

Memorandum

Date: 04/16/2021

To: Gregg Erickson
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Bay Delta Region

From: Adam Chorazyczewski
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Subject: 2021 Delta Smelt Relative Abundance Index from the Spring Kodiak Trawl

The 2021 Spring Kodiak Trawl (SKT) Delta Smelt index of relative abundance was 0 for the first time since the project's inception (Figure 1). The SKT monitors the adult Delta Smelt spawning stock, and these results emphasize that the 2021 spawning stock has dipped below the detection limits of the survey.

The SKT index is calculated using 39 stations, each sampled monthly from January through April (156 sampling events). In 2021, 151 sampling events were conducted, no Delta Smelt were caught. This index value of 0 continues the extensive decline observed since 2015.

Delta Smelt observations have been rare for all monitoring programs. From January 1st through March 25th of 2021, US Fish and Wildlife's Enhanced Delta Smelt Monitoring program (EDSM) completed 1,182 sampling events using similar gear and detected 2 Delta Smelt. Both Delta Smelt were collected in the Sacramento Deep Water Shipping Channel, one on January 6th (fork length = 51 mm) and one on January 26th (fork length = 47 mm). SKT has one non-index station in the Sacramento Deep Water Shipping Channel (Figure 2), however there were no Delta Smelt detected there in 2021. CDFW 20-mm survey has detected a juvenile Delta Smelt (Fork length = 25 mm) at station 719 on May 6th, indicating that a spawning event occurred in the Sacramento Deep Water Shipping Channel. Two additional Delta Smelt were collected in January for Fish Conservation and Culture Lab from the SDWSC, one on January 15th and January 21st.

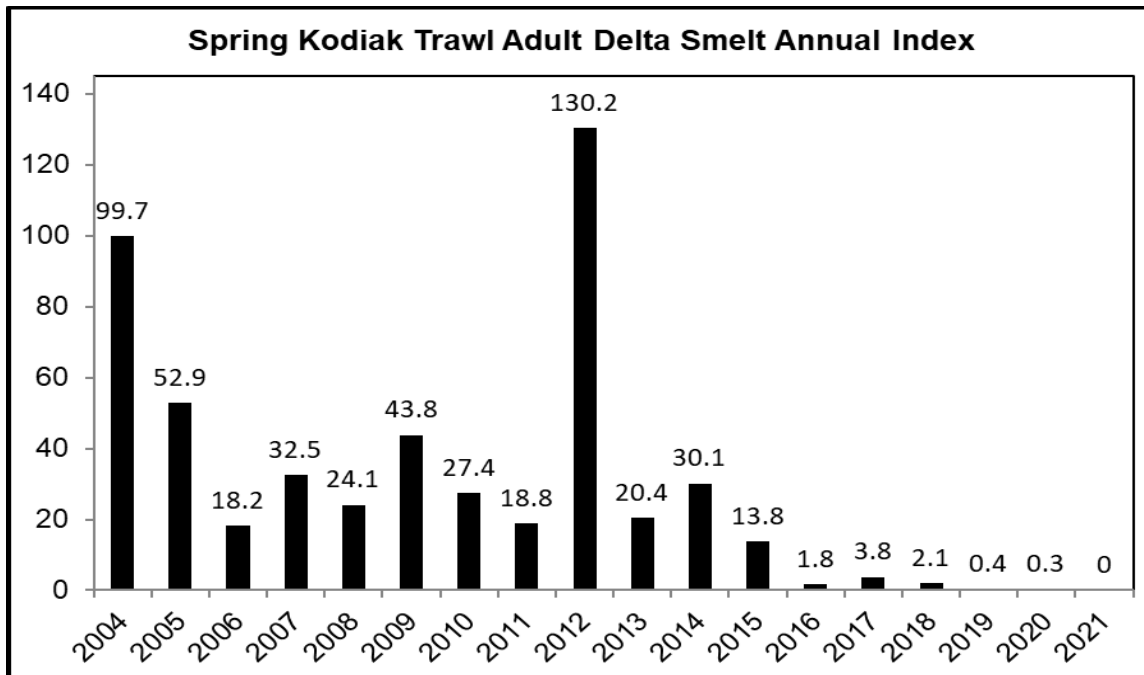


Figure 1. The CDFW's Spring Kodiak Trawl Delta Smelt index, 2004-2021.

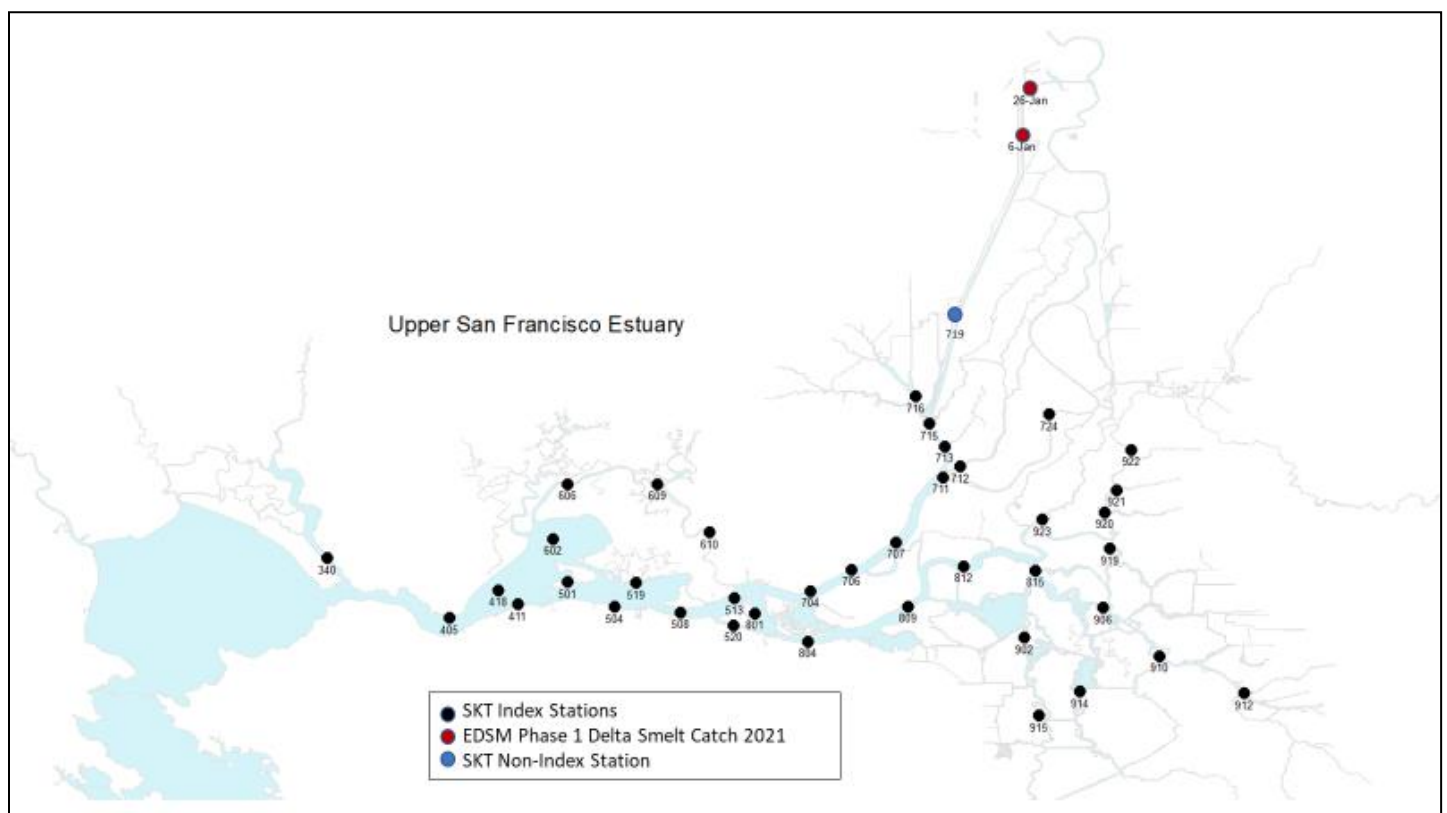


Figure 2. Map of the upper San Francisco Estuary showing the CDFW Spring Kodiak Trawl index stations, non-index stations, and EDSM Delta Smelt catch.

Index Methods

SKT operates annually to track the distribution, relative abundance, and spawning condition of adult Delta Smelt throughout its historic range in the upper San Francisco Estuary. The SKT is conducted monthly from January to May and was initiated in 2002. The methods were standardized in 2004 and a Delta Smelt index was first developed in 2012.

