

Marine birds

Vital Signs Monitoring- Southwest Alaska Network



Importance / Issues

Marine birds were selected as a SWAN vital signs because of their reliance on habitats and prey associated with the marine nearshore ecosystem of park coastlines. These species are top level consumers of marine invertebrates such as mussels, clams, snails, limpets, and forage fish. Because of these characteristics marine birds are good indicators of change in the marine ecosystem. Monitoring will focus on birds that are trophically linked to the nearshore food web such as sea ducks (Harlequin ducks, Barrows goldeneye, bufflehead, long-tail ducks, and scoters), mergansers, and shorebirds, specifically the black oystercatcher. Many of these species were impacted by the Exxon Valdez oil spill, and exhibited protracted recovery periods as a consequence of lingering oil in nearshore habitats. Public concern exists for the welfare of marine birds because they are affected by human activities like oil pollution and commercial fishing. Because mammals will be encountered in the course of these surveys, observations of marine mammals will be recorded.

Status and Trends

The marine bird survey sampling unit is a strip transect, up to 5 km long by 200 m wide by 100 m high that is centered 100 m offshore of the sea water tidal level at the time the survey is conducted. A series of non-contiguous transects that cover all shorelines, including islands, are systematically selected with a random start point. Bird and mammals counts are made from skiffs and data is directly entered into a laptop computer linked to a GPS and using the survey software dLOG2 that visually displays the shoreline, the transect line, and the survey vessel location.



USGS and SWAN biologists conducting skiff-based marine bird and mammal counts, Katmai National Park and Preserve 2006.



Marine bird survey transects 42-47 in Kukak Bay, Katmai National Park and Preserve.

Current and Future Monitoring

In 2006, 24 of the 26, systematically selected marine bird transects along the KATM coast were surveyed. One transect in Hallo Bay too exposed to survey was replaced with a transect around the perimeter of Ninagiak island. The protocol was successfully implemented. Testing of both inflatable and rigid hull survey skiffs revealed that to safely navigate and effectively conduct surveys on the Katmai Coast it is necessary to use a rigid hull skiff at least 17 feet in length that is equipped with a steering console.

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