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RECLAMATION

Fish Salvage and Operations at the Tracy Fish Collection Facility for Water Year 2021

Tracy Fish Collection Facility

South-Central California Area Office | Tracy Office
Interior Region 10 · California-Great Basin



Mission Statements

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The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Fish Salvage and Operations at the Tracy Fish Collection Facility for Water Year 2021

**Tracy Fish Collection Facility
California-Great Basin, Region 10**

prepared by

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Acronyms and Abbreviations

≥	greater than or equal to
AF	acre feet
BO	Biological Opinion
CDFW	California Department of Fish and Wildlife
CWT	Coded Wire Tag
CVP	Central Valley Project
Delta	Sacramento-San Joaquin Delta
FL	fork length
JPP	C.W. “Bill” Jones Pumping Plant
mm	millimeters
O&M	Operation and Maintenance
Reclamation	Bureau of Reclamation
SWRCB	State Water Resources Control Board
TFCF	Tracy Fish Collection Facility
WY	water year

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1. Introduction

The Tracy Fish Collection Facility (TFCF) diverts and salvages fish from water exported from the southern portion of the Sacramento-San Joaquin Delta (Delta). After fish are salvaged at the TFCF, the C.W. “Bill” Jones Pumping Plant (JPP) pumps water into the Delta Mendota Canal. Both the TFCF and JPP are integral parts of the Bureau of Reclamation’s (Reclamation) Central Valley Project (CVP) which provides water for agriculture and municipalities on the western side of the San Joaquin Valley. The fish are loaded into tanker trucks and released into the western Delta away from the immediate influence of the JPP water exports.

This report summarizes the 2021 water year (10/01/2020 to 09/30/2021) operational and biological information gathered from the TFCF. The following species are given individual consideration: Chinook Salmon (*Oncorhynchus tshawytscha*), Steelhead (*O. mykiss*), Striped Bass (*Morone saxatilis*), Delta Smelt (*Hypomesus transpacificus*), Longfin Smelt (*Spirinchus thaleichthys*), Sacramento Splittail (*Pogonichthys macrolepidotus*), and Threadfin Shad (*Dorosoma petenense*).

2. Methods

Daily volumes of water exported were reported from meter readings at the JPP in Byron, California. Monthly water exports were plotted and examined for time trends. Water year exports for the CVP from 1981 through 2021 were noted. Salvage data from water years 1981 to 2021 were examined for long and short-term trends. Diverted fish are subsampled and enumerated at the TFCF. The subsamples are expanded and reported as “estimated salvage” to quantify the fish abundance at the facility. It should be noted that some fish species including Delta Smelt have a low survival rate through the salvage process. The TFCF is only required to enumerate fish greater than or equal to (\geq) 20 millimeters (mm) fork length (FL) because salvage efficiency degrades rapidly for fish smaller than this size. Salvage estimates were obtained by multiplying routine sample counts by an expansion factor calculated as salvage minutes divided by minutes of the sample count in Equation 1:

$$\text{SALVAGE}_{\text{SAMPLE}} = \text{COUNT}_{\text{SAMPLE}} \times (\text{SALVAGE MINUTES} / \text{MINUTES}_{\text{SAMPLE}}) \quad (\text{Eq. 1})$$

Predator removals were not expanded since they are removed with no salvage minutes:

$$\text{SALVAGE}_{\text{PREDATOR REMOVAL}} = \text{COUNT}_{\text{PREDATOR REMOVAL}} \quad (\text{Eq. 2})$$

Salvage estimates were calculated by the summation of both equations by month and water year. Intra annual abundances were examined by plotting the monthly salvage totals for selected fish species and for all fish taxa combined for WY 2021.

Annual and monthly salvage estimates for Chinook Salmon and Steelhead were calculated for wild and hatchery fish. Salmonid origin was determined by the presence (assumed to be wild) or absence (assumed to be hatchery) of an adipose fin. Race of Chinook Salmon was initially determined by the Delta criteria based on length-at-date of salvage (California Department of Fish and Wildlife [CDFW] 2014). If Coded Wire Tag (CWT) information was available, the race

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of hatchery Chinook Salmon was updated. If DNA race information was available, the race of wild Chinook Salmon was updated.

Chinook Salmon loss estimates are presented because they are used to measure the fishery impact of the water export operation. Loss is the estimated number of fish encountered by the facility minus the number of fish that survived salvage operations (CDFW 2013). Loss was subcategorized by origin and race. Daily loss estimates are used as a regulatory trigger to protect listed salmonid species by reducing CVP and SWP water exports. The Biological Opinion (BO) established the use of daily loss densities to trigger mandatory consultation with the National Oceanic and Atmospheric (NOAA) Fisheries and water export reductions.

Larval fish sampling was conducted during February 15 through June 1, 2021 to detect the presence of Delta Smelt and Longfin Smelt larvae and post-larval juveniles (<20 mm FL). The fish screen used in regular fish counts was lined with a 0.5-mm Nitex net to retain smaller fish during 04:00, 10:00, 16:00, and 22:00 hour fish counts. Larval fish were identified to species by TFCF personnel and reported the next working day.

3. Results and Discussion

3.1. Water Exports

The CVP exported 914,705-acre feet (AF) of water, which was the lowest amount of water exported since 2015 (695,650 AF; Figure 1). Increases in exports in WYs 2017-2019 coincided with increased rainfall following five years of drought conditions in California. The highest monthly water exports started in September 2020 and ended in February 2021 (Figure 2). During these periods, a total of 644,639 AF was exported, accounting for 70.48% of total exports. Monthly exports ranged from 36,349 AF in June 2021 to 128,410 AF in September 2021.

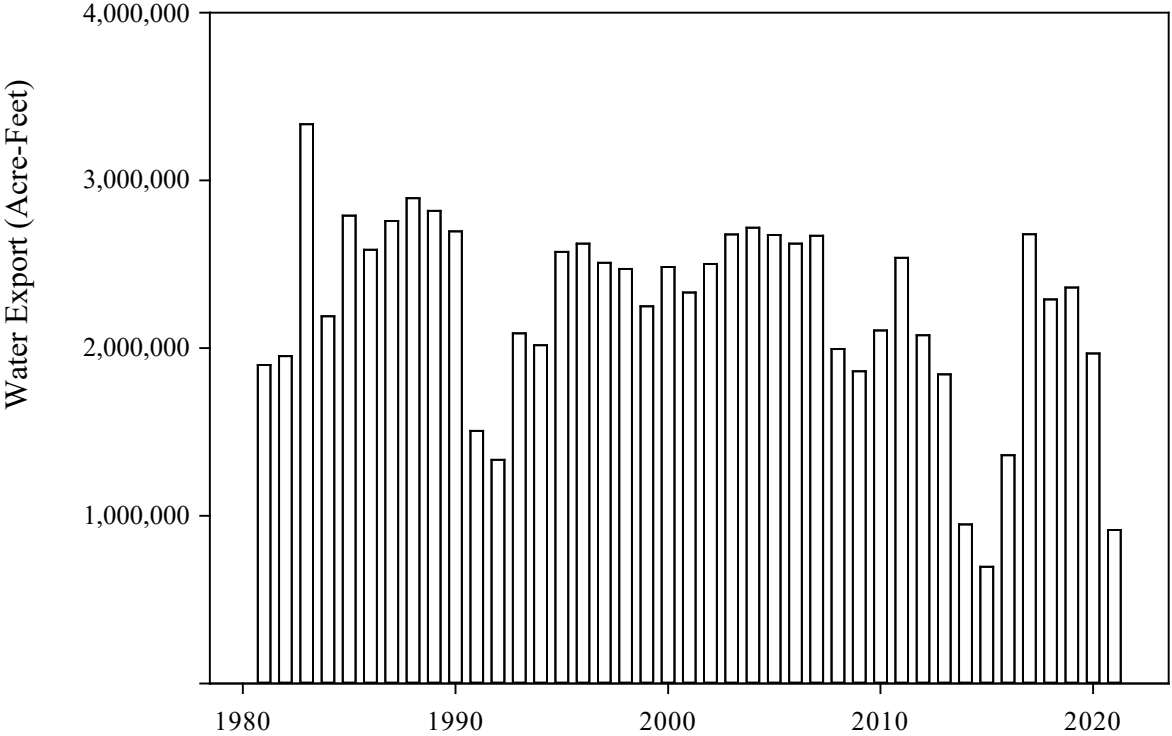


Figure 1. Annual water exports in millions of acre-feet for the Central Valley Project for Water Years 1981-2021.

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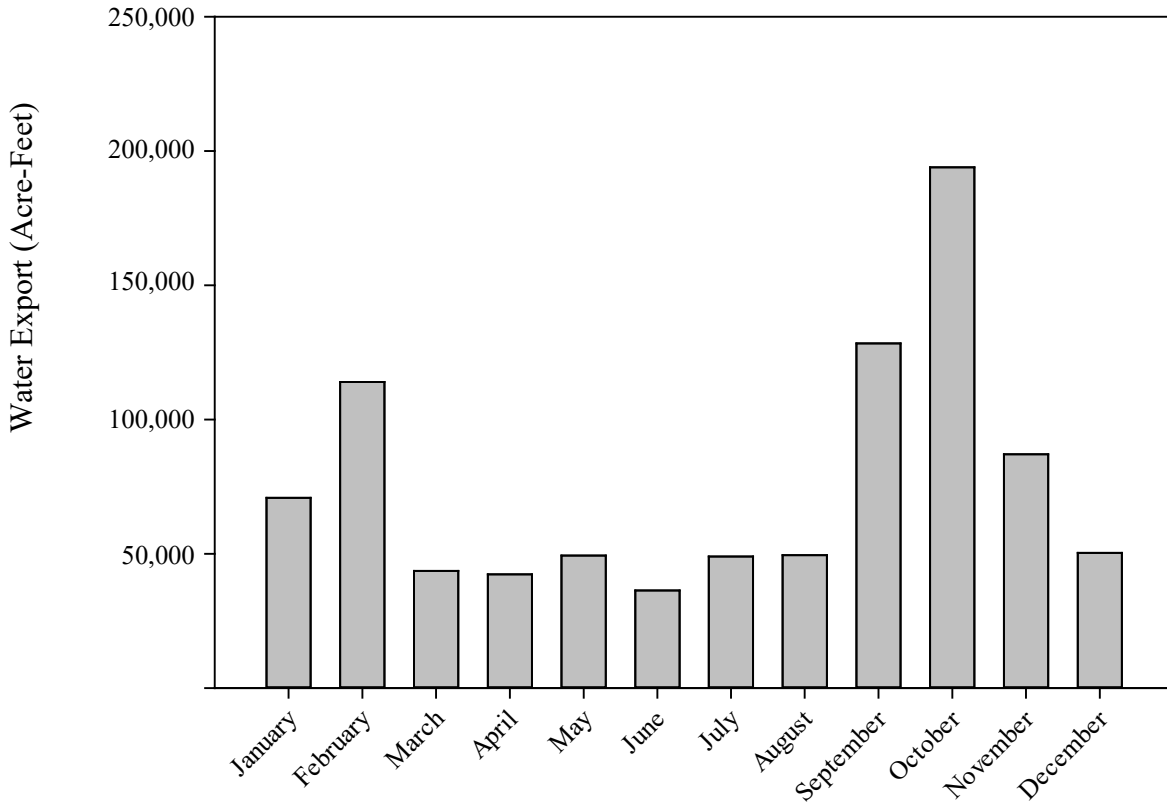


Figure 2. Monthly water exports (in acre-feet) for the Central Valley Project, Water Year 2021.

3.2. Total Salvage and Prevalent Species

Total fish salvage (all fish combined) at the TFCF during WY 2021 was 379,944 (Figure 3), which was the lowest number of fish salvaged since 2015 (295,900; Figure 3) Water Year 2021 was the fifth lowest fish salvage water year on record. This is well below the record high salvage of 37,659,835 fish in WY 2006, most of which were Common Carp (*Cyprinus carpio*).

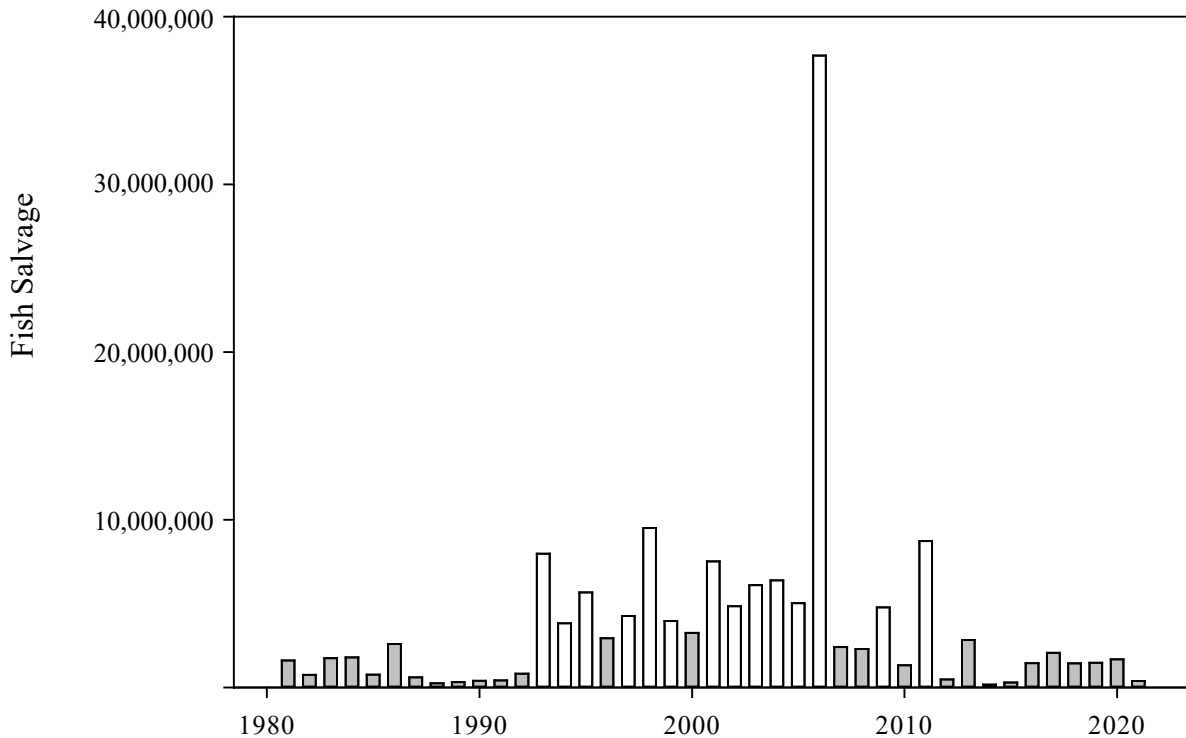


Figure 3. Annual salvage (by water year) of all fish taxa combined at the Tracy Fish Collection Facility.

Threadfin Shad accounted for 59.71% of the total salvage in WY 2021 (Figure 4 and Appendix 1). Threadfin Shad makes up the bulk of salvage in most years, although an exception was when Common Carp accounted for 81.8% (30,495,481) of salvage in WY 2006. The 2nd to 5th most salvaged species were Bluegill (*Lepomis macrochirus*, 15.31%), Largemouth Bass (*Micropterus salmoides*, 4.63%), Shimofuri Goby (*Tridentiger bifasciatus*, 3.73%) and White Catfish (*Ameiurus catus*, 3.43%), respectively. Native species comprised 2.92% of total fish salvage. Listed species (including Chinook Salmon, Steelhead, Longfin Smelt, and Delta Smelt) accounted for 0.33% of salvage. Green Sturgeon (*Acipenser medirostris*) was not salvaged in WY 2021.

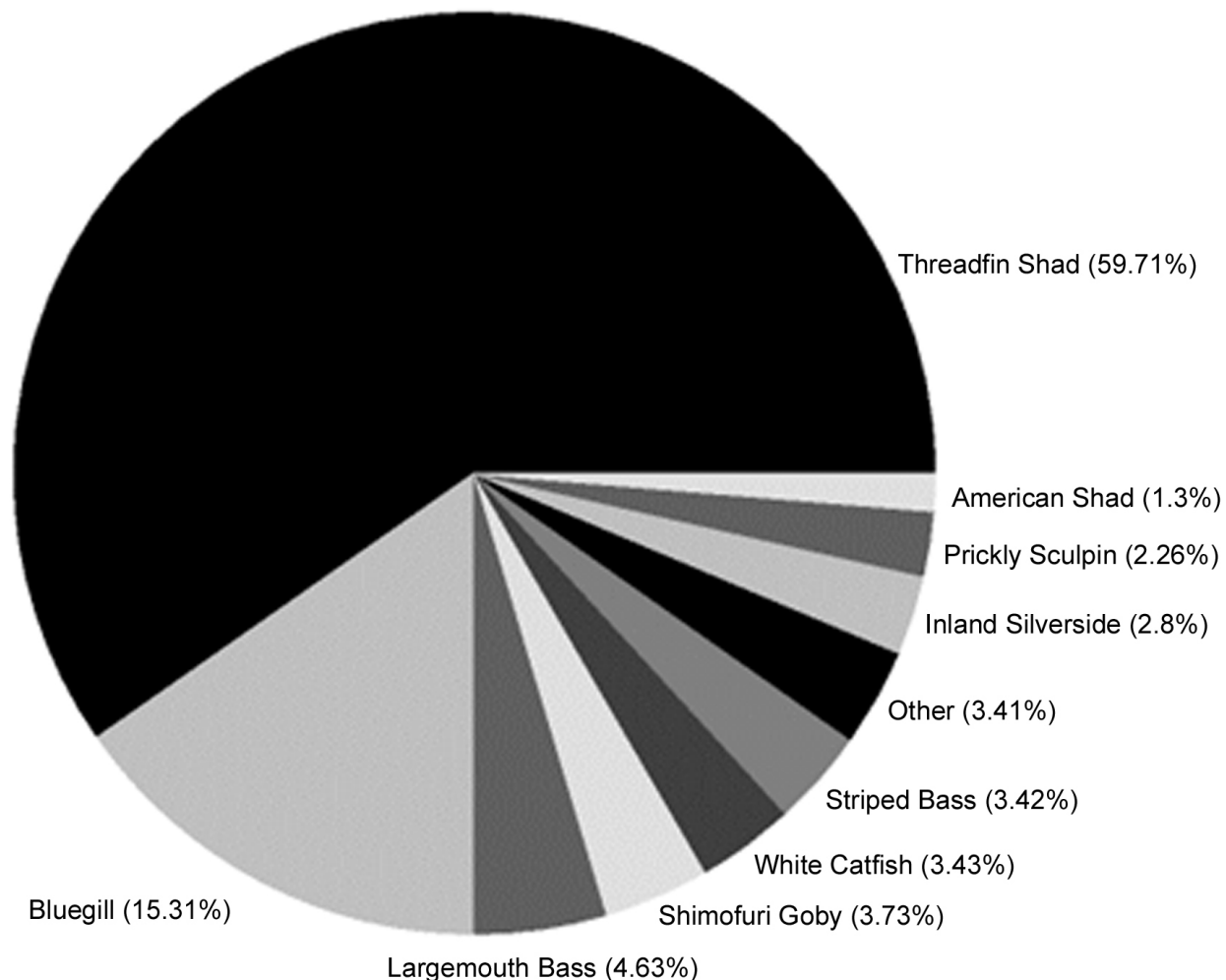


Figure 4. Percentages of the annual salvage for the most prevalent (> 1.0%) species at the Tracy Fish Collection Facility for Water Year 2021.

3.3. Chinook Salmon

The annual salvage of juvenile (< 300 mm FL) Chinook Salmon was 892 for all races and origins combined (Figure 5; Appendix 1) during WY 2021. Salvage of Chinook Salmon in WY 2021 was the lowest since WY 2015 (187) and the second lowest in recorded history at the TFCF. The mean salvage for WYs 2001-2021 (12,341) was only 24.00% of the mean salvage for WYs 1981 to 2000 (51,443).

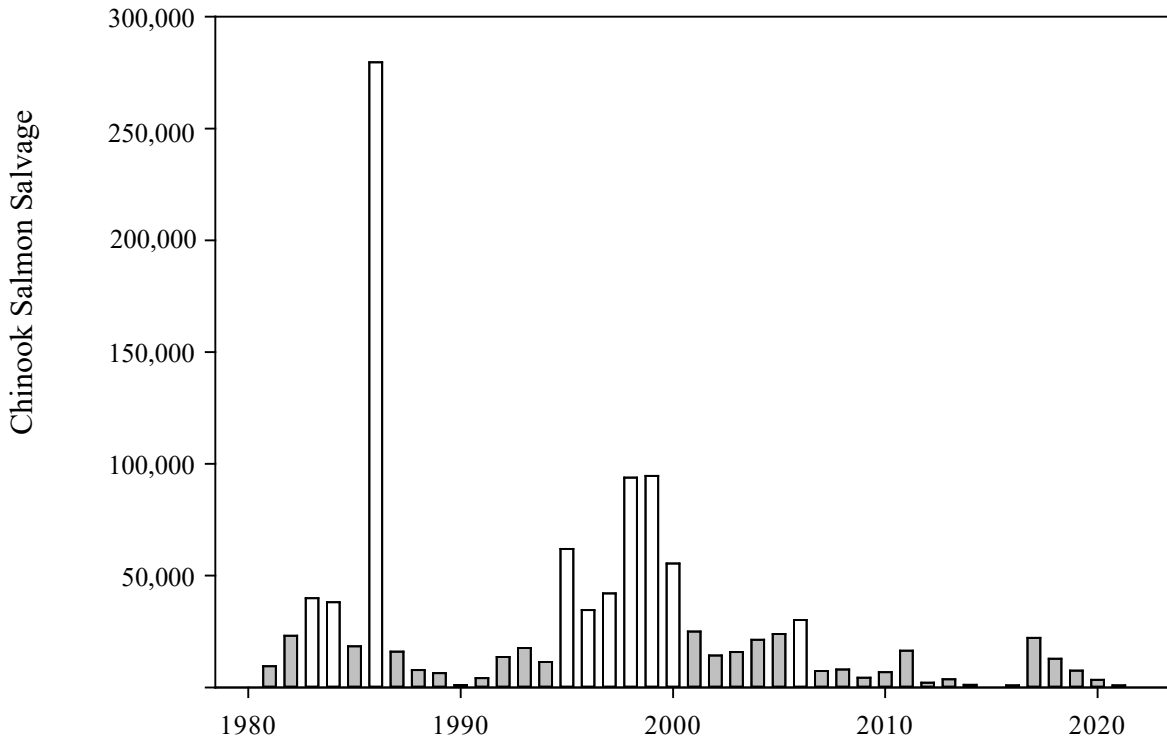


Figure 5. Annual salvage of Chinook Salmon (all races and origins combined) at the Tracy Fish Collection Facility, Water Years 1981-2021.

Wild Chinook Salmon were sampled from February-May with the majority (97.64%) being sampled from April-May (Figure 6). All the known Spring Run wild Chinook Salmon were sampled from March-May. The only known wild Winter Run Chinook Salmon was sampled in March. The majority (99.00%) of wild Fall Run Chinook Salmon were sampled from April-May. Wild Chinook Salmon consisted primarily of Fall Run (32.74%) followed by Spring and Winter-Run sized fish (23.77% and 0.44%, respectively; Table 1). The estimated loss of wild Chinook Salmon was 739 (Table 1).

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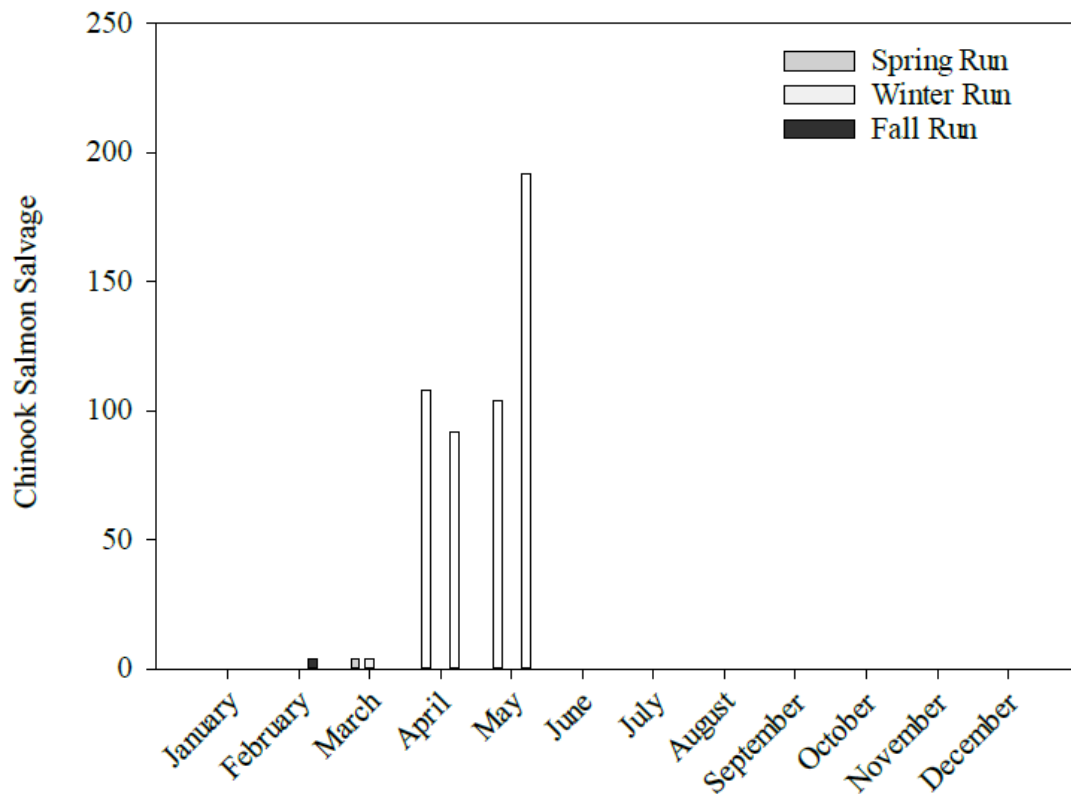


Figure 6. Monthly salvage of Wild Chinook Salmon for three different runs (Spring, Winter, Fall) at the Tracy Fish Collection Facility, Water Year 2021.

Table 1. Chinook Salmon Annual Salvage, Percentages of Annual Salvage, and Losses

Origin	Race	Salvage	Percentage	Loss
Wild	Fall	288	32.28	229
	Late-Fall	0	0	0
	Spring	216	24.22	174
	Winter	4	0.45	4
Total Wild		508	56.95	407
Hatchery	Fall	20	2.24	16
	Late-Fall	28	3.14	25
	Spring	288	32.29	246
	Winter	48	5.38	43
Total Hatchery		384	43.05	330
Grand Total		892		739

3.4. Steelhead

Salvage of wild and hatchery Steelhead (197) during WY 2021 was the lowest since WY 2017 (30). The number of Steelhead salvaged at the TFCF during Water Year 2021 was the sixth lowest in recorded history (Figure 7).

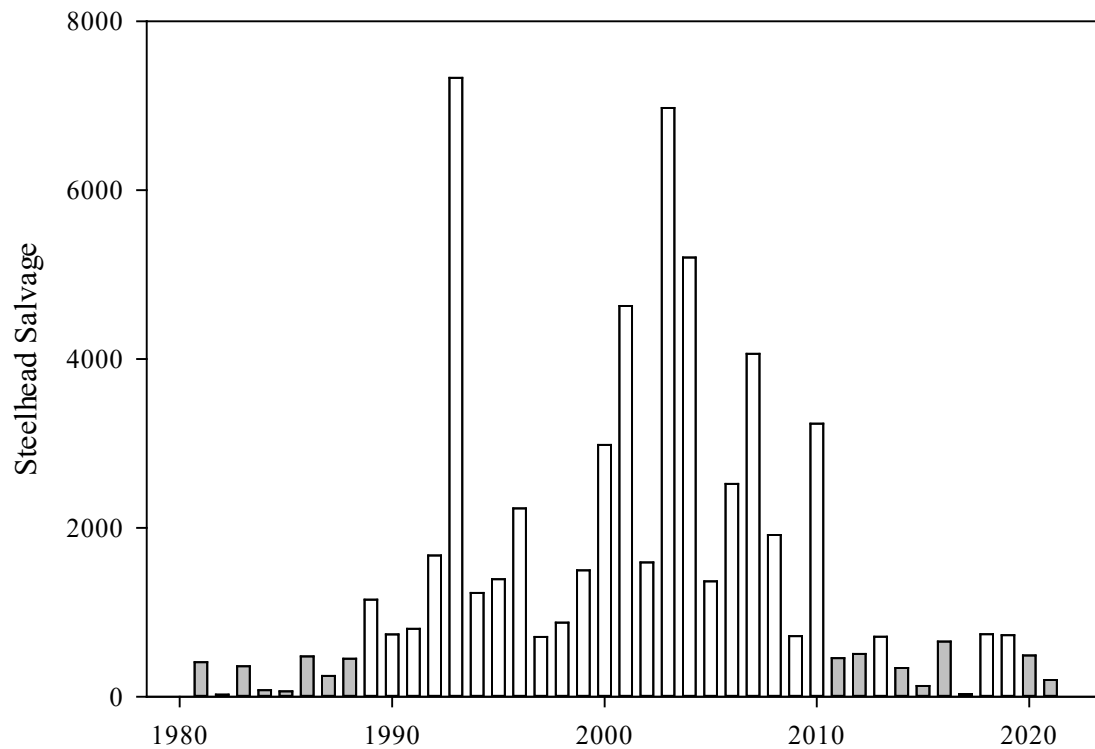


Figure 7. Annual salvage of Steelhead (all origins combined) at the Tracy Fish Collection Facility, Water Years 1981-2021.

Salvaged juvenile Steelhead were primarily of hatchery origin (75.63%; Figure 8). The salvage composition was 48 wild and 149 hatchery fish. Wild Steelhead were salvaged in February through May with the majority of wild Steelhead salvaged in May (Figure 8).

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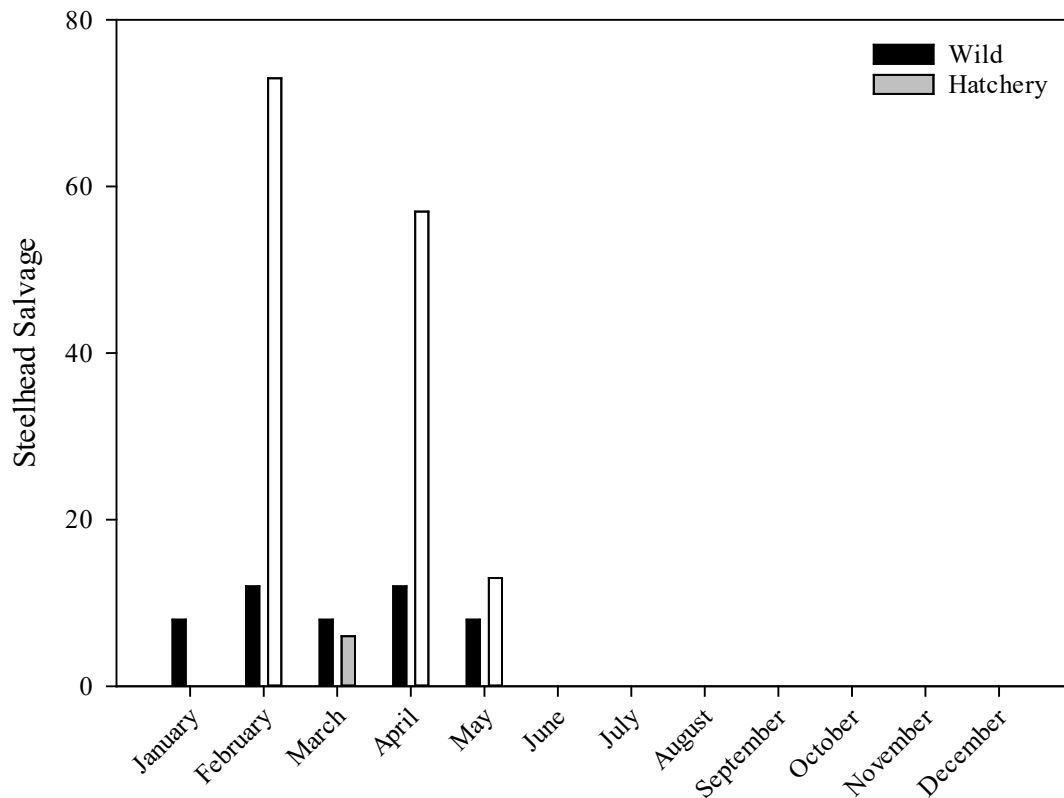


Figure 8. Monthly salvage of hatchery and wild Steelhead at the Tracy Fish Collection Facility, Water Year 2021.

3.5. Striped Bass

The annual salvage of Striped Bass during WY 2021 (12,541) continued the generally reduced salvage trend observed for this species since WY 1994 (Figure 9). Since WY 1994, annual Striped Bass salvage has not been above 1,000,000 except for WY 2001 (Figure 9). Most Striped Bass were salvaged in May (6,066 fish) and June (5,008 fish; Figure 10), with salvage of Striped Bass during these months accounting for 88.30% of total Striped Bass salvage. Striped Bass were salvaged every month of the year, although the lowest salvage occurred in April (4; Figure 10).

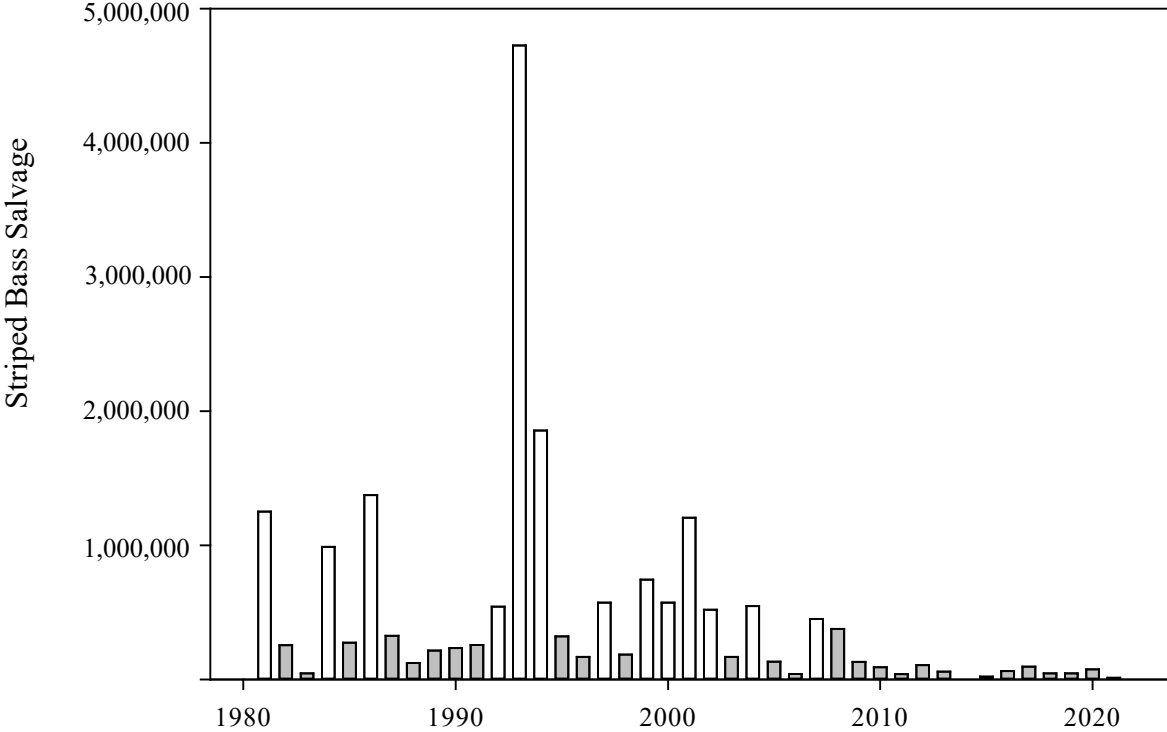


Figure 9. Annual salvage (by Water Year) of Striped Bass at the Tracy Fish Collection Facility, Water Years 1981-2021.

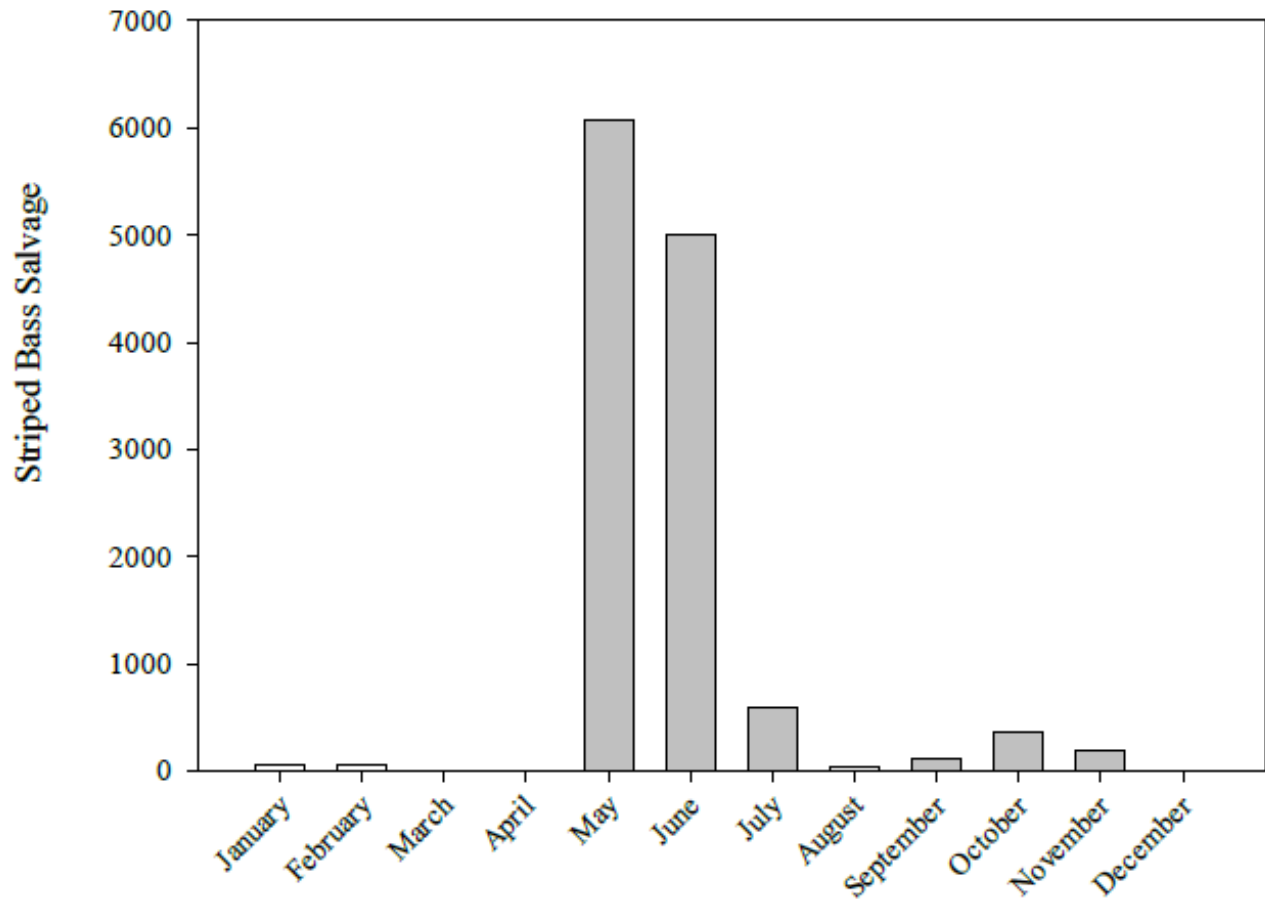


Figure 10. Monthly salvage of Striped Bass at the Tracy Fish Collection Facility, Water Year 2021.

3.6. Delta Smelt

There was no salvage of Delta Smelt in WY 2021 which was the same as WY 2020 (Figure 11). Delta Smelt salvage has steadily declined since 2005 (Figure 11) and has generally followed the same declining annual population trend for this species. Water Years 2005-2021 represented the lowest 17-year period of annual salvage for Delta Smelt on record (range = 0-1,009; Figure 11). No Delta Smelt have been sampled since 2019.

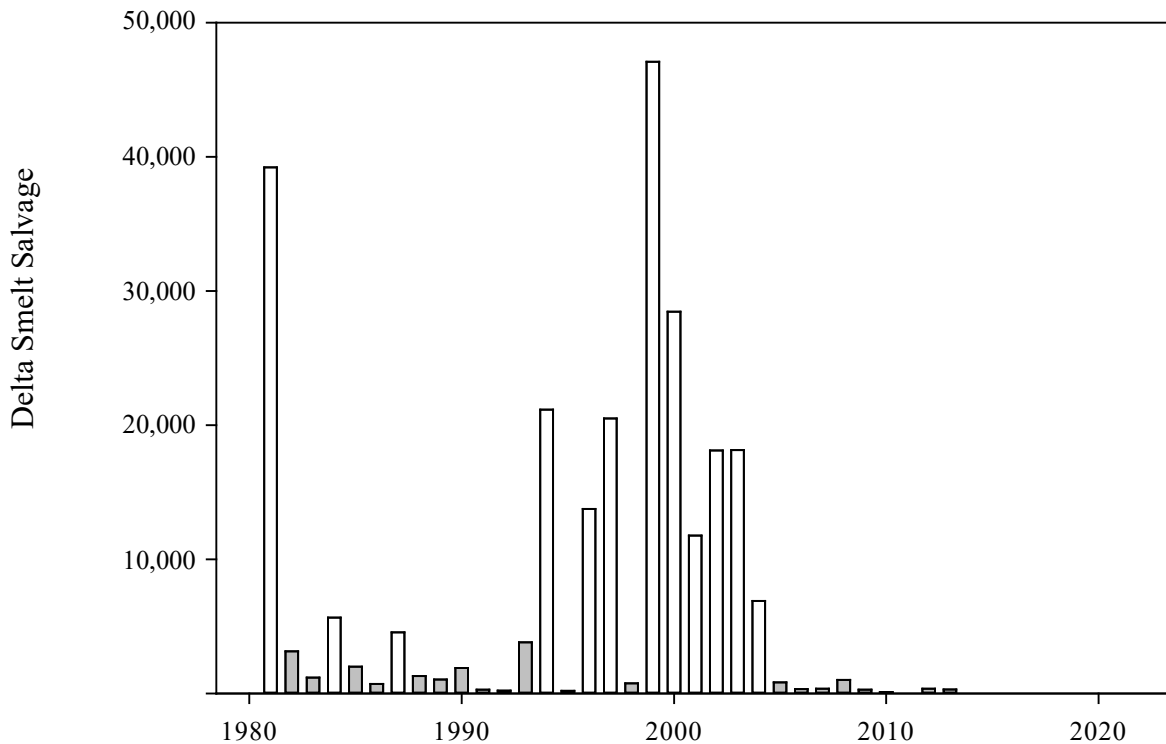


Figure 11. Annual salvage of Delta Smelt at the Tracy Fish Collection Facility, Water Years 1981-2021.

3.7. Longfin Smelt

Salvage of Longfin Smelt during WY 2021 (284) was much lower than WY 2020 (7,595) but greater than WY 2019 (8; Figure 12). The number of Longfin Smelt salvaged during WY 2021 at the TFCF was the 18th highest on record. Five Longfin Smelt less than 20 mm FL were detected in WY 2021.

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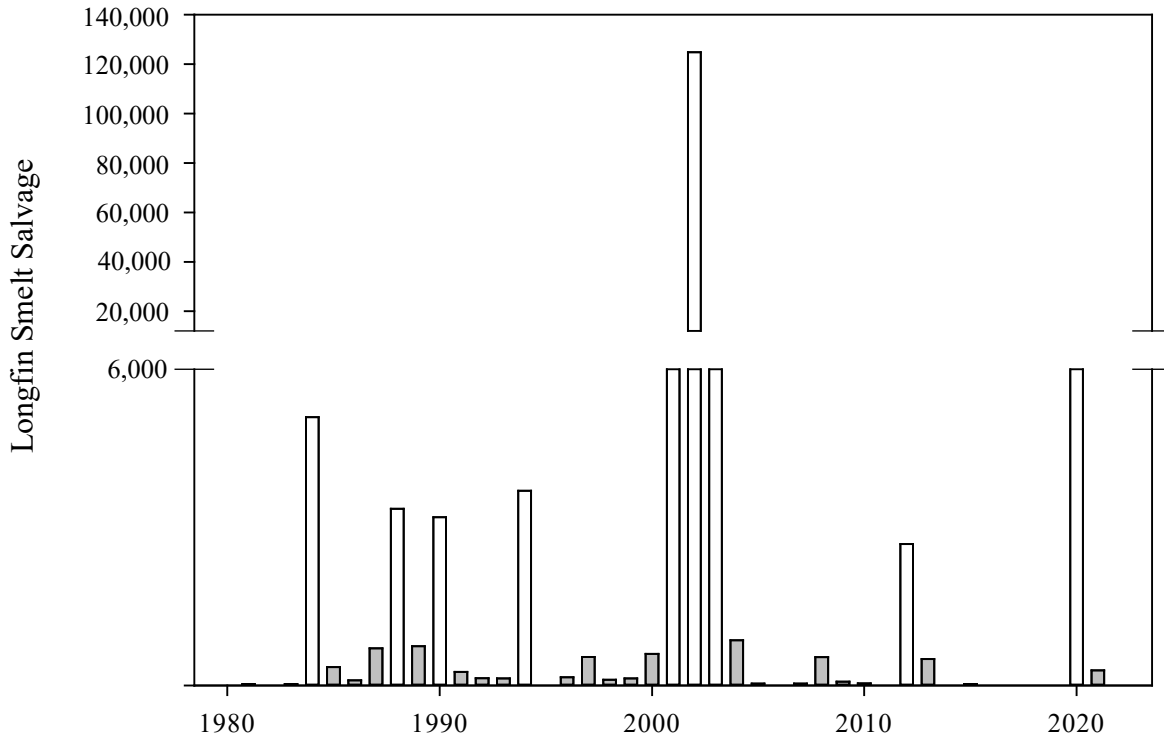


Figure 12. Annual salvage of Longfin Smelt at the Tracy Fish Collection Facility, Water Years 1981-2021.

3.8. Sacramento Splittail

The salvage of juvenile and adult Sacramento Splittail (32) was down from the previous five years. Water year 2021 had the third lowest salvage of Sacramento Splittail on record at the TFCF. Sacramento Splittail salvage has followed a boom-or-bust pattern, often varying year to year by several orders of magnitude (Figure 13). High Sacramento Splittail salvage is generally associated with wet years. Water Year 2021 was considered a low-water year continuing with that pattern.

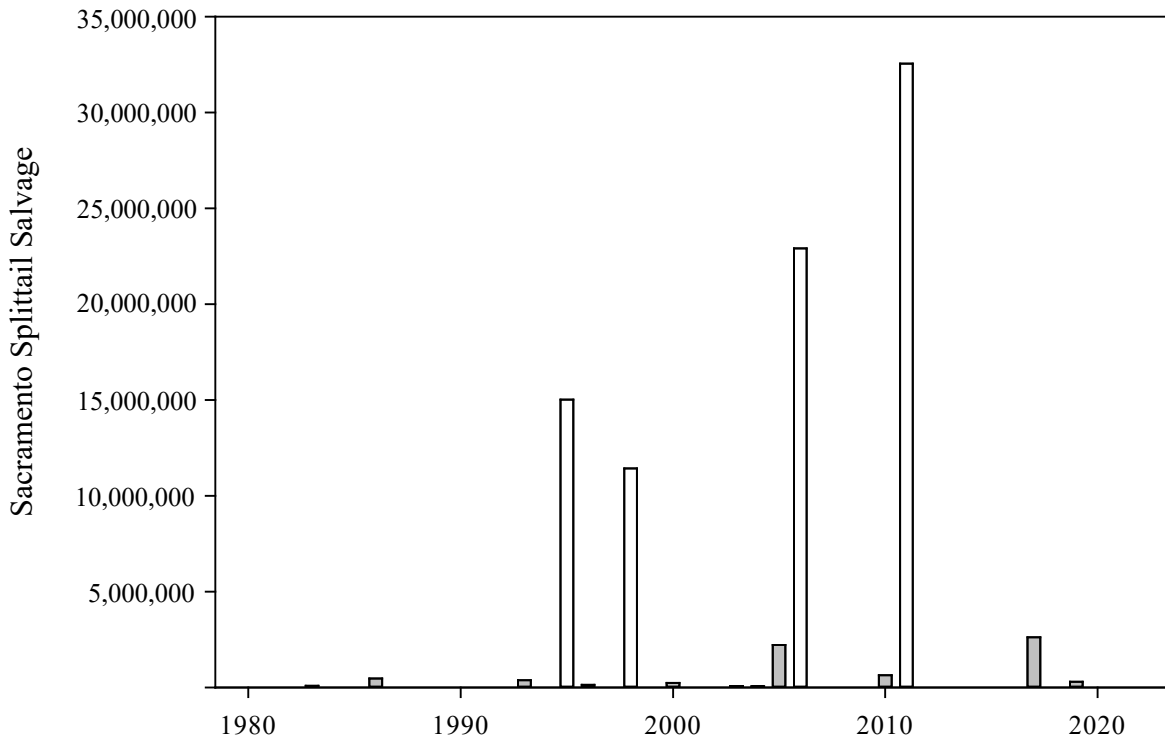


Figure 13. Annual salvage (by Water Year) of Sacramento Splittail at the Tracy Fish Collection Facility, Water Years 1981-2021.

3.9. Threadfin Shad

The salvage of juvenile and adult Threadfin Shad (228,858) during WY 2021 was a decrease from the previous five years (Figure 14). Threadfin Shad salvage at the TFCF during WY 2021 was the 15th smallest salvage at the TFCF since operation began. Like Sacramento Splittail, annual salvages of Threadfin Shad have varied greatly through time (Figure 14). Water Years 2001-2004 represented the highest four-year period of annual Threadfin Shad salvage on record (3.5-5.2 million; Figure 14).

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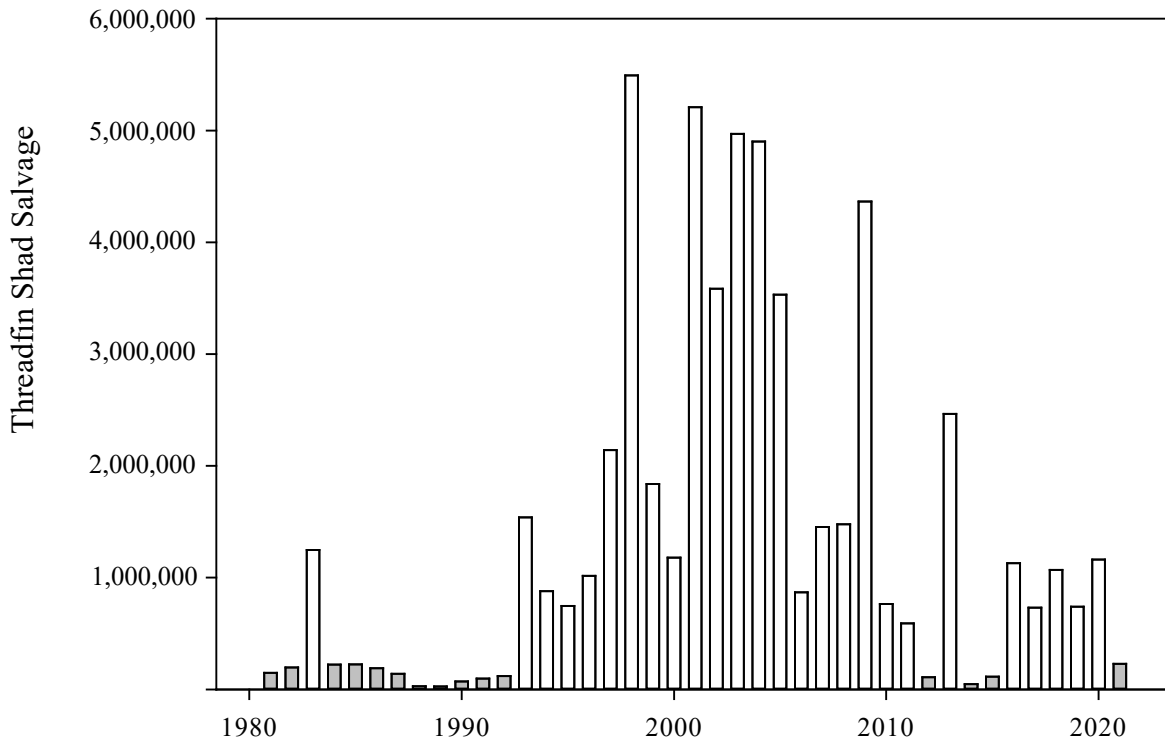


Figure 14. Annual salvage (by Water Year) of Threadfin Shad at the Tracy Fish Collection Facility, Water Years 1981-2021.

The monthly salvage of Threadfin Shad during WY 2021 followed the same seasonal trend as observed in past years. The highest salvage of Threadfin Shad occurred in June through November, although Threadfin Shad were salvaged every month of the year (Figure 15).

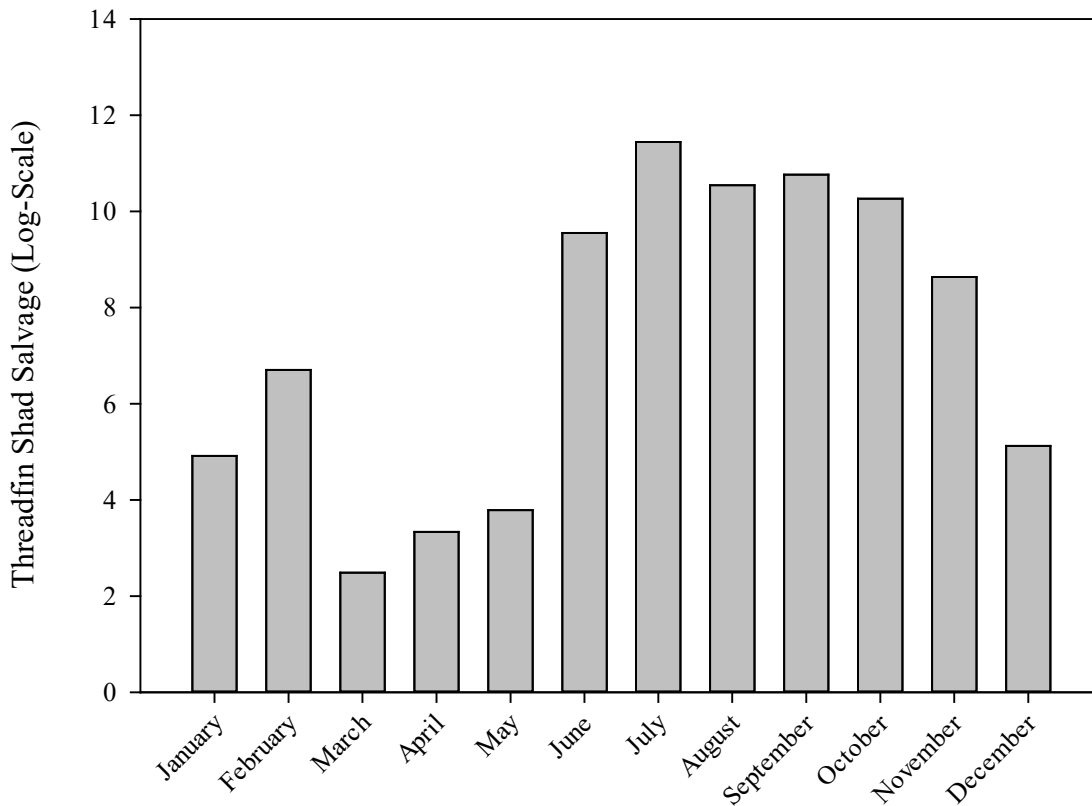


Figure 15. Monthly salvage of Threadfin Shad at the Tracy Fish Collection Facility, Water Years 2021.

4. Operations Summary

The TFCF was in operation 94.80% of WY 2021 (346/365 days) and salvage occurred 89.86% (328/365 days) of WY 2021. Fish counts were only missed 4.50% of the time (196/4,380 fish counts) in WY 2021. A total of 1.22% of fish counts (51 fish counts/4,184 fish counts) had pumping minutes that were shortened from the standard 120 minutes. Those shortened durations ranged from 30 to 90 minutes. These short durations were due to different circumstances (e.g., daylight savings time, screen inspections) but most were due to debris removals. No bypass closures or weight estimations were conducted during WY 2021. Salvage counts extended beyond 30 minutes only two times during the year. These salvage time extensions occurred at daylight savings time and right before pump testing within the TFCF.

A fish facility outage is defined as the inability to (1) properly screen the entire flow (e.g., due to mechanical breakdown, low water conditions, or excessive debris conditions) or (2) conduct fish salvage operations according to mandated operational criteria. When a fish facility outage occurs, exports at JPP may continue and fish counts may be missed. If salvage ceases and it is certain that fish counts will be missed or if salvage inefficiency occurs due to operational issues, the Equipment Operator Supervisor or others designated by the Operation and Maintenance

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(O&M) Division Chief must follow the outage notification decision tree (Appendix 2) or the notification protocol explained in the CDFW memorandum (Appendix 3). There was a total of six planned outages and three unplanned outages in the TFCF (Table 2).

Additionally, although not obligatory, salvage interruptions/no salvage periods due to shutdown of the JPP and/or Decision 1641 (D-1641) requirements are also being reported here. Decision 1641 provides regulatory rules and orders regarding water quality and water right requirements for the Bay-Delta Estuary (State Water Resources Control Board [SWRCB] 2000). These decisions can lead to disruptions to the TFCF salvage and are reported below (Table 2). There was a total of Ten planned outages due to shutdown of the JPP and Decision 1641 requirements (Table 2).

Table 2. Operation Notes for Tracy Fish Collection Facility Outages and Salvage Interruptions due to Shutdown of the C.W. "Bill" Jones Pumping Plant and Decision 1641 requirements.

Type	Start	End	Time	Duration (day)	Duration (hour)	Salvage Interrupted (Y/N)	Export Interrupted (Y/N)	# of Miss Counts
Tracy Fish Collection Facility Outages								
Planned	10/6/2020	10/6/2020	0730-0930	-	2	Y	N	0
Unplanned	10/29/2020	11/8/2020	-	11	-	N	N	0
Unplanned	2/20/2021	2/26/2021	-	7	-	N	N	0
Planned	2/25/2021	2/25/2021	0930-1030	-	1	Y	N	0
Planned	3/15/2021	3/15/2021	0700-1100	-	4	See description	See description	0
Unplanned	5/3/2021	5/3/2021	1200-1230	-	0.5	Y	N	0
Planned	7/14/2021	7/14/2021	0800-1000	-	2	Y	N	1
Planned	7/28/2021	7/28/2021	1130-1230	-	1	Y	N	0
Planned	8/24/2021	8/27/2021	-	4	-	See description	See description	39
Shutdown of the C.W. "Bill" Jones Pumping Plant and Decision 1641 requirements								
Planned	3/4/2021	3/5/2021	-	1	24	Y	Y	12
Planned	3/12/2021	3/13/2021	-	1	24	Y	Y	12
Planned	3/14/2021	3/14/2021	400	-	1	N	N	0
Planned	3/31/2021	4/1/2021	-	1	24	Y	Y	0
Planned	4/2/2021	4/3/2021	-	1	24	Y	Y	12
Planned	4/4/2021	4/5/2021	-	1	24	Y	Y	12
Planned	4/6/2021	4/7/2021	-	1	24	Y	Y	12
Planned	6/10/2021	6/17/2021	-	7	-	Y	Y	84
Planned	6/17/2021	6/17/2021	See description	1	14	Y	Y	6
Planned	6/18/2021	6/18/2021	See description	1	14	Y	Y	6

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4.1. Tracy Fish Collection Facility Outages

10/06/2020 – 10/06/2020 - Removal of sand buildup behind Hydrolox traveling screen No. 5 was completed. Tracy Fish Facility outage occurred 0730-0930; fish salvage resumed at 09:30. No fish counts were missed.

10/29/2020 – 11/08/2020 - On Thursday, October 29, some of the primary louvers at the Tracy Fish Collection Facility could not be lowered completely due to debris accumulation. A dive was conducted on Monday, November 8 to inspect the louver seating, louver guide rods, and the guide rail supports. The dive confirmed that the unseated condition of some louver panels in Bays 3 and 4 that caused gaps in the louver system was due to compacted aquatic vegetation. After clearing the vegetation, the louvers were lowered and seated as designed.

02/20/2021 – 02/26/2021 - Holding tank discharge meter not operational. Flow charts were used temporarily.

02/25/2021 – 02/25/2021 - Hydrolox traveling screen inspection and adjustment was completed.

03/15/2021 – 03/15/2021 - Sand removal at the secondary channel was done coinciding with "0" pumping at JPP. Pumping at JPP resumed at 1200.

05/03/2021 – 05/03/2021 - Work canceled due to high incoming tide. Planned work included taking Utility Wash pump measurements and adjusting Hydrolox traveling screens.

07/14/2021 – 07/14/2021 - Hydrolox traveling screen inspection/maintenance was completed.

07/28/2021 – 07/28/2021 - Hydrolox traveling screen 3 adjustment was completed.

08/24/2021 – 08/27/2021 - Electrical maintenance at the TFCF was completed and the TFCF resumed operation at 13:10 on Friday, August 27, 2021. The JPP was shutdown (i.e., at 0 pumping units) from 09:45 until 13:10 on Friday, August 27, 2021, due to heavy debris accumulation on the trash rack.

4.2. Salvage Interruptions/No Salvage Periods due to Shutdown of the C.W. "Bill" Jones Pumping Plant and Decision 1641 Requirements

03/04/2021 – 03/05/2021 - The pumping facility went down to zero pumps for ~24 hours starting at noon (PST).

03/12/2021 – 03/13/2021 - No pumping at JPP and no salvage at TFCF.

03/14/2021 – 03/14/2021 - Daylight savings time. Pumping/Salvage reduced to 60 minutes for 0400 fish count.

03/31/2021 – 04/01/2021 - Jones Pumping Plant cycling pumps to meet SWRCB D-1641 Delta Outflow requirements. Jones Pumping Plant was shut down at 12:00 on 03/31/2021 and resumed pumping at 12:00 on 04/01/2021.

04/02/2021 – 04/03/2021 - Jones Pumping Plant cycling pumps to meet SWRCB D-1641 Delta Outflow requirements. Jones Pumping Plant was shut down at 12:00 on 04/02/2021 and resumed pumping at 12:00 on 04/03/2021.

04/04/2021 – 04/05/2021 - Jones Pumping Plant cycling pumps to meet SWRCB D-1641 Delta Outflow requirements. Jones Pumping Plant was shut down at 12:00 on 04/04/2021 and resumed pumping at 12:00 on 04/05/2021.

04/06/2021 – 04/07/2021 - Jones Pumping Plant cycling pumps to meet SWRCB D-1641 Delta Outflow requirements. Jones Pumping Plant was shut down at 12:00 on 04/06/2021 and resumed pumping at 12:00 on 04/07/2021.

06/10/2021 – 06/18/2021 - No pumping at the JPP or salvage at the TFCF after 12:00 due to D-1641 Delta Outflow.

06/17/2021 – 06/17/2021 – Jones Pumping Plant intermittently shutdown for testing of JPP pumps. No pumping at the JPP or salvage at the TFCF for 12:00 and 18:00 to 24:00 fish counts. Pumping and salvage minutes reduced to 60 minutes during 08:00 and 16:00 fish counts.

06/18/2021 – 06/18/2021 - Jones Pumping Plant intermittently shutdown for testing of JPP pumps. No pumping at the JPP or salvage at the TFCF for 12:00 and 18:00 to 24:00 fish counts. Pumping and salvage minutes reduced to 60 minutes during 08:00 and 16:00 fish counts.

5. References

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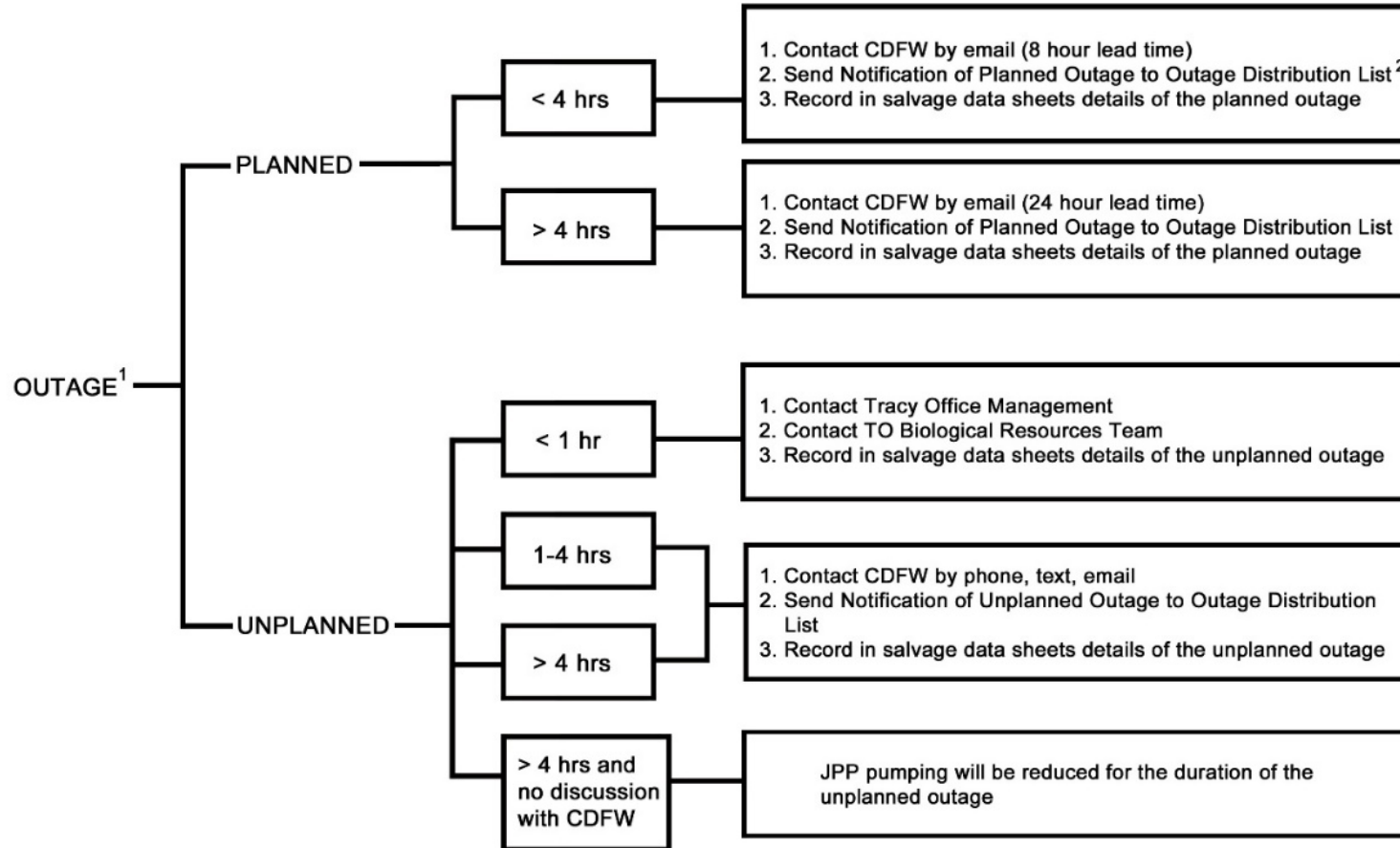
Appendix 1. Annual Salvages and Percentages of Annual Salvage (%) for Fish

Species	2021 Salvage	% Composition	2020 Salvage	% Composition
Threadfin Shad	228,858	59.71	1,161,551	69.16
Bluegill	58,718	15.31	47,507	2.83
Largemouth Bass	17,647	4.63	120,502	7.17
Shimofuri Goby	13,819	3.73	1,614	0.1
Striped Bass	12,541	3.42	74,759	4.45
White Catfish	12,486	3.43	39,833	2.37
Inland Silverside	10,567	2.80	15,877	0.95
Prickly Sculpin	7,369	2.26	43,234	2.57
American Shad	5,026	1.30	136,257	8.11
Rainwater Killifish	2,545	0.66	3,772	0.22
Lamprey Unknown	1,768	0.46	2,204	0.13
Yellowfin Goby	1,667	0.44	2,116	0.13
Western Mosquitofish	1,456	0.38	1,182	< 0.01
Chinook Salmon	892	0.23	3,700	0.22
Channel Catfish	879	0.27	11,612	0.69
Redear Sunfish	874	0.23	1,781	0.11
Golden Shiner	776	0.20	969	0.06
Pacific Lamprey	560	0.15	500	0.03
Black Crappie	536	0.14	4,985	0.3
Rainbow / Steelhead Trout	197	0.06	488	0.03
Longfin Smelt	188	0.05	1,486	0.09
Red Shiner	144	0.04	220	0.01
Bigscale Logperch	140	0.04	453	0.03
Threespine Stickleback	76	0.02	60	< 0.01
Brown Bullhead	54	0.02	76	< 0.01
Warmouth	48	0.01	52	< 0.01
Sacramento Splittail	32	0.01	1,960	0.12
Black Bullhead	24	0.01	86	0.01
Blue Catfish	13	< 0.01	22	< 0.01
Tule Perch	8	< 0.01	30	< 0.01
Common Carp	5	< 0.01	190	0.01
Fathead Minnow	4	< 0.01	8	< 0.01
Green Sturgeon	4	< 0.01	8	< 0.01
Green Sunfish	4	< 0.01	0	0.00
Sacramento Sucker	4	< 0.01	481	0.03

Water Year 2021
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Species	2021 Salvage	% Composition	2020 Salvage	% Composition
Shokihaze Goby	4	< 0.01	0	0.00
Smallmouth Bass	4	< 0.01	0	0.00
Spotted Bass	4	< 0.01	0	0.00
Wakasagi	4	< 0.01	32	< 0.01
Goldfish	0	0.00	8	< 0.01
Chinese Mitten Crab	0	0.00	4	< 0.01

Appendix 2. Notification Decision Tree.



¹ An outage is defined as the inability to (1) properly screen the entire flow (e.g., due to mechanical breakdown, low water conditions, or excessive debris conditions) and (2) conduct fish salvage operations according to mandated operational criteria.

² Outage Distribution List includes contacts for Reclamation (TO, TO Bio Res, BDO, CVO), CDFW, NMFS, and USFWS.

**Appendix 3. State of California Department of Fish and Wildlife
State Water Project and Central Valley Project Delta Fish Facility
Notification Procedures for Planned and Unplanned Outages
Memorandum**

Water Year 2021
TFCF Fish Salvage and Operations

State of California
Department of Fish and Wildlife



M e m o r a n d u m

Date: January 23, 2019

To: Mr. Dave Duval, Department of Water Resources
Mr. Carl Torgersen, Department of Water Resources
Mr. John Leahigh, Department of Water Resources
Ms. Tracy Hinojosa, Department of Water Resources
Mr. Allen Lindauer, U. S. Bureau of Reclamation

From: 
Mr. Gregg Erickson, Regional Manager
California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: State Water Project and Central Valley Project Delta Fish Facility Notification Procedures for Planned and Unplanned Outages

This memorandum outlines the interagency contact procedures for planned and unplanned outages at the State Water Project (SWP) and Central Valley Project (CVP) fish salvage facilities. This replaces the previous memorandum distributed on November 7, 2013.

A fish facility outage is defined as inability to (1) properly screen the entire export flow (e.g., due to mechanical breakdown, low water conditions, or excessive debris conditions) and (2) conduct fish salvage operations according to protocol.

If you have questions or require further information, please contact Mr. Geir Aasen, California Department of Fish and Wildlife (CDFW) Salvage Environmental Scientist, at (209) 234-3672 (office), (209) 639-2750 (cellular), or by email at Geir.Aasen@wildlife.ca.gov.

Planned Outages

For all *planned outages* conducted for *normal maintenance and repair work* (e.g., predator clean-outs, normal maintenance procedures, repairs to valves and controls), contact the CDFW Salvage Environmental Scientist by email at least 8 hours in advance of outages lasting less than 4 hours and at least 24 hours in advance of outages more than 4 hours in duration.

To minimize impact of outages on salvage and the take of listed species, it is best to consult with the CDFW Salvage Environmental Scientist before scheduling outages.

Unplanned/Emergency Outages

The procedure and contact list for *unplanned outages or emergencies* will be as follows:

For unplanned outages greater than 1 hour and less than 2 hours, please notify the CDFW Salvage Environmental Scientist by phone, text, or email immediately. Notification by phone or text is needed on weekends (Friday after 4:30 p.m. through 8:00 a.m. Monday) since email is generally not checked on weekends. If discussion by phone, text, or email is not possible, leave a message detailing the source, was pumping continued, and estimated duration of the outage. The CDFW Salvage Environmental Scientist will contact the fish facility as soon as the message is picked up.

Section H. Other Information

Department of Water Resources
U. S. Bureau of Reclamation

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January 23, 2019

For unplanned outages greater than 2 hours and less than 4 hours, please contact (in order) an individual on the following list:

Geir Aasen	(209) 639-2750 work cell phone (209) 234-3672 office phone and voice mail (209) 712-8550 home phone (cell phone)
Walter Griffiths	(209) 403-0518 work cell phone and voice mail (209) 234-3671 office phone and voice mail (650) 219-0149 home phone (cell phone)
Jim Starr	(209) 470-3674 work cell phone and voice mail (209) 234-3440 office phone and voice mail (209) 823-2603 home phone (cell phone)

If the outage exceeds 4 hours and there has been no discussion with the above CDFW staff, pumping should be reduced as soon as feasible for the duration of the outage.

Please post this information for all parties to read or incorporate this information into your agency's posted emergency notification procedures and contact list.

Thank you for your cooperation.

cc: California Department of Water Resources
Ms. Barbara McDonnell
Mr. Paul Massera
Ms. Cynthia Schut
Ms. Sheryl Moore

U. S. Bureau of Reclamation
Mr. Carl Dealy
Mr. Joel Imai
Mr. Rene Reyes
Mr. Yow-min Tsao

California Department of Fish and Wildlife
Mr. Jim Starr
Mr. Walter Griffiths
Mr. Geir Aasen