

IMS Seminar  
November 13, 2013  
201 O'Neill, 3:30 pm

## **Suzie Teerlink**

Ph.D. Proposal presentation, Marine Biology

### **A closer look at humpback whales near Juneau and exploration of innovative methods**

Humpback whales (*Megaptera novaeangliae*) are socially, ecologically, and economically important in southeast Alaska. Every summer, over 200,000 tourists spend in excess of 20 million dollars to go on whale-watching excursions out of Juneau. The aim of this project is to evaluate baseline information on humpback whales that are using Juneau waters, including: abundance, fluctuations, site fidelity, and transience. Further, we will develop a citizen science program where interested tour operators can contribute sighting data to monitoring efforts. We will compare citizen science data to our own, more structured monitoring surveys as a way to objectively evaluate the use of contributed sighting data in our monitoring efforts. We will also conduct social interviews as a way to quantify and qualify existing local ecological knowledge of Juneau humpback whales, the whale watching industry in Juneau, and potential emerging issues. Lastly, we will explore novel methods for evaluating population parameters for humpback whales using Unmanned Aircraft Systems (UASs). Photo identification data will be used in combination with UAS high-resolution imagery and hormone assays to assess new methods for pregnancy detection in humpback whales. Further, photogrammetric images will be used to measure lengths as a proxy to age. If successful, these methods will serve as novel tools for investigating population parameters, such as prevalence of pregnancy and age frequencies, which can be used in population modeling. In recognition of the essential social, ecological, and economic role that humpback whales play, it is crucial that we acquire a baseline understanding of their population and progress the tools available to evaluate them. This holistic research approach will assess population dynamics of this valuable wildlife asset, while integrating collaboration and education in a way that is widely applicable to other cetacean populations worldwide.

