

Truckee River Basin Water Group

Meeting Notes for Wednesday, September 23rd, 2020 10:00 AM – 11:30 AM

Location: On-line/phone Meeting only

Chairperson: Richard Anderson, Nevada County Supervisor

Convener: Truckee River Watershed Council, Beth Christman, bchristman@truckeeriverwc.org, 530-550-8760, x1 #

Time	Item
10:00	Call to Order – Chair <ul style="list-style-type: none">• Introductions• Agenda Review
10:10	Standing Item: Committee Report Back <ul style="list-style-type: none">• No committees met since the last meeting <p>Objective: Provide updates from Technical Response Team, Fish Team and any other ad hoc teams</p>
10:10	Streamflow and reservoir updates – Tom Scott, DWR <ul style="list-style-type: none">• Changes from previous forecast• Streamflow and reservoir levels forecast• Update on Stampede releases related to dam penstock inspection• Questions and discussion on projected operations <p>Objective: Provide latest information on projected reservoir operations and model output, increase TRBWG member knowledge about TROA</p> <p>Outcomes: See attached presentation.</p> <p>Scott Schoenfeld from the U.S. Bureau of Reclamation (Bureau) provided a few operational updates.</p> <p>The Bureau has scheduled a routine penstock inspection on Stampede Dam for the first week in October. The Bureau worked with DWR and DFW to establish a down-ramping and up-ramping schedule. Flows from Stampede will start to decrease over the weekend of Oct. 3-4 and will be down to 10 cfs for the inspection by Monday, Oct. 5th. The inspection may take up to three days (Tuesday – Thursday, Oct. 6 – 8), but could be as short as one day. As soon as the inspection is completed, the flows will begin to increase following the suggested up-ramping schedule.</p>

	<p>Tom mentioned that DWR is taking advantage of the reduced flows to complete drone flights at two flow rates to document aquatic habitat availability.</p> <p>Scott also mentioned that the Bureau is in the process of updating their equipment on Stampede to prevent future “trips” that cause the gates to close abruptly.</p> <p>Scott also mentioned that the Boca Safety of Dams project is nearly completed, and the road across Boca Dam is anticipated to be open October 8th.</p>
10:50	<p>Member input for Basis for California Guidelines – Beth Christman, TRWC/DWR</p> <ul style="list-style-type: none"> • Solicit input from membership <p>Objective: Provide opportunity for TRBWG members to suggest updates or changes to the existing Basis for California Guidelines (last revised 2018). Some member input has already been captured from Member presentations in the Member preference table: https://www.truckeeriverwc.org/wp-content/uploads/2020/08/Member-preference-table.pdf.</p> <p>The Basis document is located: https://www.truckeeriverwc.org/wp-content/uploads/2018/07/Basis-for-the-TROA-California-Guidelines-2018-Update-1.pdf</p> <p>Outcome: See attached presentation.</p> <p>Beth presented member input from a study that TRWC and Trout Unlimited completed. The habitat availability study included flow recommendations for Donner, Independence, Prosser, and Little Truckee below Stampede.</p> <p>No other members provided input at this time.</p>
11:10	<p>Standing item: Suggestions for future agenda topics</p> <p>Objective: Gather input from attendees for topics of interest</p> <p>Outcome:</p> <p>Topics to consider for future meetings include:</p> <ul style="list-style-type: none"> • National Weather Service winter forecast/preparedness presentation • Trout Unlimited Member presentation • Annual review of TRBWG Charter, Chair, Convener, 2021 Meeting Schedule
11:20	<p>Standing item: Action Item report back</p>

	<p>Objective: capture key decisions, discussion points, and action items to include in meeting summary</p> <p>Outcome: No action items came up.</p>
11:30	Adjournment – Chair

2020 Meeting Dates

TRBWG – monthly*

- January 22, 2020
- March 25, 2020 - cancelled
- April 22, 2020
- May 27, 2020
- June 24, 2020
- July 22, 2020
- September 23, 2020
- November 18, 2020

*Note: no TRBWG meeting in February, August, October, or December

Technical Response Team

- TBD

Fish Team

- TBD

TROA Update & Scheduling Summary

Truckee River Basin Water Group (TRBWG)

Jim Eto, PE

Jesus Esparza, PE

Tom Scott, PE

California Department of Water Resources

September 23, 2020

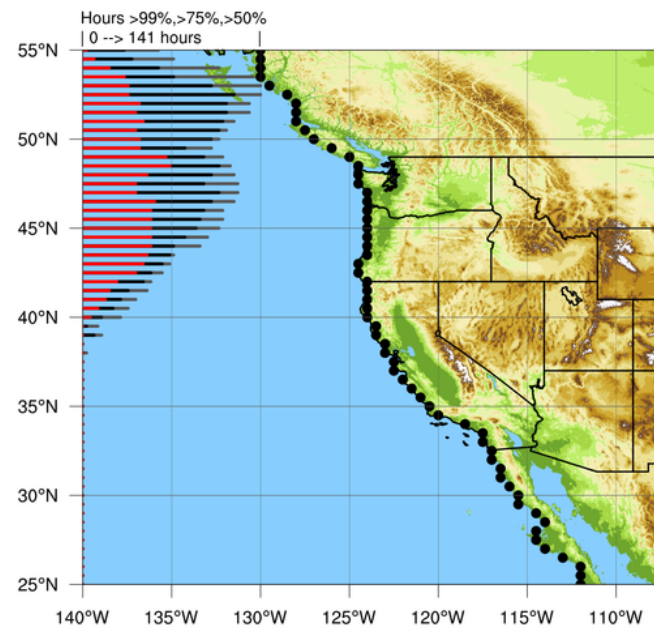
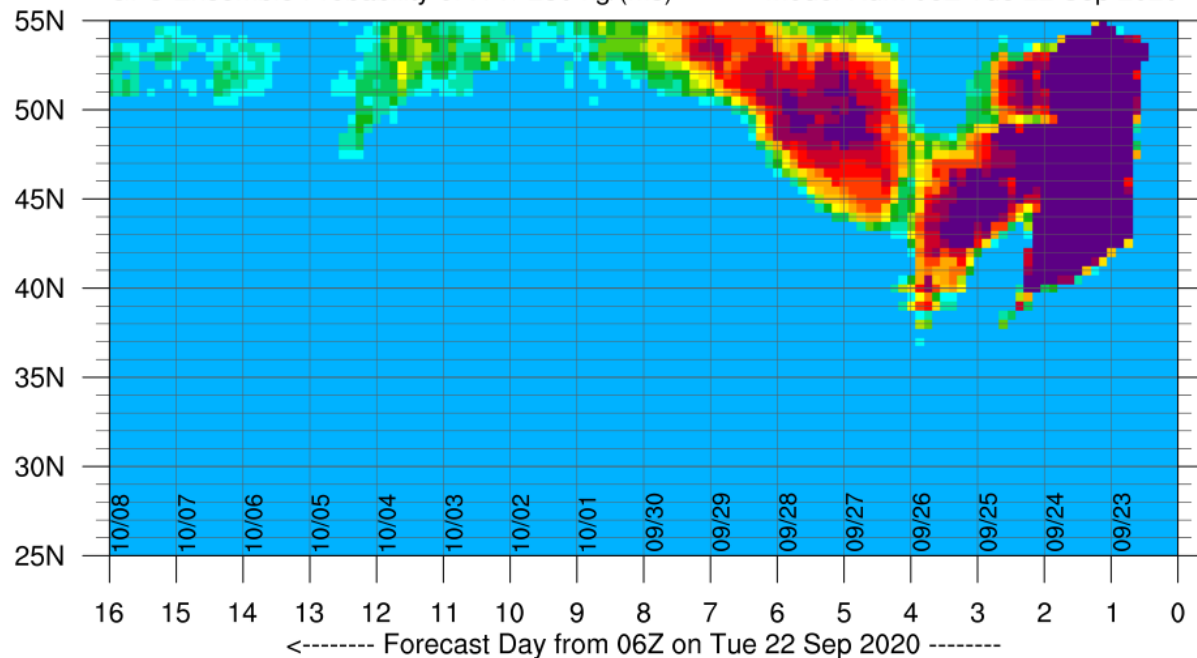
Overview

- Precipitation Forecast
- 50% Forecasted Reservoir Operations
- 2021 Overview

Latitude along U.S. West Coast

GFS Ensemble Probability of IVT > 250 kg/(ms)

Model Run: 06Z Tue 22 Sep 2020



Center for Western Weather
and Water Extremes
SCRIPPS INSTITUTION OF OCEANOGRAPHY
AT UC SAN DIEGO



Precipitation Forecasts

Precipitation (in)
during the period:

Tue, 22 SEP 2020 at 00Z

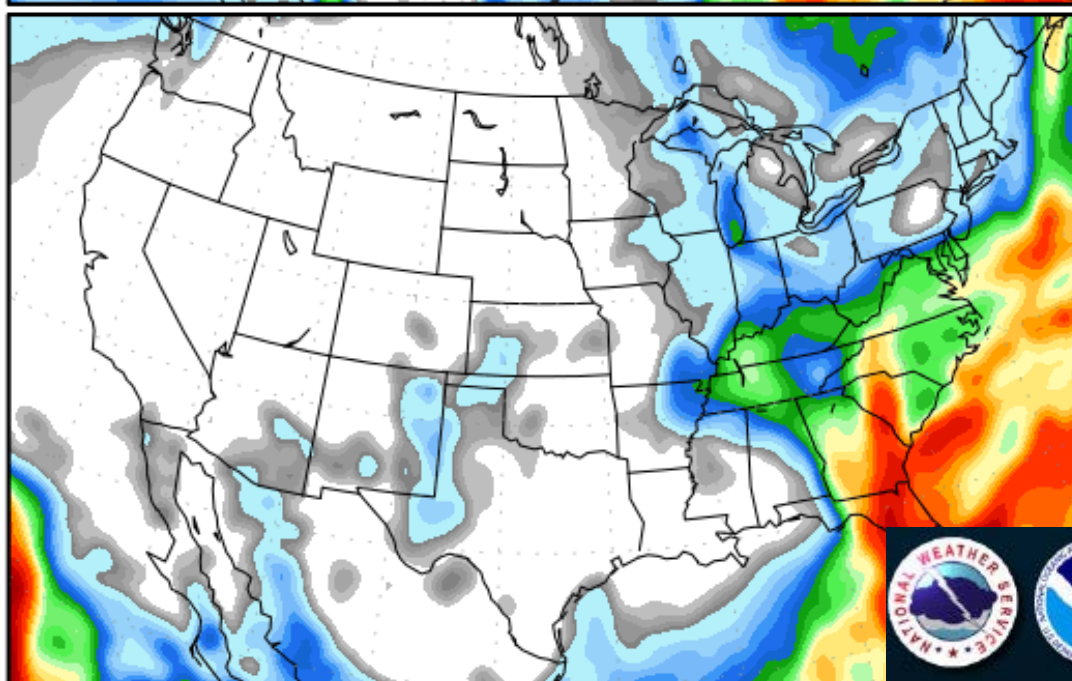
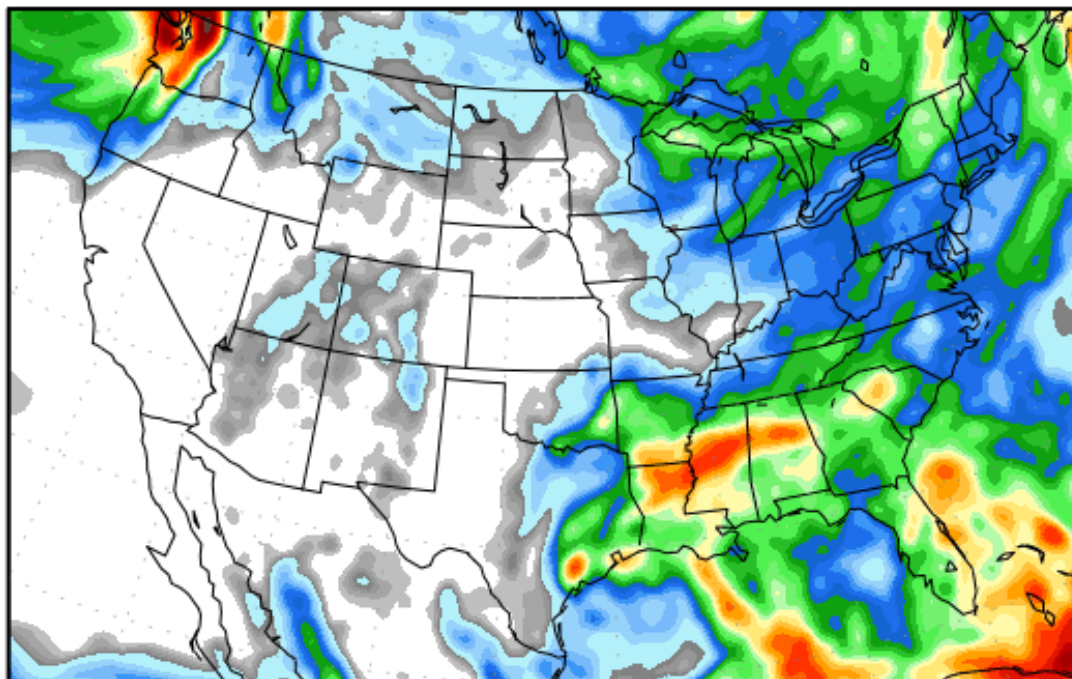
-to-

Wed, 30 SEP 2020 at 00Z

Wed, 30 SEP 2020 at 00Z

-to-

Thu, 08 OCT 2020 at 00Z



Temperature Forecasts

Mean Surface Temperature (°F)
during the period:

Tue, 22 SEP 2020 at 00Z

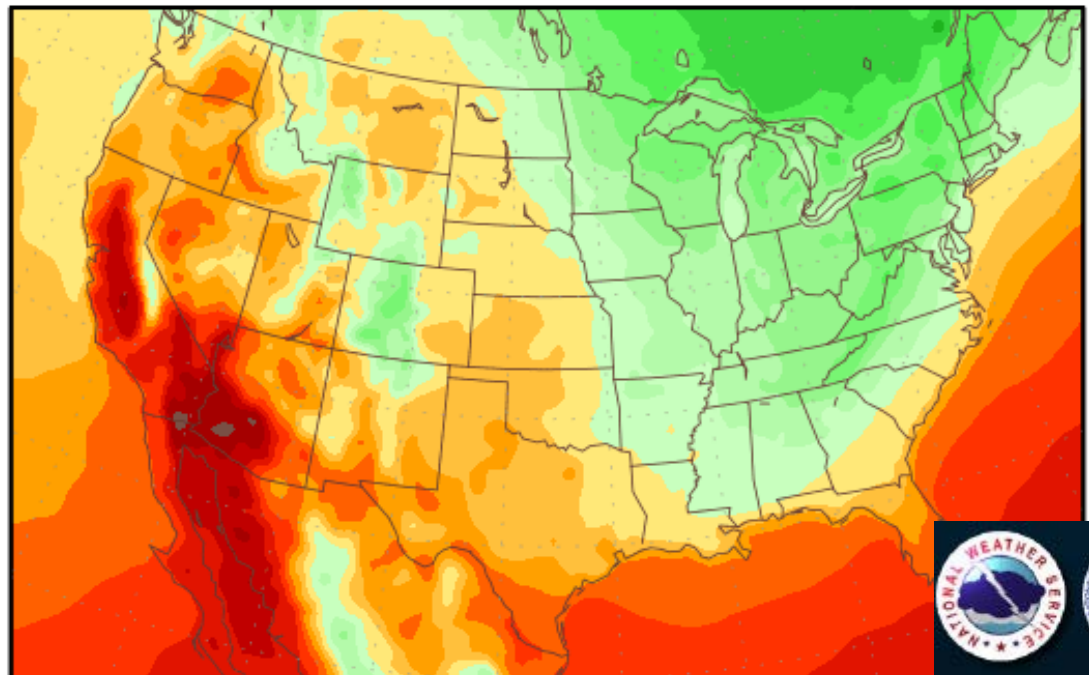
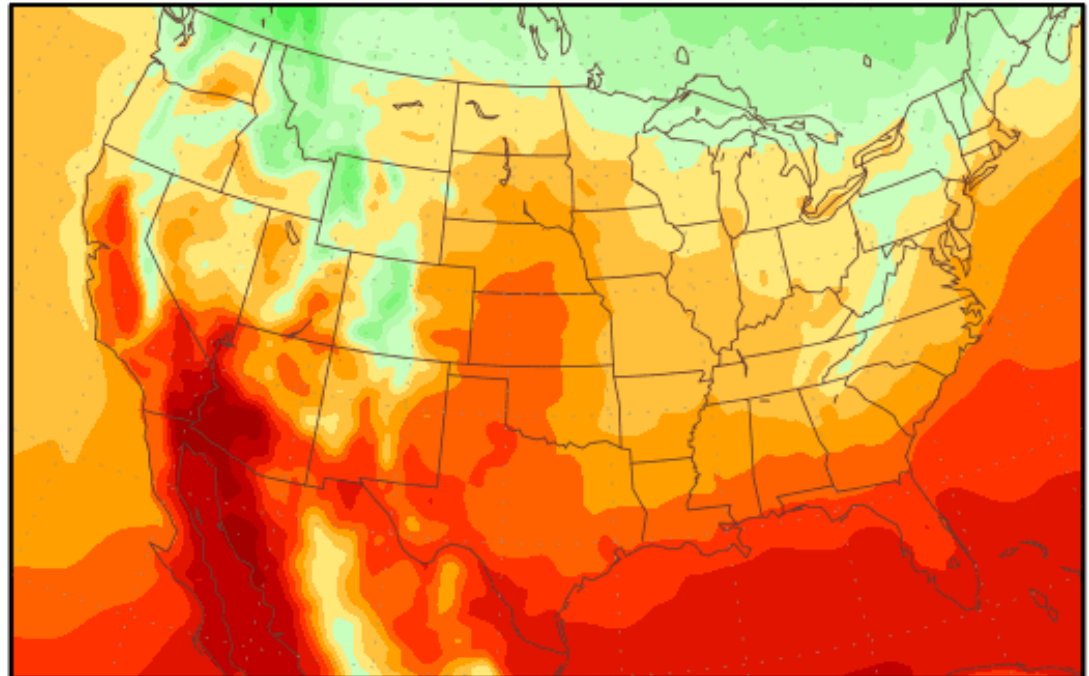
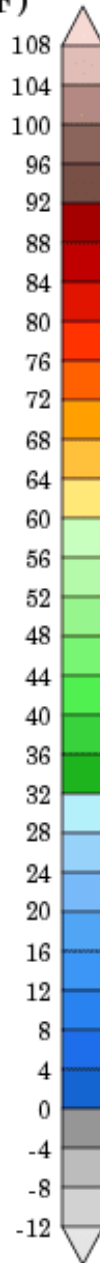
-to-

Wed, 30 SEP 2020 at 00Z

Wed, 30 SEP 2020 at 00Z

-to-

Thu, 08 OCT 2020 at 00Z



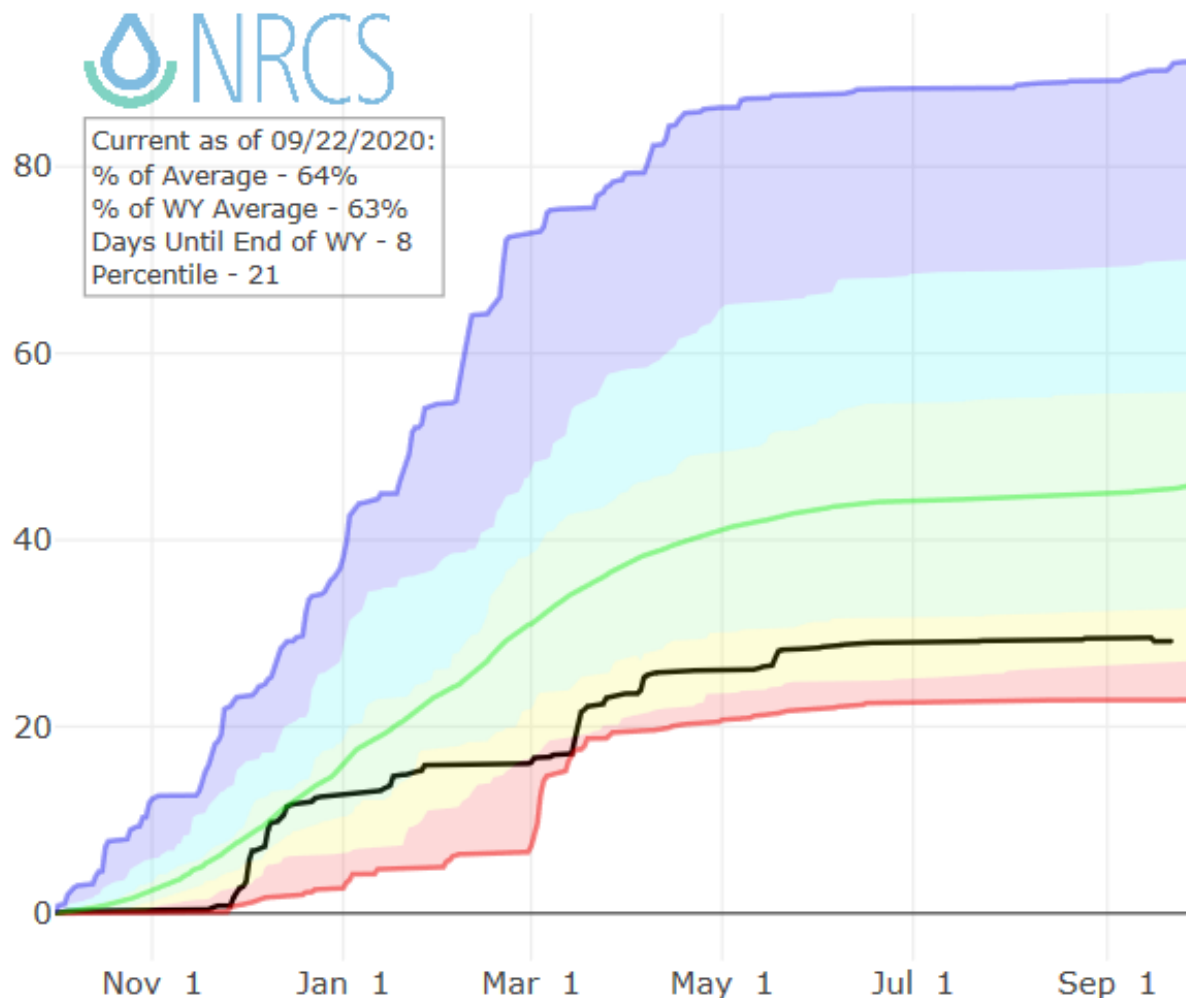
Precipitation in Truckee

Jan Apr July WY



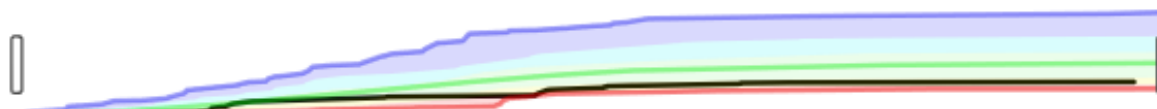
Current as of 09/22/2020:
% of Average - 64%
% of WY Average - 63%
Days Until End of WY - 8
Percentile - 21

WY Accumulated Precip. (in.)



Station List

- Max
- Average (POR)
- Average ('81-'10)
- Min
- Stats. Shading
- 2020 (11 sites)
- 2019 (11 sites)
- 2018 (11 sites)
- 2017 (11 sites)
- 2016 (11 sites)
- 2015 (11 sites)
- 2014 (11 sites)
- 2013 (11 sites)
- 2012 (11 sites)
- 2011 (11 sites)
- 2010 (11 sites)
- 2009 (11 sites)
- 2008 (11 sites)
- 2007 (11 sites)



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles.

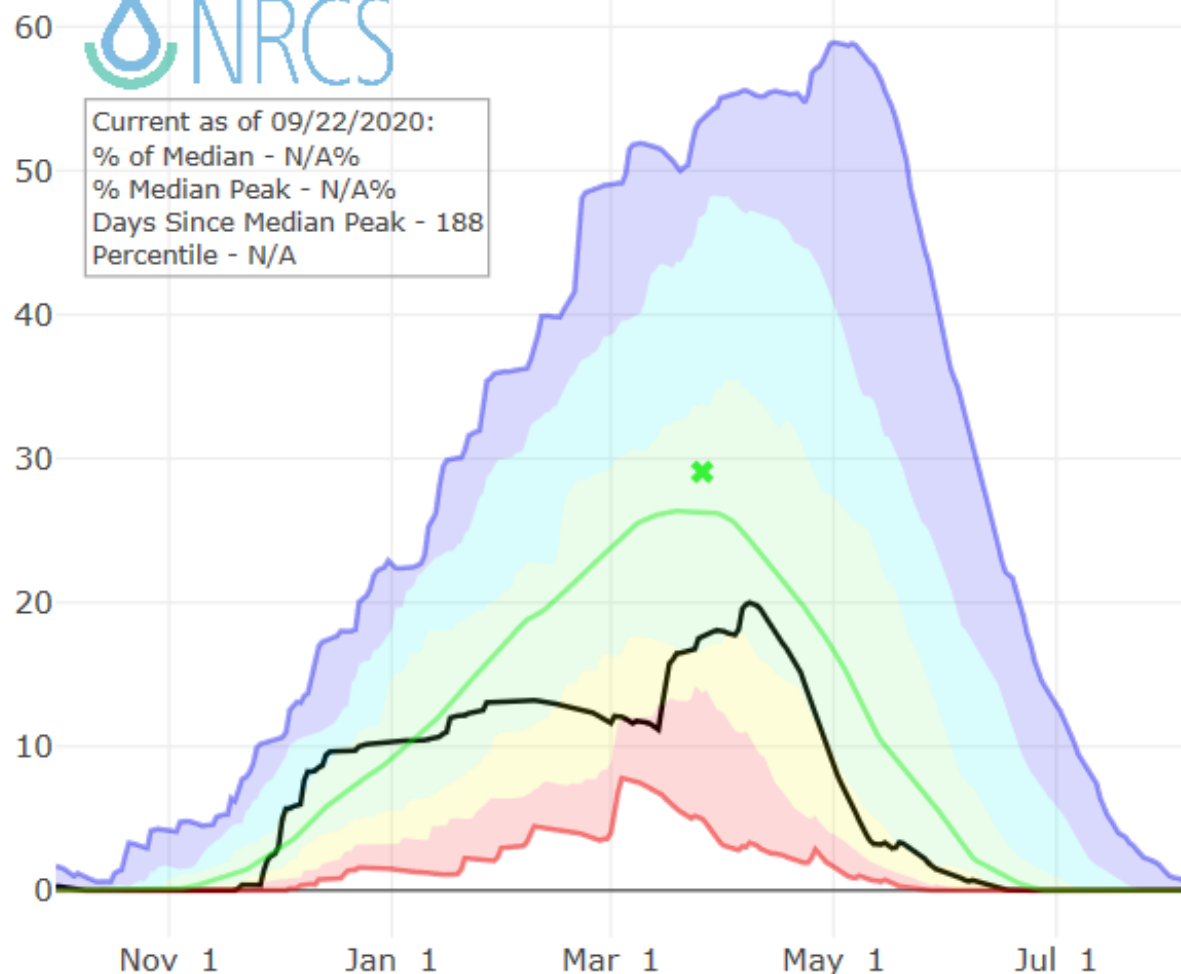
Snow Water Equivalent in Truckee

Jan Apr July WY



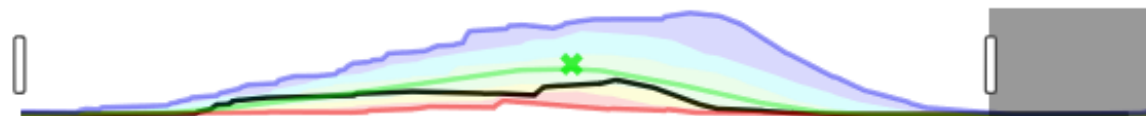
Current as of 09/22/2020:
% of Median - N/A%
% Median Peak - N/A%
Days Since Median Peak - 188
Percentile - N/A

Snow Water Equivalent (in.)



Station List

- ✕ Median Peak SWE
- Max
- - - Median (POR)
- Median ('81-'10)
- Min
- Stats. Shading
- 2020 (11 sites)
- 2019 (11 sites)
- 2018 (11 sites)
- 2017 (11 sites)
- 2016 (11 sites)
- 2015 (11 sites)
- 2014 (11 sites)
- 2013 (11 sites)
- 2012 (11 sites)
- 2011 (11 sites)
- 2010 (11 sites)
- 2009 (11 sites)
- 2008 (11 sites)

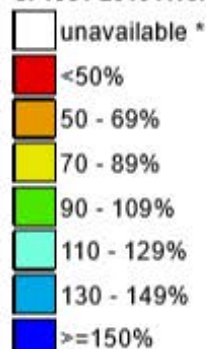


Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles.

Nevada/California SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

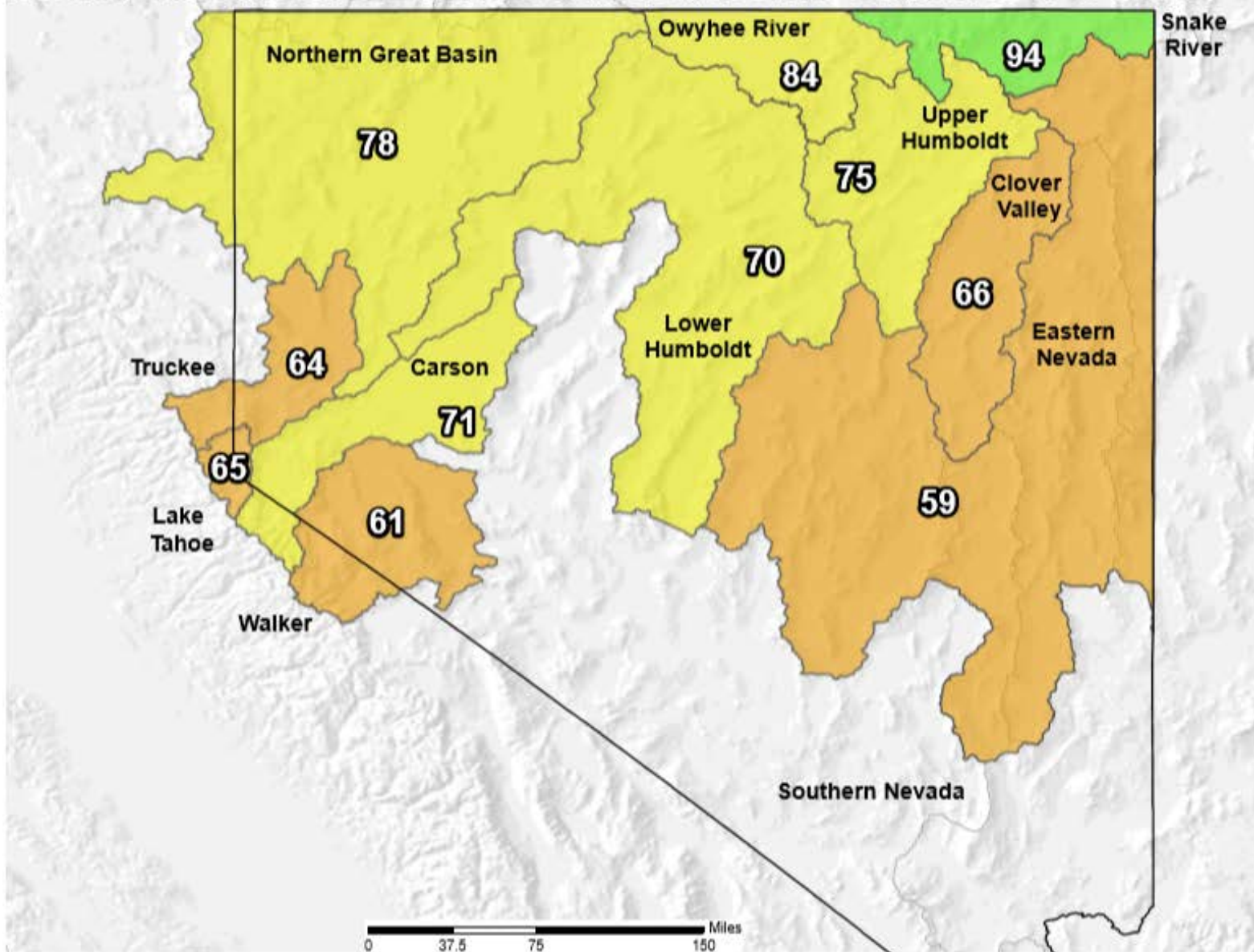
Sep 22, 2020

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



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

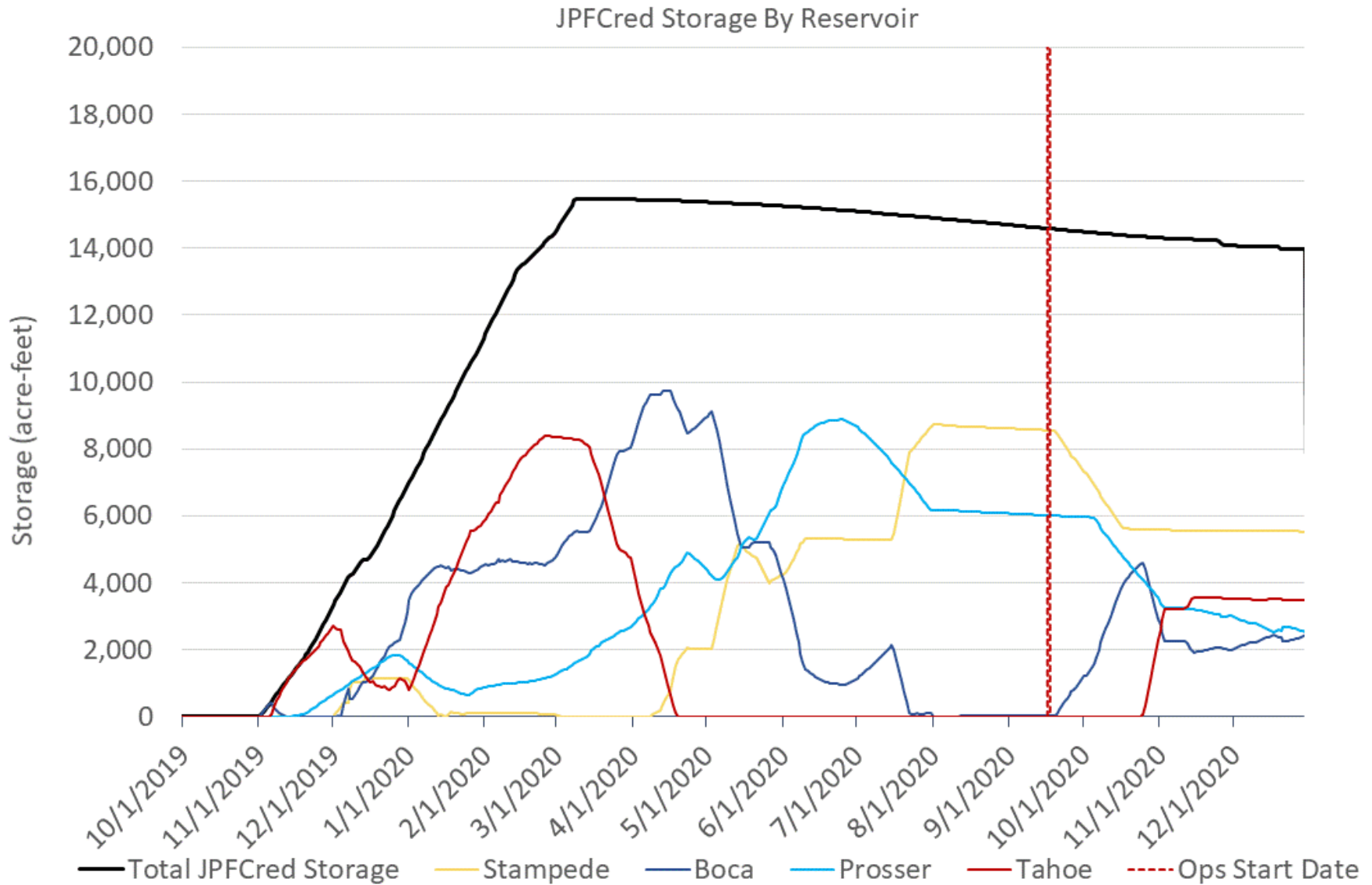
Provisional data
subject to revision



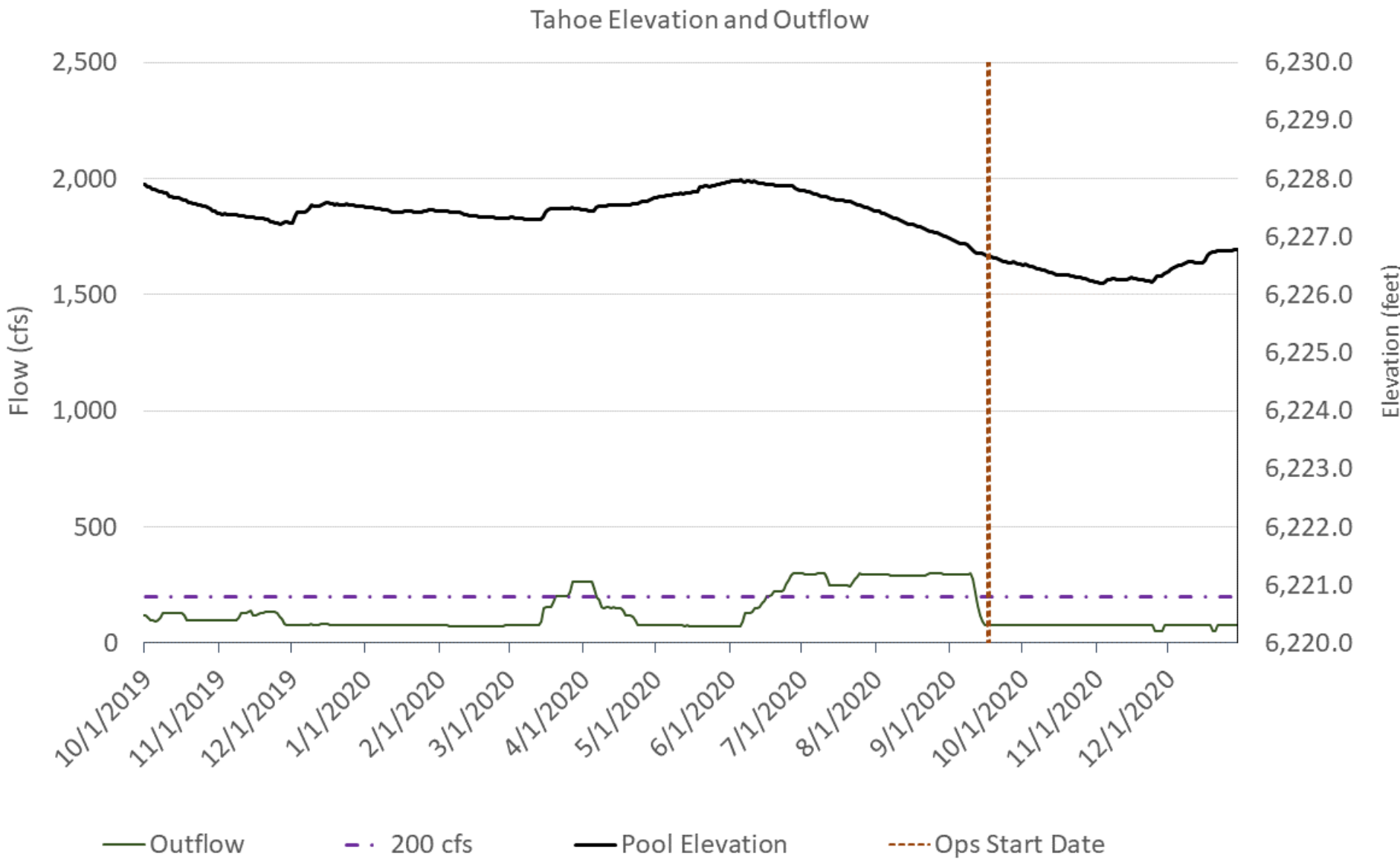
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

Joint Program Credit Water Distribution

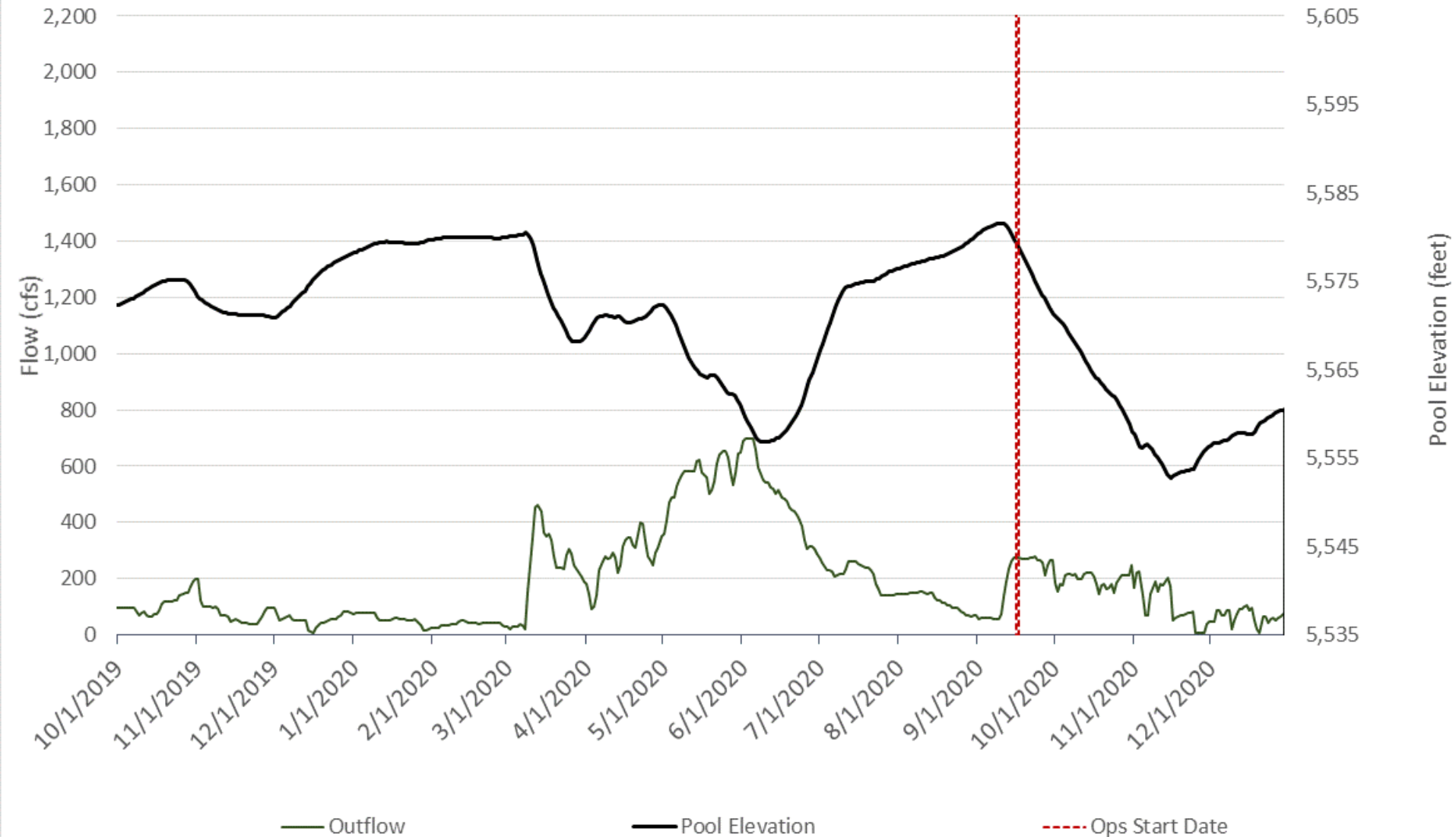


*Projected Schedule Subject to Change

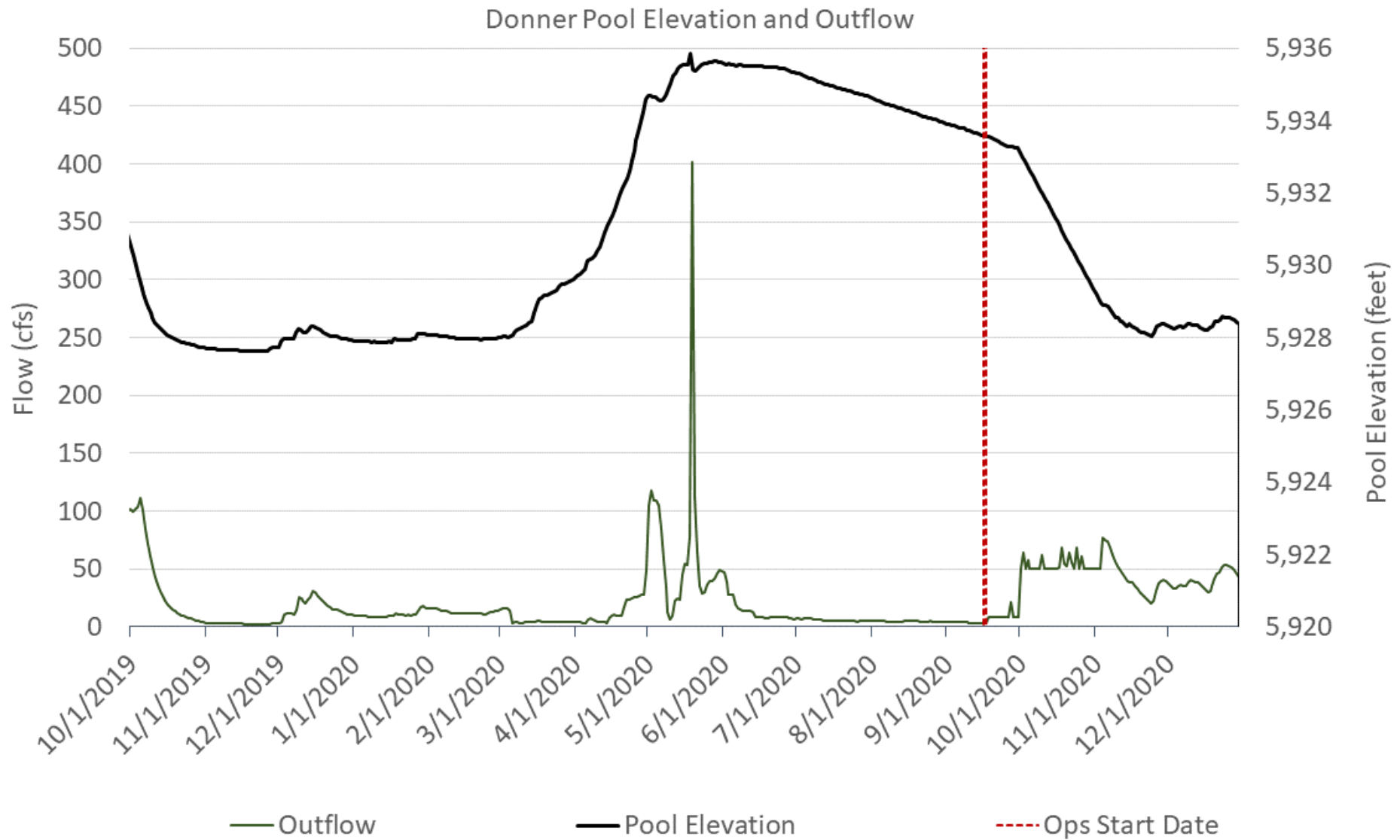


*Projected Schedule Subject to Change

Boca Pool Elevation and Outflow

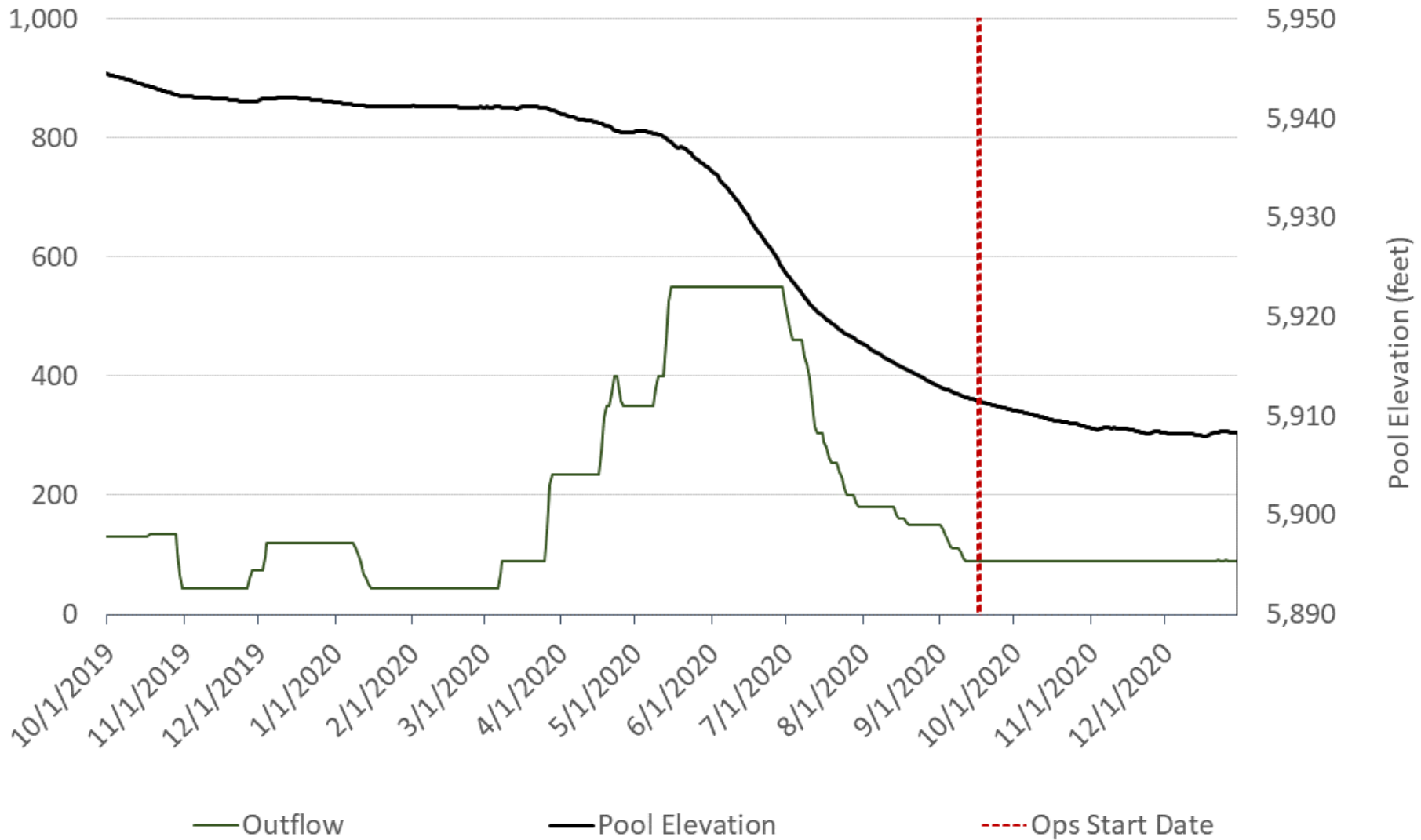


*Projected Schedule Subject to Change



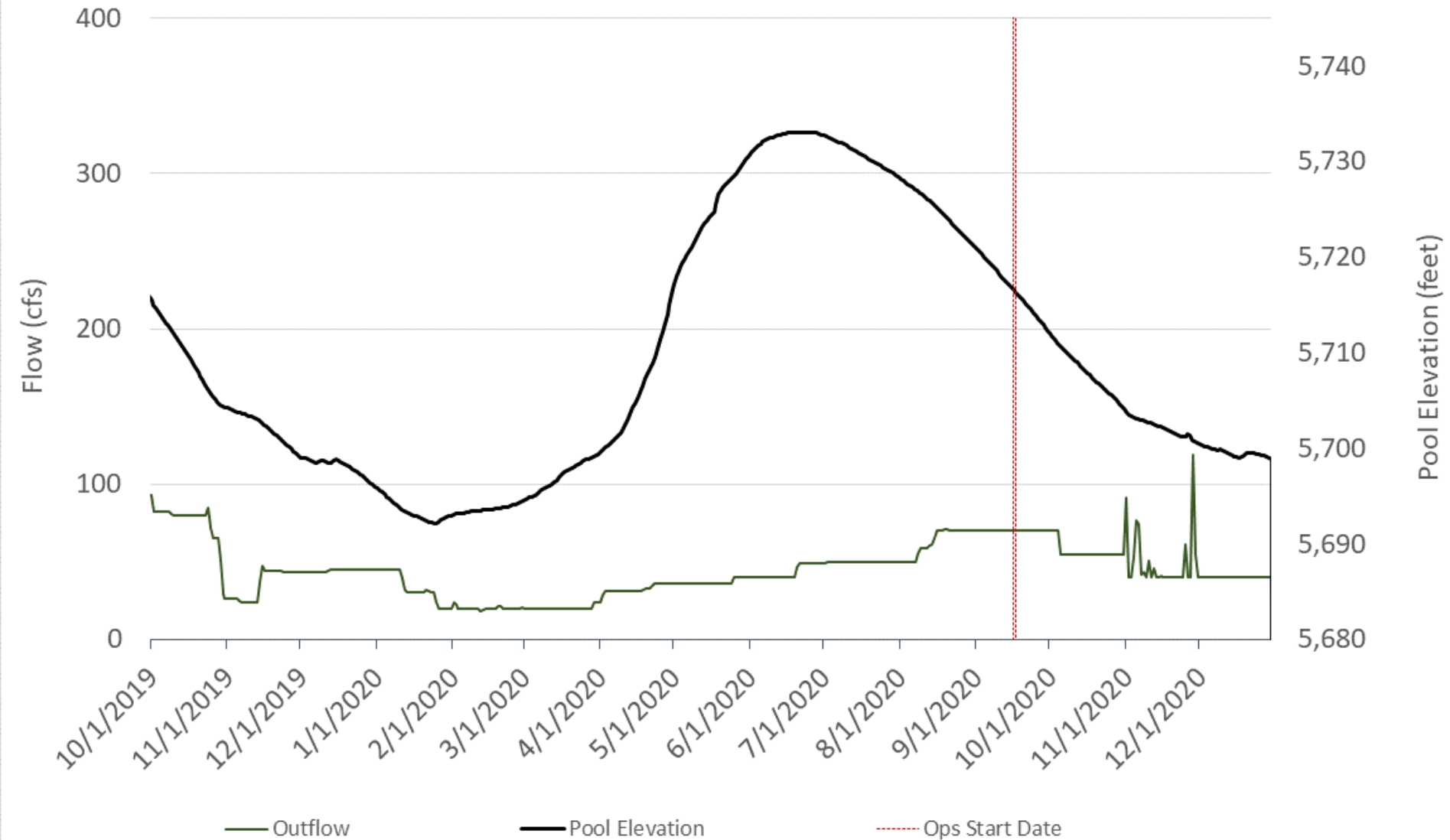
*Projected Schedule Subject to Change

Stampede Pool Elevation and Outflow



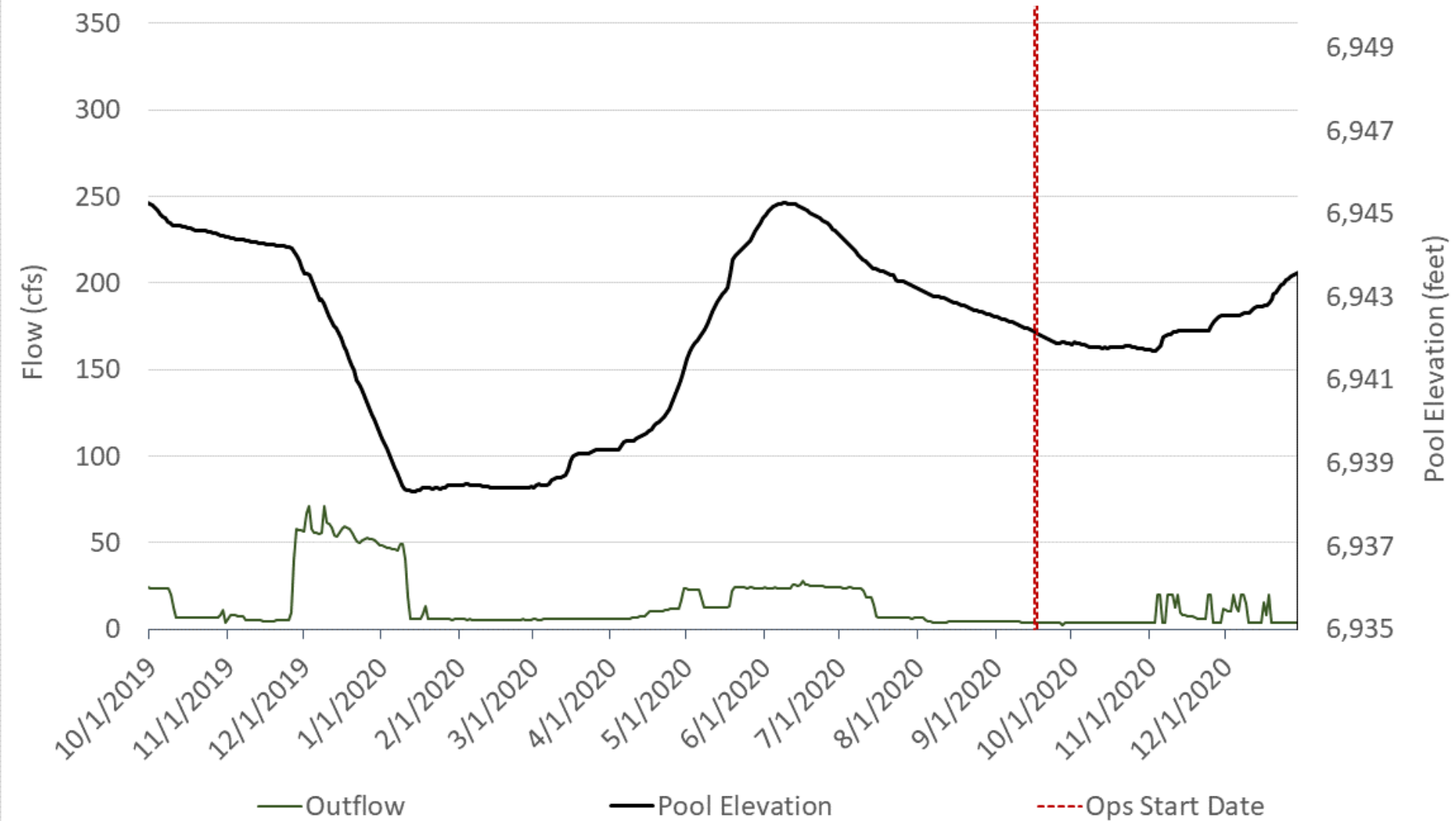
*Projected Schedule Subject to Change

Prosser Pool Elevation and Outflow

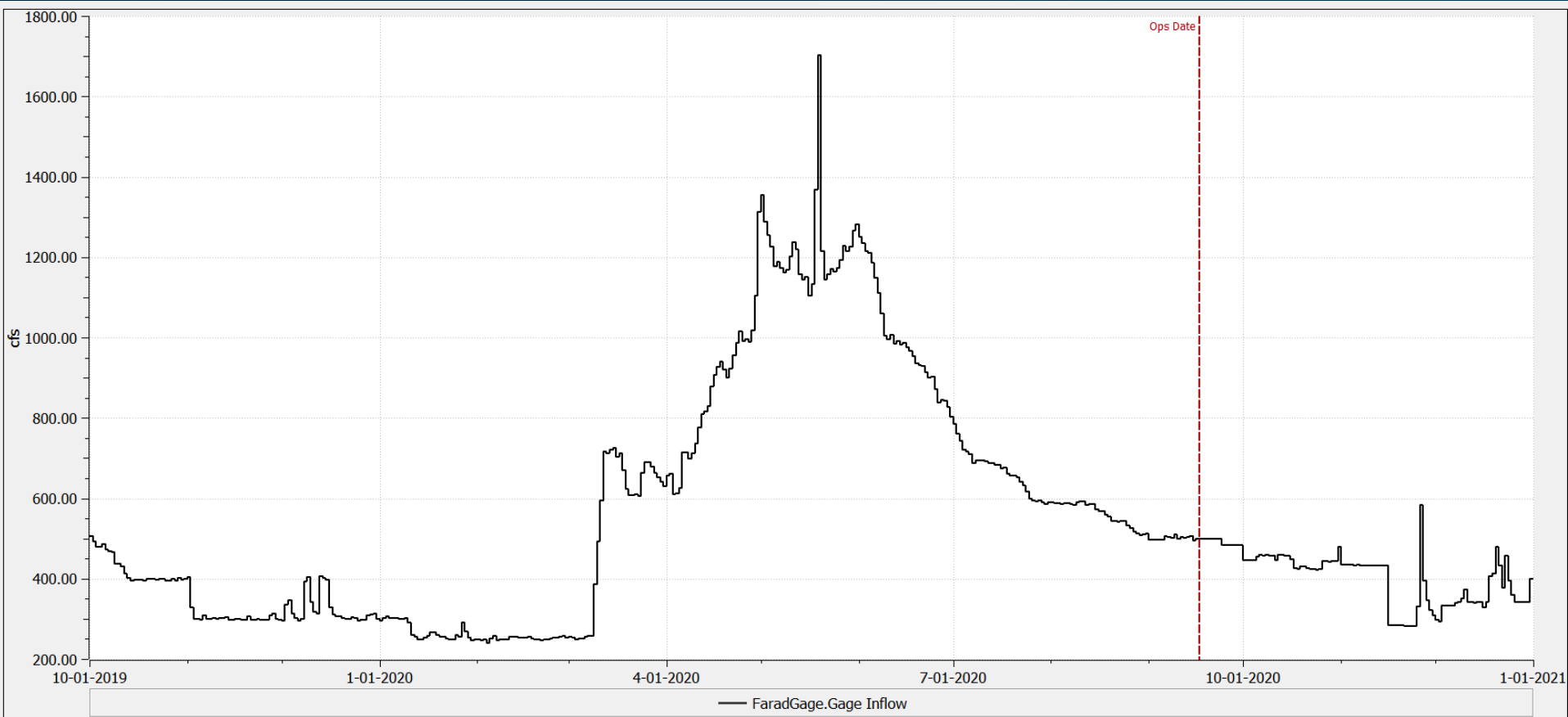


*Projected Schedule Subject to Change

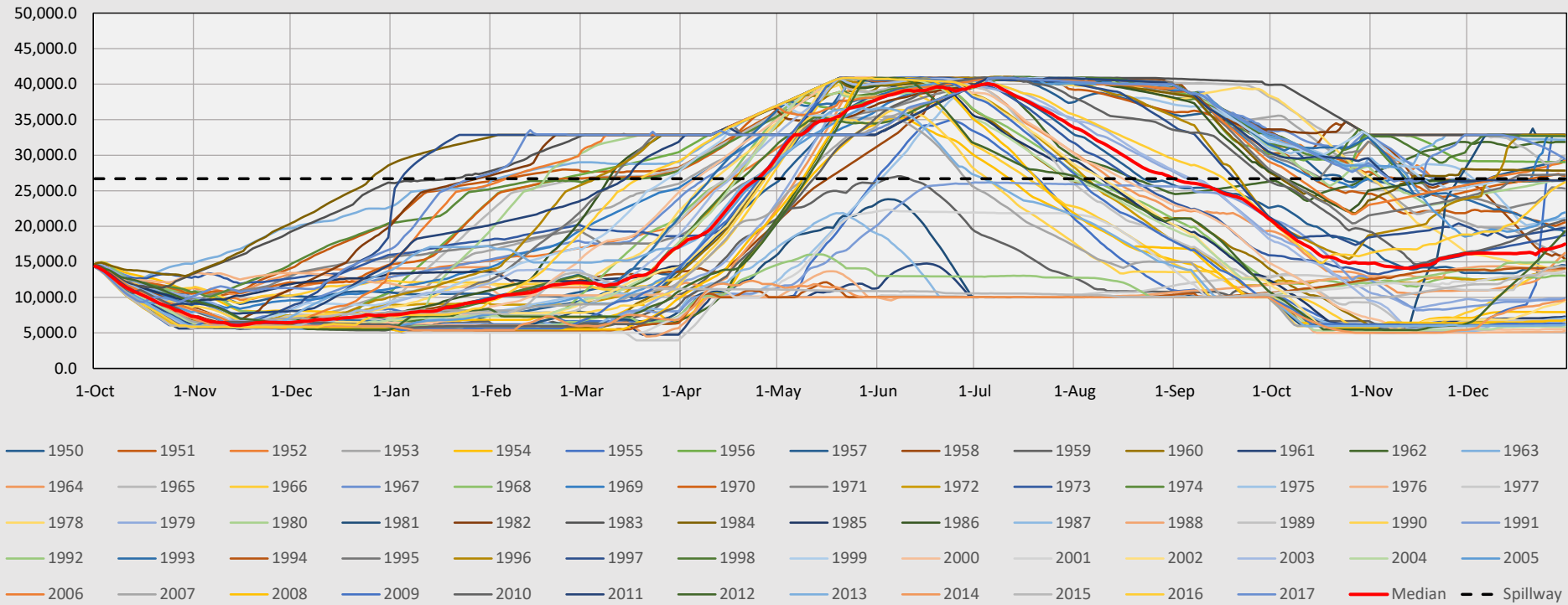
Independence Pool Elevation and Outflow



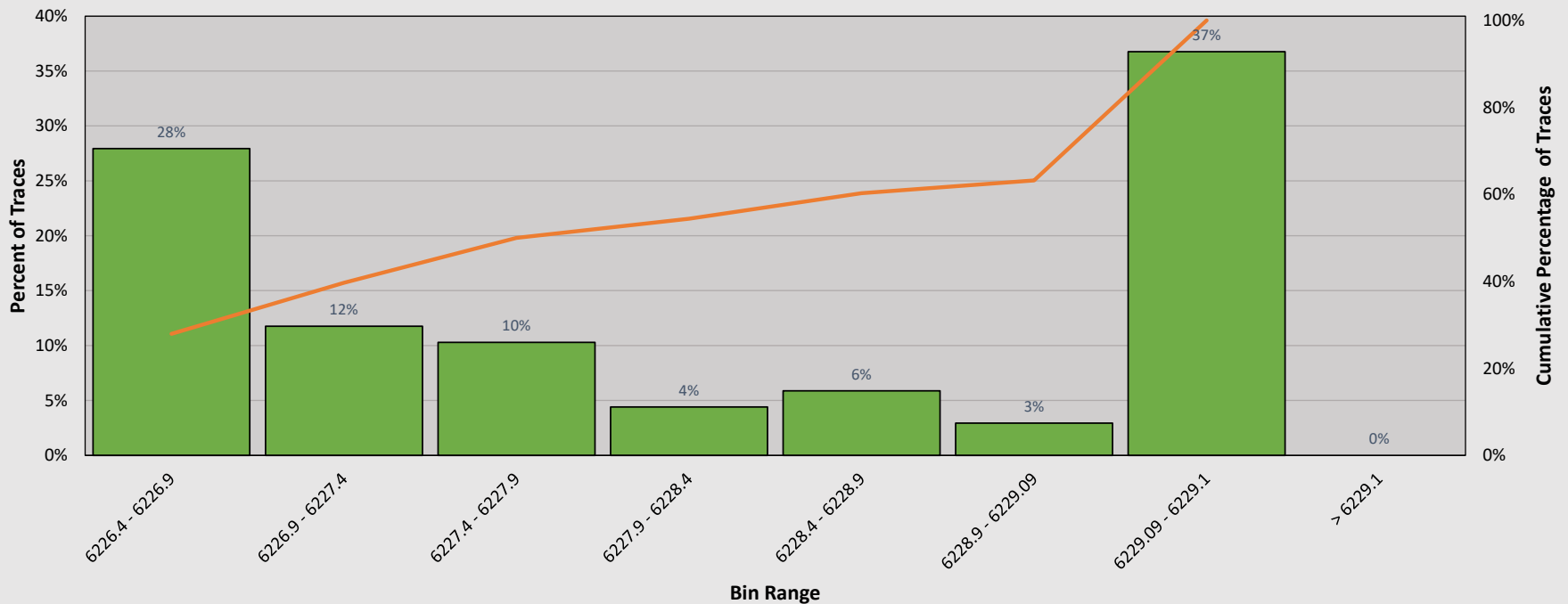
*Projected Schedule Subject to Change



Probabilistic Results: Boca Storage

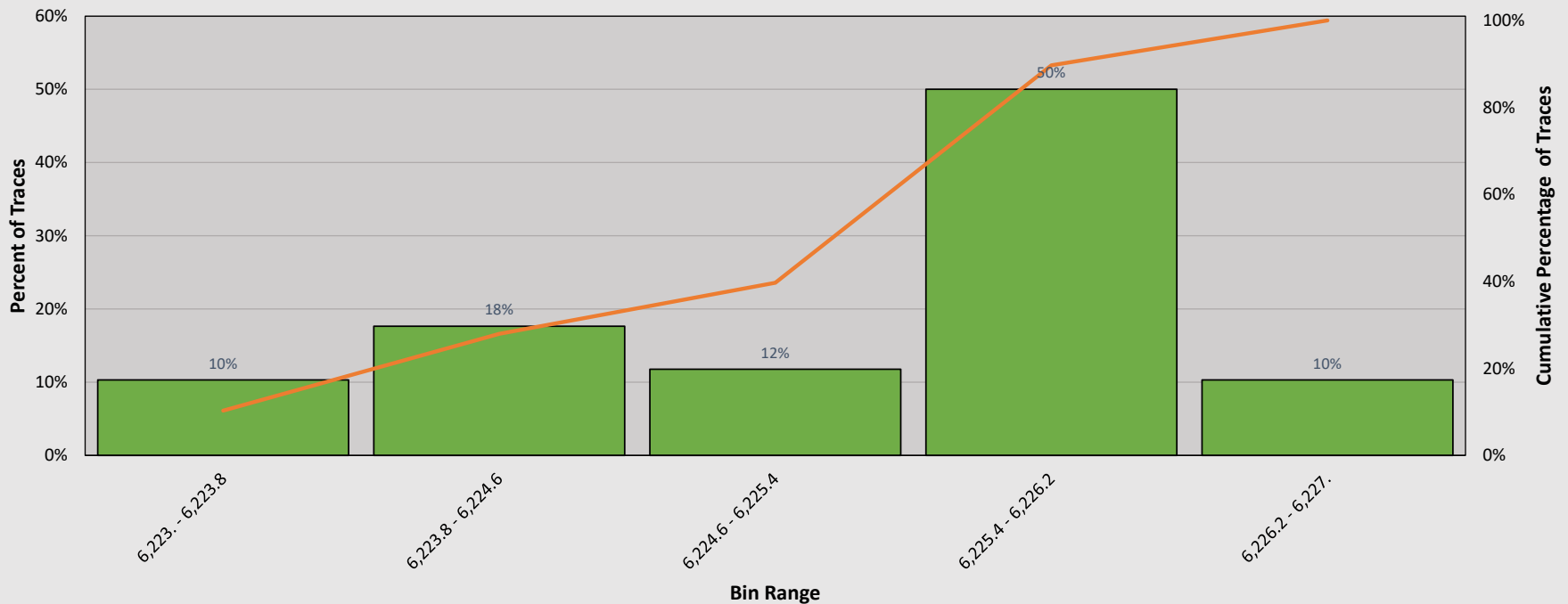


Probabilistic Results: Tahoe Max Pool Elevation (10/1/20-9/30/21)



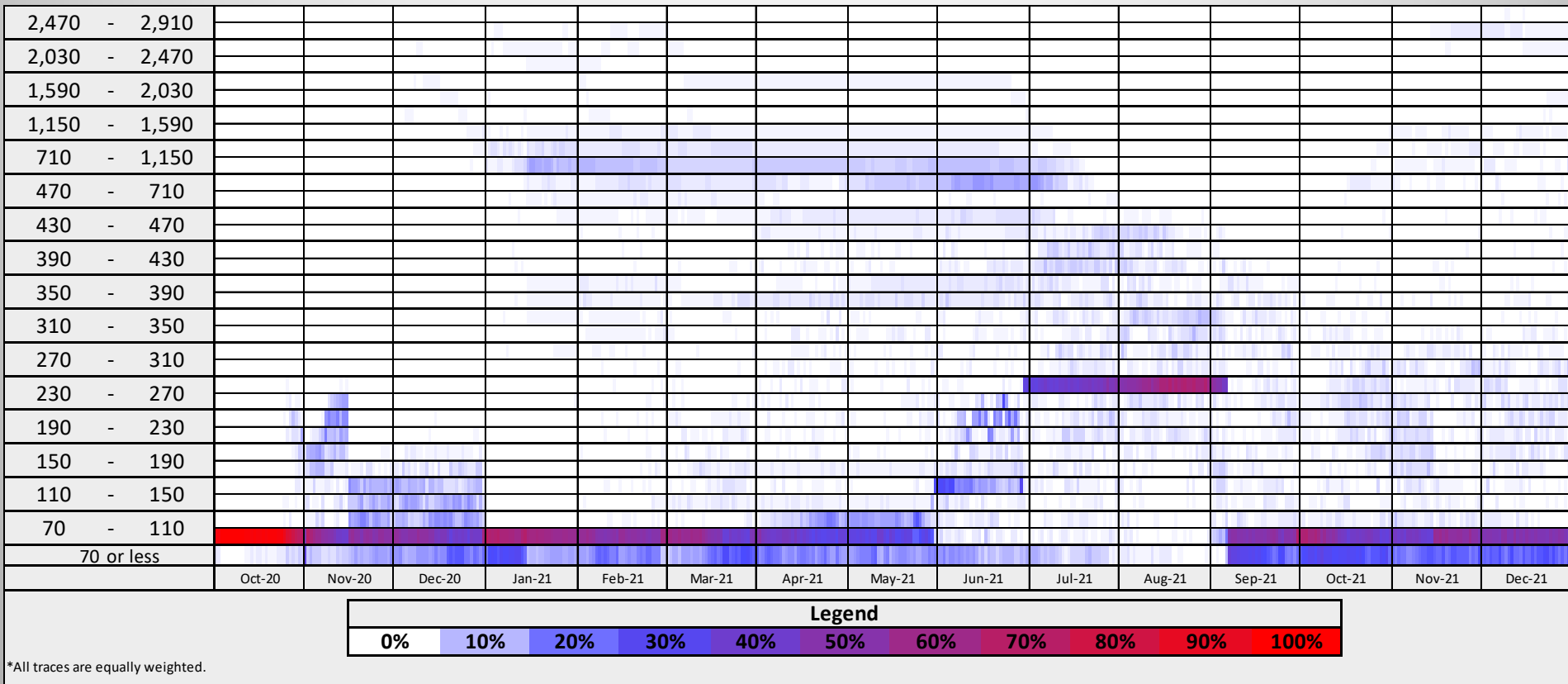
*All traces are equally weighted.

Probabilistic Results: Tahoe Min Pool Elevation (10/1/20-12/31/21)

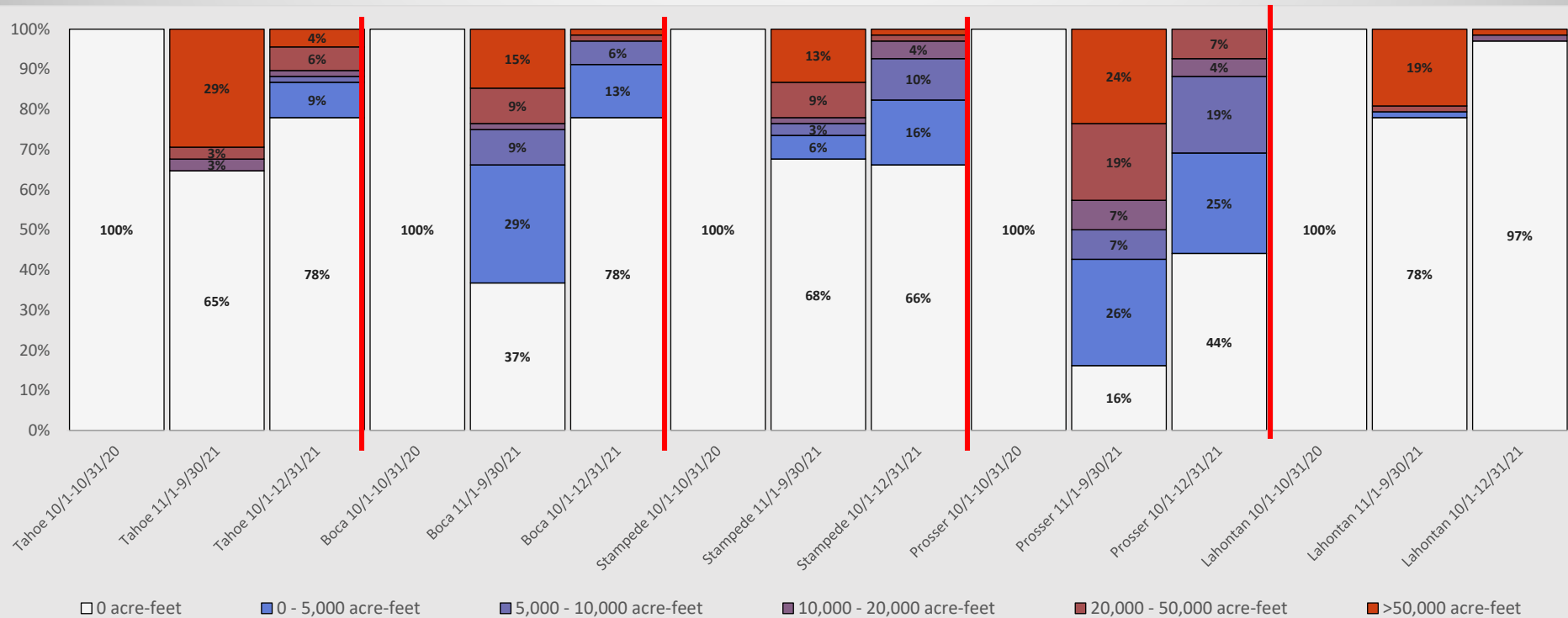


*All traces are equally weighted.

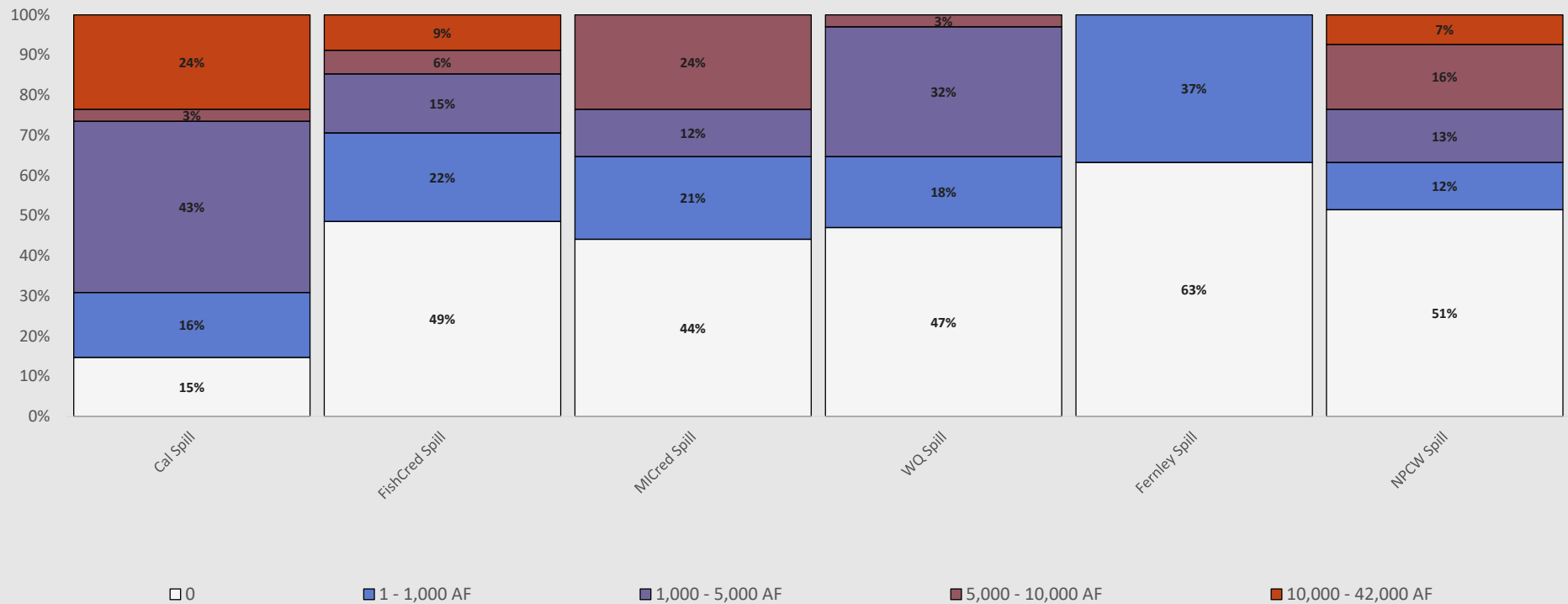
Probabilistic Results: Tahoe Outflow Heat Map



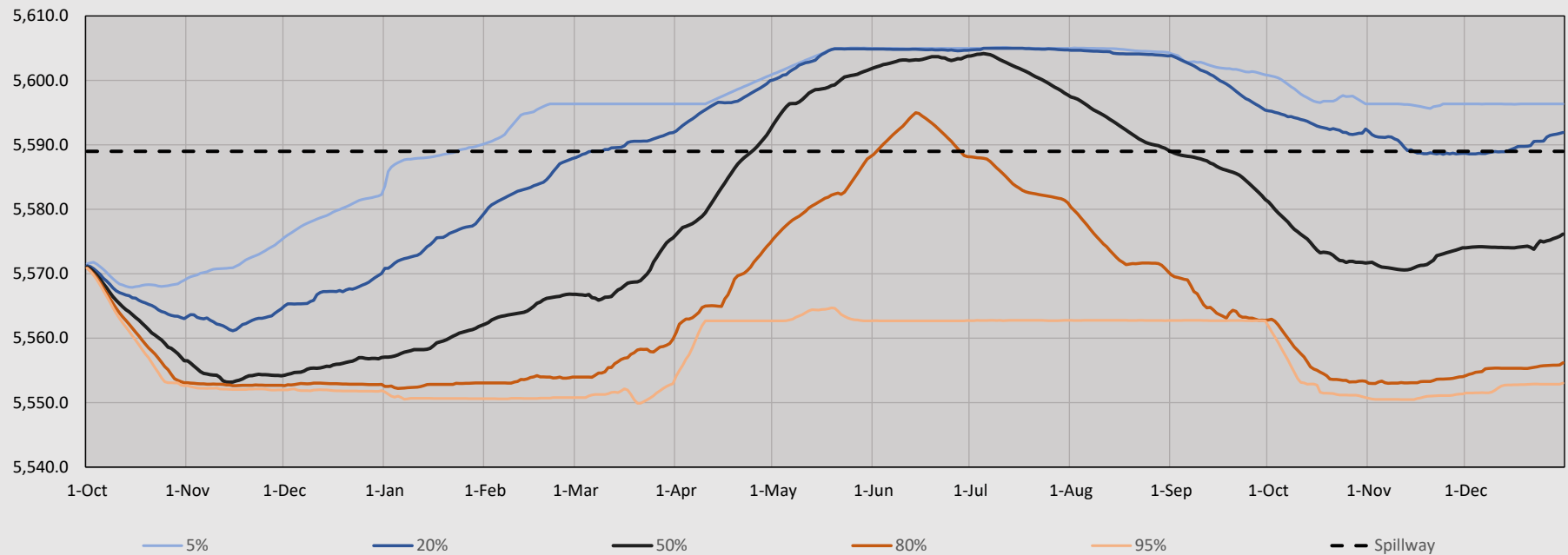
Probabilistic Results: Reservoir Spills Summary



Probabilistic Results: Party Credit Water Spills Summary (9/16/20-9/30/21)



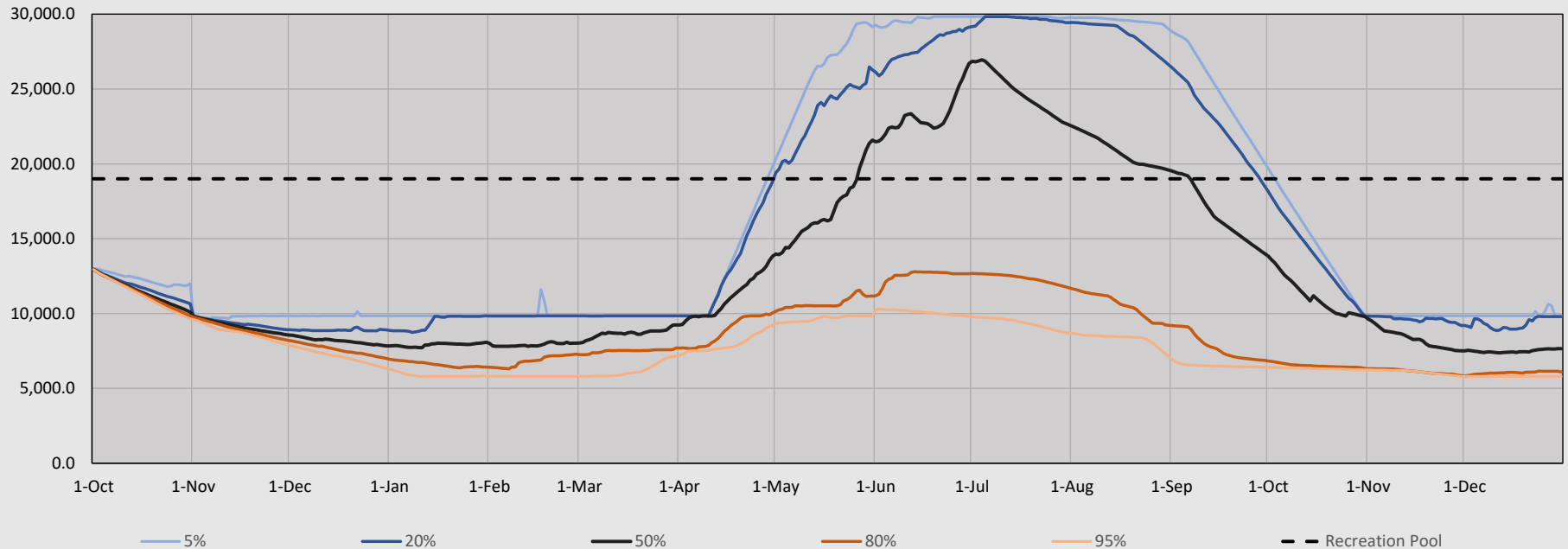
Probabilistic Results: Boca Pool Elevation NVGD29



*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

**All traces are equally weighted.

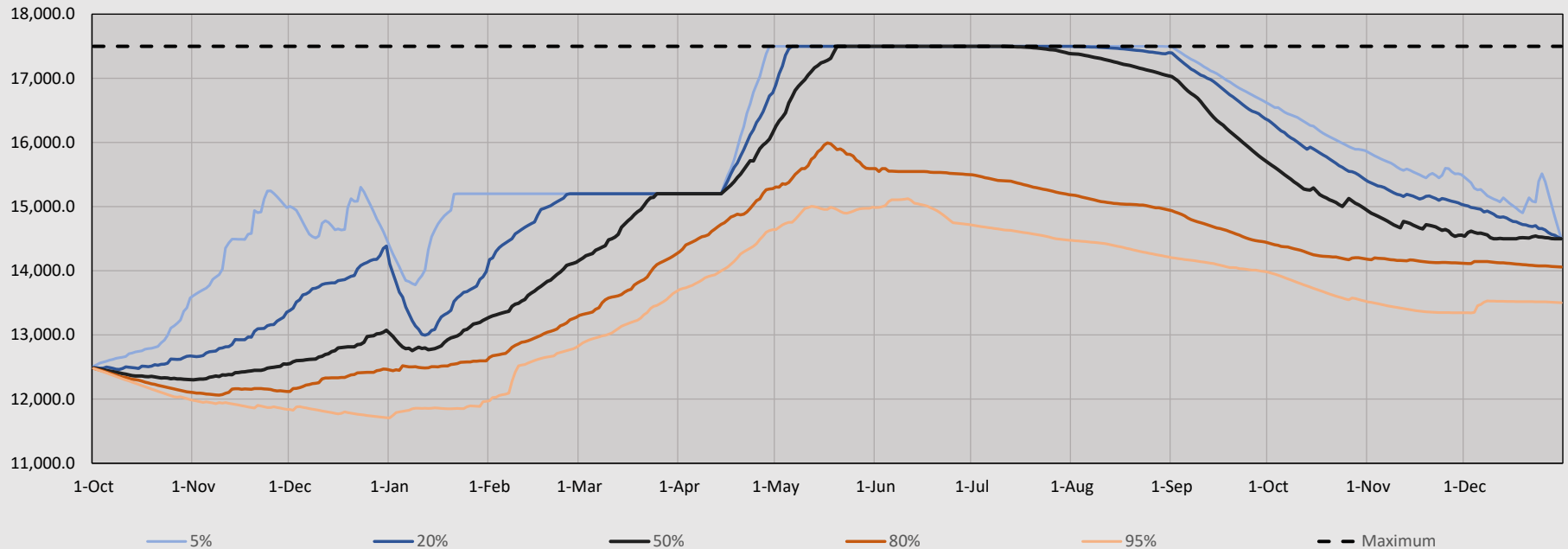
Probabilistic Results: Prosser Storage



*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

**All traces are equally weighted.

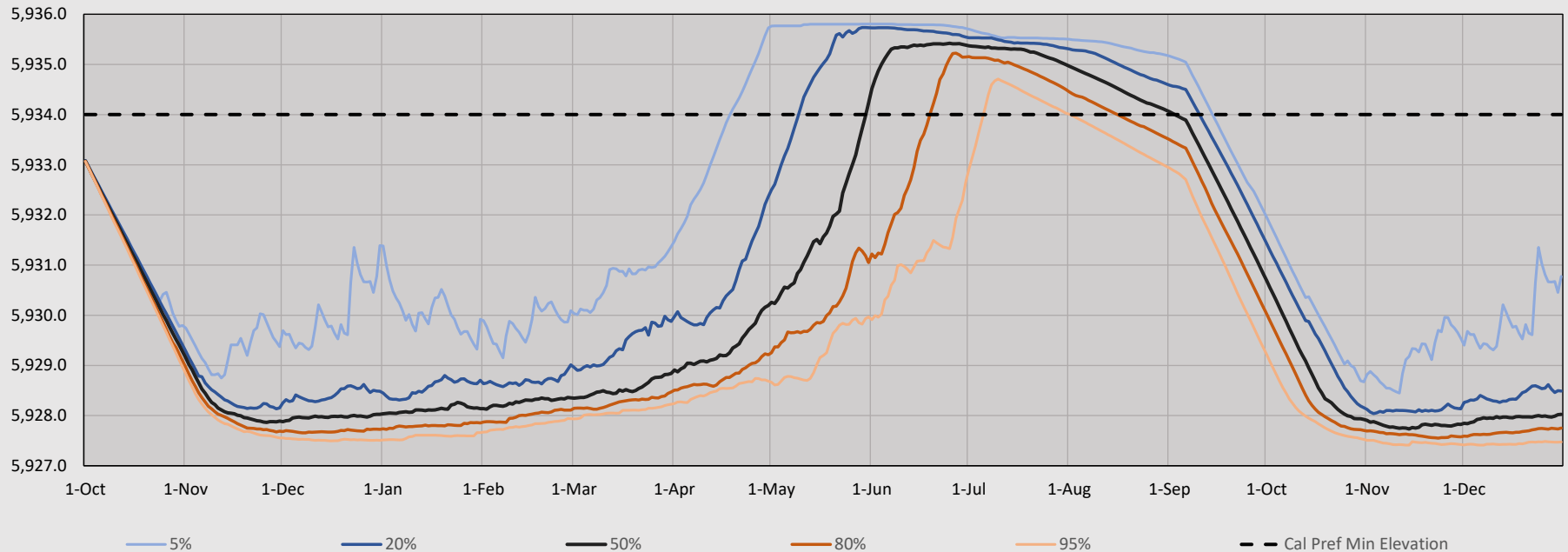
Probabilistic Results: Independence Storage



*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

**All traces are equally weighted.

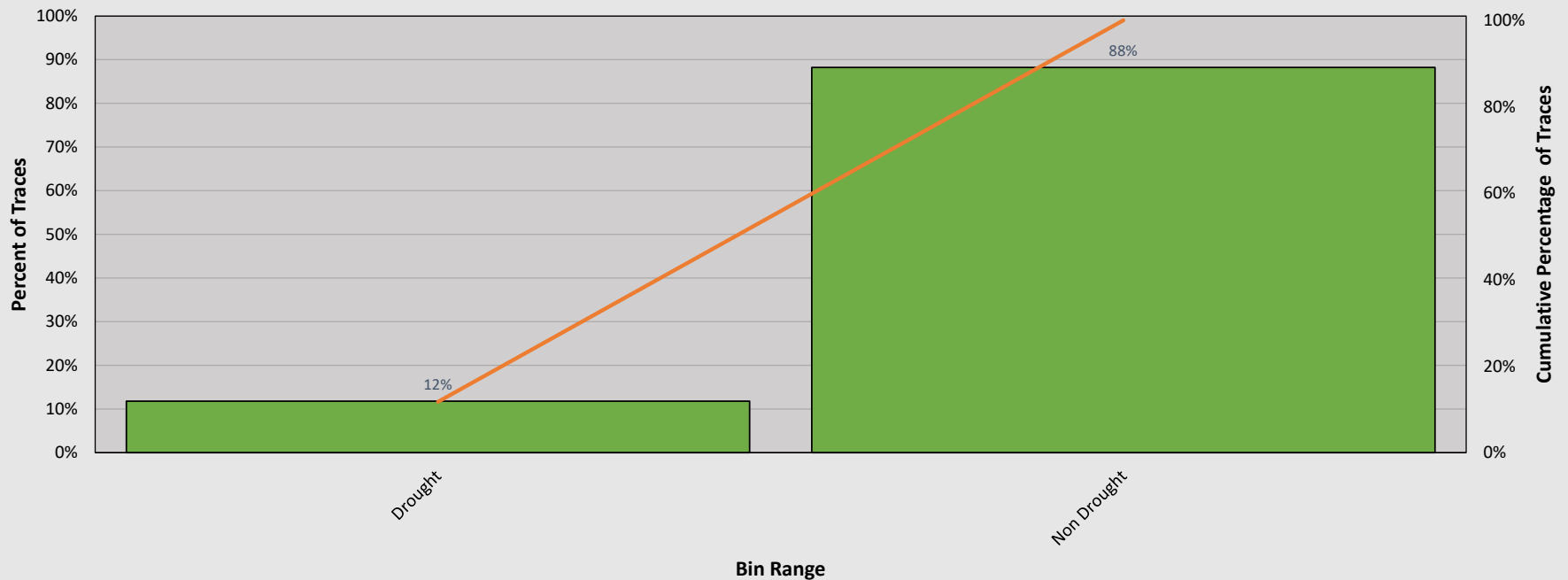
Probabilistic Results: Donner Pool Elevation



*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

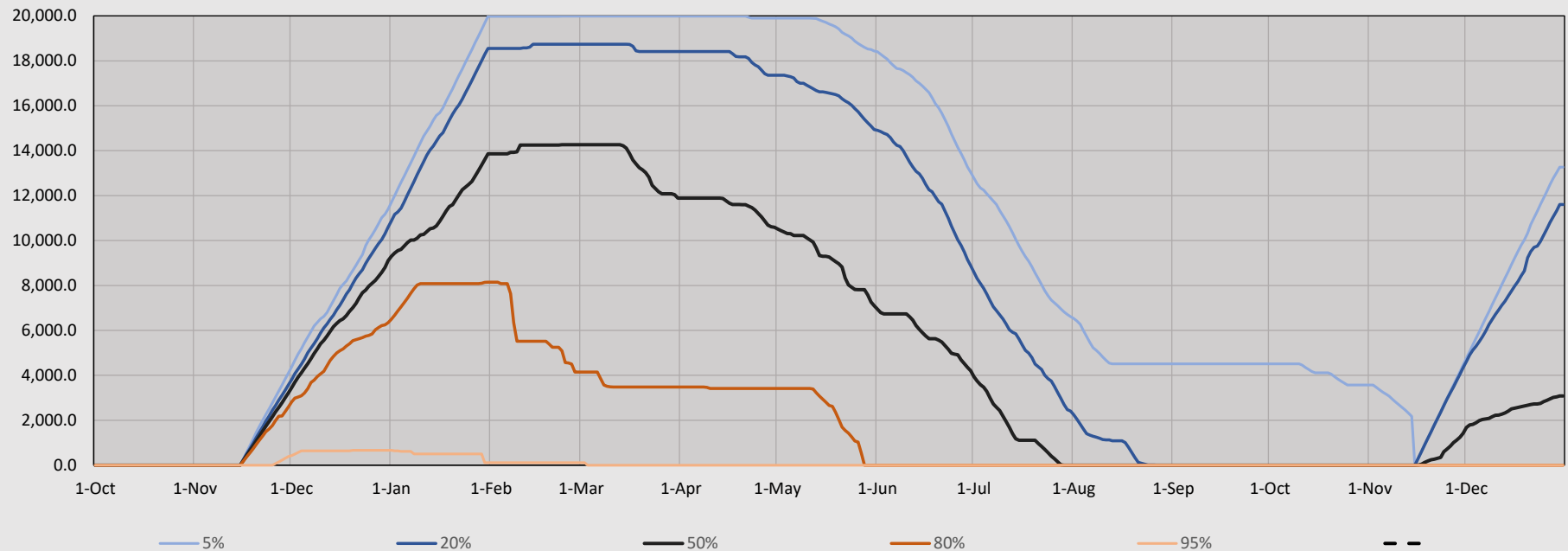
**All traces are equally weighted.

Probabilistic Results: Drought Designation



*All traces are equally weighted.

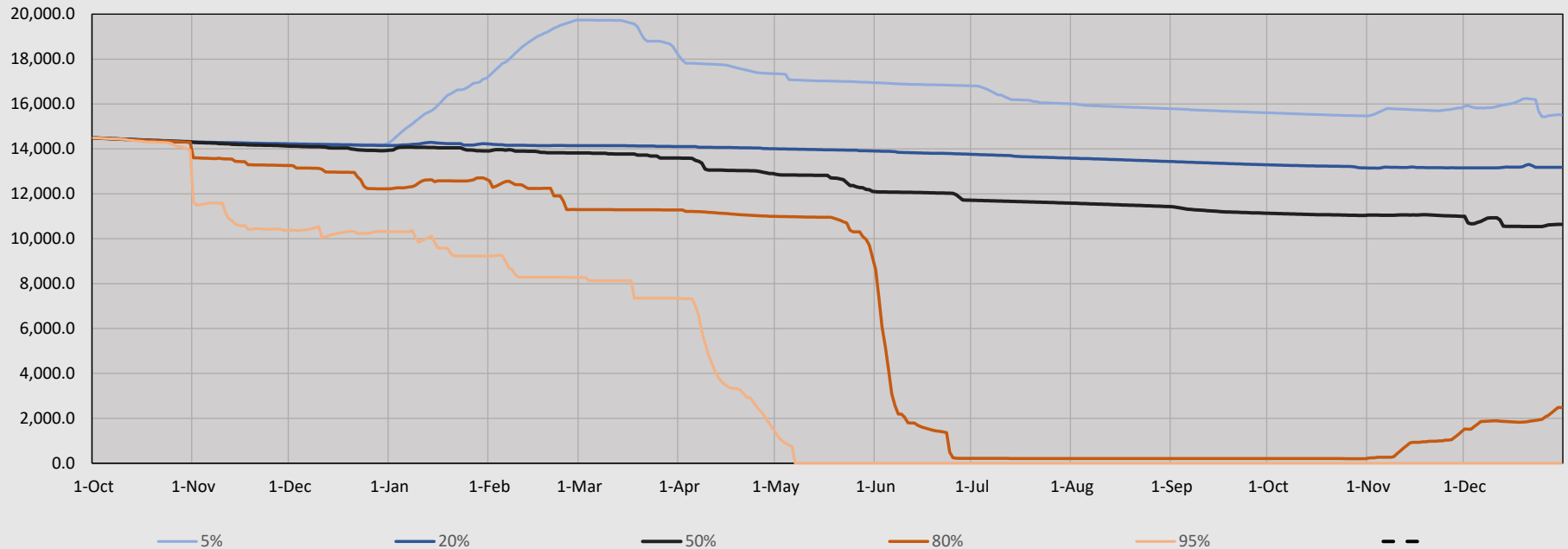
Probabilistic Results: Newlands Project Credit Water



*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

**All traces are equally weighted.

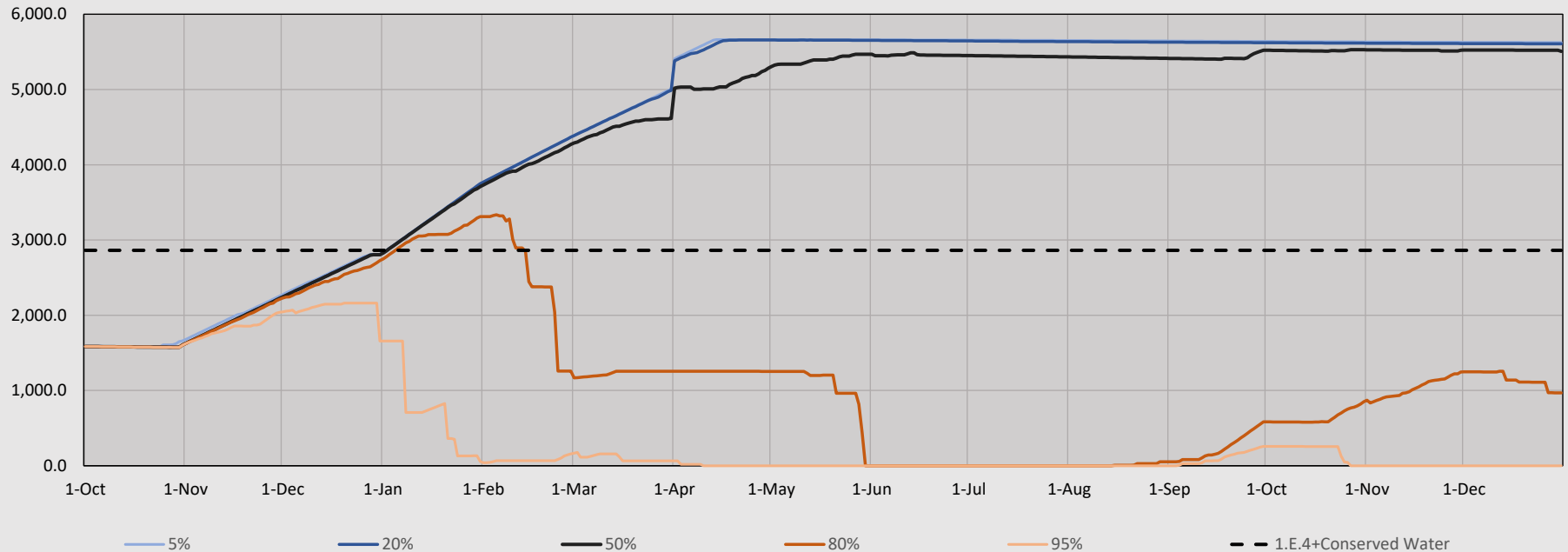
Probabilistic Results: JPF Cred Storage



*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

**All traces are equally weighted.

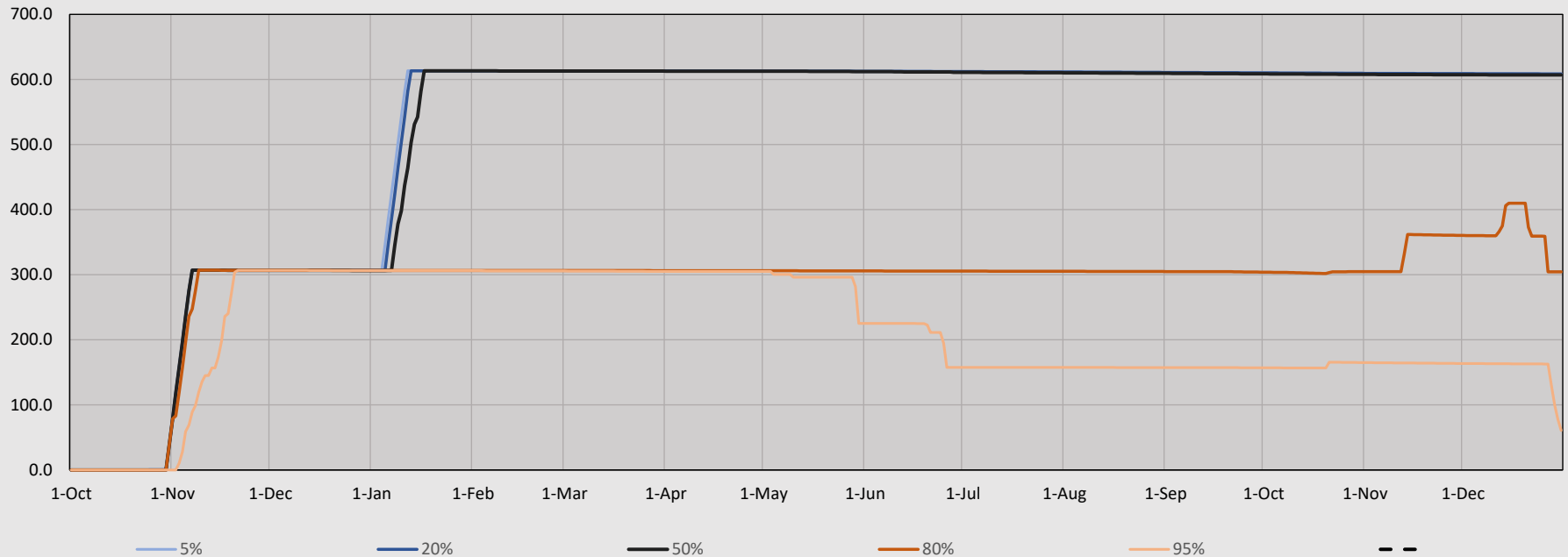
Probabilistic Results: WQCred Storage



*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

**All traces are equally weighted.

Probabilistic Results: FernleyCred Storage



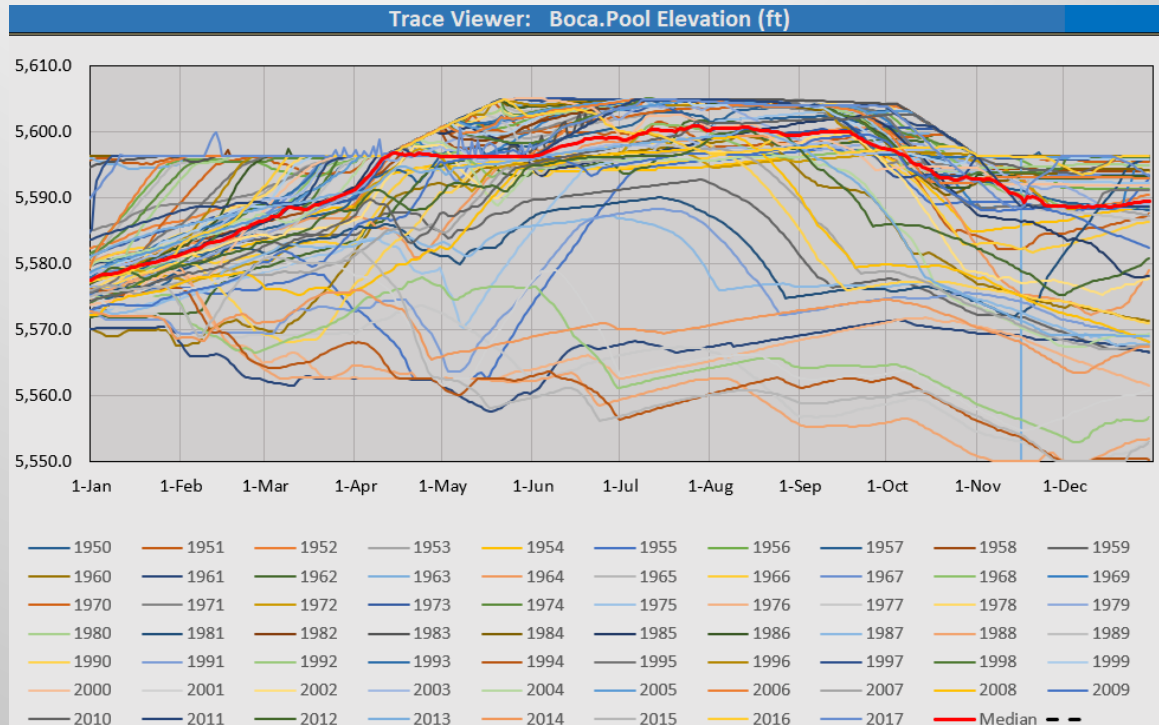
*Exceedance percentages display the value that will be exceeded by the specified likelihood (e.g. 5%) on a particular day and do not represent a hydrograph.

**All traces are equally weighted.

Questions?

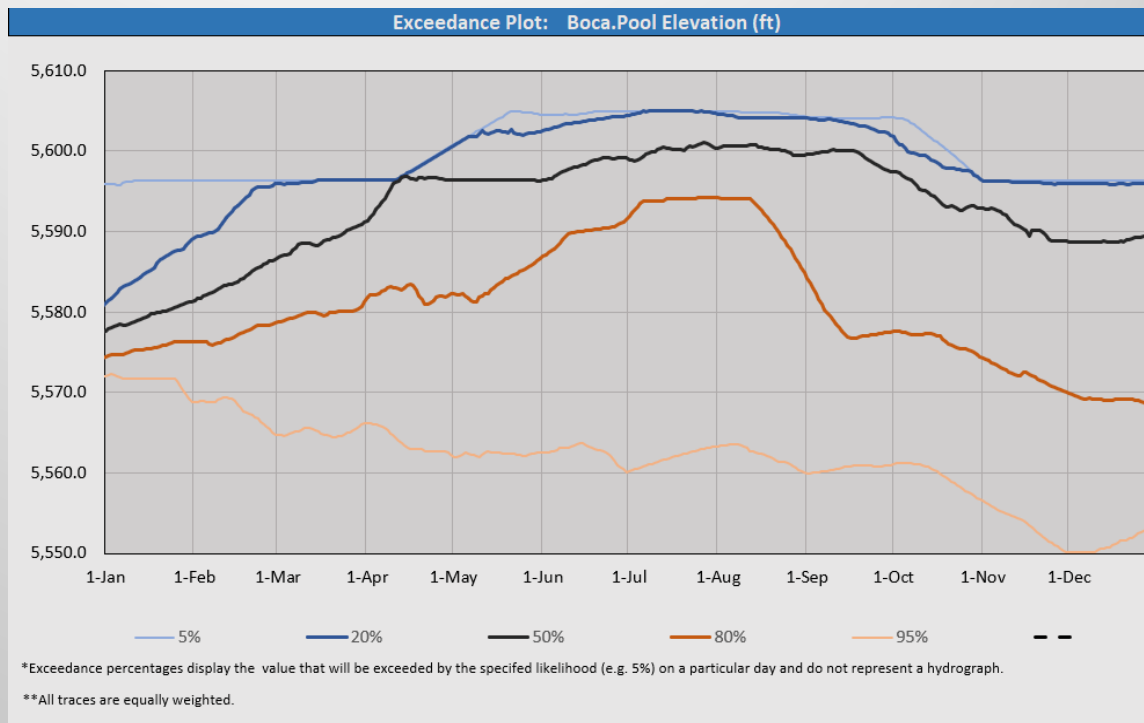
Documentation - Trace_Viewer

This output tool, otherwise known as a “spaghetti plot,” plots the time series values of a single slot for each ensemble trace on a single graph. The value in this plot is that it allows the user to visualize the entire range of output data for a given slot. Overall, this plot can be helpful to examine any quantity where the expected range of outcomes is particularly important. An example question that this plot can help answer is, “Given the range of hydrology forecasts in the basin, is it possible for Lake Tahoe to fill this year?”



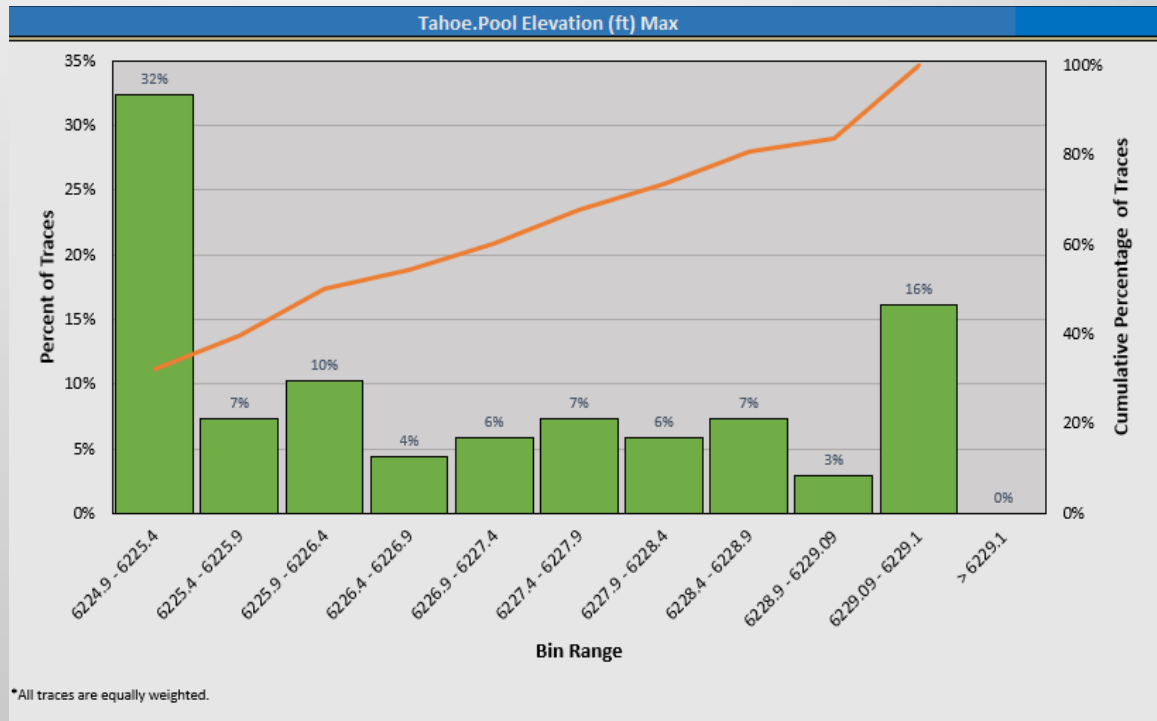
Documentation - Exceedance

This output tool aggregates the time series ensemble results for a selected slot, and it plots the 5%, 20%, 50%, 80% and 95% exceedance traces. The plot allows the user to easily visualize the likelihood that values for a given slot will exceed the given threshold exceedances at a given date throughout the year. Because the timing of events (e.g. rainfall events) vary significantly between traces, this plot does not represent annual exceedance probability. You can only determine daily exceedance probabilities from this plot; for exceedance values longer than daily see the Histogram sheet. An example question that this plot may help answer is, “What is the likelihood that the outflow from Boca Reservoir on October 1st will exceed 80 cfs?”.



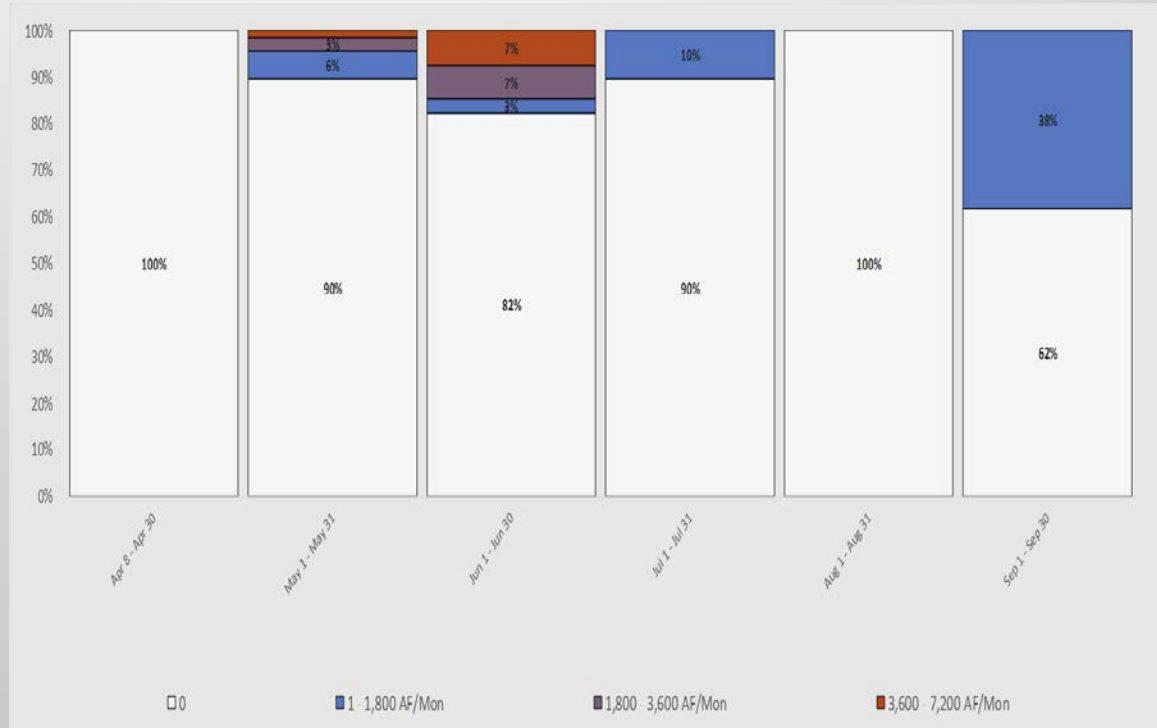
Documentation - Histogram

This output tool allows the viewer to analyze the expected range of any slot and time range. The histogram aggregates all ensemble output data for the selected slots and organizes the values of this slot across all output traces into user selected bins, effectively revealing how likely a certain output is to occur. In some cases, a histogram can be computed for the benefits and the risks associated with a decision allowing the decision maker to objectively weigh the risk-reward relationship and make a well-informed decision. An example question that could be answered by this plot is, "What is the likelihood that Lake Tahoe will fill this year?"



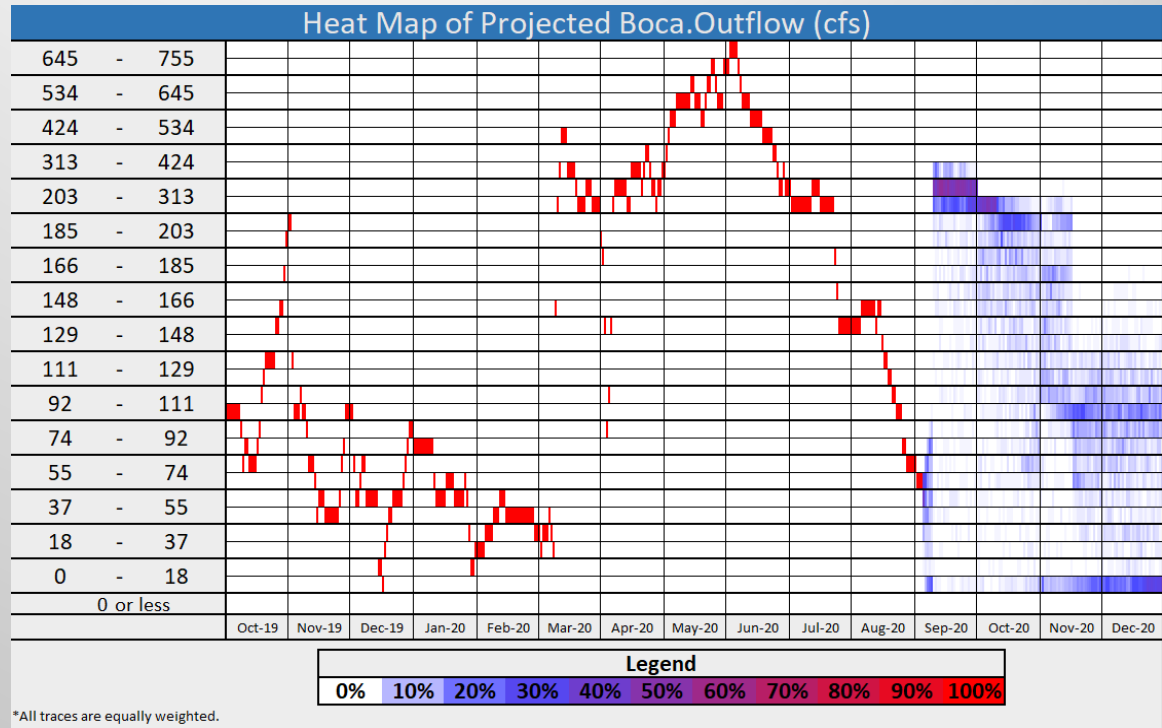
Documentation - HistogramResultsComp

This output tool is paired with the ResultsComparison tool. It builds a histogram of the output data that is currently loaded in the ResultsComparison sheet. Several preconfigured plots have been compiled. An example question that this plot can answer is, "What is the likely amount of spill on Prosser for each month over the next 6 months?"



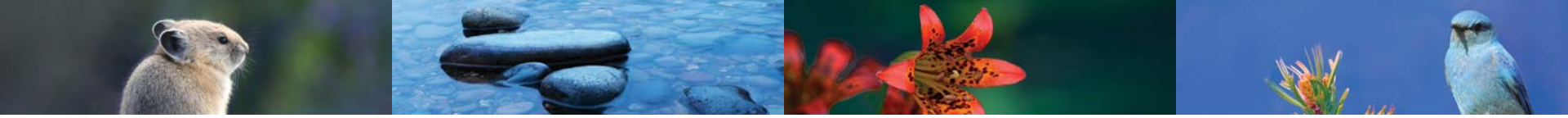
Documentation - HeatMap

This output tool allows the user to visualize the likely ranges of values a certain slot will take through time given the full ensemble of output data. The heat map utilizes color formatting to illustrate how likely each output bin (the vertical axis) will occur as a function of time. The largest advantage of this output method is that there is less room for misinterpretation as compared to the “Exceedance Plot”. This output tool may also be used to display any parameter where the goal is to qualitatively show the uncertainty associated with a parameter and avoid making strong statements about the “most probable” or “most likely” outcome. An example question that this output tool can answer is, “What is the likelihood that there will be recreational flows all summer?”



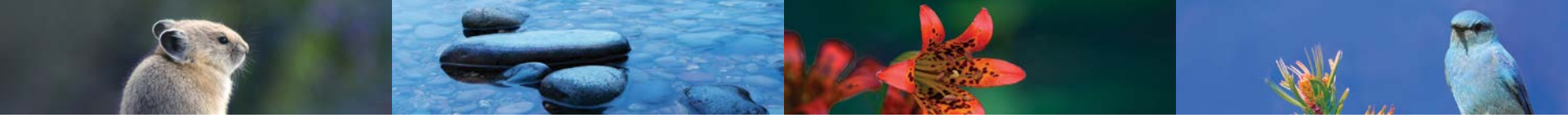
Trout Unlimited & TRWC Truckee River Flow Enhancement





Project Status

- Field data collected 2017 – 2018
- Analysis 2019
- Review by Fish Team June, 2019
- DFW review & additional analysis in process



Flow Recommendations

- Based on field surveys, LiDAR analysis, aerial photographs
- Prosser, Donner, Independence, Little Truckee River between Boca and Stampede

Donner Creek

Suggested

Reach	Fall Spawners (Mt. whitefish, brown trout)				Spring spawners (LCT, Rainbow)			
	Oct - Jan		Feb - Mar		Apr - Jul		Aug - Sep	
	Spawning/incubation		Rearing		Spawning/incubation		Rearing	
	Pref	Min	Pref	Min	Pref	Min	Pref	Min
Donner	50	8	40	15	60	40	10	8

Current Guidelines

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CA pref min	8	8	N/A	N/A	N/A	N/A	8	8	8	3	3	3
CA pref flow	10	10	N/A	N/A	N/A	N/A	100	75	8	8	8	8/10

Independence Creek

Suggested

Reach	Fall Spawners (Mt. whitefish, brown trout)				Spring spawners (LCT, Rainbow)			
	Oct - Jan		Feb - Mar		Apr - Jul		Aug - Sep	
	Spawning/incubation		Rearing		Spawning/incubation		Rearing	
	Pref	Min	Pref	Min	Pref	Min	Pref	Min
Independence	25	8	20	10	40	20	10	3

Current CA Guidelines:

Defer to The Nature Conservancy, CDFW, TMWA, USFWS, USGS for management of Independence Lake Lahontan cutthroat trout for preferred and preferred minimum

CA preferred Maximum = 40 cfs due to road flooding

Little Truckee River

Suggested

Reach	Fall Spawners (Mt. whitefish, brown trout)				Spring spawners (LCT, Rainbow)			
	Oct - Jan		Feb - Mar		Apr - Jul		Aug - Sep	
	Spawning/incubation		Rearing		Spawning/incubation		Rearing	
	Pref	Min	Pref	Min	Pref	Min	Pref	Min
LTR	150	60	150	70	200-300	65	100	45

Current Guidelines

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CA pref min	45	45	45	45	45	45	125	125	75	75	45	45
CA pref flow	75	45	45	45	75	150	250	250	150	150	100	100

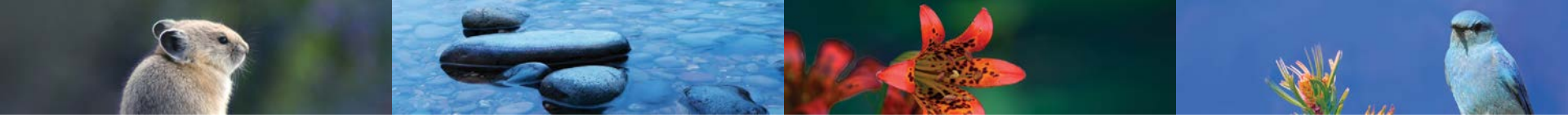
Prosser Creek

Suggested

Reach	Fall Spawners (Mt. whitefish, brown trout)				Spring spawners (LCT, Rainbow)			
	Oct - Jan		Feb - Mar		Apr - Jul		Aug - Sep	
	Spawning/incubation		Rearing		Spawning/incubation		Rearing	
	Pref	Min	Pref	Min	Pref	Min	Pref	Min
Prosser	60	17	50	20	100	30	45	17

Current Guidelines

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
CA pref min	30	30	30	30	30	30	30	30	30	30	30	30
CA pref flow	45	30	30	30	30	75	100	100	75	75	60	60



Ramping Recommendations

- Downramping: Flow decreases not more than 25% over 24 hours
- Upramping:
 - July – Oct.: Flow increase not more than 50% over 24 hours (except in case of natural storm events)
 - Nov- June: no set flow increase