



— BUREAU OF —  
RECLAMATION

## Weekly Fish and Water Operations Outlook 6/21/2022 – 6/27/2022

Dry with warming through mid-week. Triple digit heat returns, peaking on Wednesday. Chance of mountain showers and thunderstorms, with slightly cooler temperatures late this week.

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions*
Clear Creek	<ul style="list-style-type: none"> <li>• Current Release: 500 cfs</li> <li>• Anticipated Weekly Range of Releases: 150 – 500 cfs (Pulse flow)</li> </ul>	<ul style="list-style-type: none"> <li>• Juvenile fall-run and late fall-run Chinook Salmon and O. mykiss/steelhead are rearing in Clear Creek.</li> <li>• Adult spring-run Chinook salmon are migrating into Clear Creek and holding in deep pools.</li> <li>• Approximately 280 adult spring-run Chinook have been delivered (trucked from Keswick fish trap) to the upper-most reach of Lower Clear Creek.</li> </ul> <p><i>(Updated 6/20/22)</i></p>
Sacramento River	<ul style="list-style-type: none"> <li>• Shasta Storage: 1.800 MAF</li> <li>• Current Release: 4,000 cfs</li> <li>• Anticipated Weekly Range of Releases: 4,000 – 4,500 cfs</li> </ul>	<ul style="list-style-type: none"> <li>• Winter-run Chinook salmon adults present and spawning is underway. Spawning surveys began in early May for adult winter-run Chinook salmon. First female spawned out carcass observed 5/4/2022.</li> <li>• Spring-run Chinook salmon adults are present in upper river and migrating into upper watershed as flows allow, and are being observed at Keswick fish trap along with winter-run Chinook salmon.</li> <li>• Spring-run juvenile passage has ceased, fall-run Chinook salmon are the dominant run passing at RBDD in low and decreasing numbers.</li> <li>• Late fall-run Chinook Salmon spawning completed, eggs and alevins in the gravel and fry are emerging. Juveniles caught sporadically in low numbers at RBDD.</li> <li>• Green Sturgeon adults and juveniles present in lower river with Delta entry likely. Green Sturgeon larvae expected to begin passing RBDD soon.</li> <li>• Adult steelhead present; juveniles beginning to emerge and present in low numbers from upper river catch caught in low numbers at RBDD.</li> </ul> <p><i>(Updated 6/20/22)</i></p>

Tributary/Division	Anticipated Weekly Ranges	Related Environmental and Fish Conditions*
Feather River	<ul style="list-style-type: none"> <li>• Oroville Storage: 1.817 MAF</li> <li>• Current Release: 3,500 cfs</li> <li>• Anticipated Weekly Range of Releases: 3,500 to 4,000 cfs</li> <li>• Daily temperature maximum: 60 F at Fish Hatchery</li> </ul>	<ul style="list-style-type: none"> <li>• Fall-run Chinook Salmon juvenile emigration is nearing the end and passage has slowed.</li> <li>• Adult steelhead are present, spawning is complete, and juveniles are present and rearing.</li> <li>• Spring-run Chinook Salmon juvenile emigration is complete some juveniles are rearing. Adult spring-run are present, migrating up and entering the hatchery.</li> <li>• Adult green sturgeon present.</li> </ul> <p><i>(Updated 6/20/22)</i></p>
American River	<ul style="list-style-type: none"> <li>• Folsom Storage: 856 TAF</li> <li>• Current Release: 2,250 cfs</li> <li>• Anticipated Weekly Range of Releases: 2,250 to 4,000 cfs</li> </ul>	<ul style="list-style-type: none"> <li>• Fall-run Chinook Salmon juveniles may be present at low abundance but most have migrated out.</li> <li>• Juvenile and adult O. mykiss are present.</li> </ul> <p><i>(Updated 6/20/22)</i></p>
Stanislaus River	<ul style="list-style-type: none"> <li>• New Melones Storage: 811 TAF</li> <li>• Current Release: 900 cfs</li> <li>• Anticipated Range of Weekly Releases: 700 to 950 cfs.</li> </ul>	<ul style="list-style-type: none"> <li>• Juvenile and adult O. mykiss are present.</li> <li>• Fall-run Chinook Salmon juveniles may be present at low abundance but most have migrated out.</li> </ul> <p><i>(Updated 6/20/22)</i></p>
Delta	<ul style="list-style-type: none"> <li>• Freeport: 8,000 to 9,000 cfs</li> <li>• Vernalis: 700 to 900 cfs</li> <li>• Delta Outflow index: 4,000 to 5,000 cfs</li> <li>• Combined Exports: 1,100 to 1,500 cfs</li> <li>• JPP: 800 cfs to 900 cfs</li> <li>• CCF: 300 cfs to 600 cfs</li> <li>• Expected Daily OMR Index Values: -1,700 to -2,200 cfs</li> <li>• DCC Gates: Closed as of 5/31</li> </ul>	<ul style="list-style-type: none"> <li>• Juvenile winter-run Chinook Salmon 0% yet to enter Delta, 0 in Delta, 100% exited Delta past Chipps Island</li> <li>• YOY spring-run Chinook Salmon: 0% yet to enter Delta, 0% in Delta, 100% exited past Chipps Island</li> <li>• Juvenile Steelhead: 0-1% yet to enter Delta, 1-5% in Delta, 94-99% exited Delta past Chipps Island</li> <li>• Adult spring-run Chinook Salmon entering Delta and migrating upstream towards spawning grounds</li> <li>• Adult steelhead present</li> <li>• Adult and juvenile Green Sturgeon present</li> <li>• Delta Smelt spawning is winding down.</li> <li>• Juvenile Delta Smelt have been detected in the north Delta and lower Sacramento River in the last couple months.</li> <li>• Longfin Smelt sub-adults and adults are now mostly downstream of the confluence with some still in the lower Sacramento River.</li> </ul> <p><i>(Updated 6/20/22)</i></p>

\*Environmental and fish conditions updated by respective watershed groups at varying intervals that may not coincide with the weekly range of Water Operations

There is an Interim Operations Plan (IOP) currently in effect resulting from a court order on 3/11/2022.

Table 2a-b: WY 2022 relevant Fish and Environmental Criteria and Status in 2019 Reclamation LTO Action Cumulative loss for the duration of 2019 Biological Opinion began upon signature of ROD, 2/19/2020.

Table 2a: WY 2022 Salmonid Current Loss and Delta Smelt Abiotic Conditions. Additional Real-Time OMR Restrictions and Performance Objectives (4.10.5.10.2) and Onset of OMR Management (4.10.5.10.1).

Species/run	Threshold	Current Status	Weekly Trend	Updated
Green sturgeon	WY 2022 salvage = 74	WY 2022 salvage = 0 (0%)	No change expected	6/20/2022
Natural winter-run Chinook Salmon	WY 2022 loss = 731.47 (50% of 1.17% of JPE)	WY 2022 loss = 73.04 (10.0%)	Unlikely additional salvage	6/20/2022
Natural Steelhead	Dec 1 – Mar 31 = 707 (50% of 1,414) Apr 1 – June 15 = 776 (50% of 1,552)	WY 2022 loss = Dec 1 – Mar 31 = 84.28 (11.9%) Apr 1 – June 15 = 154.38 (19.8%)	Likely additional salvage	6/20/2022
Sacramento River Hatchery winter-run Chinook salmon	WY 2022 loss = 90.93 (50% of 0.12% of JPE)	WY 2022 loss = 6.71 (7.4%)	Unlikely additional salvage	6/20/2022
Battle Creek Hatchery winter-run Chinook salmon	WY 2022 loss = 4.39 (50% of 0.12% of JPE)	WY 2022 loss = 0 (0%)	Unlikely additional salvage	6/20/2022
Proposed Action Hatchery yearling spring-run Chinook salmon surrogates	> 0.5% of each release group: 1) 12/15/2021 group 1: 84,343 = 421.7 2) 12/22/2021 group 2: 82,626 = 413.1 3) 1/6/2022 group 3: 77,325 = 386.6	WY 2022 loss = 1) 48.18 (11.4%) 2) 17.61 (4.3%) 3) 20.04 (5.2%)	Unlikely additional salvage	6/20/2022
Delta Smelt	Daily avg. Turbidity at OBI=>12 FNU	OBI daily Avg Turbidity = 3.16	No Change Expected	6/20/2022
Delta Smelt	Daily avg. Temperature at CCF > 25°C for three consecutive days	CCF daily avg. Temperature = 24.6°C	Gradual warming	6/20/2022

Table 2b. 10-Year Salmonid Cumulative Loss

Species/run	Threshold	Current Status	Updated
Natural winter-run Chinook salmon	Loss = 8,738	Cumulative loss = 277.93 (3.2%)	6/20/2022
Hatchery winter-run Chinook salmon	Loss = 5,356	Cumulative loss = 6.71 (0.13%)	6/20/2022
Natural steelhead	Loss = 6,038 (Dec 1 – Mar 31) Loss = 5,826 (Apr 1 – June 15)	Cumulative loss = 530.2 (8.8%, Dec 1 – Mar 31) 474.5 (8.1%, Apr 1 – June 15)	6/20/2022

Table 3a-d: Relevant Water Year 2022 Fish Criteria and Status for Listed Fish under the SWP Long-Term Incidental Take Permit.

Table 3a: Chinook Salmon

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
OMR Mgmt. triggered (8.3.2)	Jan. 1 - Jun. 30 <i>(when ≥ 5% of spring-run or winter-run in Delta)</i>	In effect	-5% of the Winter-run or Spring-run population in Delta	Winter-run = 1-5% estimated in the Delta; Spring-run = 7- 19% estimated in the Delta	Unlikely to increase in presence of winter-run Unlikely to increase spring-run	6/21/22	Based on 6/21/22 SaMT discussion
Winter-run yearly loss (8.6.1)	Nov. 1 - Jun. 30	In effect WY 2022 loss = 1462.94	731.47 (50% of 1.17% of JPE)	Current yearly WR loss (natural) = 73.04 Current yearly WR loss (hatchery) = 6.71	Unlikely additional salvage of natural Winter-run	06/21/22	Based on salvage data from 6/20/22
Winter-run discrete daily loss (8.6.2)	Nov. 1 - Dec. 31	Not in effect	12/1-12/31: loss 26/day unclipped older juv. Winter-run	max single daily loss from previous week = 3.52 fish	N/A	06/21/22	N/A
Mid and late season Winter-run daily loss threshold (8.6.3)	Jan 1 – May 31	Not in effect	May 1-May 31 (0.0077% of JPE) = 9.63	max single daily loss of Winter-run from previous week = 0	N/A	06/21/22	Based on salvage data from NA
Spring-run surrogate protection (8.6.4)	Feb. 1 - Jun. 30	In effect	-Coleman Group 1 of 719,838 ad-clip x 0.25% = 1799.60 fish - Coleman Group 2 of 749,368 ad-clip x 0.25% = 1873.42 fish *Coleman Group 3 of 1,058,439 ad-clip x 0.25% = 2646.10 fish *Coleman Group 4 of 339,094 ad-clip x 0.25% = 847.74 fish Feather Group 1 of 729,199 ad-clip x 0.25% = 1,823.00 fish	Cumulative loss Coleman fall-run (Group 3) = 4.33 fish Cumulative loss Coleman fall-run (Group 4) = 4.33 fish Cumulative loss Feather spring-run = 0.00 fish	There is potential for more Coleman fall-run surrogate salvage to be observed this week	06/21/22	Based on salvage data from 6/20/22

Table 3b: Delta Smelt

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
Integrated Early Winter Pulse Protection ('First Flush') (8.3.1)	Dec. 1 - Jan. 31	Not in effect, triggered on Dec 17, last day of action was 1/2/22	- three-day Freeport daily flow running avg >= 25,000 AND  [three-day Freeport turbidity running avg >=50 NTU OR Smelt Monitoring Team recommendation]	N/A	N/A	N/A	N/A
Turbidity Bridge Avoidance (8.5.1)	Dec. 15 - Apr. 1	Offramped	Occurs after the Integrated Early Winter Pulse protection or February 1 (whichever until April 1) comes first -avg. OBI turbidity > 12 NTU	N/A	N/A	N/A	N/A
Larval and/Juvenile Delta smelt Protection (8.5.2)	ongoing	In effect, not triggered	- 5-day cum. salvage of juv.DS >= 1[average 3-yr FMWT index + 1] OR, - 3-day cum. Salvage of juv. DS > 11	current 5-day salvage = 0	no change expected	6/20/22	Based on salvage data from 6/12/22

Table 3c: Longfin Smelt

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
Early Adult Protection (8.3.3)	Dec. 1 - Feb. 28	Offramped	-Cum. salvage > [most recent FMWT/10] = 1 fish (Sept.-Oct. Index) OR -Smelt Monitoring Team determines high likelihood of LFS movement into high-risk areas	N/A	N/A	N/A	N/A
OMR Mgt. for Adults (8.4.1)	Dec. 1 -Feb. 28	Offramped	-Smelt Monitoring Team recommendation	N/A	N/A	N/A	N/A

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
Larval and Juvenile Longfin Smelt Entrainment Protection (8.4.2)	Jan 1 – Jun 30	In effect, not triggered	-LFS larvae or juveniles in >=4 SLS or 20 mm stations in central and south Delta, OR -LFS catch/tow >5 larvae or juveniles in >=2stations	20mm #6 detected zero LFS larvae in the south and central delta	No change expected	6/20/22	20mm #6 sampled week of 5/31/22
High Flow OMR Off-Ramp for Longfin Smelt (8.4.3)	Based on the status of 8.3.3, 8.4.1, & 8.4.2	In effect, not triggered	-Sac. R. at Rio Vista>55,000, OR SJR at Vernalis >8,000	Rio Vista = 2,500 to 5,500 cfs SJ = 600 to 900 cfs	N/A	05/31/22	N/A

Table 3d: OMR

Action	Timeframe	Current Action Status	Threshold(s)	Current Relevant Data	Weekly Trend	Last Updated	Comments
OMR Mgmt. Offramp (8.8)	Jun. 1 – Jun. 30	Not in effect	->95% of the Winter-run and Spring run populations have migrated past Chipps Island AND -Current daily average water temperature at Mossdale and Prisoners Point. <ul style="list-style-type: none"> <li>Days exceeded: Criteria met as of 6/16/2022</li> </ul>	N/A	N/A	6/21/22	In effect from 6/1/22

Table 4: Fish monitoring gear efficiency and disruptions

Monitoring survey	Notes (as of 6/20/2022)	Status
Delta	N/A	N/A
SWP regular counts, CWT reading, and larval sampling	Active	1
CVP regular counts, CWT reading, and larval sampling	Active	1
Smelt Larval Survey	Not Active	4
LEPS	Not Active (ended May 12)	4
20mm Survey	Active	1
Spring Kodiak Trawl	Not Active	4
Fall Mid-water Trawl	Not Active	4
Summer Towntnet Survey	Active	1
Bay Study	Active	1
DJFMP- Chipps and Sacramento Trawls	Active (sampling three days/week through Dec)	1
DJFMP- Seines	Active	1

Monitoring survey	Notes (as of 6/20/2022)	Status
EDSM	Active	1
EMP	Active	1
Mosssdale	Active	1
USGS Flow monitoring	Active	1
Sacramento River	N/A	N/A
Red Bluff Diversion Dam screw trap	Active	1
Knights Landing screw trap	Not Active	4
Tisdale screw trap	Not Active	4
GCID screw trap	Active (Trap was inactive on n 6/08-6/10)	1
Redd dewatering and stranding surveys	Not Active	4
Sacramento Carcass and Redd Surveys	Active	1
Lower Sacramento Rotary Screw Trap	Not Active	4
Feather River (upper DWR)	Partial interruption (Herringer is interrupted, trapping continues at Eye side channel.	2
Feather River (lower CDFW)	Active	1
San Joaquin River	N/A	N/A
SJRRP CDFW Field Monitoring	Active	1
SJRRP USFWS and USBR Field Monitoring	Not Active	4
Stanislaus Fish Weir	Active	1

\*Status: Weekly categories include:

[1] Active (ongoing sampling)

[2] Partial Interruption (some sampling interruptions)

[3] Interrupted (sampling fully suspended)

[4] Not Active (sampling not scheduled)