

Scenarios for Energy and Resource Development on the North Slope and Adjacent Seas

Research and Monitoring
Prioritization for the NSSI

Endangered Species Listings & Critical Habitat

Summary

The purpose of the Endangered Species Act of 1973 is to protect and recover imperiled species and the habitat on which they depend. Factors that may contribute to listing include habitat loss, overutilization, disease and predation, inadequate regulatory protection or other natural or man-made factors. There are exemptions in the ESA for Alaska Native subsistence activities to allow take of listed species. On the North Slope several listed species have ranges that overlap with areas of current Federal and State active oil and gas leases.

Due to the wide distribution of current listed species, activities on the North Slope may trigger the ESA's consultation requirement, but only if the activity involves a Federal agency (e.g. for a permit, action or funding). Currently the only species with designated critical habitat in the study region is the Threatened spectacled eider (*Somateria fischeri*).

Concern over mitigation costs or the potential relocation of proposed activities may act as a driver influencing future resource development in the region. The potentially large range of critical habitat may also cause concerns about the costs and restrictions for compliance with the Endangered Species Act.

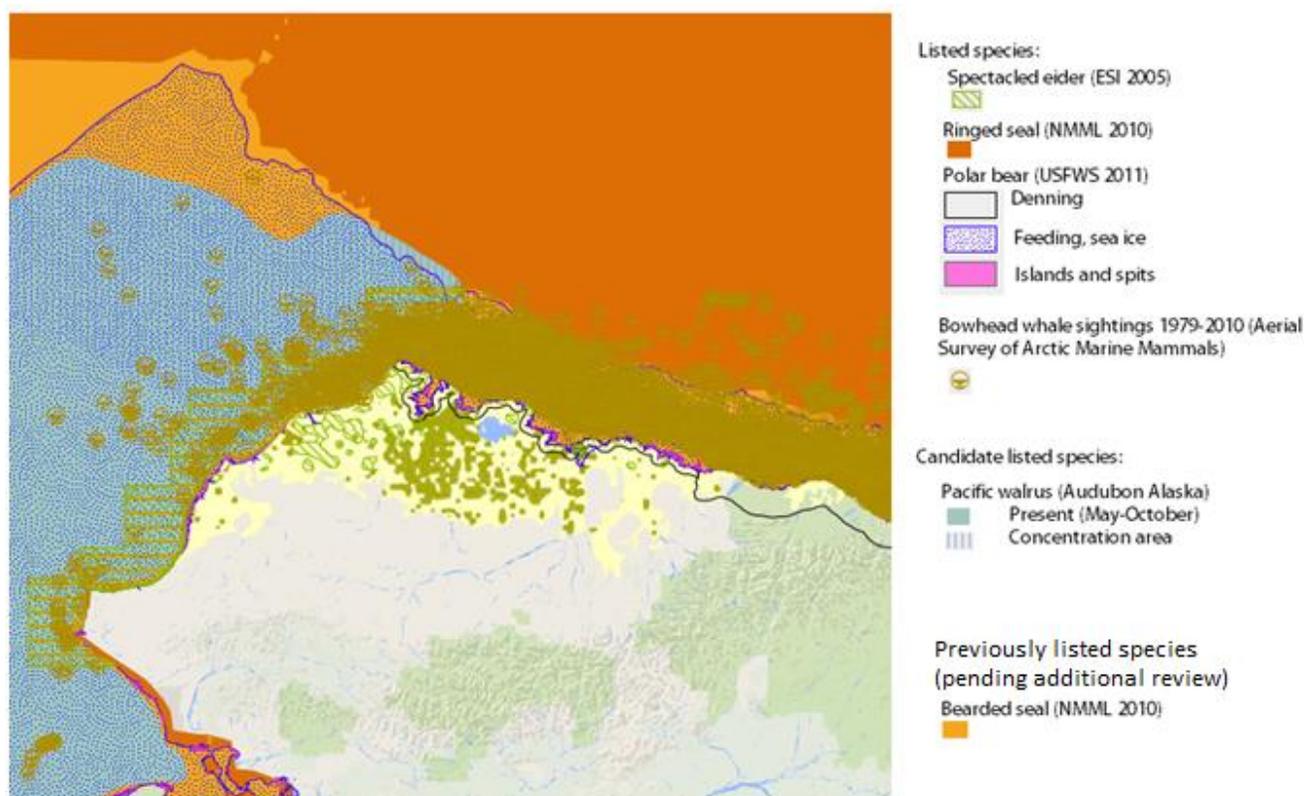


Figure 1. Species distributions of ESA-listed and candidate species in the North Slope.
Source: NOAA Environmental Response Mapping Application

Overview

Endangered species determinations are made by the U.S. Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration (NOAA). There are 20 ESA listed plant and animal species in Alaska, but only 5 listed species have populations in the study area. A recent court ruling for the bearded seal (*Erignathus barbatus*), puts its listing status under additional review.

The listing process can be initiated by a petition from any U.S. citizen or organization, or through a status review by NOAA or USFWS. It can take several years to finalize a species listing during which time available scientific and commercial information are reviewed, and the proposed listing is opened for public comment. Once a species is listed, it is protected from activities that result in “take” (e.g. to harass, kill, harm, hunt, collect), unless prior agency consultation, permits or agreements between USFWS/ NOAA and private landowners are obtained*. Critical habitat designations occur concurrently with species listings when practicable, but insufficient information, or the results of an economic impact analysis may result in no designated critical habitat or designation at a later date.

ESA listed species in study area

ESA listed species occurring in the study area include the Endangered bowhead whale (*Balaena mysticetus*), and Threatened ringed seals (*Pusa hispida*), Alaska population of Steller’s eiders (*Polysticta stelleri*), spectacled eiders, and polar bears (*Ursus maritimus*). Candidate species include Pacific walrus (*Odobenus rosmarus divergens*). Other species listed that could occur but are uncommon in the study area, include fin whales (*Balaenoptera physalus*), Western DPS Steller sea lions (*Eumatopias jubatus*), North Pacific Right whales (*Eubalaena japonica*), humpback whales (*Megaptera novaeangliae*) and the Eskimo curlew (*Numenius borealis*), which may be extinct.

Threats to ESA listed and Candidate species

Climate change and reductions in sea-ice habitat have been identified as threats to polar bears, ringed seal and eiders affecting resting platforms, denning habitat, and food availability. Entanglement in fishing gear, ships strikes and anthropogenic noise also threaten the health of listed marine mammals but fisheries interactions may be less of a threat within the study area. Lead shot contamination, predation by foxes and subsistence harvests have been identified as threats to nesting Steller’s and spectacled eiders.

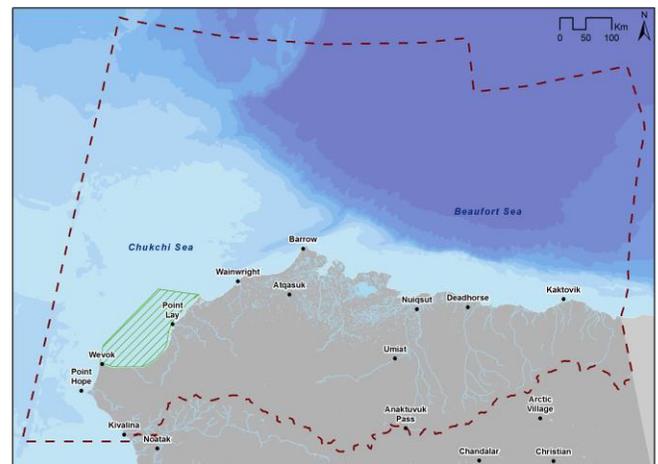
Future oil and gas development has also been identified as potential threats to the habitat of Steller’s and spectacled eiders and may increase disturbance to marine mammals.

Critical habitat within the North Slope

Critical habitat takes into account the biological and physical features essential for conservation of a species. Important considerations for designating critical habitat include space for individual or population growth, shelter, food, and reproduction. However the potential economic, social and national security impacts of designating critical habitat must also be taken into consideration.

The only species with critical habitat in the study region is the spectacled eider. Breeding pairs nest on the wet coastal tundra from April to September. During the nesting season important feeding areas include freshwater ponds and wetlands where they consume aquatic insects, crustaceans and vegetation (1). Although not designated as critical habitat, terrestrial regions of the North Slope are important breeding areas during spring. Similarly, the Arctic coastal plain between Wainwright and Prudhoe Bay is important breeding habitat for the Alaska population of Steller’s eiders, particularly since breeding is uncommon in other areas of their historical breeding range (2).

Critical habitat for Threatened polar bears was designated in 2010. As of January 2013 the critical habitat designation was vacated and remanded by the court back to USFWS for further consideration. Key features of polar bear habitat included sea-ice habitat for resting, breeding, traveling and foraging on ice-associated seals, and coastal barrier island and terrestrial habitat for denning, traveling and feeding (3). NOAA is in the process of proposing critical habitat for ringed seals.



Spectacled Eider Critical Habitat

- Critical Habitat, Marine
- Study Area Boundary
- Anadromous Streams
- Lakes and Ponds

Figure 2. Current critical habitat in the North Slope.

Source: USFWS 2001

*Different regulations apply to listed plants on private land.

Trends

There are no trends in the frequency of new ESA listings or critical habitat designations when considering all ESA final rulings. From 1967 to 2013 there were between 0 and 129 new ESA listings a year (average 37 listings a year). A total of 33 delistings for recovered species have been documented since 1967 (4, 5) including Alaska-specific delistings for the recovered Aleutian Canada goose and the Eastern Distinct Population Segment of Steller sea lions. In Alaska 5 species populations were listed in the last 10 years. Most of the recent ESA proposals for listing in the study area have related to climate change and sea ice loss (e.g., polar bear, ringed seals). Although critical habitat revisions may involve additions or reductions in critical habitat, a broad scale review showed that most reviews of critical habitat resulted in a reduction in the size of designated areas (6).

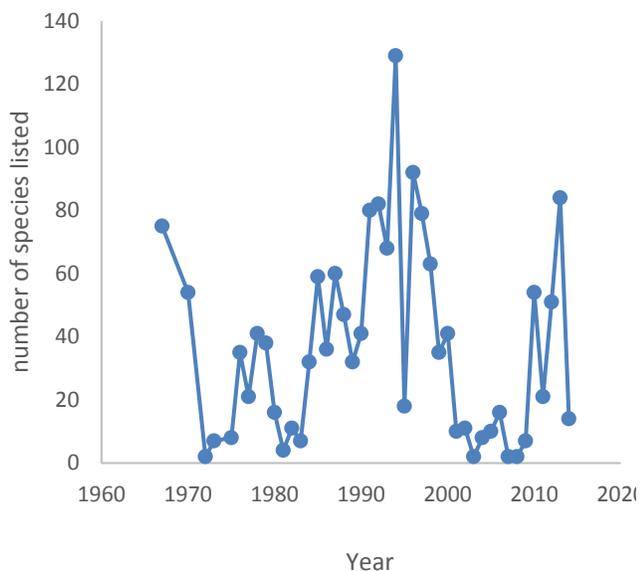


Figure 3. Number of species listed by year.

Source: USFWS Environmental Conservation Online System

Uncertainties

Species abundance has historically played a significant role in identifying whether a species is in danger of extinction. However many species do not have reliable population estimates which may affect the listing process.

A precautionary approach for listing species is used whereby a species may be listed if it might be impacted in the foreseeable future. Under this approach NOAA National Marine Fisheries Service recently listed the ringed seal as threatened for projected changes in sea ice and snow cover. Under such an approach more species may be listed due to possible climate impacts.

There is some uncertainty in the incremental additional cost for consultations for critical habitat or indirect impacts from project delays (3,7) which could affect economic analyses when designating critical habitat.

Other identified uncertainties for listed and candidate species include the magnitude and effect of threats such as sea ice habitat loss, subsistence harvests, disturbances (e.g. anthropogenic noise), oil and gas development, pollution or a combination of stressors. In addition to current resident ESA-listed and candidate species there is a possibility of increasing the number of ESA listed species in the study area through northward shifts in species distributions. Species population responses to threats are difficult to project and ESA listings and critical habitat may be challenged in court for additional supporting evidence. As species face new threats, population-level responses and projected future-use areas may become an increasingly important, but highly uncertain part of species listings and critical habitat designations.

Driver interactions

Resource development

The wide range of current ESA listed species may involve Federal agency consultation for some proposed activities on the North Slope and adjacent seas. New ESA listings or critical habitat could involve additional considerations for the location or the seasonal duration when construction and exploration activities could occur. Activities that could result in environmental disasters (e.g. oil spills) also need to consider how activities could affect listed species. In addition, activities that cause disturbances (e.g. noise) may be modified to reduce take of listed species. Federal agencies consultations with USFWS and NOAA, result in the terms and conditions that must be followed in allowing proposed actions. Future resource development activities that require a federal permit, license or funding may also be affected (e.g. modifying timing or location of activity) if the action has the potential to adversely modify or destroy critical habitat. Future critical habitat designations will have to consider the potential economic impacts and the effects on the supply and distribution of energy (Executive Order 13211).

Monitoring

Local, state and federal agencies monitor species distributions and population health for ESA listed species and some sensitive species that may become listed in the future. Industry also supports monitoring studies in areas of interest. NOAA, Bureau of Ocean Energy Management (BOEM) and industry support aerial and ship-based surveys to monitor marine mammals and benthic communities in the Beaufort and Chukchi Seas with a focus on potential leasing sites. USGS, the North Slope Borough (NSB), Northwest Arctic Borough and Alaska Department of Fish and Game conduct tagging studies to track the movements of walrus, ice seals, polar bears and bowhead whales. Eiders are monitored by the USFWS in coordination with surveys supported by the Bureau of Land Management (BLM), BOEM and the National Park Service. The distribution and nesting behavior of birds within lease sites are also monitored through industry-supported programs. Despite these monitoring efforts, there is still much to be learned about these listed species.

Other driver interactions

Climate change, ocean acidification, invasive species, ecosystem dynamics, fisheries interactions and additional 'take' have the potential to influence new ESA listings. In return, ESA listings and critical habitat can help conserve populations, sustain subsistence species and protect important habitat.

References

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