



 **Exhibit C. Coastal Pelagic Species Fishery Regulations**



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Marine Resources Program
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 **Overview** 

Commission action:

- Amend rules to incorporate updated federal regulations for Pacific sardine fisheries for July 1, 2023 – June 30, 2024
 - Keeps directed sardine fishery closed, allows only minimal harvest
- Amend rules to change the scientific name of the Pacific sand lance

Presentation contents:

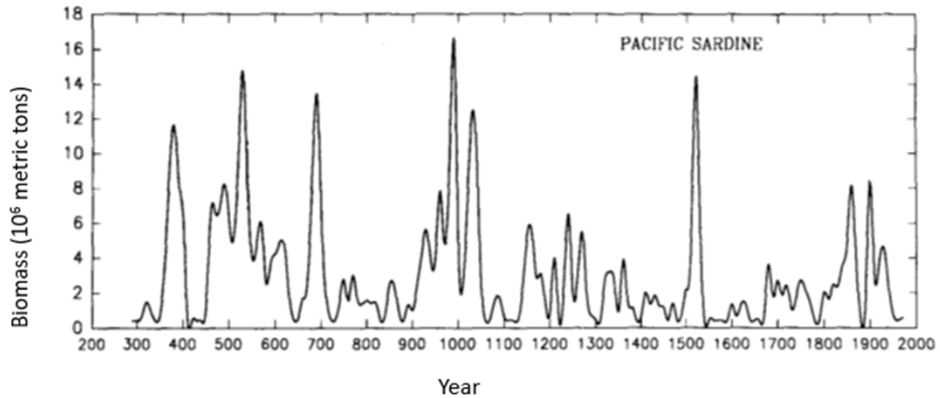
- Sardine biology, fishery, management, science, & climate effects overview
- 2023-2024 federal harvest specifications & management measures
- Basis for scientific name change of Pacific sand lance
- Draft motion



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Population Dynamics over Time



1700-year hindcast Pacific sardine biomass off California and Baja California (Baumgartner, 1992).



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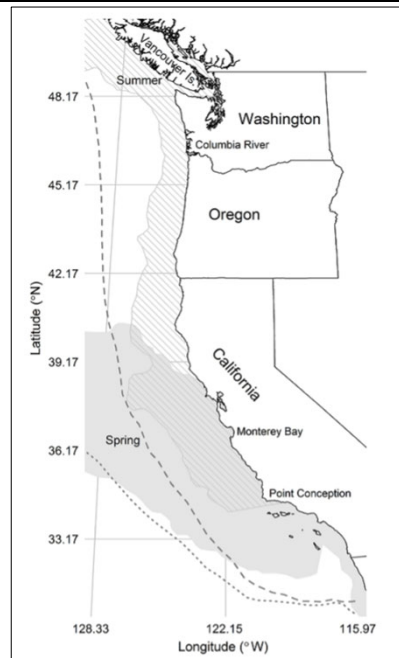
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Biology & Distribution

- 12-15 inches long
- 6-13 year lifespan
 - Reproduce at age 1 or 2
- Plankton feeders
- Nearshore to 300 nautical miles
- Seasonal migration



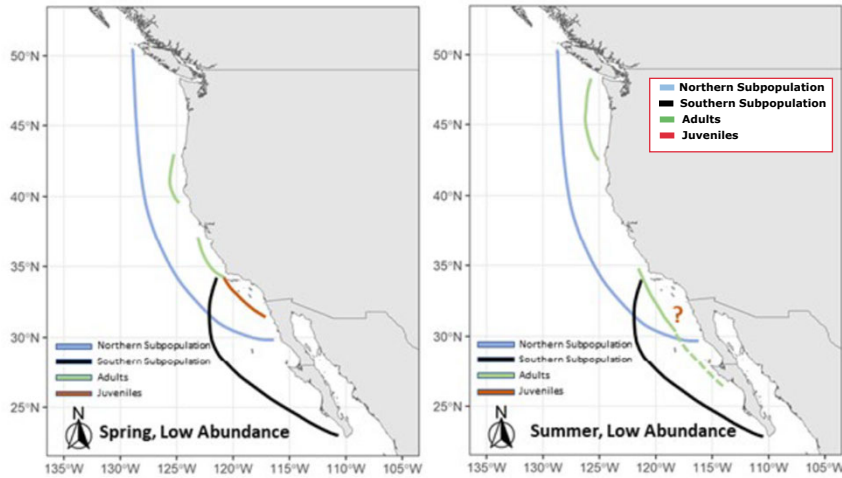
Potential habitat for the northern subpopulation of sardine (Zwolinski et al., 2014).
Darker shading = spring, lighter shading = summer



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November 2022 Stock Structure Workshop



Report from NMFS/SWFSC available at <https://doi.org/10.25923/er7r-b228>



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Over 100 Years of Sardine Fishery, Management, and Science

- 2015 - Directed Sardine Fishery Closed
- 2019 - Northern Stock of Pacific Sardine Declared Overfished
- 2020 - Federal Rebuilding Plan
- 2021 - Collaborative Tri-National Survey
- 2022 - Stock Structure Workshop



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Collaborative Surveys

- NMFS, state, academic, industry, and Mexico
- Biology, distribution, abundance, ecosystem
- Conducted comprehensive trilateral survey during a pandemic
- Conducted survey in northern waters in 2022

Survey vessels NOAA Ship Ruben Lasker, Sairdron, F/Vs Lisa Marie and Long Beach Carnage, and Mexican vessels Fraser/Carranza



LASKER



W COAST

LISA MARIE



OR & WA

LB CARNAGE



So CA Bight

FRASER/
CARRANZA



Baja CA

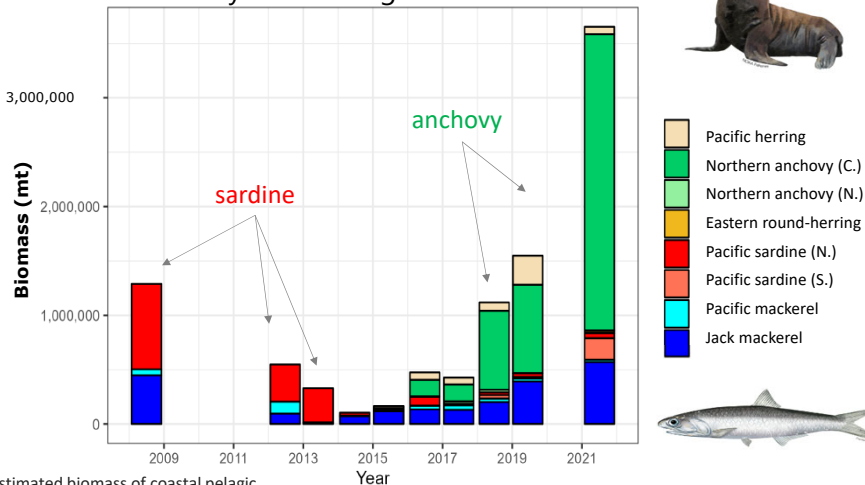
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Role in the California Current Ecosystem (CCE)

Dynamic forage base



Estimated biomass of coastal pelagic species in the CCE, 2008 and 2012-2021



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Sardine in a Changing Climate

Climate-related “drivers” of sardine population fluctuations:

- sea surface temperature
- wind stress curl
- the Pacific Decadal Oscillation
- food availability for juveniles

Prediction for the future:

“Following the redistribution of the sardine population, catch is projected to increase by 50–70% in the northern CCS and decrease by 30–70% in the southern and central CCS.”

Flechter et al. 2021. Sardine distribution and catch in the California Current.
Frontiers in Marine Science 8:685241



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Federal Harvest Specifications for 2023-2024

The Pacific Fishery Management Council adopted:

- Overfishing level (OFL): **5,506 mt**
- Allowable biological catch (ABC) & annual catch limit (ACL): **3,953 mt**
- Directed fishery harvest guideline (HG): **0 mt**
- Annual catch target (ACT) (triggers restrictions): **3,600 mt**



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Additional Federal Management Measures

- Fisheries for other CPS: no more than 20% (by weight) of each landing may be sardine
- Live bait fishery: if sardine landings reach 2,500 mt, a 1 mt sardine limit applies to that fishery
- If the ACT of 3,600 mt is attained: a 1 mt trip limit applies to all CPS fisheries
- Fisheries targeting non-CPS : a 2 mt sardine limit per trip

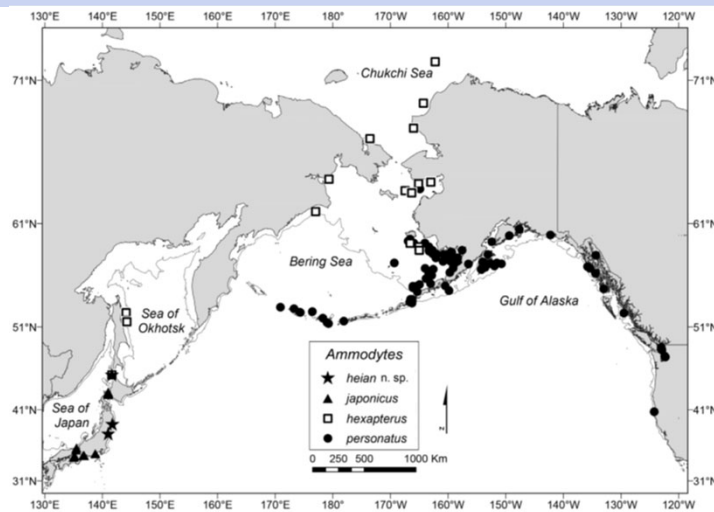


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Pacific Sand Lance



Source: Orr et al. 2015



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Options & Staff Recommendation

Options:

1. **Adopt federal regulations for Pacific sardine and modify definition of Pacific sand lance to reflect the updated scientific name.**
2. **Modify staff proposals.**

Staff recommend Option 1



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Motions

DRAFT MOTION

I move that the amended OARs presented by staff are adopted.

EFFECTIVE DATE: Effective upon filing.

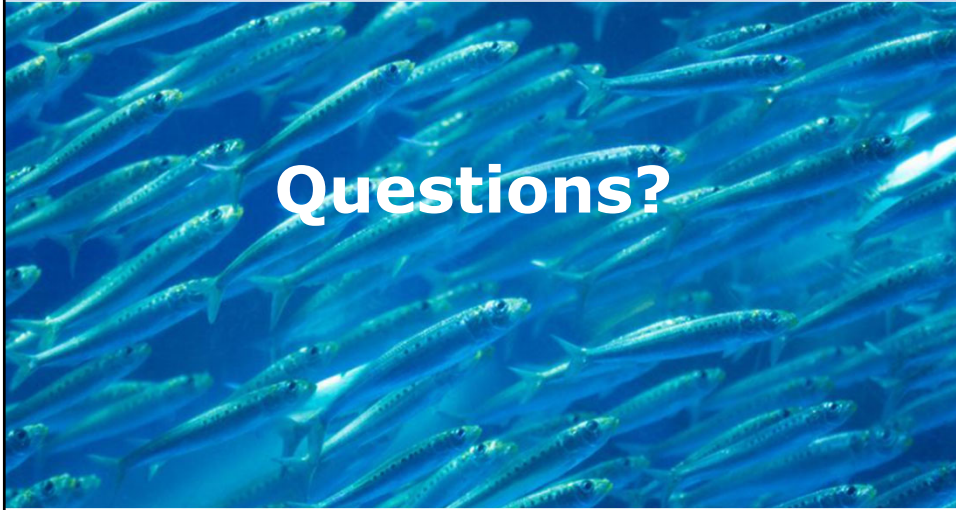


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Thank You



Questions?



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