

Extinction Watch: No Delta Smelt Collected in CDFW Fall Survey for Sixth Year in a Row

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For the sixth year in a row, no Delta Smelt have been collected in the California Department of Fish and Wildlife's Fall Midwater Trawl (FMWT) Survey in the Sacramento-San Joaquin River Delta from September through November 2023.

Once the most abundant species in the entire estuary, the Delta Smelt has declined to the point that it has become virtually extinct in the wild, due to massive water diversions from the Delta to agribusiness oligarchs and water brokers, combined with toxics, water pollution and invasive species.

Disparaged as a "little minnow" by agribusiness oligarchs and right-wing talking heads like Sean Hannity, the important role this fish plays in the ecosystem can't be overemphasized.

"Delta Smelt are the thread that ties the Delta together with the river system," said Caleen Sisk, Chief of the Winnemem Wintu Tribe. "We all should understand how that affects all the water systems in the state. They are the irreplaceable thread that holds the Delta system together with Chinook salmon."

The 2 to 3 inch fish, found only in the Delta, is an "indicator species" that shows the relative health of the San Francisco Bay/Delta ecosystem. When no Delta Smelt are found in six years of a survey that has been conducted since 1967, the estuary is in a serious ecological crisis. The Delta smelt is listed as "endangered" under both the federal Endangered Species Act and the California Endangered Species Act.

"No Delta Smelt were collected at any stations from September through November," wrote Taylor Rohlin, Environmental Scientist for the CDFW Bay Delta Region, in a memo to Erin Chappell, Regional Manager for the CDFW Bay Delta Region on November 23. "The 2023 September- November index (0) is tied with 2016 and 2018-2022 as the lowest index in FMWT history." The full memo is available here: [nrm.dfg.ca.gov/...](http://nrm.dfg.ca.gov/)

She said the absence of Delta Smelt catch in the FMWT is "consistent among other surveys in the estuary." For example, the Enhanced Delta Smelt Monitoring (EDSM) survey of the U.S. Fish and Wildlife Service (USFWS) caught only 5 Delta Smelt among 10 sampling weeks (between 9/4 and 11/10) comprised of 1,360 tows (U.S. Fish and Wildlife Service 2023).

Since 2022, the Interagency Ecological Program (IEP), a consortium of nine member agencies, including three State departments and six Federal agencies, has experimentally reintroduced thousands of hatchery-raised Delta smelt from the UC Davis captive breeding facility in Byron back into the estuary. On December 21, 2023, the IEP reintroduced 6,261 Delta Smelt into the Sacramento River below Rio Vista.

The San Francisco Bay-Delta and Lodi Fish and Wildlife offices of the U.S. Fish and Wildlife Service and their partners have been working on a plan to begin releasing hatchery-raised Delta Smelt by 2024 to bolster the threatened fish's wild population under terms of the 2019 biological opinion on the long-term operations of the federal Central Valley Project and the California State Water Project.

“One big step in support of supplementation by 2024 is experimental releases of relatively small numbers of hatchery-raised Delta Smelt into the wild, which began in December 2021. This will increase our knowledge about how best to carry out the releases logistically and will help us make any needed modifications to our plans before attempting larger releases,” the agency stated. More information: www.fws.gov/...

Longfin smelt population crash continues.

The Longfin Smelt (*Spirinchus thaleichthys*), a cousin of the Delta Smelt, is also in dramatic decline as evidenced by the survey results. Rohlin said the 2023 Longfin Smelt September-November index is 288 and an 11% decrease from the previous year (the 2022 September-November index was 321; FMWT Indices (ca.gov)).

“Four Longfin Smelt were collected at index stations in September for an index of 6. In October, 52 were collected for an index of 79. In November, 77 were collected for an index of 203 (Table 2). Four Longfin Smelt were collected at non-index stations during the three- monthly surveys,” Rohlin stated.

“The majority (>97%) of Longfin Smelt caught thus far have been age-0 (Table 4). Cutoff lengths for age classes were assigned as described in Baxter (1999), according to Rohlin. Longfin Smelt catch was highest in September at Suisun Bay, highest in October at Suisun Bay, and highest in November at San Pablo Bay (Table 3). The Longfin Smelt index includes all ages,” she wrote.

This memo includes only information pertaining to Delta Smelt and Longfin Smelt. The full results of the survey through December with information on Striped Bass, Threadfin Shad, American Shad and Sacramento Splittail won't be posted online until later this month or in January: apps.wildlife.ca.gov/...

On December 22, San Francisco Baykeeper filed a lawsuit against the US Fish and Wildlife Service for violating the Endangered Species Act (ESA) in its failure to issue a final rule on the petition to list the SF Bay-Delta population of Longfin Smelt (*Spirinchus thaleichthys*) as an endangered species.

The agency's proposal to list Longfin Smelt is the result of a series of petitions to and lawsuits against the agency, going back to 1992, according to the Baykeeper. The most recent monitoring data for longfin smelt in San Francisco Bay reveals that populations have crashed more than 99 percent, compared to when monitoring first started in 1967.

Collapse of Delta and Longfin Smelt is part of larger ecosystem decline.

The near extinction of Delta Smelt in the wild and the collapse of Longfin Smelt in the estuary is part of the larger Pelagic Organism Decline (POD) caused by massive water diversions from the Delta by the state and federal water projects, along with toxics, water pollution and invasive species.

Between 1967 and 2020, the state's Fall Midwater Trawl abundance indices for striped bass, Delta smelt, longfin smelt, American shad, splittail and threadfin shad have declined by 99.7, 100, 99.96, 67.9, 100, and 95%, respectively, according to the California Sportfishing Protection Alliance.

Taken as five-year averages (1967-71 vs. 2016-20), the declines for striped bass, Delta smelt, longfin smelt, American shad, splittail and threadfin shad are 98.1, 99.8, 99.8, 26.2, 99.3 and 94.3 percent, respectively.

The collapse of pelagic fish species in the Delta occurs at the same time that Sacramento River salmon populations have declined dramatically. Recreational and commercial salmon fishing was closed this year on the ocean waters of California and most of Oregon and all recreational salmon fishing was closed on all California rivers this year, due to the collapse of fall-run Chinook populations on the Sacramento and Klamath Rivers: www.recordnet.com/...

Meanwhile, endangered winter-run and spring-run Chinook populations on the Sacramento River and its tributaries continue to move closer and closer to extinction, due to poor water and fishery management by the state and federal governments.

The Fall Midwater Trawl (FMWT), conducted since 1967 when the State Water Project went into operation, reports on the relative abundance and distribution of upper-estuary pelagic species including (but not limited to) Delta Smelt (*Hypomesus transpacificus*), Longfin Smelt (*Spirinchus thaleichthys*), age-0 Striped Bass (*Morone saxatilis*), Threadfin Shad (*Dorosoma petenense*), American Shad (*Alosa sapidissima*), and Splittail (*Pogonichthys macrolepidotus*).

The FMWT samples 130 stations each month from September to December, and those stations range from San Pablo Bay upstream to Stockton on the San Joaquin River, to near Hood on the Sacramento River, and into Cache Slough and through the Sacramento River Deep Water Ship Channel (SRDWSC).

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First Snow Survey of the Season Finds Below Average Conditions for California

California Department of Water Resources, 01/02/24

The Department of Water Resources (DWR) today conducted the first snow survey of the season at Phillips Station. The manual survey recorded 7.5 inches of snow depth and a snow water equivalent of 3 inches, which is 30 percent of average for this location. The snow water equivalent measures the amount of water contained in the snowpack and is a key component of DWR's water supply forecast. Statewide the snowpack is 25 percent of the average for this date.

After one of the largest snowpacks on record last season, the start of this water year has been dry despite some recent storms in the last weeks of December that provided a small boost in the snowpack. While state reservoirs are still above average for this time of year and strong El Niño conditions are present in the Pacific Ocean, the outlook for the rest of the winter remains highly uncertain.

"California saw firsthand last year how historic drought conditions can quickly give way to unprecedented, dangerous flooding," said DWR Director Karla Nemeth. "Although El Niño does not guarantee an above average water year, California is preparing for the possibility of more extreme storms while increasing our climate resilience for the next drought."

DWR's electronic readings from 130 stations placed throughout the state indicate that the statewide snowpack's snow water equivalent is 2.5 inches, or 25 percent of average for this date, compared to 185 percent on this date last year.

"While we are glad the recent storms brought a small boost to the snowpack, the dry fall and below average conditions today shows how fast water conditions can change," said DWR's Snow Surveys and Water Supply Forecasting Unit Manager Sean de Guzman. "It's still far too early to say what kind of water year we will have, and it will be important for Californians to pay attention to their forecasts and conserve water, rain or shine."

Last year, California experienced climate whiplash when the driest three year-period on record ended with extreme storm events in January and March that caused damage and flooding across the state. These extreme weather events highlight the need for all Californians to prepare for flood risk. DWR is working with tribal, federal, state, and local partners to provide flood resources and training to communities across the state.

The State-Federal Flood Operations Center (FOC) has pre-positioned flood fight materials at more locations across the state and is starting this winter with more supplies on hand, including 2.2 million more sandbags. This fall, DWR coordinated pre-flood season meetings with emergency response agencies across the state and organized 38 flood-fight trainings for city, county, state and tribal agencies to prepare for possible local emergencies.

To prepare for flooding, all Californians should follow three basic steps:

- Be aware of your risk – know whether your home is downslope of a burn area or in a floodplain; pay attention to weather forecasts; listen to local authorities.
- Be prepared – always have an emergency evacuation kit ready; be prepared to evacuate early; have a plan for where you will go in an emergency.
- Take action – subscribe to your local emergency providers to get updated information. If local authorities issue an evacuation order, do not delay, follow local guidelines for evacuation and never attempt to drive through a flooded roadway.

One year ago, the January survey at the Phillips location showed a water content of 177 percent of average and was followed by a series of damaging atmospheric river storms in January and March that caused flood impacts across the state and produced one of the largest snowpacks on record.

In addition to deploying resources including over 1.9 million sandbags across the state last year, the FOC coordinated a joint state, federal and local response to snowmelt-driven flooding concerns and prepared for the historic snowmelt by providing hydraulic and hydrologic modeling and snowmelt forecasts that allowed agencies to deploy resources, reinforce levees and protect communities.

On average, the Sierra snowpack supplies about 30 percent of California's water needs. Its natural ability to store water is why the Sierra snowpack is often referred to as California's "frozen reservoir." Data from these snow surveys and forecasts produced by DWR's Snow Surveys and Water Supply Forecasting Unit are important factors in determining how DWR manages the state's water resources. Due to last year's above average conditions and historic snowpack, a total of 3.5 million acre-feet of water was captured in State Water Project (SWP) reservoirs. Lake Oroville, the SWP's largest reservoir, is currently at 130 percent of average to date and state water managers are prepared to capture and store as much water as possible.