BUREAU OF RECLAMATION

Stanislaus Stepped Release Plan – Water Year 2025 Winter Instability Flows Operations Plan

This Stanislaus Stepped Release Plan (SRP) – Water Year (WY) 2025 Operations Plan (February 2025 Flows) details Reclamation's plan for Goodwin Dam operations to meet WY 2025 Winter Instability Flows (WIF) requirements in February 2025. This Operations Plan incorporates feedback from the Stanislaus Watershed Team (SWT) who discussed a WY 2025 WIF on January 15, and via email.

Background

WIFs in February are a component of the daily flow schedule in the 2023 SRP proposed in Reclamation's October 2024 Biological Assessment (2024 BA), evaluated in NMFS's December 2024 Biological Opinion (2024 BiOp), and implemented per the December 2024 Record of Decision. As noted in the 2024 BA (p. 3-84), "Reclamation releases additional flow in February, as provided in the 2023 SRP, to simulate natural variability in the winter hydrograph and to enhance access to varied rearing habitats." The 2019 BA further notes (p. 3-84) that "Reclamation, through the Stanislaus Watershed Team, schedules the winter instability flow volume." Below, Reclamation summarizes the Operations Plan that will be implemented for the WIF in February of WY 2025.

Water Volume Accounting

For February 2025, Reclamation plans to implement a WIF that was reshaped according to the alternative flow schedule proposed by the SWT (Alt-2 - described in Table 1 and Figure 1) for the water year type in effect (critically dry). The default WIF under the SRP in a critically dry February provides a two-day (48- hours) 1500 cfs (~6 TAF) peak. Alt-2 proposes roughly this same amount distributed over six days to allow for a more substantial instability flow action and variability in the hydrograph.

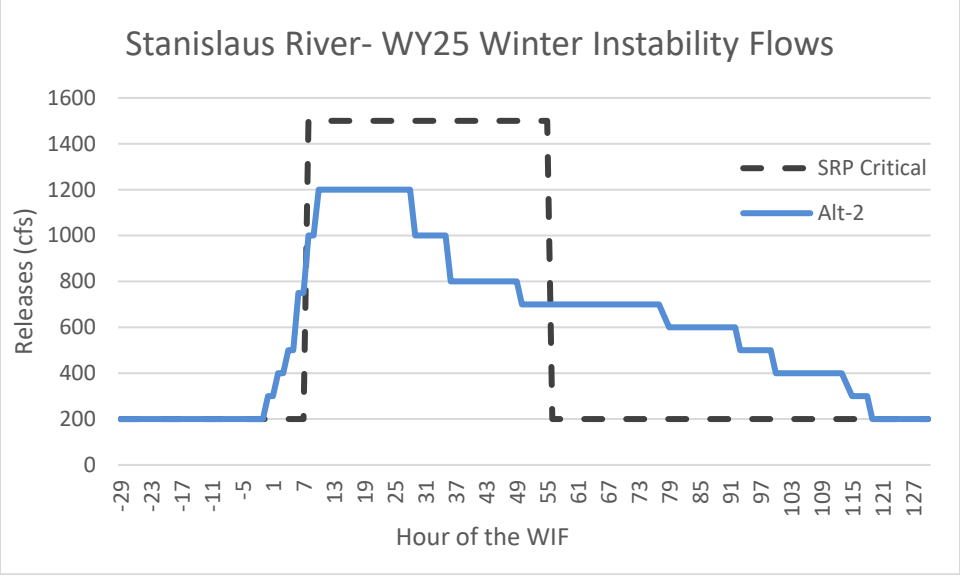

Figure 1. Hourly flows in the proposed Alternative 2 and the default SRP for wet + dry water year type combined (actual cfs released). Storage management releases are shown in dashed grey.

Figure 1 is a line graph comparing actual releases in cfs on the y-axis, and hour of the WIF on the x-axis. A blue line shows hourly flows for Alternative 2. A dashed grey line shows the SRP for wet and dry water year type (1,500 cfs from hour 7 to 55 in WIF).

Reshaping

The shape of the alternative flow schedule, with a rapidly rising limb and staggered descending limb, is a flow pattern associated with storm events. Reshaping the sub-daily flow pattern to increase the peak flow to 1,200 cfs for eighteen hours on the second day of the pulse may help inundate a greater portion of the Honolulu Bar restoration area and will likely allow at least partial inundation of the Lancaster Road restoration area. Short-term inundation of shallow water habitat can provide benefits to rearing salmonids (e.g., temporary spatial refuges from large predators, increased temperatures that may allow short-term increases in growth rate, and increased capture of terrestrial food and nutrients to the main channel).

According to the SRP flow schedule, the annual February WIF set to begin on the 20th. In the past, WIFs, pulses of regulated flows, have been shifted in time to coincide with a natural storm event. This allows to better capture the characteristics of a natural hydrograph (i.e., runoff, turbidity, meteorological conditions) associated with a storm event. The SWT suggested Reclamation follows this method for the February WIF. With this approach, Reclamation will schedule the WIF to be initiated on February 13 to coincide with a predicted storm event in the area. The timing of the WIF also takes into consideration the needs of our partner agencies to safely conduct surveys in the river.

Initially, two alternatives were presented to the SWT. After review and feedback, the group designated Alternative 2 as their preferred flow schedule. Alternative 2 includes a rapid ramp up on Day 1 and a Day 2 peak of 1200 cfs. The flows decrease in a staggered manner after that until they reach SRP base flows (200 cfs) by 4 p.m. of day 6. It is expected that this flow alternative will provide greater variability in the winter hydrograph by simulating a small storm pulse.

Reclamation intends to implement Alt-2.

Table 1. Hourly Flow Schedule for the default SRP critical and Alternative 2

Date in February	Hour	SRP Critical (cfs)	Alternative 2 (cfs)
13	1	200	200
13	2	200	200
13	3	200	200
13	4	200	200
13	5	200	200
13	6	200	200
13	7	200	200
13	8	200	200
13	9	200	200
13	10	200	200
13	11	200	200
13	12	200	200
13	13	200	200
13	14	200	200
13	15	200	200
13	16	200	200
13	17	200	200
13	18	200	200
13	19	200	200
13	20	200	200
13	21	200	200
13	22	200	200
13	23	200	200
13	24	200	200
14	1	200	200
14	2	200	200
14	3	200	200

Date in February	Hour	SRP Critical (cfs)	Alternative 2 (cfs)
14	4	200	200
14	5	200	200
14	6	200	300
14	7	200	300
14	8	200	400
14	9	200	400
14	10	200	500
14	11	200	500
14	12	200	750
14	13	200	750
14	14	1500	1000
14	15	1500	1000
14	16	1500	1200
14	17	1500	1200
14	18	1500	1200
14	19	1500	1200
14	20	1500	1200
14	21	1500	1200
14	22	1500	1200
14	23	1500	1200
14	24	1500	1200
15	1	1500	1200
15	2	1500	1200
15	3	1500	1200
15	4	1500	1200
15	5	1500	1200
15	6	1500	1200
15	7	1500	1200
15	8	1500	1200
15	9	1500	1200
15	10	1500	1200
15	11	1500	1000
15	12	1500	1000
15	13	1500	1000
15	14	1500	1000
15	15	1500	1000

Date in February	Hour	SRP Critical (cfs)	Alternative 2 (cfs)
15	16	1500	1000
15	17	1500	1000
15	18	1500	800
15	19	1500	800
15	20	1500	800
15	21	1500	800
15	22	1500	800
15	23	1500	800
15	24	1500	800
16	1	1500	800
16	2	1500	800
16	3	1500	800
16	4	1500	800
16	5	1500	800
16	6	1500	800
16	7	1500	800
16	8	1500	700
16	9	1500	700
16	10	1500	700
16	11	1500	700
16	12	1500	700
16	13	1500	700
16	14	200	700
16	15	200	700
16	16	200	700
16	17	200	700
16	18	200	700
16	19	200	700
16	20	200	700
16	21	200	700
16	22	200	700
16	23	200	700
16	24	200	700
17	1	200	700
17	2	200	700
17	3	200	700

Date in February	Hour	SRP Critical (cfs)	Alternative 2 (cfs)
17	4	200	700
17	5	200	700
17	6	200	700
17	7	200	700
17	8	200	700
17	9	200	700
17	10	200	700
17	11	200	700
17	12	200	650
17	13	200	600
17	14	200	600
17	15	200	600
17	16	200	600
17	17	200	600
17	18	200	600
17	19	200	600
17	20	200	600
17	21	200	600
17	22	200	600
17	23	200	600
17	24	200	600
18	1	200	600
18	2	200	600
18	3	200	500
18	4	200	500
18	5	200	500
18	6	200	500
18	7	200	500
18	8	200	500
18	9	200	500
18	10	200	400
18	11	200	400
18	12	200	400
18	13	200	400
18	14	200	400
18	15	200	400

Date in February	Hour	SRP Critical (cfs)	Alternative 2 (cfs)
18	16	200	400
18	17	200	400
18	18	200	400
18	19	200	400
18	20	200	400
18	21	200	400
18	22	200	400
18	23	200	400
18	24	200	350
19	1	200	300
19	2	200	300
19	3	200	300
19	4	200	300
19	5	200	200
19	6	200	200
19	7	200	200
19	8	200	200
19	9	200	200
19	10	200	200
19	11	200	200
19	12	200	200
19	13	200	200
19	14	200	200
19	15	200	200
19	16	200	200