

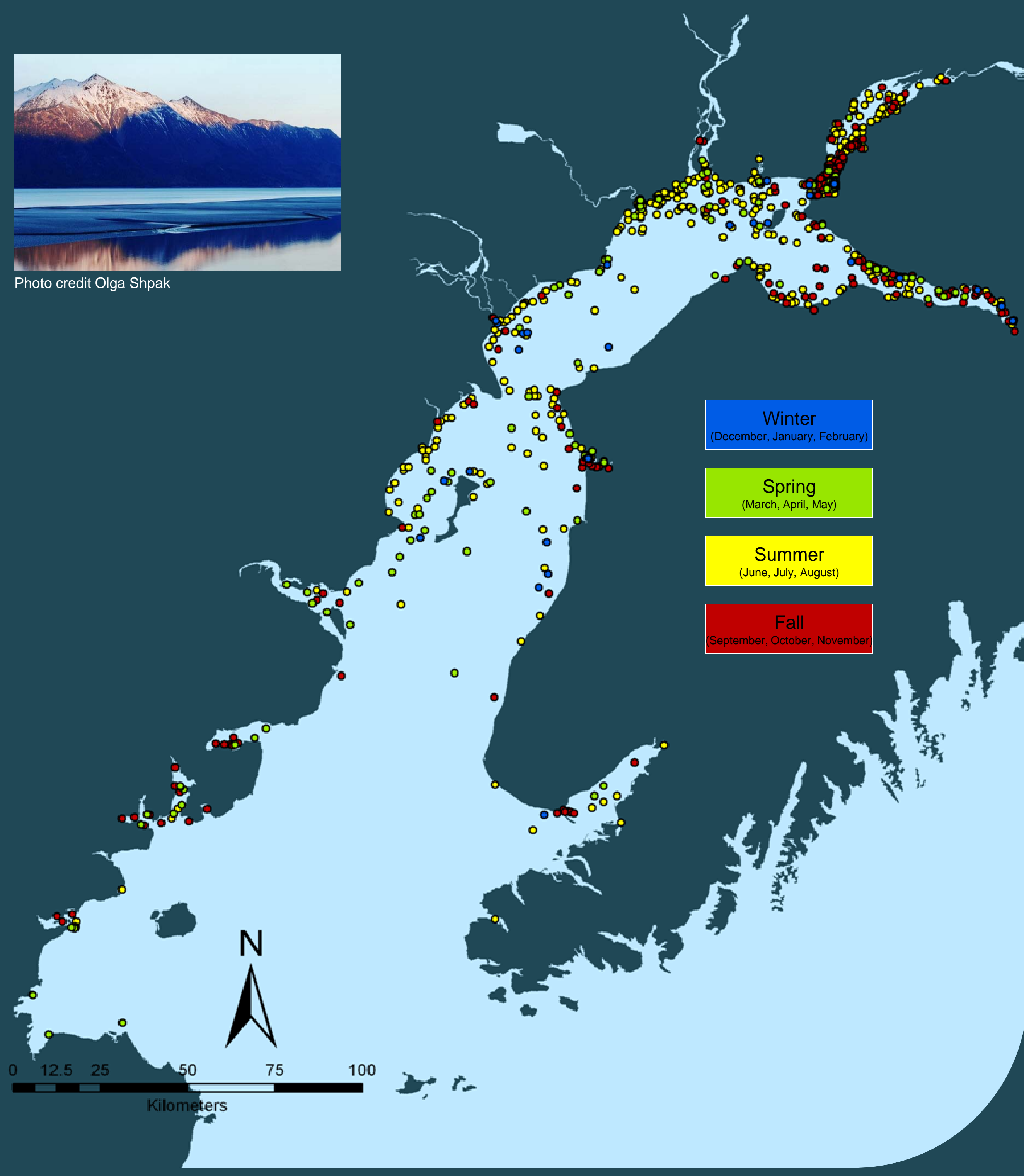
THE COOK INLET BELUGA WHALE OPPORTUNISTIC DATABASE: A summary of opportunistic sightings during the past 35 years

Linda Vate-Brattstrom, Christy Sims, Roderick Hobbs, *National Marine Mammal Laboratory, Alaska Fisheries Science Center, NMFS, NOAA, Seattle, WA, linda.vatebrattstrom@noaa.gov*
Barbara Mahoney, *Alaska Regional Office, NMFS, NOAA, Anchorage, AK*

A seasonal comparison



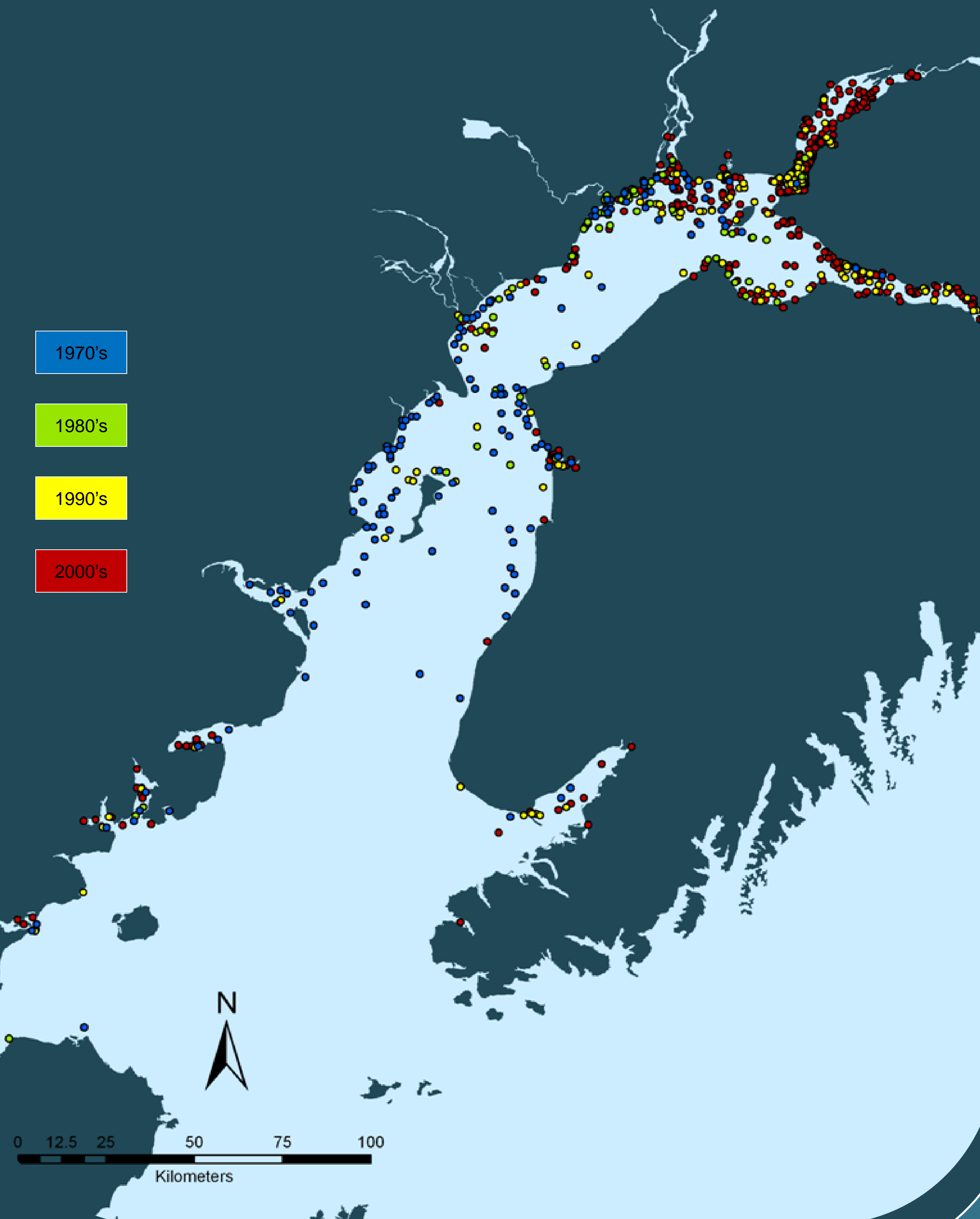
Photo credit Olga Shpak



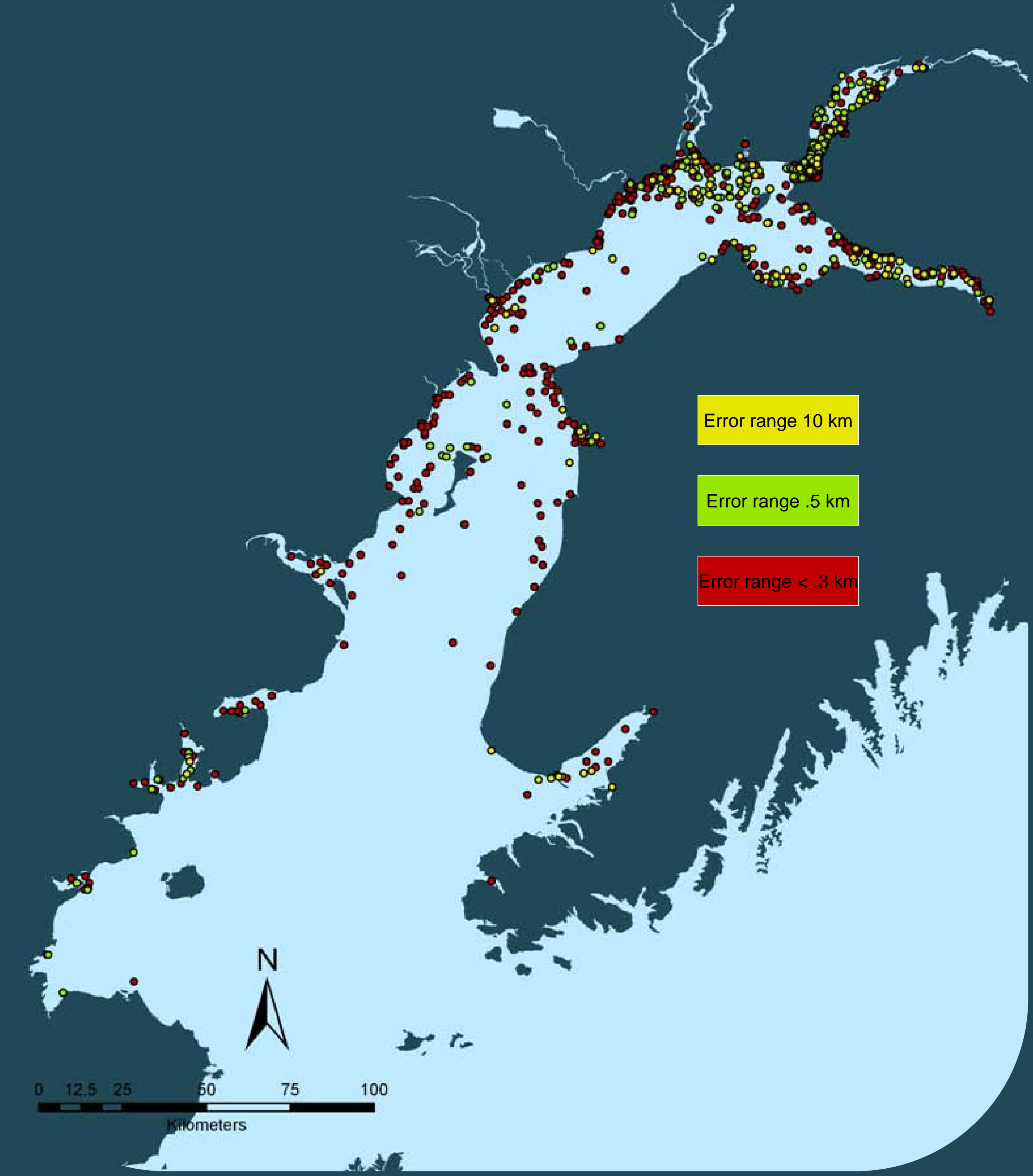
Alaska supports a genetically distinct and isolated group of beluga whales (*Delphinapterus leucas*) that was listed as Endangered in 2008 under the U.S. Endangered Species Act. Starting in 1999 observations of belugas in Cook Inlet was provided to the NMFS, including records prior to 1999. In conjunction with this effort the National Marine Mammal Laboratory maintains a database of these sightings, essentially a record of whale distributions and habitat use, as a resource for management. Most records include date, time, location, approximate number of beluga whales, and, in some cases, behavioral data. Although many beluga sightings are recorded from systematic aerial surveys they do not include NMFS abundance surveys. In the seasonal comparisons and in Figure 1, note that beluga whales were reported throughout the Inlet in every season. Also, note that the map shows the location of beluga whale groups, but does not reflect the group size.

A comparison over four decades

Since its inception, the Cook Inlet Beluga Opportunistic Sightings Database has logged recent sightings as well as historic reports of beluga whales collected throughout the Inlet. Currently the database holds 1,525 records collected from 1975 to the present and is our best resource on beluga whale distribution in the mid to lower inlet. Initially the sighting reports came primarily from systematic aerial surveys for other target species conducted by governmental agencies such as the Alaska Department of Fish and Game. In the last decade reports have been received from a wide range of sources, including casual observers at easily accessible locations. In addition, observers stationed at specific locations provide sighting data for conservation and mitigation. As a result the data are increasingly biased with regards to effort, especially in the last decade. In the map, note the increasing number of sightings along the shore in the upper inlet.



An overview of location precision



Locations recorded in opportunistic reports can range from a precise latitude and longitude taken with a Global Positioning System (GPS) to approximate locations in relation to nearby landmarks. An error-range code is assigned to each location when entered into the database in the following manner:
.1 km Error = When the observer provides a GPS location taken above the beluga group.
.2 km Error = When the observer provides a GPS location taken near the group.
.3 km Error = When the observer provides an approximate location, such as a mark on a map.
.5 km Error = When the observer provides a description of the location.
10 km Error = When there is merely a rough approximation of location such as Turnagain Arm or Knik Arm.
For mapping purposes the .1, .2 and .3 km error codes were combined into one category. There are higher numbers of sightings with larger error codes in the upper inlet due to the high number of casual observers.

Figure 1-Number of Beluga whale sightings in Cook Inlet per month

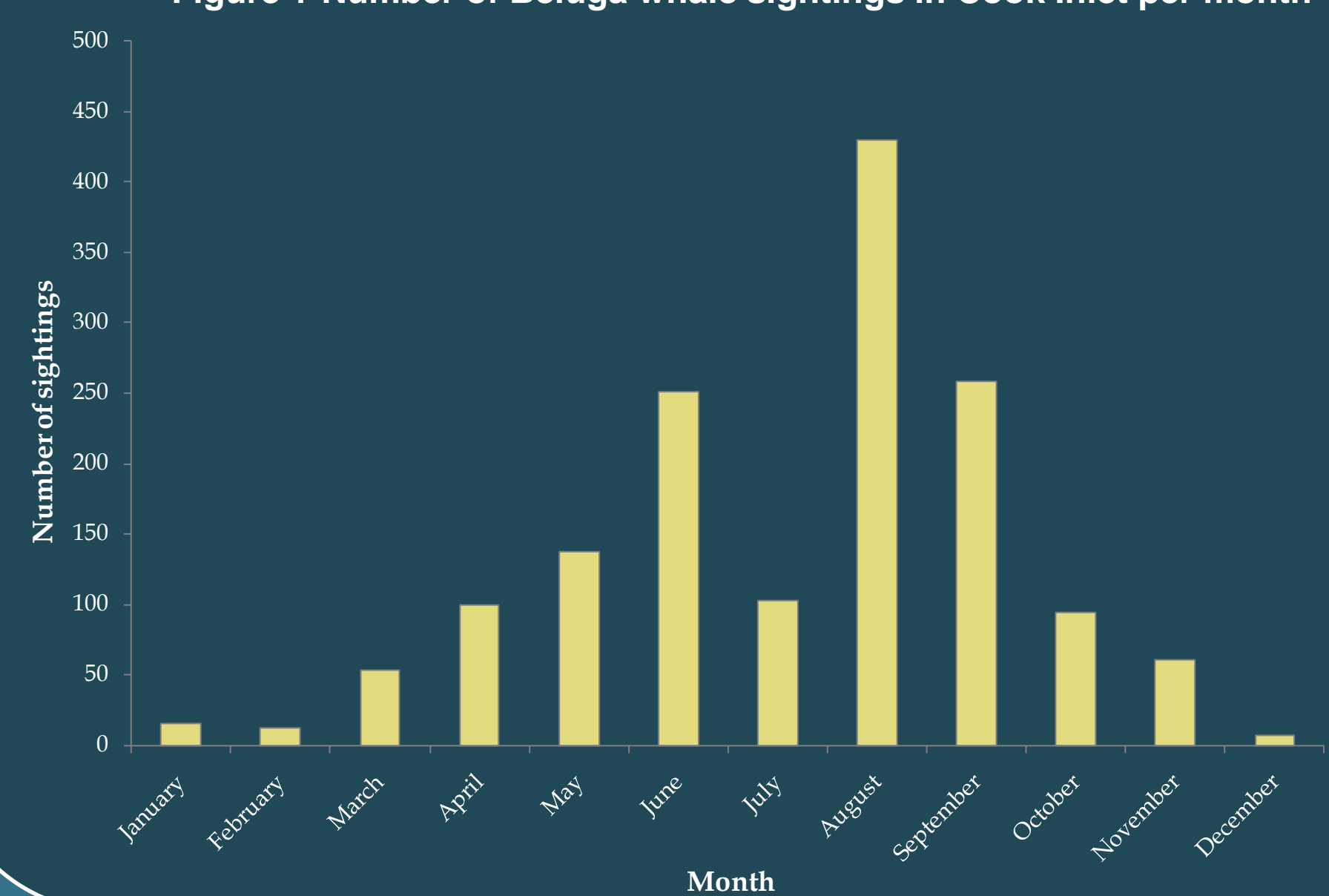


Figure 2- Viewing platforms for the Beluga whale observer

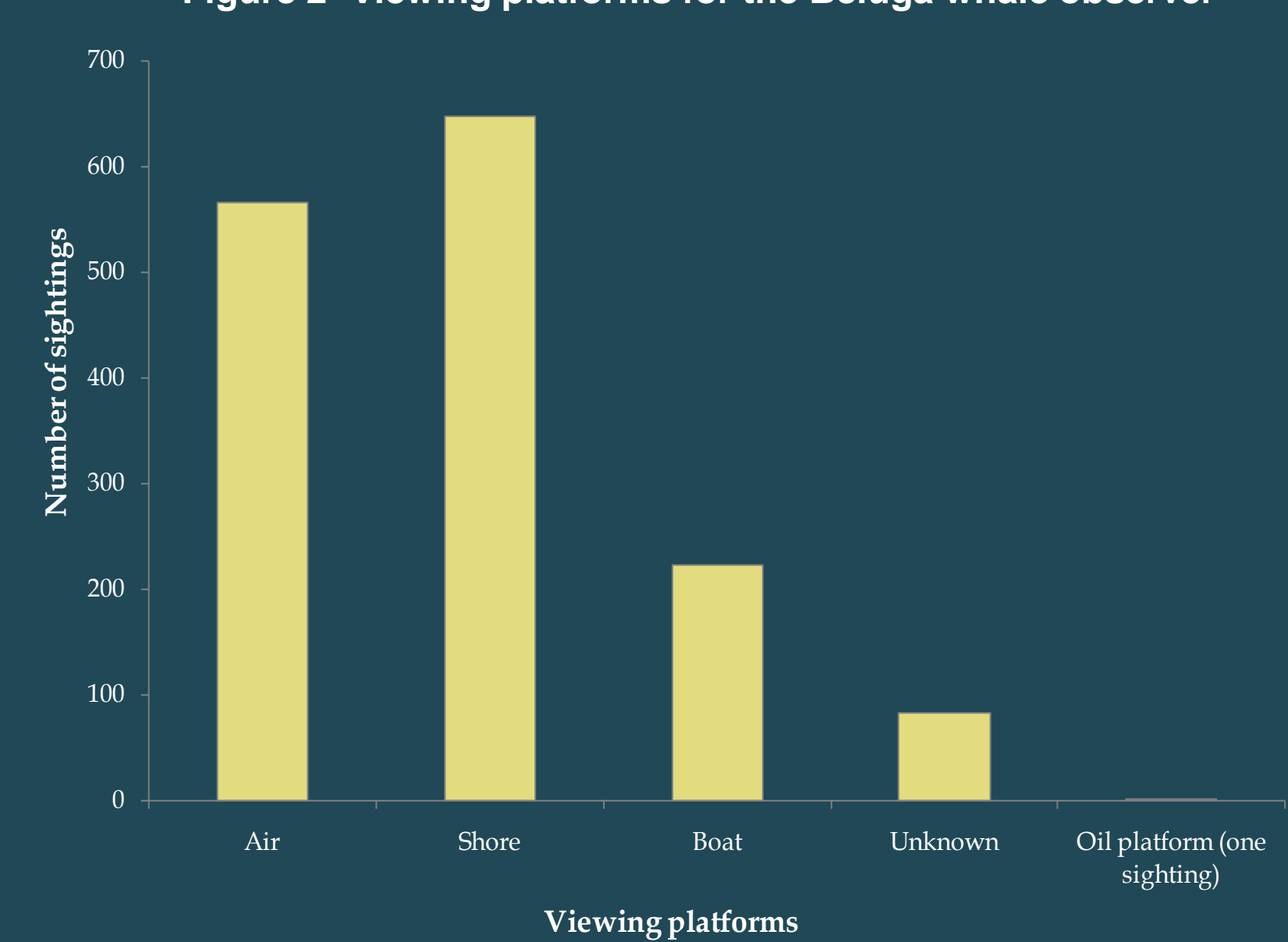


Figure 3 - Effort vs. no effort sightings of beluga whales

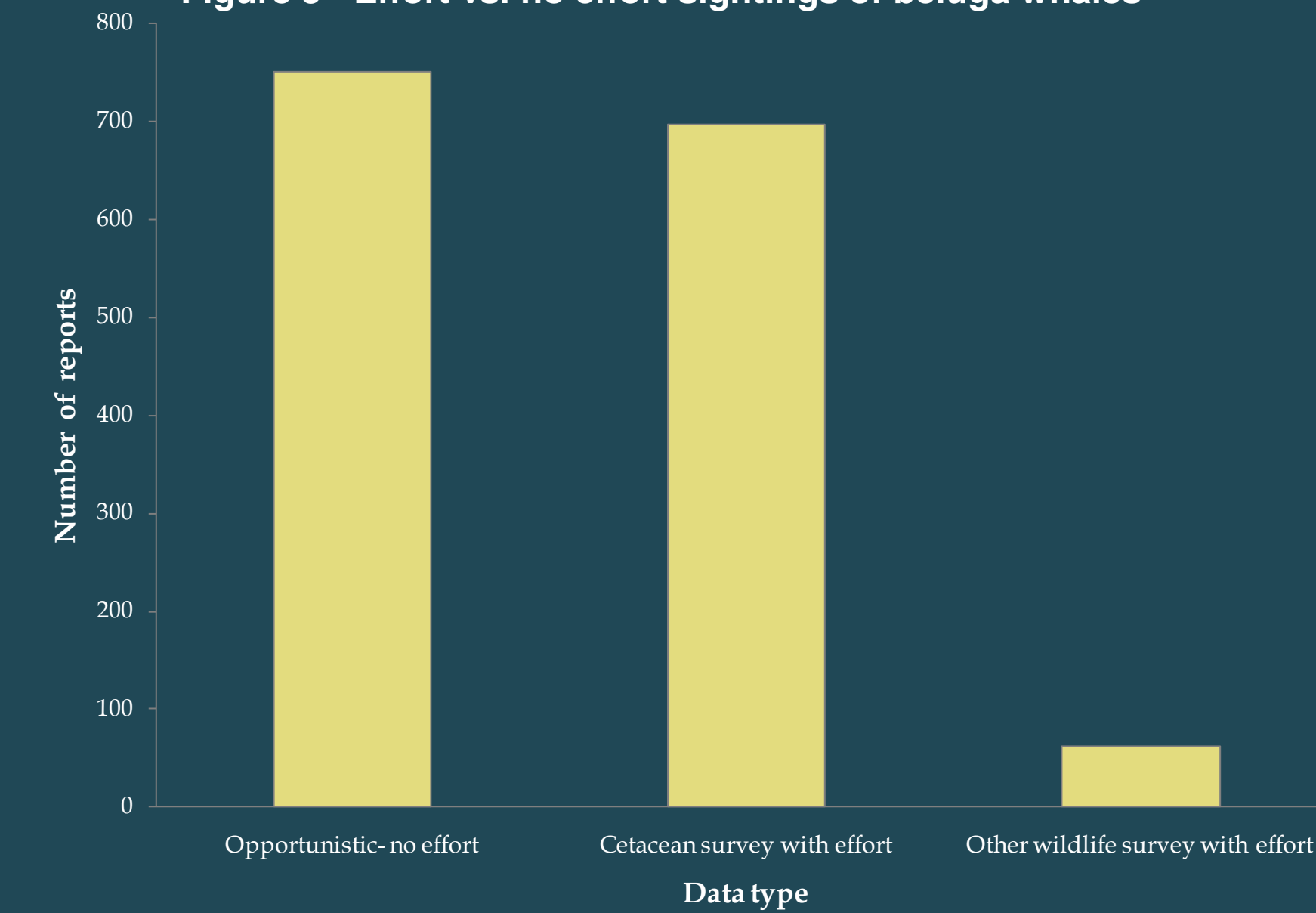
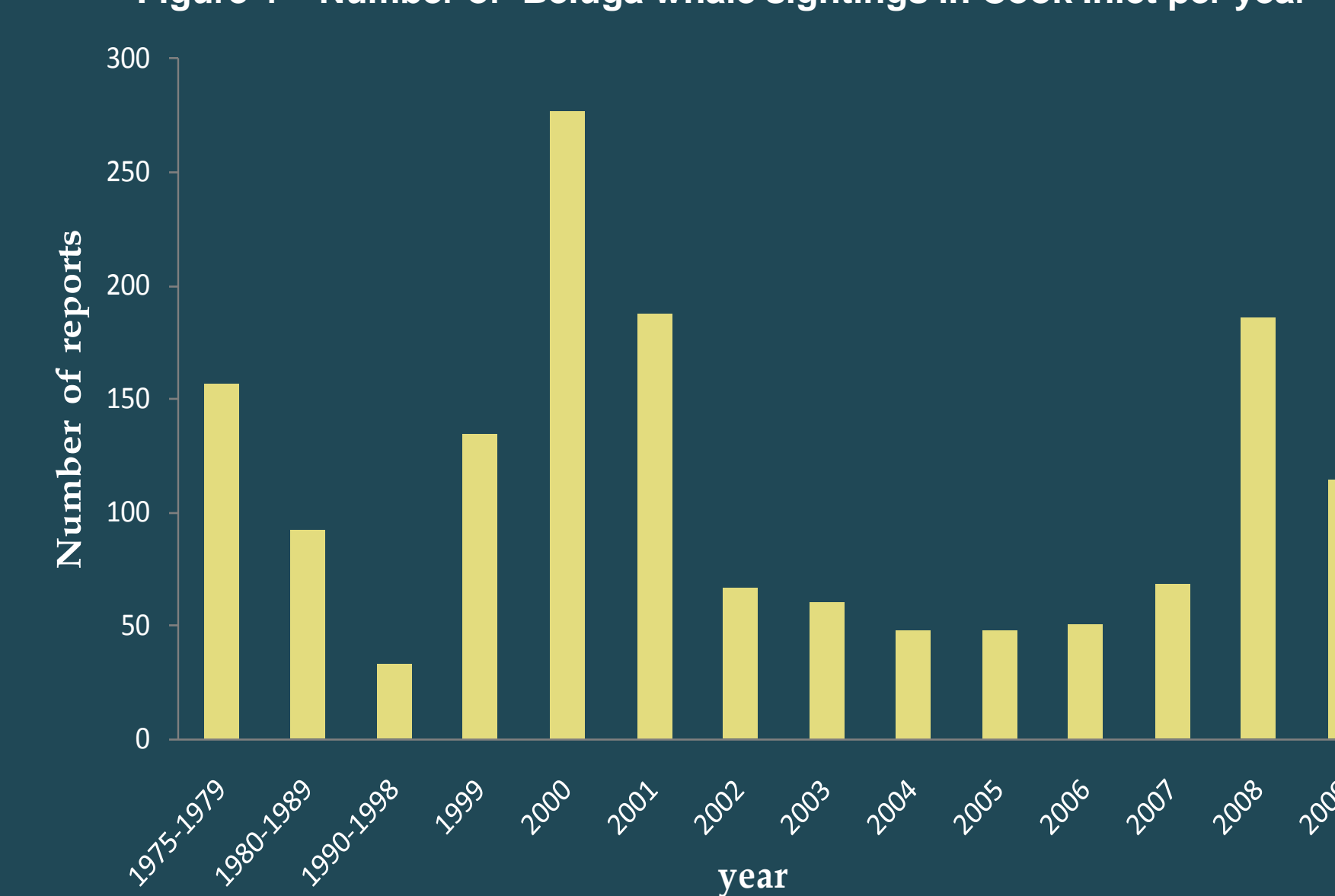


Figure 4 - Number of Beluga whale sightings in Cook Inlet per year



Acknowledgements:
We thank NMFS, NOAA, and the Alaska Regional Office for their support. We especially thank all agencies and individuals for their generosity in sharing sighting records and Kirsten Lairde, Lisa Baraff, and Luciana Santos for entering data into the database.

