



Agenda Item C.3.a
Supplemental CDFW Presentation 1
April 2018

CDFW-CWPA Aerial Survey - 2017



7 April 2018

Pacific Fishery Management Council

Kirk Lynn

Environmental Scientist
Marine Region



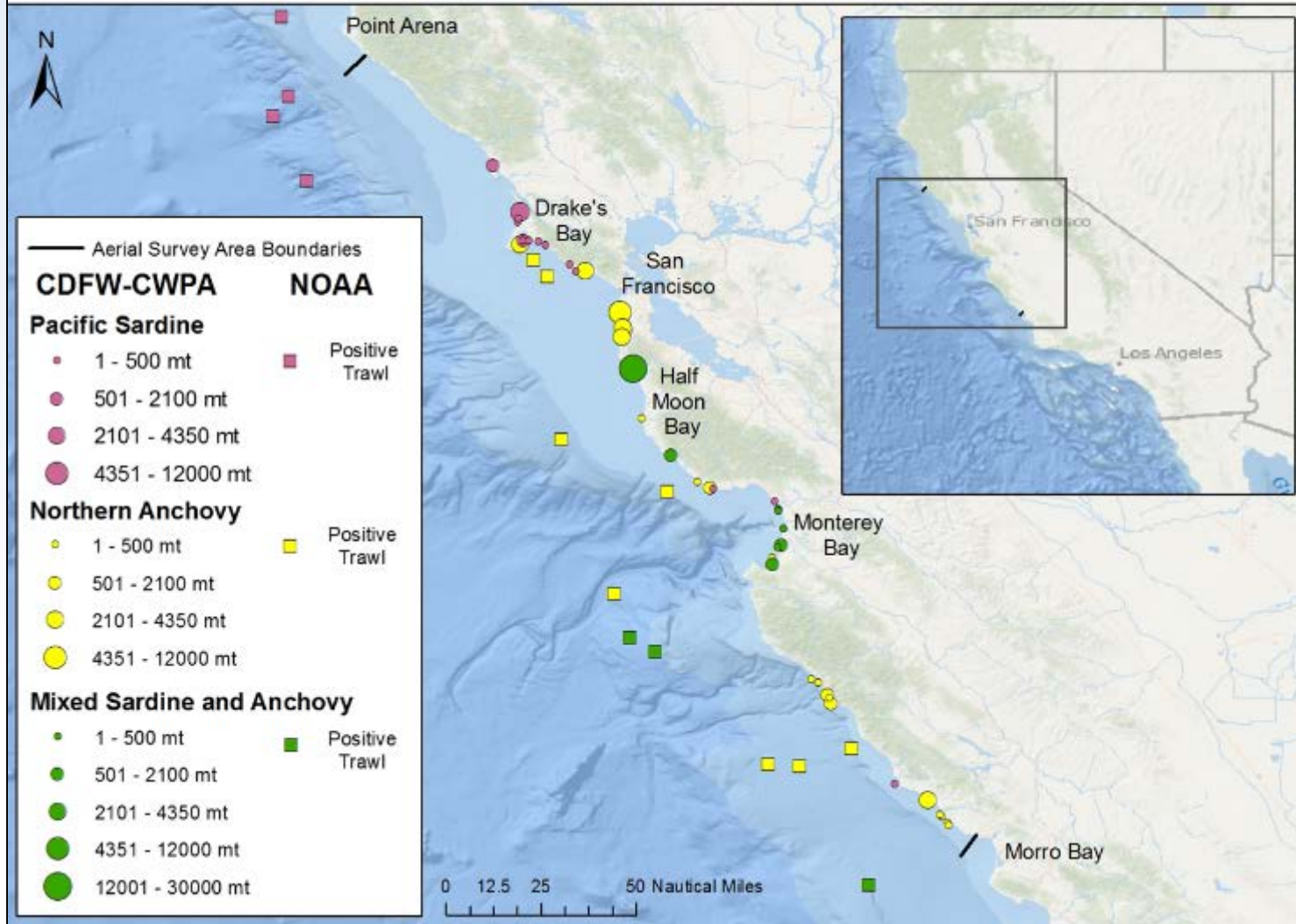
CDFW-CWPA CPS Aerial Survey

- Surveys began Summer 2012 for Sardine
- Spring and Summer Surveys in Southern CA
- Anchovy added Summer 2013
- April 2017 Methodology review
 - Variance Estimator
 - Observer Validation
 - Minimum nearshore estimates – complement offshore ATM estimates
- Summer 2017 survey
 - North of Point Conception
 - Coordinated with ATM survey



CPS Observations

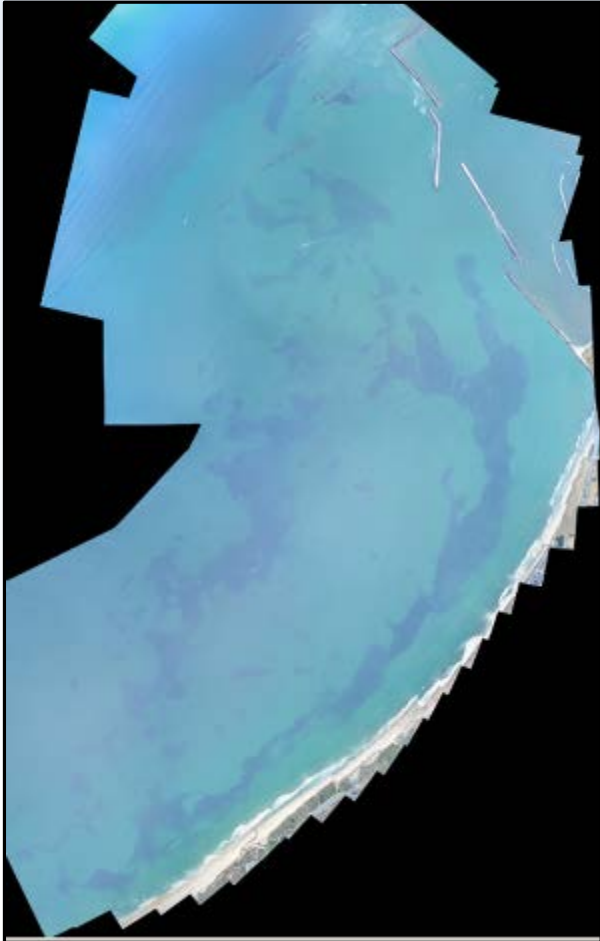
Northern California Summer 2017 Survey Observations CDFW-CWPA Aerial Survey and NOAA Acoustic-Trawl Survey



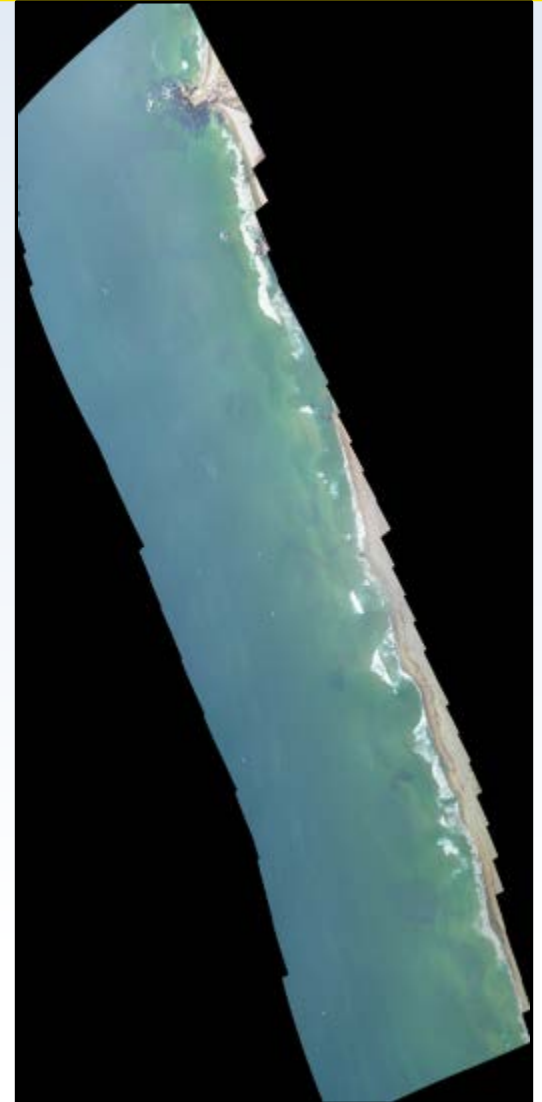


CPS Observations

Anchovy – Half Moon Bay



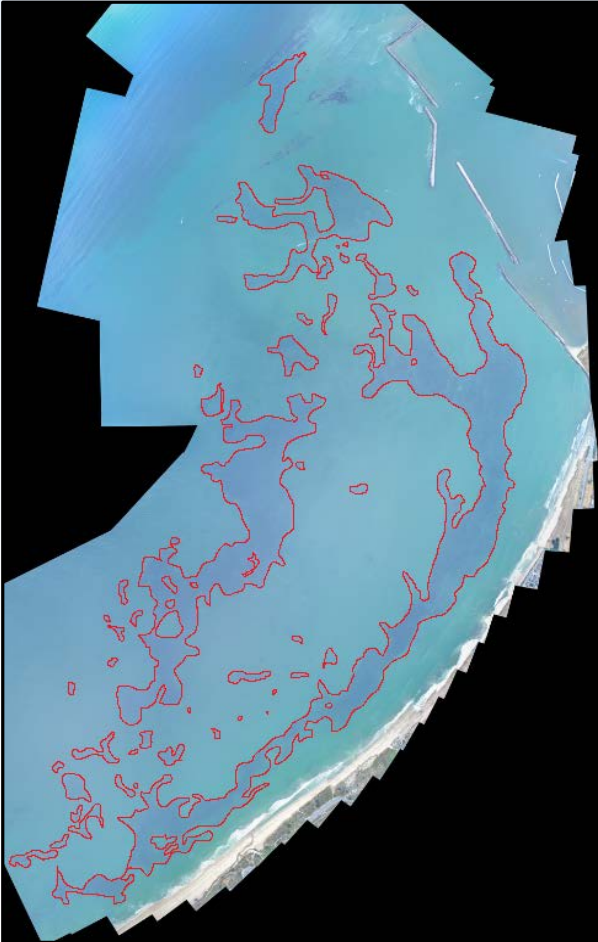
Sardine –
Point Reyes



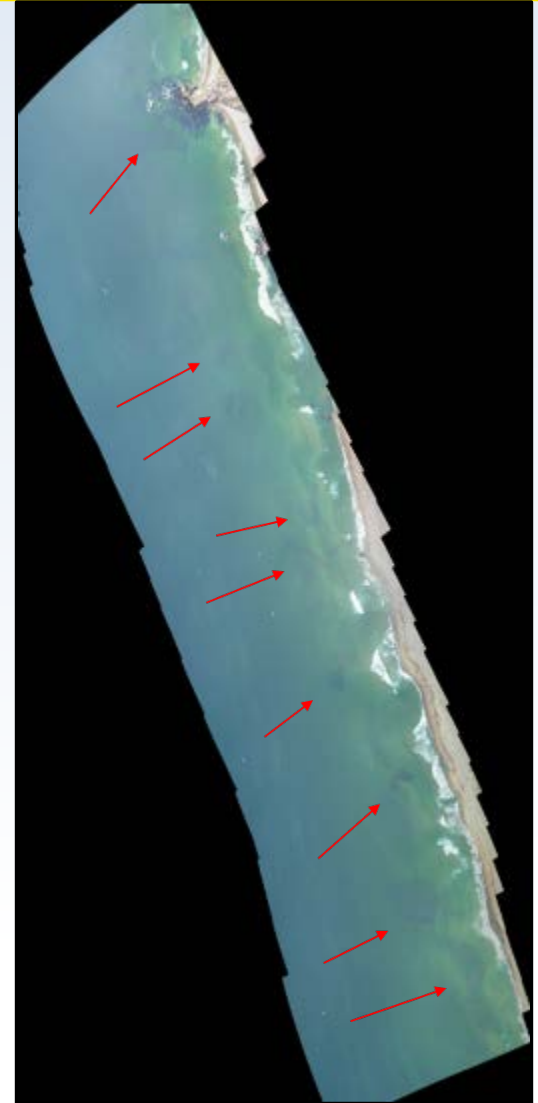


CPS Observations

Anchovy – Half Moon Bay



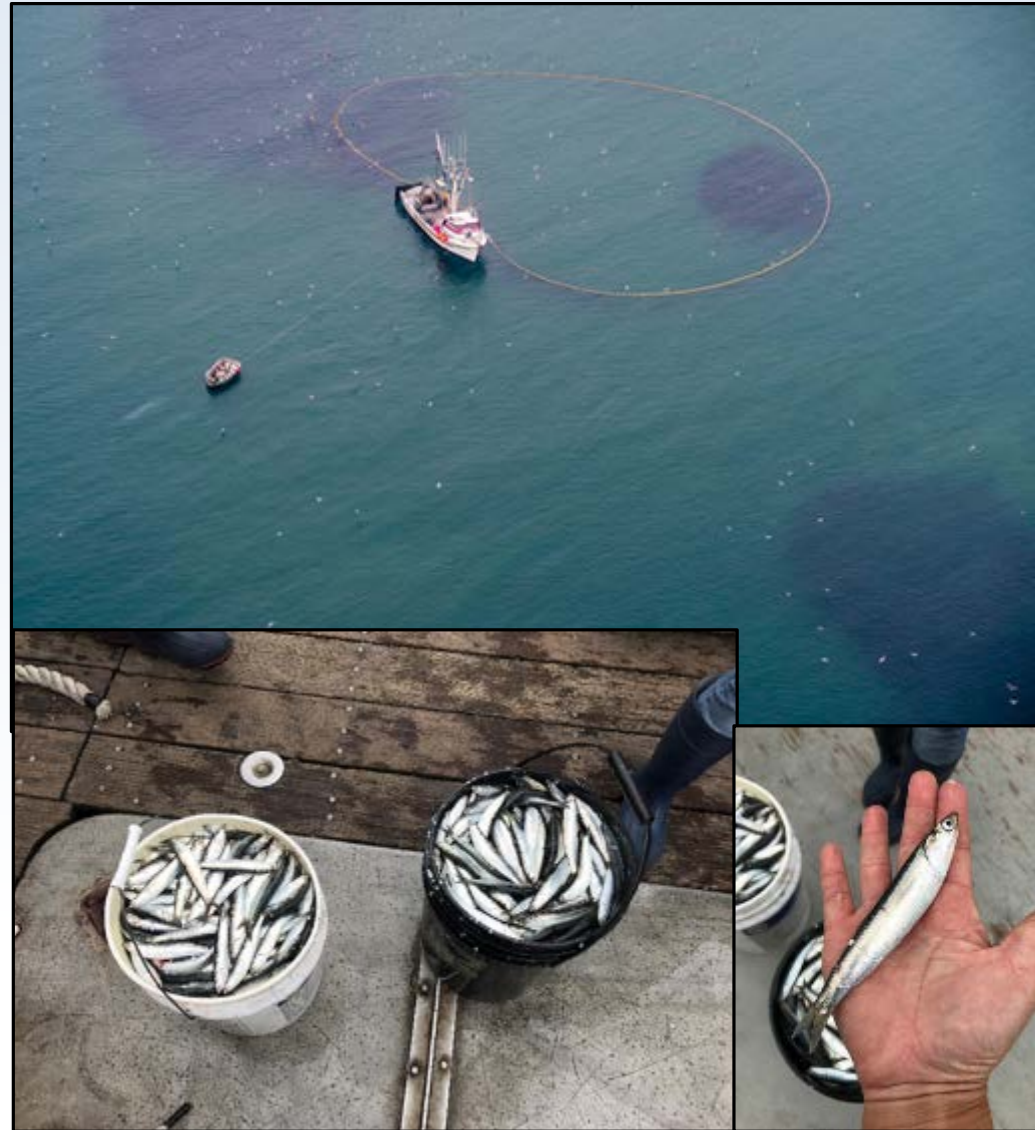
Sardine – Point Reyes





Sampled Anchovy School - HMB

- 9 August, 2017
- Set F/V *Trionfo*
- Samples collected and processed:
 - Length avg. 126 mm
 - Weight avg. 24 g
 - Age avg. 3.2 yrs





Aerial Survey Estimates

- Minimum Estimates of CPS
 - Visual Depth Limit
 - Portion of Stock Range
- Outside ATM Survey Area
 - Shoreward of Vessel
 - Upper Water Depths
- Aerial and ATM Biomass Estimates
 - Sardine – 18.1k mt (ATM – 36k)
 - Anchovy – 67.7k



2018 Aerial Survey Research

- EFP – August 2018
 - Variance Estimator
 - Observer Validation and Precision
 - 2019 Research
- 2018 CPS Surveys
 - Spring – Southern California
 - Fall – Northern California (TBD)



Summary

- Summer 2017 Aerial Survey in N CA
- Sardine and Anchovy observed
- Anchovy Samples taken from HMB
- Research ongoing
 - Variance and Observer Validation
 - Additional Surveys
- Aerial Surveys provide information on nearshore CPS abundance



Acknowledgements

- California Wetfish Producers Association
- Captain Neal Guglielmo and crew of F/V *Trionfo*
- NMFS – SWFSC staff: Emmanis Dorval, David Demer, Juan Zwolinski
- CDFW Staff

Thank You

Kirk Lynn

Environmental Scientist

Pelagic Fisheries and Ecosystem Program

(858) 546 - 7167

Kirk.Lynn@wildlife.ca.gov