

Marine Mammal Observation Summary

CalCOFI 1311, New Horizon Chief Scientist James Wilkinson

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Marine mammal visual observations were conducted simultaneously with passive acoustic monitoring. A six-element hydrophone array was towed during daylight transits between stations, and expendable Navy sonobuoys were deployed upon arrival at stations. While the ship was underway, we were steaming at approximately 9-10 kn between stations and transect lines throughout the 16 day period on the CalCOFI grid. Opportunistic sighting data was also recorded while the ship was on station and occasionally during inclement weather/sea state (Beaufort 6 and above).

The weather conditions were a wide array of Beaufort scales during the entire cruise. There was a particular absence of large whales both visually and acoustically. There were many days of high Beaufort sea states of 4-5 but acoustically we were not picking up on many animals that might have been missed by the visual survey. We also had a few days of rain and low thick fog limiting our visual effort but in these cases we were still not recording many vocalizations to express that there might be whales in the study area that could not be seen due to weather.

Overall, we accrued over 91 marine mammal sightings totaling 5140 individuals, comprised of 8 different known species excluding the Pinnipeds. Lauren Roche, the acoustician, was able to get a good number of incredible recordings. She recorded *Physeter macrocephalus* in the CalCOFI grid where we had some amazing looks at them with their calves. There was a group of 13 or more observed at a distance at a position of 31 53.42 -121 09.32 on the offshore nonstandard transect between line/station 87-110 and line/station 83-110. This was sighting number 55 and they were on a recovery dive breathing in a stationary position before they sounded. We observed them for 1 and a half hours until the rain encased us while on station 83-110. *Balaenoptera physalus* were the most sighted large whales in the area but with the lack of overall sighted large whales they were also not very numerous.

Sighting number 54 was an interesting medium to large whale on line 87 near station 90 at a position of 32 03.70 -122 14.84. Photograph frames 357-403 were taken in very poor light for defining the species but more analysis is needed. The animal swam at a fast pace approximately 10.5 knots parallel to the ship for at least 9 surfacings. The dorsal fin and blow hole were never up at the same time and we did not get a look at the rostrum.

Odontocetes were the most diverse and commonly observed suborder on this cruise consistent with this study area. The 4 species sighted were comprised of common dolphins (*Delphinus delphis*, *Delphinus capensis*, and *Delphinus spp.*), Risso's (*Grampus griseus*), Pacific white-sided (*Lagenorhynchus obliquidens*), and bottlenose (*Tursiops truncatus*).

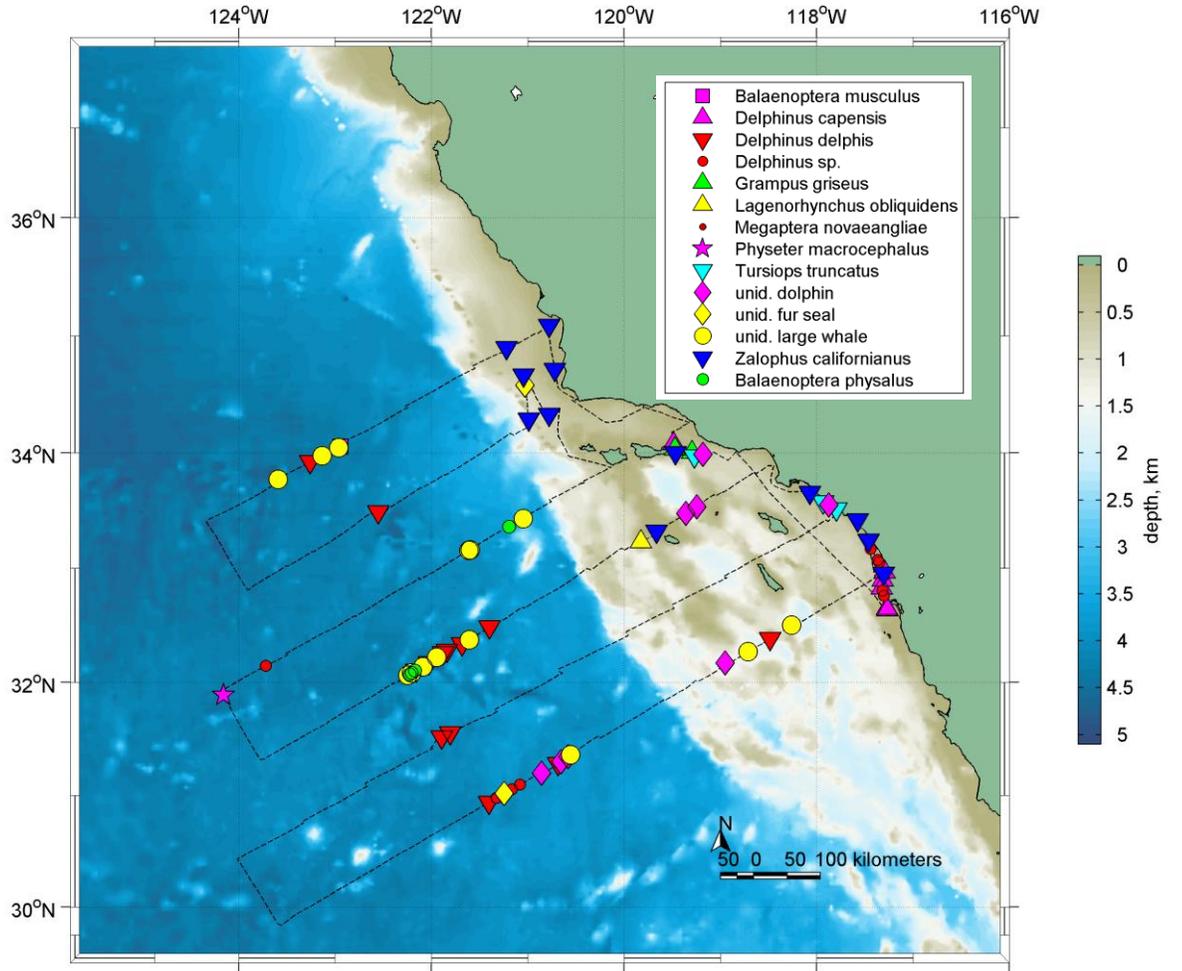
The *Delphinus* species of 37 individual sightings were the most numerous of all totaling more than 4679 individuals throughout this cruise. These dolphins tended to be observed very spread out in small subgroups over miles. Data collected on them was tallied into large extended sightings. Fin whales (*Balaenoptera physalus*), were the most abundant mysticeti with 1 sighting of humpback whales (*Megastore novaeangliae*), and blue whales (*Balaenoptera musculus*). We observed 3 blue whales “speed racing”, charging through the water at a very fast pace creating large wakes while physically very close to each other.

California sea lions (*Zalophus californianus*) were predominately encountered within 200 nm from shore, for which we performed cumulative daily counts. We observed 135 individuals over the course of the cruise. There were 2 unidentified fur seals, on this survey.

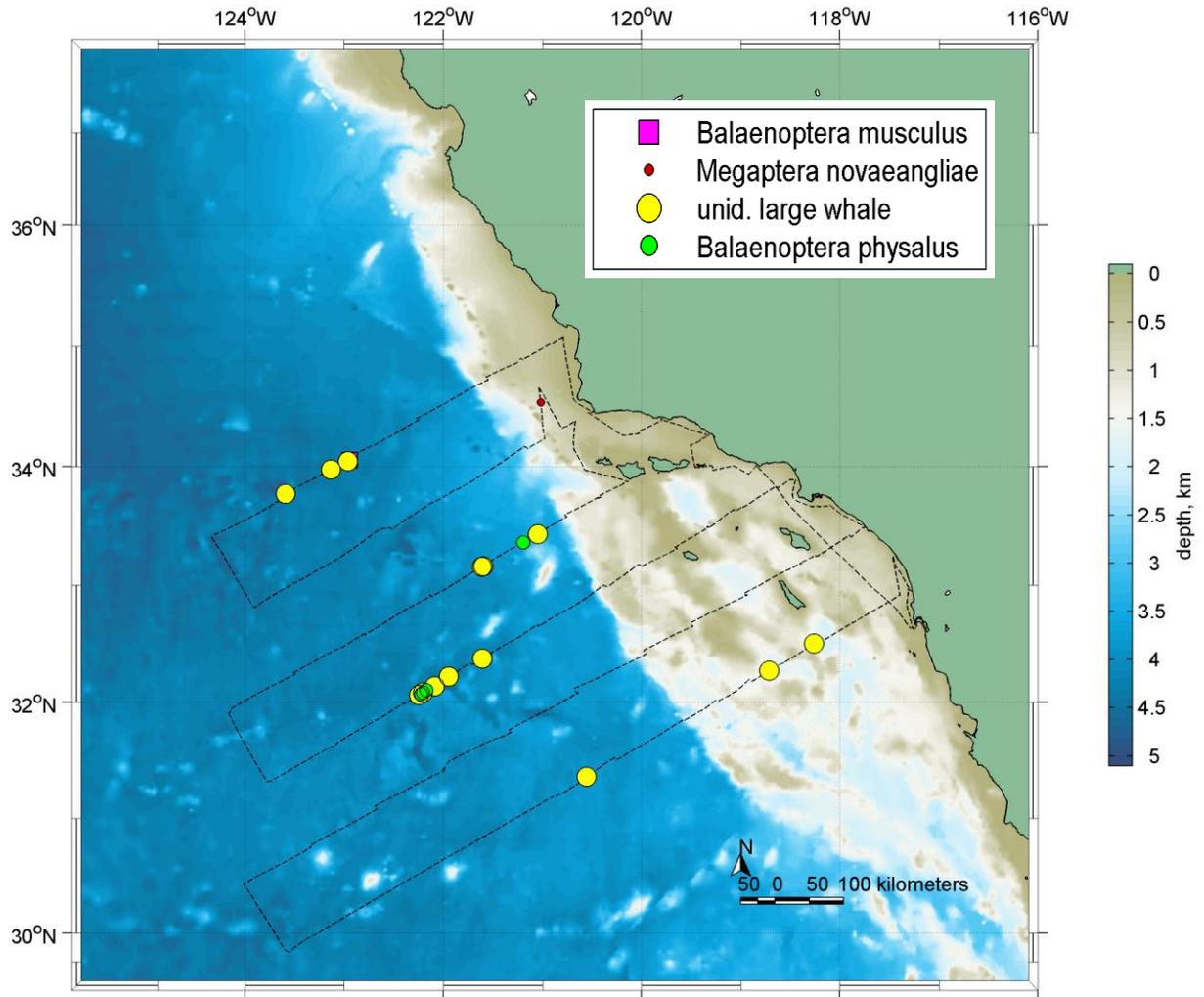
Table 1. Summary of CalCOFI Cruise marine mammal sightings on *The New Horizon* during fall 2013, including scientific name, total number of sightings, total number of individuals, and total number of all animals.

Scientific Name	Total Sightings	Total Individuals
<i>Balaenoptera musculus</i>	1	3
<i>Balaenoptera physalus</i>	4	5
<i>Megaptera novaeangliae</i>	1	2
<i>Physeter macrocephalus</i>	1	8
<i>Delphinus capensis</i>	6	2264
<i>Delphinus delphis</i>	13	857
Delphinus species	18	1558
<i>Grampus griseus</i>	2	37
<i>Lagenorhynchus obliquidens</i>	1	19
<i>Tursiops truncatus</i>	4	41
unidentified dolphin	8	190
unidentified large whale	14	19
<i>Zalophus californianus</i>	16	135
unidentified fur seal	2	2
Total number of all sighted animals		5140

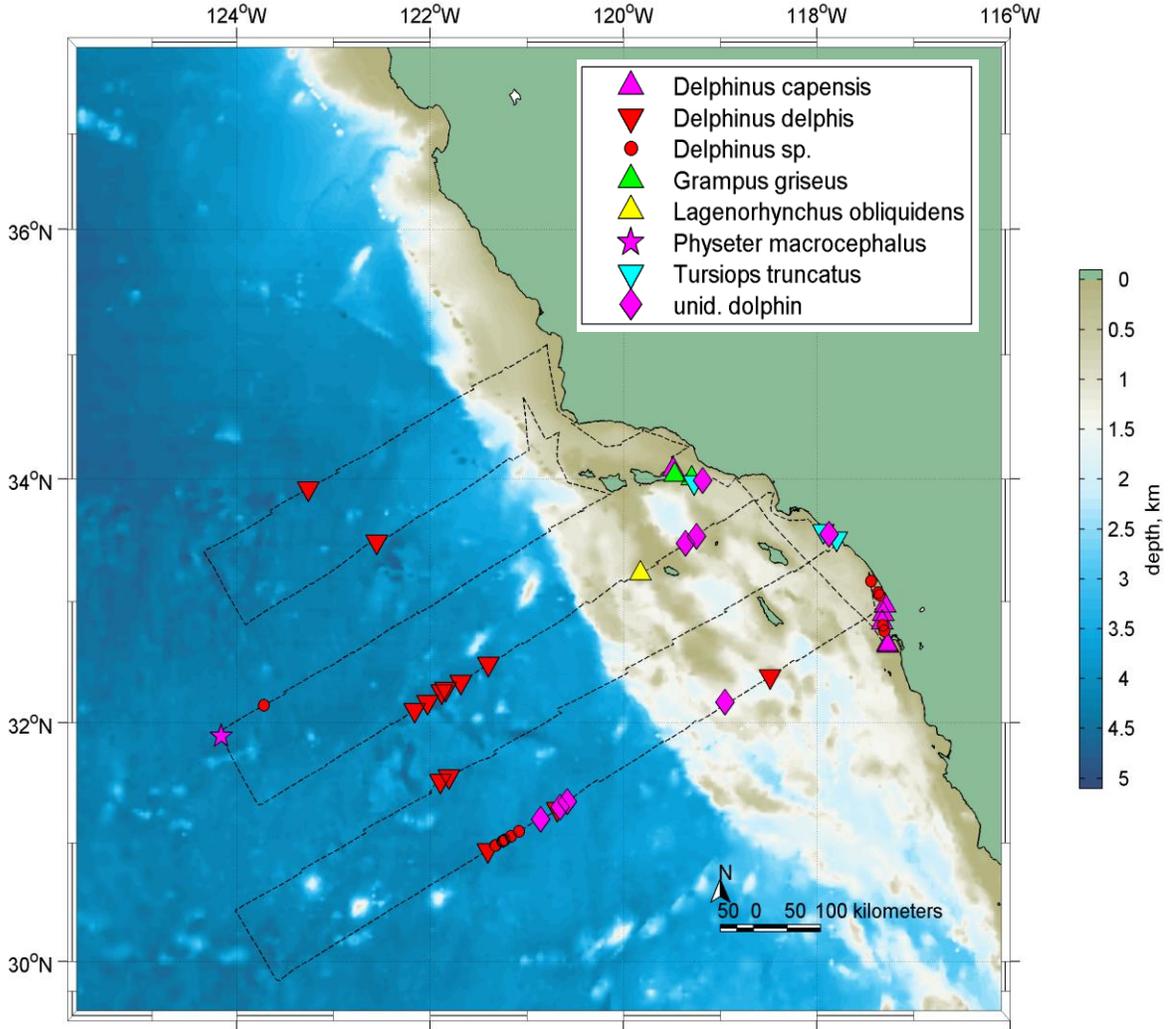
All Mammals



Baleen Whales



Odontocetes



Pinnipeds

