BUREAU OF RECLAMATION

Weekly Assessment of CVP and SWP Delta Operations on ESA-listed Species

January 21, 2025

Executive Summary

Operational Conditions

See Weekly Fish and Water Operation Outlook document for January 21 - 27

Winter-run Chinook Salmon

Loss of natural-origin winter-run Chinook Salmon occurred in the past week at the Federal fish salvage facility and loss of LAD winter-run occurred at the State fish salvage facility. Loss of natural winter-run Chinook Salmon at the Central Valley Project (CVP) and State Water Project (SWP) fish collection facilities is possible to occur over the next week. 55-60% of juvenile natural winter-run Chinook Salmon from brood year (BY) 2024 are estimated to be present in the Delta.

Spring-run Chinook salmon

No loss of natural-origin spring-run Chinook Salmon (LAD) has occurred in the past week at the State or Federal fish salvage facilities. 15-25% of juvenile natural spring-run Chinook Salmon was estimated in the Delta. It is likely that juvenile natural-origin yearling spring-run Chinook Salmon are present near the Central Valley Project and State Water Project collection facilities due to loss of hatchery spring-run surrogates; CV spring-run Chinook Salmon adults have completed spawning, eggs are in gravel. Juveniles are emerging and downstream migration is occurring.

Central Valley Steelhead

No loss of natural California CV (CCV) steelhead occurred at the State or Federal fish salvage facilities. Loss of Central Valley steelhead at the Central Valley Project (CVP) and State Water Project (SWP) fish collection facilities is possible over the next week. 2-4% of CCV steelhead were estimated in the Delta.

Green Sturgeon

Loss of green sturgeon has not occurred in the past week at the State and Federal fish salvage facilities. Loss of green sturgeon is unlikely to occur over the next week due to their rare presence in the South Delta.

Delta Cross Channel Gates

The DCC gates were closed on for the season 11/18/2024 consistent with D-1641.

Delta Smelt

During WY 2025, 29 marked and 2 unmarked Delta smelt have been detected in Suisun Marsh, Suisun Bay, Cache Slough/Liberty Island, the Sacramento Deep Water Shipping Channel, the Lower Sacramento River, the Lower San Joaquin River, and the South Delta. The last Delta smelt observations in surveys were of marked adults detected in Suisun Marsh on 1/16 and the Lower Sacramento on 1/15. One adult was salvaged on 1/17 by the CVP. Spawning migration has ended, and fish movements are limited. A total of 58,696 cultured Delta Smelt have been released so far this year; the next release of 25,000 smelt is scheduled for 1/22/2025 at Lookout Slough. The Adult Delta Smelt Entrainment Protection was triggered on 1/12/2025 and was implemented from 1/15/2025-1/17/2025. Turbidity has decreased across the Delta but remains elevated above 12 NTU/FNU outside of the OMR corridor. Reduced OMRI (-3,500 cfs) this week due to larval Longfin Smelt and Winter-run Chinook Salmon actions will reduce the chance of entraining Delta Smelt.

Monitoring Teams summary

There were no non-consensus issues to report from the Salmon Monitoring Team.

There were no non-consensus issues to report from the Smelt Monitoring Team.

Operational and Regulatory Conditions

See current Weekly Fish and Water Operation Outlook document.

Biology, Distribution, and Evaluation Winter-run Chinook salmon, Spring-run Chinook salmon, Central Valley Steelhead

Population Status

Winter-run Chinook Salmon

- Delta Life Stages:
    - Juveniles, Adults
- Brood Year 2024 Productivity:
    - Catch of juvenile winter-run Chinook Salmon at Red Bluff Diversion Dam continues and juveniles are migrating towards the Delta. Lower Sacramento and Knights Landing rotary screw traps as well as the, EDSM Trawls, Sacramento Trawls, and Sacramento Seines have observed winter-run Chinook Salmon which further confirms that winter-run Chinook salmon are migrating into the Delta.
    - Mean cumulative weekly passage of winter-run Chinook Salmon through December 09 at Red Bluff Diversion Dam (RBDD) for the last 20 years of passage

data is 93.9% (one SD of 6.4%). The biweekly estimate (90% CI) as of December 01, 2024, was 408,412 (305,359-511,464) compared to an estimate of 769,439 on a comparable date in BY 2023.

    - Hatchery-origin winter-run Chinook salmon: No hatchery-origin winter-run Chinook salmon have been released in WY 2025.

- Supporting Information regarding DCC Management Effects
- Natural winter-run Chinook salmon:
- The Final WR Juvenile Production Estimate (JPE) for Brood Year 2024 is 98,893.

Spring-run Chinook Salmon

- Delta Life Stages:
    - Young-of-year (YOY) and Yearlings
- Brood Year 2024 Productivity:
    - Hatchery-origin spring-run Chinook Salmon: 698,892 general production late fallrun yearling sized fish from Coleman Fish Hatchery were released on November 20-21, 67,422 were released on November 25, 77,355 were released on December 13, and 74,425 were released on January 17, 2025. The first, third, and fourth releases will count towards COA 8.4.5 for yearling SR surrogate releases and tracking of these fish in the SWP and CVP facilities is being closely monitored. Fish from the first and second spring-run surrogate release groups have been observed in salvage over the past week.
    - See additional supporting information in Winter-run Chinook Salmon section.
- Supporting Information regarding DCC Management Effects

Central Valley Steelhead

- Delta Life Stages:
    - Spawning Adults, Kelts, Juveniles
- Brood Year 2024 Productivity:
    - Natural CCV steelhead have been observed at several Delta monitoring locations including the Sacramento Trawl and Chipps Island Trawl, as well as one in salvage in December.
    - Spawner abundance: There is limited information about the adult steelhead population. It is estimated to be small, contributing to the limited productivity of the population.
    - Hatchery steelhead: Reclamation's Proposed Action has no hatchery steelhead triggers.

- See additional supporting information in winter-run Chinook Salmon section.

- Supporting Information regarding DCC Management Effects

Table 1. Summary of capture data of rotary screw traps and delta monitoring sites. WR, SR, FR, LF, and UK refer to winter-, spring-, fall-, late-fall-, and unknown Chinook Salmon runs respectively. SH and GS refer to Central Valley steelhead and Green Sturgeon respectively.

Clipped	Sample	Dates	WR	SR	FR	LF	UK	SH	GS
N	Butte	01/06 - 01/12	0	144	0	0	0	0	0
N	Tisdale RST	01/06 - 01/10	6	11	362	0	0	2	0
N	Knights Landing RST	01/09 - 01/21	4	6	370	0	0	0	0
N	Lower Sacramento RST	01/05 - 01/12	1	55	564	1	0	0	0
N	Feather River (Herringer)	12/16 - 01/11	0	14	4,748	0	0	0	0
N	Feather River (Eye Side)	12/16 - 01/11	0	17	7,395	0	0	0	0
N	Yuba	12/16 - 01/10	0	15	922	0	0	3	0
N	Lower Feather RST	01/07 - 01/13	0	1	42	0	0	0	0
N	Beach Seines	01/07 - 01/10	1	2	63	0	0	0	0
N	Sacramento Trawls	01/06 - 01/10	1	0	17	1	0	0	0
N	Chipps Island Trawls	01/06 - 01/10	0	0	0	1	0	0	0
Y	Tisdale RST	01/06 - 01/10	0	0	0	0	0	0	0
Y	Knights Landing RST	01/09 - 01/21	0	0	0	0	0	2	0
Y	Lower Sacramento RST	01/05 - 01/12	2	0	0	2	0	0	0
Y	Feather River (Herringer)	12/16 - 01/11	0	0	0	0	0	0	0
Y	Feather River (Eye Side)	12/16 - 01/11	0	0	0	0	0	0	0
Y	Yuba	12/16 - 01/10	0	0	0	0	0	0	0
Y	Lower Feather RST	01/07 - 01/13	0	0	0	0	0	92	0
Y	Chipps Island Trawls	01/06 - 01/10	0	0	0	0	1	0	0

Table 2. Salmonid distribution estimates

Location	Yet to Enter Delta (%)	In the Delta (%)	Exited Delta past Chipps Island (%)
Young-of-year (YOY) winter-run Chinook salmon	Current: 40-45 % Last Week: 55-50%	Current: 55-60% Last Week: 50-55%	Current: 0% Last Week: 0%
YOY spring-run Chinook salmon	Current: 75-85 % Last Week: 90-90%	Current: 15-25 % Last Week: 10-20%	Current: 0% Last Week: 0%
YOY hatchery winter-run Chinook salmon	Current: NA Last Week: NA	Current: NA Last Week: NA	Current: NA Last Week: NA
Natural origin steelhead	Current: 95-97% Last Week: 97-98%	Current: 2-4 % Last Week: 1-2%	Current: 1 % Last Week: 1%

Table 3. Historic migration and salvage patterns. Last updated 1/21/2024

Species	Red Bluff Diversion Dam	Tisdale Rst	Knights Landing Rst	SacTrawl Sherwood Catch Index	Chipps Island Trawl Catch Index	Salvage
Chinook, LAD Winter-run, Unclipped	98.2%(97.1%,99.3%) BY: 2015 - 2023	85.3%(73.0%,97.6%) BY: 2015 - 2023	78.0%(58.2%,97.7%) BY: 2015 - 2023	37.5%(12.7%,62.3%) BY: 2015 - 2023	2.5%(-2.6%,7.5%) BY: 2015 - 2023	23.2%(7.4%,39.0%) WY: 2015 - 2024
Chinook, LAD Spring-run, Unclipped	14.5%(3.7%,25.3%) BY: 2015 - 2023	15.9%(6.0%,25.8%) BY: 2015 - 2023	25.3%(5.5%,45.1%) BY: 2015 - 2023	2.2%(-0.8%,5.2%) BY: 2015 - 2023	0.0%(0.0%,0.0%) BY: 2015 - 2023	0.0%(0.0%,0.0%) WY: 2015 - 2024
Steelhead, Unclipped (January-December)	0.9%(-0.3%,2.1%) BY: 2015 - 2024	21.4%(5.8%,37.1%) BY: 2015 - 2024	20.2%(3.1%,37.2%) BY: 2015 - 2024	2.5%(-3.4%,8.4%) BY: 2015 - 2024	2.7%(-0.5%,5.9%) BY: 2015 - 2024	N/A
Chinook, DNA Winter-run, Unclipped (Water Year)	N/A	N/A	N/A	N/A	N/A	21.1%(-17.4%,59.6%) WY: 2020 - 2024
Steelhead, Unclipped (Water Year)	N/A	N/A	N/A	N/A	N/A	7.2%(0.2%,14.2%) WY: 2015 – 2024

Table 4. Mean daily flow and percent change (Wilkins Slough, Deer Creek, Mill Creek; cfs from CDEC) and temperature and percent change (Knights Landing; °F from RST).

Date	Mill Creek (MLM): mean daily flow (cfs)	Mill Creek (MLM): flow percent change	Mill Creek (MLM): Alert	Deer Creek (DCV): mean daily flow (cfs)	Deer Creek (DCV): flow percent change	Deer Creek (DCV): Alert	Wilkins Slough (WLK): mean daily flow (cfs)	Knights Landing RST: water temp-erature (f)	Alert Trig-gered
1/20/2025	250.0	-3.2%	Flow>95cfs	238.4	-3.5%	Flow>95cfs	13,574.8	N/A	N/A
1/19/2025	258.2	-3.3%	Flow>95cfs	247.2	-4.2%	Flow>95cfs	14,803.4	N/A	N/A
1/18/2025	267.1	-3.3%	Flow>95cfs	258.1	-4.1%	Flow>95cfs	16,327.0	N/A	N/A
1/17/2025	276.1	-2.9%	Flow>95cfs	269.2	-3.7%	Flow>95cfs	18,024.0	N/A	N/A
1/16/2025	284.2	-2.1%	Flow>95cfs	279.6	-3.7%	Flow>95cfs	19,781.9	N/A	N/A
1/15/2025	290.3	-3.9%	Flow>95cfs	290.2	-4.2%	Flow>95cfs	21,180.0	N/A	N/A
1/14/2025	302.1	-5.3%	Flow>95cfs	303.0	-6.1%	Flow>95cfs	21,637.4	N/A	N/A

Table 5. STARS model simulations for route-specific entrainment, travel times, and survival. Travel time is calculated in days

Stock	Date	Route	Median Travel Time	Survival	Routing Probability
Winter Chinook	2025-01-20	Overall	6.24	0.42	N/A
Winter Chinook	2025-01-20	Sacramento River	5.83	0.46	0.60
Winter Chinook	2025-01-20	Yolo Bypass	10.07	0.56	0.00
Winter Chinook	2025-01-20	Sutter Slough	5.94	0.39	0.14
Winter Chinook	2025-01-20	Steamboat Slough	5.50	0.52	0.13
Winter Chinook	2025-01-20	Interior Delta	9.23	0.15	0.13
Late-fall Chinook	2025-01-20	Overall	11.65	0.41	
Late-fall Chinook	2025-01-20	Delta Cross Channel	N/A	N/A	0.00
Late-fall Chinook	2025-01-20	Georgiana Slough	16.40	0.18	0.28
Late-fall Chinook	2025-01-20	Sacramento River	9.93	0.54	0.46
Late-fall Chinook	2025-01-20	Sutter and Steamboat Slough	10.24	0.42	0.27

Table 6a. WY 2025 loss and salvage predictor data: Predicted weekly loss of winter-run Chinook salmon and steelhead at CVP and SWP facilities.

Parameter	Modeled Current Week	Modeled Next Week
Predicted Steelhead, Median %	0	3
Predicted Steelhead, High %	29	43
Predicted Chinook Winter Run, Median %	7	13
Predicted Chinook Winter Run, High %	64	96

Table 6b. Environmental details, current and forecast.

Parameter	Data	Forecast
Temperature (Mallard Island, C)	9.8	9.8
Precipitation (5-d running sum, inches)	0	0
Old and Middle River Flows (cfs)	-4790	-4790
Sacramento River Flow (Freeport, cfs)	30632	30632
DCC Gates	closed	closed
San Joaquin River Flow (Vernalis, cfs)	1283	1283
Export	4715	4715

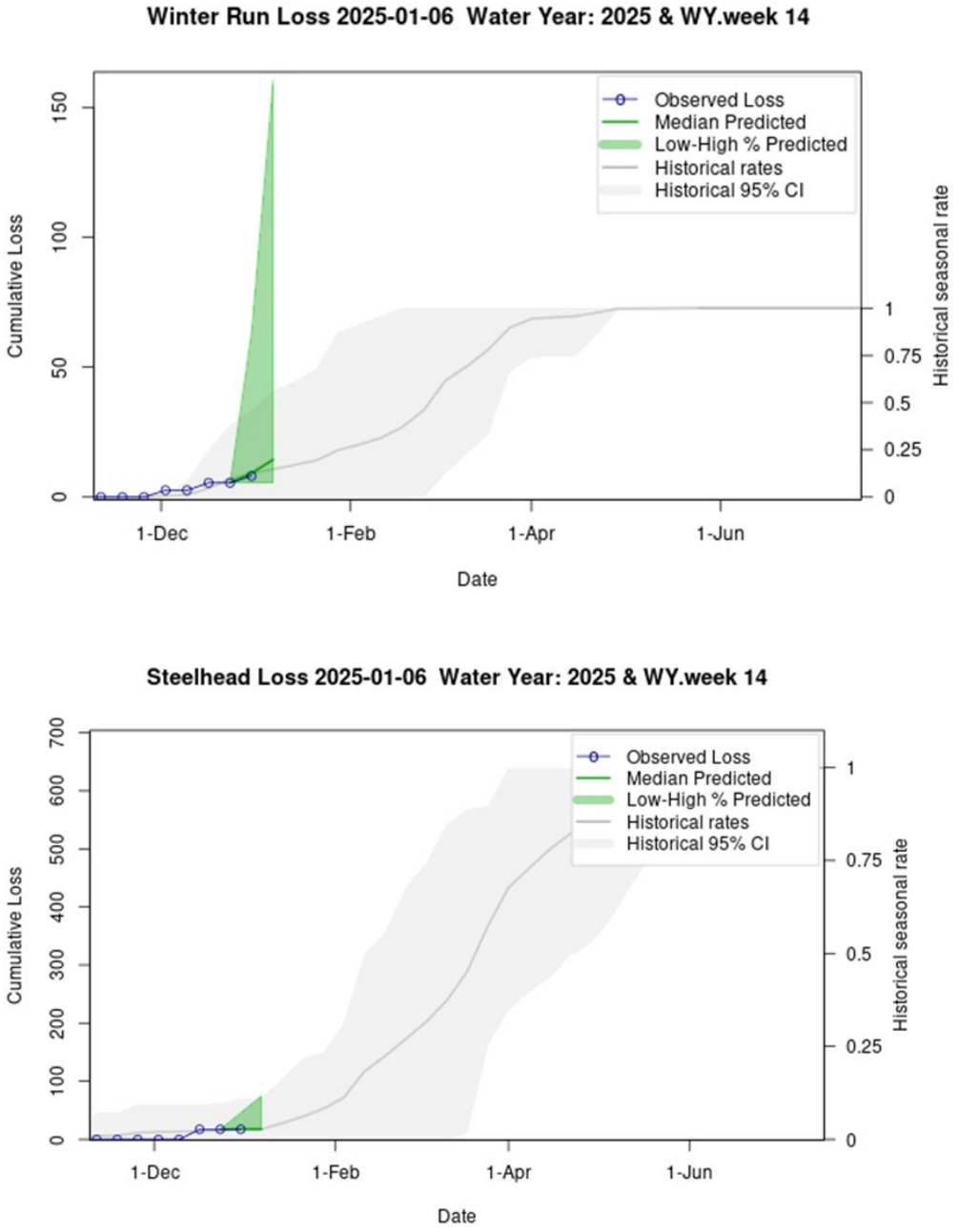

Figure 1. Predicted weekly loss of steelhead and winter-run Chinook salmon at the CVP and SWP facilities

Figure 1 is two-line graphs of the predicted weekly loss of steelhead and winter-run Chinook salmon for water year 2025 beginning on December 1, 2024. The first line graph shows the cumulative loss of winter-run Chinook salmon compared to the predicted loss. The second line graph shows the cumulative loss of Steelhead salmon compared to predicted loss.

Evaluation

1. After January 1, are more than 5% of juveniles from one or more salmonid species present in the Delta?
    a. Greater than 5% of juvenile winter-run Chinook Salmon are present in the Delta.
2. Does the operational outlook's ranges impact fish movement and change the potential distribution of fish?
    a. Greater than 5% of juvenile winter-run are present in the Delta. OMR flow is expected to remain at or more positive than -5,000 cfs this upcoming week. OMR flows more positive than -5,000 cfs are hypothesized to have minimal impact on movement and distribution of salmonids in the South Delta.
3. What is the likelihood of increased loss exceeding the next annual loss threshold (50%, 75% or 90% of threshold) resulting in OMR management actions based on population distribution, abundance, and behavior of fish in the Delta?
    a. Winter-run Chinook salmon – Low likelihood. Total juvenile natural winter-run Chinook salmon (genetic) is 2.54 (as of 1/21/2025)
    b. Central Valley Steelhead – Low likelihood. Total natural juvenile steelhead loss is 17.32 fish (as of 01/21/2025).
4. If an annual loss threshold has been exceeded, do continued OMR restrictions benefit fish movement and survival based on real-time information?
    a. NA
5. If OMR is more negative than -5,000 cfs, are there changes in spawning, rearing, foraging, sheltering, or migration behavior beyond those anticipated to occur under OMR management at -5,000 cfs?
    a. NA

Biology Distribution and Evaluation of Green Sturgeon

Population Status

- Delta Life Stages:
    - Adults and Juveniles

Distribution

Current Distribution

- Adults: Most abundant during spring spawning migration period of March through May, and post spawning out-migration periods May through June; October through January

depending on first winter storm event resulting in significant Sacramento River flow increases. Adult presence year-round to a lesser extent mainly in San Pablo Bay.

- Juveniles: Age-1 through Age-3 juveniles present year-round and widely distributed. Juveniles tagged with acoustic tags in the main channel Sacramento River near Sherman Island detected in the Sacramento River as far upstream as the Cache Slough complex, in the San Joaquin River at the Antioch Bridge, in Threemile, Horseshoe Bend, and Montezuma Sloughs. Seasonal abundance at the primary sampling site (near Sherman Island) appears to be highest during summer in based on capture and telemetry data. Residence time at the primary sampling site for individual fish ranges from one day to over one year but telemetry data show outmigration from the primary sampling site to the Pacific Ocean ranges from 27 to 552 days. Recent capture data shows diurnal depth preference in the main channel of the Sacramento River. No recent documentation of shallow water habitat presence or foraging.

Historical Trends

- Juvenile and adult green sturgeon are historically present in the San Joaquin and Sacramento rivers and the Delta.

Forecasted Distribution within Central Valley and Delta regions

- Juvenile and adult green sturgeon are present in the San Joaquin and Sacramento rivers and Delta during the next week.

Evaluation

1. Is there likely to be salvage that may exceed the annual loss limit?
    a. Green sturgeon salvage is 0 fish (as of 1/14/2025). The agencies in the SaMT assessed the likelihood of salvage occurring in the next week is unlikely to occur.

Biology, Distribution, and Evaluation of Delta Smelt

Population Status (Brood Year 2024)

- Delta Smelt Life Stages: Juveniles, Subadults, and Adults
- The abundance estimate as of the week of 1/13/24 was 6,117 (95% CI: 1,763 to 15,581).
- Adult, subadult and juvenile Delta Smelt are expected to be present in Cache Slough/Liberty Island, the Lower Sacramento River, the Lower San Joaquin River, Suisun Bay, Suisun Marsh, and the South Delta.

Distribution

Current Distribution

- Real time detection data is currently limited to Enhanced Delta Smelt Monitoring (EDSM), Chipps Island Trawl (Chipps), and Smelt Larval Survey (SLS). Bay Study and Fall Midwater Trawl Survey provide data as available.
- Since there are few recent detections of Delta Smelt, the Smelt Monitoring Team's capacity to estimate where they are within the Delta is limited.
- Since 12/23/2024, 11 adult and 3 juvenile Delta Smelt have been detected in Suisun Marsh, Suisun Bay, Cache Slough/Liberty Island, the Lower Sacramento, and the Lower San Joaquin. The most recent Delta Smelt detection from surveys was 1 marked adult on 1/16/2025 in Suisun Marsh. Thirty-one Delta Smelt (29 marked, 2 unmarked) have been detected this water year.
- One marked (ad-clipped) adult Delta Smelt was detected in Salvage at the TFCF on 1/17/2025 and one (VIE-LOA) adult Delta smelt was detected at the TFCF on 12/17/24. Cumulative seasonal salvage is 5.
- Larval sampling at the Skinner Fish Facility (SFF) and the Tracy Fish Collection Facility (TFCF) has not yet been initiated this year.

Table 7. Summary of newly reported detections of Delta Smelt since the last assessment. Identifications are considered tentative and additional genetic testing will confirm the identity of individuals. Individuals with no tags are provided alive to the FCCL as potential additions to the FCCL Broodstock. Delta Smelt >58mm FL are considered adults. Subadult fish are considered by the SMT to be fish from the previous year's cohort based on size and timing of collection. Young of year are considered juveniles and larvae. Regions are those defined by EDSM sampling. Salvage values reflect pre-expansion salvage.

Date	Survey	Life Stage	Catch	Tag Type	Stratum/Station	Region
1/15/2025	EDSM	Adult	1	AdClipped	Lower Sacramento	West
1/16/2025	EDSM	Adult	1	AdClipped	Suisun Marsh	West
1/17/2025	Salvage (TFCF)	Adult	1	AdClipped	Salvage	South

Table 8. Summary of recent Delta Smelt detections reported since last assessment and the total detections for the current water year. Notes reflect latest information on reported detections or completion of survey for the water year and include both larval and adult detections. Total Fish counts do not distinguish between hatchery origin and wild Delta Smelt. Table indicates detections that have undergone preliminary ID, QA/QC, and genetic confirmation. Numbers are updated as QA/QC and genetic confirmation become available

Sampling Method	Frequency	New Detections	Preliminary Detections	QA/QC Detections	Genetically Confirmed Detections	Total WY 2025	Notes
EDSM	Weekly	2	N/A	20	N/A	23	Phase 1 began 12/2/2024
DJFMP Beach Seines	Biweekly	0	N/A	0	N/A	6	Ongoing
SLS	Biweekly	0	N/A	N/A	N/A	0	Began 12/2/24
20-mm	Biweekly	0	N/A	N/A	N/A	0	Begins: 3/10/25
Summer Townet	Biweekly	0	N/A	N/A	N/A	0	Begins: 6/9/25
Bay Study	Monthly	0	N/A	N/A	N/A	0	Ongoing
FMWT	Monthly	0	N/A	N/A	N/A	0	Ongoing
Chipps	Weekly	0	N/A	N/A	N/A	0	Ongoing
FCCL Brood Stock Collections	Weekly	0	N/A	N/A	N/A	0	Began 11/19/2024
LEPS	As available	0	N/A	N/A	N/A	0	Begins: 1/6/25
TFCF	Daily	1	N/A	1	N/A	2	Ongoing
Skinner Fish Facility	Daily	0	N/A	N/A	N/A	0	Ongoing
Total	N/A	N/A	N/A	N/A	N/A	31	Sum of all Delta Smelt observed during the OMR Management Season

Cultured Delta Smelt Experimental Releases

- Over 100,000 fish are expected to be released for Water Year 2025:
    - 13,573 released on November 18, 2024 at Lookout Slough (truck hard release)
    - 14,880 released on December 9, 2024 at Lookout Slough (truck hard release)
    - 20,219 released on December 18, 2024 at Sandy Beach in Rio Vista (truck hard release)
    - 10,024 released on January 8, 2025 at Lookout Slough
    - 25,000 planned on January 22, 2025 at Lookout Slough
    - 15,000 planned on January 27, 2025 at Sandy Beach in Rio Vista
    - 20,000+ planned on February 3, 2025 at Sandy Beach in Rio Vista
- See SacPas Current Conditions for the Smelt Monitoring Team (SMT) for details about releases.

Historical Trends

- Upstream migration for Delta Smelt occurs between September and December and in response to "first flush" conditions (Sommer et al. 2011, Grimaldo et al. 2009). Migration typically ranges one to four weeks after flow and turbidity increases, based on salvage data (Sommer et al. 2011).
- Historically, detections of ripe Delta Smelt began in January and peaked in February and March and the majority of Delta Smelt spawning occurs within a temperature range of 9-18˚C (Damon et al. 2016).
- Based on historical monitoring data from the past few years (https://github.com/Delta-Stewardship-Council/deltafish), first detection of larvae in the Central and South Delta has typically occurred by mid to late March.
- Salvage data as presented on SacPas indicates that adult Delta Smelt salvage in recent years has reached the 50th percentile between February and the beginning of March (see Delta Smelt Adult query).
- Historically, the highest peak in salvage was in May and the second highest was in June (Grimaldo et al 2009; figure 5).

Forecasted Distribution within Central Valley and Delta regions

- Predicting the distribution of Delta Smelt is currently difficult because detection data is limited to a few wild individuals and historic patterns may not be representative of the low population levels.
- The SMT uses turbidity as a surrogate for Delta Smelt presence and in making assessments of the likelihood of entrainment for larval Delta Smelt after spawning begins.

- The potential of experimentally released Delta Smelt to distribute from their release site is unknown at this time and SMT cannot predict their distribution beyond the original release site and subsequent recaptures. There is a high degree of uncertainty regarding the response of cultured fish to environmental cues typically applied to wild Delta Smelt.

Abiotic Conditions

Turbidity

- Mostly clear this week. Calm winds all week.
- Turbidity has decreased in the OMR corridor and South Delta.

Table 9. Relevant Environmental Factors to the current management actions for Delta Smelt

Date Reported	OBI Turbidity (FNU)	OSJ Turbidity (NTU)	HOL Turbidity (FNU)
1/20/2025	6.88	11.05	7.47

X2 Conditions

- As of 1/21/2025, X2 was estimated at 62 km.

Other Environmental Conditions

- The Fish and Water Operation Outlook OMR Index values are expected to range between -3,400 to -5,100 cfs this week.
- QWEST was just below +1,000 cfs as of 1/20/2025 and is expected to decrease this week.
- Real time tracking of environmental conditions, relevant thresholds and Delta Smelt catch data are updated daily at: SacPas Current Conditions for the Smelt Monitoring Team (SMT).

Evaluation

USBR and DWR Proposed Operations

- Both (CVP and SWP) water projects are operating to the following D-1641 standards: 1) monthly average Delta Outflow not less than 6,000 cfs for January 2) E/I ratio no greater than 0.65, and 3) daily Chlorides at Contra Costa Intake (at Rock Slough) no greater than 250 mg/l. I
- The 2025 OMR management season has begun, so the 14-day averaged OMR index cannot be more negative than –5,000 cfs according to both the Federal Biological Opinions and State ITP for joint project operations.
- Last week, the "catch" of Longfin smelt at Stations 808 and 812 in the latest Smelt Larval Survey "triggered" COA 8.4.2 in the ITP. If the 7-day averaged QWEST is less than +1500 cfs, the OMRI limit of no more negative than –3,500 cfs is mandated per COA 8.4.2.

- Based on recent salvage data, the loss of winter-run salmon exceeded the weekly loss threshold, so the OMRI limit of no more negative than –3,500 cfs on a 7-day averaged basis will be implemented per COA 8.4.4 of ITP by Wednesday, (1/22) unless it is determined that the fish is not a winter-run.

Questions and Discussions

1. Between December 1 and January 31, has any first flush condition been exceeded?
    a. First flush conditions were exceeded on December 16. Integrated Early Winter Pulse Protection (IEWPP) began on December 19, 2024 and lasted through January 1, 2025.
2. Do DSM have a high risk of migration and dispersal into areas at high risk of future entrainment? (December 1- January 31)
    a. First flush conditions were exceeded on December 16. Integrated Early Winter Pulse Protection (IEWPP) began on December 19, 2024 and lasted through January 1, 2025, decreasing risk of DSM entrainment.
3. Has a spent female been collected?
    a. The question is not applicable under the 2024 PA.
4. If OMR of -2000 cfs does not reduce OBI turbidity below 12NTU/FNU, what OMR target is deemed protective between -2000 and -5000 cfs?
    a. Not applicable under the 2024 ROD.
5. If OBI is 12 NTU/FNU, what do other station locations show?
    a. OBI, OSJ, and HOL turbidity are all below 12 NTU/FNU.
6. If OBI is 12 NTU/FNU, is a turbidity bridge avoidance action not warranted? What is the supporting information?
    a. OBI, OSJ, and HOL turbidity are all below 12 NTU/FNU.
7. After March 15 and if QWEST is negative, are larval or juvenile DSM within the entrainment zone of the CVP and SWP pumps based on surveys?
    a. This question is not applicable until March 15th.
8. Based on real-time spatial distribution of Delta Smelt and currently available turbidity information, should OMR be managed to no more negative than -3,500?
    a. This question is not applicable until March 15th.
9. What do hydrodynamic models, informed by EDSM or other relevant data, suggest the estimated percentage of larval and juvenile DSM that could be entrained may be?
    a. This question is not applicable until March 15th.

Delta Smelt References

Damon, L. J., S. B. Slater, R. D. Baxter, and R. W. Fujimura. 2016. Fecundity and reproductive potential of wild female Delta smelt in the upper San Francisco Estuary, California. California Fish and Game 102(4):188–210.

Hobbs, J. A., Lewis, L. S., Willmes, M., Denney, C., & Bush, E. (2019). Complex life histories discovered in a critically endangered fish. Scientific Reports, 9(1). https://doi.org/10.1038/s41598-019-52273-8

Grimaldo, L. F., T. Sommer, N. Van Ark, G. Jones, E. Holland, P. B. Moyle, B. Herbold & P. Smith (2009) Factors Affecting Fish Entrainment into Massive Water Diversions in a Tidal Freshwater Estuary: Can Fish Losses be Managed? North American Journal of Fisheries Management, 29:5, 1253-1270, DOI: 10.1577/M08-062.1

Polansky, L., Newman, K.B., Nobriga, M.L. et al. Spatiotemporal Models of an Estuarine Fish Species to Identify Patterns and Factors Impacting Their Distribution and Abundance. Estuaries and Coasts 41, 572–581 (2018).

Sommer, T., F. Mejia, M. Nobriga, and L. Grimaldo. 2011. The Spawning Migration of Delta Smelt in the Upper San Francisco Estuary. San Francisco Estuary and Watershed Science 9(2).