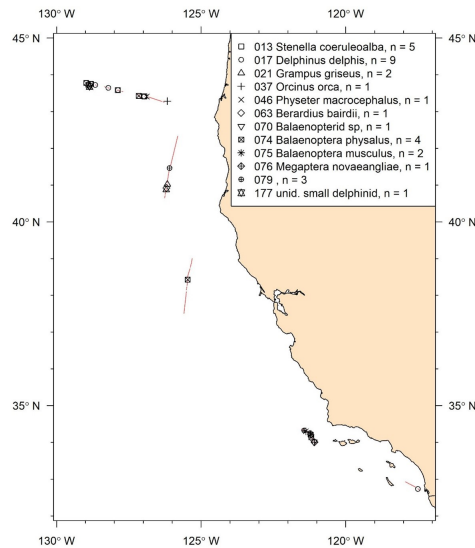


# MARINE MAMMAL & TURTLE DIVISION, SWFSC BIWEEKLY REPORT ON FIELDWORK, PUBLICATIONS, RESEARCH RESULTS, AND EVENTS

2 August 2024

## I. Fieldwork:

*California Current Cetacean and Ecosystem Assessment Survey: CalCurCEAS 2024 aboard M/V Bold Horizon. 24 July-5 December, California Current – Reporting Period: 24-30 July 2024 – Everyone is excited to be on the research vessel Bold Horizon for our 2024 CalCurCeaS survey. We departed on 24 July and*

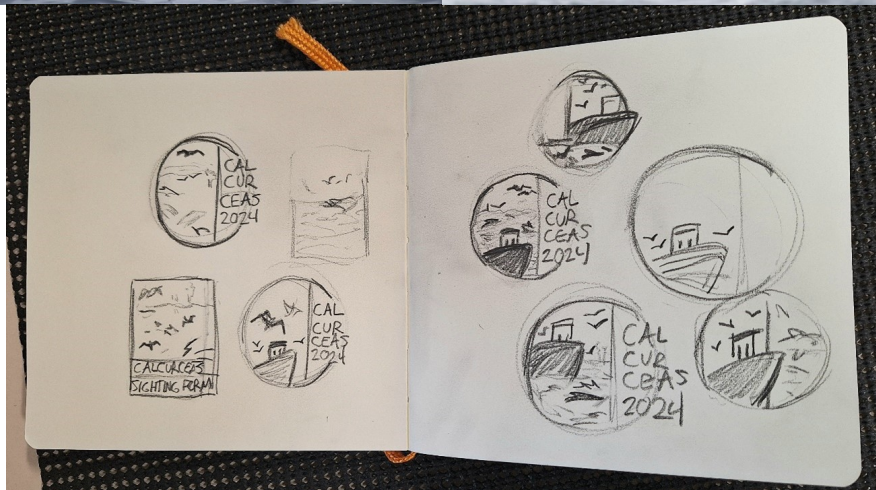


*proceeded northwest, through stiff Beaufort 6 winds off central California until we reached some very pleasant weather off southern Oregon. Leg 1 is focused on the offshore waters of northern California, Oregon, and Washington, before docking in Astoria, on 12 Aug. The Bold Horizon crew are great and we have quickly moved into a rhythm of surveying tracklines, finding animals, and making new friends. On 29 July, we encountered a group of transient killer whales in southern Oregon waters that were playing with a young-of-the-year elephant seal. We stayed with this group for a couple of hours, watching various killer whales taking turns rushing the elephant*

*seal, but not killing it. The calves, in particular, were quite curious about this potential food item being corralled repeatedly by other members of the pod. Eventually, we had to leave, but our thoughts remained with the young elephant seal. A sample of killer whale photos sent to Josh McInnes at UBC indicated that the large male (OCT090; photo below) is an outer coast transient that was first seen near Brookings, Oregon in 2021. Another whale, a female known as OCX075 (photo below), was encountered by Oregon State University's Marine Mammal Institute in April of 2024, also offshore of Brookings. We have completed over 500 km of standard transect effort and species diversity has been high: Short-beaked common dolphin, striped dolphin, Rissos dolphin, killer whale, Baird's beaked whale, fin whale, blue whale, sperm whale, and humpback whale all in the first week. Water samples have been collected when sea state conditions allowed for environmental, or eDNA analyses.*



**Figures: Survey effort and sightings 24-30 July, 2024 (top left). The M/V Bold Horizon far offshore near the U.S. EEZ boundary in southern Oregon waters, with common dolphins riding the bow. Photograph by Ernesto Vazquez with his 360-degree camera! NMFS Permit 22306 (bottom right).**



**Photos (clockwise from top left): Male transient killer whale (OCT090), photographed by Felipe Triana, NMFS Permit 22306; Female transient killer whale (OCX075), photographed by Ernesto Vazquez, NMFS Permit 22306; Cook's Petrel, Photograph by Michael Force; It's never too early to think ahead about cruise t-shirt designs and our visiting scientist, Veronica Lee, has been busy sketching; Risso's dolphins with very young calf. Photographed by Tom Jefferson, NMFS Permit 22306.**

*Seabird Summary 24-29 July:* In our first week of seabird surveys we recorded close to 300 individuals of 21 species. The most common (about half) were Leach's Storm Petrels. On 26 July we came within about 80 nmi of Davidson Seamount and saw dozens of Cook's Petrels, 15 of which ventured through our 300 m survey strip. Migrants headed to the Southern Hemisphere

included multiple Arctic Terns and Long-tailed Jaegers. An extra special treat was a ‘grand slam’ of all the North Pacific Stercorariidae (the Jaeger and Skua family) with Long-tailed, Pomarine and Parasitic Jaegers and a South Polar Skua all seen on the 28th.

*Leg 1 Contingent:* Cruise Leader: Jim Carretta; Marine Mammal Observers: Juan Carlos Salinas and Ernesto Vázquez (lead observers), Tom Jefferson, Allan Ligon, Felipe Triana, and Suzanne Yin; Seabird Observers: Dawn Breese and Michael Force; Visiting Scientists: Charlene Perez Santos and Veronica Lee. The eDNA team includes Charlene Perez Santos, Jim Carretta, Juan Carlos Salinas, and Veronica Lee

## II. Manuscripts accepted for publication:

## III. Papers published:

McGowen, M. R., Caballero, S., Flores, M. F. C., Murphy, K. R., **Archer, F. I.**, Ayyagari, S., Beasley, I., Cohen, C. S., Dolar, M. L. L., Junchompoo, C., Kaewmong, P., Klinsawat, W., Krieb, D., Kuit, S. H., **Robertson, K.**, Sabin, R., Sakornwimon, W., Smith, K. J., Teoh, Z. Y., Budi, t., Ponnampalam, L.S. and Hines, E. (2024). Range-wide phylogeographic structure of the endangered Irrawaddy dolphin (*Orcaella brevirostris*) using expanded sampling from contemporary and historical specimens. *Marine Mammal Science*, e13159.

<https://doi.org/10.1111/mms.13159>

*Abstract* –The Irrawaddy dolphin (*Orcaella brevirostris*) is an endangered cetacean that ranges throughout much of Southeast Asia and lives in coastal, estuarine, and riverine habitats including three river systems: Ayeyarwady, Mekong, and Mahakam. Many populations face risks from human interference, but overall rangewide diversity and connectivity is not well-understood. Here we sequenced 77 complete mitogenomes from across the range of the Irrawaddy dolphin including all obligate riverine populations; eighteen of these were sequenced from historical museum specimens. Phylogenetic analysis showed haplotypes from each riverine population formed separate clades nested within the wider species implying each river system was separately invaded only once. All Irrawaddy dolphin mitogenomes were dated to a last common ancestor ~764 kya. Most lineages appeared after inundation cycles of the Sunda Shelf were initiated ~400 kya. Despite the lack of monophyly among many haplotypes from the same population, no population shared any haplotypes. Rangewide nucleotide diversity was average compared to other odontocetes, but riverine populations were especially low. Differentiation was significant among all populations analyzed with the most divergence occurring between isolated riverine populations. These analyses add more evidence for the necessity of conservation efforts directed towards riverine and other isolated populations of the Irrawaddy dolphin.

## IV. Research findings:

## V. Press:

## VI. Local events - meetings or events hosted in-person or virtually:

*Summer Intern Experience NOAA Career Panel through PIES (PEER Intern Experience Subcommittee), 2 July 2024* – Cali Turner Tomaszewicz (MTEAP) virtually participated as a panelist along with three other NOAA employees to speak to new summer interns (nationwide) about careers and experiences at NOAA. The goal of the session was aimed to inform interns about the scope of the NOAA mission and highlight the diversity of backgrounds within the NOAA workforce. Cali – and the three other Panelists - were also awarded "Kudos" from the event organizer "for being an exceptional member of the team here at the Department of Commerce. Thank you to you and your team for upholding the Department's core values of Service, Passion, Respect, and Equity."

*"Sea turtles of California and research at NOAA: what we know and how we're learning more," 12 July 2024, La Jolla, CA* – Cali Turner Tomaszewicz (MTEAP) gave a guest lecture at the Scripps Institution of Oceanography to the Center for Marine Biodiversity and Conservation's masters of advance science (MAS) '24-'25 cohort. The talk highlighted the sea turtle research conducted by both MMTD sea turtle programs, the Marine Turtle Ecology & Assessment Program, and the Marine Turtle Genetics Program. A follow up lab tour for the MAS students happened on Friday 26 July 2024.



## VII. Travel - meetings attended in-person or virtually:

## VIII. Awards, grants, and recognition:

## IX. Other of note:

*Stranding summary for the weeks of 18-31 July 2024*

Cetaceans: 1 (no response)

- 27 July - an unidentified dolphin was reported to be floating 2 miles west of La Jolla Shores.

Pinnipeds: 3 (no response)

Turtles: 1

- 29 July - SWFSC received a report of a dead green turtle in Mission Bay. MMTD's Sue Roden, Lexi Mena, and Erin LaCasella responded, took photos and measurements, and brought the carcass to SWFSC for future necropsy. This turtle is one of our tagged research animals from Seal Beach National Wildlife Refuge located nearly 100 miles north. Originally caught on 30 May 2014 as a juvenile (curved carapace length of 66.4 cm), ten years later this turtle measured 97.4 cm and had a long tail indicative of a male. Evenly-spaced parallel slicing wounds (propeller marks) were observed across the head and carapace which caused severe damage to the turtle.



**X. Where-about of Division Director:**

In La Jolla