

Smelt Working Group
March 14, 2017

Meeting Summary

The Working Group reviewed current Delta conditions, survey data, salvage, and forecasted weather. As this was not a regularly scheduled meeting and the call took place shortly after a request for meeting, no hydrology data was distributed prior to the call.

The Working Group is following guidance for entrainment protections from Action 2 (adult Delta Smelt) and Action 3 (juveniles). The current trend in salvage suggests the IT level will be exceeded before the end of the adult salvage season. The Working Group will continue to monitor Delta Smelt survey and salvage data and Delta conditions, and will meet again once OMR flow has become negative, or sooner, if requested.

Reported Data

1. Current environmental data

a. OMR flow

The Index OMR was reported to be approximately 12,000 cfs as of yesterday. Index OMR is not anticipated to become negative prior to at least 2 weeks.

b. River flows and pumping

Sacramento River at Freeport flow for yesterday was 62,000 cfs. San Joaquin River at Vernalis flow for yesterday was approximately 30,000 cfs. X2 remains downstream of 56 km.

2. Delta fish monitoring

Chippis Island trawl caught 10 DS last week.

EDSM caught 2 Delta Smelt in the high risk/high density zone last week. The remaining 2 Delta Smelt were caught in the high risk/low density and the low risk/low density zones. Abundance estimates generated indicate a much greater proportion of the population is present in the high risk/high density zone (0.71) than previously this season (< 0.10).

SKT #3 was in the field March 6-9. A total of 9 Delta Smelt were collected: 1 each at stations 906, 801, 706, 713, and 719. Four Delta Smelt were caught at station 715.

3. Salvage

Delta Smelt adults were salvaged at the CVP on March 11 and 13 for a daily total of 8 fish each day. The season total of adult Delta Smelt salvage so far is 48.5 fish.

4. Expected Project Operations

Combined pumping today is 6,750 cfs, and expected to drop tomorrow. Pumping currently is unrestrained by OMR levels. OMR is anticipated to remain positive this week. San Luis Reservoir is full.

A potential storm could bring rain later this week.

5. Delta Conditions Team

No DCT update was given.

6. Biological Opinion Background:

RPA Component 1, Action 2 states, "An action implemented using an adaptive process to tailor protection to changing environmental conditions after Action 1. As in Action 1, the intent is to protect pre-spawning adults from entrainment and, to the extent possible, from adverse hydrodynamic conditions." "The range of net daily OMR flows will be no more negative than -1,250 to -5,000 cfs. Depending on extant conditions (and the general guidelines below) specific OMR flows within this range are recommended by the Working Group from the onset of Action 2 through its termination..."

The timing of Action 2 is immediately after Action 1. Before this date (in time for operators to implement the flow requirement) the SWG will recommend specific requirement OMR flows based on salvage and on physical and biological data on an ongoing basis. If Action 1 is not implemented, the SWG may recommend a start date for the implementation of Action 2 to protect adult Delta Smelt. (BiOp page 352).

RPA Component 2, Action 3: "The objective of this RPA component (which corresponds to Action 3 in Attachment B), is to improve flow conditions in the Central and South Delta so that larval and juvenile Delta Smelt can successfully rear in the Central Delta and move downstream when appropriate" (page 282).

The ITL for adult Delta Smelt in WY2017 is 64 fish with a concern level of 48 fish. The ITL for juvenile Delta Smelt is 448 fish with a concern level of 298 fish.

7. Assessment of Risk Discussion

Delta Smelt Detections and Salvage

Members noted EDSM, but did not come to any conclusions of proportion of the population based on these results. Members indicated the recent catch of Delta Smelt in various Delta surveys; in particular, the trap located at the downstream end of the Yolo Bypass (1 fish caught last week) and the catch at Chipps Island trawl. With the additional recent salvage, members discussed what might be causing the recent detections of adults. Among the possibilities discussed included:

- Turbidity has been high in the south Delta over an extended period of time. This could have resulted in higher survivorship of Delta Smelt present.
- Adults may be making a migration movement at this time. This is supported by the catch data in the wide variety of survey methods in the Delta. Members indicated the perception that the catch over the last week is an increase over the previous weeks' results. In particular, the trap at the downstream end of the bypass was mentioned. Members assume for a Delta Smelt to be caught there, would require the fish to make an upstream movement into the lower end of the bypass. Members also indicated that for the SKT and the EDSM to have the higher catch from last week, would suggest fish are moving. Also, if the Delta Smelt in salvage over the last week arrived in the south

Delta recently, then this would support the suggestion that fish are moving, as the fish would have been surfing tides upstream against the Old and Middle River currents. If this upstream movement is occurring, members were unclear how large (distance) these movements might be, but did indicate they may last a few weeks during the receding hydrology.

Salvage has been relatively steady since early February, with periodic salvage events of small numbers of fish. Members did not make any assumptions regarding the impact to the overall population that might result from this salvage.

General discussion

The Service requested the SWG meet today as the Concern Level for the ITL was reached yesterday. The SWG was asked if the ITL might be exceeded this water year and to make a recommendation on appropriate methods to protect the species.

Members indicated that the current OMR flow rate is considerably more positive than indicated in the Biological Opinion under Actions 2 and 3. As the SWG is directed by the Biological Opinion to make OMR flow recommendations as indicated in these RPA's, the SWG has no scope, within the adaptive range of the BiOp, to make recommendations to conserve the species. Should the Service like to suggest additional conservation tools for the SWG to evaluate (that are not indicated in the Biological Opinion), the group will meet to evaluate and make a recommendation.

Members agreed that meeting or exceeding the ITL for WY2017 is possible. Members stressed that in wetter water years, it is not uncommon to see salvage in March (this occurred in 2011). Members also indicated that spawning is underway and expected to continue for at least another month, based on the cooler water temperatures.

The Working Group will continue to monitor conditions and Delta Smelt distribution and will meet again once OMR flow has become negative, or sooner, if requested.

WEEKLY ADVICE FOR THE DEPARTMENT OF FISH AND WILDLIFE FOR LONGFIN SMELT

Advice for week of March 13, 2017:

The Smelt Working Group is on hiatus due to exceptionally high river flows and has no advice for Longfin Smelt: advice is not warranted at this time given current flow conditions above the off-ramp thresholds at Rio Vista and Vernalis.

No Barker Slough operations advice. Water year runoff is listed to be above normal, eliminating the need for Barker Slough restrictions this water year.

Basis for advice:

The 2009 State Water Project 2081 for Longfin Smelt states that advice to WOMT and the DFW Director shall be based on:

1. Adult Salvage – total adult (≥ 80 mm) Longfin Smelt salvage (SWP+CVP) for December through February > 5 times the Fall Midwater Trawl Longfin Smelt annual abundance index.
2. Adult abundance, distribution or other information indicates that OMR flow advice is warranted.
3. Larva distribution in the Smelt Larva Survey or the 20mm Survey finds Longfin Smelt larvae present at 8 of 12 central and south Delta sampling stations in 1 survey (809, 812, 815, 901, 902, 906, 910, 912, 914, 915, 918, 919; see Figure 1).
4. Larva catch per tow exceeds 15 Longfin Smelt larvae or juveniles in 4 or more of the 12 survey stations listed.
5. During the period January 15 through March 31 of a dry or critically dry water year only, advice for Barker Slough pumping plant operations may be warranted if larval Longfin Smelt are detected at station 716 and other information indicates risk of entrainment.

Discussion of Criteria

1. No age-1 or adult Longfin Smelt have been salvaged this water year. Based on a genetic analysis, the Longfin Smelt identification in salvage January 6th was revised to Wakasagi, no Longfin Smelt have been salvaged during the current water year. The 2016 Fall Midwater Trawl annual abundance index for Longfin Smelt is 7, so the incidental take limit for adult Longfin Smelt is 35. Given the current water conditions, it is unlikely that any more adults will be salvaged. Advice is not warranted based on this criterion.

2. No new proximity information for age-1 and adult fish for late February or early March. Bay Study Survey completed sampling for February and collected only two Longfin Smelt, one in San Pablo Bay and one in central San Francisco Bay. In January, the Bay Study Survey collected four Longfin Smelt; one was collected in the San Joaquin River just upstream of the Antioch Bridge; all others were caught farther downstream. No additional survey data are available that would indicate the presence of adult Longfin Smelt in the San Joaquin River or south Delta. River flows at both the Sacramento River flow at Rio Vista and, San Joaquin River

at Vernalis continue to exceed flow off-ramps outlined in the Incidental Take Permit (see Current Conditions below).

3&4. The fifth Smelt Larva Survey (SLS) of 2017 detected no Longfin Smelt larvae in the central or south Delta during the week of February 27; processing is incomplete for other regions (Table 1). As of March 12, Qwest was 35,930 cfs. High Vernalis flows (15,500 cfs on March 12) remain well above the 8,000 cfs off-ramp for the Incidental Take Permit; thus, no need for OMR restrictions for protecting larvae. Any larvae recently hatched in the San Joaquin River have a low risk of entrainment into the south Delta in the near future so long as Vernalis flows remain above 5,000 cfs and Qwest remains positive.

5. Current measurements place the water year as above normal, thus, Barker Slough export restrictions will not be implemented this water year.

Current conditions: As of March 12th, Sacramento River flow at Rio Vista was reported at 57,447 cfs and on the San Joaquin at Vernalis at 15,500 cfs. Both remain well above the off-ramp thresholds for the Longfin Smelt Incidental Take Permit and will remain so as outflow peaks later this week.

Previously triggered OMR restrictions resume when Sacramento River at Rio Vista drops below 40,000 cfs, or when San Joaquin River at Vernalis flows drop below 5,000 cfs.

Summary of Risk: Risk of entrainment is very low due to high outflow surpassing off-ramp triggers (i.e., no OMR restrictions based on Longfin Smelt ITP).

Table 1. Longfin Smelt catch by station in the 20-mm Survey, #5. Sample processing is incomplete.

Year	Survey #	SLS Station	Turbidity	Sample Status	Species	Smelt Catch	Min Length	Max Length	Mean Length
2017	5	340		Not yet processed					
2017	5	342		Not yet processed					
2017	5	343		Not yet processed					
2017	5	344		Not yet processed					
2017	5	345		Not yet processed					
2017	5	346		Not yet processed					
2017	5	347		Not yet processed					
2017	5	348		Not yet processed					
2017	5	349		Not yet processed					
2017	5	405		Not yet processed					
2017	5	411		Not yet processed					
2017	5	418		Not yet processed					
2017	5	501		Not yet processed					
2017	5	504		Not yet processed					
2017	5	508	46.7	Processed		No Smelt Catch			
2017	5	513		Not yet processed					
2017	5	519		Not yet processed					
2017	5	520		Not yet processed					
2017	5	602		Not yet processed					
2017	5	606		Not yet processed					
2017	5	609		Not yet processed					
2017	5	610		Not yet processed					
2017	5	703	59.6	Processed		No Smelt Catch			
2017	5	704	115	Processed		No Smelt Catch			
2017	5	705		Not yet processed					
2017	5	706	111	Processed	Longfin Smelt	1	5	5	5
2017	5	707	99.4	Processed		No Smelt Catch			
2017	5	711	44.9	Processed		No Smelt Catch			
2017	5	716	106	Processed		No Smelt Catch			
2017	5	723	40.8	Processed		No Smelt Catch			
2017	5	801		Not yet processed					
2017	5	804	27.8	Processed		No Smelt Catch			
2017	5	809	34.8	Processed		No Smelt Catch			
2017	5	812	33.3	Processed		No Smelt Catch			
2017	5	815	29.1	Processed		No Smelt Catch			
2017	5	901	33.6	Processed		No Smelt Catch			
2017	5	902	24.3	Processed		No Smelt Catch			
2017	5	906	31.1	Processed		No Smelt Catch			
2017	5	910	32.5	Processed		No Smelt Catch			
2017	5	912	30.8	Processed		No Smelt Catch			
2017	5	914*		No Sample					
2017	5	915*		No Sample					
2017	5	918*		No Sample					
2017	5	919	23.4	Processed		No Smelt Catch			

Barker ITP

SWP ITP Criteria Stations

Processing is complete through 3/6/2017
 *No sample taken due to river closures

Figure 1. CDFW's 2017 Smelt Larva Survey station locations.

