

## Hydrocarbons in Nelson Lagoon (F0422)

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Ecological Implications of Fisheries-Based Economic Development in Nelson Lagoon;  
Steller's eider (*Polysticta stelleri*) Critical Habitat

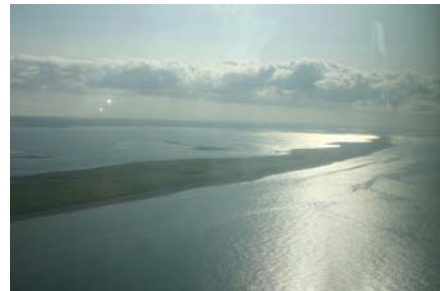
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### Where is Nelson Lagoon?

The Village of Nelson Lagoon is located on a narrow spit of land on the north shore of the Alaska Peninsula. It is a small community that is economically sustained by a strong salmon fishery. Currently, 91 permanent residents reside here, but numbers fluctuate seasonally. Growth estimates are that the community will increase by approximately 20% in the next ten years. To accommodate projected human population growth and the need for more jobs, the village is increasing its fishery capabilities. This includes expanding the bulk fuel storage facility, and future plans to construct a seafood processor, dry dock lift, and wind turbines.

### Who else lives there?

Nelson Lagoon is essential habitat for numerous federally protected bird, marine mammal, and fish species. Among the more critical inhabitants are Steller's eiders, Emperor geese, northern sea otters, gray whales, and all five species of salmon. The lagoon is important nursery habitat for halibut, and commercial fishing of this species is prohibited.



### What are hydrocarbons?

Hydrocarbons are potentially dangerous chemicals found in fuels like petroleum. Hydrocarbon contamination from petroleum pollution has long been recognized as one of the most potentially harmful contaminants to marine biota. Exposure from boating or fishing activities and accidental oil spills has been documented as causing harm to Steller's eiders in Norwegian harbors. Between 1990 and 2000 at least 462,515 gallons of diesel fuel was spilled as a result of activities associated with the commercial fishing and seafood processing industry around the Aleutian Islands and Lower Alaska Peninsula.

### The project:

Biologists are measuring the hydrocarbon levels found in water samples, bottom sediments, and absorbed by blue mussels in Nelson lagoon. These levels will help determine the effects increased boating activities and potential fuel spills have on the Steller's eiders and the northern sea otters that rely on the mussels for food in the lagoon. Community residents are assisting the researchers with the logistics of the study.

The North Pacific Research Board seeks to build a clear understanding of the North Pacific, Bering Sea, and Arctic Ocean ecosystems to enable effective fisheries management and the sustainable use of marine resources. [www.nprb.org](http://www.nprb.org)