



CALIFORNIA WETFISH PRODUCERS ASSOCIATION



SK Grant: Preliminary Findings

CWPA Annual Meeting

Tayler Fewell

3/22/2023



Outline

Highlights

Background on project

Methods

Preliminary Data and Observations

Questions?



Highlights

- Sardines have been present and captured by “live-bait” operators at five ports in SCB from **10/2022 - 03/2023**
- Observed SST ranged from **12 to 20° C**
- Sardine length indicates a **decreasing** trend in size from Autumn 2022 to Winter 2023



Background

- The SSP is defined to occur in SCB when SST are 16.7°C or higher
- The SST in SCB often oscillates around this threshold, suggesting that stock mixing likely occurs
- SSP is unmanaged in US waters
- All sardine landed in CA, regardless of SST, are reduced from NSP quota



Research Objective

- To assess the year-round persistence of sardine in the SCB and identify their stock identification
- To investigate the fine-scale temporal and spatial distribution of sardine in the SCB over a duration of 19 months
- The CWPFA were funded through a NOAA Saltonstall-Kennedy grant

Data Sources

Live-bait fishermen throughout SCB

Monthly catch samples from purse seine operators through EFPs

Historic log-book data

Incidental sardine observation reports

Egg and larval data from CalCOFI collection

Methods



Collecting and aggregating novel data sources (live-bait and commercial purse-seine collections)

Aggregating data from historic data collections (fishing logs, CalCOFI survey data, and incidental observation logs)

Methods



Data will be analyzed in part by comparing length, age at length by month, and SST

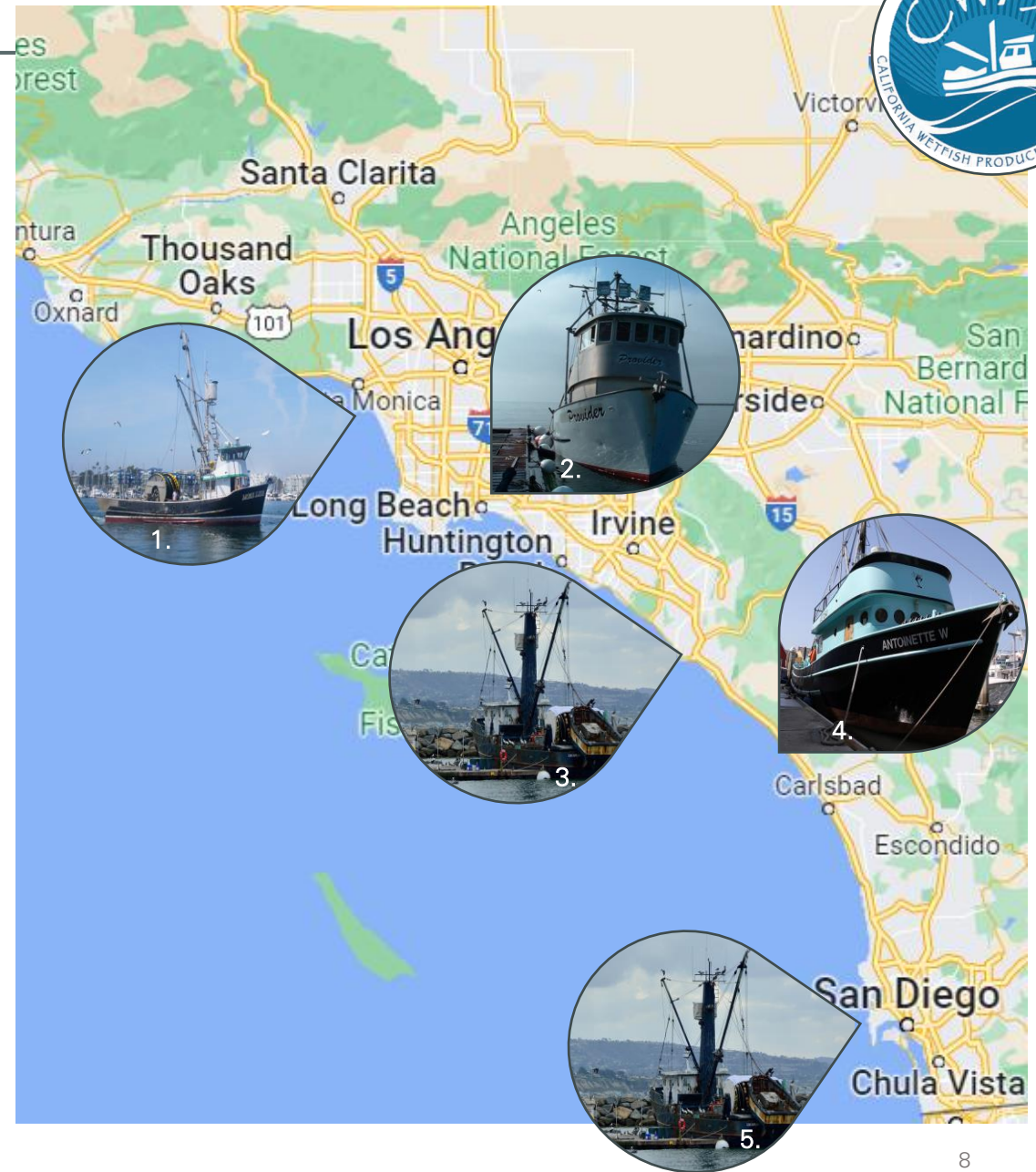
Used to evaluate the NSP and SSP SST-based rule and sardine population behavior dynamics and trends



Live-Bait Collections

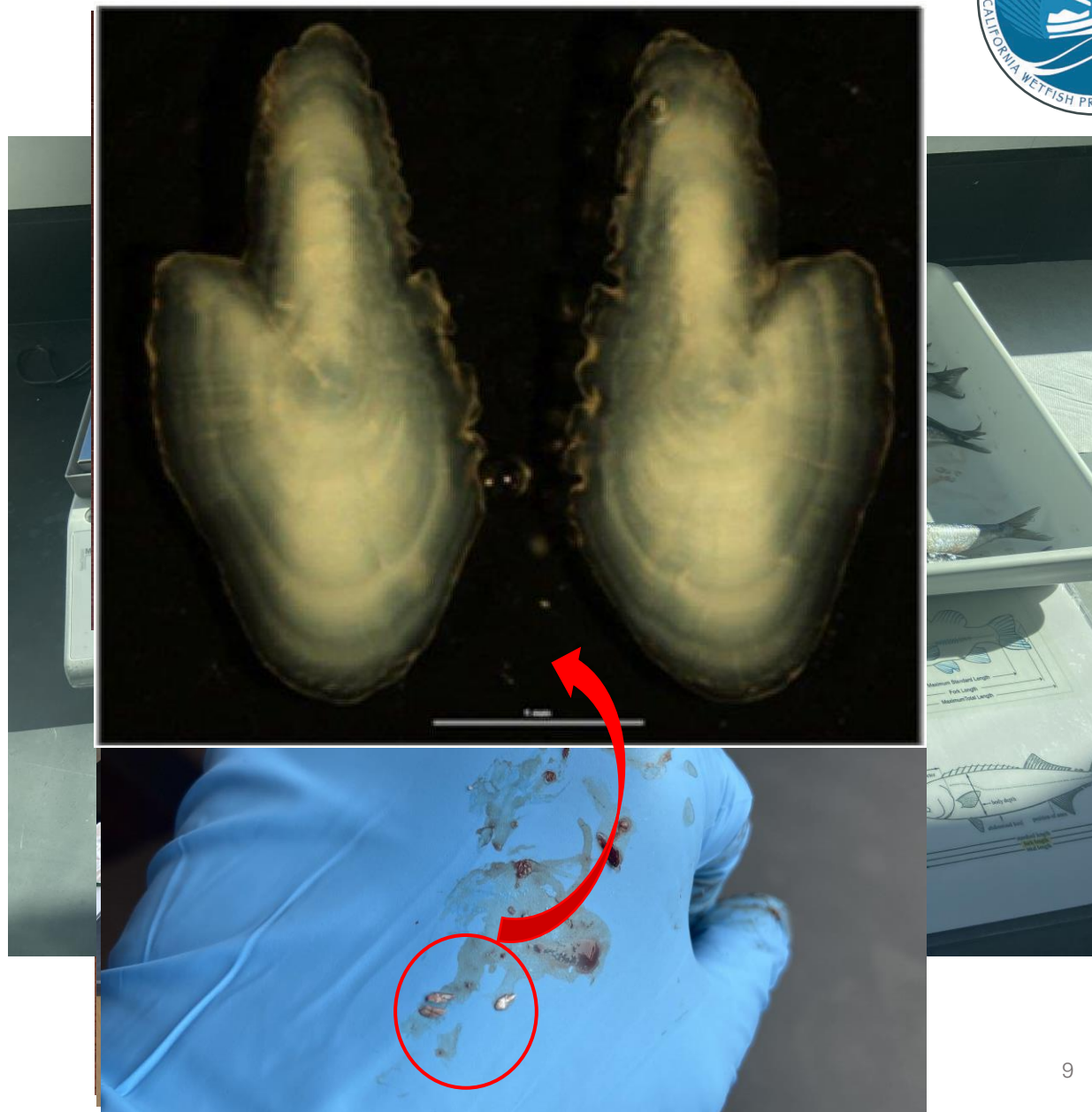
5 port areas in SCB

1. Marina Del Rey: Mona Lisa
2. Long Beach: Provider
3. Dana Point: Cachalot
4. Oceanside: Antoinette W.
5. San Diego Mission Bay: Cachalot/EBBCO

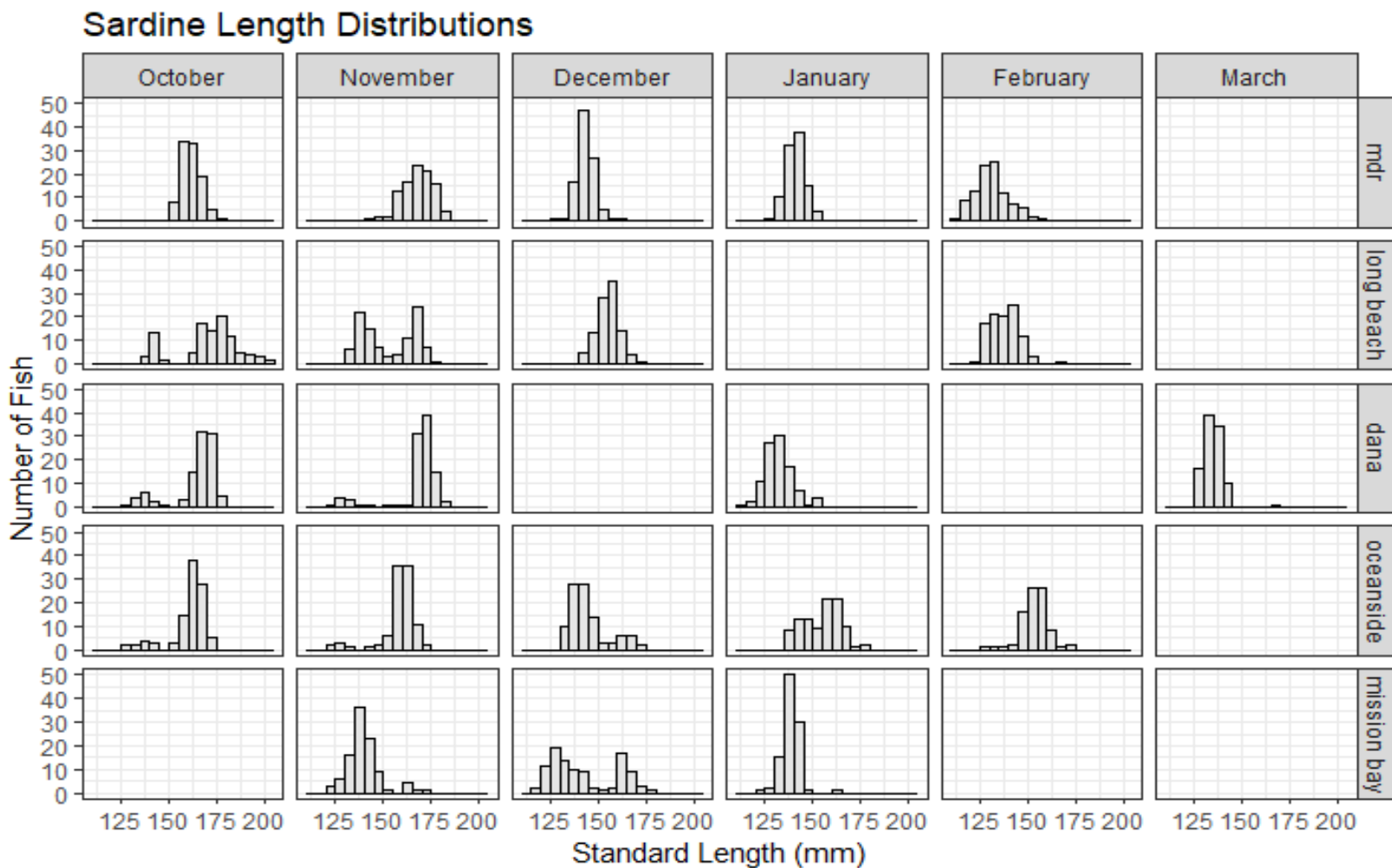


Live-Bait Collections

1. A random subsample of 100 fish are taken from live-bait fishermen as they unload catch into live wells
2. Once picked up, lengths and weights are taken from all fish
3. A subsample of 15 fish are retained with stomachs and otoliths removed for habitat and age studies

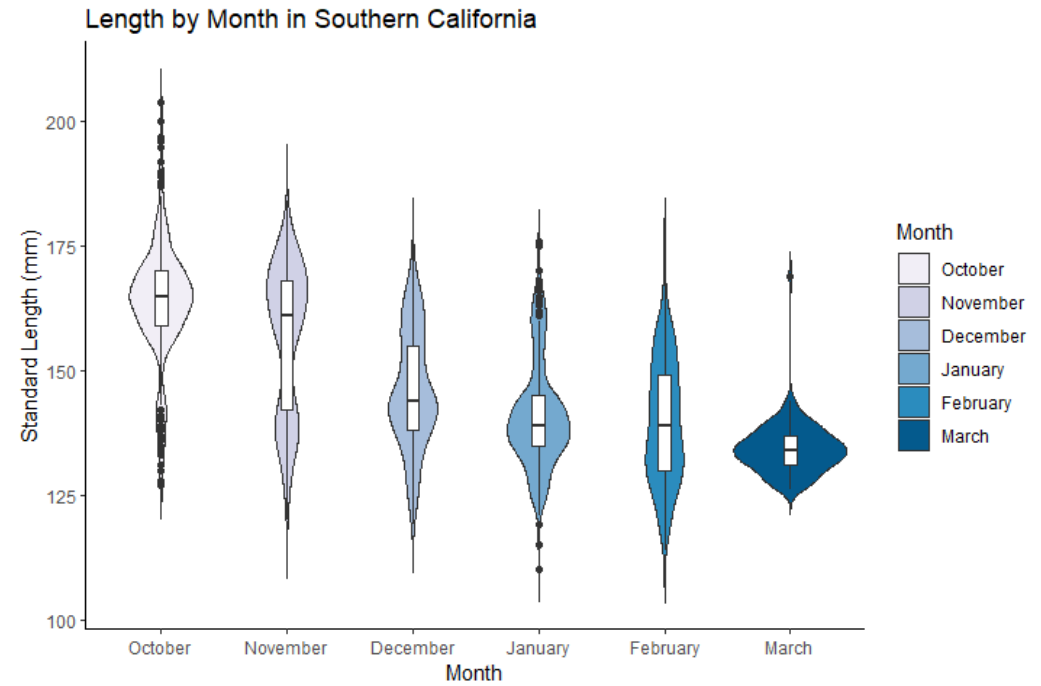
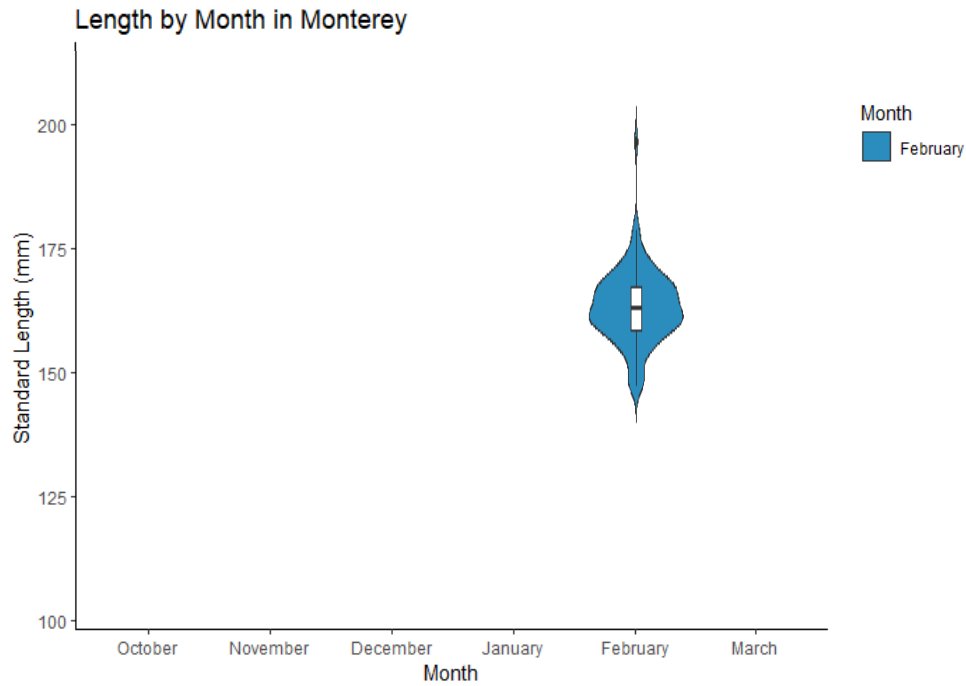


Preliminary Data

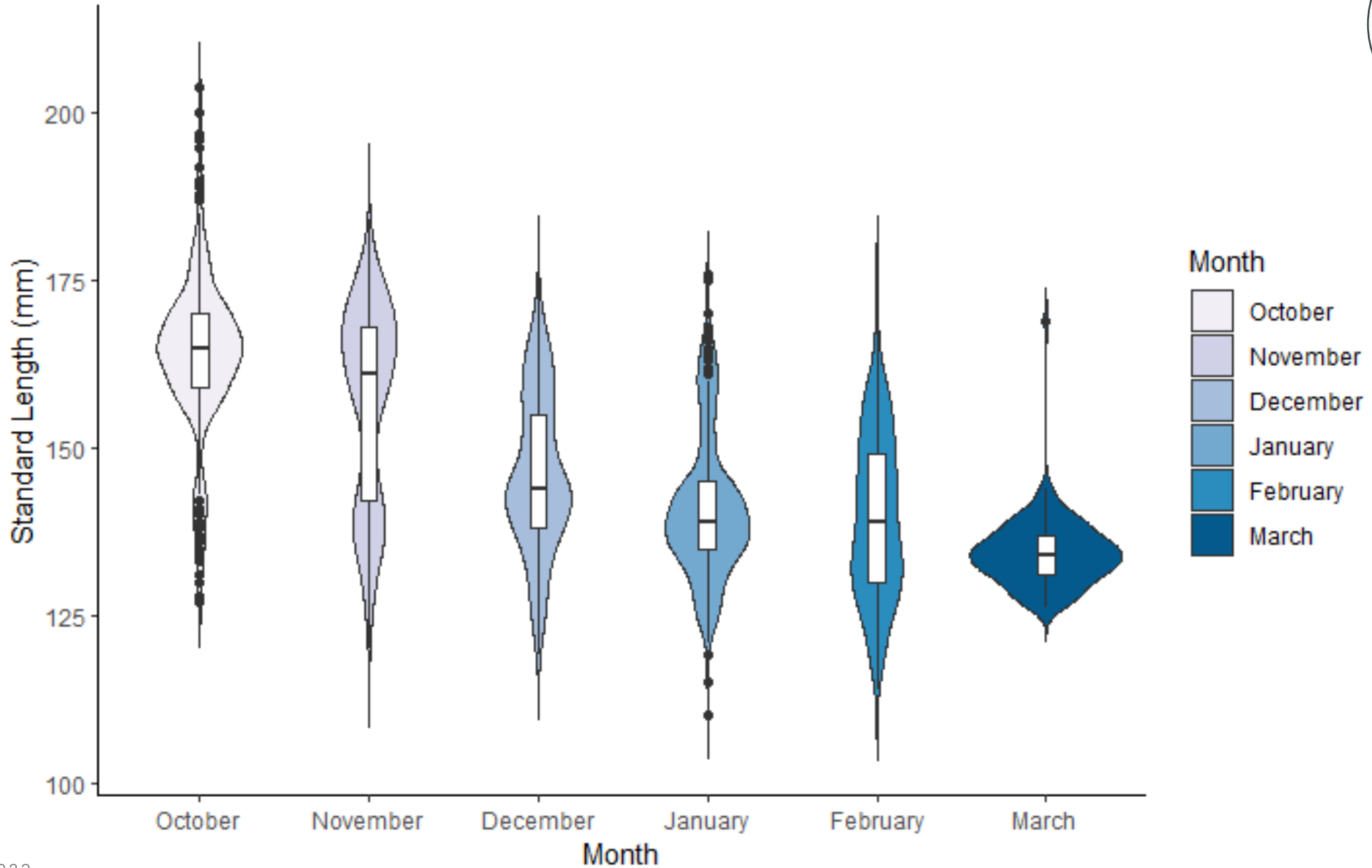




Preliminary Data



Length by Month in Southern California





SST Anomaly's

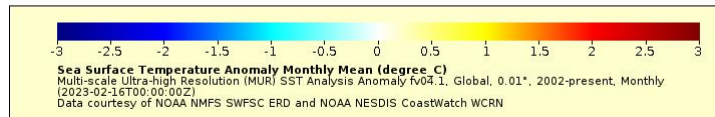
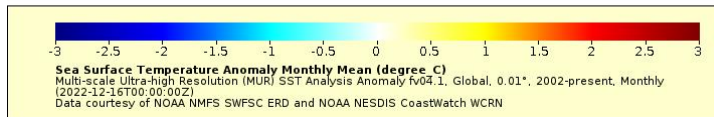
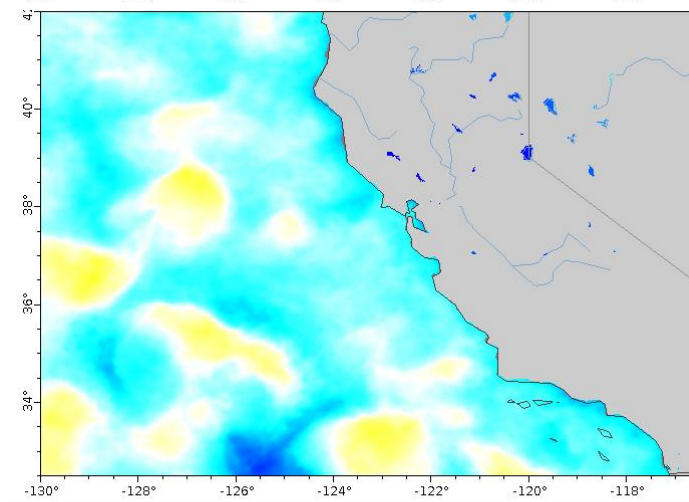
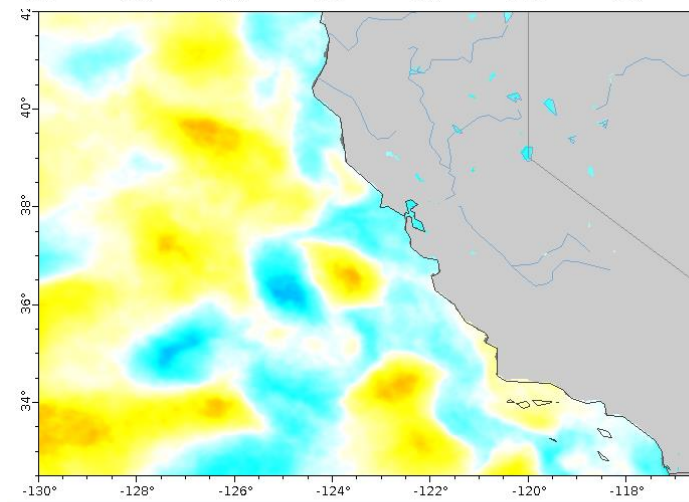
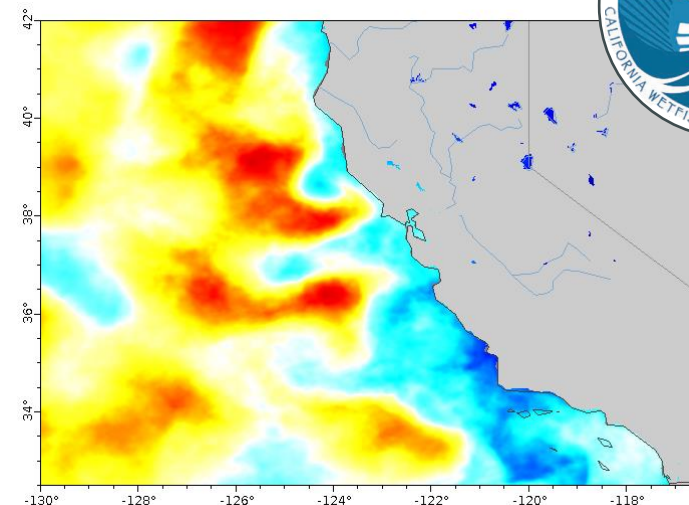
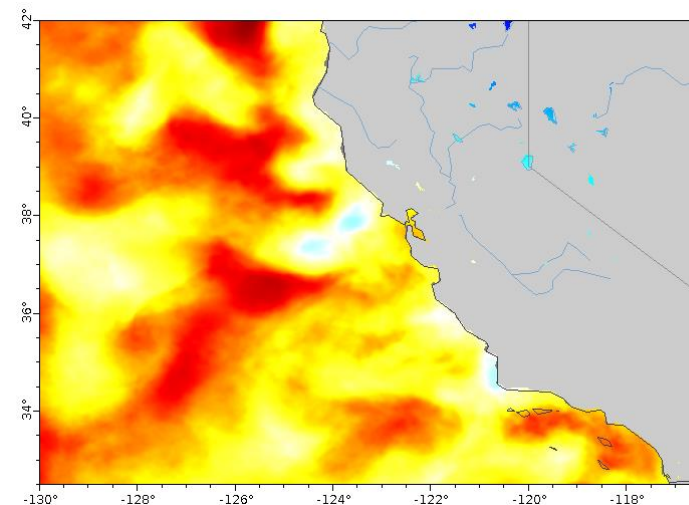
October 2022: Avg observed SST
17.1° C

November 2022: Avg observed SST
15.7° C

December 2022: Avg observed SST
14.9° C

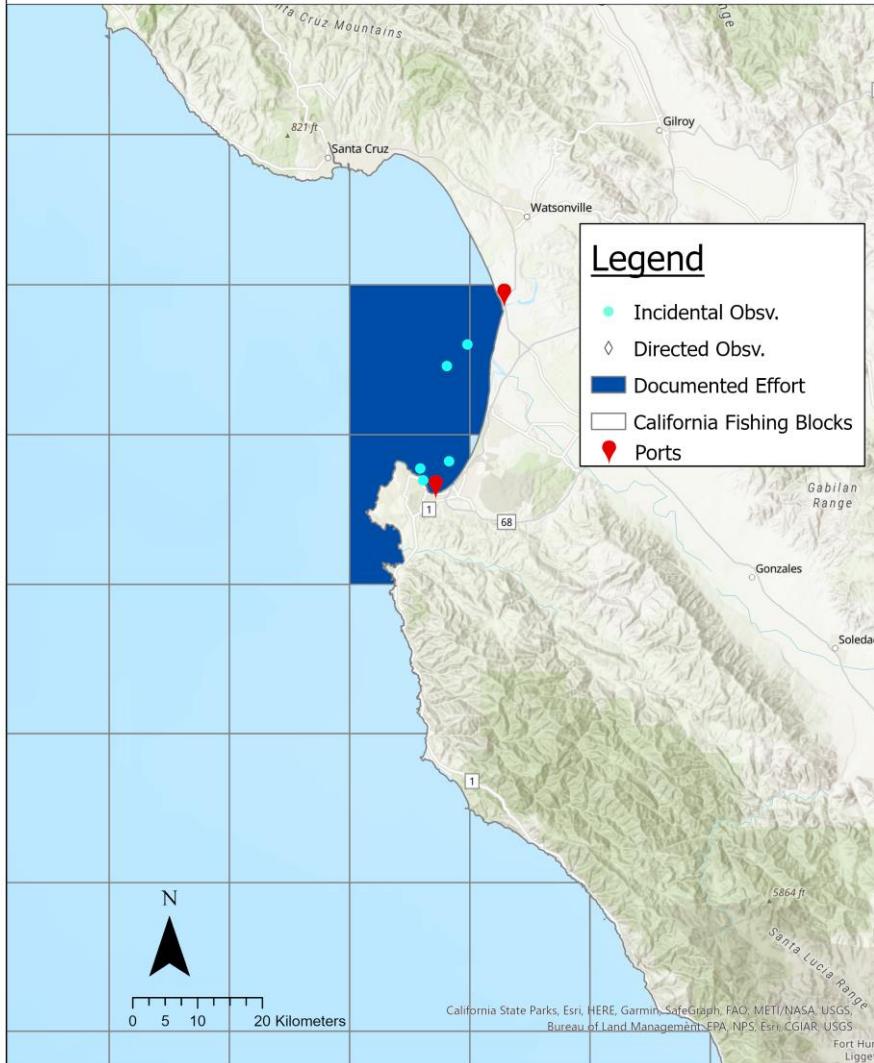
January 2023: Avg observed SST
13.9° C

February 2023: Avg observed SST
13.3° C





Recorded Effort in Northern California



Recorded Effort in Southern California



Preliminary Data



Stakeholder Observations

Monthly meetings held between industry members, CWPA, CDFW, and NOAA to discuss fishermen's general ocean observations

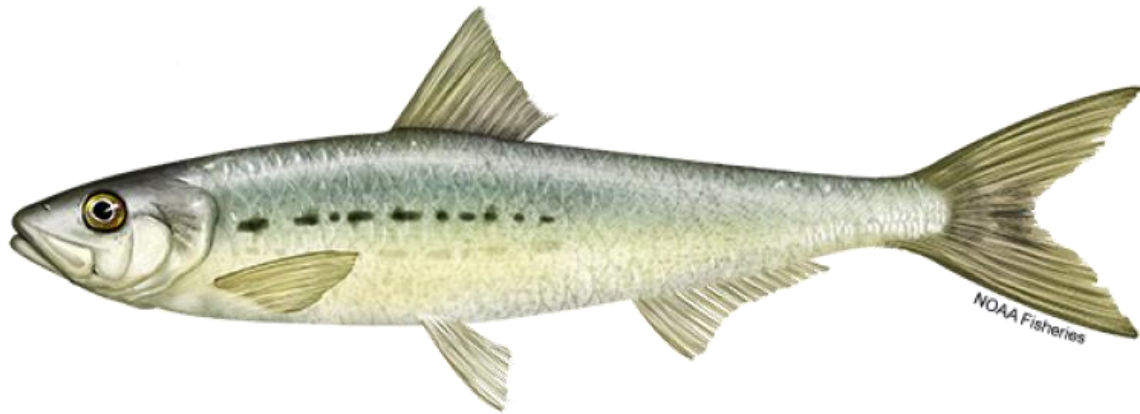
- Presence of sardine along the coast of California up to Monterey was observed for the month of October
- In December, fishermen commented that the size of sardines decreased.
 - Live-bait fishermen from Oceanside reported that they went further out and in deeper water to harvest sardines whereas live-bait fishermen from Marina Del Rey reported large schools observed just a few miles outside of the harbor.
- Market demand also influences the type of live-bait fished, and sardines are not always the preferred target.



Highlights

- Sardines have been present and captured by “live-bait” operators at five ports in SCB from **10/2022 - 03/2023**
- Observed SST ranged from **12 to 20° C**
- Sardine length indicates a **decreasing** trend in size from Autumn 2022 to Winter 2023

Questions?



CALIFORNIA WETFISH PRODUCERS ASSOCIATION

Thank you

Taylor Fewell

CWPA

tjfewell@gmail.com