



## Listening for Cryptic Whale Species 30-day Post Cruise Report

1. **Ship name:** Falkor
2. **Cruise Dates - Day Departed:** 10/21/2019
3. **Cruise Dates - Day Returned:** 10/26/2019
4. **Cruise Number:** FK191021
5. **Departure Port:** Honolulu, HI
6. **Arrival Port:** Honolulu, HI
7. **Mid-Cruise Port Call (if any):** N/A
8. **Mid-Cruise Port Call (if any):** N/A
9. **Participating Organizations, Institutions, Foundations, Government Agencies, etc.:**  
NOAA, Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii
10. **Funding Sources:** none
11. **Describe all of the geographical area(s) where the science occurred:** Main Hawaiian Islands
12. **Name of Chief Scientist:** Ann Allen  
**Organization:** NOAA  
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13. **Cruise Objectives:**  
The primary objective of this project was to collect eDNA samples from CTD casts in conjunction with cetacean acoustic recordings.
14. **Cruise Summary:**  
The cruise departed on October 21, 2019 transiting south to 20.697N 155.622W. During the transit there were two observers posted to the upper deck to keep watch for any marine mammals for opportunistic sampling. No animals were sighted. We arrived on

station around 05:00 local time on 10/22/2019. Upon arrival 3 DASBRs were deployed in a triangular configuration. DASBRs are autonomous drifting acoustic buoy recorders and were deployed to capture any vocalizations from cetaceans in the area. The ship was then positioned in the middle of the configuration and 24 hours of CTD casts were conducted with the ship adjusting to stay centered within the DASBR configurations updated in near real time. Each cast took water samples at 6 different depths (1000m, 800m, 600m, 400m, 200m, 50m) and the water samples were filtered for eDNA collection. Nine casts were conducted, and all samples were labelled and frozen for future processing. In addition to the DASBR recorders a LLHARP recorder, constructed by Scripps Institution of Oceanography, was attached to the CTD and recorded all sounds at the location of the CTD casts. Once 24 hours of sampling were concluded the DASBRs were retrieved using an onboard SOI setup.

*Falkor* then transited north to our second sampling site. During the transit observers were once again posted on the upper deck to conduct a visual survey for cetacean species. No workable animals were spotted. Site 2 was located off the West coast of Oahu at 21.3511N 155.2767W. The ship arrived at around 04:00 local time on 10/24/19. The same procedure as above was conducted again, with deployment of 3 DASBRs and 24 hour CTD sampling for eDNA analysis. Operations concluded around 06:00 local time on 10/25/19 and all equipment was picked up out of the water.

During the last day of operations *Falkor* conducted a visual survey for marine mammal groups, transiting to the north side of Molokai. One group of pilot whales were found in the channel between Oahu and Molokai. Photo ID pictures were taken of as many animals as possible, but as pilot whales were not a target species for the study, no small boat or other sampling was conducted. At sunset on the 25th visual observations concluded and *Falkor* began transit back to Oahu arriving in port during the morning of the 26th.

15. **Did you collect Measurements or Samples, including biological specimens?** Yes
16. **Did you deploy and/or recover any Moorings, Bottom Mounted Gear, or Drifting Systems?** Yes
17. **Equipment Used:** DASBR drifting acoustic recorders, LLHARP acoustic recorder
18. **Total number of CTD casts completed during the cruise:** 18
19. **Total number of AUV dives completed during the cruise:** 0
20. **Total number of ROV dives completed during the cruise:** 0
21. **Total number of ROV samples collected during the cruise:** 0
22. **Total number of Unmanned Aerial Vehicle (UAV) or other vehicle deployments during the cruise:** 0
23. **Total amount (TBs) of data collected during the cruise:** 1