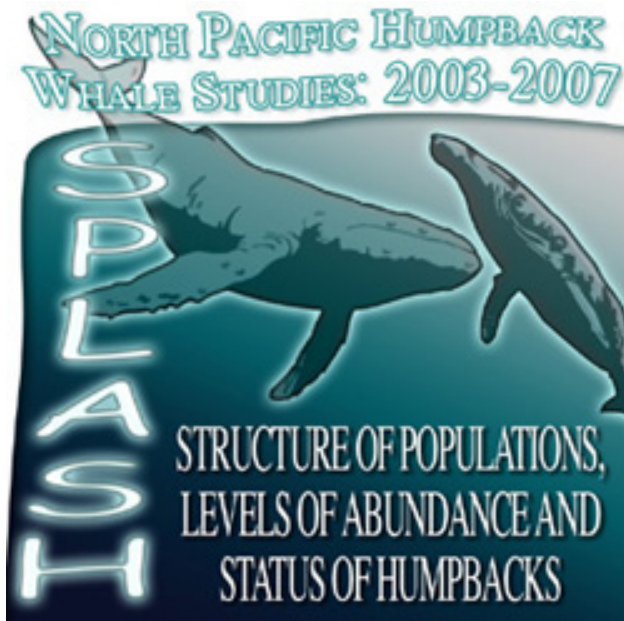


SPLASH!

Population Ecology of Humpback Whales in the North Pacific

Introduction

Welcome aboard! As a well-known whale biologist and population ecologist, you have been invited to join a team of scientists from the “SPLASH” project and spend a summer at sea studying humpback whales in the North Pacific. Who are the members of the SPLASH team and what do the letters “S-P-L-A-S-H” stand for?



SPLASH is an acronym that stands for: Structure of Populations, Levels of Abundance and Status of Humpbacks. The members of the SPLASH team are an international group of whale biologists, also known as “cetologists,” who are working together to estimate the size of the humpback whale population that inhabits the North Pacific. Humpback whales, also known by their scientific name *Megaptera novaeangliae*, are of particular interest to biologists, as they are currently listed as an endangered species. The North Pacific humpback whale population, which had been significantly reduced due to commercial whaling, has been protected under the U.S. Endangered Species Act since 1973. Population biologists would like to reassess the abundance and distribution of humpbacks to determine if the protective measures have had an impact on humpback population recovery.

Studying humpbacks in the North Pacific is a challenging task for many reasons. The first challenge is posed by the enormous size of the Pacific Ocean; the Pacific is in fact the world’s largest ocean, covering nearly a third of the Earth’s surface. The second challenge relates to the migration habits of the population of humpbacks that inhabit the North Pacific. Humpbacks of the North Pacific spend the summer months feeding in northern latitudes, and spending the winter months breeding in the lower, warmer latitudes closer to the Equator. Finally, humpbacks, like other whales, spend much of their time submerged, offering biologists only occasional glimpses when they surface to breathe.

SPLASH: Population Ecology Activities – Student Worksheet

So where should SPLASH biologists begin? The SPLASH project is a multi-year project, and sub-groups within the SPLASH team will survey different areas of the North Pacific.

The sub-group that you will be joining will be spending four months in the Gulf of Alaska studying the humpbacks at their summer feeding grounds. To assist you in your research, the members of your team have been granted access to a research vessel, the NOAA ship *McArthur II*, for four months this summer.

This 224 foot vessel has been specially equipped for conducting oceanographic and biological research, and will serve as your home and laboratory while at sea. Check out a photo of the *McArthur II* below:



To learn more about the *McArthur II*, please visit the following web site:

<http://www.moc.noaa.gov/mt/science>

Discussion Questions:

Take a moment to explore a map of the Gulf of Alaska and discuss with your team how you might begin to estimate the number of humpbacks in this area.

What methods might you use to estimate the abundance of humpbacks in the Gulf of Alaska?

What equipment would you need to bring to assist you in your survey?

What are some challenges that you might face in conducting your research?