NORDECO and NERSC

Michael Køie Poulsen
mkp@nordeco-dk

Testing environmental monitoring in the Arctic on expedition cruise ships

Many remote areas in the Arctic are not accessible by scientists or others, preventing data collection. A possibility to improve this is offered by cruise expedition vessels whose passengers can contribute to environmental data collection in remote areas through Citizen Science. Data from these programmes can be useful for scientists and contribute to environmental management.

A dialogue has been initiated with the expedition cruise industry (including AECO), scientists, and local authorities about environmental observing during cruises to remote Arctic areas. Several Citizen Science programs were tested among cruise operators in Disko Bay and Svalbard for one cruise season. A total of 165 people contributed observations during one season

An example is "Happywhale" where marine mammals are registered. In 2019 81 encounters of 13 species were reported from the Svalbard region into the database: https://happywhale.com/home (Fig. 1).
The icons show records of polar bear, fin whale, humpback whale, bowhead whale, and harbor seal. The digits indicate numbers of encounters that are too close together to be shown on the map.

Cruise passengers and guides can contribute to large volumes of observations during the cruise season from April to September. Enabling factors include: (1) equipping cruise vessels with tablets that allow for easy upload of records, (2) prompt feedback to observers and decision-makers directly from the citizen science programs through the use of digital platforms, and (3) a well-funded intermediate organization facilitating communication.

Link to other Citizen Science programme of relevance to Arctic cruise expeditions:
eBird (ebird.org)
Secchi Disk Study (secchidisk.org)
Cloud Observations (www.globe.gov/web/s-cool)
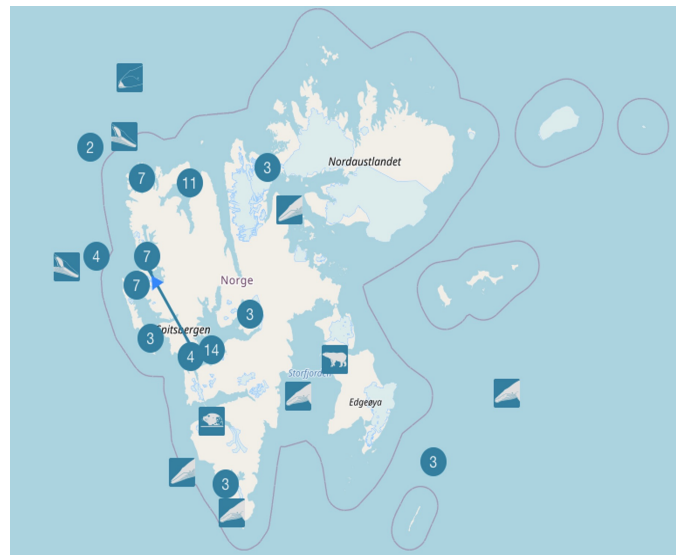
Figure 1. Records of marine mammals in Svalbard in 2019 (from https://happywhale.com)