

Steller Sea Lion Abundance and Distribution in Clayoquot Sound, BC

PROGRESS REPORT

Submitted to:

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Submitted by:

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The Steller sea lion project is progressing well and is on schedule. Conducting surveys for three consecutive years is required so that sufficient data can be obtained for statistical analysis. Continued funding is requested to ensure the objectives of this multi-year project are achieved. Below is a brief summary of the project objectives along with an outline of progress to date.

Objectives

The objectives of this study are to:

1. determine the seasonal abundance and movements of Steller sea lions in the Clayoquot Sound Biosphere Reserve and surrounding area
2. identify sex and age classes of Steller sea lions at haulouts within and adjacent to the Clayoquot Sound Biosphere Reserve

Background

Steller sea lions occupy two year-round and two seasonal haulouts within the Clayoquot Sound Biosphere Reserve (CSBR) and adjacent region. This project will provide information to accurately characterize haulout use for application to conservation initiatives in the Biosphere Reserve. Specifically, it will investigate the seasonal variation and proportion of usage of various haulout sites in Clayoquot and Barkley Sounds by Steller sea lions, including use by different age and sex classes. The work will provide locals, the scientific community and decision-makers with information to make ecosystem-based management decisions for species conservation.

This work builds on previous sea lion studies conducted by the principal investigator and the ongoing surveys conducted by the National Marine Mammal Lab (NMML), (National Marine Fisheries Service), Seattle, Washington. Local volunteers, including light keepers at Carmanah and Pachena, tour operators and the principal investigator will be used to conduct some of the monthly counts at Carmanah, Pachena and in Barkley Sound to support this research project. The NMML is supporting this project in part by allowing the principal investigator to use her data from NMML surveys conducted at these sites between July and November.

Proposed Activities and Results

Surveys

Proposed: One survey per month will be conducted at each site for three consecutive years. NMML-funded surveys began in July 2006. CBT-funded surveys will begin in December 2006. Surveys will end in June 2009.

Results: This survey schedule is being adhered to. Surveys were conducted once per month as planned at Long Beach Rocks, Mara Rock, Wouwer Island, Folger Island, Pachena Point and Carmanah. Surveys began in July 2006 and have continued through to and including July 2007. Extreme weather conditions prevented a survey from being undertaken in November 2006.

Analysis

Proposed: Data from NMML-funded surveys will begin in October 2006. Analysis for each CBT-funded survey is planned for the same month as that the survey will be completed. Final analysis of project data will be in winter 2009.

Results: NMML-funded surveys took place between July 2006 and January 2007. Data for these surveys have been analysed with the exception of counts of age and sex classes. All analysis pertaining to age and sex classes will be done in winter 2009.

Initial results reflect that seasonal variation in haulout use by Steller sea lions does in fact exist. Long Beach Rocks and Carmanah are year-round haulouts while Mara Rock, Wouwer Island, Folger and Pachena are only used during particular times of the year. The number, age and sex of the Steller sea lions occupying the haulout sites changes seasonally. The number of nursing pups indicate that seasonal sites may be just as important (if not more important) as critical habitat in Clayoquot and Barkley Sounds.

Training

Proposed: Light keepers and local operators involved in data collection will be trained in the identification of different sea lion species and to differentiate between age and sex classes prior to December 2006.

Results: PowerPoint slides describing the differences between Steller and California sea lions, as well as indicating the differences between Steller young and old Steller males and females were given to Pachena and Carmanah Light keepers in December 2006 and January 2007. The slides were to help in Light keepers' identification of sea lions. These educational slides were also forwarded to a few whale watch operators who showed interest in the study.

Dissemination of Information

Proposed: A public presentation is planned for the spring of 2007, 2008 and 2009 – prior to the marine mammal viewing season. Articles for the local Westerly paper and Tofino Times will be submitted each summer or when appropriate i.e. in the spring when there are numerous sea lions in Ucluelet harbour or in the fall when sea lion numbers exceed 2000 in Barkley Sound. Information will be provided to the Ucluelet Harbour Authority upon obtaining results. Information will also be made available to other researchers who conduct sea lion research in southwest Vancouver Island.

Results: A public presentation was offered at the Raincoast Interpretive Centre in March 2007. A presentation describing the Steller sea lion project was also given at Parks Canada's Species-at-Risk Community Forum in March. Three presentations which focussed on the Steller sea lion project and its results were offered during Whale Fest 2007. Additionally, an 'assist the researcher' event with Remote Passages offered visitors the opportunity to join the principal investigator in conducting one count of sea lions in Clayoquot Sound in March 2007. A presentation is planned for the Community of Ahousat.

An article was submitted to the Westerly but information pertained to a local conservation issue rather than the Steller project itself. An article detailing the project is still planned for submission.

I also attended a Marine Mammal Expert Workshop in Victoria administered by the Province in which results of this project were shared and will be included in a provincial marine protected areas plan. The CBT was given credit for this information.

I continue to welcome locals to join me on sea lion surveys so that they can experience and understand the work being undertaken.

Budget

This project was awarded \$8000.00 for 2006 with another \$8000.00 to be awarded in 2007 and 2008 pending project progress and funding. \$6136.80 has been spent to date.

Boat Charter – Projected

- 5 surveys at Wouwer, Mara and Long Beach Rocks; 7 surveys at Folger Island - **\$7350**

Boat Charter – Realized

- 5 surveys at each haulout (Carmanah, Pachena, Folger, Wouwer, Mara, Long Beach Rocks) - **\$4536.80***

*NMML's survey work was expected to cover 5 months of surveys but in fact 6 months of data were gathered – a savings of \$1017.60 for the project. NMML's 2007 surveys are expected to only cover 4 months of work, requiring \$8140.80 for the remaining 8 months of surveys. Unused 2006 funds will be carried over and be put towards this unanticipated increase.

Principal Investigator - Projected

- **\$2460** for field work, data analysis, and data entry

Principal Investigator – Realized

- **\$1600** for 5 surveys each at Carmanah, Pachena, Folger Island, Wouwer, Mara Rock, and Long Beach Rocks including field work, preliminary data analysis and data management

Items to Note:

- 2 anticipated surveys at Long Beach Rocks (funded by Dr. Andrew Trites, UBC) were not conducted due to a change in UBC's research objectives. This results in CBT funding being required to cover these two surveys in 2007 and 2008.
- 7 months of survey effort at Carmanah by Gerry Etzkorn, Carmanah Light keeper at Pachena by Sylvia Harron, Pachena Light keeper were supplemented by four vessel based surveys (February through May 2007) and opportunistic counts by Brian Gisborne, Juan de Fuca Express who collected photographic data for the principal investigator in June, July and August 2007. It was found the vessel-based surveys provided more consistent and accurate data than land-based observations.
- Preliminary data management and data analysis indicates the projected time for this work has been underestimated by approximately one half.

In summary, the Steller sea lion project is progressing well and is on schedule. Continued funding is requested of the CBT to continue and complete this three-year study. Total Funds Requested: \$8000 each year for 2007 and 2008.