Smelt Monitoring Team
Tuesday, May 26, 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 (TFCF). The expected OMR Index Values are -1,000 to -1,500 except for June 1st when -3,500 cfs is possible. 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**
   CDFW, 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.

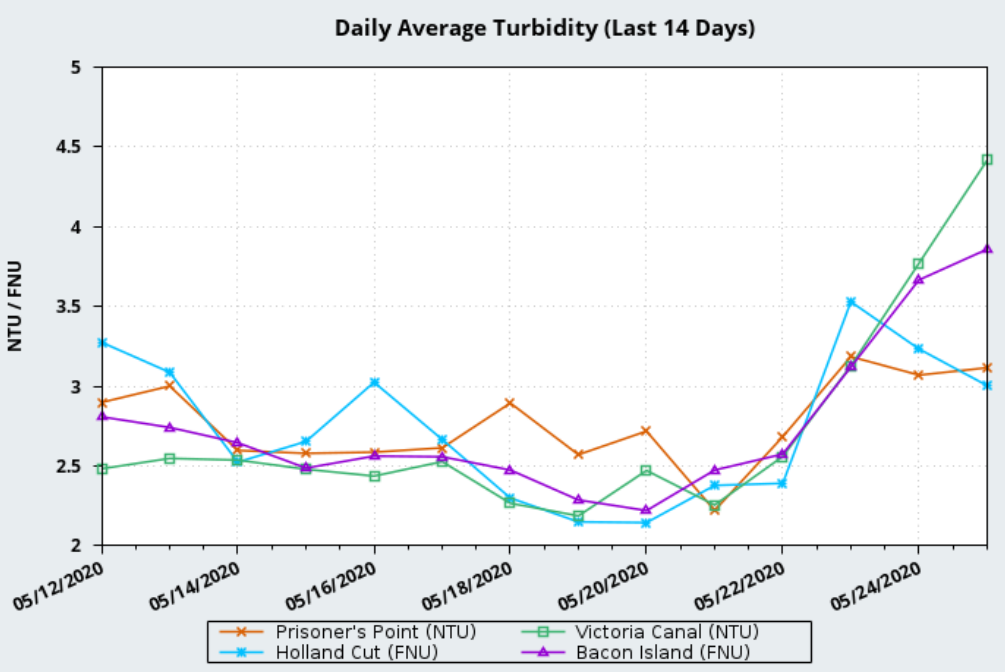
3. Operations

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	Shasta Storage: 3.57 MAF Current Release: 8,000 cfs Anticipated Weekly Range of Releases to Sacramento: 8,000 cfs to 11,000 cfs (As needed to support observed legal diversion demands on the Sacramento River in addition to Delta demands)
Feather River	Oroville Storage: 2.46 MAF Current Release: 2,050 cfs Anticipated Weekly Range of Releases to Feather: 2,050 cfs to 3,000 cfs (As needed to support Delta water quality obligations)
American River	Folsom Storage: 0.76 MAF Current Release: 1,250 cfs Anticipated Weekly Range of Releases to American: 1,250 to 2,500 cfs (As needed to meet Delta water quality objectives)

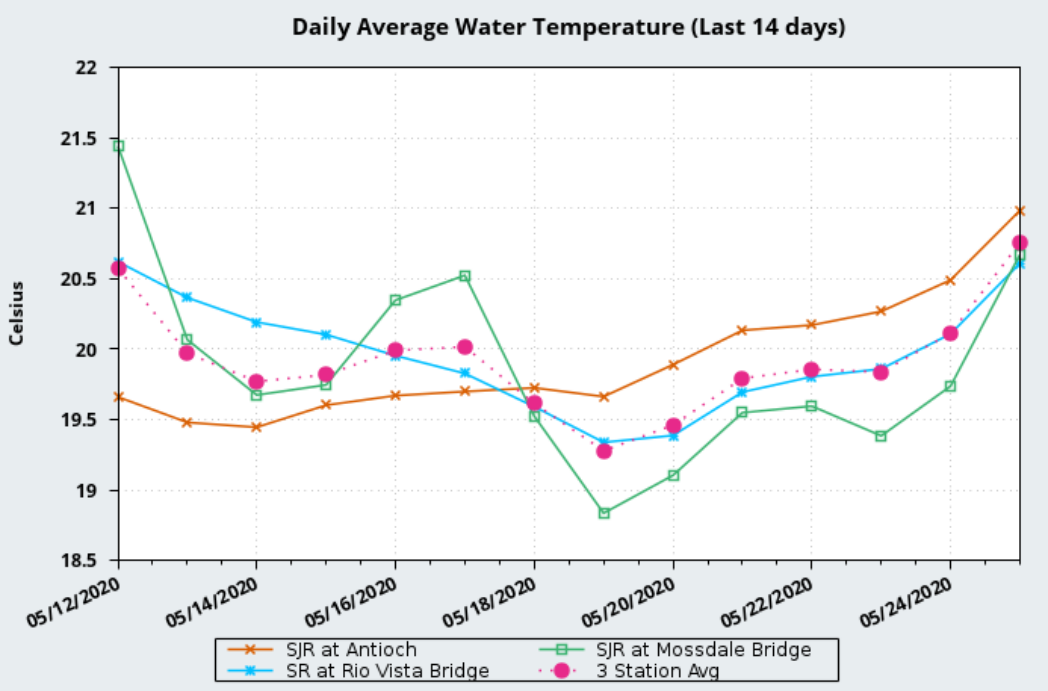
Stanislaus River	New Melones Storage: 1.85 MAF Total Current Release to Stanislaus: 1,500 cfs Anticipated Weekly Range of Releases to Stanislaus: 1,000 cfs to 1,500 cfs (As needed to meet D-1641 flow requirements at Vernalis)
Delta	Freeport: 8,000 to 13,000 cfs Vernalis: 1,600 to 2,000 cfs Delta Outflow index: 7,000 to 12,000 cfs Combined Exports: 1,000 to 3,000 cfs JPP: 800 to 1,600 cfs CC: 200 to 1,000 cfs Expected OMR Index Values:-1,000 to -3,500 cfs X2 position: 78 to > 81 km QWEST: +1,000 to +4,500 cfs DCC: Closed during week, open on weekend

Review of Environmental Conditions:

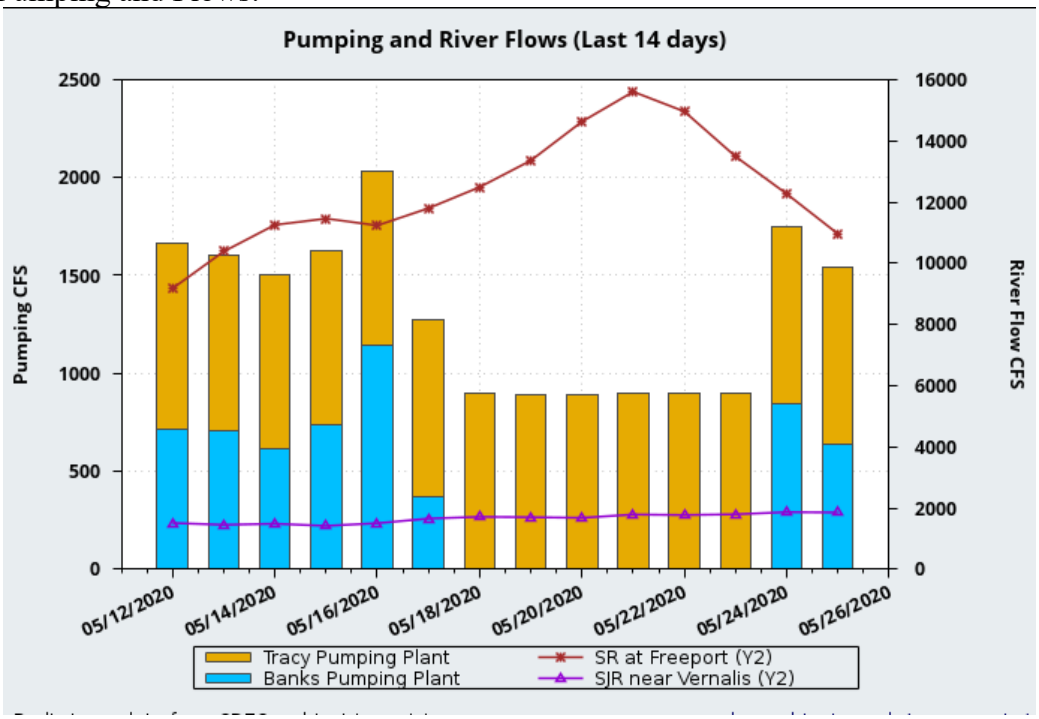
Turbidity:



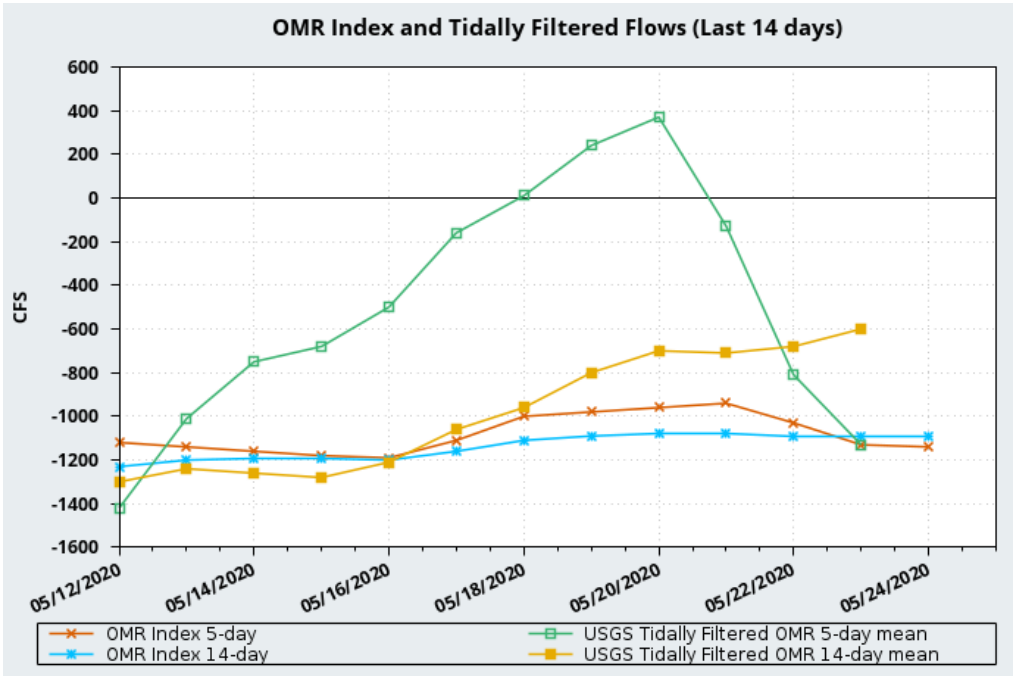
Temperature:

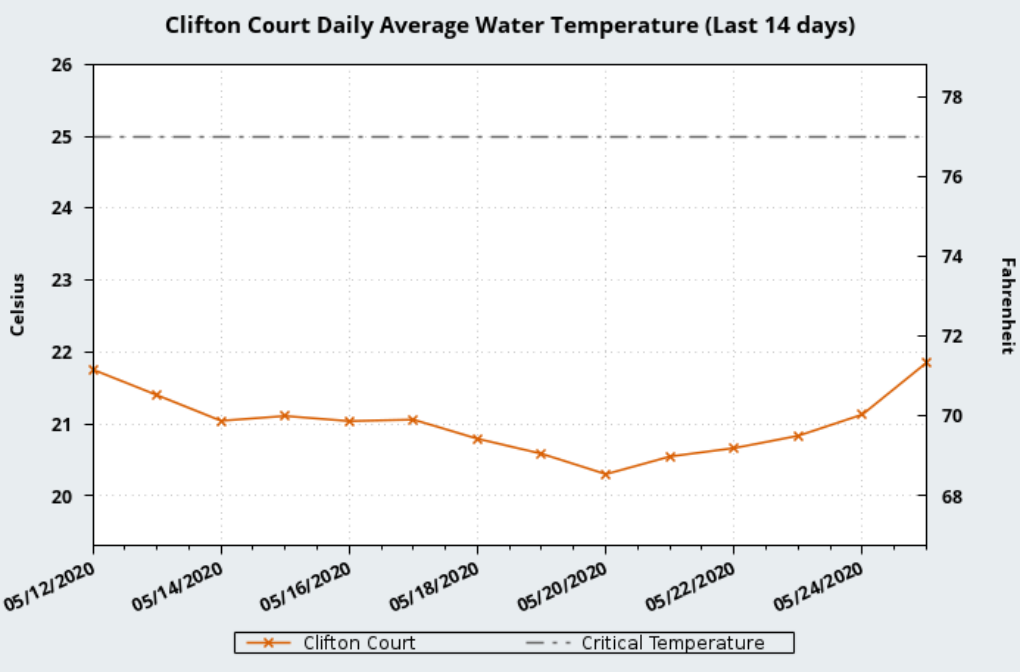


Pumping and Flows:



OMR Flows:





- As of May 25, the 3-station daily average temperature: 20.75ºC
- Daily average turbidity at OBI on May 25 = 3.9 FNU; Current turbidity = 3.4 FNU
- Clifton Court daily average: 21.85ºC; 71.33ºF (0 days over 77ºF, so not triggered)
- Forecast for Antioch: sunny and hot; NW/W/SW winds up to 18 mph; slight chance of rain showers over the weekend
  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 tows, their nets continued to pull vegetation, so they also dropped that station, as well as 703 and 346, effectively sampling at 41/47 stations at which they conducted three replicate tows. Processing results (all priority stations have been processed):

1. No Delta Smelt
2. No Longfin Smelt were collected at the core South Delta stations. 20 mm Survey 5 collected 635 Longfin Smelt in Suisun Bay, Suisun Marsh and near the confluence of the Sacramento and San Joaquin Rivers. Fork lengths ranged from 16 to 32 mm.

- Survey 6 will be conducted May 26-June 1

-EDSM

- Published Week 7 (May 11-15) abundance estimate: 11,552
- Finished 8thth week of EDSM sampling last week and started 9thth week today; they will be sampling Tuesday through Friday this week due to the Monday holiday.
- Completed processing for samples collected through last Monday May 18. Preliminary results for last week:
    1. May 20: 8 Delta Smelt collected in the Sacramento Deepwater Shipping Channel (17-33mm). This is based on one level of ID; they always do at least two, so these results will be verified later this week.
    2. May 18: 15 Longfin Smelt collected in Suisun March (21.4-30.5mm)
- https://www.fws.gov/lodi/juvenile_fish_monitoring_program/jfmp_index.htm.

B. Salvage Monitoring:

No smelt of either species was been detected in regular or larval sampling

1. NOTE: The State facility was offline last week until 5/24; still waiting to get larval IDs for the last few days from the State
2. Longfin Smelt salvage season is expected to end soon for the year.
3. The last longfin larval detection was on 5/18; last salvage of longfin was 5/17 (at Federal facility). Haven't seen any Delta Smelt salvage this year and only one larva.

- No other operational interruptions to report.

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 5/25/2020 was 3.9 FNU. The weather forecast does predict precipitation events in the next seven days and the predicted northwest, southwest and west winds are not expected to raise turbidity past 12 NTU.

1. *Discussion:*
USFWS: There is still some elevated turbidity at Clifton Court (10.22 FNU yesterday, 11.46 FNU today). It will be interesting to see how that interacts with elevated temperatures; even if there is not a bridge, it could still impact fish already in the South Delta.

a. USBR: Yes, it will be interesting to track this, but in the answer to the assessment question, we should focus on OBI turbidity.

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 have since 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 +1,000 cfs to +4,500 cfs and OMR Index Values are predicted to be between -1,000 to -1,500 except for June 1st when -3,500 cfs is possible. 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 two-day opening of the Delta Cross Channel Gates over weekend that will create a positive response in QWEST and may facilitate outmigration.

Discussion:

1. CDFW: Is it likely that OMR values will reach -3500 this week?

ii. USBR: Not likely in May. As of June 1, there is a very small chance that an increase in the federal share of exports would increase the OMR that much, but don't think it is likely.

iii. NMFS: The preliminary injunction and ITP 2:1 requirements end May 31 and the DCC gates will be opening on weekends through June 15 (then can open anytime). These changes could drive OMR to -3500 cfs.

iv. The DCC gates do not affect OMR but the project operations starting June 1 could affect OMR.

C. Based on real-time spatial distribution of Delta Smelt and currently available turbidity information, what is the OMR level between -3,500 and -5,000 cfs that manages weekly entrainment in the context of annual larval and juvenile entrainment levels?

-*Group Consensus:* Within the previous 30 days, Delta Smelt have only been detected in the Sacramento Deep Water Ship Channel in the North Delta. However, the size and rarity of recently hatched Delta Smelt may limit the ability of salvage and surveys to detect Delta Smelt. South Delta turbidity sampling has shown isolated turbidity increases and OBI is expected to remain stable. The Smelt Monitoring team is unable to identify an

OMR between -3,500 and - 5,000 cfs because OMR Index values are expected to stay between -1,000 to -1,500 except for June 1st when -3,500 cfs is possible.

Discussion:

1. - Appreciate the inclusion of the caveat stating what the actual OMR expected values are expected to be. Would like to add the caveat that Delta Smelt are so rare that it is difficult for surveys to detect them, similar to the statement included in the second question. It is very likely it will soon be impossible to determine anything definitive about Delta Smelt distribution because of their rarity.
    a. Does that apply given that we did detect 8 this week?
    b. EDSM has detected Delta Smelt, but it is important to keep the volume of the strata we sample in as context: for instance, the Sacramento Deepwater Shipping Channel, where the Smelt were identified, is one of smaller strata, which lends itself to easier detection.
2. OMR would only reach OMR -3500 cfs for a single day; but will be -1500 cfs most of the rest of the week before that. Suggest clarifying that most of the period will be at the lower edge of the range: "OMR Index values are expected to stay between -1000 and -1500 cfs, with the exception of June 1 when -3500 cfs is possible due to the release of constraints under the ITP and preliminary injunction."

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 between -1,000 to -1,500 cfs except for June 1st when -3,500 cfs is possible. PTM results from 5/8/2020 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.

1. *Discussion:*
2. Might be helpful to clarify that PTM runs are from 5/8/2020

3. USFWS: are the PTM runs still relevant to the assessment for this week?
    a. They still lie within the 21 day window, but will be outside that next week.
    b. For next week, the scenarios run on 5/8 would still provide relevant information; OMR won't go much more negative than -3500 in the next week.

7. Barker Slough Update

No Delta Smelt were detected at Station 716. There was a slight increase in turbidity there, but it wasn't too high and without any detections, there is not much of a concern. No EDSM was completed in the area. Therefore, there is no advice for Barker Slough management.

The Barker Slough visualization for data is now up on SacPas.

8. Additional Considerations

a. Update on ITP risk assessment (CDFW):

i. If you want to provide feedback on the template or draft assessment, please send to Felipe/April. Can also provide comments throughout process. Everything is fair game. Set a deadline by COB today, but if there are suggestions down the line, we will fold those in; just want a draft that everyone has had their eyes on, so we can have a strong document to start next season.

ii. Most of information in the template is already reported on the call; if needed, CDFW will interject to ask for finer points needed by the ITP.

b. PTM Run

i. Current run expires this week, and we have some new operations to consider. Should we do a new run?
    1. I would feel comfortable not doing any PTM runs: salvage has dropped off, there are no detections in South Delta, hydrology is favorable, and temperatures are rising. Tn deference to staff time, would be ok not doing a new PTM run.
    2. Support running one more PTM, so that we have information to update the June assessment questions as a bookend for the season.
    3. Support one more run – limited field data is a strong motivation for an additional run. If OMR s go over -3500 cfs, then I would encourage future runs if change in conditions requires that. Given low Delta Smelt abundance, we cannot assumethey aren't at risk of entrainment.
    4. CDFW: With the Grant Line barrier installation, it would be good to understand how hydrology changes.

        a. Grant Line should only change OMR by 600, based on a -1000 cfs OMR starting point; more negative OMRs could be different.
    ii. Operations anticipate OMRs of -1000 to -3500; use those as scenarios?
        1. All agreed on -1000 and -3500 as scenarios
    iii. Run at same sites as last time or new sites?
        1. All agree on using the same sites as in the prior PTM runs.
c. The off-ramp for larval/juvenile action is 25 ºC water temperatures at Clifton Court. While it will be scorching next few days and we expect water temperatures to rise in response, air temperatures then drop to the 70s after that. We need to consider Delta Smelt protections because even though it is currently warming, temperatures will likely decrease thereafter and the protections will still be active.

9. Next Meeting:

June 2, 2020 at 11:00am

California Department of Fish and Wildlife

Weekly Advice for Longfin Smelt

26 May 2020

Summary of Risk

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

South Delta Entrainment Risk: Low

Advice: No further OMR restrictions are warranted. Recent distribution data and abiotic conditions suggest that Longfin Smelt are not present within the hydraulic footprint of the export facilities. No Longfin Smelt were detected in the south or central Delta according to the most recently available data from 20mm Survey 5 and Enhanced Delta Smelt Monitoring (EDSM). Furthermore, daily average water temperature within the Delta is expected to increase above levels at which Longfin Smelt are typically detected.

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

offramp 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 Condition of Approval 8.4.2. 20 mm Survey 5 sampled 43 of the 47 regular stations. Station 901 (Franks Tract in central Delta) was not sampled due to excessive vegetation.

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 41 of the 47 regular stations and did not report any Longfin Smelt in the south or central Delta. Stations 901, 720, 724, 726, 703, and 346 were not sampled. 20 mm Survey 5 collected 635 Longfin Smelt in Suisun Bay, Suisun Marsh and near the confluence of the Sacramento and San Joaquin Rivers. Fork lengths ranged from 16 to 32 mm. See attachment “2020_20mm_Sur5_SmeltCatch_052220.pdf” for more details.

EDSM collected 15 Longfin Smelt in Suisun Marsh on May 18th.

Salvage: Longfin Smelt salvage has not been observed since May 17th. Total salvage to date is 1360 for SWP and 1326 for CVP. Longfin Smelt 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	4	Y	8	52	Y
4/11/2020	0	4	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 25, 2020

Sacramento River flow at Freeport = 10,900 cfs. San Joaquin River flow at Vernalis = 1850 cfs. X2 = 80 km. Qwest was approximately +5000 cfs and is expected to decrease when the Delta Cross Channel gates are closed. Daily average OMR Index = -1,100 cfs and may become more negative on June 1st. Daily average water temperature at Clifton Court Forebay was 21.9°C.

Attachments

2020_20mm_Sur5_SmeltCatch_052220.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 Sampled	0				San Pablo Bay
2020	5	329		0	Not Sampled	0				
2020	5	334		0	Not Sampled	0				
2020	5	335		0	Not Sampled	0				
2020	5	336		0	Not Sampled	0				
2020	5	323	13-May-20	3	No Longfin Smelt Catch	0				
2020	5	340	18-May-20	3	No Longfin Smelt Catch	0				Suisun Bay & West
2020	5	342	18-May-20	3	No Longfin Smelt Catch	0				
2020	5	343	18-May-20	3	No Longfin Smelt Catch	0				
2020	5	344	18-May-20	3	No Longfin Smelt Catch	0				
2020	5	345	18-May-20	3	No Longfin Smelt Catch	0				
2020	5	346		0	Not Sampled	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	15-May-20	3	Longfin Smelt	19	22	30	26.21	
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	15-May-20	3	Longfin Smelt	2	25	25	25.00	
2020	5	606	15-May-20	3	Longfin Smelt	96	16	32	26.86	
2020	5	609	15-May-20	3	Longfin Smelt	46	21	30	25.91	
2020	5	610	15-May-20	3	Longfin Smelt	24	19	27	23.54	
2020	5	508	11-May-20	3	Longfin Smelt	70	23	31	26.64	Confluence
2020	5	513	12-May-20	3	Longfin Smelt	116	17	30	25.25	
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 Sampled	0				Sac. River System
2020	5	704	12-May-20	3	Longfin Smelt	33	18	30	25.82	
2020	5	705	14-May-20	3	No Longfin Smelt Catch	0				
2020	5	706	12-May-20	3	Longfin Smelt	89	16	31	24.55	
2020	5	707	12-May-20	3	No Longfin Smelt Catch	0				
2020	5	711	14-May-20	3	No Longfin Smelt Catch	0				
2020	5	716	14-May-20	3	No Longfin Smelt Catch	0				
2020	5	718	14-May-20	3	No Longfin Smelt Catch	0				
2020	5	719	14-May-20	3	No Longfin Smelt Catch	0				
2020	5	720		0	Not Sampled	0				
2020	5	723	14-May-20	3	No Longfin Smelt Catch	0				
2020	5	724		0	Not Sampled	0				
2020	5	726		0	Not Sampled	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		0	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				