



Industry-led Marine Life Monitoring

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Dungeness Crab Task Force

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Agenda

1. What they are

- Key context
- Data collection protocol
- Findings

2. How they are used

3. Cost

- Industry-led vs. observer-led
- Short-term
- Long-term

4. Next step considerations

- Long-term viability?
- Is this a priority?

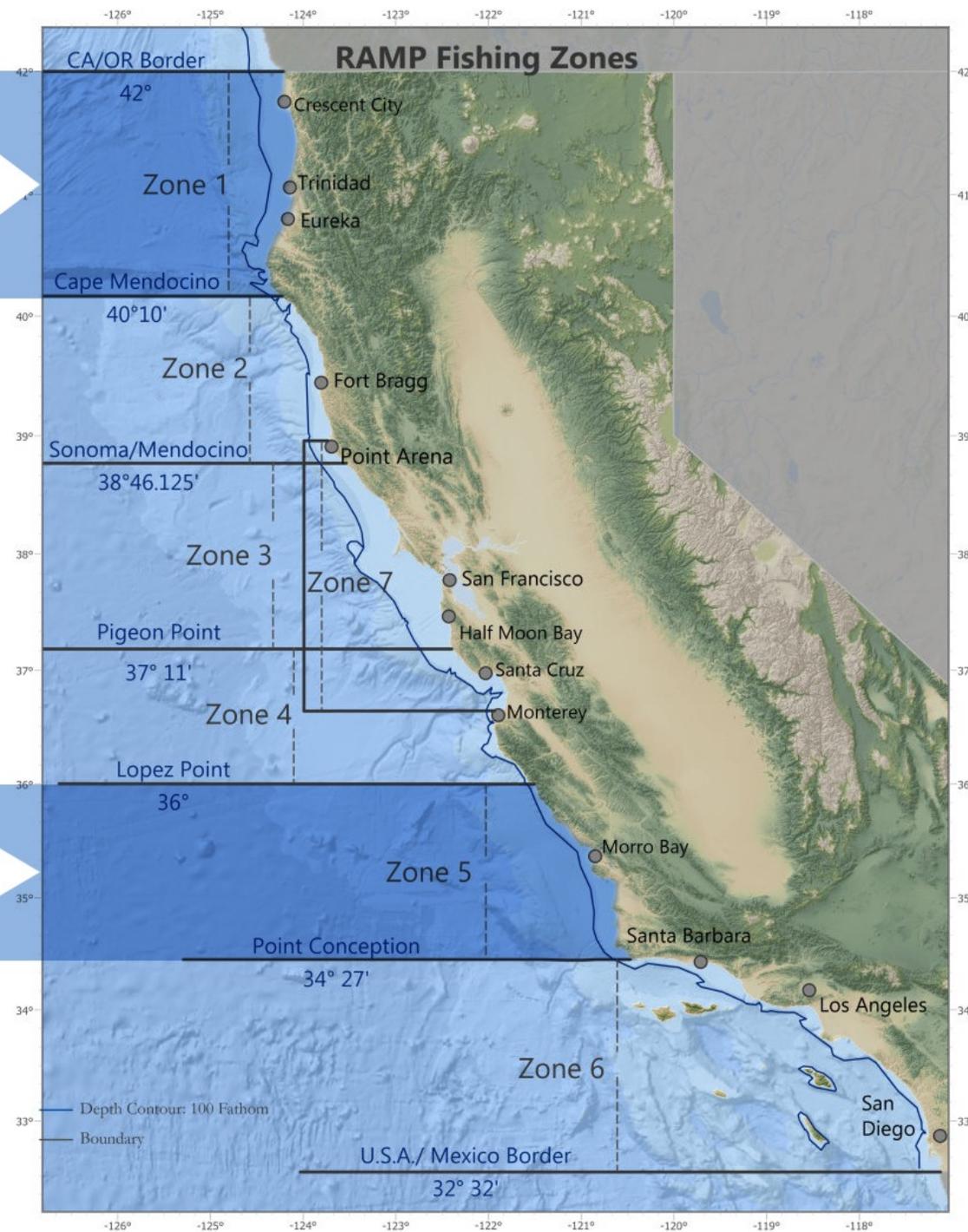


Key Context

- **Objective:** inform the real-time management of the California commercial Dungeness crab fishery under RAMP regulations
 - Fill critical spatial/temporal data gaps by providing survey data on presence/absence, depth distribution, and relative North/South distribution of humpback and blue whales over the commercial Dungeness crab fishing grounds during the fishing season (November- July).
 - Leverage industry expertise and resources to inform the real-time management of the California commercial Dungeness crab fishery under RAMP regulations
 - Develop a standardized protocol for data collection that could be used to inform the RAMP
- **Why:** The Dungeness Crab Task Force and California Dungeness Crab Fishing Gear Working Group have identified a priority around development of a standardized survey protocol that provides for fishing industry participation in data collection, and potential others (e.g. research institutions).

Key Context, Cont'd

- **The design** has been informed by a series of meetings including CDFW, WWG science advisors and WWG members, and inspired by a dedicated survey design consultant that designed the Fall 2020 survey for zone 1. Due to time and budget constraints the Spring 2021 survey for zone 5 was designed by Jon G.
- **Implementation Goal:** oriented toward industry-led surveys in zones 1 & 5 in the Fall and Spring to help CDFW fill data gaps to inform and implement the RAMP for the long-term.



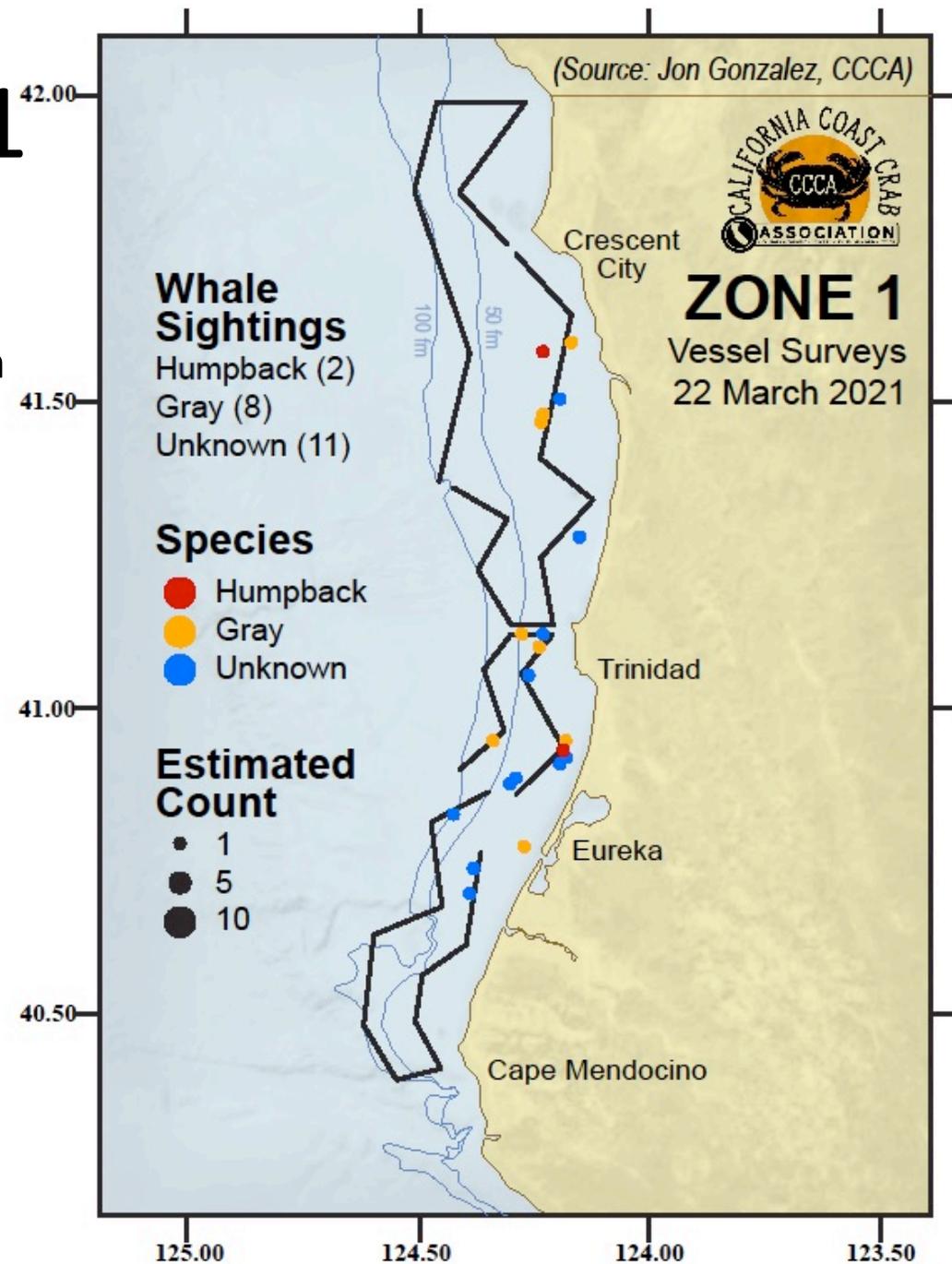
Findings – Spring 2021 Zone 1

4 vessels covered inshore/offshore transects in Zone 1 in a coordinated single-day survey effort on March 22, 2021

Objective: Replicate transects from the Fall pilot survey effort in Zone 1 (with a few minor improvements that incorporate lessons learned)

Summary of Survey Findings:

- Whale Sightings: Humpback whale (2), Gray whale (8), Unknown whale (11)
- Humpback Whales: Both Humpback whales were observed feeding, and the one near Crescent City was breaching in a bait ball with a lot of bird life.
- Gray Whales: 2 of the 8 Gray whales were observed feeding.
- Unknown Whales: The distinguishable blow of a Gray whale was observed in all 11 Unknown whale sightings, but the whales were either too far away or the observer was unable to actually see the whale to positively assign a species ID.



Findings – Spring 2021 Zone 5

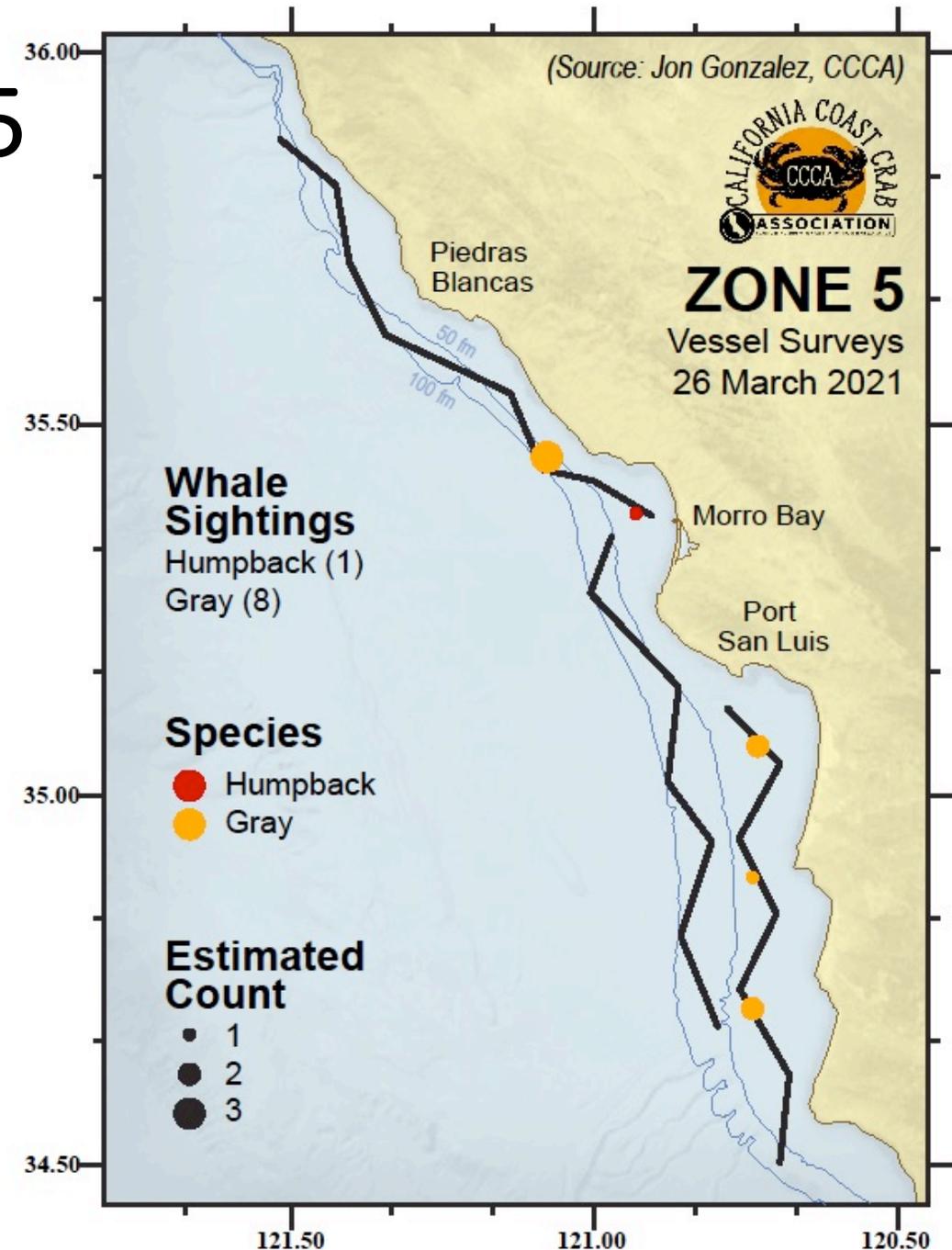
3 vessels covered inshore/offshore transects in Zone 5 in a coordinated single-day survey effort on March 26, 2021

Objective: Test key feasibility and design considerations in the draft survey and data collection protocol by conducting a pilot survey effort in Zone 5

Summary of Survey Findings:

- Whale Sightings: Humpback whale (1), Gray whale (8)
- Humpback Whales: The whale was traveling north and was not feeding.
- Gray Whales: All 8 whales were traveling north and were not observed feeding.

Supplemental Information: The water was very cold (48.9° - 52.1°f) and there was very little to zero forage present.

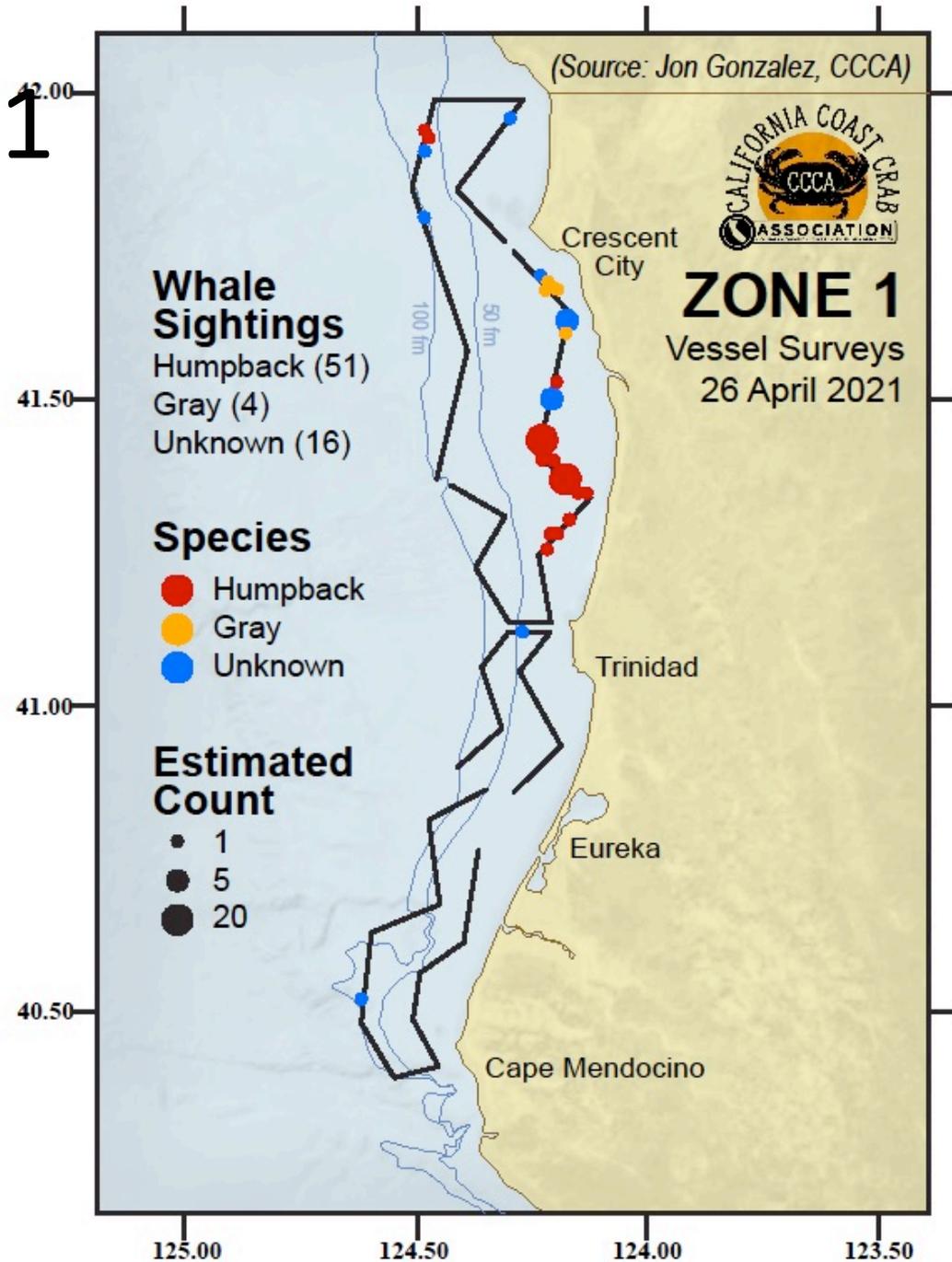


Findings – Zone 1, Spring 2021

4 vessels covered inshore/offshore transects in Zone 1 in a coordinated single-day survey effort on April 26, 2021

Summary of Survey Findings:

- Whale Sightings: Humpback whale (51), Gray whale (4), Unknown whale (16)
- Humpback Whales: Large numbers of humpbacks near Reading Rock. Whales blowing and breaching as far as you could see, difficult to count how many whales there were in that area. The animals seem to be milling around but mostly seem to be heading north.

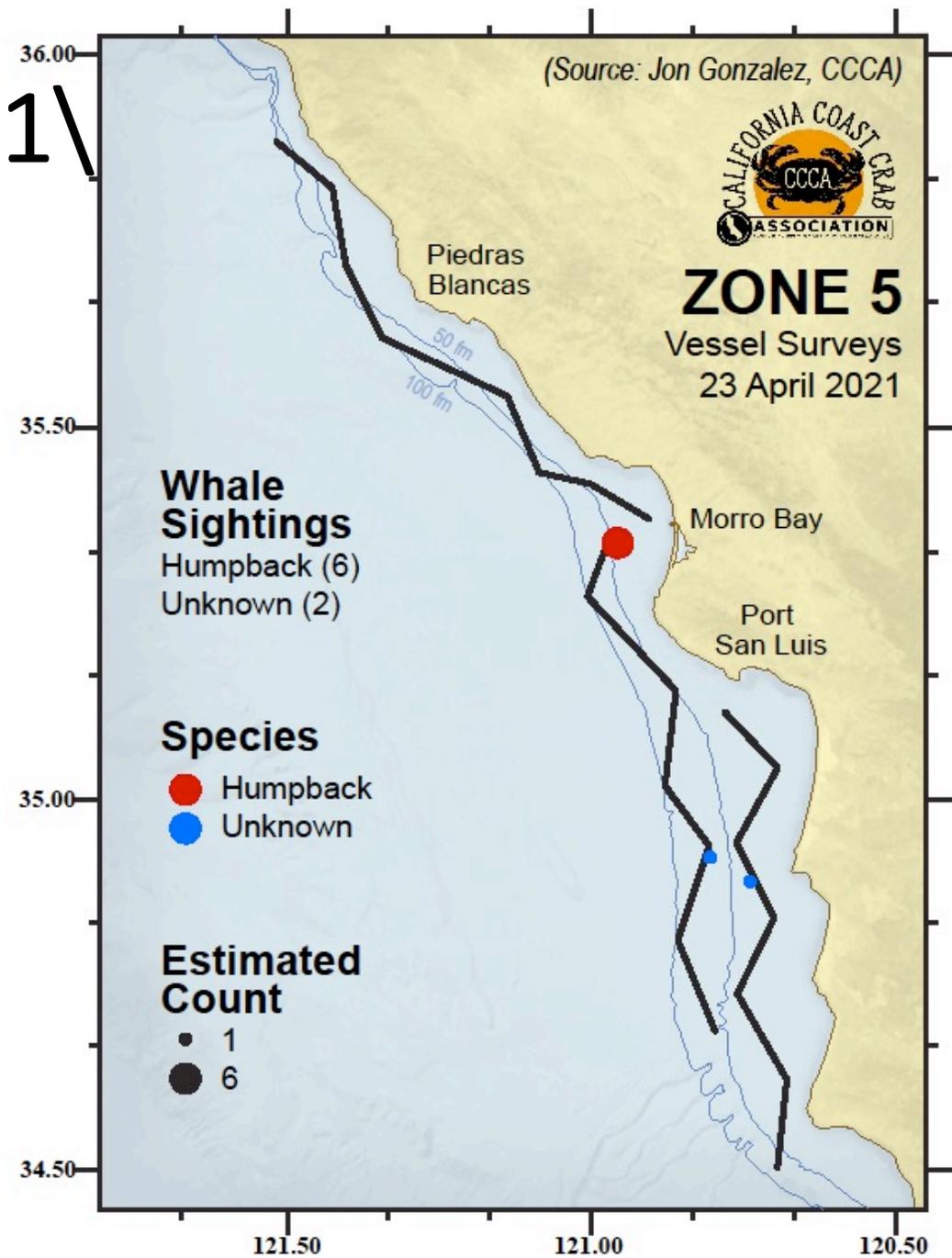


Findings – Zone 5, Spring 2021

3 vessels covered inshore/offshore transects in Zone 5 in a coordinated single-day survey effort on April 23, 2021

Summary of Survey Findings:

- Whale Sightings: Humpback whale (6), Unknown whale (2)
- Humpback Whales: Group of 6 humpbacks were observed feeding straight out in front of Morro Bay in 45 fathoms on the way to the first transect waypoint. Other than this one group of whales and 2 sightings of unidentified whales, the Captains noted there was no marine life or forage around.

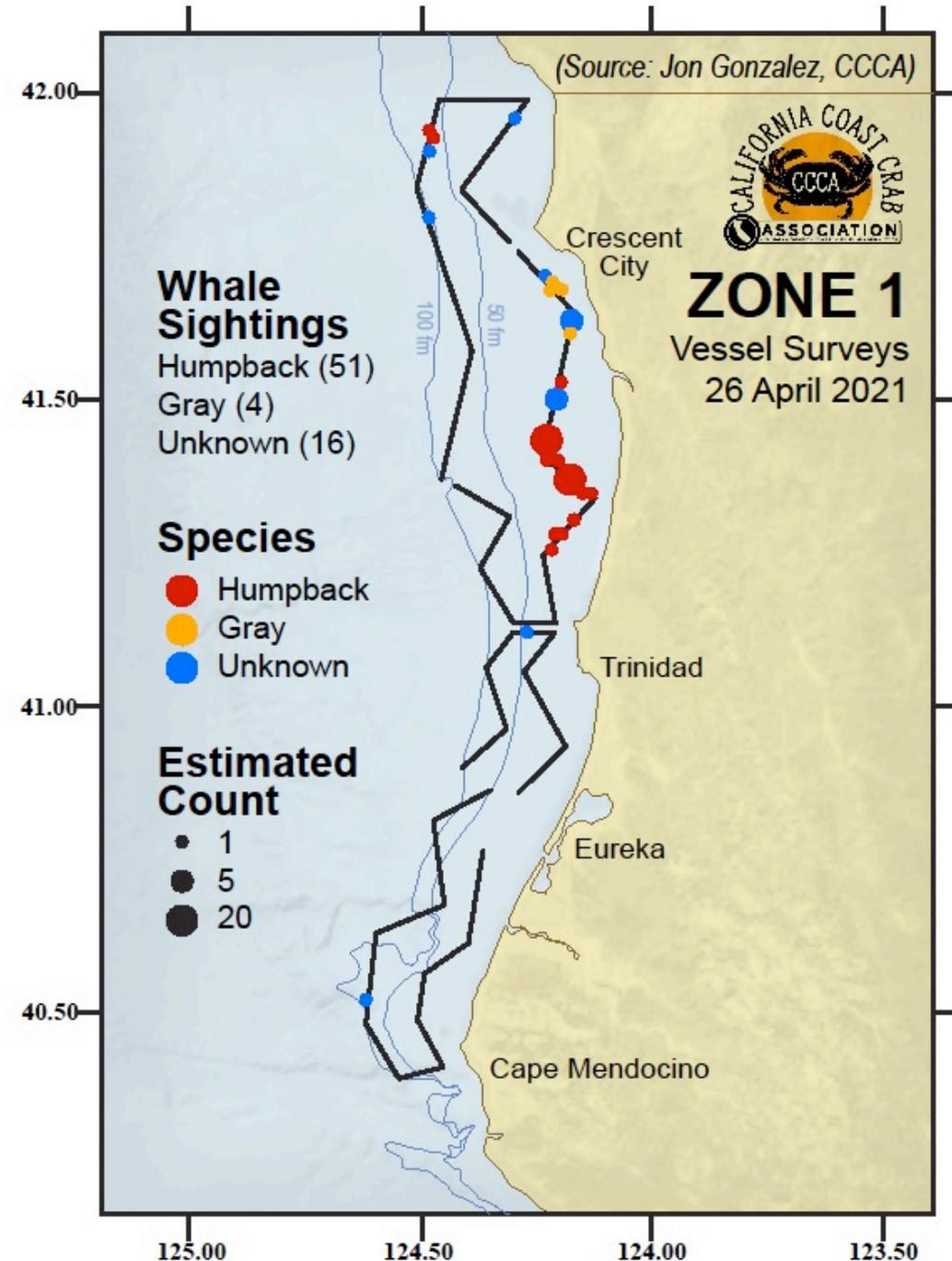


How They Are Used

April 26 Zone 1 survey supported implementation of a depth restriction as a management measure for the first time ever (in lieu of closure based on lack of “RAMP approved” data)

[CDFW May 3 Determination](#) with Full Working Group Support:

*Fishing Zones 1 and 2: “CDFW Marine Region staff’s final recommendation is to maintain the Fleet Advisory and implement a Depth Constraint limiting fishing to only from 30 fathoms shoreward based on the lack of recent RAMP approved survey data for Zones 1 and 2. NOAA and **CCCA observation data** indicates large aggregations of Humpback whales between the 30 and 45-fathom contour, with some closer to shore.”*



Cost – Industry-led vs. Observer-led

Industry-led

Costs per RAMP Zone/Survey

- Fishing vessel costs:
 - Zone 1: \$10,000
 - Zone 5: \$7,500
- Field coordination*: 16 hours
 - *Field coordination includes recruiting survey participants; liaising with CDFW, scientific advisors and Working Group; coordinating deployment of surveys; reviewing and summarizing data for use in RAMP; supporting fundraising and issuing payment to survey participants
- To date has been provided in-kind by Jon G.

Observer-led

Costs per RAMP Zone/Survey

- Fishing vessel costs:
 - Zone 1: \$10,000
 - Zone 5: \$7,500
- Field coordination: 16 hours
- Observer costs**:

Observer	San Luis Obispo County	Monterey Bay	San Francisco Bay
Lead observer			
8-hour day	\$640	\$1,333	\$1,533
12-hour day	\$960	\$1,653	\$1,853
Regular observer			
8-hour day	\$520	\$1,213	\$1,413
12-hour day	\$910	\$1,603	\$1,803

- **Observers increase field coordination costs and risk reduced flexibility/ability to deploy all survey vessels on the same day

Cost – Short-term – Phase 2 (2021-2022 Fishing Season)

- Taking a sampling approach with volunteer observers with goal of surveys becoming “fully RAMP approved”
- Note: Field coordination being provided in-kind by Jon G. but CDFW is interested in supporting within its own capacity
- Lump sum cost for 2021-2022 fishing season:
\$87,500*

*@ \$17,500 per survey assuming surveys are conducted in both fishing Zones 1 & 5 mid-Nov, mid-Dec, mid-March, mid-April, mid-May



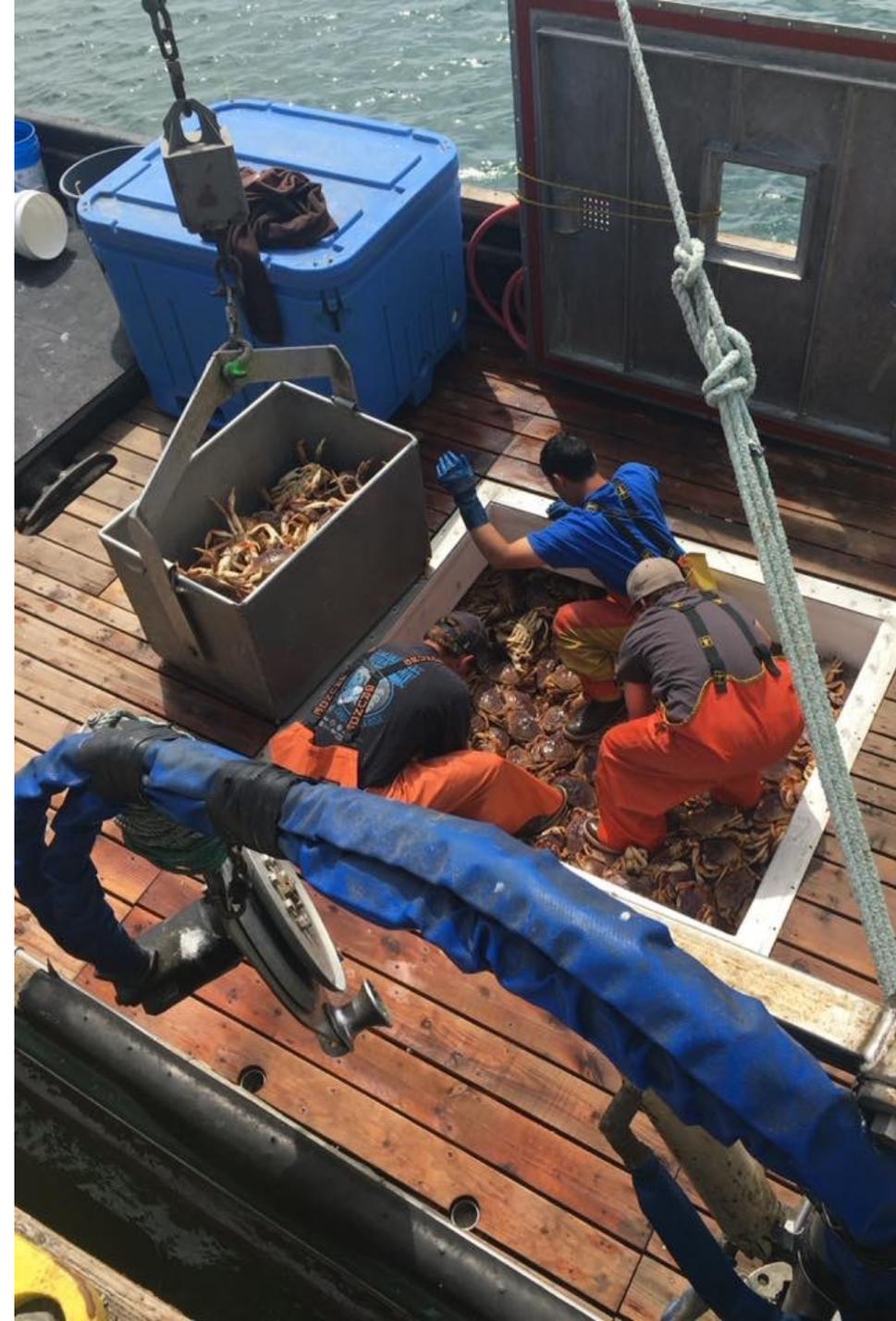
Cost – Long-term

- Funding source?
- Project manager?
 - Field coordination?
 - Data synthesis?



Next Step Considerations

1. Are CCCA industry-led surveys a priority of the DCTF?
2. What sources of long-term funding are available to increase long-term viability?





Thank you to our advisory committee!

Jenn Humberstone – TNC

Karin Forney – NOAA

John Calambokidis – Cascadia Research

Ryan Bartling - CDFW