

Smelt Monitoring Team
Tuesday, May 19, 2020
11:00 AM – 12:00 PM

Executive summary: In WY2020, larval Delta Smelt have been detected in the Lower Sacramento River and Sacramento Deepwater Shipping Channel. One larval Delta Smelt (12 mm) was salvaged on April 13th at the Tracy Fish Collection Facility (TFCCF). The expected OMR Index Values are -1,000 to -1,500 cfs for the next week. These OMR flows are more positive than the levels identified in Reclamation's Action and USFWS BiOp necessary to limit larval entrainment mortality.

1. Introductions

CDWF, NMFS, DWR, BOR, USFWS, K&W

2. Relevant Actions and Triggers:

Currently under larval and juvenile Delta Smelt protection of 2019 Biological Opinion:

“Reclamation and DWR to manage exports to limit entrainment to be protective of larval and juvenile Delta Smelt on or after March 15 of each year, if QWEST is negative, and larval or juvenile Delta Smelt are within the entrainment zone of the pumps based on real time sampling of spawning adults or young of life stages...

Reclamation coordinated with the Service on the Life Cycle Model entrainment module and proposes to operationalize results through the management of OMR reverse flows. When the secchi depth in the south Delta is less than one meter as determined by the weekly assessments based on EDSM and other available data, Reclamation will operate to OMR no more negative than 3,500 cfs. When the secchi depth in the south Delta is greater than 1 meter, Reclamation and DWR will operate to OMR no more negative than -5,000 cfs.”

Currently under the Incidental Take Permit for Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta (2081-2019-066-00) (relevant actions and triggers below):

Onset of OMR management 8.3: From onset of OMR Management (initiated as described in 8.3.1 through 8.3.3) to the end (8.8) Permittee shall maintain a 14-day average OMR index no more negative than -5000 cfs, except during OMR Flex operations (8.7) or if a more positive OMR index is required.

Longfin Smelt larvae and juvenile protections 8.4.2:

1. Detections at 4 of the 12 SLS/20-mm stations in south and central Delta, or,
2. Catch per tow > 5 at 2 of the 12 SLS/20-mm stations

High flow off-ramp for Longfin Smelt 8.4.3: OMR management for LFS as described in 8.4.1 and 8.4.2 are not required, or would cease if previously required, when river flows

are >55,000 cfs in the Sacramento River at Rio Vista or >8,000 cfs in the San Joaquin River at Vernalis. If flows subsequently drop <40,000 cfs in the Sacramento River at Rio Vista or <5,000 cfs in the San Joaquin River at Vernalis, the OMR limit previously required as a part of 8.4.1 and 8.4.2 shall resume.

Delta Smelt larvae and juvenile protection 8.5.2: Cumulative 5 day salvage ≥ 1 + average of 3 years' prior FMWT indices (rounded down), Permittee shall restrict south Delta exports for 7 consecutive days to maintain a 7 day average OMR index no more negative than -5,000 cfs. If 5 day cumulative salvage threshold is met or exceeded, SMT should immediately convene to conduct a risk assessment (8.1.5.2) and determine future risk of entrainment and take of larval and juvenile DS. SMT may provide advice to further restrict south Delta exports to maintain a more positive OMR than -5000 cfs.

End of OMR management 8.8: OMR Management season through June 30, or until the species-specific off-ramps occur. LFS and DS offramp- Daily mean water temperature at Clifton Court (CCF) > 25°C for three consecutive days.

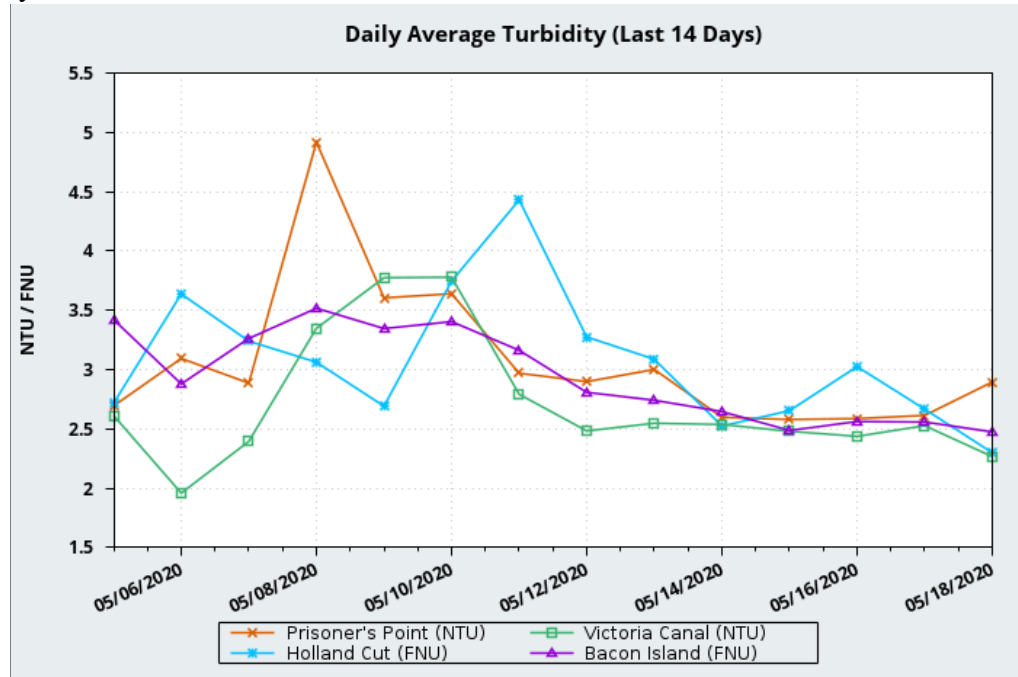
3. Operations

Tributary/Division	Projected Intended Operations and Ranges for week
Clear Creek	Whiskeytown Release: 200 cfs (implementing spring pulse flow fluctuating between 150-500 cfs)
Sacramento River	<ul style="list-style-type: none"> • Shasta Storage: 3.57 MAF • Current Release: 8,500 cfs Range of Releases to Sacramento: 8,000 cfs to 9,000 cfs (As needed to support observed legal diversion demands on the Sacramento River in addition to Delta demands)
Feather River	<ul style="list-style-type: none"> • Oroville Storage: 2.46 MAF • Current Release: 2,050 cfs Range of Releases to Feather: 1,550 cfs to 3,000 cfs (As needed to support Delta water quality obligations)

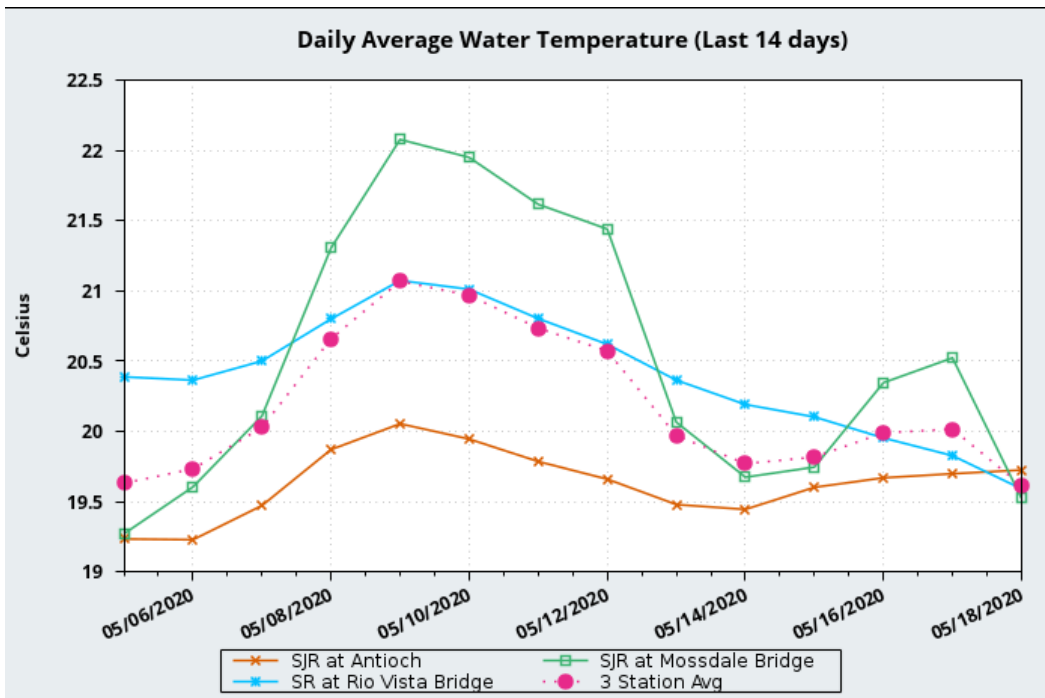
American River	<ul style="list-style-type: none"> • Folsom Storage: 0.74 MAF • Current Release: 1,750 cfs <p>Range of Releases to American: 1,250 to 1,750 cfs (As needed to meet Delta water quality objectives)</p>
Stanislaus River	<ul style="list-style-type: none"> • New Melones Storage: 1.88 MAF • Current Release to Stanislaus: 1,500 cfs <p>Range of Releases to Stanislaus: 1,200 cfs to 1,500 cfs (As needed to meet D-1641 flow requirements at Vernalis)</p>
Delta	<ul style="list-style-type: none"> • Freeport: 9,000 to 13,000 cfs • Vernalis: 1,500 to 2,000 cfs (target: 1,725 cfs) • Delta Outflow index: 8,000 to 12,000 cfs • Combined Exports: 1,000 to a maximum of 1,500 cfs to maintain 2:1 I:E. • JPP: 800 to 1,500 cfs CC: 0 to 800 cfs • OMR Index Values:-1,000 to -1,500 cfs • X2 position: 81 to > 81 km • QWEST: +2,000 cfs to +4,500 cfs <p>DCC: Closed, open between 5/22-5/26</p>

Review of Environmental Conditions:

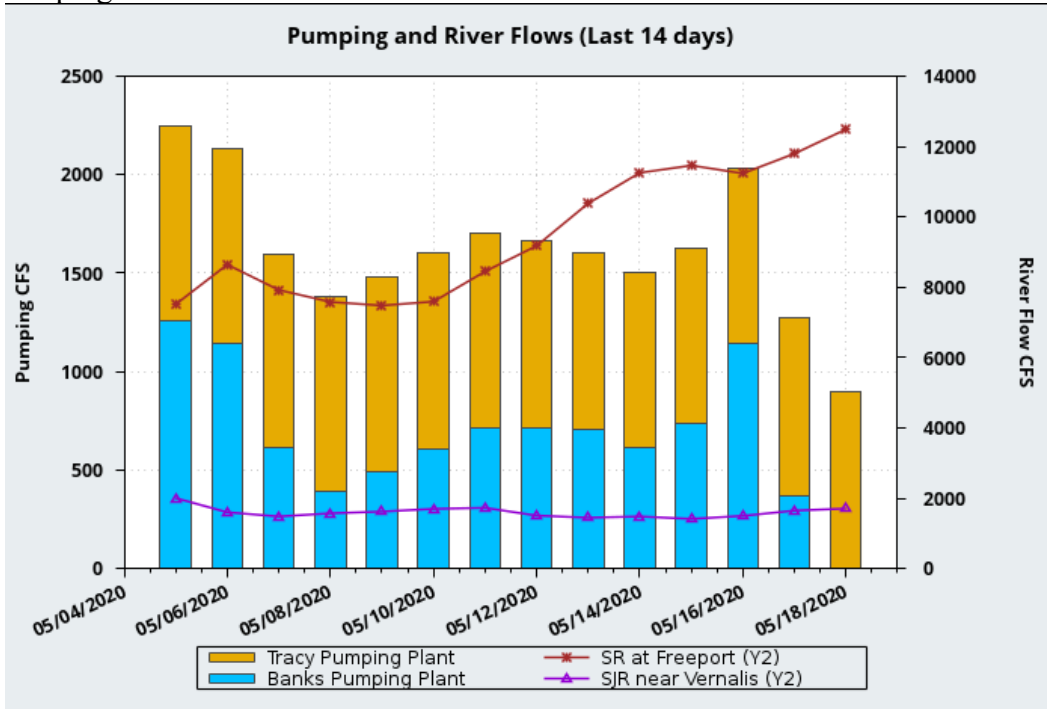
Turbidity:



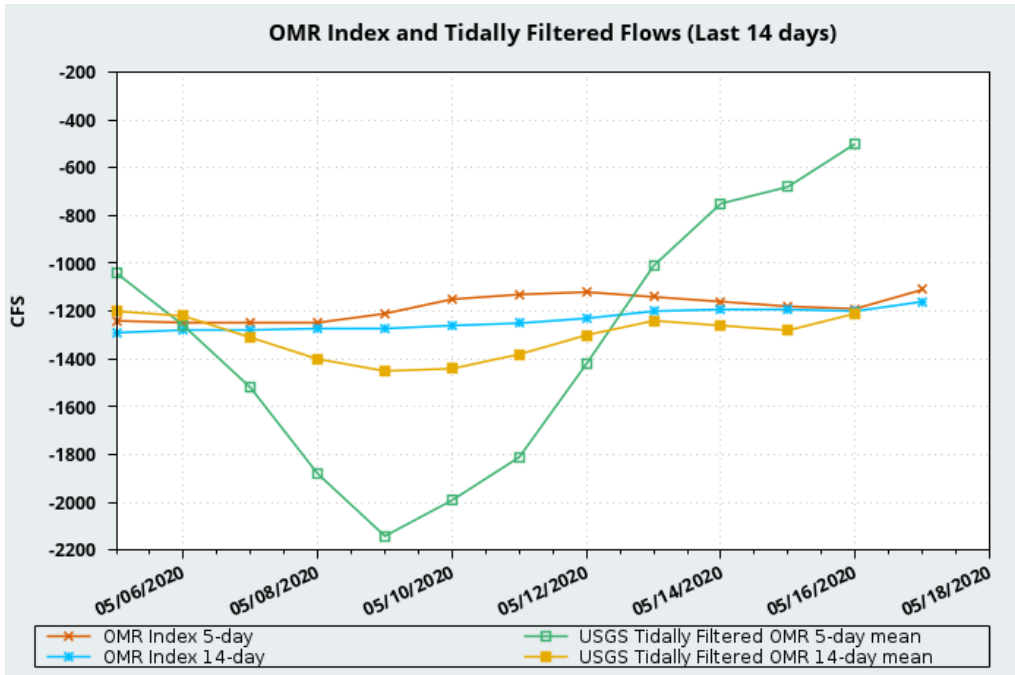
Temperature:

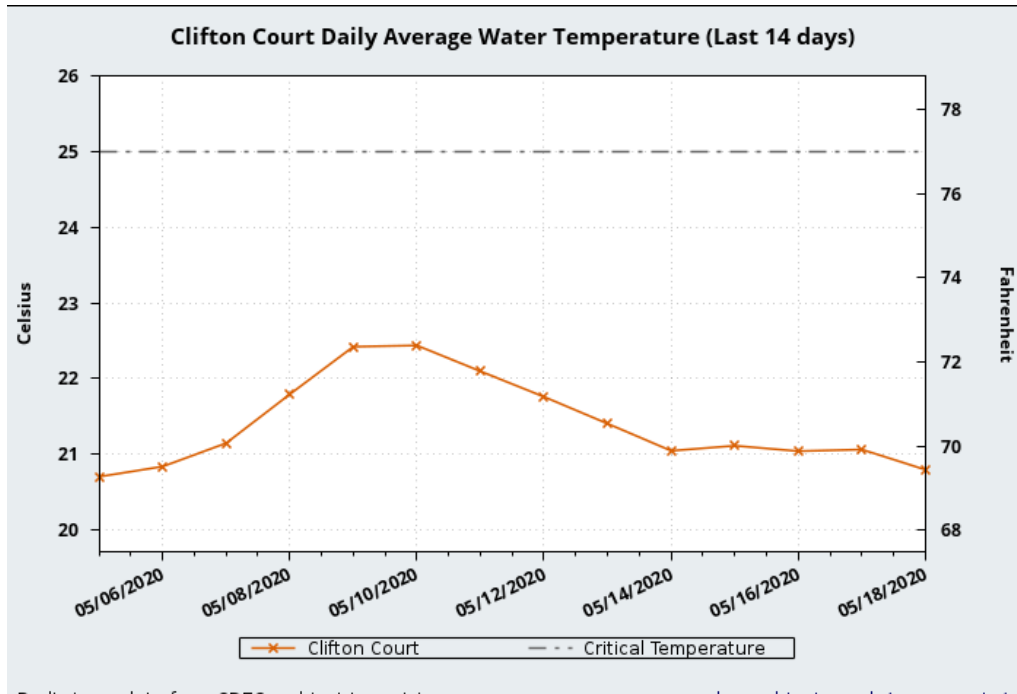


Pumping and Flows:



OMR Flows:





- As of May 18, the 3-station daily average temperature: 19.61°C
- Daily average turbidity at OBI on May 18 = 2.5 FNU; Current turbidity = 2.10 FNU
- Clifton Court daily average: 20.80°C; 69.44°F (0 days over 77°F, so not triggered)
- Forecast for Antioch: sunny and mostly clear; W/SW winds in next 24 hours; West winds 10-17 mph on Wed; no precipitation for the rest of the week

The data presented for conditions was accessed via SacPAS:

http://www.cbr.washington.edu/sacramento/data/delta_smelt.html

4. Fish Abundance, distribution, and lifestage:

A. Survey Updates:

-20mm Survey 5 (May 11-18): Sampled at 44/47 stations, including representative stations from every delta region; they dropped three sites in the Northern Sac (#720, 724, 726) due to safety and logistics concerns. At this time of year, Franks Tract gets lots of submerged aquatic vegetation; after two shortened tows (5 minutes and 2.5 minutes), their nets continued to pull vegetation, so they also dropped that station (901), effectively sampling at 43/47 stations at which they conducted three replicate tows. Processing results (all priority stations in Central and South Delta have been processed):

1. No Delta Smelt
 2. Longfin Smelt:
 1. None in priority stations
 2. 243 in confluence or further downstream, 33 of which were in the lower sac (16-32 mm; average 26-27 mm)
- Survey 6 will be conducted May 26-June 1, planning on sampling 44/47 stations representative of every Delta region.

a. -EDSM-

- Published May 4-8 abundance estimate: 1,768
- Finished 7th week of EDSM sampling last week and started 8th week Monday May 18; On Tuesday May 19th the EDSM crew out of Pittsburg was troubleshooting a boat issue so only completed 1 site; still expect to finish all the sites we have planned by Friday May 22.
- Completed processing for samples collected through last Thurs. Preliminary results:
 - b. May 11:
 - i. 4 Delta Smelt were collected in the Sacramento River Shipping Channel (15.5-20.7mm)
 - ii. One 12.2 mm Longfin Smelt in the Lower Sacramento River
 - c. May 13: 20 Longfin Smelt collected in Suisun Marsh (17.5-22.5mm)
- Note: the daily and weekly EDSM reports are found on the USFWS Lodi website: https://www.fws.gov/loidi/juvenile_fish_monitoring_program/jfmp_index.htm.

B. Salvage Monitoring:

- For 5/4 - 5/10:
 - Zero Delta Smelt have been detected in salvage & larval samples in the last week.
 - Longfin Smelt:
 - 1. n = 6 Longfin Smelt at the state facility; n = 8 at the federal facility. This includes data through yesterday.
 - 2. No Longfin Smelt have been detected in larval sampling in the last week.
 - 3. Seasonal totals: n = 1360 at State facility; n= 1326 at Federal facility
 - 4. Seasonal salvage pulse appears to be finishing up
- Skinner facility will be offline this week for maintenance

5. Evaluation:

A. Is OBI turbidity likely to exceed 12NTU during the next week? What conditions are likely to create this turbidity event?

Group consensus: Turbidity at OBI is not expected to exceed 12 NTU in the next week. Daily average turbidity at Old River Bacon Island (Station ID: OBI) on 5/18/2020 was 2.5 FNU. The weather forecast do not predict precipitation events in the next seven days and the predicted west southwest and west winds are not expected to raise turbidity past 12 NTU.

Discussion: No comments

B. After March 15 and if QWEST is negative, are larval or juvenile Delta Smelt within the entrainment zone of the CVP and SWP pumps based on surveys?

- *Group Consensus:* Larval Delta Smelt have been detected in the Lower Sacramento and the Sacramento Deepwater Ship Channel. The Lower Sacramento River and Sacramento Deepwater Ship Channel are outside of the entrainment zone of the CVP and SWP pumps. However, the larval Delta Smelt observed at the CVP's Tracy Fish Collection Facility (TFCF) on 4/13/2020 indicates larval Delta Smelt may be present in the entrainment zone. Since this detection, no other larval, juvenile, or adult Delta Smelt have been seen in the entrainment zone of the CVP and SWP pumps. 20mm Survey 2 was cancelled due to COVID-19. 20mm Surveys 3 & 4 have been able to sample the South Delta. EDSM is not currently sampling the South Delta stratum. The size and rarity of recently hatched Delta Smelt may limit the ability of salvage and surveys to detect Delta Smelt. In the Operations Outlook, QWEST continues to be predicted to be positive between +2,000 cfs to +4,500 cfs and OMR Index Values are predicted to be between -1,000 to -1,500 cfs. Installation of the South delta temporary barriers (agricultural barriers) will make the index values more negative for the same level of exports. There is a three-day opening of the Delta Cross Channel Gates over weekend that will create a positive response in QWEST and may facilitate outmigration.

Discussion:

1. I thought on Salmon call you said OMR will be slightly positive.
 - a. For 5/15, USGS for 5/16 had a positive 100 OMR, but for the coming week OMR range is -1000 to -1500.
2. over the weekend, with opening of the delta cross channel gates, you will get a positive response in the QWEST which will move fish out of the zone of entrainment.

C. What is the OMR level to manage the annual larval entrainment based on DSM recruitment level from the FWS LCM? How does this information from the real-time spatial distribution of DSM operationalize the LCM?

-*Group Consensus:* Based on the life cycle model, low south Delta turbidity, and the limited observations of larval Delta Smelt, Reclamation identified an OMR more positive than -5,000 should be used for export management. Based on surveys, larval Delta Smelt have been observed in the TFCF, Lower Sacramento River, and Sacramento Deepwater Ship Channel, suggesting the spatial distribution of Delta Smelt extends into the entrainment zone of the CVP and SWP pumps, which extends into Franks Tract under the OMR conditions in the Operations Outlook. OMR levels are projected to be more positive than the levels identified in the LTO Action and USFWS BiOp. The SMT is unable to recommend an OMR level to manage the annual larval entrainment based on the longer two month time scale of the LCM projection as compared to the weekly operational needs assessed by the group.

Discussion:

-Appreciate the inclusion of the last sentence. We are working with long term ops team with the five agencies to revise this evaluation question.

D. 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?

Group Consensus: Larval Delta Smelt in the south Delta are at high risk of entrainment into the water export facilities. The expected OMR Index values are -1,000 to -1,500 cfs for the next week. PTM results suggest the low export scenario (-1000 cfs) results in <15%, and the high export scenario (-3000 cfs) results in <22% of particles injected into the Central Delta could arrive at the CVP and SWP after 21 days. The modeled entrainment zone extends into Franks Tract under the OMR conditions in the Operations Outlook. These results leave a large number of the fates of injected particles unresolved. Under current OMR conditions particle movement may be limited due to the stagnant conditions in parts of the South Delta

Discussion: No comments

6. Barker Slough Update

Period to protect Delta Smelt entrainment at Barker Slough. We have been monitoring, but there have been no Delta Smelt detections in the region and no evidence that smelt are in vicinity. Turbidity levels have been lower than generally associated with Delta Smelt presence. As a result, we have no advice for Barker Slough.

Discussion:

- USBR update: daily average temps, turbidity, and pumping for Barker Slough should be available on SacPass by the end of this week.

7. Additional Considerations

- a. **RISK ASSESSMENT:** CDFW has completed draft template for the risk assessment for Delta Smelt and Longfin Smelt required by Condition 8.1.5.2 of the ITP. Thus far, it has been circulated among water branch staff, but Region 3 CDFW staff and the SMT have not yet had the opportunity to comment. CDFW will send out separate email with risk assessment template and an example of what a completed risk assessment might look like. Eventually, this will replace the longfin smelt notes and will be a living document updated weekly; it will follow a similar process as under 2008-2009 BiOp. The biggest differences between the current BiOp approach and the ITP risk assessment are: (1) the evaluation questions are not part of the risk assessment, and (2) we will be binning OMR and providing low/high risk assessments. For this week, because OMR is projected to be more positive than the most restrictive limits, we will only provide a low risk assessment. The assessment will start by identifying the

team, life stages present, advice to WOMT (1-3 sentences), and a summary (1-3 sentences) risk assessment; this will be followed by more detailed explanation, tables based on the ITP, and any relevant attachments (e.g., salvage tables, PTM results, etc.). It will also include relevant conditions of approval. There are still details to work out about how to implement this as part of the larger process (e.g., given that WOMT meets on Wed, there will not be time to incorporate SMT feedback prior to their meeting).

- i. Will send out this afternoon; request SMT comment by next Tuesday.
- b. **The current PMT Runs** hit their last day of prediction as of yesterday. Are new runs needed?
 - i. Unless there is a substantial change in operations that will result in a more negative OMR, don't think we need a new run.
 - ii. Need to define what "substantial" is.
 - iii. The Grant Line Canal closure will result in a change; is that substantial enough to require new runs?
 - iv. On May 22nd, Old River will be closed and Grant Line will be closed on May 27th; but the Delta Cross Channel (CC) Gates will also open this weekend, which might offset some of the negative shift.
 - v. The barriers may effect OMR but don't know if it will represent a significant change in the risk of south delta entrainment.
 - vi. Would PTM modeling be able to model a partial week closure and a few days of gate opening?
 1. The model requires a binary choice (on or off), so it cannot represent a partial barrier. In looking at the assumptions of last PTM run, 2 of 3 barriers were installed and CC had an open/close cycle, so the only assumption we are discussing that is not reflected in the results is the installation of the Grant Line barrier.
 2. Do not think we need additional PTM runs given the drop in salvage and the predicted OMRs.
 3. I agree, don't see it would be entirely useful.
 4. Think next week we should get one with Grant Line closure
 1. Don't think Grant Line installation will change the OMR beyond the highest OMR we already modeled: the installation of Grant line will only result in a shift of -500 cfs, do anticipate a max of -1700 cfs.
 5. It may be prudent to run another particle tracking next week, but comfortable not running it this week.

8. Next Meeting:

May 26, 2020 at 11:00am

Weekly Advice for Longfin Smelt

19 May 2020

Summary of Risk

Current Lifestage(s) in the Delta: Larvae and Juveniles

South Delta Entrainment Risk: Moderate

Advice: No further OMR restrictions are warranted. Detections of larval and juvenile Longfin Smelt at the south Delta export facilities has decreased recently following a substantial salvage event in which an estimated 2,686 juveniles were collected at both facilities. Most of the salvage occurred between April 9th and May 11th. In addition to a decrease in salvage, field surveys indicate that Longfin Smelt density in the south and central Delta has decreased. No Longfin Smelt were detected within the vicinity of the south Delta export facilities or in the central Delta according to the most recently available data from 20mm Survey 5 and Enhanced Delta Smelt Monitoring (EDSM). This indicates that most Longfin Smelt are outside of the hydraulic footprint of the south Delta export facilities. Some salvage may occur in the near future as individuals in the central and south Delta attempt to out migrate. The State Water Project and Central Valley Project exports are currently limited to maintain compliance with other regulations and SWP export have been paused due to maintenance. As a result, OMRI is projected to be between -1000 cfs and -2000 cfs, which is roughly equivalent to the most protective levels identified in the ITP. Therefore, advice for this week is not necessary.

Basis for Advice

The 2020 [Incidental Take Permit for Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta 2081-2019-066-00](#) (ITP) states that advice to Water Operations Management Team (WOMT) shall be based the following Conditions of Approval.

Larvae and Juveniles

8.4.2 Larval and Juvenile Longfin Smelt Entrainment Protection. From January 1 through June 30, when a single Smelt Larva Survey (SLS) or 20 mm Survey (20 mm) sampling period exceeds one of the following thresholds:

- LFS larvae or juveniles found in four or more of the 12 SLS or 20 mm station in the central Delta and south Delta (Stations 809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, 919), or
- LFS catch per tow exceeds five LFS larvae or juveniles in two or more of the 12 stations in the central Delta and south Delta (Stations 809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, 919).

Permittee shall restrict south Delta exports for seven consecutive days to maintain a seven-day average OMR index no more negative than -5000 cfs. Permittee shall also immediately convene the SMT to

conduct a risk assessment (see Condition of Approval 8.5.1.2) to assess the risk of larval and juvenile LFS entrainment into south Delta export facilities, determine if an OMR flow restriction is warranted, and recommend an OMR flow limit between -1250 cfs and -5000 cfs. The SMT risk assessment and operational advice shall be reviewed by WOMT (Condition of Approval 8.1.3) via the Collaborative Real-time Decision-making process (Condition of Approval 8.1.4). Permittee shall operate to the export restriction and OMR flow target approved through Conditions of Approval 8.1.3 and 8.1.4. Each week the SMT shall convene to conduct a new risk assessment and determine whether to maintain, or off-ramp from, export restrictions based on the risk to LFS, or until the DS and LFS off-ramp has been met as described in Condition of Approval 8.8 (End of OMR Management).

From January 1 through June 30, DWR and CDFW SMT staff shall conduct weekly, or more often as needed, risk assessments (see Condition of Approval 8.5.1.2) to assess the risk of larval and juvenile LFS entrainment into the South Delta Export Facilities. As part of the risk assessment the SMT shall provide advice on the appropriate OMR flow targets to minimize LFS entrainment or risk of entrainment, or both. The SMT shall provide its advice to WOMT (Condition of Approval 8.1.3) and use the Collaborative Approach to Real-time Risk Assessment process described in Condition of Approval 8.1.4 to determine if OMR flow restriction is warranted and determine the OMR flow limit between -1250 and -5000 cfs. The OMR flow limit shall be in place until the next risk assessment conducted by the SMT determines that it is no longer necessary to minimize take or related impacts to LFS, or until the DS and LFS off-ramp has been met as described in the Condition of Approval 8.8 (End of OMR Management).

8.8 End of OMR management

Conditions of Approval in place to minimize take of Delta and Longfin Smelt shall remain in effect until June 30th or until daily mean water temperature at Clifton Court Forebay (CCF) is greater than 25°C for 3 consecutive days.

Discussion of Criteria

Larvae and Juveniles

8.4.2 Larval and Juvenile Longfin Smelt Entrainment Protection

Note: Regular field sampling has been disrupted due to precautions in place to prevent the spread of COVID-19. Distribution data is limited. 20 mm Survey 2 was canceled. 20 mm Surveys 3 and 4 sampled the 12 south and central Delta stations listed in CoA 8.4.2.

SLS 6: (March 16 through 18) LFS larvae or juveniles were collected at 6 of the 12 relevant stations (809, 812, 815, 901, 902, 906). Catch per tow was greater than 5 at 3 of the 12 relevant stations (809, 812 and 901).

20 mm 1: (March 16 through 18) LFS larvae or juveniles were collected at 4 of the 12 relevant stations (809, 812, 815, 901). Average catch per tow was greater than 5 at 2 of the 12 relevant stations (809 and 812).

20 mm 3: (April 13 through 15) One LFS larvae (FL = 15 mm) was collected at station 809 in in the lower San Joaquin River. See the [20-mm webpage](#) for reported catch and more information.

20 mm 4: (April 27 through 29) One juvenile LFS (FL = 22 mm) was collected at station 901 (Franks Tract).

20 mm 5: 20 mm Survey 5 (May 11 through 18) sampled 43 of the 47 regular stations and did not report any Longfin Smelt in the south or central Delta. Stations 901, 720, 724 and 726 were not sampled. In samples processed to date, 243 Longfin Smelt were collected in Suisun Bay and near the confluence of the Sacramento and San Joaquin Rivers. Fork lengths ranged from 16 to 32 mm. Approximately 50% of samples have been processed.

EDSM: From May 4 on to 11, EDSM collected 119 larval or juvenile Longfin Smelt in the Suisun Bay and Suisun Marsh strata, one in the Sacramento Deep Water Ship Channel and one in the Lower Sacramento River. Fork lengths ranged from 8.5 to 30.0 mm.

Salvage: The rate of juvenile LFS salvage and frequency of larval detections have decreased at both facilities. As of May 18th, estimated juvenile Longfin Smelt salvage for WY 2020 was 1326 for CVP and 1360 for SWP. LFS larvae were detected at the federal facility on the March 27, 28, 29, 30 and April 3, 5, 6, April 9 through 16, April 18, and April 28. Larval LFS were detected at the state salvage facility on April 1, April 10, April 13, and April 29. See the table below for a summary of salvage and larval detections.

Estimated salvage and larval detections at SWP and CVP for Water Year 2020. Note: Larval detections are reported as presence only.

DATE	State Daily Salvage	State Season Total	SWP Larvae Y or N	Federal Daily Salvage	Federal Season Total	CVP Larvae Y or N
3/17/2020	0	0	NC	4	4	N
3/24/2020	0	0	N	12	16	N
3/25/2020	0	0	N	8	24	N
3/27/2020	0	0	N	0	24	Y
3/28/2020	0	0	N	4	28	Y
3/29/2020	0	0	N	0	28	Y
3/30/2020	0	0	N	0	28	Y
4/1/2020	0	0	Y	8	36	N
4/3/2020	0	0	N	0	36	Y
4/5/2020	0	0	N	0	36	Y
4/6/2020	0	0	N	4	40	Y
4/9/2020	4	4	N	4	44	Y
4/10/2020	0	0	Y	8	52	Y
4/11/2020	0	0	N	48	100	Y
4/12/2020	2	6	N	100	200	Y
4/13/2020	6	12	Y	311.8	511.8	Y
4/14/2020	0	12	N	118.6	630.4	Y
4/15/2020	0	12	N	156.0	786.3	Y

4/16/2020	0	12	N	208.0	994.3	Y
4/17/2020	8	20	N	84.0	1078.3	N
4/18/2020	14	34	N	80.0	1158.3	Y
4/19/2020	8	42	N	0.0	1158.3	N
4/20/2020	0	42	N	12.0	1170.3	N
4/21/2020	4	46	N	28.0	1198.3	N
4/22/2020	8	54	N	0.0	1198.3	N
4/23/2020	12	66	N	16.0	1214.3	N
4/24/2020	28.0	94	N	12	1226.3	N
4/25/2020	94.0	188	N	8	1234.3	N
4/26/2020	218.0	406	N	12	1246.3	N
4/27/2020	230.0	636	N	0	1246.3	N
4/28/2020	58.0	694.0	N	12	1258.3	Y
4/29/2020	224.0	918.0	Y	16	1274.3	N
4/30/2020	118.0	1036.0	N	24	1298.3	N
5/1/2020	40.0	1076.0	N	4	1302.3	N
5/2/2020	24.0	1100.0	N	0	1302.3	N
5/3/2020	8.0	1108.0	N	4	1306.3	N
5/4/2020	18.0	1126.0	N	0	1306.3	N
5/5/2020	76.0	1202.0	N	0	1306.3	N
5/6/2020	76.0	1278.0	N	0	1306.3	N
5/7/2020	62.0	1340.0	N	0	1306.3	N
5/8/2020	12.0	1352.0	N	0	1306.3	N
5/9/2020	2.0	1354.0	N	4	1310.3	N
5/10/2020	0.0	1354.0	N	8	1318.3	N
5/11/2020	6.0	1360.0	N	4	1322.3	N
5/17/2020	0.0	1360.0	N	4	1326.3	N

8.8 End of OMR management. Daily average water temperature at CCF has not exceeded 25°C.

Current Conditions

As of May 18, 2020

Sacramento River flow at Freeport = 12,600 cfs. San Joaquin River flow at Vernalis = 1720 cfs. X2 > 81 km. Qwest was approximately +2000 cfs and is expected to increase when the Delta Cross Channel gates open for weekend operations. Daily average OMR Index = -600 cfs with a 14-day running average of -1100 cfs. Daily average water temperature at Clifton Court Forebay was 20.8°C.

Attachments

2020_20mm_Sur5_SmeltCatch_051820.pdf

Table 1. Delta Smelt and Longfin Smelt catch per station from 2020 20-mm Survey 5, which was in the field 5/11/2020 – 5/18/2020. These data are preliminary and subject to change.

Year	Survey	Station	Date	# Tows Processed	Species	Total Catch	Min Length	Max Length	Avg Length	
2020	5	328		0	Not Yet Processed	0				San Pablo Bay
2020	5	329		0	Not Yet Processed	0				
2020	5	334		0	Not Yet Processed	0				
2020	5	335		0	Not Yet Processed	0				
2020	5	336		0	Not Yet Processed	0				
2020	5	323	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	340		0	Not Yet Processed	0				Suisun Bay & West
2020	5	342		0	Not Yet Processed	0				
2020	5	343		0	Not Yet Processed	0				
2020	5	344		0	Not Yet Processed	0				
2020	5	345		0	Not Yet Processed	0				
2020	5	346		0	Not Yet Processed	0				
2020	5	405	13-May-20	3	Longfin Smelt	13	23	30	27.31	
2020	5	411	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	418	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	501		0	Not Yet Processed	0				
2020	5	504	11-May-20	3	Longfin Smelt	14	22	30	27.14	
2020	5	519	11-May-20	3	Longfin Smelt	21	23	32	26.24	
2020	5	602		0	Not Yet Processed	0				
2020	5	606		0	Not Yet Processed	0				
2020	5	609		0	Not Yet Processed	0				
2020	5	610		0	Not Yet Processed	0				
2020	5	508	11-May-20	3	Longfin Smelt	70	23	31	26.64	Confluence
2020	5	513		0	Not Yet Processed	0				
2020	5	520	11-May-20	3	Longfin Smelt	59	16	28	23.48	
2020	5	801	12-May-20	3	Longfin Smelt	31	19	30	24.87	
2020	5	804	11-May-20	3	Longfin Smelt	2	26	26	26.00	
2020	5	703		0	Not Yet Processed	0				Sac. River System
2020	5	704	12-May-20	3	Longfin Smelt	33	18	30	25.82	
2020	5	705		0	Not Yet Processed	0				
2020	5	706		0	Not Yet Processed	0				
2020	5	707	12-May-20	3	No Longfin Smelt Catch	0				
2020	5	711		0	Not Yet Processed	0				
2020	5	716		0	Not Yet Processed	0				
2020	5	718		0	Not Yet Processed	0				
2020	5	719		0	Not Yet Processed	0				
2020	5	720		0	Not Yet Processed	0				
2020	5	723		0	Not Yet Processed	0				
2020	5	724		0	Not Yet Processed	0				
2020	5	726		0	Not Yet Processed	0				
2020	5	809	13-May-20	3	No Longfin Smelt Catch	0				Central & South Delta
2020	5	812	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	815	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	901	12-May-20		Not Sampled	0				
2020	5	902	12-May-20	3	No Longfin Smelt Catch	0				
2020	5	906	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	910	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	912	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	914	12-May-20	3	No Longfin Smelt Catch	0				
2020	5	915	12-May-20	3	No Longfin Smelt Catch	0				
2020	5	918	12-May-20	3	No Longfin Smelt Catch	0				
2020	5	919	13-May-20	3	No Longfin Smelt Catch	0				

Processing is complete through