



— BUREAU OF —
RECLAMATION

Stanislaus Stepped Release Plan – Water Year 2024 Winter Instability Flows Operations Plan (January & February 2024 Flows)

This Stanislaus Stepped Release Plan (SRP) – Water Year (WY) 2024 Operations Plan (January & February 2024 Flows) details Reclamation’s plan for Goodwin Dam operations to meet WY 2024 winter instability flows (WIF) requirements in February 2024. This Operations Plan incorporates feedback from the Stanislaus Watershed Team (SWT) who discussed a WY 2024 WIF on December 20, 2023, January 17, and on February 21, 2024.

Background

WIFs in January and February are a component of the daily flow schedule in the SRP proposed in Reclamation’s October 2019 Biological Assessment (2019 BA), evaluated in NMFS’s October 2019 Biological Opinion (2019 BiOp), and implemented per the February 2020 Record of Decision. As noted in the 2019 BA (p. 4-81), the “SRP will be implemented similarly to current operations under the 2009 biological opinion with a default daily hydrograph, and the ability to shape monthly and seasonal flow volumes to meet specific biological objectives.” The 2019 BA further notes (p. 4-82) that “The Stanislaus Watershed Team will also provide input on the shaping and timing of monthly or seasonal flow volumes to optimize biological benefits.” Below, Reclamation summarizes the Operations Plan that was implemented for the WIF in February of WY 2024.

In previous years, this WIF Operations Plan has been developed before the planned WIF. However, due to the timing of events, this document was developed after the WIF took place.

Water Volume Accounting

Reclamation allocated a volume of water for the WIF during WY 2024 even though the releases for January and February were well above the SRP flows. Reclamation had been making storage management releases at New Melones which were flat (constant release). Allocating water for the WIF allowed some instability to be introduced to the system for fishery benefit.

Reclamation implemented a WIF that was reshaped according to the alternative flow schedule (Alt-1 - described in Table 1 and Figure 1) that combines the default SRP flow schedule for the water year types in effect (wet in January and dry in February). The default SRP flow for a month in a Wet year type (January) is five days of an extra 1.983 TAF and the default SRP flow for a month in a Dry year type (February) is three days of an extra 1.190 TAF; when combined, the default SRP for these two months is 3.174 TAF distributed over eight days. Alt-1 proposed roughly this same amount (3.176TAF) distributed over two days to allow for a more substantial instability flow action and variability in the hydrograph.

The alternative flow schedule has the same volume as the default SRP schedule for the wet + dry water year types but has been reshaped to include higher-peak flows and variability. The SWT reviewed and provided feedback on this flow alternative to provide greater variability in the winter hydrograph, which simulates a small storm pulse.

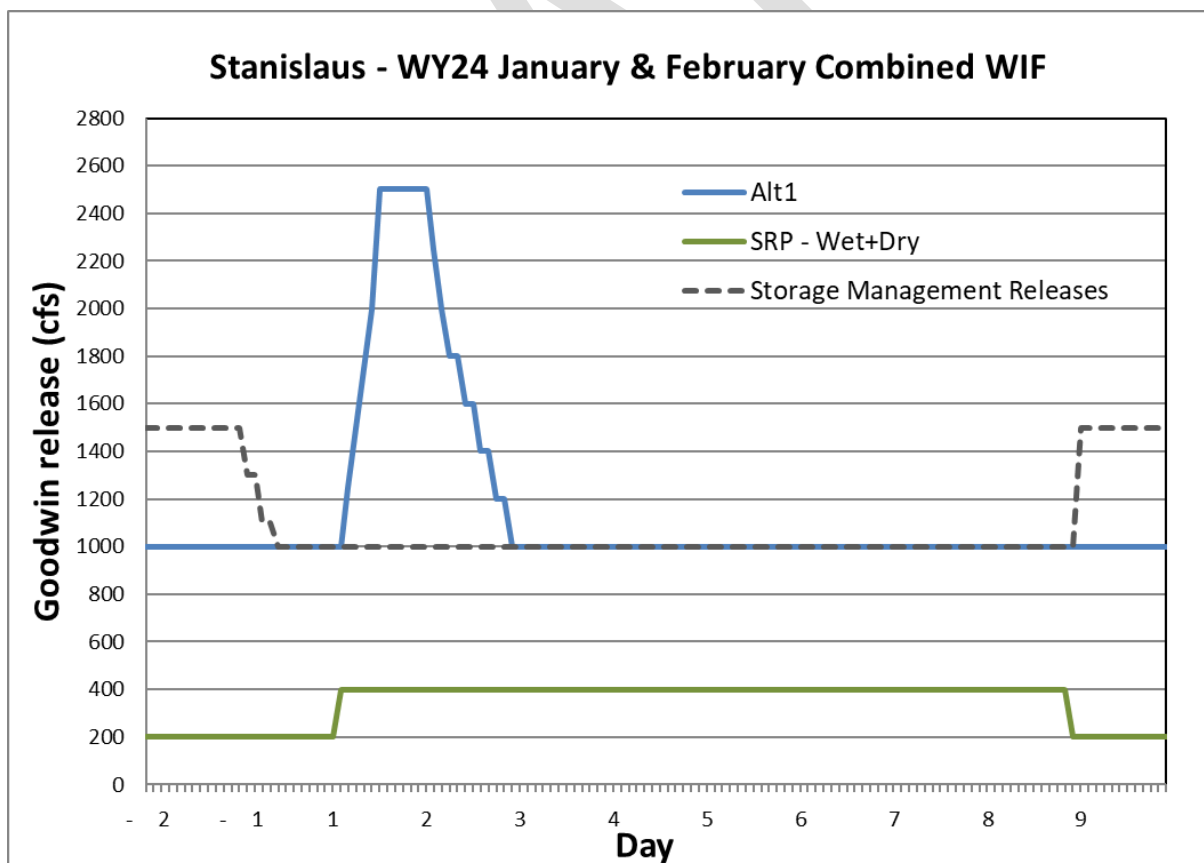


Figure 1. Daily flows in the proposed Alternative 1 and the default SRP for wet + dry water year type combined (actual cfs released).

Reshaping

On February 25th, the storage management releases were decreased from 1,500 cfs to 1,000 cfs to allow for Reclamation and the fishery agencies to simulate a pulse flow that would provide for fisheries benefit. The WIF started on February 26th, lasting through February 27th, 2024 for 47 hours total. The shape of this alternative flow schedule, with a rapidly rising limb, sustained peak flow, and a slower descending limb, is a flow pattern associated with storm events. The Alt-1 included a day one peak of 2,500 cfs for fourteen hours (1,500 cfs in addition to the storage management releases of 1,000 cfs). After the peak, the flows decreased rapidly. The flows reached previous storage management releases (1,000 cfs) by the 23rd hour of February 27th. On March 6, storage management releases were increased back up to 1,500 cfs.

Table 1. Hourly Flow Schedule for the default SRP dry + wet and Alternative 1

Day	Hour	SRP Wet+Dry	Alt 1	Day	Hour	SRP Wet+Dry	Alt 1	Day	Hour	SRP Wet+Dry	Alt 1
1	1	400	1,000	3	49	600	1,000	5	97	600	1,000
1	3	600	1,000	3	51	600	1,000	5	99	600	1,000
1	5	600	1,250	3	53	600	1,000	5	101	600	1,000
1	7	600	1,500	3	55	600	1,000	5	103	600	1,000
1	9	600	1,750	3	57	600	1,000	5	105	600	1,000
1	11	600	2,000	3	59	600	1,000	5	107	600	1,000
1	13	600	2,500	3	61	600	1,000	5	109	600	1,000
1	15	600	2,500	3	63	600	1,000	5	111	600	1,000
1	17	600	2,500	3	65	600	1,000	5	113	600	1,000
1	19	600	2,500	3	67	600	1,000	5	115	600	1,000
1	21	600	2,500	3	69	600	1,000	5	117	600	1,000
1	23	600	2,500	3	71	600	1,000	5	119	600	1,000
2	25	600	2,500	4	73	600	1,000	6	121	600	1,000
2	27	600	2,250	4	75	600	1,000	6	123	600	1,000
2	29	600	2,000	4	77	600	1,000	6	125	600	1,000
2	31	600	1,800	4	79	600	1,000	6	127	600	1,000
2	33	600	1,800	4	81	600	1,000	6	129	600	1,000
2	35	600	1,600	4	83	600	1,000	6	131	600	1,000
2	37	600	1,600	4	85	600	1,000	6	133	600	1,000
2	39	600	1,400	4	87	600	1,000	6	135	600	1,000
2	41	600	1,400	4	89	600	1,000	6	137	600	1,000
2	43	600	1,200	4	91	600	1,000	6	139	600	1,000
2	45	600	1,200	4	93	600	1,000	6	141	600	1,000
2	47	600	1,000	4	95	600	1,000	6	143	600	1,000

Day	Hour	SRP	
		Wet+Dry	Alt 1
7	145	600	1,000
7	147	600	1,000
7	149	600	1,000
7	151	600	1,000
7	153	600	1,000
7	155	600	1,000
7	157	600	1,000
7	159	600	1,000
7	161	600	1,000
7	163	600	1,000
7	165	600	1,000
7	167	600	1,000
8	169	600	1,000
8	171	600	1,000
8	173	600	1,000
8	175	600	1,000
8	177	600	1,000
8	179	600	1,000
8	181	600	1,000
8	183	600	1,000
8	185	600	1,000
8	187	600	1,000
8	189	600	1,000
8	191	400	1,000