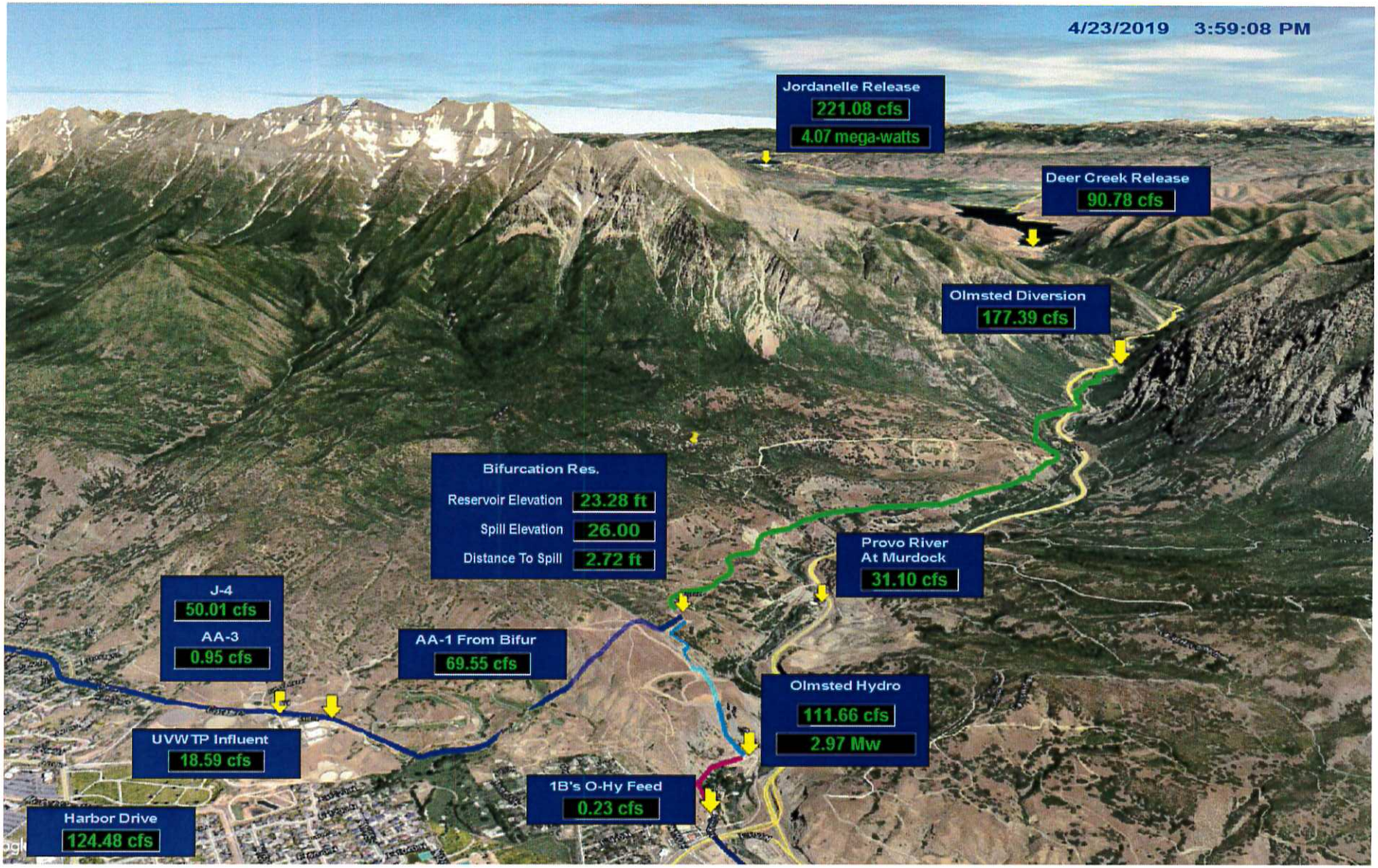
Jordanelle Reservoir- Olmsted/Alpine System

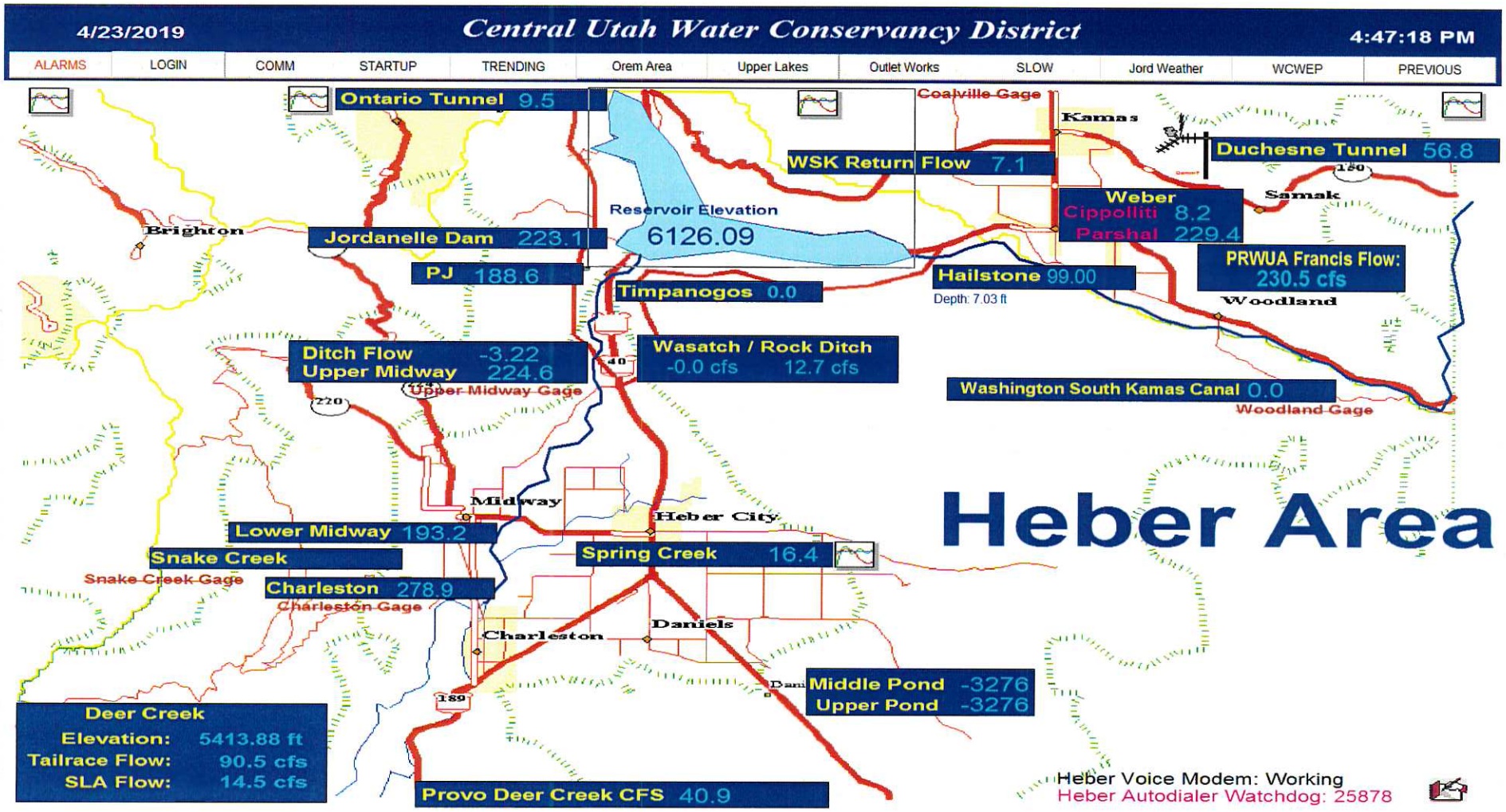
	Acre-Feet
CUP Project Water (M&I)	
Jordan Valley Water Conservancy District	52,760
Metropolitan Water District of Salt Lake & Sandy	20,000
Metropolitan Water District of Orem	7,500
Lehi City	1,175
IM Flash Technolgies	550
Cedar Hills	759
Lindon City	925
Highland City	423
American Fork City	2,489
Pleasant Grove City	620
Vineyard Town	35
DOI Water Management Improvement Program (Section 207)	21,607
Non-Project Water (M&I)	
Jordan Valley Water Conservancy District	7,814
Jordan Valley Water Conservancy District (Transfer)	0
Metropolitan Water District of Salt Lake & Sandy	0
Metropolitan Water District of Salt Lake & Sandy (Transfer)	0
Metropolitan Water District of Orem	10,106
Provo City	4,194
CUWCD - CWP	9,063
Non-Project Water	
Upper Provo Lakes (Exchanges)	2,215
Power	
Olmsted Hydropower Plant	16,084
Jordanelle Hydropower Plant	209,617

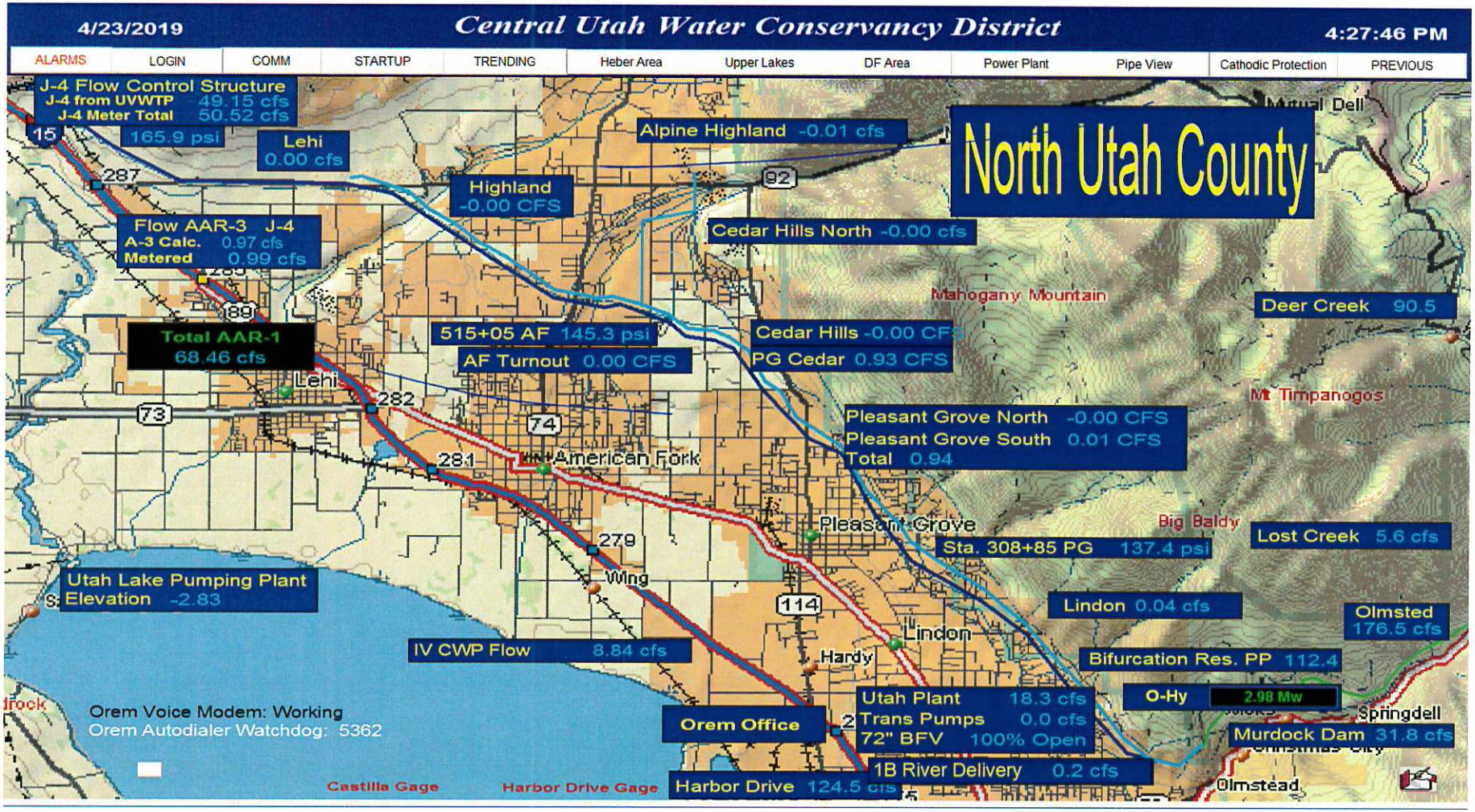
	Acre-Feet
Non-Project Water (Secondary Irrigation Systems)	
Lehi City (Temporary)	0
Lehi City	870
Lindon City	493
Highland City	1,951
Pleasant Grove City	3,877

Strawberry Reservoir

CUP Project Water (M&I)	
Uinta Basin Exchange Contracts	1
CUP Project Water (Irrigation)	
South Utah County (Temporary Contracts)	15,611
Upper Strawberry Flows (DRP)	2,900
CUP Project Water (Utah Lake/ Other)	
Exchange Water to Utah Lake	20,020
Other Trans-Mountain Diversions	0
CUP Project Water (Instream Flows)	
2014 Carry-Over Releases	0
2015 Carry-Over Releases	27,126
2016 Allocation Releases	16,699
Dedicated Storage Releases	0
Non-Project Water (Irrigation)	
Strawberry Water Users Association	74,797


4/23/2019 3:59:08 PM
Jordanelle Release
221.08 cfs
4.07 mega-watts
Deer Creek Release
90.78 cfs
Olmsted Diversion
177.39 cfs
Bifurcation Res.
Reservoir Elevation 23.28 ft
Spill Elevation 26.00
Distance To Spill 2.72 ft
Provo River At Murdock
31.10 cfs
J-4
50.01 cfs
AA-3
0.95 cfs
AA-1 From Bifur
69.55 cfs
Olmsted Hydro
111.66 cfs
2.97 Mw
UVW TP Influent
18.59 cfs
1B's O-Hy Feed
0.23 cfs
Harbor Drive
124.48 cfs


4/23/2019
Central Utah Water Conservancy District
4:47:18 PM
ALARMS
LOGIN
COMM
STARTUP
TRENDING
Orem Area
Upper Lakes
Outlet Works
SLOW
Jord Weather
WCWEP
PREVIOUS
Ontario Tunnel 9.5
Coalville Gage
Kamas
Duchesne Tunnel 56.8
WSK Return Flow 7.1
Weber
Cippolliti 8.2
Parshal 229.4
Samak
Reservoir Elevation
6126.09
Brighton
Jordanelle Dam 223.1
PJ 188.6
Hailstone 99.00
Depth: 7.03 ft
PRWUA Francis Flow:
230.5 cfs
Timpanogos 0.0
Woodland
Ditch Flow -3.22
Upper Midway 224.6
Upper Midway Gage
Wasatch / Rock Ditch
-0.0 cfs 12.7 cfs
Washington South Kamas Canal 0.0
Woodland Gage
Heber Area
Midway
Heber City
Lower Midway 193.2
Snake Creek
Snake Creek Gage
Spring Creek 16.4
Charleston 278.9
Charleston Gage
Charleston
Daniels
Middle Pond -3276
Upper Pond -3276
Deer Creek
Elevation: 5413.88 ft
Tailrace Flow: 90.5 cfs
SLA Flow: 14.5 cfs
Provo Deer Creek CFS 40.9
Heber Voice Modem: Working
Heber Autodialer Watchdog: 25878


4/23/2019
Central Utah Water Conservancy District
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ALARMS
LOGIN
COMM
STARTUP
TRENDING
Heber Area
Upper Lakes
DF Area
Power Plant
Pipe View
Cathodic Protection
PREVIOUS
North Utah County
J-4 Flow Control Structure
J-4 from UVWTP 49.15 cfs
J-4 Meter Total 50.52 cfs
165.9 psi
Lehi
0.00 cfs
Alpine Highland -0.01 cfs
Highland
-0.00 CFS
Flow AAR-3 J-4
A-3 Calc. 0.97 cfs
Metered 0.99 cfs
Cedar Hills North -0.00 cfs
Mahogany Mountain
Deer Creek 90.5
Total AAR-1
68.46 cfs
515+05 AF 145.3 psi
AF Turnout 0.00 CFS
Cedar Hills -0.00 CFS
PG Cedar 0.93 CFS
Mt Timpanogos
Pleasant Grove North -0.00 CFS
Pleasant Grove South 0.01 CFS
Total 0.94
American Fork
Pleasant Grove
Big Baldy
Lost Creek 5.6 cfs
Sta. 308+85 PG 137.4 psi
Utah Lake Pumping Plant
Elevation -2.83
Wing
Lindon 0.04 cfs
Olmsted
176.5 cfs
Lindon
IV CWP Flow 8.84 cfs
Hardy
Bifurcation Res. PP 112.4
O-Hy 2.98 Mw
Utah Plant 18.3 cfs
Trans Pumps 0.0 cfs
72" BFV 100% Open
Orem Office
Springdell
Murdock Dam 31.8 cfs
Orem Voice Modem: Working
Orem Autodialer Watchdog: 5362
1B River Delivery 0.2 cfs
Castilla Gage
Harbor Drive Gage
Harbor Drive 124.5 cfs
Olmstead

CAT
CAT

Verizon
VPN
11:19 PM
67%
Earthquake Box PTZ

25 years (Jordanelle Dam)

Paul Pierpont

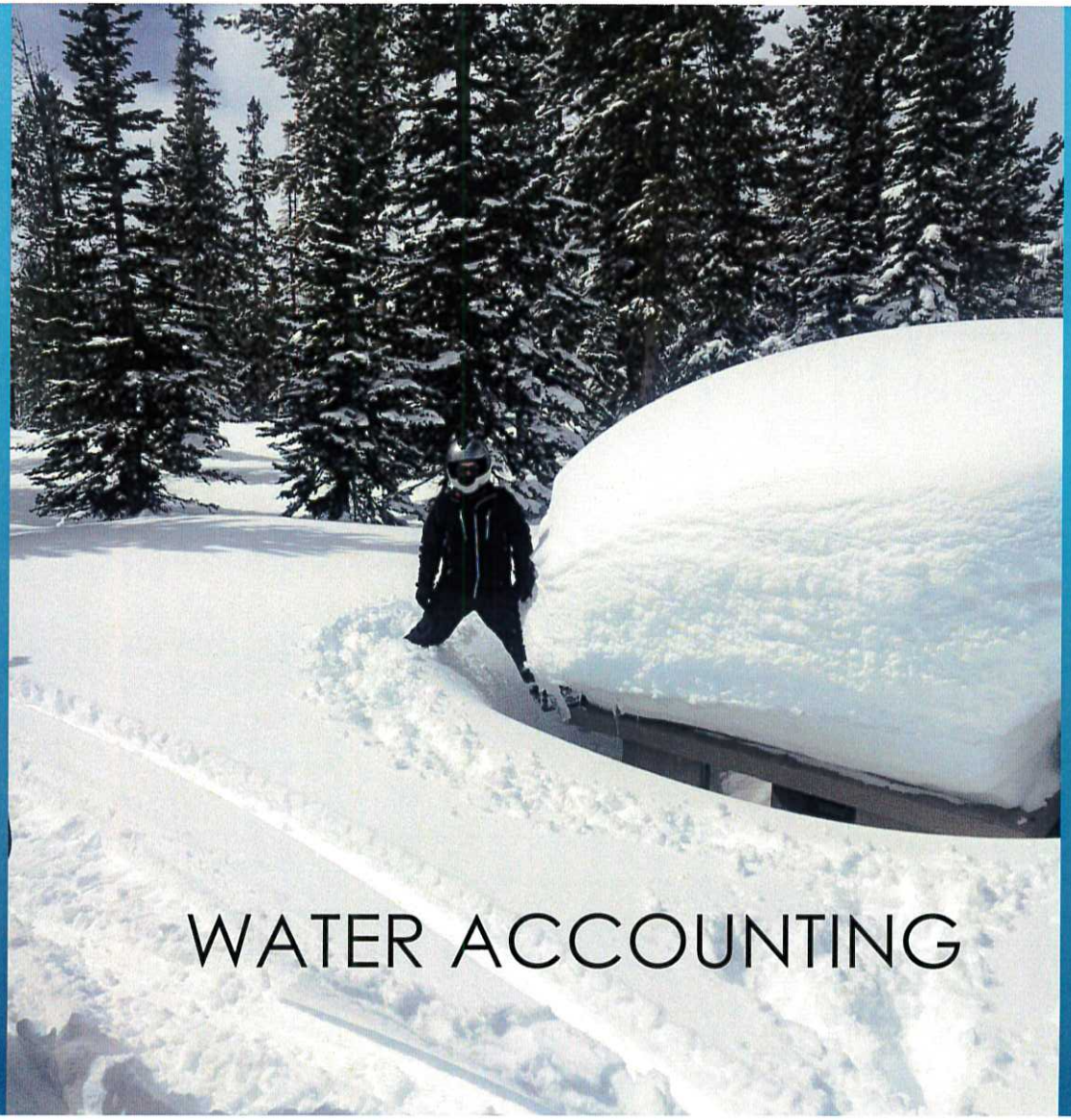
Provo River Area Manager

CUWCD

paul@cuwcd.com

Cell 801-376-8378

Attachment 3
Water Accounting
Deer Creek/Jordanelle Public Meeting
April 24, 2019



WATER ACCOUNTING

Driest year on record

Utah recorded its lowest statewide precipitation since at least 1895. The other Four Corners states also experienced extremely dry conditions.

*Precipitation rankings are from 1895 to 2018. The water year runs from October to the next September.

Source: National Centers for Environmental Information

GRAPHIC BY CHRISTOPHER CHERRINGTON | *The Salt Lake Tribune*

- Driest year on record
- Lower Provo Class A rights cut to 50%
- Upper Provo 1st class rights cut to 15%.

ter Rights

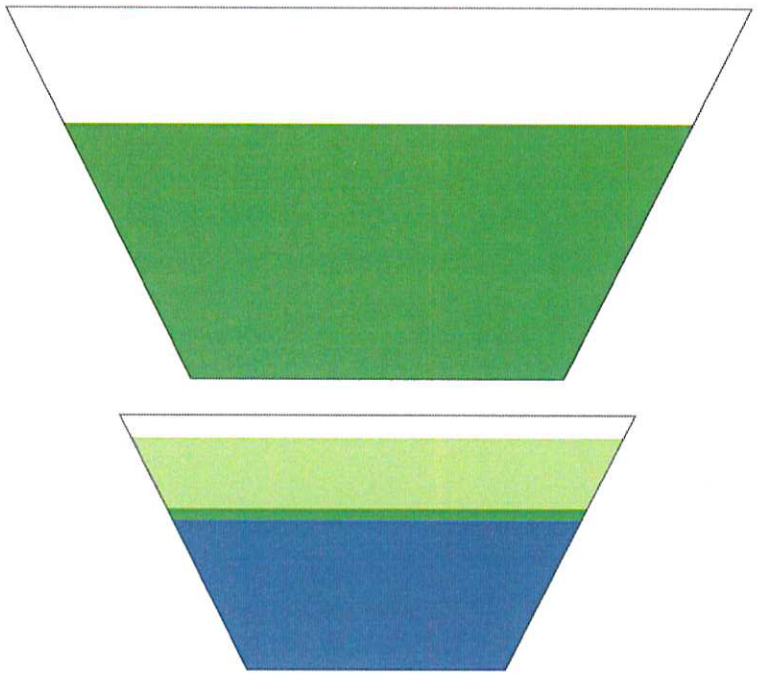
Provo River Complete Model Draft #6

Teacups

Units: Default

Date: 2019-03-31

November December January February March April May June July August September October



Jordanelle/HORS Contents (196,419 ac-ft)

- System Storage 2 (0 ac-ft)
- PRWUA (0 ac-ft)
- System Storage 1 (0 ac-ft)
- CUWCD (196,419 ac-ft)
- Regulation Balance (0 ac-ft)

Deer Creek Contents (134,874 ac-ft)

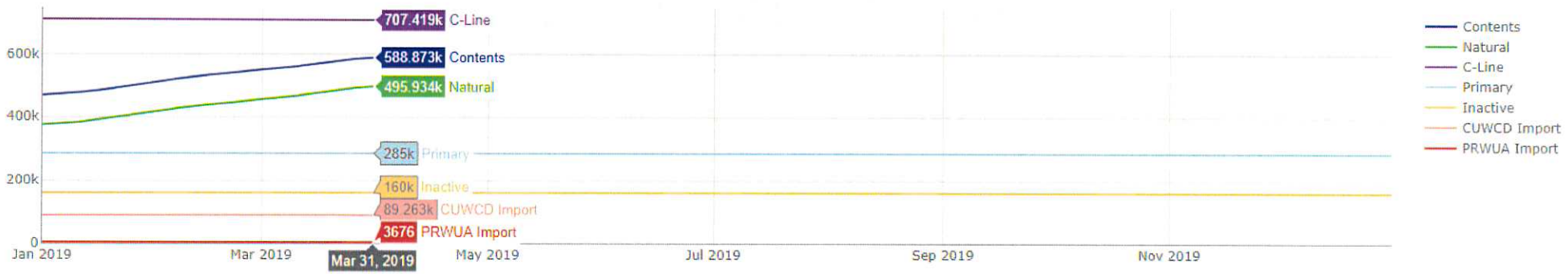
- System Storage 1 (50,683 ac-ft)
- CUWCD (6,852 ac-ft)
- System Storage 2 (584 ac-ft)
- PRWUA (76,755 ac-ft)

2018	AF
System Storage to JD	72737
System Storage to DC	1620
2019 (to date)	
System Storage to JD	54000
System Storage to DC	3300

Feedback

Utah Lake Contents, Imports*, Natural, Primary, Inactive, Criteria, etc.

Acre-Feet. Provisional Data. Estimated 2016 E398: 28,523. *Imports are the difference between Contents and Natural. PRP return flow credit is under review and is not yet accounted below, but 5000 ac-ft of A12141 direct Weber Imports in 2017, less the customary evaporation loss, is accounted below. New 2018 upstream reservoir storage is subject to release if it is not exchanged upstream or exceeds the conversion criteria. A partial conversion may occur. It was estimated that 1600 ac-ft of System 2 was stored by the PRWUA upstream in 2018. Import balances shown below have not yet been reduced by the 2018 import exchanges. Such reductions will be retroactively reported after the official 2018 upstream storage is reported. The official reporting is based on the official commissioner report.



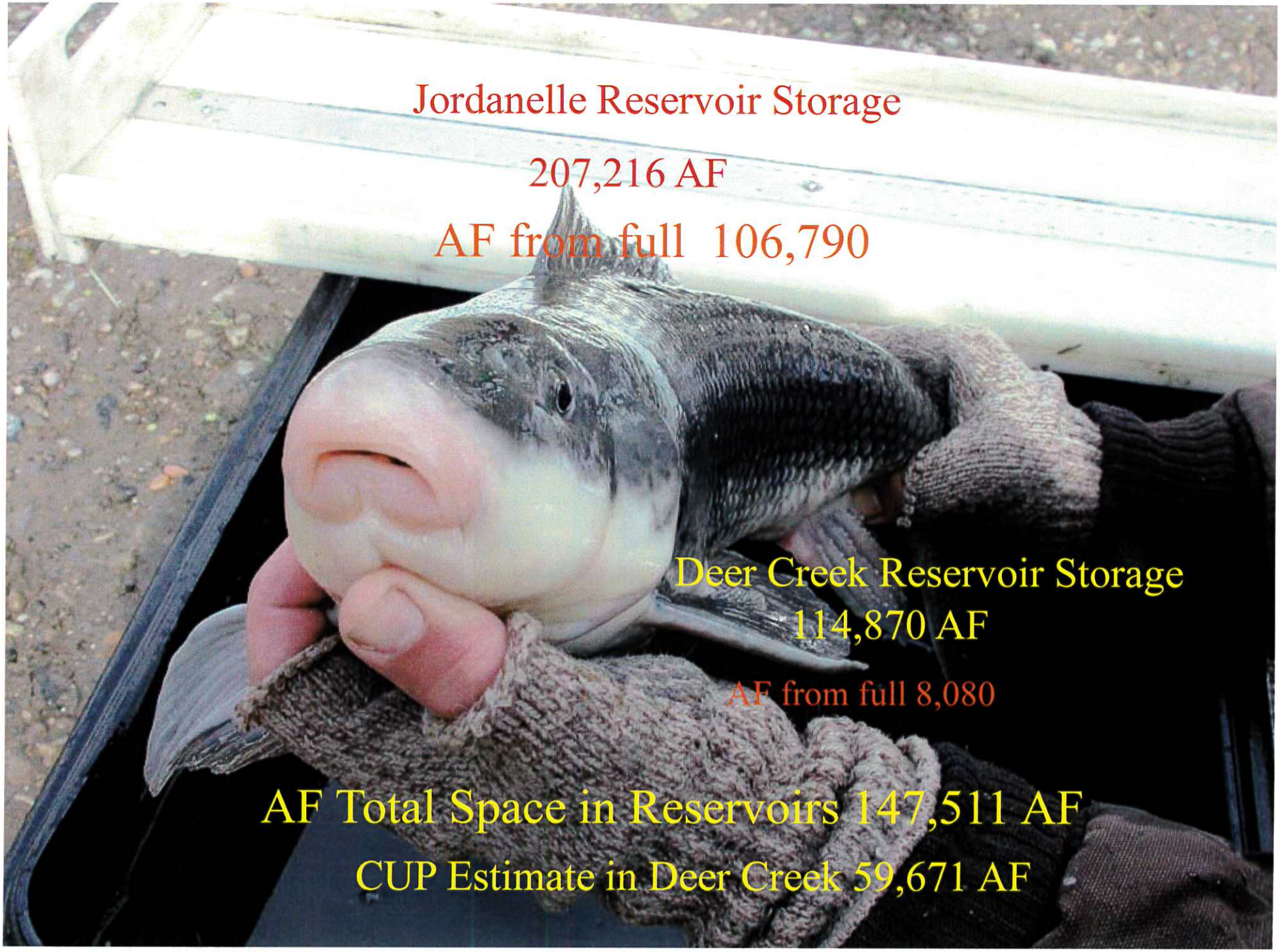
Attachment 4
June Sucker Flows in
Provo River and Hobble Creek
April 24, 2019

CENTRAL UTAH WATER

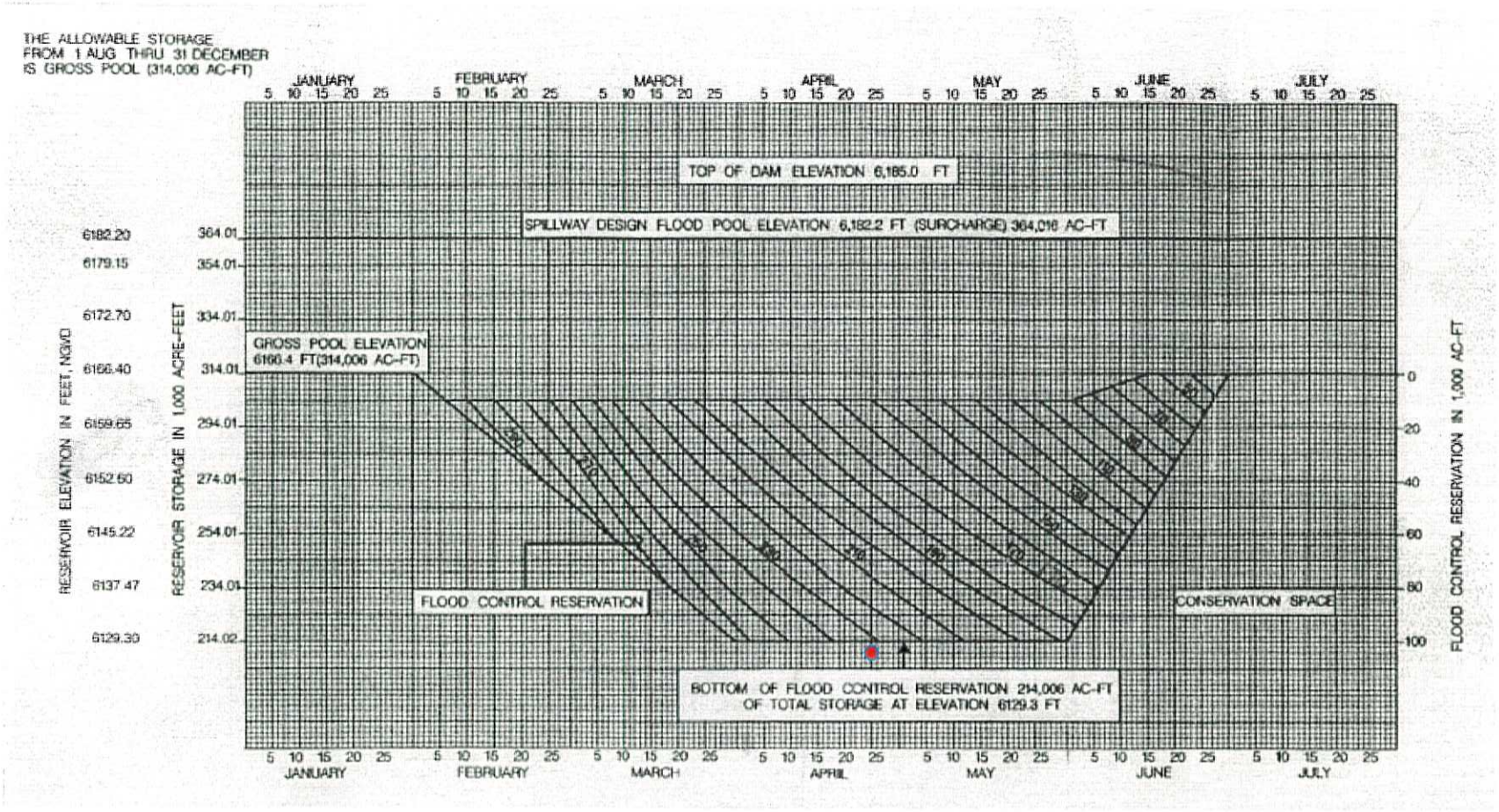
June Sucker Meeting

Daryl Devey

4/24/2019


Jordanelle Reservoir Storage
207,216 AF
AF from full 106,790
Deer Creek Reservoir Storage
114,870 AF
AF from full 8,080
AF Total Space in Reservoirs 147,511 AF
CUP Estimate in Deer Creek 59,671 AF

DRAFT Jordanelle Water Control Diagram



NOTES:

1. Parameter values are forecasted natural remaining runoff into Deer Creek Reservoir in thousands of acre-feet on the Provo River between the given date and 31 July. The parameter is based on the most probable snowmelt forecasted volume.

2. When available storage space is less than the required flood control reservation as indicated on this diagram, water shall be released as rapidly as possible from Jordanelle Dam without causing the flow of the Provo River to exceed 1,800 cfs into Deer Creek Reservoir.

   The Provo River Water Users Association has control and regulates Deer Creek Dam and will not operate for flood control. The control point has been established to not exceed 1,800 cfs if possible.

3. Rate of change of release will not exceed 200 cfs per hour.

iFIX WorkSpace (Run)

Historical

O_JordFlowTrend.grf - Fix32.HEBER.JHJDJFFLOW.F_CV +

4/22/2019

Central Utah Water Conservancy District

4:23:04 PM

Exit

Jordanelle Elevation

Duration

3 Days

10 Days

30 Days

60 Days

90 Days

1 Year

Zoom

Horizontal Zoom Percent

5

Zoom

Reset Zoom

Multiple Values

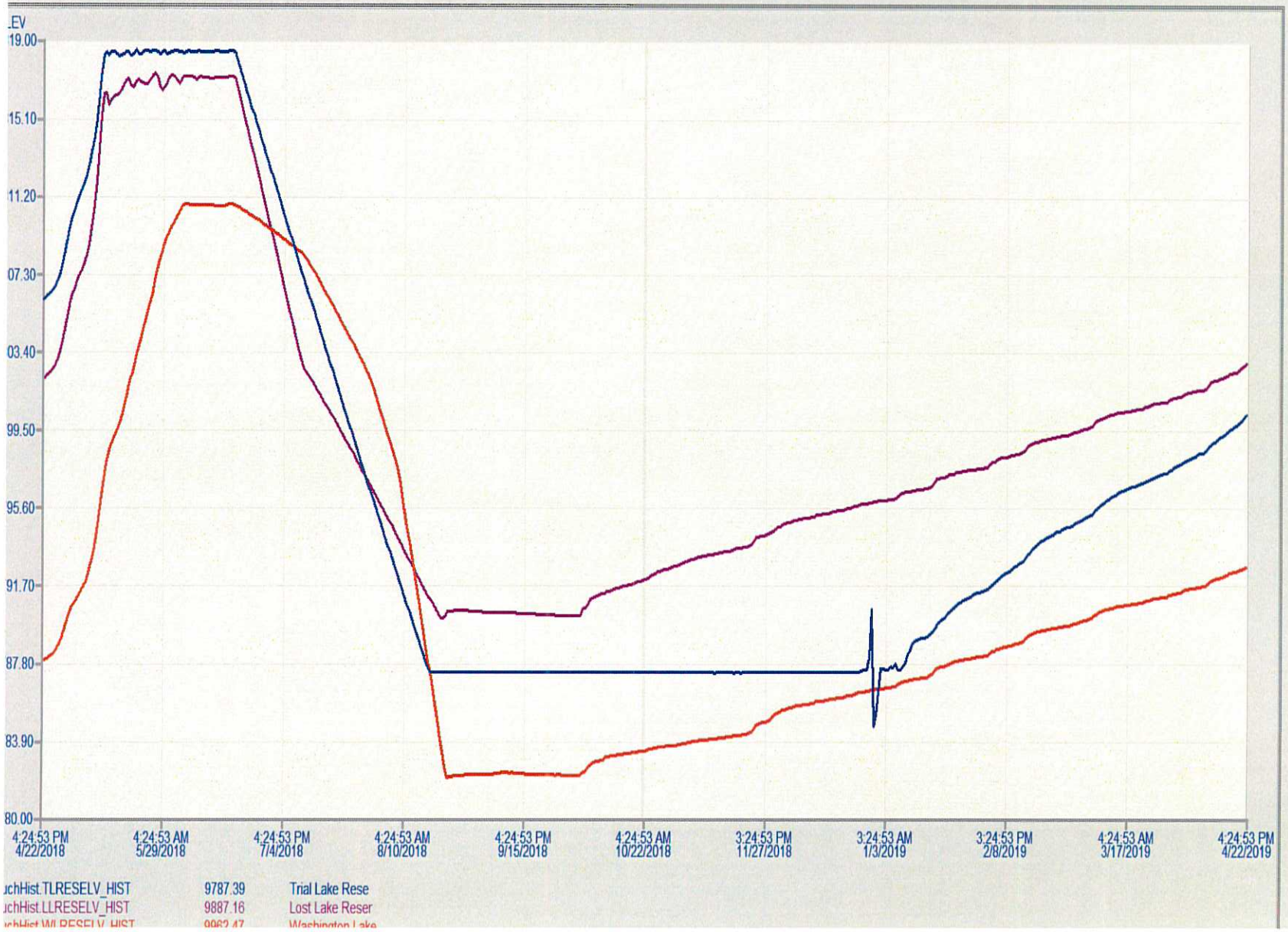
4/22/2019

Central Utah Water Conservancy District

4:25:13 PM

Exit

Upper Lakes



Duration

- 3 Days
- 10 Days
- 30 Days
- 60 Days
- 90 Days
- 1 Year

Zoom

Horizontal Zoom Percent

5

Zoom

Reset Zoom

Multiple Values

4:27:24 PM

Central Utah Water Convervany District

Alarms | Login | Comm | Startup | Trending | North Utah | Cedar Hills | PG South

Tagname	Description	Current	Units	Max	Min	Avg
Hist.ULDEPTH_HIST	Utah Lake Depth - Official (HIST)	-5.12	Ft (Comp.)	-2.19	-5.63	-4.07
Hist.SCADA.ULDEPTH.F_CV	Utah Lake Depth Official	-5.11	ft	-2.35	-5.79	-4.07
Hist.ULDEPTH1_HIST	Utah Lake Depth - Radar (HIST)	-5.12	Ft (Comp.)	-2.19	-5.63	-4.07

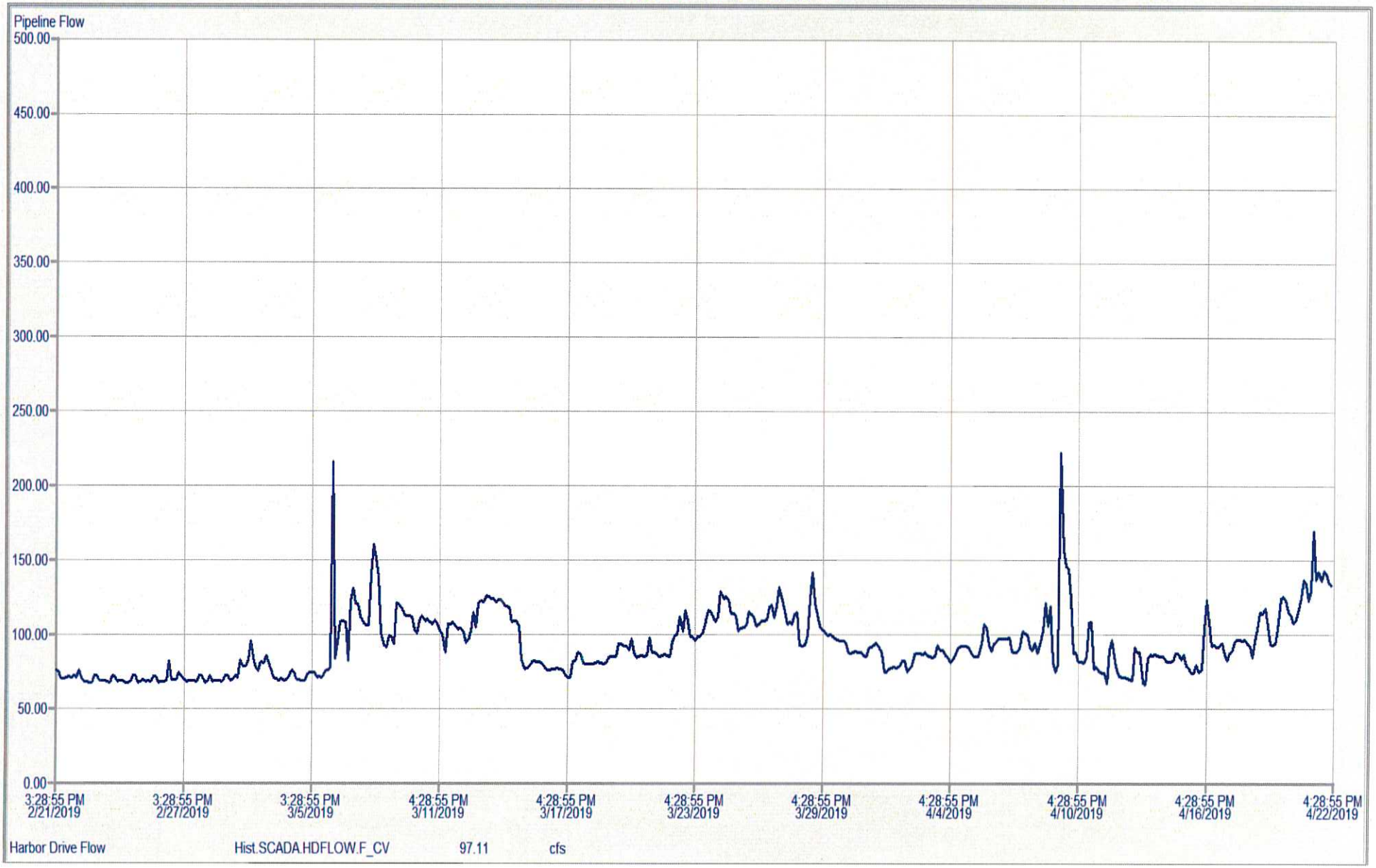
4/22/2019

Central Utah Water Conservancy District

4:

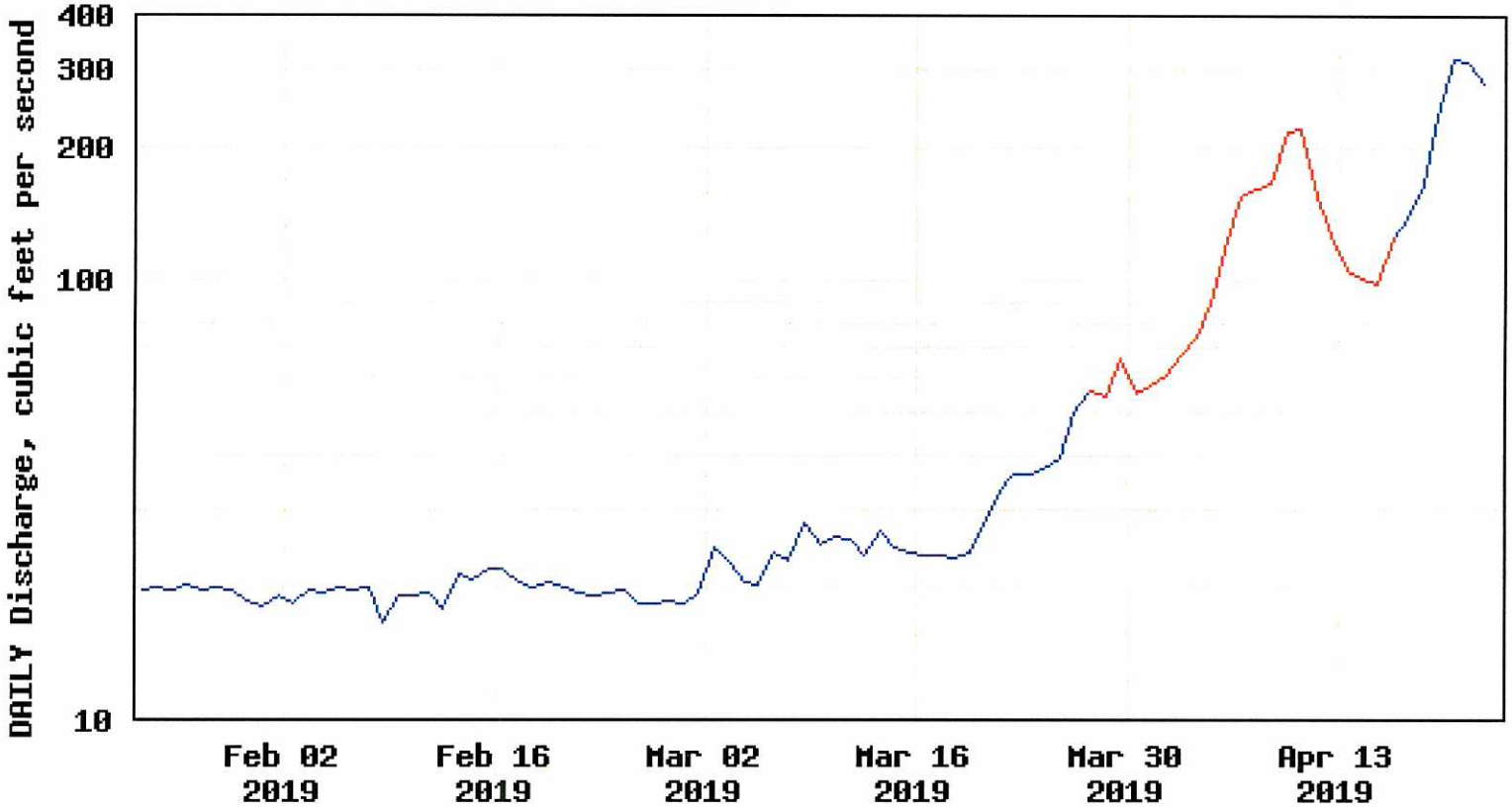
Exit

June Sucker Flows



USGS

USGS 10153100 HOBBLE CREEK AT 1650 WEST AT SPRINGVILLE, UTAH



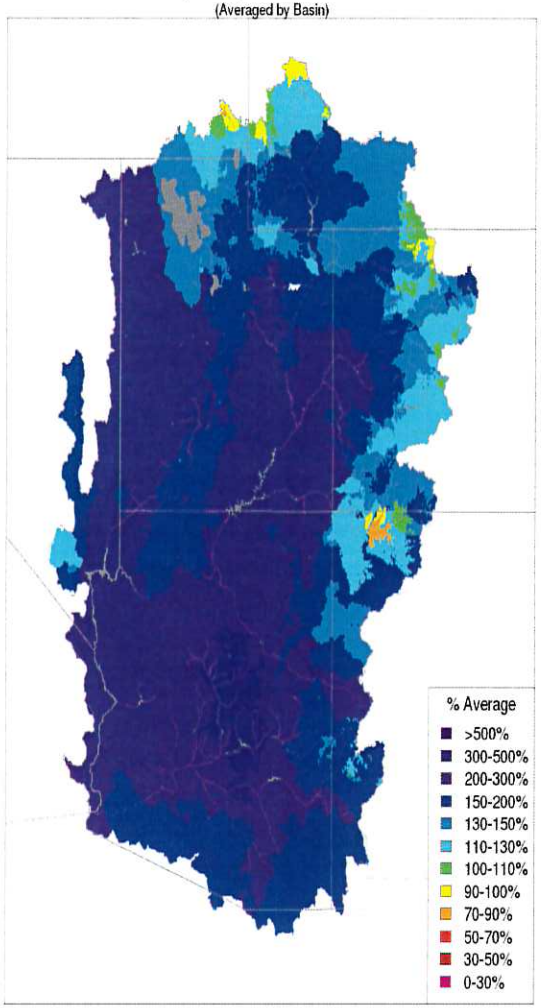
---- Provisional Data Subject to Revision ----

Daily mean discharge

Estimated daily mean discharge

Monthly Precipitation - October 2018

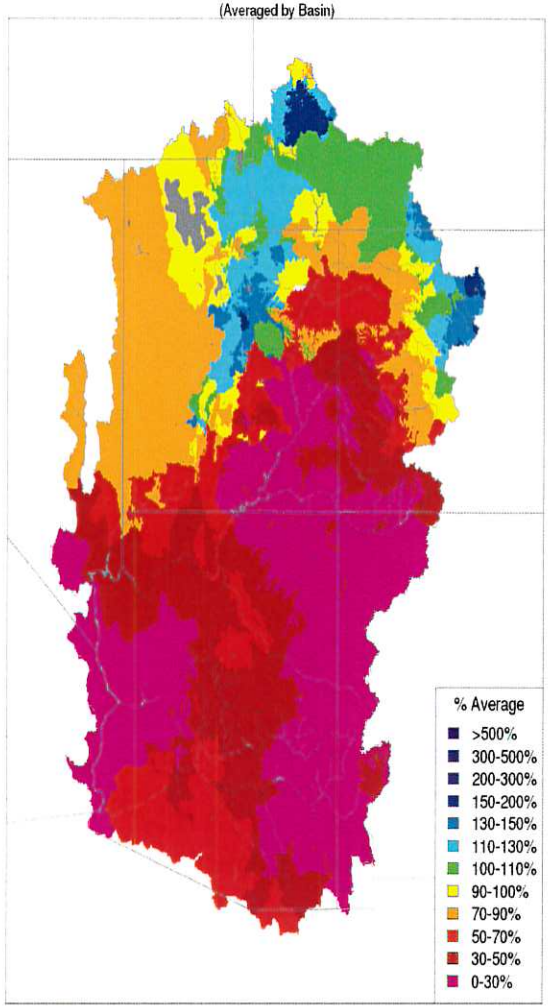
(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah. www.cbrfc.noaa.gov

Monthly Precipitation - November 2018

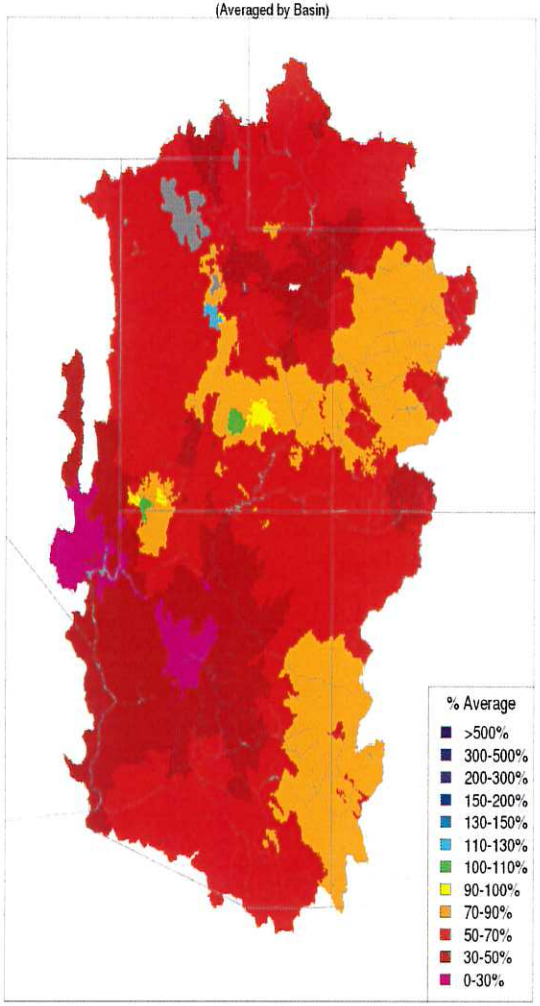
(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah. www.cbrfc.noaa.gov

Monthly Precipitation - December 2018

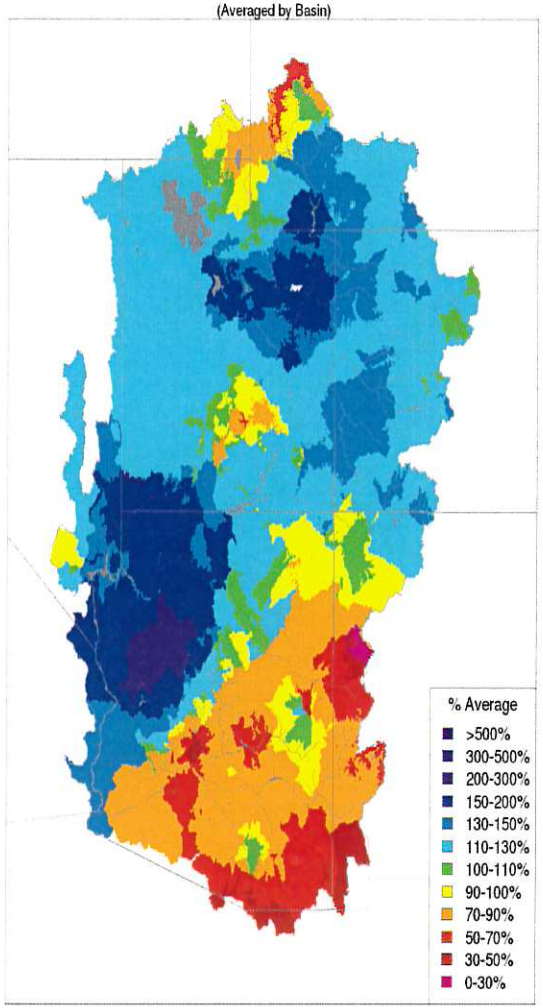
(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah. www.cbrfc.noaa.gov

Monthly Precipitation - January 2019

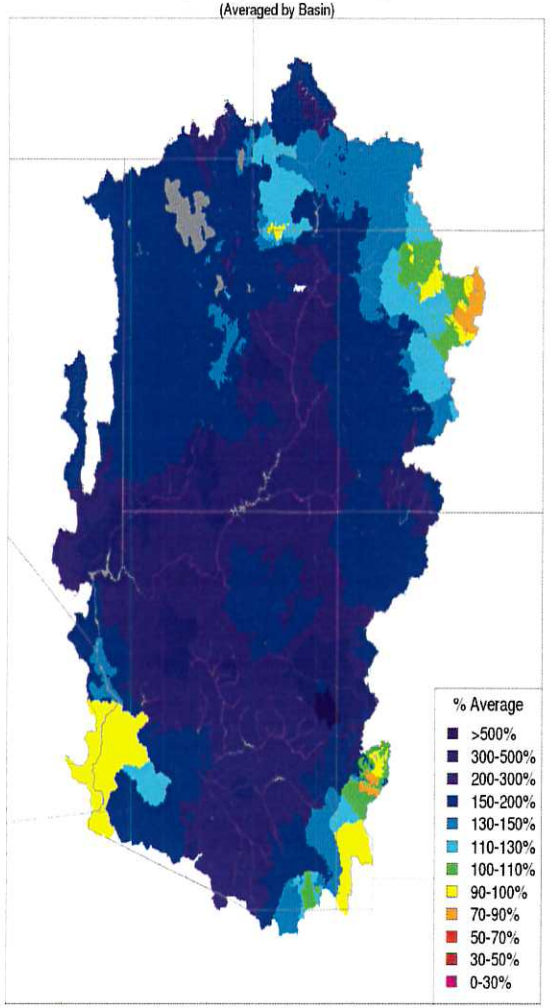
(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah. www.cbrfc.noaa.gov

Monthly Precipitation - February 2019

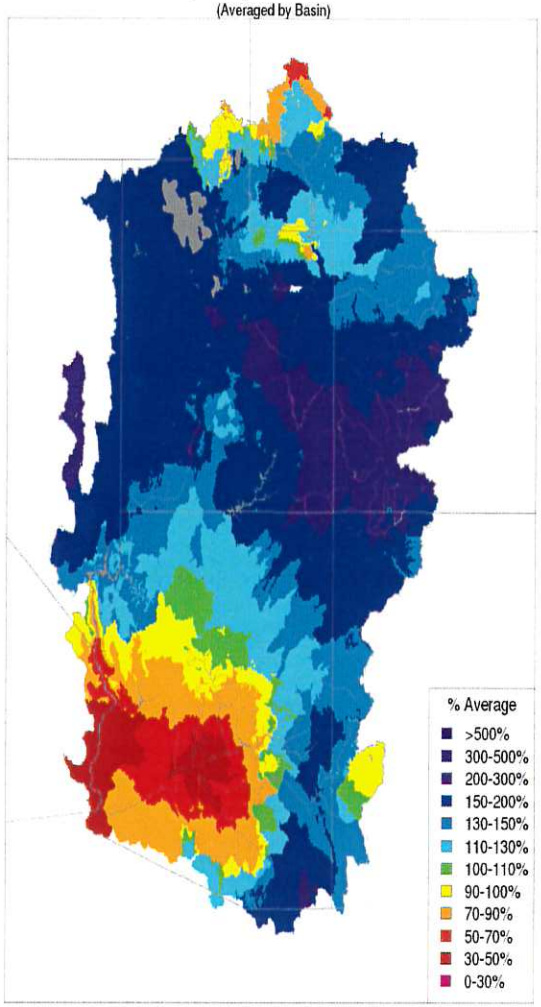
(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah. www.cbrfc.noaa.gov

Monthly Precipitation - March 2019

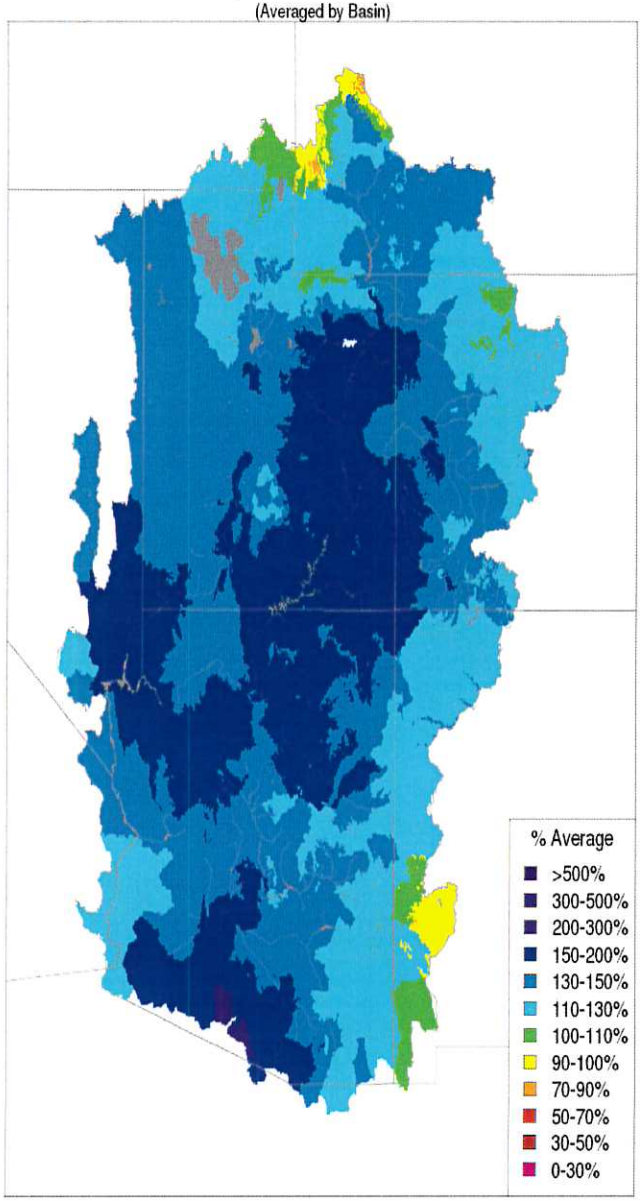
(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah. www.cbrfc.noaa.gov

Water Year Precipitation, October 2018 - March 2019

(Averaged by Basin)

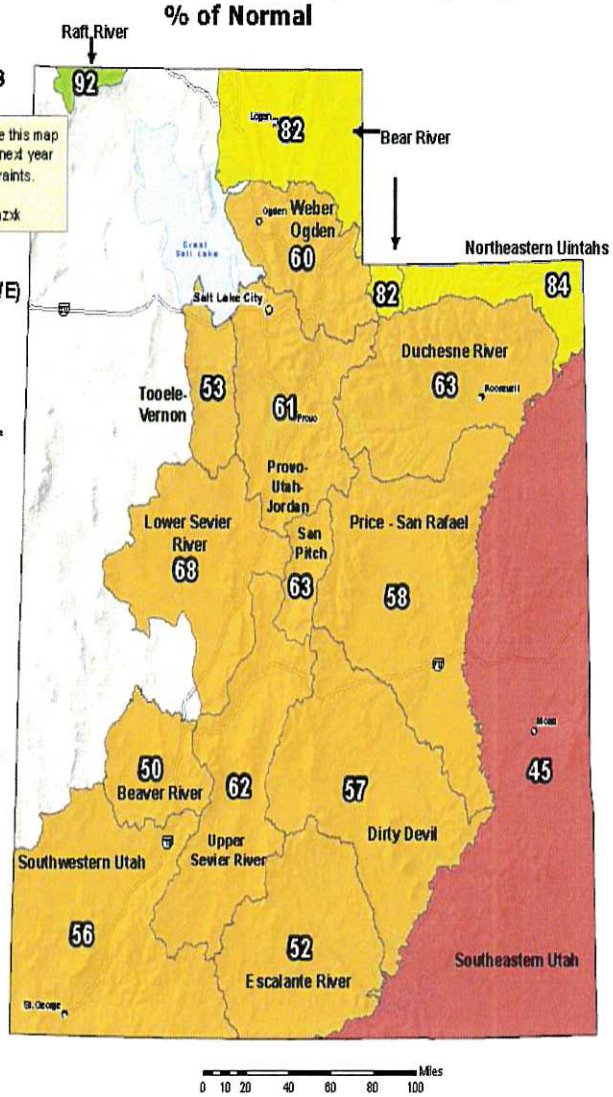


Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Utah
SNOTEL Current Snow Water Equivalent (SWE)
% of Normal

Apr 01, 2018

Notice: We anticipate this map will not be available next year due to staffing constraints. Alternate maps: https://go.usa.gov/xnzxk



Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* Data unavailable at time of posting or measurement is not representative at this time of year

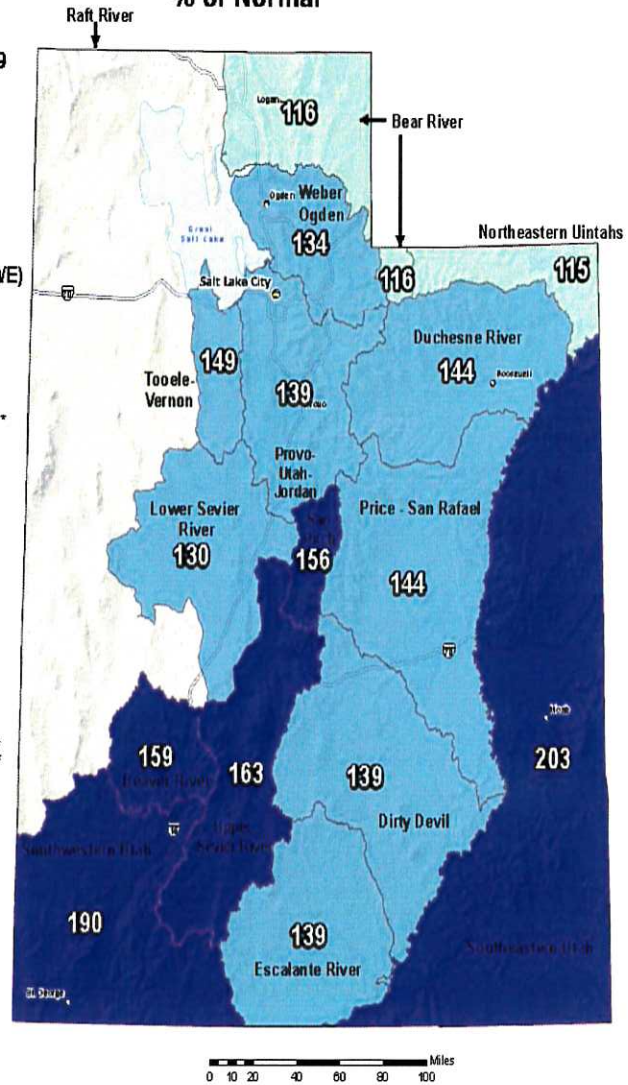
Provisional Data Subject to Revision

The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Utah
SNOTEL Current Snow Water Equivalent (SWE)
% of Normal

Apr 01, 2019



Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* Data unavailable at time of posting or measurement is not representative at this time of year

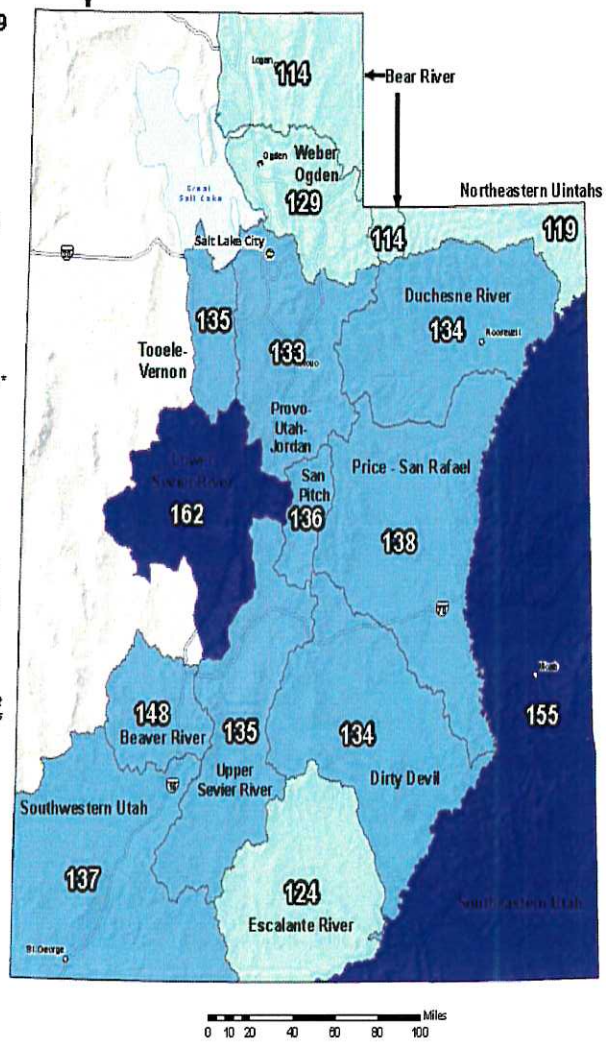
Provisional Data Subject to Revision

The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Utah
SNOTEL Water Year (Oct 1) to Date Precipitation
% of Normal

Apr 16, 2019



Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* Data unavailable at time of posting or measurement is not representative at this time of year

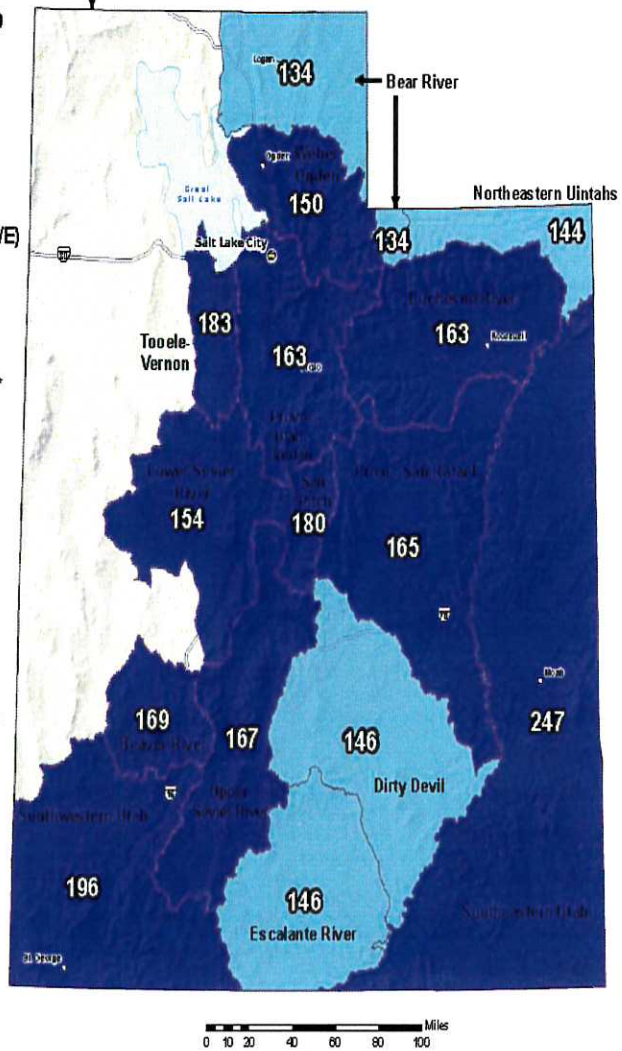
Provisional Data Subject to Revision

The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Utah
SNOTEL Current Snow Water Equivalent (SWE)
% of Normal

Apr 16, 2019



Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

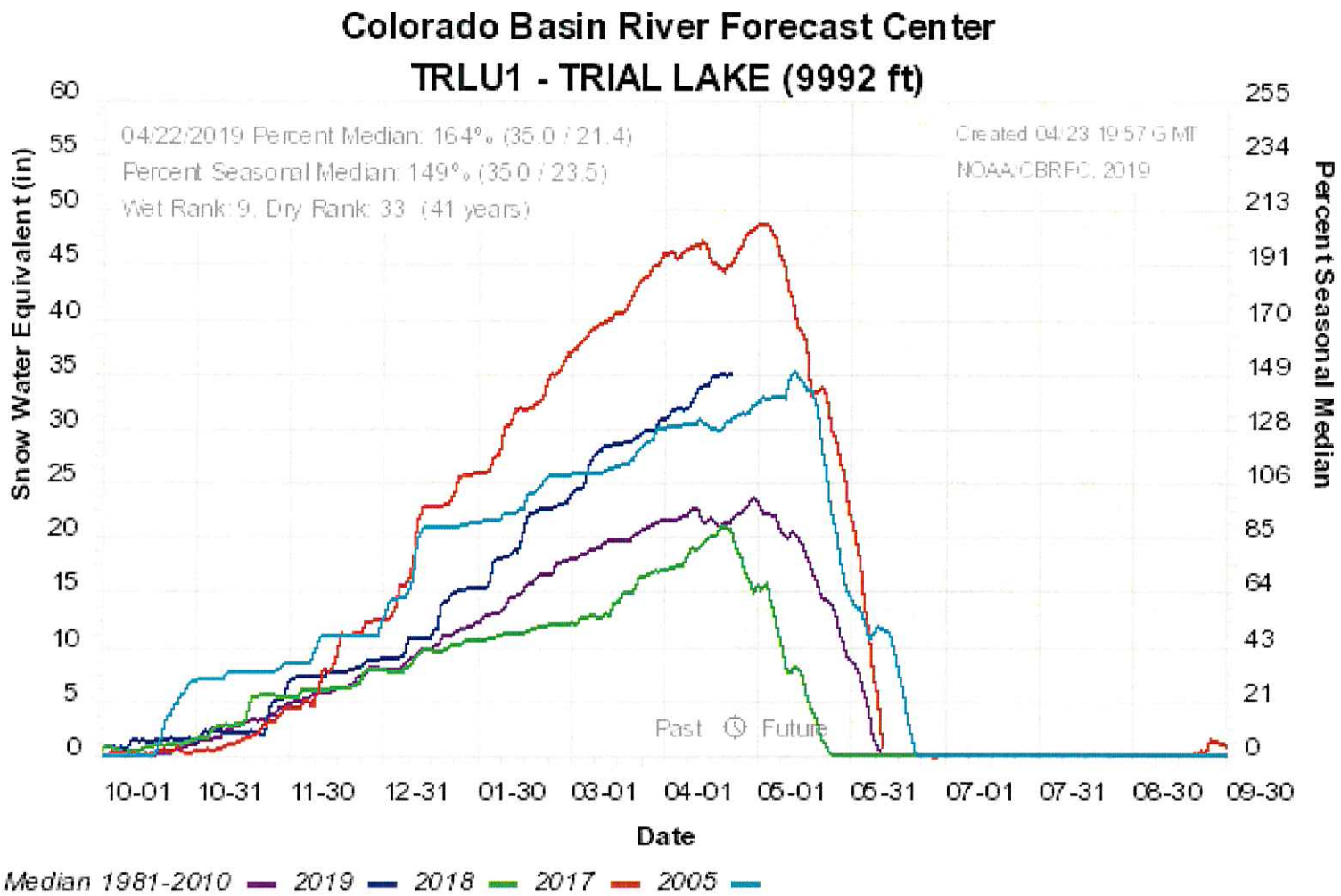
- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

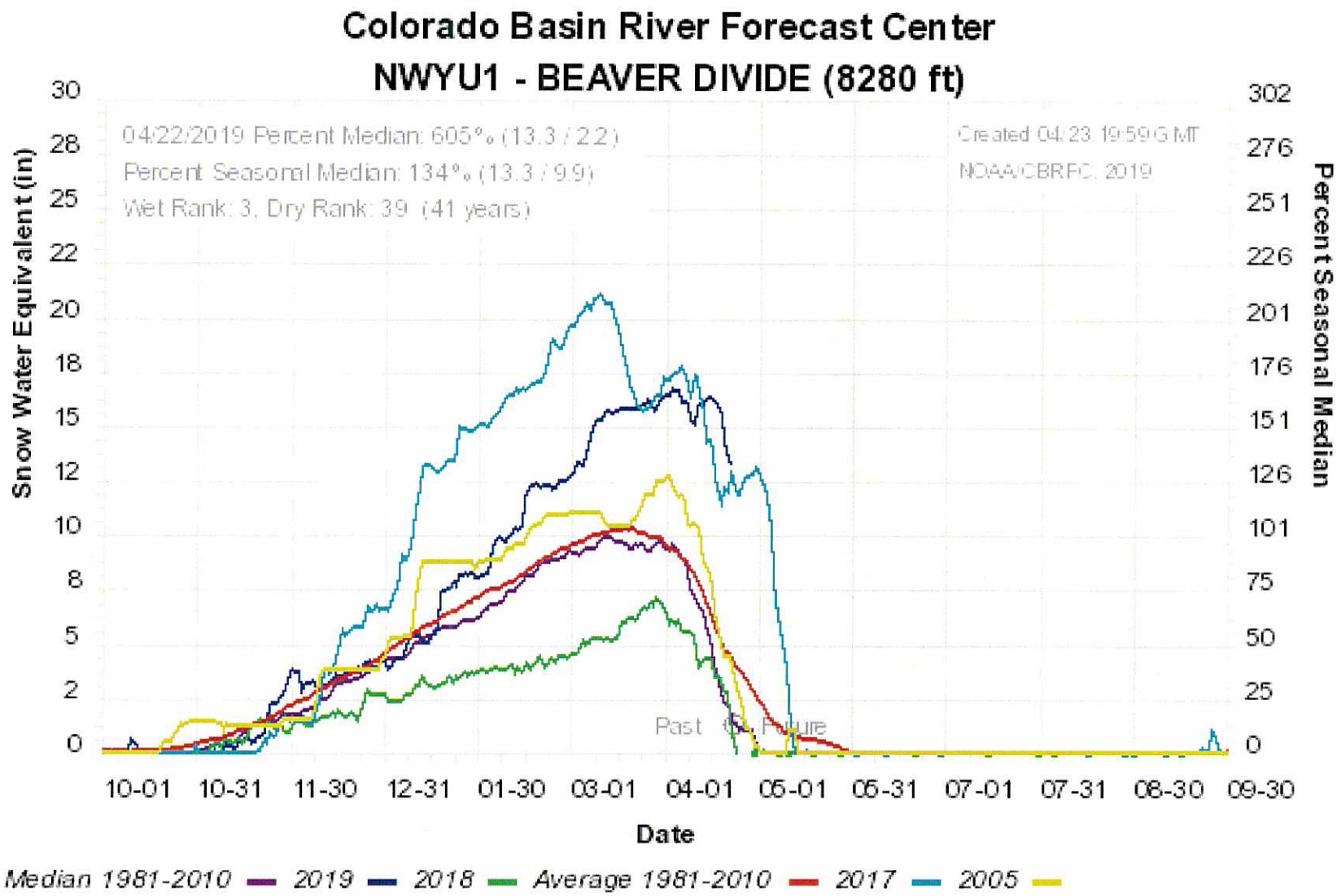
* Data unavailable at time of posting or measurement is not representative at this time of year

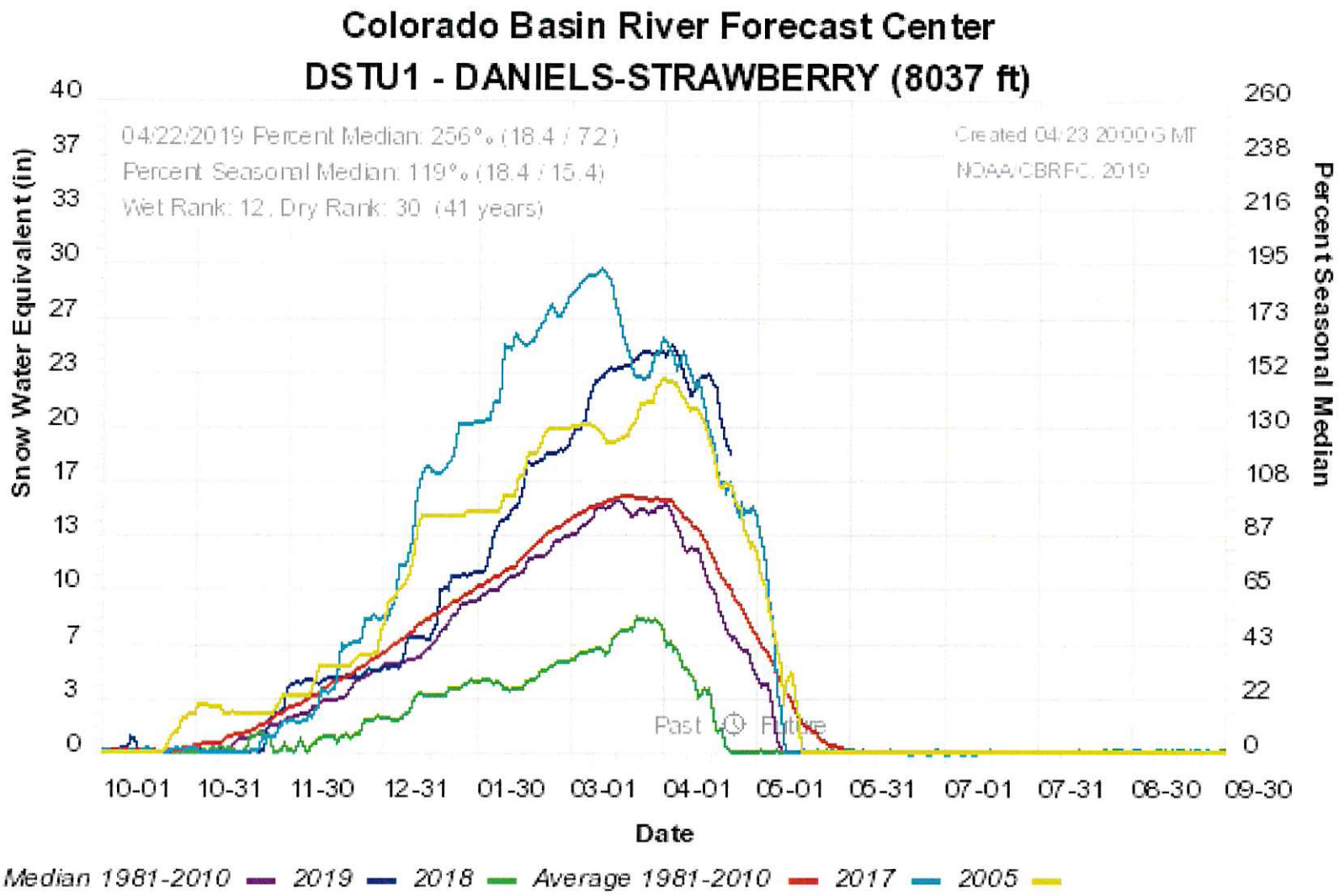
Provisional Data Subject to Revision

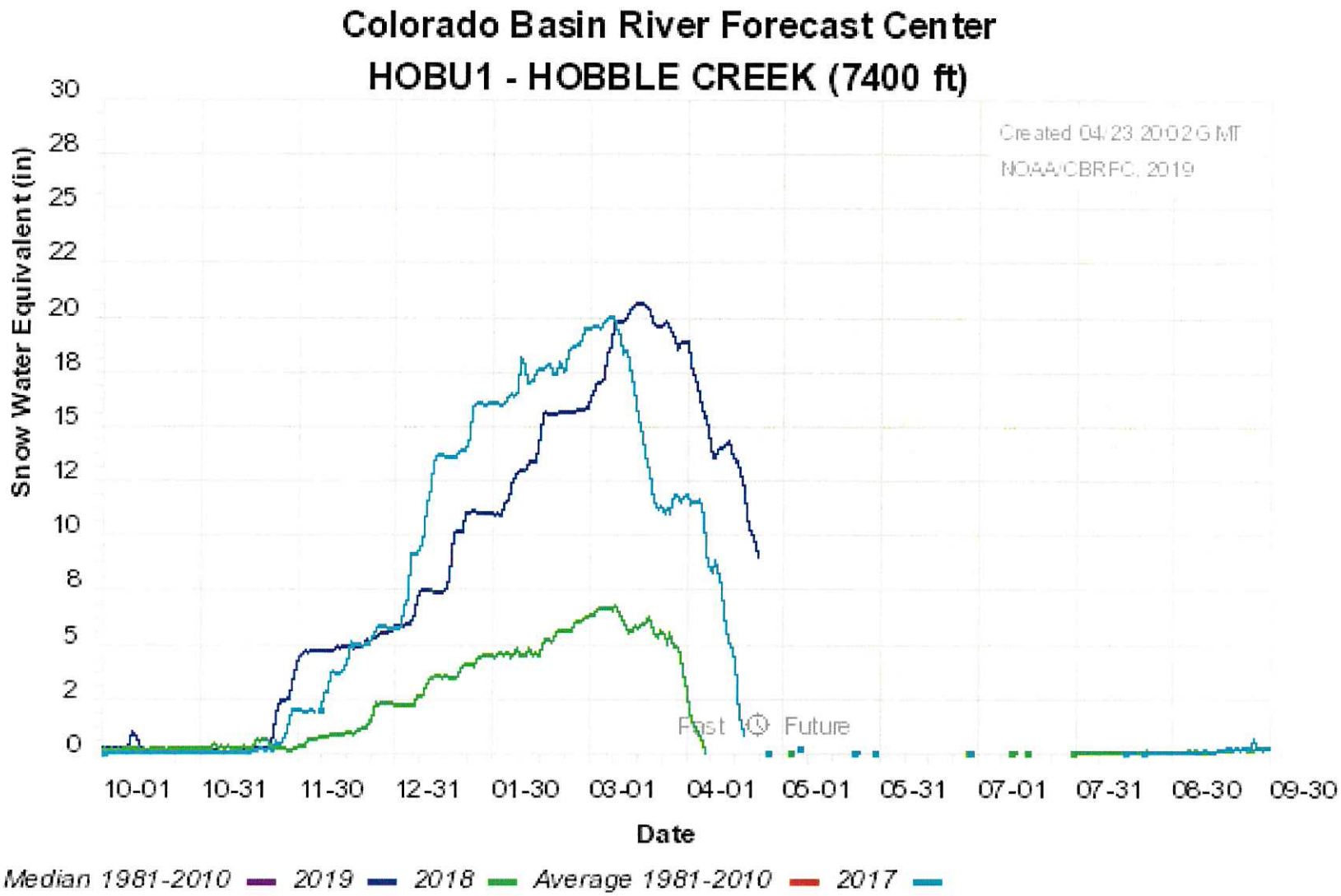
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

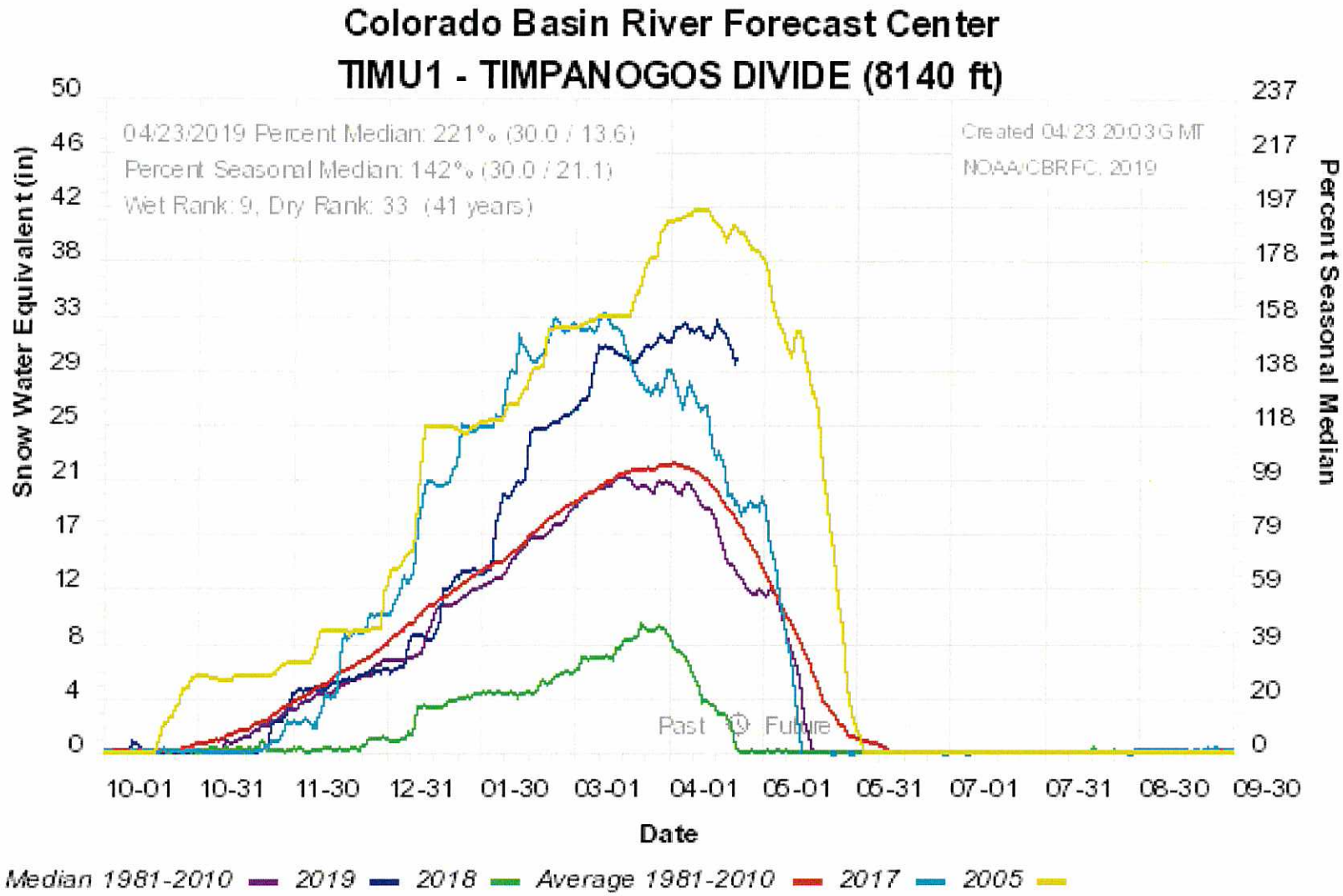
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov


Colorado Basin River Forecast Center
TRLU1 - TRIAL LAKE (9992 ft)
04/22/2019 Percent Median: 164% (35.0 / 21.4)
Percent Seasonal Median: 149% (35.0 / 23.5)
Wet Rank: 9, Dry Rank: 33 (41 years)
Created 04/23 19:57 GMT
NOAA/CBRFC, 2019
Past
Future
Snow Water Equivalent (in)
Percent Seasonal Median
Date
60
55
50
45
40
35
30
25
20
15
10
5
0
255
234
213
191
170
149
128
106
85
64
43
21
0
10-01
10-31
11-30
12-31
01-30
03-01
04-01
05-01
05-31
07-01
07-31
08-30
09-30
Median 1981-2010
2019
2018
2017
2005


Colorado Basin River Forecast Center
NWYU1 - BEAVER DIVIDE (8280 ft)
04/22/2019 Percent Median: 605% (13.3 / 2.2)
Percent Seasonal Median: 134% (13.3 / 9.9)
Wet Rank: 3, Dry Rank: 39 (41 years)
Created 04/23 19:59 GMT
NOAA/CBRFC, 2019
Past
Future
Snow Water Equivalent (in)
Percent Seasonal Median
Date
10-01
10-31
11-30
12-31
01-30
03-01
04-01
05-01
05-31
07-01
07-31
08-30
09-30
Median 1981-2010
2019
2018
Average 1981-2010
2017
2005

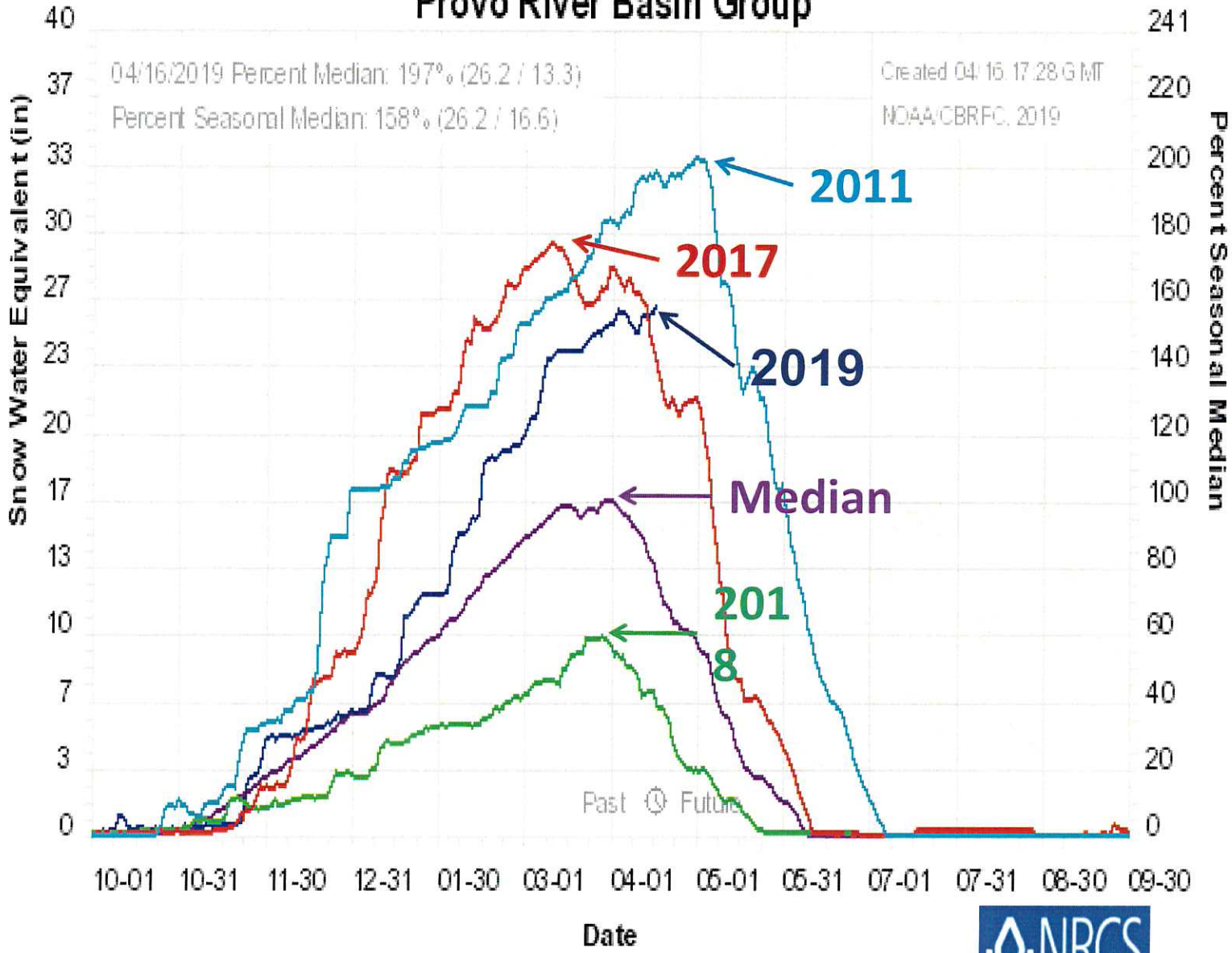

Colorado Basin River Forecast Center
DSTU1 - DANIELS-STRAWBERRY (8037 ft)
04/22/2019 Percent Median: 256% (18.4 / 7.2)
Percent Seasonal Median: 119% (18.4 / 15.4)
Wet Rank: 12, Dry Rank: 30 (41 years)
Created 04/23 20:00 G MT
NOAA/CBRFC, 2019
Past
Future
Snow Water Equivalent (in)
Percent Seasonal Median
Date
40
37
33
30
27
23
20
17
13
10
7
3
0
260
238
216
195
173
152
130
108
87
65
43
22
0
10-01
10-31
11-30
12-31
01-30
03-01
04-01
05-01
05-31
07-01
07-31
08-30
09-30
Median 1981-2010
2019
2018
Average 1981-2010
2017
2005

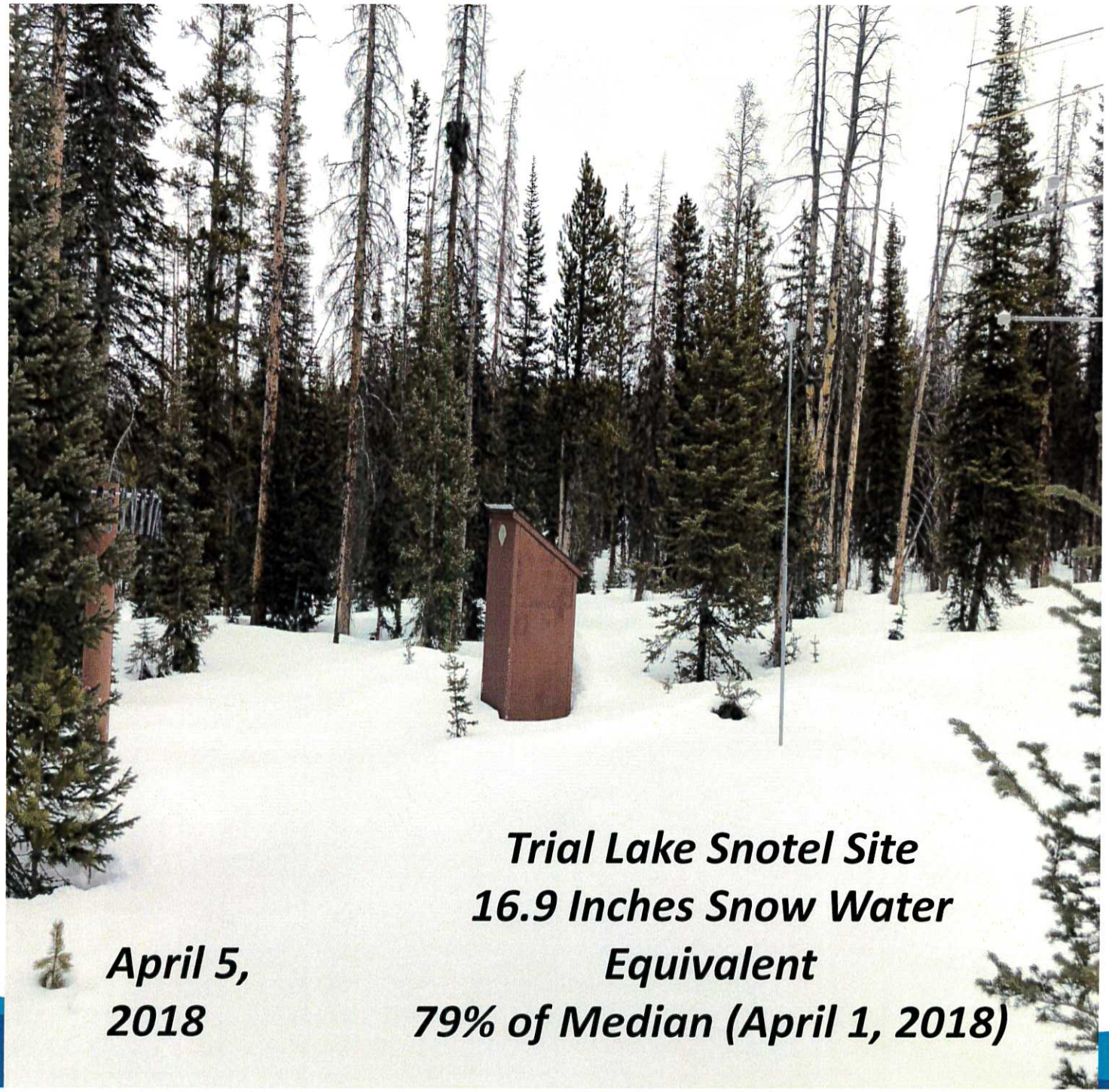

Colorado Basin River Forecast Center
HOBU1 - HOBBLE CREEK (7400 ft)
Created 04/23 20:02 G MT
NOAA/CBRFC, 2019
Snow Water Equivalent (in)
30
28
25
22
20
18
15
12
10
8
5
2
0
Past
Future
10-01
10-31
11-30
12-31
01-30
03-01
04-01
05-01
05-31
07-01
07-31
08-30
09-30
Date
Median 1981-2010
2019
2018
Average 1981-2010
2017

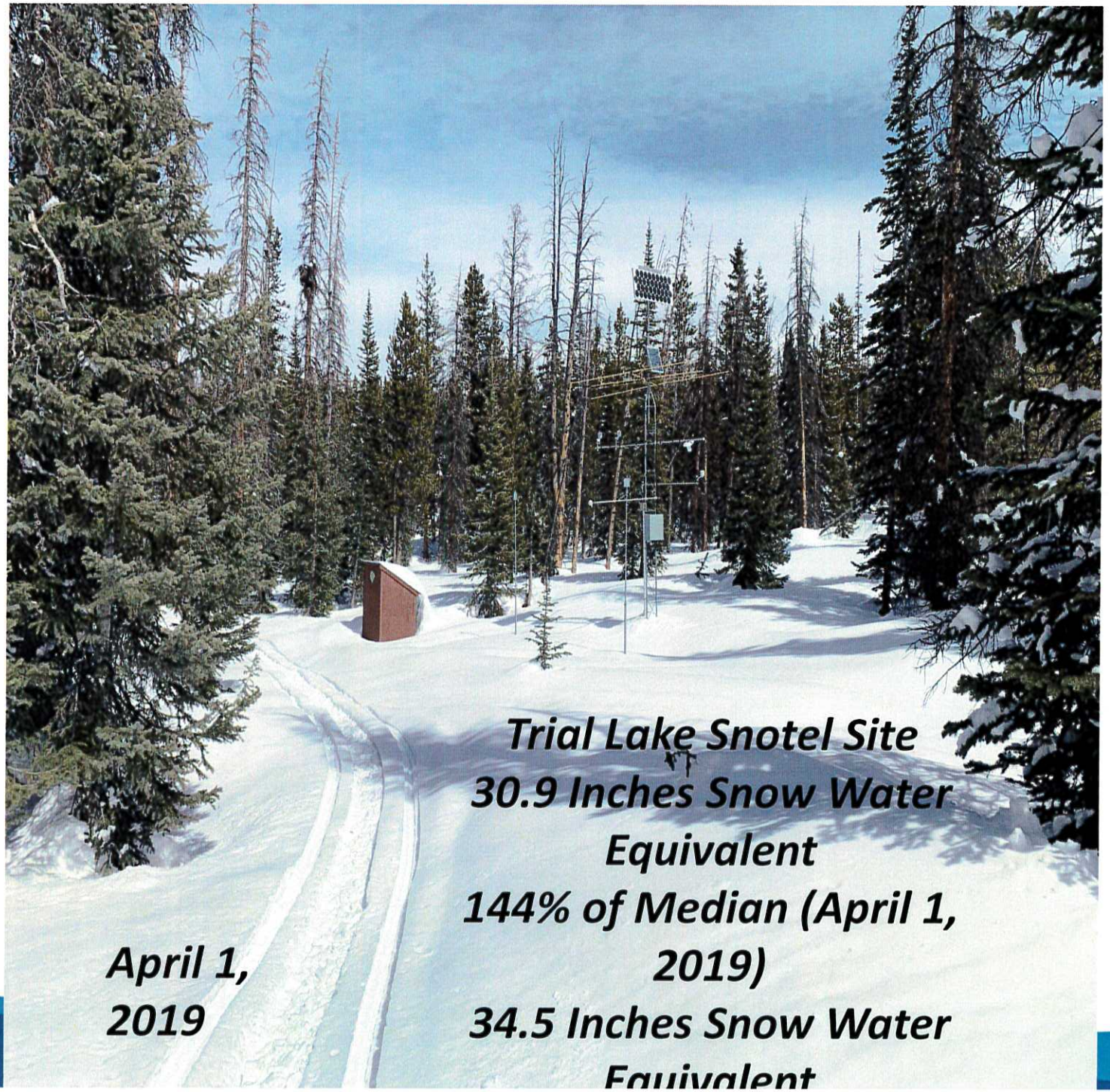

Colorado Basin River Forecast Center
TIMU1 - TIMPANOGOS DIVIDE (8140 ft)
04/23/2019 Percent Median: 221% (30.0 / 13.6)
Percent Seasonal Median: 142% (30.0 / 21.1)
Wet Rank: 9, Dry Rank: 33 (41 years)
Created 04/23 20:03 G MT
NOAA/CBRFC, 2019
Snow Water Equivalent (in)
Percent Seasonal Median
Past
Future
Date
10-01
10-31
11-30
12-31
01-30
03-01
04-01
05-01
05-31
07-01
07-31
08-30
09-30
Median 1981-2010
2019
2018
Average 1981-2010
2017
2005

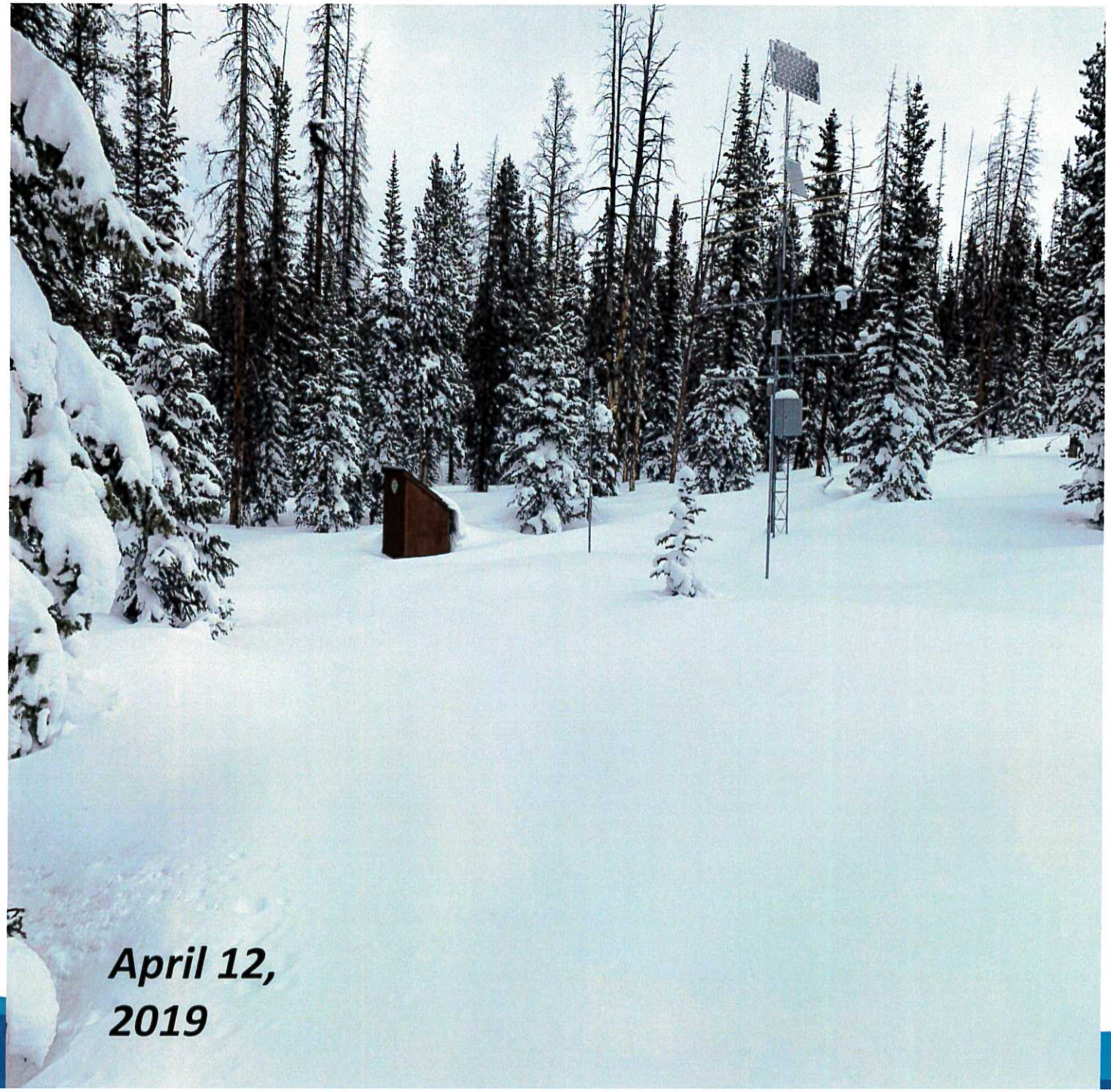
Colorado Basin River Forecast Center

Provo River Basin Group



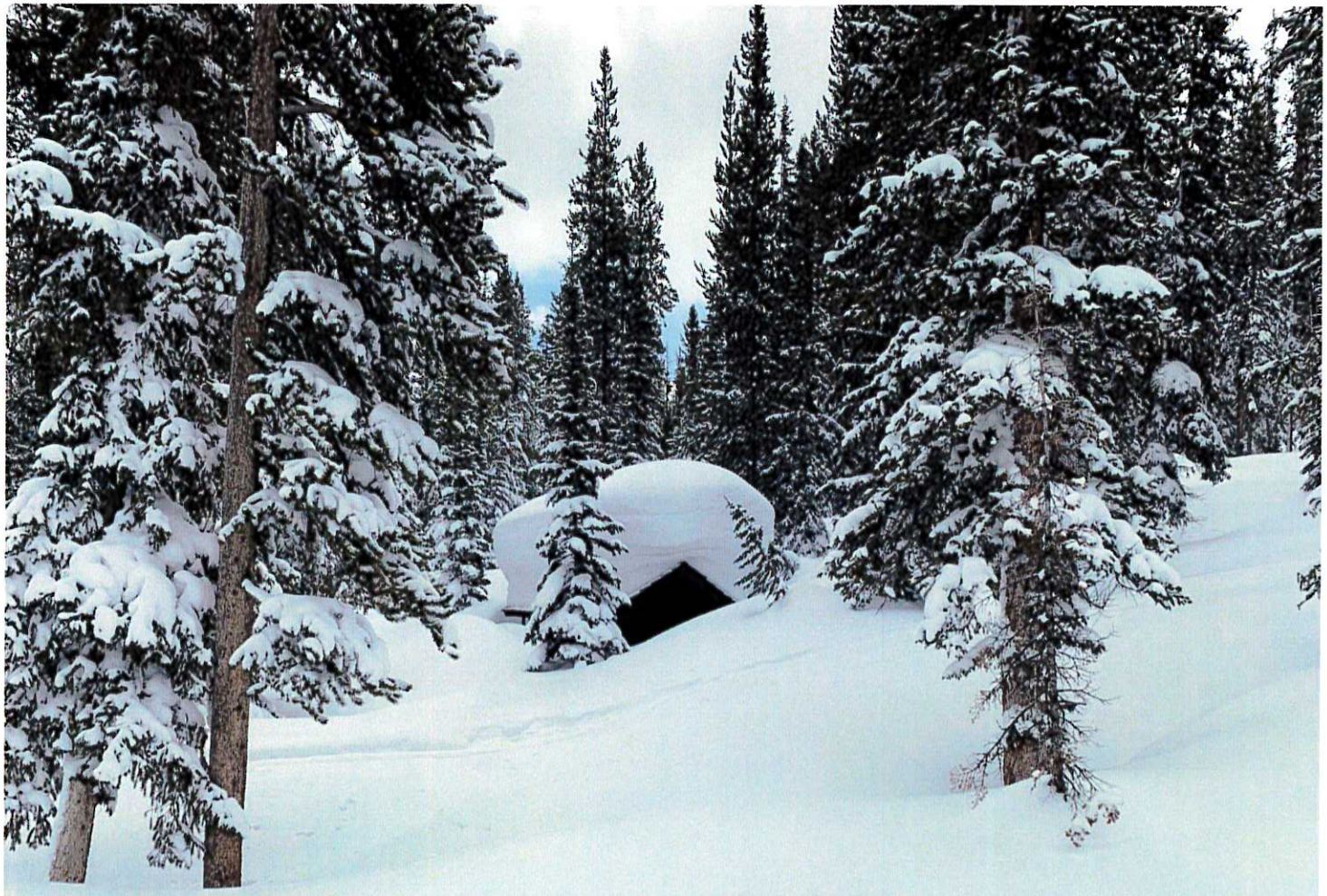

Trial Lake Snotel Site
16.9 Inches Snow Water Equivalent
79% of Median (April 1, 2018)
April 5, 2018


Trial Lake Snotel Site
30.9 Inches Snow Water Equivalent
144% of Median (April 1, 2019)
April 1, 2019
34.5 Inches Snow Water Equivalent


April 12,
2019

April 5, 2018

Trial Lake Campground



April 12, 2019

Trial Lake Campground

April 5, 2018

Restroom at Bald Pass

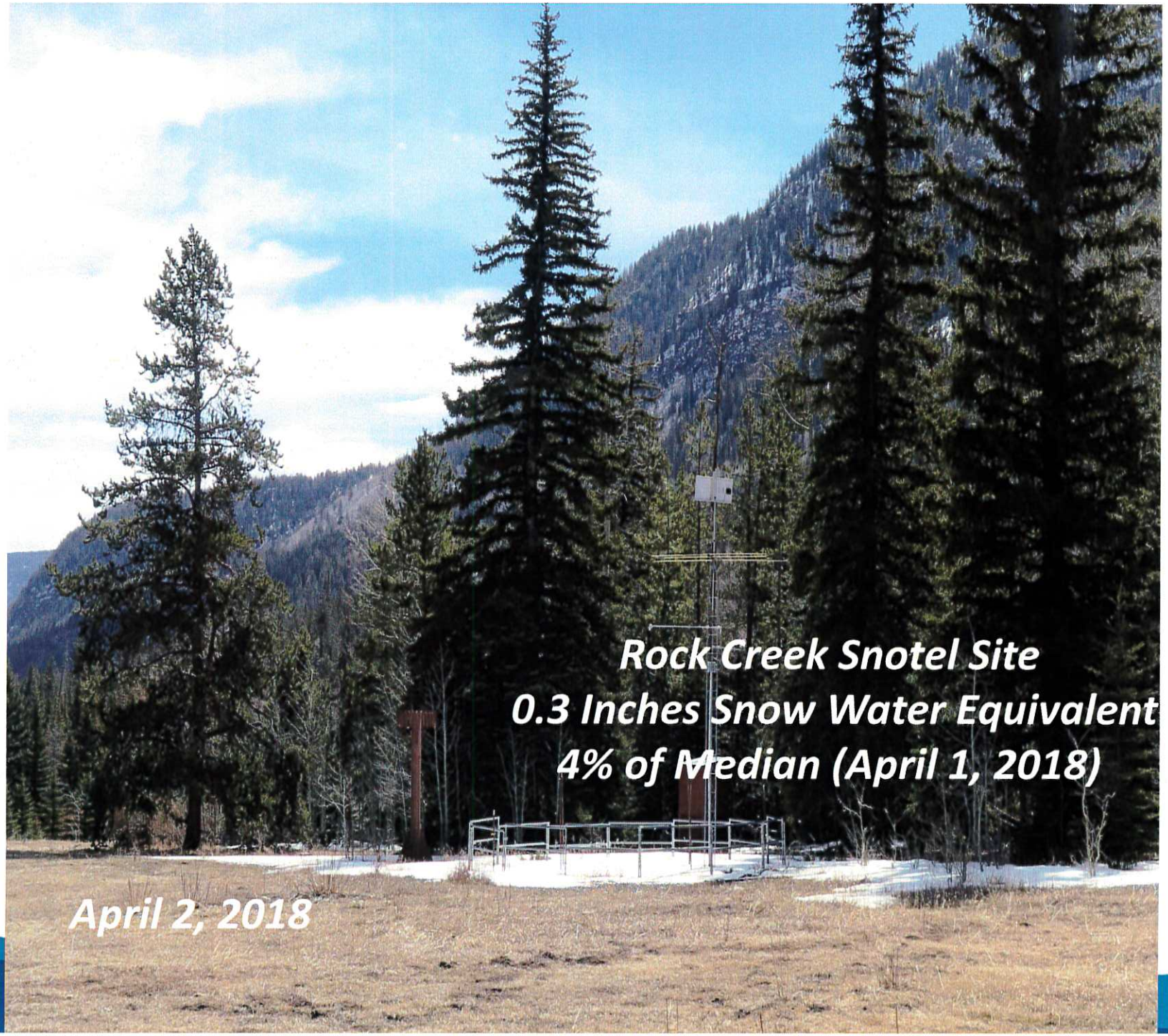
April 1, 2019

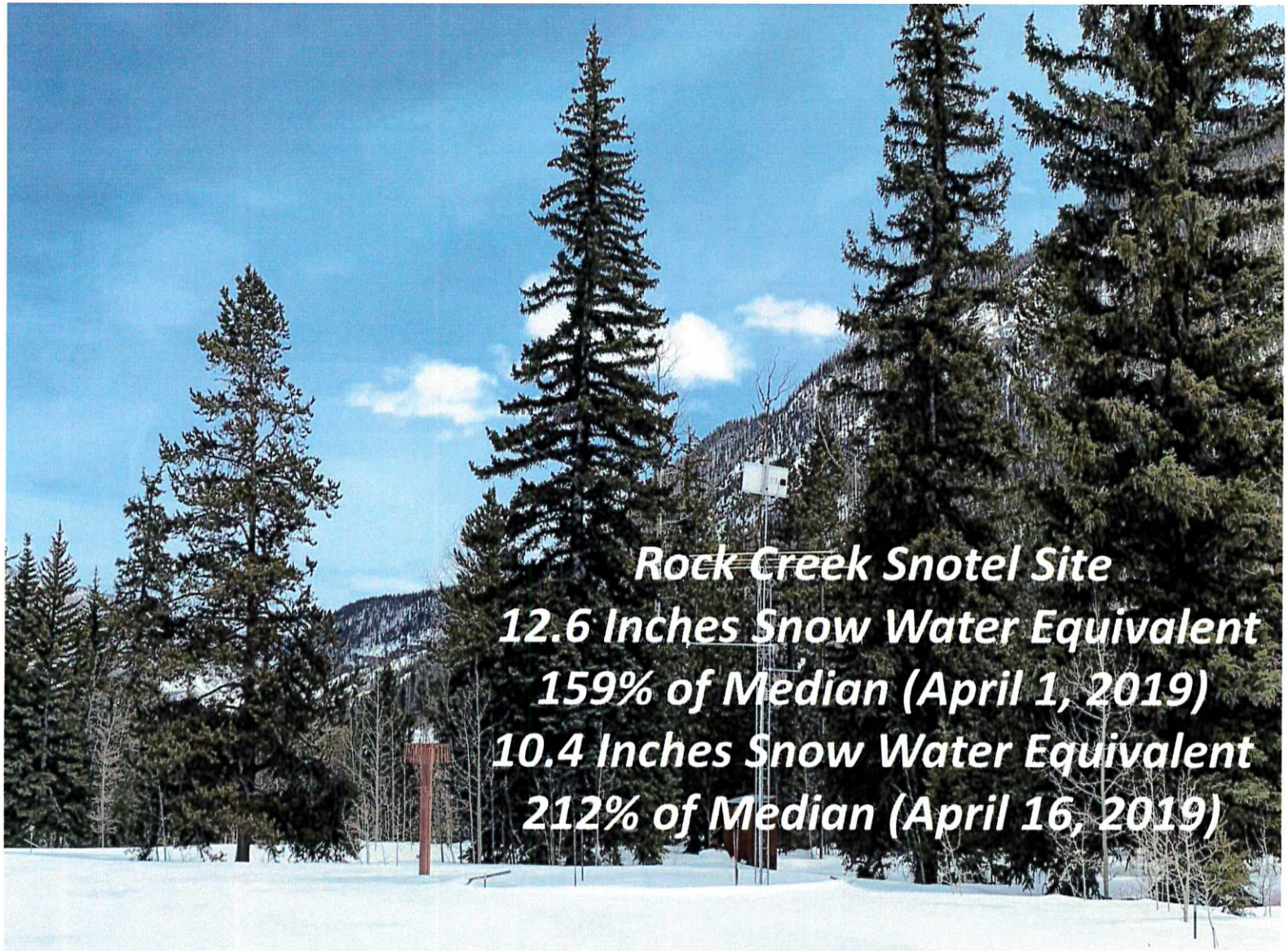
Restroom at Bald Pass

April 12, 2019

Restroom at Bald Pass

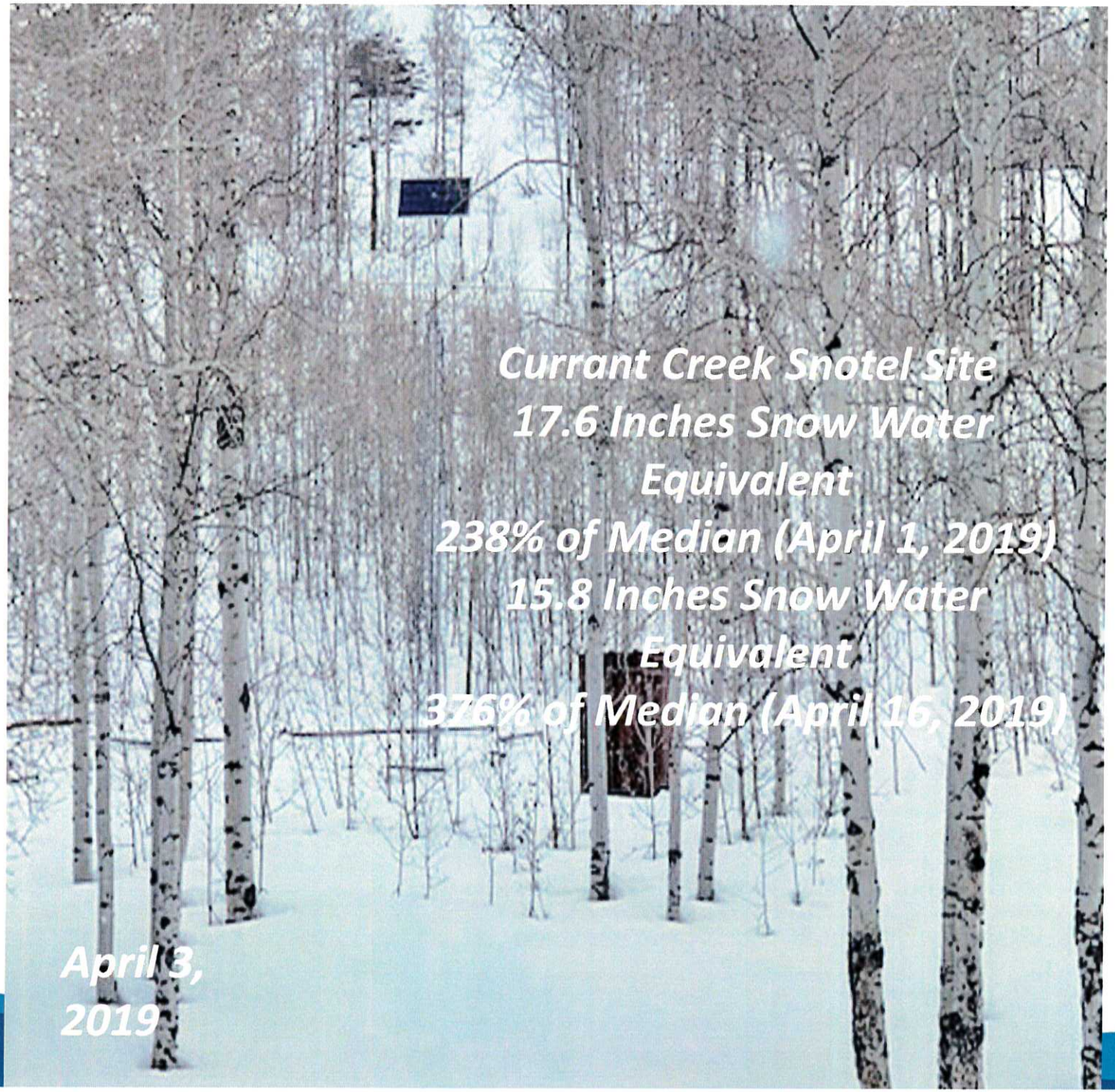
April 12, 2019


Rock Creek Snotel Site
0.3 Inches Snow Water Equivalent
4% of Median (April 1, 2018)
April 2, 2018

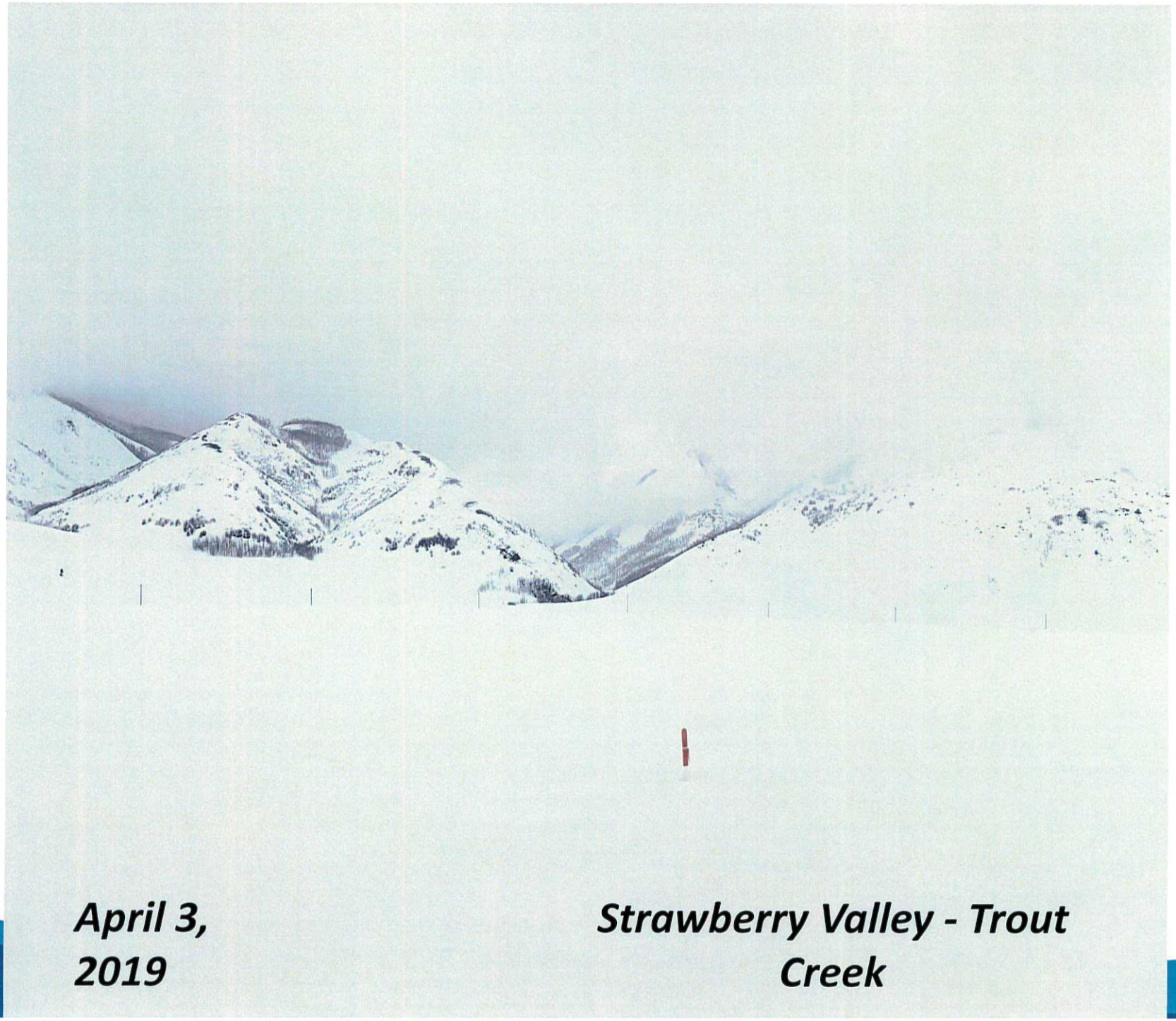

Rock Creek Snotel Site
12.6 Inches Snow Water Equivalent
159% of Median (April 1, 2019)
10.4 Inches Snow Water Equivalent
212% of Median (April 16, 2019)

April 1, 2019

Currant Creek Snotel Site
0.0 Inches Snow Water
Equivalent
0% of Median (April 1, 2018)
April 2, 2018


Currant Creek Snotel Site
17.6 Inches Snow Water Equivalent
238% of Median (April 1, 2019)
15.8 Inches Snow Water Equivalent
376% of Median (April 16, 2019)
April 3, 2019

April 2, 2018
Strawberry Valley - Trout Creek



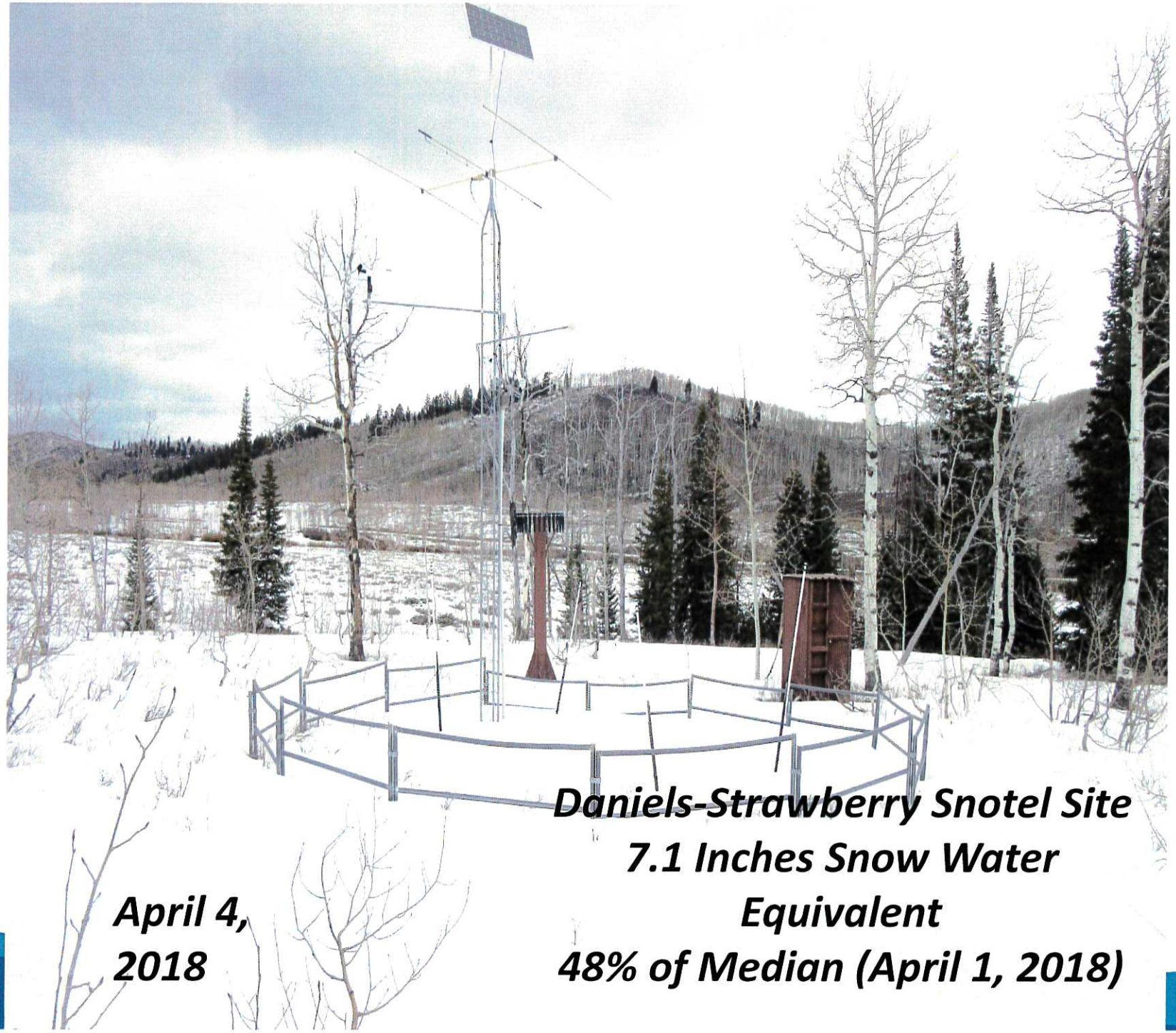
April 3, 2019

Strawberry Valley - Trout Creek

April 2, 2018
SWUA Property – Strawberry Valley

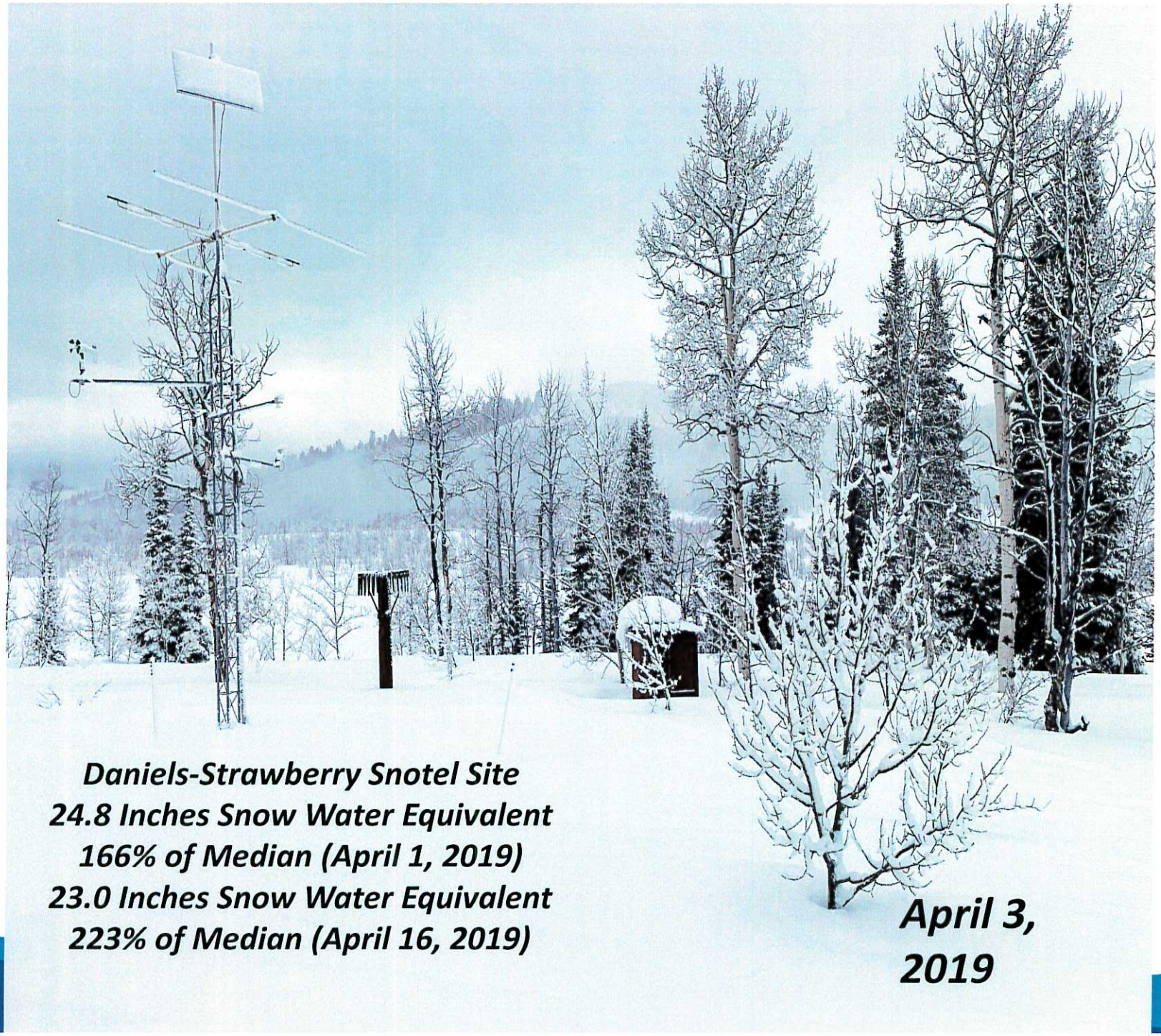
April 3, 2019

SWUA Property – Strawberry Valley



Daniels-Strawberry Snotel Site
7.1 Inches Snow Water Equivalent
48% of Median (April 1, 2018)

April 4, 2018


Daniels-Strawberry Snotel Site
24.8 Inches Snow Water Equivalent
166% of Median (April 1, 2019)
23.0 Inches Snow Water Equivalent
223% of Median (April 16, 2019)
April 3, 2019

Strawberry Divide Snotel Site
7.6 Inches Snow Water Equivalent
47% of Median (April 1, 2018)

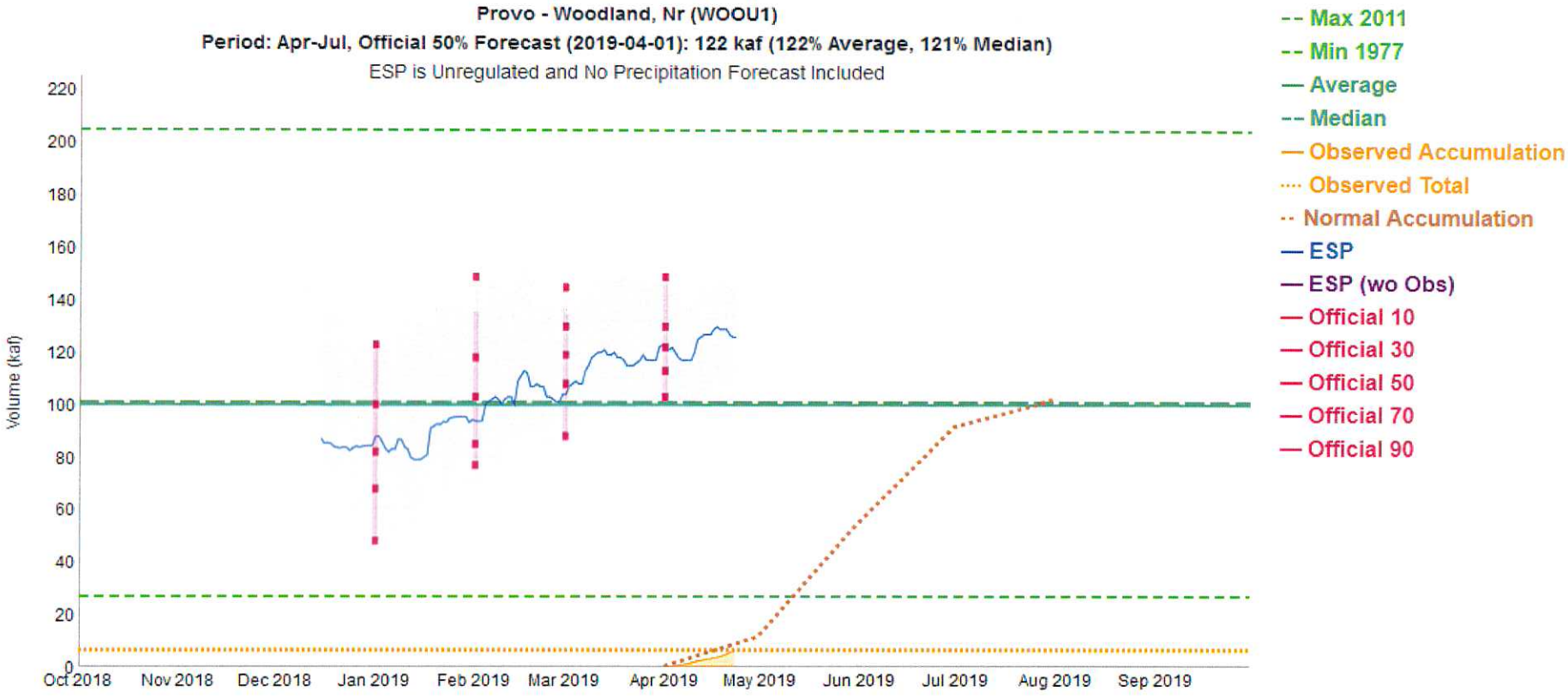
April 2, 2018

Strawberry Divide Snotel Site
23.9 Inches Snow Water Equivalent
148% of Median (April 1, 2019)
23.9 Inches Snow Water Equivalent
198% of Median (April 16, 2019)

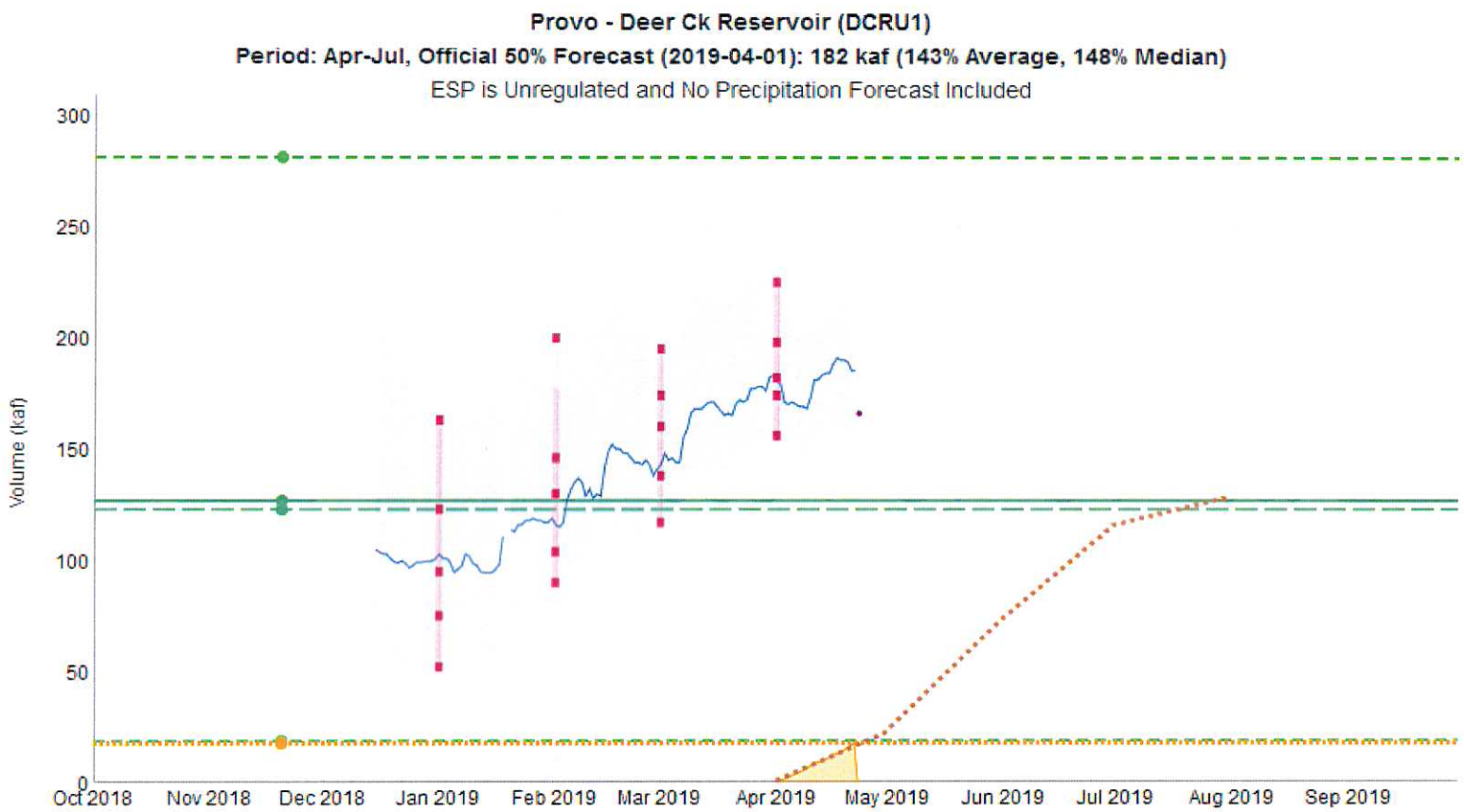
April 3, 2019

April 12,
2019

Water Supply Forecast



Water Supply Forecast



2018/11/20:

Max 1986: 281.33

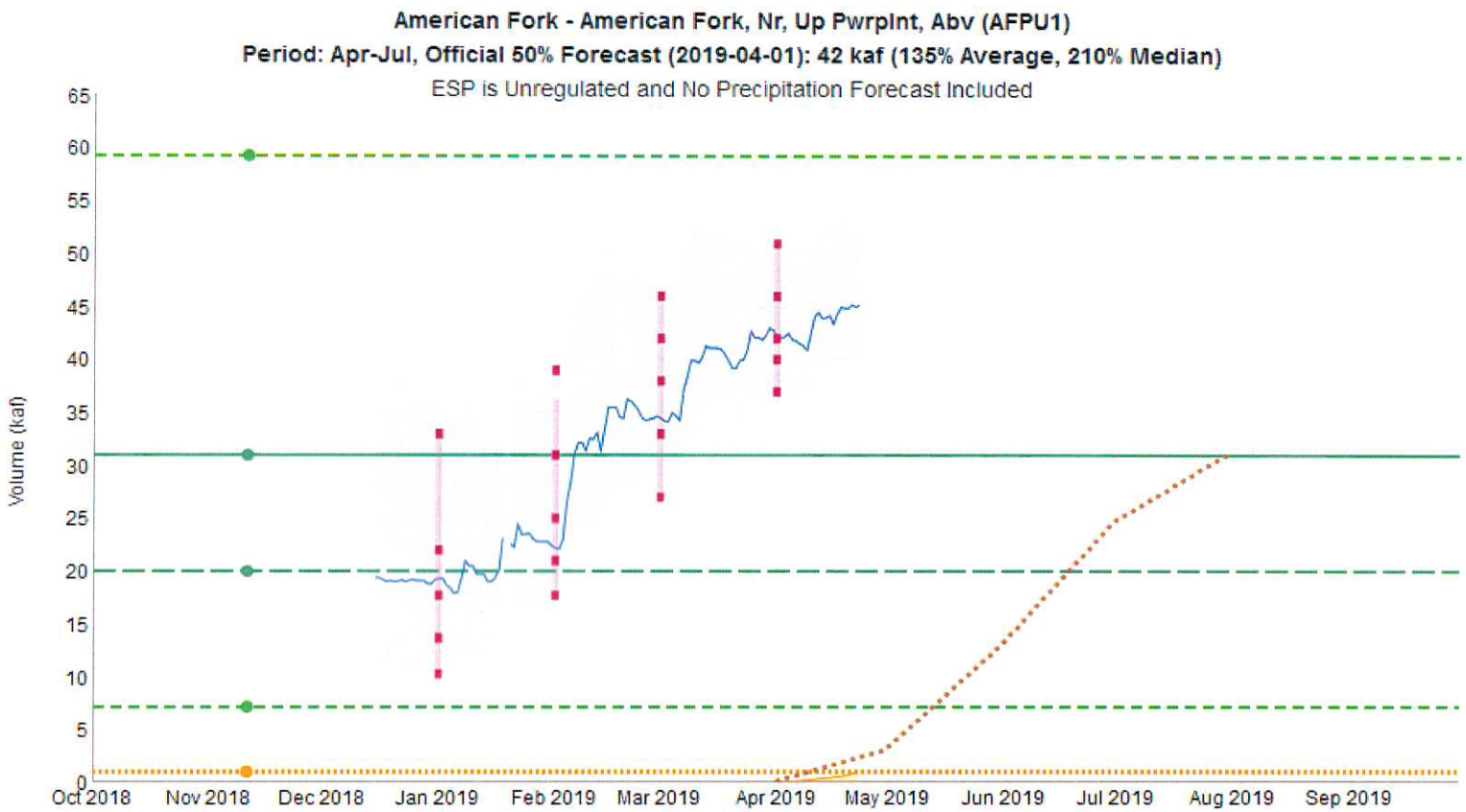
Min 1961: 18.71

Average: 127

Median: 123

Observed Total: 17.8

Water Supply Forecast



2018/11/11:

Max 1986: 59.32

Min 1934: 7.19

Average: 31

Median: 20

Observed Total: 1.01

Water Supply Official Forecast List Download Data

Water Supply Volume Percent Average/Median Condition

▲ < 30% ▲ 30-50% ▲ 50-70% △ 70-90% △ 90-100% △ 100-110% △ 110-130% △ 130-150% ▲ 150-200% ▲ 200-300% ▲ 300-500 ▲ >500% △ Regulated △ No Forecast

Area: CBRFC Green Colorado San Juan Great Sevier Virgin Low Col WGRFC ABRFC

Columns (on/off): Area Sub Area NWS ID DS River Location Forecast Date Avg Cond Med Cond Forecast Period Min 90 P 70 MP 50 P 30 Max 10 Avg Med Pct Avg Pct Med

Click column heading to sort by that data. Click ID to view point info. Click Area, Sub Area, or Forecast Period to show only those points.

	Area	Sub Area	NWS ID	River	Location	Forecast Date	Avg Cond	Med Cond	Forecast Period	Min 90	P 70	MP 50	P 30	Max 10	Avg	Med	Pct Avg	Pct Med
103	Great	Utah Lake	WOOU1	Provo	Woodland	2019-4-1	△	△	Apr 01-Jul 31	103	113	**122**	130	149	100	101	*122*	*121*
104	Great	Utah Lake	PVHU1	Provo	Hailstone	2019-4-1	△	△	Apr 01-Jul 31	118	130	**134**	146	169	110	107	*122*	*125*
105	Great	Utah Lake	DCRU1	Provo	Deer Ck Res	2019-4-1	△	△	Apr 01-Jul 31	156	174	**182**	198	225	127	123	*143*	*148*
106	Great	Utah Lake	AFPU1	American Fork	American Fork	2019-4-1	△	▲	Apr 01-Jul 31	37	40	**42**	46	51	31	20	*135*	*210*
107	Great	Utah Lake	CASU1	Spanish Fork	Castilla	2019-4-1	▲	▲	Apr 01-Jul 31	91	105	**109**	122	139	69	47	*158*	*232*
108	Great	Utah Lake	WESU1	West Canyon Ck	Cedar Fort	2019-4-1	△	▲	Apr 01-Jul 31	1.41	2.1	**2.2**	2.7	4.2	1.76	1.19	*125*	*185*
109	Great	Utah Lake	SZZU1	Salt Ck	Nephi Powerplant Div	2019-4-1	▲	▲	Apr 01-Jul 31	17	23	**25**	28	30	8.3	6.2	*301*	*403*
110	Great	Utah Lake	UTLU1	Jordan	Utah Lake	2019-4-1	△	▲	Apr 01-Jul 31	400	445	**450**	510	560	325	255	*138*	*176*

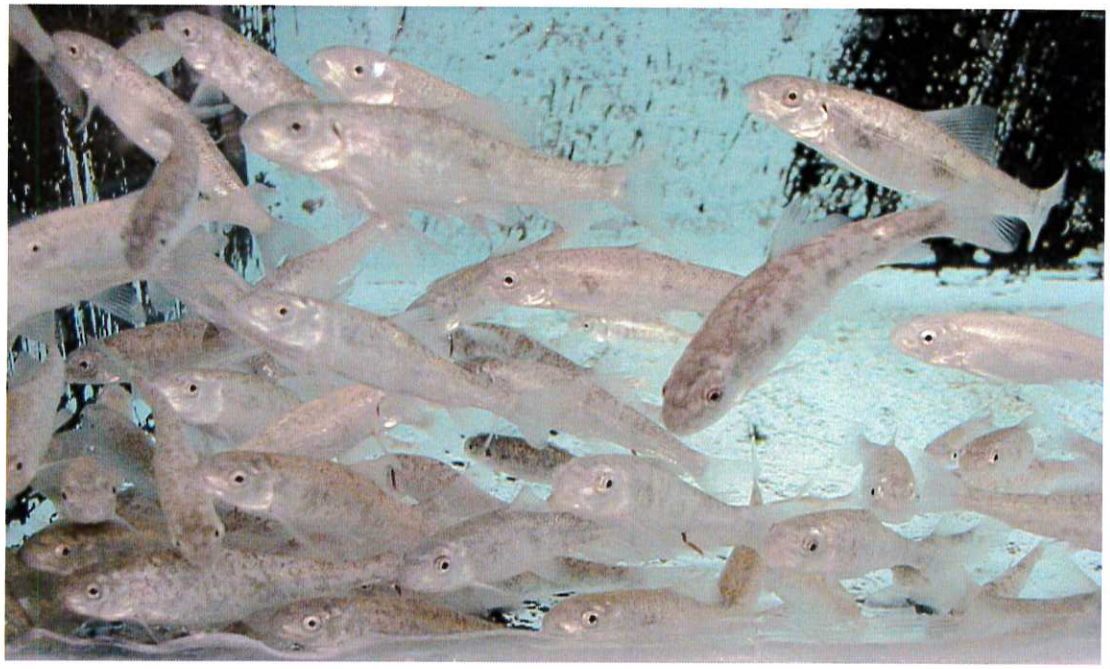
June Sucker Water Available (Provo)

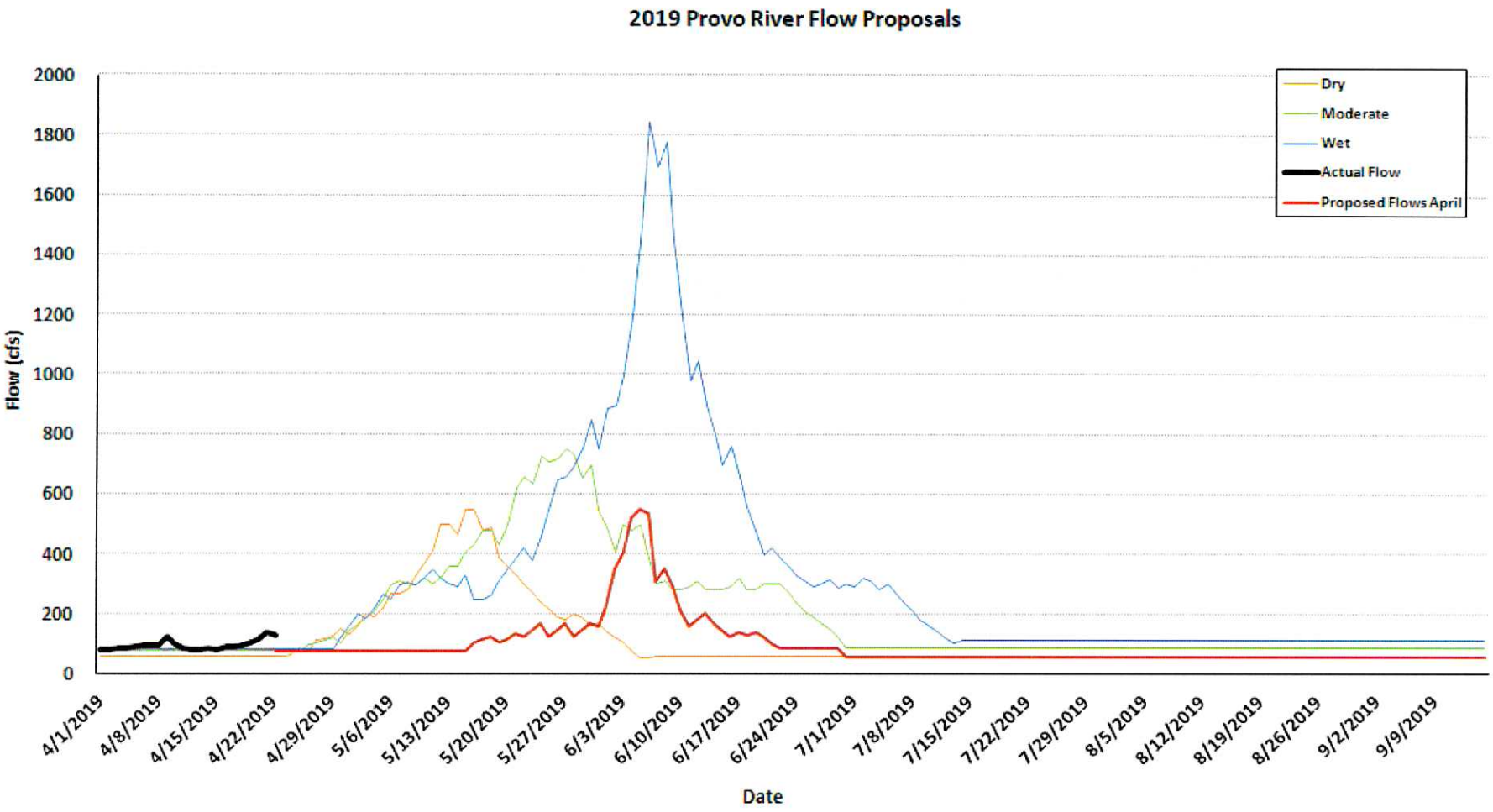
Water Year	Allotment	Used	Balance
1995	5,000	760	4,240
1996	5,000	2,875	6,383
1997	5,000	3,208	8,175
1998	6,800	0	14,975
1999	5,000	7,001	12,974
2000	11,300	17,634	6,640
2001	9,672	8,845	7,467
2002	9,672	13,960	3,179
2003	10,672	4,660	9,191
2004	12,172	8,204	13,159
2005	13,572	12,650	14,081
2006	18,872	19,466	13,487
2007	19,172	21,788	10,871
2008	19,172	23,197	6,846
2009	19,172	17,233	8,785
2010	20,172	24,853	4,104
2011	19,172	16,205	7,071
2012	19,172	22,304	3,939
2013	19,172	20,896	2,215
2014	19,172	19,304	2,083
2015	19,172	16,861	4,394
2016	21,172	20,517	5,049
2017	21,172	22,451	0.0
2018	20,798	21,607	-809
2019	20,363		

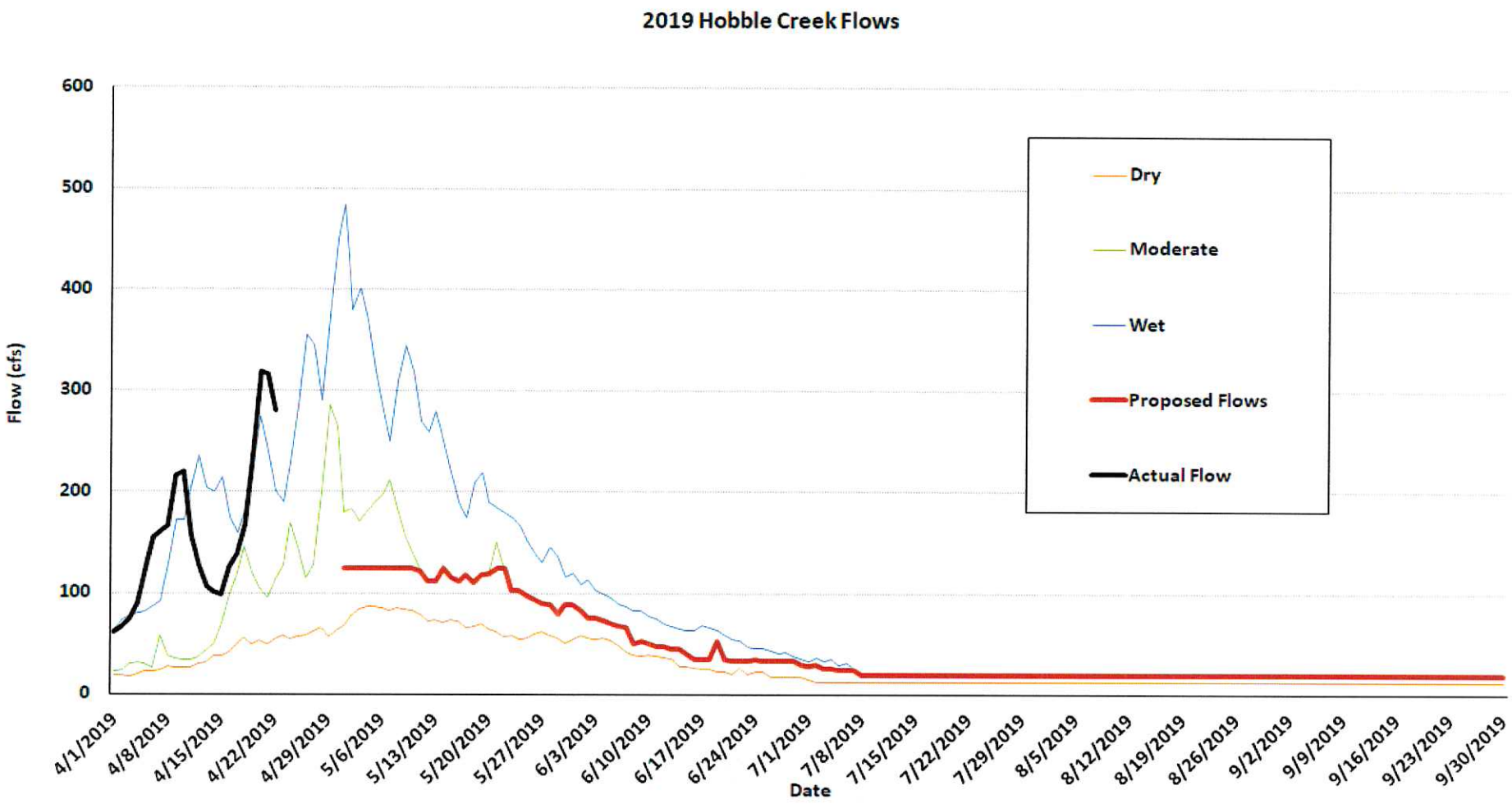
18,945 +1853 = 20,798

June Sucker Water Available (Hobble Creek)

Water Year	Allotment	Used	Balance
2013	4,500	4,651	-151
2014	8,500	7,505	844
2015	8,500	8,769	575
2016	8,500	8,736	339
2017	8,500	4,033	4,806
2018	8,500	8,854	2,742
2019	8,500		
To Provo River 2018			1,710




2019 Provo River Flow Proposals
Flow (cfs)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Dry
Moderate
Wet
Actual Flow
Proposed Flows April
4/1/2019
4/8/2019
4/15/2019
4/22/2019
4/29/2019
5/6/2019
5/13/2019
5/20/2019
5/27/2019
6/3/2019
6/10/2019
6/17/2019
6/24/2019
7/1/2019
7/8/2019
7/15/2019
7/22/2019
7/29/2019
8/5/2019
8/12/2019
8/19/2019
8/26/2019
9/2/2019
9/9/2019
Date


2019 Hobble Creek Flows
Flow (cfs)
600
500
400
300
200
100
0
Dry
Moderate
Wet
Proposed Flows
Actual Flow
4/1/2019
4/8/2019
4/15/2019
4/22/2019
4/29/2019
5/6/2019
5/13/2019
5/20/2019
5/27/2019
6/3/2019
6/10/2019
6/17/2019
6/24/2019
7/1/2019
7/8/2019
7/15/2019
7/22/2019
7/29/2019
8/5/2019
8/12/2019
8/19/2019
8/26/2019
9/2/2019
9/9/2019
9/16/2019
9/23/2019
9/30/2019
Date