



American River Group

1:30 PM – 3:30 PM

Conference Line: +1 (321) 209-6143; Access Code: 780 506 355#

Webinar: [Join Microsoft Teams Meeting](#)

Thursday, May 19, 2022

Notes

1. Action Items

- a. K&W- Update American River Summary Condition to read 1,000 cfs
- b. K&W – Schedule Ad-hoc meeting to discuss temperature modeling.

2. Introductions:

- a. USBR: Ian Smith, Thuy Washburn, Brad Hubbard, Melissa Vignau, Spencer Marshall, Liz Kiteck, Lee Mao
- b. NMFS: Barb Byrne, Katrina Poremba
- c. USFWS: Paul Cadrett
- d. CDFW: Crystal Rigby, Jason Julienne, Gary Novak, Nick Bauer, Gabe Singer, Tracy Grimes, Mike Healey (partial attendance)
- e. SWRCB: Michael Macon, Lauren Beaudin
- f. PCWA: Ben Barker, Darin Reintjes
- g. EBMUD: I-Pei Hsiu
- h. SMUD: Ansel Lundberg
- i. City of Folsom: Marcus Yasutaki
- j. City of Sacramento: Brian Sanders

- k. San Juan Water District: Paul Helliker, Greg Zlotnik
 - l. Westlands: Tom Boardman
 - m. City of Roseville: Sean Bigley
 - n. DWR: Mike Ford
 - o. WAPA: Mike Prowatzke
 - p. FishBio:
 - q. Water Forum: Jessica Law, Ashlee Casey, Erica Bishop, Chris Hammersmark, Craig Addley
 - r. CFS: Kirsten Sellheim
 - s. PSMFC: Logan Day, Austin Galinat
 - t. Shingle Springs Miwok Band: Krystal Moreno
 - u. Kearns & West: Mia Schiappi, Karis Johnston
 - v. CSUS: Dede Birch
 - w. Other: Rod Hall, Jeni Buckman
3. Shasta WY22 Temperature Management Presentation
- a. Stephen Marauno of NMFS presented the Shasta WY22 Temperature Management Plan, focusing on impacts to winter-run Chinook Salmon.
4. Fisheries Update
- a. CDFW has been monitoring via seine for juvenile salmonids and has observed 15 juvenile steelhead and 169 juvenile Chinook in the last month.
 - b. The upper end of the Sunrise side channel is still not connected and DO levels are still relatively low at 5.5 mg/L.
 - c. Cramer Fish Sciences (CFS) has completed their spawning and stranding surveys for the season and are preparing their annual report. 25 of the 80 total steelhead redds observed were at the recently completed (October 2021) Ancil Hoffman habitat restoration area. CFS is looking into substrate analysis to understand why the steelhead spawning was so successful at the site.
 - d. CFS discussed the historical pattern of redd numbers and noted that the low number of observed redds in 2017 was likely artificially small because 2017 was a high-water year and conditions made surveys difficult.

- e. PSMFC shared that the rotary screw traps on the American River will now be raised on the weekends for the rest of the sampling season in consideration of the increase in river recreation.
- f. PSMFC reported that as of 5/17/2022 they have observed 385 *O. mykiss*. at the rotary screw traps. Over the last week they have been observing an average of 15 fall run Chinook per day, and all are at the parr and smolt life stages averaging 80 mm. The unmarked *O. mykiss* observed have also been parr and smolt life stage with an average of 60 mm.
- g. PSMFC completed their final efficiency trial which showed a trap efficiency of approximately 16% at flows of 1,000 cfs.
- h. PSMFC will continue sampling five days a week through the end of May and will finish their sampling season at the beginning of June.
- i. CDFW released their second group of fall-run Chinook salmon out into the San Pablo Bay on 5/18/2022. There will be four more releases, with the last group being released at the beginning of June. Steelhead are still in the hatchery and tagging will be completed on 5/26. The modeled temperature runs will help hatchery staff determine whether they can keep the steelhead at the Nimbus hatchery for the summer (as opposed to evacuating steelhead to the Mokelumne River Hatchery, as was done last summer).

Question/Comments:

- NMFS asked if CDFW believes water temperature will off ramp their ability to conduct seining based on their permit conditions.
 - CDFW believes it is likely the river will reach the offramp temperature at some sites.
- NMFS asked CFS if there was any notable temporal/spatial pattern in redd distribution compared to last year's data.
 - CFS responded that there does not seem to be any distinct pattern, other than the significant spawning at Ancil Hoffman. Temporally, redds were spread throughout the river and there was no pattern of the later redds being farther downstream.
- USBR asked CFS whether they had observed many lamprey and where they were specifically concentrated.
 - CFS responded that there was a heavy concentration at Ancil Hoffman.
- NMFS asked CDFW/PSMFC whether there are any in-river releases planned that may cause them to lift the rotary screw traps.
 - CDFW confirmed there will be no further in-river releases this season from Nimbus Hatchery: the remaining fall-run Chinook salmon releases will be trucked to the bay.

5. Operations Forecast

- j. SMUD provided an update on its operations. See handout for details.
 - i. SMUDs combined storage total for Loon Lake, Ice House, and Union Valley reservoirs are at 92% full with 346 TAF, which is an increase since April.
 - ii. SMUDs FERC license water year type is currently “below normal.”
 - iii. Chili Bar releases during April were 1,800 cfs with a released total of approximately 109 TAF. May releases are an average of 1,800 cfs with a total release of 60 TAF so far.
 - iv. Runoff from the basin into the reservoirs is at 110% of average and snowpack is at 43% of average.
 - v. Total basin releases for WY 2022 are estimated to be 650 TAF.
- k. PCWA provided an update on its operations. See handout for details.
 - i. PCWA provided updated information for their Precipitation graphic. The correct April precipitation total is 9.7 inches with a total of 56.1 inches for WY 2022, which is 90% of average.
 - ii. Natural inflow to date 237 TAF with a mean of 260 TAF. It is likely that they will reach 100% of average through May.
 - iii. PCWAs FERC license water year type is currently “below normal.”
 - iv. Beginning 5/22/2022 they will begin adjusting their flows for recreational purposes and will provide a table with recreational flow schedules at the June ARG meeting.
 - v. PCWA is working with the Board on a water transfer and will provide updates at the June ARG meeting.

6. Central Valley Project (CVP) Operations

- a. Current storage in Folsom Reservoir is 845 TAF with high inflows, likely from snowmelt.
- b. The cold-water storage is much better than WY 2021 and temperature through the rest of May should remain below 65°F.
- c. Nimbus releases increased to 1,500 cfs on 5/10/2022. All upper shutters have been lowered and they are making considerations not to exceed 65 at Nimbus Hatchery. If necessary, they will consider pulling the lower shutters.
- d. The May MRR at a 90% exceedance is 1,209 cfs and the 50% exceedance is 1,270 cfs. Releases are currently above the minimum release requirements.
- e. Temperature Model Runs from Cardno (see appended to meeting notes):

- i. Cardno presented temperature modeling results using the CE-QUAL-W2 model. All scenarios were based on 2014 meteorology and inflow/release schedules from USBR.
- ii. Four model runs assessed summer temperature targets (without deganging or a power bypass) of 66°F, 67°F, or 68°F at Hazel Avenue through September. All summer temperature targets were attainable, however the 65°F run resulted in the warmest water temperatures in the fall. All scenarios showed a big “gulp” of cold water in late July when all three top shutters are projected to be lifted due to reservoir elevation.
- iii. Each run attempted to reach 58°F by November; however, that was not attainable in any scenario.
- iv. CDFW and NMFS plan to request a power bypass later in the season to try and reach lower temperatures for spawning fall-run and rearing juvenile steelhead.
- v. Another model scenario considered TCD operations with deganging and that model run showed that fall temperatures were cooler (and warmer during early August without the big “gulp” of cold water). USBR said that the full deganging scenario is not feasible this summer because there are not enough stems available. The Folsom Dam was not intended to be deganged the way USBR had done during the 2021 water season, and this is not a supported or suggested function for common operations, unless conditions are in severe drought conditions. If something goes wrong, it can have a severe impact on the TCD; and would negatively impact the ability to control releases.

Questions/Comments:

- NMFS asked the CDFW when they believe the fall run salmon will be leaving the hatchery.
 - The last plant will be on 6/9/2022.
- CDFW asked USBR if releases will remain at 1,500 cfs throughout the summer.
 - The current plan is to remain at 1,500 cfs through May unless there is a heat wave at the end of May that heats up the ambient water running into Nimbus Hatchery. If that is the situation, USBR will consider pulling the lower shutters and increase flows to keep the water near 65°F. The current outlook of projected releases is their best estimate.
- San Juan Water District asked USBR if there will be an updated CVP forecast for April and May.
 - USBR is working with DWR to finalize the updated forecast and it should be complete sometime during the week of 5/23/2022.

- NMFS asked why releases in August through December are higher than were estimated last month.
 - Because Folsom storage is higher than anticipated, they are going to utilize the water for beneficial use and use it for export.
 - Water Forum asked if flows in August could be closer to 3,000 cfs in August to support the habitat construction projects (as referenced in previous email communications).
 - USBR responded that it would be difficult to lower releases due to export needs. They are exploring (with John Hannon) the possibility of delaying habitat construction until later in the fall.
 - Water Forum noted that based on their models 3,000 cfs would better support construction projects and provide temperature benefits later in the season. While this may be allowed under the project's regulatory documentation, it may not be necessary this year.
 - SWRCB asked when they should expect an updated CVP allocation, because currently it is at zero for South of the Delta.
 - Likely next week. If there is an update, it will be very minimal.
 - NMFS reiterated that they would be interested in having a conversation around power bypass. It would be helpful to model temperature and shutter flexibility based on the possible need to power bypass.
 - USBR responded that they could start discussing a power bypass in August.
7. The next regularly scheduled meeting is on Thursday, June 16, 1:30pm-3:30pm.
 8. Ad-hoc meeting for further discussion for the Temperature Management Plan was requested to be scheduled for the week of 5/23/2022.

prepared by Cardno for discussion purposes at American River Group Meeting 05/19/2022

May 2022 ARG Modeling

Folsom Reservoir and the Lower American River

Combined 65 to 68°F Scenarios at Hazel Avenue

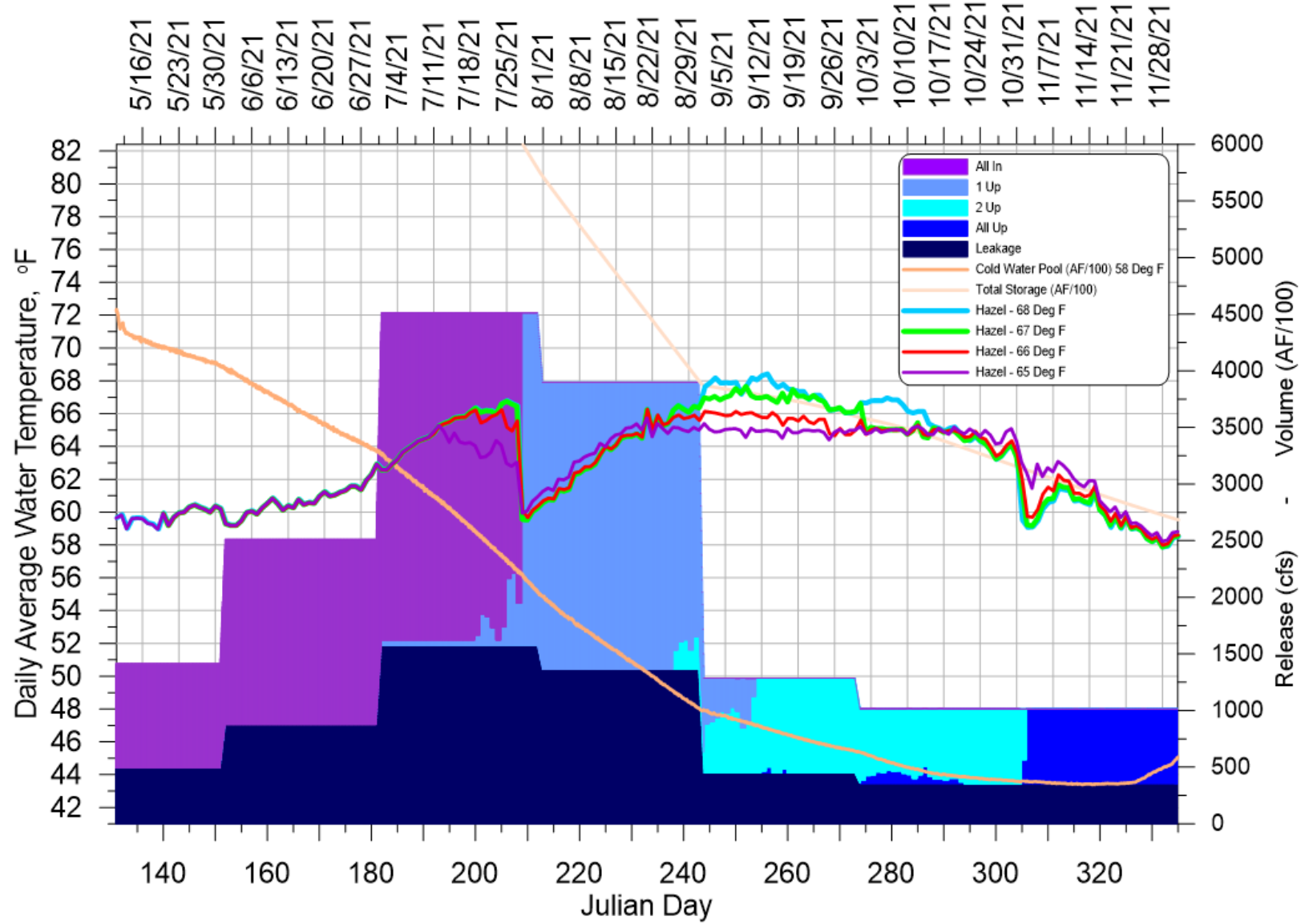
USBR 5/16/22 Inflows/Outflows

- Water Temperature at Hazel Ave
- 2014 Meteorological Data

4 Scenarios Operated to Hazel Ave:

1. 68°F July-Sept, 65°F Oct, 58°F Nov
2. 67°F July-Sept, 65°F Oct, 58°F Nov
3. 66°F July-Sept, 65°F Oct, 58°F Nov
4. 65°F July-Sept, 65°F Oct, 58°F Nov

- Bar graph shows shutter positions for 66°F July-Sept Scenario



USBR 5/16/22 Inflows/Outflows

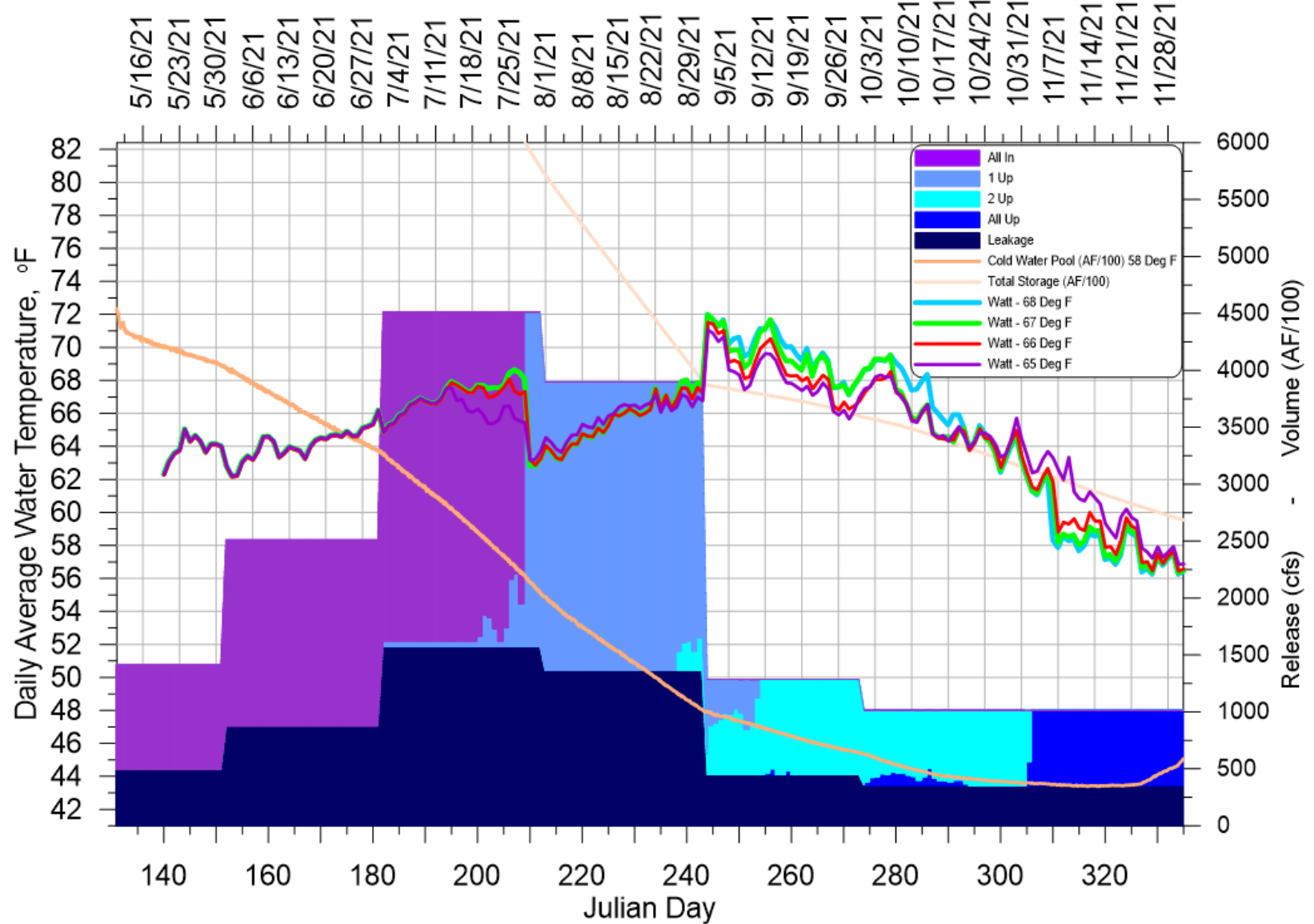
- Water Temperature at Watt Ave
- 2014 Meteorological Data

4 Scenarios Operated to Hazel Ave:

1. 68°F July-Sept, 65°F Oct, 58°F Nov
2. 67°F July-Sept, 65°F Oct, 58°F Nov
3. 66°F July-Sept, 65°F Oct, 58°F Nov
4. 65°F July-Sept, 65°F Oct, 58°F Nov

- Bar graph shows shutter positions for 66°F July-Sept Scenario

Combined 65 to 68°F Scenarios at Watt Avenue



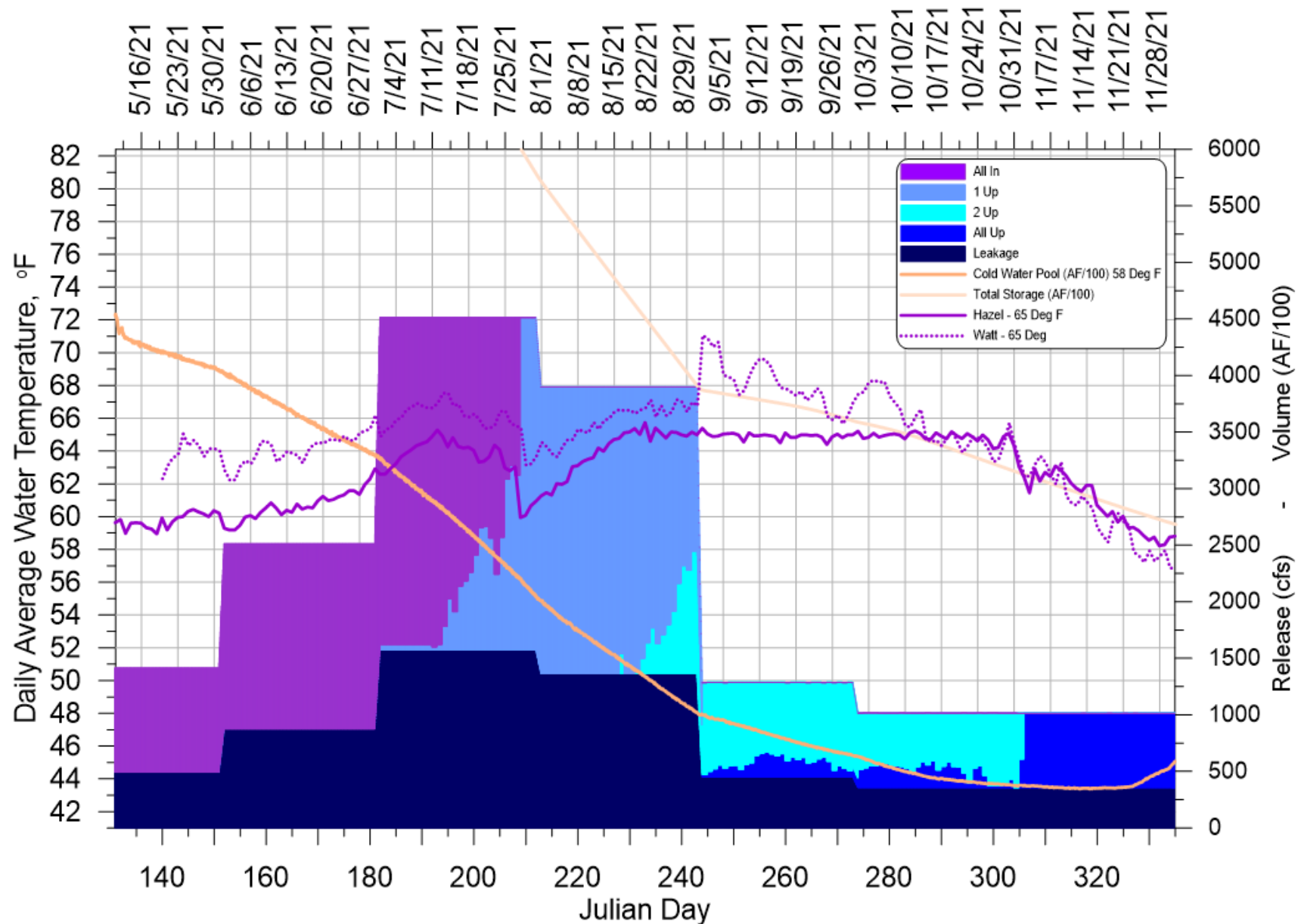
65°F Scenario at Hazel and Watt Avenues

USBR 5/16/22 Inflows/Outflows

2014 Meteorological Data

Operated to Hazel Avenue

65°F July-Sept, 65°F Oct,
58°F Nov



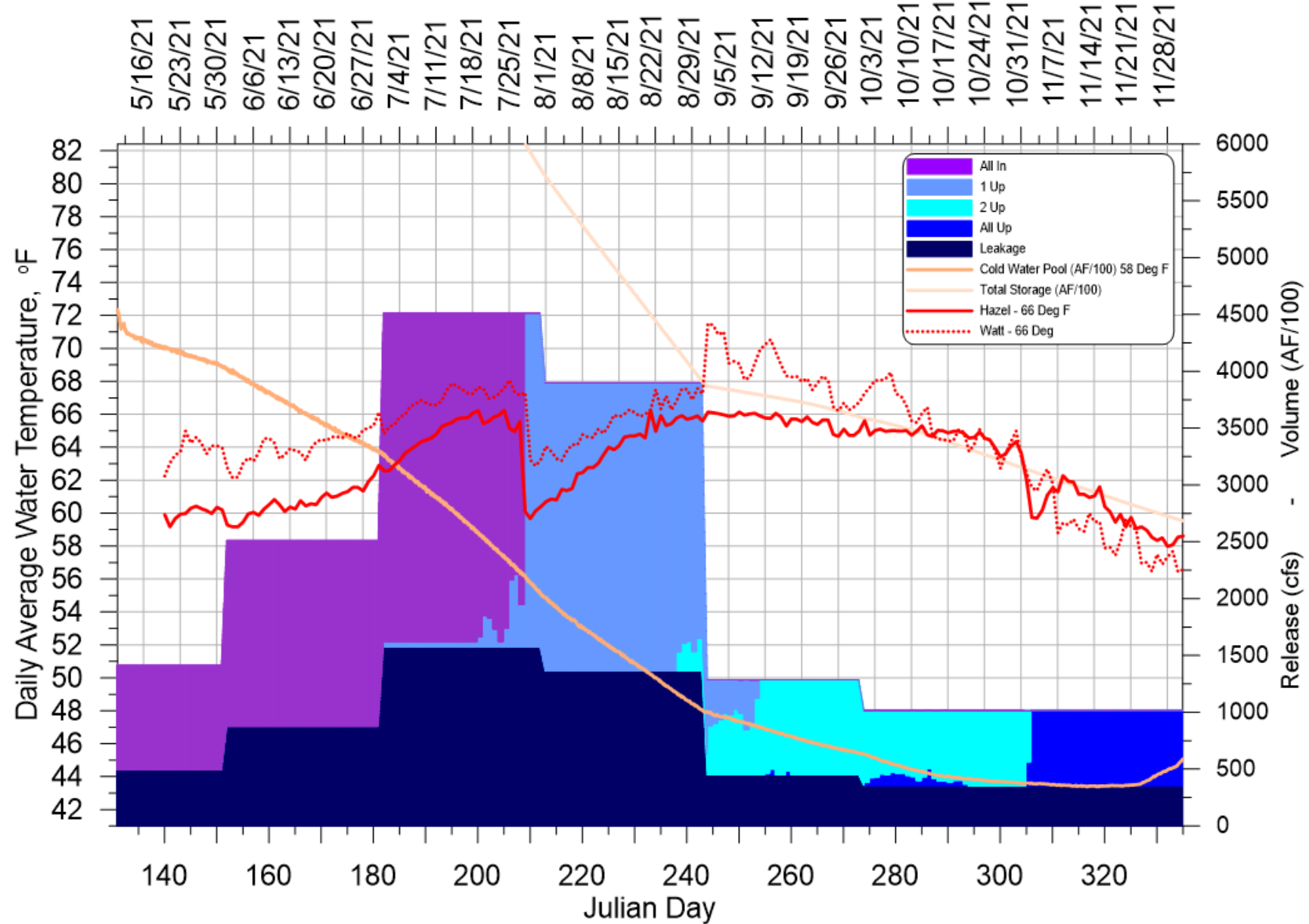
66°F Scenario at Hazel and Watt Avenues

USBR 5/16/22 Inflows/Outflows

2014 Meteorological Data

Operated to Hazel Avenue

66°F July-Sept, 65°F Oct,
58°F Nov



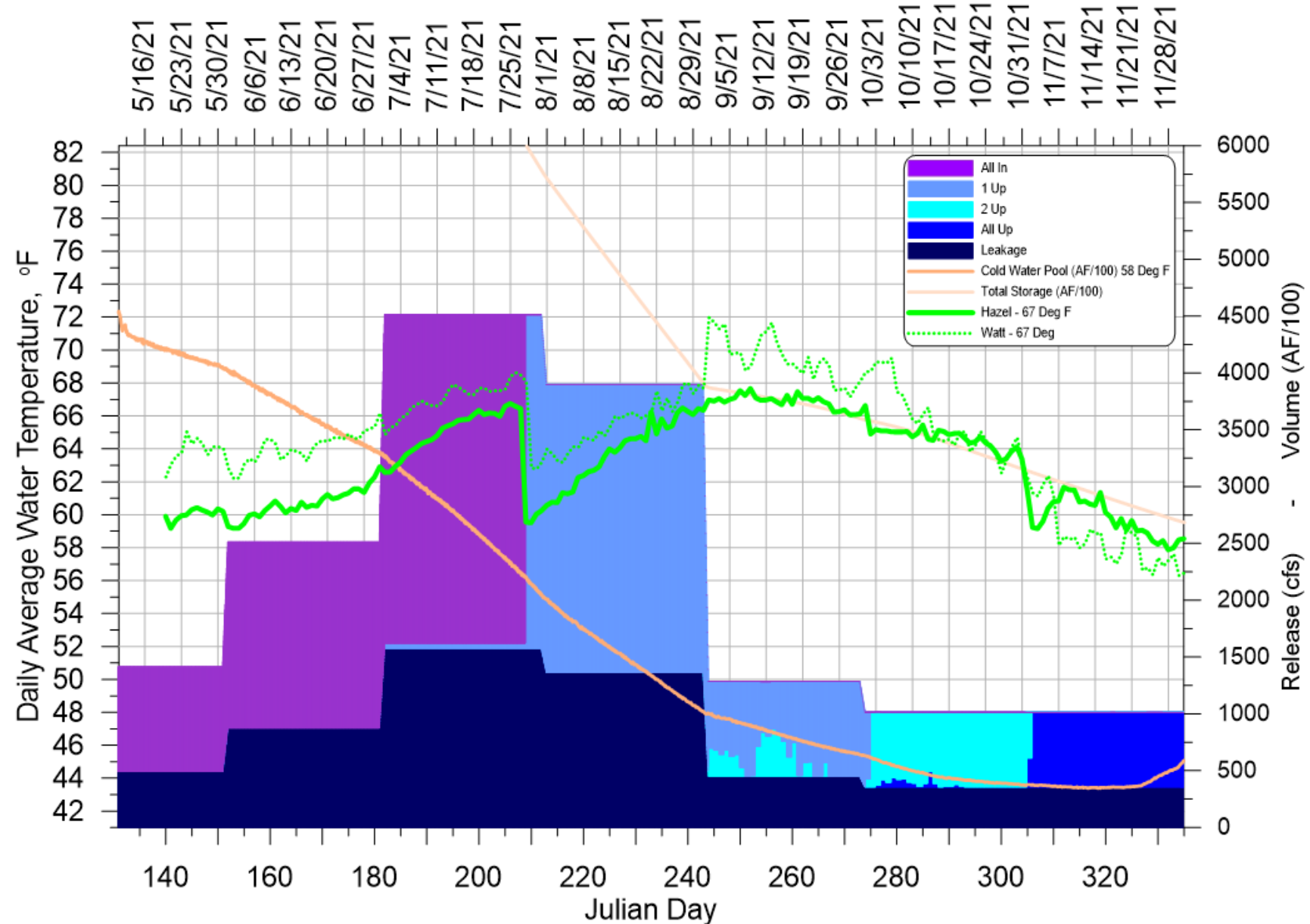
67°F Scenario at Hazel and Watt Avenues

USBR 5/16/22 Inflows/Outflows

2014 Meteorological Data

Operated to Hazel Avenue

67°F July-Sept, 65°F Oct,
58°F Nov



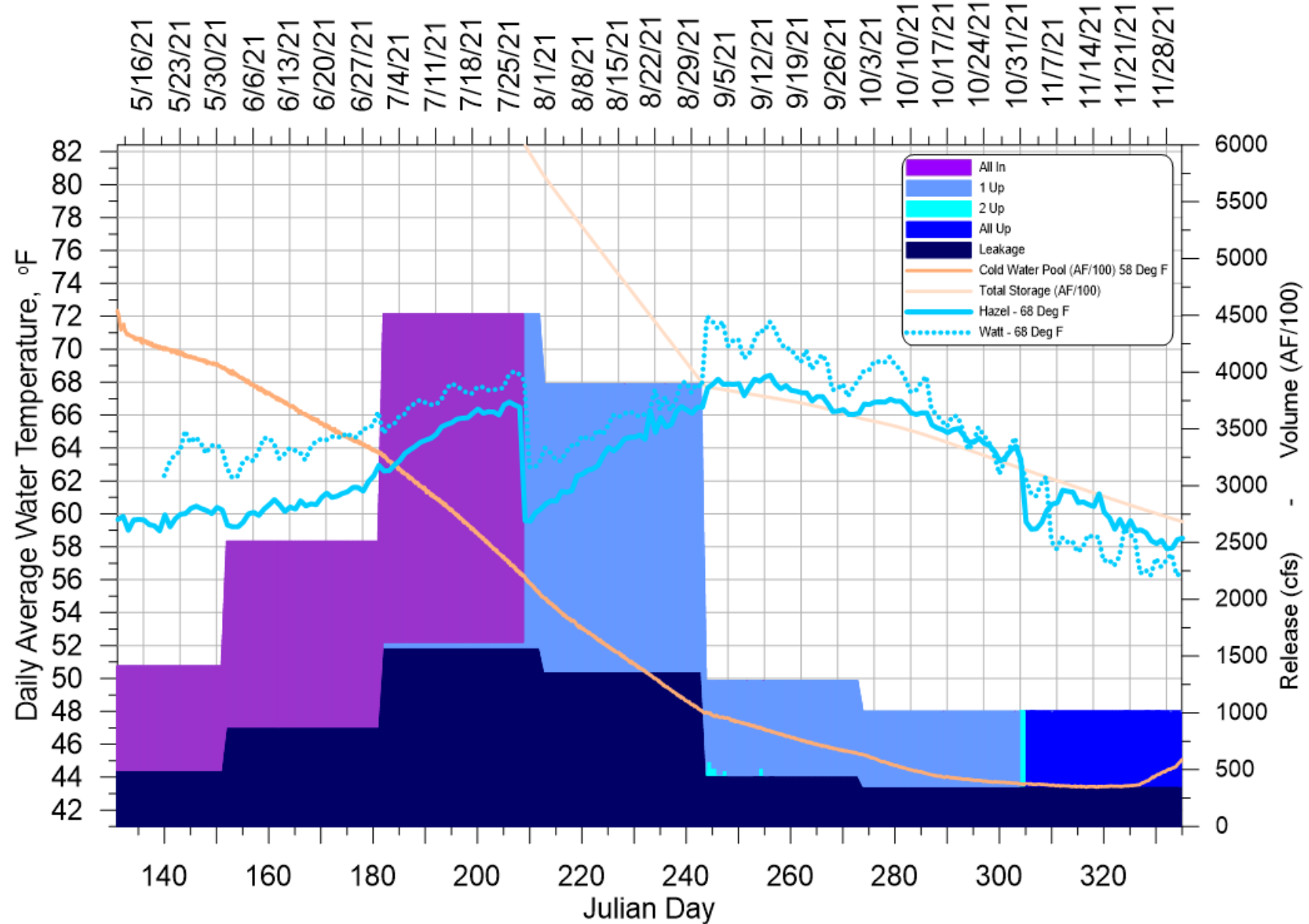
USBR 5/16/22 Inflows/Outflows

2014 Meteorological Data

Operated to Hazel Avenue

68°F July-Sept, 65°F Oct,
58°F Nov

68°F Scenario at Hazel and Watt Avenues



Deganged Top Shutter

66°F Scenario at Hazel and Watt Avenues – Deganged vs. Regular Shutters

USBR 5/16/22

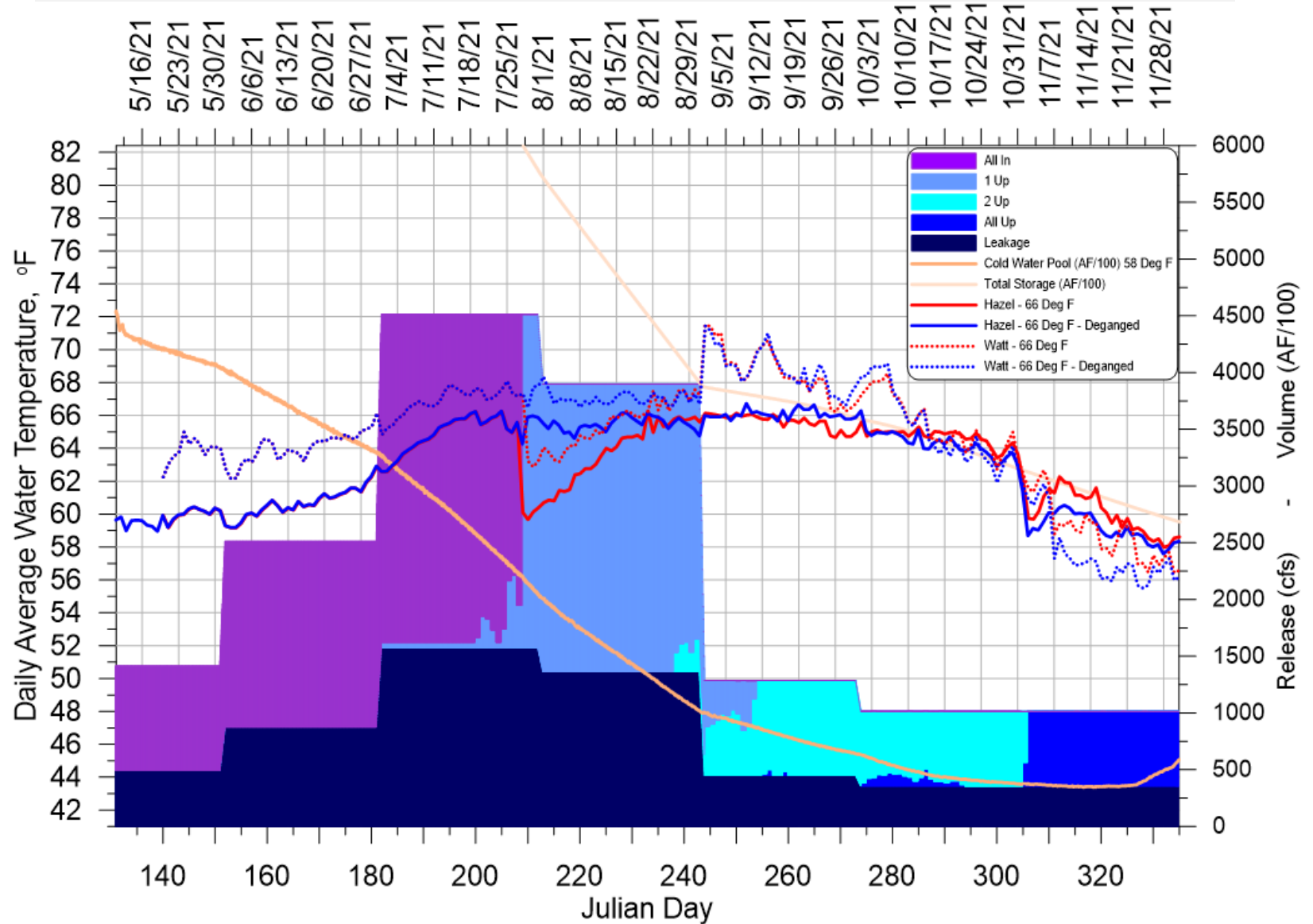
Inflows/Outflows

2014 Meteorological Data

2 Scenarios Operated to Hazel Ave:

1. 66°F July-Sept, 65°F Oct, 58°F Nov – Regular Shutters
2. 66°F July-Sept, 65°F Oct, 58°F Nov – Deganged Top Shutter

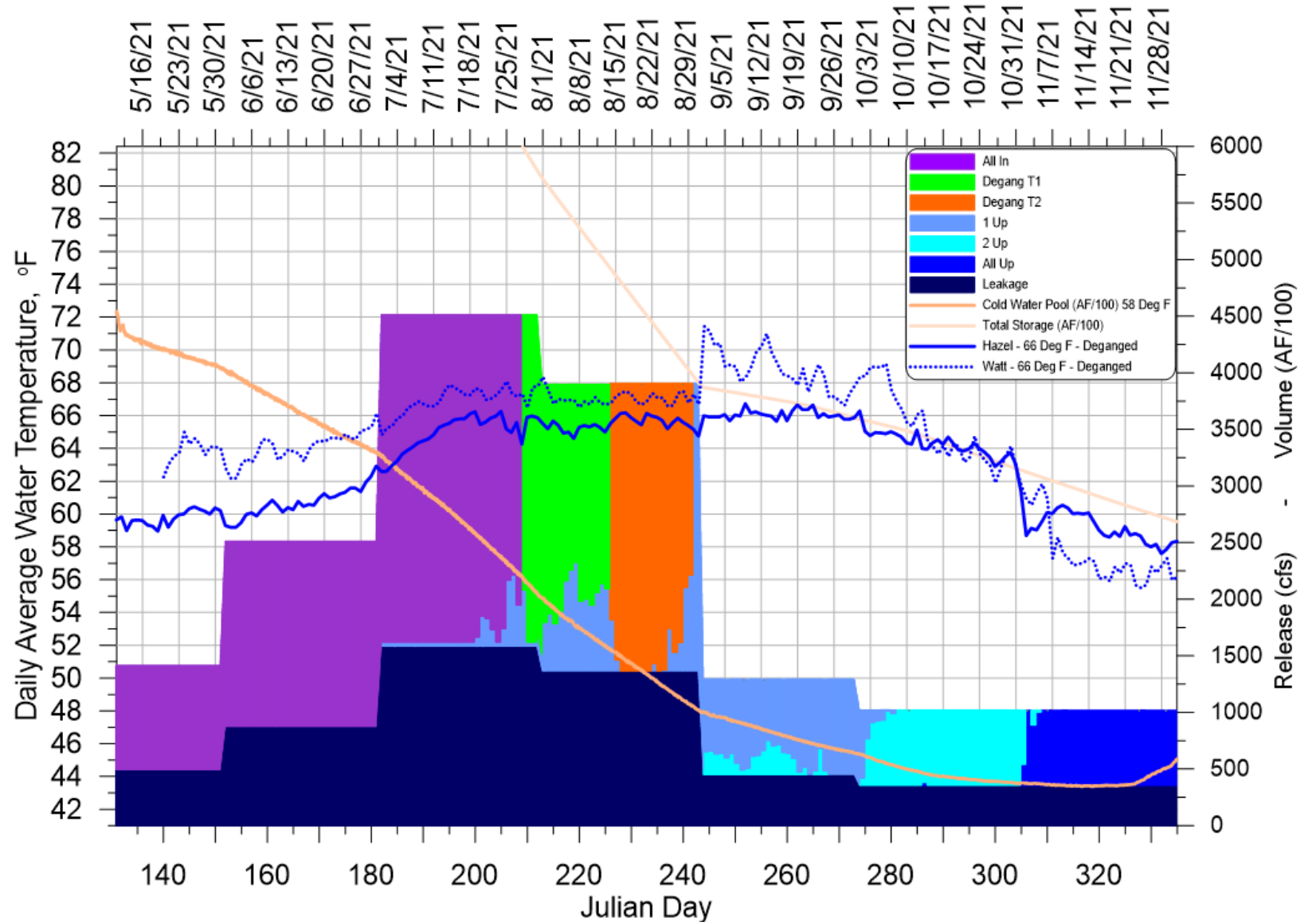
- Bar graph shows shutter positions for 66°F July-Sept Scenario – Regular Shutters



66°F Scenario at Hazel and Watt Avenues – Deganged Top Shutter

Deganged Top Shutter –
USBR 5/16/22
Inflows/Outflows

2014 Meteorological Data
Operated to Hazel Avenue
66°F July-Sept, 65°F Oct,
58°F Nov – Fully Deganged
Top Shutter



Cooler October Scenario

66°F Scenario at Hazel Avenue and Example Cooler Fall ATSP

USBR 5/16/22
Inflows/Outflows

2014 Meteorological Data
Operated to Hazel Avenue

1. 66°F July-Sept, 65°F Oct, 58°F Nov
2. 65°F July-Sept, 60°F Oct, 58°F Nov

