SPLASH

A Comprehensive Study of North Pacific Humpback Whales

Structure of **P**opulations, **L**evels of **A**bundance and **S**tatus of **H**umpback Whales

Information Sheet: Photo Identification

Background Information:

The black and white patterns of humpback whales' flukes (tail) are unique to each individual as fingerprints are to humans. For over twenty years now, humpback whale researchers have been photographing the underside of humpback whale flukes in order to identify, catalog, and monitor individual whales. A central archive houses the images that are obtained. This process, known as photo-identification, has led to valuable information about such things as humpback whale population sizes, migration, sexual maturity, and behavior patterns. SPLASH will provide a large and comprehensive collection of identifications collected under a standard protocol across an entire ocean basin habitat. These data, combined with the commitment to make the central archive open and accessible to future researchers and managers, will be an important long-term contribution to the recovery of humpback whales.

Methodology:

Photographs of pigmentation patterns and scarring on the ventral surface of the flukes, together with serration patterns along the trailing edge will be used to individually identify whales. To obtain photos, whales will be followed by permitted researchers in small or large survey vessels and photographed with 35-mm SLR or digital cameras equipped with telephoto lenses.

Sampling Design:

The SPLASH study is designed to provide broad geographic coverage of humpback whale summer and wintering areas in the North Pacific over multiple years. The research program plans to collect data in the winter/breeding areas for three years (2004-2006) and in the summer/feeding areas for two years (2004-2005). In all areas, effort will be allocated in a manner that is proportional to the density of animals. This will be the first time that humpback whale photo-identification will be done as part of an overall structure and study design throughout the North Pacific. The initial target for photo-identification is 10% of the animals in each region during each season.

Objectives:

1. Obtain a current estimate of overall abundance for the North Pacific stock of humpback whales including estimates for specific wintering and feeding areas and whether they are increasing or decreasing.
2. Determine key population parameters including reproductive and mortality rates as well as age/sex structure and pregnancy rates.

Key Questions:

1. How many humpback whales are there in the North Pacific, and is their population increasing or decreasing?
2. Are there different stocks of populations, and to what extent do they intermingle?
3. What is the status of humpbacks in habitats which have not been visited since whaling days?

Future Applications:

The SPLASH photographic catalog will be preserved as a legacy for use in future research and conservation. The data will significantly contribute to the photographic archive and to long-term sighting records for individual humpback whales which will lead to a better understanding of the species in the future.

For More Information go to: http://hawaiihumpbackwhale.noaa.gov