



GRAY WHALES COUNT
SANTA BARBARA CHANNEL

PROJECT DESCRIPTION

A RESEARCH / EDUCATION PROJECT OF UCSB'S COAL OIL POINT NATURAL RESERVE, GOLETA + AMERICAN CETACEAN SOCIETY – CHANNEL ISLANDS + CASCADIA RESEARCH COLLECTIVE, OLYMPIA, WA + MARINE PHYSICAL LABORATORY, SCRIPPS INSTITUTION OF OCEANOGRAPHY, UCSD, LA JOLLA

BACKGROUND: Many who walk along the beaches near the University of California, Santa Barbara (UCSB) and those who swim, surf, or boat in the nearshore waters of the Santa Barbara Channel observe gray whales (*Eschrichtius robustus*) swimming sometimes very close to shore as they migrate north from Baja California Sur, Mexico in the late winter and early spring toward feeding waters primarily in the Chukchi and Bering Seas off Alaska.

A reason these whales swim so close to shore may be to defend themselves and their calves against killer whales. Whalers in the 19th century took advantage of that behavior by establishing coastal whaling stations at places along the California coast, including Goleta, near where the Marine Science Institute has been built at UCSB. Coastal whalers preyed on animals that evaded the devastating exploitation in the birthing lagoons of Baja California. By the late 1890s, there weren't enough whales to make a profit and the operation ceased in Goleta.

Gray whales have recovered from near extinction to the point that they were removed from the Endangered Species list in 1994. Now, there are no whalers along the southern California coast, yet the threat from transient killer whales remains all along the migration, including the Santa Barbara Channel. The shallow water of the nearshore seems to provide protection from predation. Even so, the gray whales that choose to travel close to shore encounter a gauntlet of human-made perils, including boat traffic, piers, noise, oil platforms, entanglements, and pollution.*

In 2007 we observed a troubling, estimated drop-off of 46.8% in calves from the previous year, 2006. A similar percentage was reported from other primary, survey stations along the migration route. The confirmation has alerted scientists who are investigating climate changes and access to prey in the primary feeding regions off Alaska. Observed stress on the population points up the importance of consistent monitoring and close collaboration between survey sites.

RESEARCH OBJECTIVE: Our primary, research objective is to create baseline data from Coal Oil Point in the Santa Barbara Channel through annual surveys of the northbound migration of gray whales in order to assess the use and nature of what may be a critical corridor for the whales through this region. Furthermore, we intend to share our data with a network of observation stations along the California coast; and, through combined analysis, our data may help to distinguish route choices and, possibly, allow for more accurate assessments of events that affect gray whales. They are no longer listed as endangered, yet they remain a population at risk.

NOTE: If oil drilling resumes from Platform Holly into the nearshore region off Coal Oil Point as proposed, Gray Whales Count is in position to continue to monitor the migration and, with established baseline data, to determine the effect of the drilling operation on the migration of gray whales.

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EDUCATION OBJECTIVE: Beyond the scientific community, our education objective is to generate insights into the natural world through the vast, international migration of gray whales. Our goal is to interact with publics directly, to train participants in the science to be spokespersons for the project, and to reach internet communities, especially schoolchildren, through timely reporting and distribution of curriculum material to classrooms.

A primary focus for both education and research is the student-intern program in which students train to become Supervisors. Their work on site makes the research possible, and their education and experience working with marine mammals in the field may inform their career direction.

All Counters receive specific training from the Project Coordinator that includes procedures and protocols, observation methods, and information about marine mammals, particularly gray whales and their migration.

Special attention is paid to our site: the ocean around Coal Oil Point and the land, which includes the Coal Oil Point Natural Reserve. Counters, in turn, share information about Gray Whales Count with passers-by as part of the education mandate.

PROJECT: The Board of the American Cetacean Society–Channel Islands (ACS–CI) voted in 2004 to organize and to support the initial shore-based survey in the region of the northbound gray-whale migration from the Coal Oil Point Reserve in Goleta from January 29 through May 8, 2005.

Following a successful first year, the ACS–CI board approved a plan to jointly manage the project in 2006 with Cascadia Research Collective of Olympia, Washington, whose scientists have more than thirty years experience with gray whales and regularly conduct fieldwork with humpback and blue whales in the Santa Barbara Channel.

In 2008 we are expanding the scope and adding a new partner, the Marine Physical Laboratory at Scripps Institution of Oceanography, UCSD whose team will simultaneously monitor the migration with passive-acoustic equipment deployed in the water around Coal Oil Point. At the conclusion of the survey, we will combine our data in an effort to understand impacts on the whales and apparent behaviors.

Michael H. Smith, who initiated the project, continues as Project Coordinator of Gray Whales Count 2008: January 28 through May 11. Counters, as participants in Gray Whales Count are known, include Observers who volunteer for 2-hour shifts and Supervisors who commit to weekly 4-hour shifts on the Point. The observation team always includes a Supervisor and usually the Project Coordinator and volunteer Observers.

The mainland coastline runs approximately east and west in the area. The observation position on Coal Oil Point as calculated by USGS is 35.695 feet (10.88 meters) above mean low water. Adding eye-height, we are 40.682 feet (12.4 meters) above the ocean, which makes the horizon approximately 6.78 nautical miles (7.81 statute miles) distant.

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A transect was established that extends almost due south from Coal Oil Point to the west end of Santa Cruz Island, twenty nautical miles away. Northbound whales approach from the east or southeast and cross the transect as they are swimming west on their way north. Observers use Baker Marine + Fujinon 7x50 binoculars with a built-in reticle scale and compass. A 20-power spotting scope is employed to assist with species identification. While in exceptional conditions it might be possible to identify animals five or six miles from our position, our practical limit is four miles, and most sightings are not further than three miles.

Data are recorded on all cetaceans and sea otters (rare south of Point Conception). Northbound gray whales, the focus of the survey, are distinguished from southbound gray whales.

Targeting gray whales, the team must locate an animal, identify it as a gray whale, note the direction of travel, determine the number of animals in the group, and recognize if a calf is present.

Gray whales migrating north are tracked across the transect line. Behaviors are noted at each data point, and comments, when appropriate, are entered. Weather and sea state are noted for each sighting and updated at least each hour. Vessels within two miles of our position are entered and tracked in a log and any apparent interactions with animals are recorded.

Daily tallies for all observed northbound, gray whales and a distinguishing tally of calves, along with comments on the day's effort are uploaded each evening to the web page WWW.GRAYWHALESCOUNT.ORG. The project description and tallies to date are available for download, as well as information about volunteering. There are links to partners' and collaborators' websites, including the ACS census conducted in Los Angeles (Palos Verdes), approximately 120 miles south.

Data, comments, and, occasionally, images and challenge questions to students are emailed daily to educators at Journey North who then prepare and distribute classroom, curriculum material on their website for school children across the country. Our data are used almost as fast as it is collected and students have an opportunity to analyze what is going on and pose questions, interacting directly with scientists in the field.



*For an in-depth discussion of human activities that may affect gray whales, including a notation that there have been no published studies on the impact of active, oil production, see: Moore, S.E. and Clarke, J.T. 2002. Potential impact of offshore human activities on gray whales (*Eschrichtius robustus*), J. Cetacean Res. Manage. 4(1):19-25.