

Rare near-island sightings of Fraser's dolphins (*Lagenodelphis hosei*) in Hawai'i, including a lone individual associating with pantropical spotted dolphins (*Stenella attenuata*)

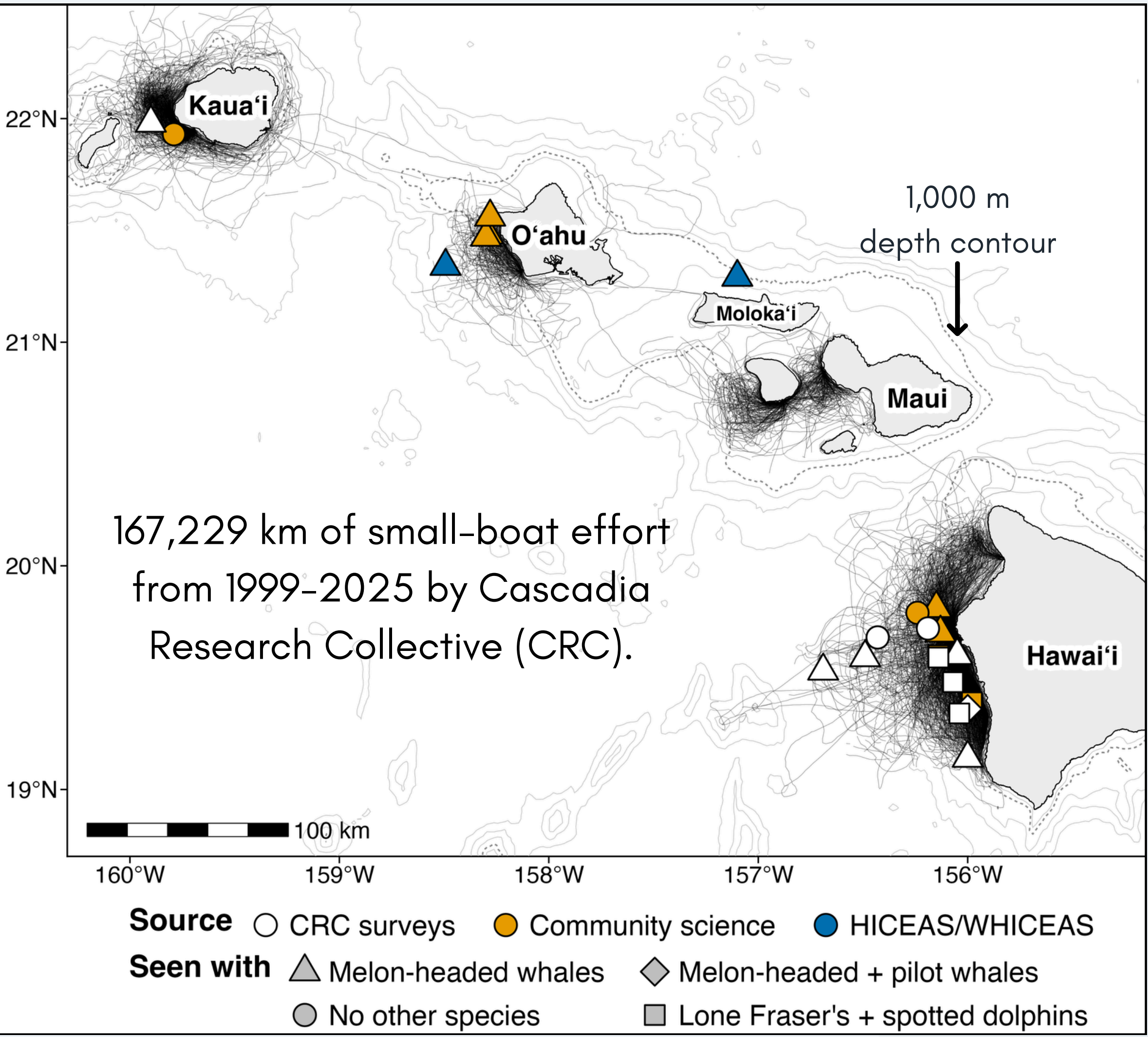
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 NOAA FISHERIES

Background

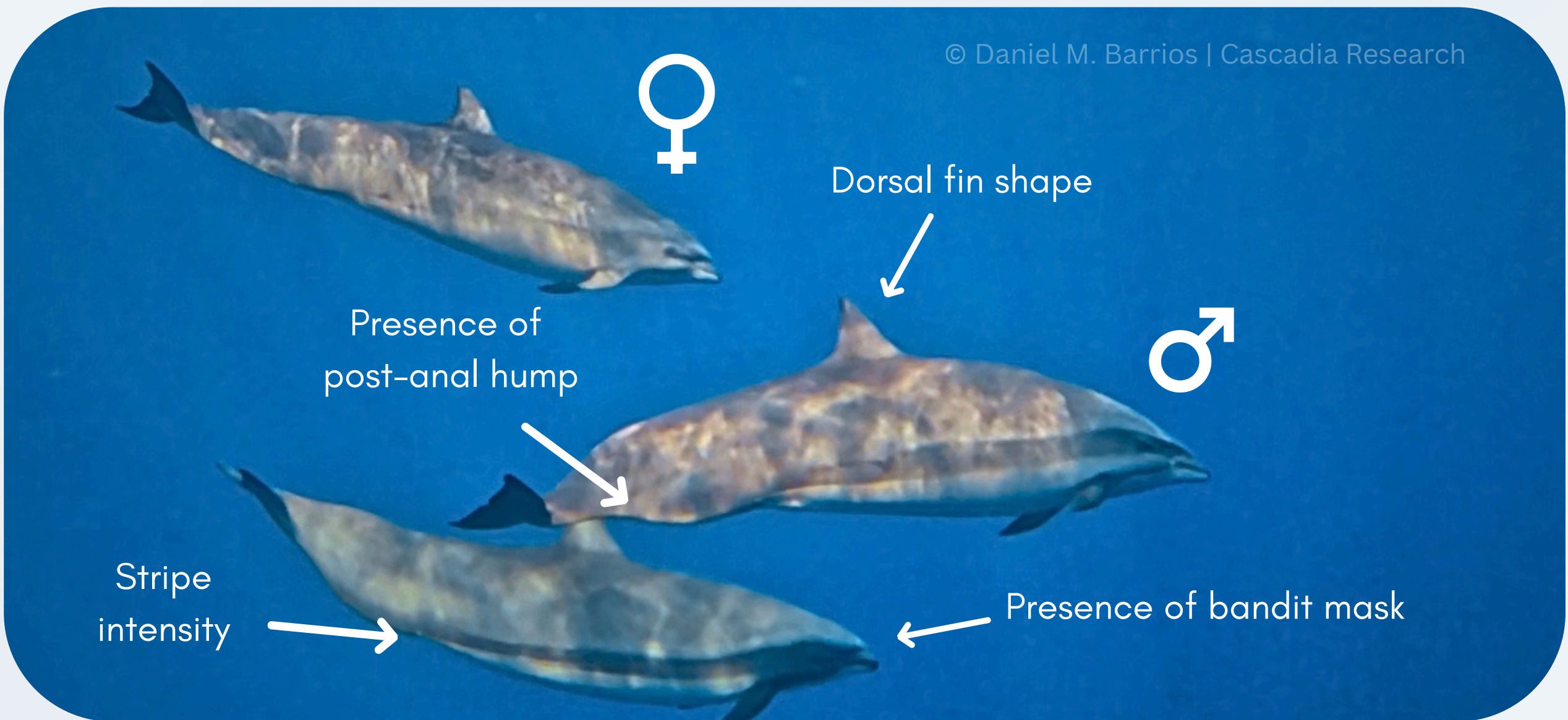
- Fraser's dolphins number roughly 41,000 in the Hawaiian Exclusive Economic Zone (EEZ), but are rarely seen near the main Hawaiian Islands (MHI).
- Could climatic conditions (seasonality, ENSO, smaller scale features) influence where and when we encounter this rare species?
- Fraser's dolphins are often encountered in mixed groups with other species; what species do they associate with most often and what drives the association?



All known near-island sightings, 1999–2025, with CRC effort tracklines, incorporating data from citizen science contributions and Hawaiian Islands Cetacean and Ecosystem Assessment Surveys (HICEAS) reports.

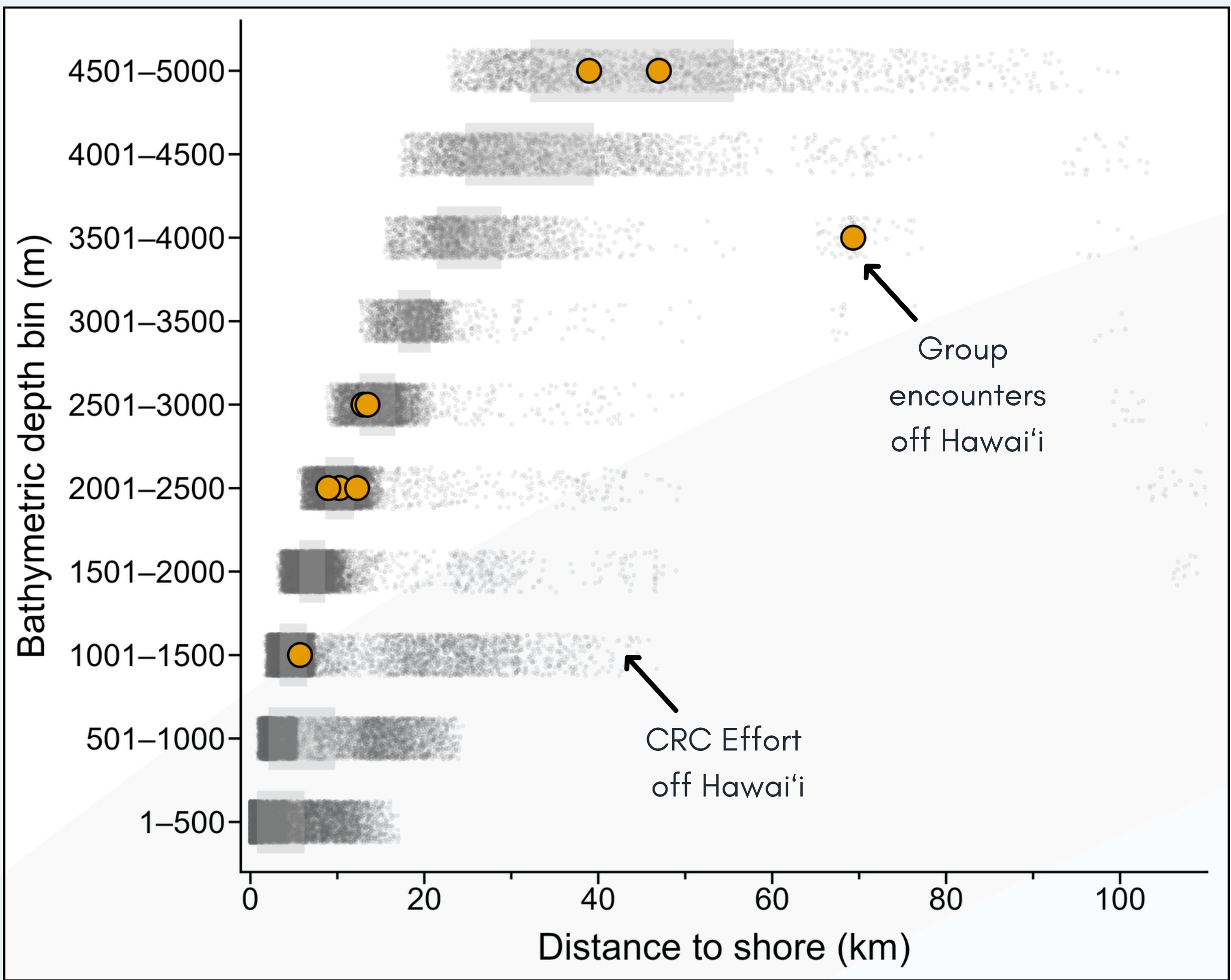
Sightings

- 11 encounters in six different years of CRC effort.
- Encounters were typically short (median= 0.1 h).
- Groups near the islands averaged ~69 animals, compared to ~359 in the wider EEZ on encounters mostly outside of the MHI (from HICEAS).
- Calves were present in two-thirds of groups; about one-third of classified adults appeared to be male.
- Two WHICEAS (Winter HICEAS) sightings in the MHI.
- Seven contributed citizen science encounters.



Animals were sexed using the above features, as in Jefferson et al. (1997).

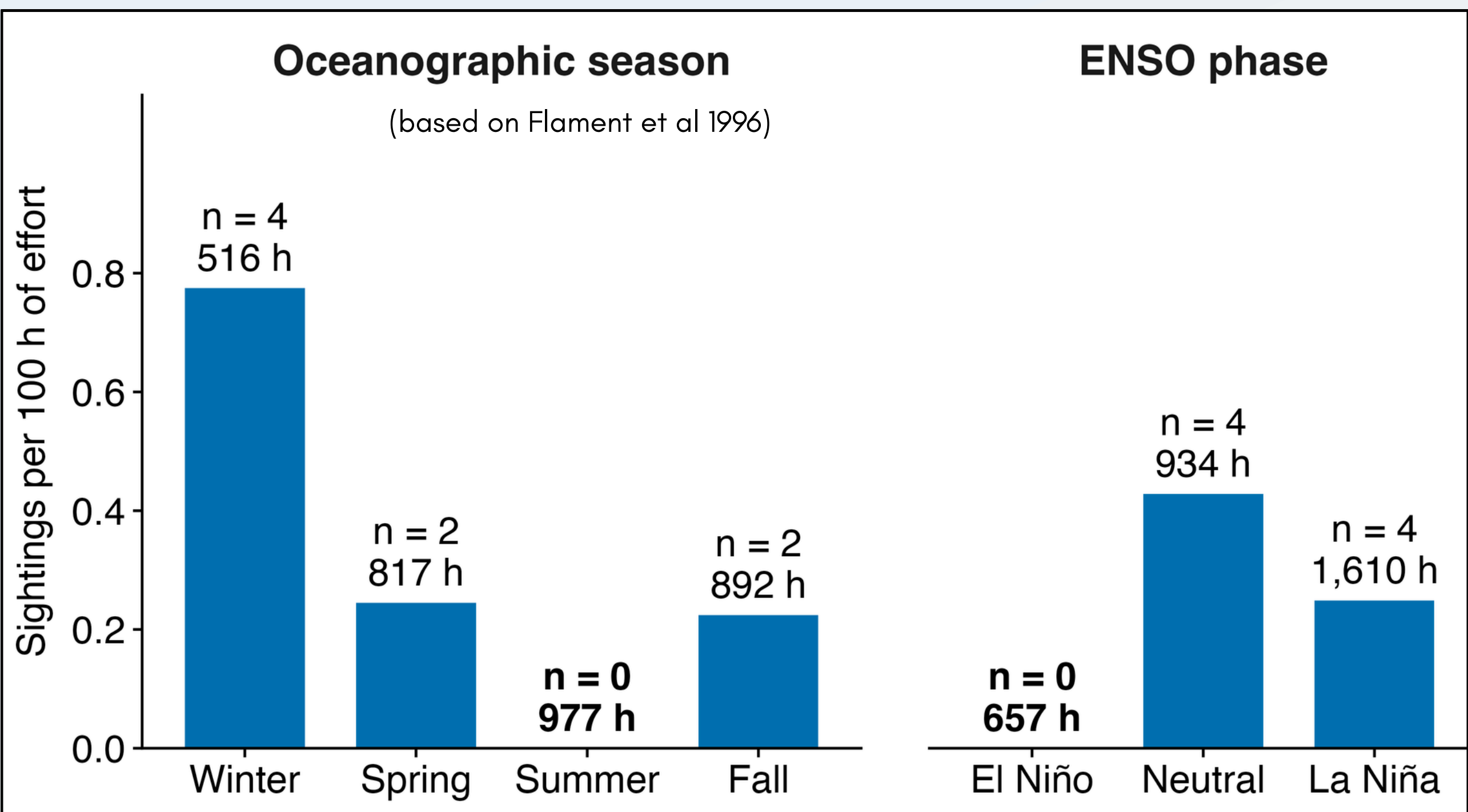
In 27 years of surveys, Fraser's dolphins have been seen on fewer than 1% of survey days near the main Hawaiian Islands.



Groups were found over deep water, some deeper than the previously reported 200–3,500 m range for the species.

Habitat and timing

- No near-island sightings from any source took place during El Niño conditions or in the summer.
- 6 of 7 Hawai'i Island CRC group sightings occurred during positive SST anomalies regardless of season or El Niño period.
- 6 of 8 total CRC group encounters fell within a narrow April–June window.



Sighting rates were highest in the winter.

Near-island visits may be brief excursions by nursery subsets of a larger population, drawn to prey-rich warm mesoscale features where they often encounter melon-headed whales.



A group of Fraser's dolphins encountered near melon-headed whales (*Peponocephala electra*).

Associations

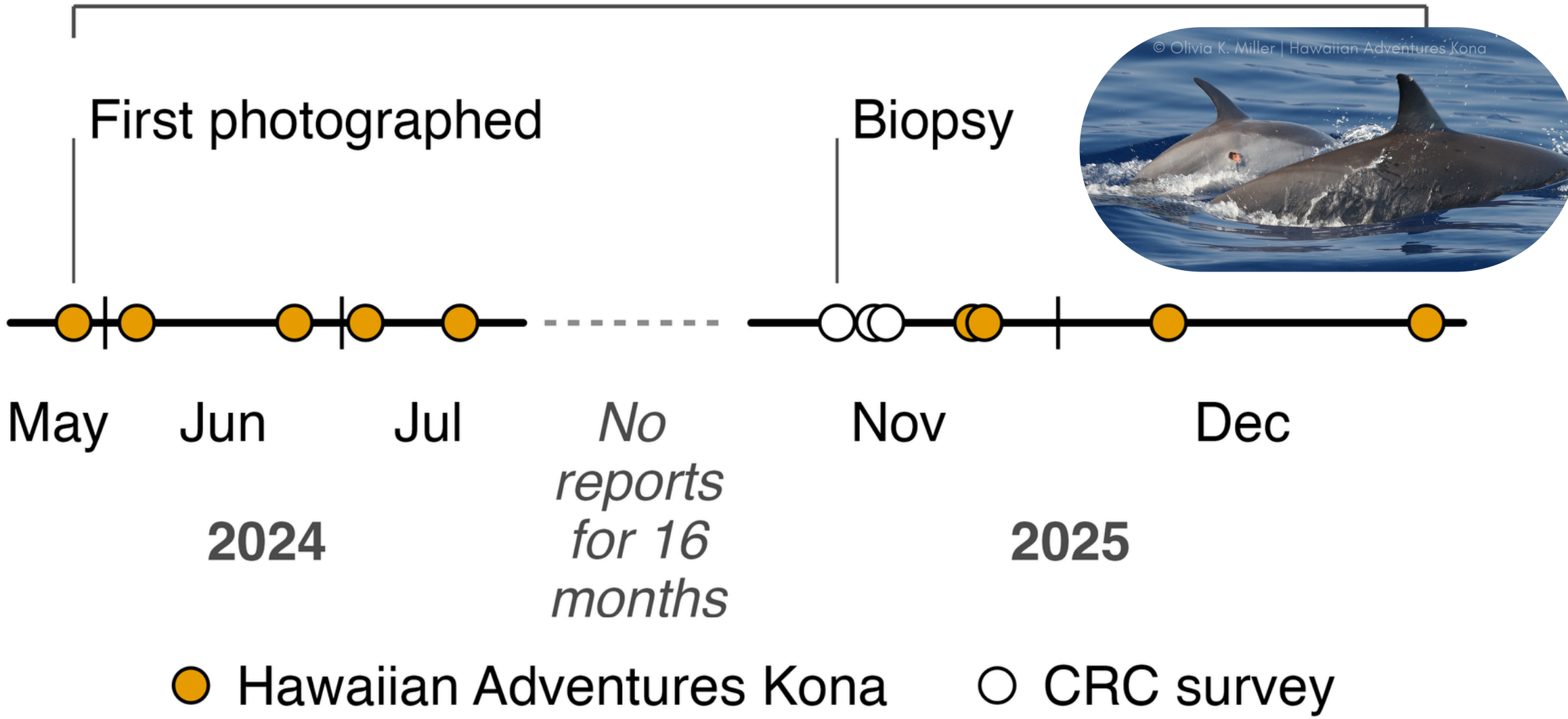
- Melon-headed whales were present in two-thirds of group encounters. Associating with other species may provide protection from predators, but may also serve as a path for disease transmission.
- Melon-headed whales have previously been shown to be attracted to prey aggregations at smaller, localized features like eddies, which could explain the tendency for groups of near-island Fraser's dolphins to use warmer-than-normal waters.



A lone Fraser's dolphin associating with pantropical spotted dolphins

- A single distinctive Fraser's dolphin was repeatedly seen in a group of ~120 spotted dolphins. To our knowledge, this sort of interaction has not been previously documented.
- The Fraser's regularly approached the boat and bowrode, allowing for collection of a biopsy sample.
- Sequencing the mitochondrial control region of the sample revealed a new haplotype, similar to western Pacific haplotypes, and distinct from those previously documented in Hawai'i. Genetic analysis revealed the individual was a male.

Sightings of the lone Fraser's with spotted dolphins span 19 months.



Learn more about our Hawai'i work

We thank Kym Yano for providing information on HICEAS sightings, and Lorene Livingston, Wild Side Specialty Tours, Captain Zodiac, and Dolphin Excursions Hawai'i for citizen science contributions. CRC research was conducted under NMFS permits 26596 and 20605. Funding for CRC efforts during which Fraser's dolphins were encountered was provided by the Pacific Islands Fisheries Science Center.

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Learn more about Fraser's dolphins in Hawai'i

