



# Cook Inlet Beluga Whale Graphing Worksheet

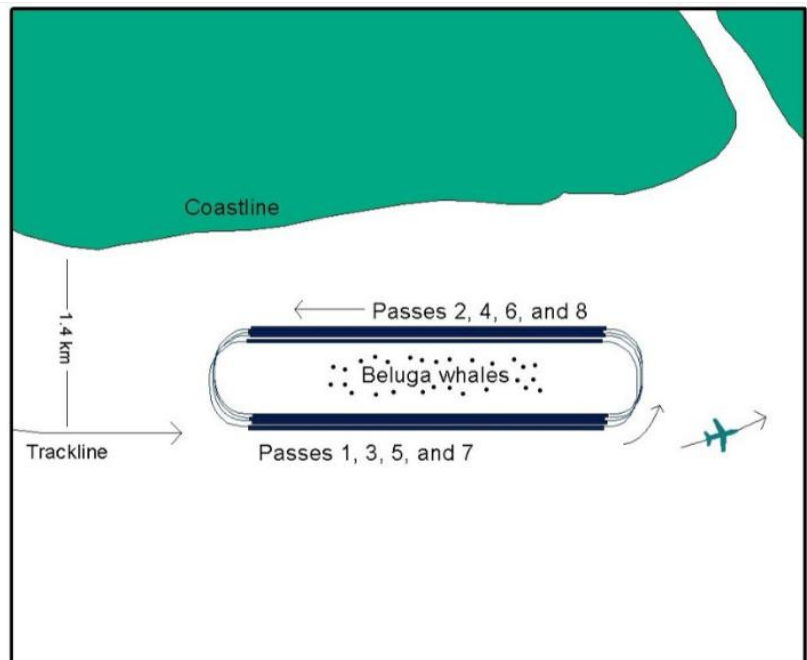


Introduction: There are 5 populations of **beluga whales** in Alaska. **Cook Inlet** belugas are special because they are **isolated** and **genetically different** from other belugas. Cook Inlet belugas are an **endangered** population that lives in Cook Inlet, Alaska.

Defenders of Wildlife works hard to prevent extinction of this

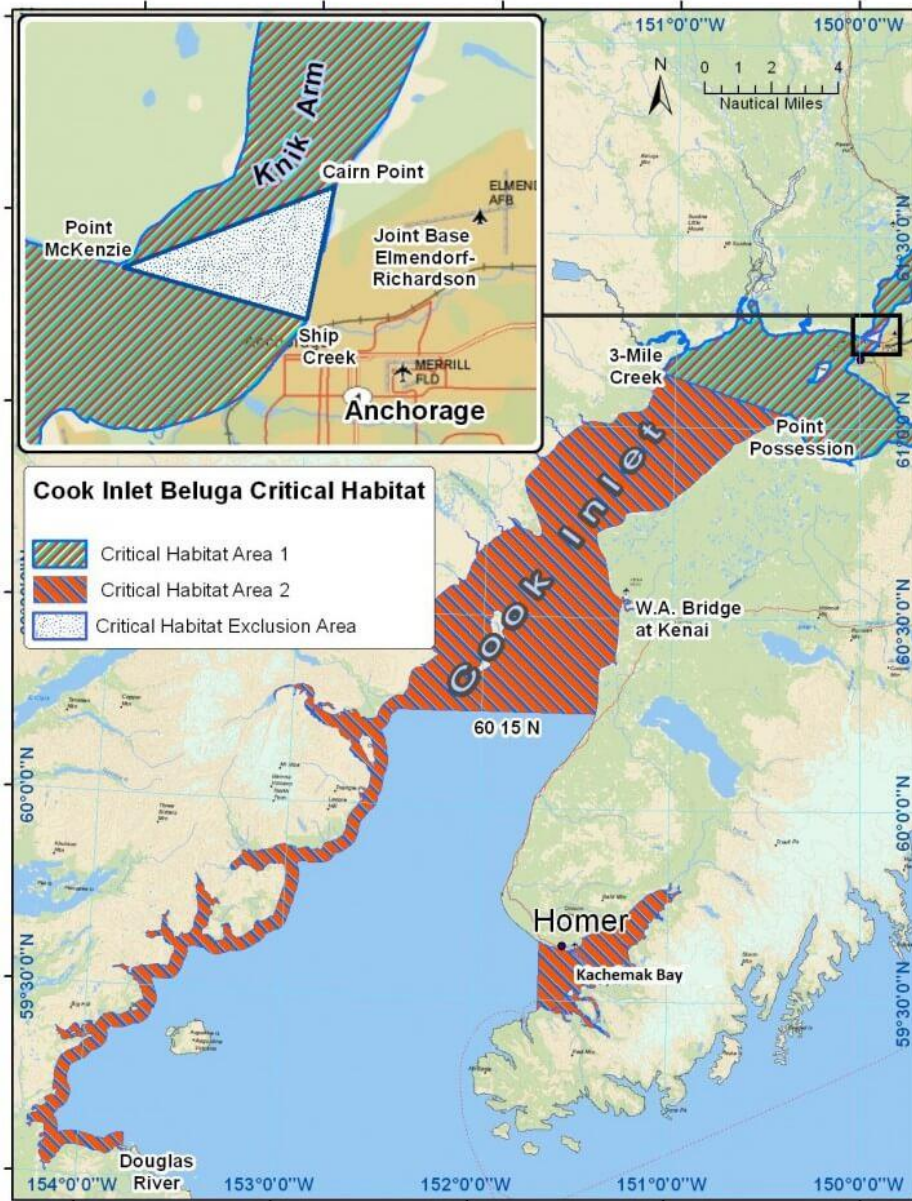
beluga population by using the latest science techniques and partnering with other organizations. The government agency that manages beluga whales is the National Oceanographic and Atmospheric Administration or NOAA. The National Marine Fisheries Service, or NMFS, is a special division of NOAA that studies and researches belugas and other whales. **Unregulated** hunting and other environmental factors made the Cook Inlet beluga population unstable, which is why they were listed as an endangered species in 2008. Hunting and **subsistence** use of the Cook Inlet belugas has stopped but the population still has not recovered. The current population is estimated at 279 belugas, which is significantly lower than the historical estimate of 1,300 belugas.

Scientists count belugas by flying in a small plane over the Cook Inlet. When they spot a group of belugas, the plane circles in a “racetrack” pattern to count the belugas multiple times. The multiple counts- or data- is then analyzed to make the population estimate for the year (see the data chart below). Data helps us understand what is happening with the population and how we can work together to save the belugas from **extinction**. Using the real data from the NMFS on the table below, help us discover the Cook Inlet beluga population trend and make predictions about the belugas.





## Cook Inlet Designated Critical Habitat



Defenders of Wildlife pushed to designate 3,000 square miles of critical habitat in April 2011 under the Endangered Species Act. Critical Habitat is an area that is especially important for the conservation of an endangered animal and may require special management.



## Cook Inlet Beluga Graphing Data

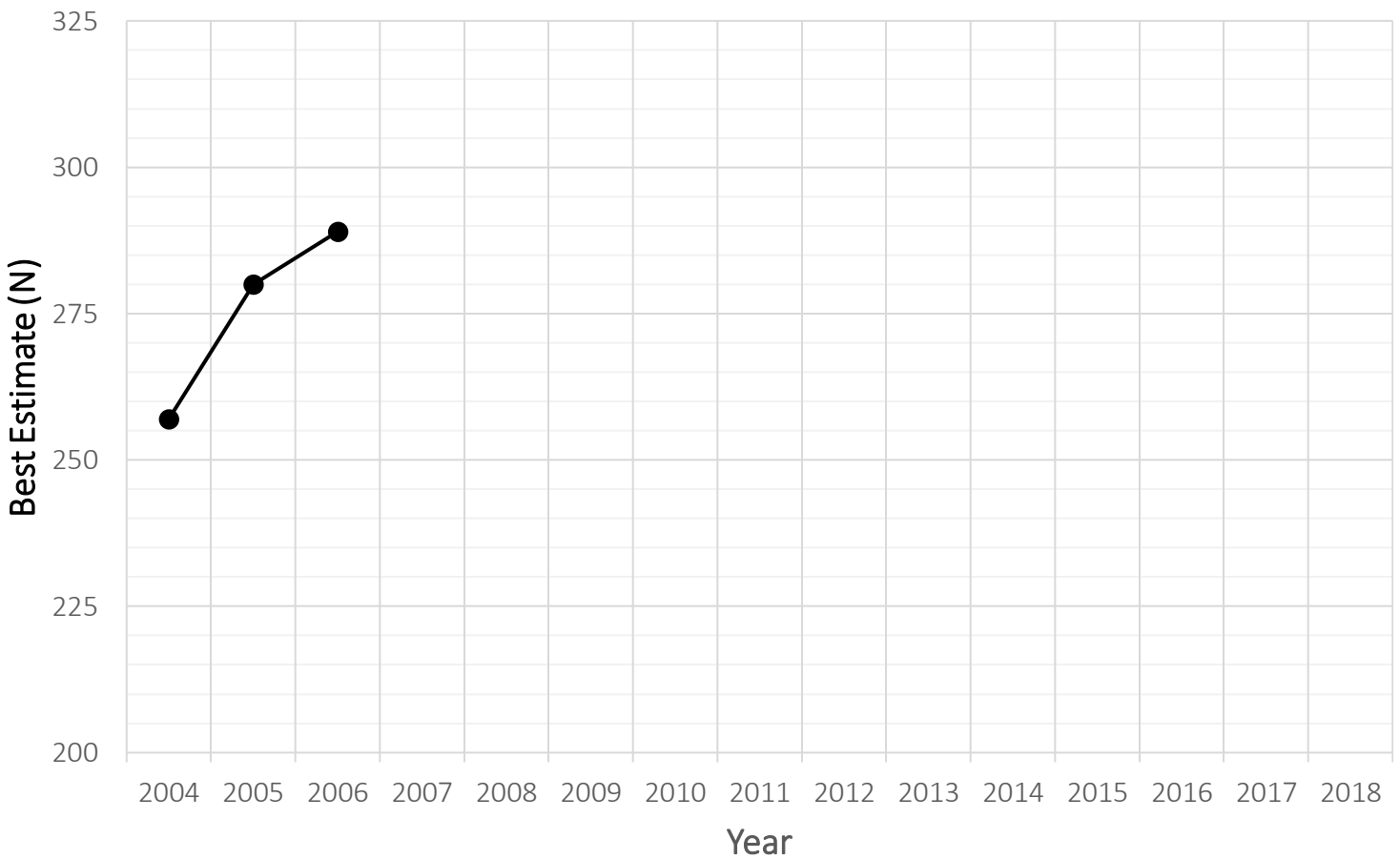
Table 1. Annual estimates of beluga population from aerial surveys of beluga whales in Cook Inlet in June. The Best estimate is an average of the multiple counts for that year.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Best Estimate (N)	257	280	289	318	323	346	369	-	353	-	338	-	293	-	279

This data is from the 2019 Aerial surveys, distribution, abundance, and trend of belugas in Cook Inlet, Alaska Report from NMFS (National Marine Fisheries Service). The scientists who found this data are K. Sheldon and P. Wade.

In some years, like 2011, either no data was collected because the weather was not good enough to fly or not enough data was collected to make an accurate count.

### Cook Inlet Beluga Population



Can you help finish the graph by plotting the best estimates for the years 2007 to 2018? This will show us the changes in the Cook Inlet beluga population.



## Graphing Questions

*Answer the following questions after graphing your data.*

1. What is the **trend** for the Cook Inlet beluga population? Is it growing? Is it declining?
2. Make a **prediction** for why you think it is growing/declining? What could be causing this trend?
3. What do you predict will happen in the next 5 years to the Cook Inlet beluga population?
4. Looking at the way they count belugas in a racetrack pattern, do you have any ideas or suggestions of how they could count them differently and more accurately?
5. What are some things you think you could do to help the **Cook Inlet** belugas and their **ecosystem**?
6. What do you want to know about Cook Inlet belugas? Look up more information about the Cook Inlet belugas. Share with three friends or family members the story of the Cook Inlet belugas using the information you have acquired and your data **analysis**.



## Vocabulary List

1. **Cook Inlet:** an inlet is a small arm of the sea, a lake, or a river. Cook Inlet is near Anchorage, Alaska.
2. **Isolated:** far away from other places, buildings, or other similar wildlife populations
3. **Genetically different:** Individuals of a species that have similar characteristics, but they are rarely identical
4. **Endangered:** A species that is at risk of becoming extinct
5. **Unregulated:** Not controlled or supervised by regulations or laws
6. **Subsistence:** The act or fact of maintaining or supporting oneself utilizing plants and/or animals from the land
7. **Beluga:** a small white toothed whale related to the narwhal
8. **Trend:** a general direction in which something is developing or changing
9. **Predict:** say or estimate (that a specified thing) will happen in the future or will be a consequence of something
10. **Ecosystem:** a biological community of interacting organisms
11. **Analysis:** detailed examination of the elements or structure of something
12. **Extinction:** the loss of a species like a plant or animal