



Cook Inlet Beluga Surrogate Species Systematic Review

Anchorage, Alaska

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Project Need:

Cook Inlet belugas are listed as *endangered* under the Endangered Species Act (ESA) and are currently declining at an average rate of 2.3% annually. With just 279 individuals left, there is no time to waste to prevent these animals from becoming extinct. When Cook Inlet belugas were originally listed under the ESA in 2006, unregulated hunting was documented as the leading cause of decline. A few years after the listing and a moratorium on hunting was enacted, the beluga population began to show early signs of recovery. Yet, despite the cessation of hunting and conservation practices taken to date, the population has been facing a sharp, continued decline since 2010, thus indicating that unregulated hunting is no longer the primary stressor preventing recovery. To ensure the survival of these cultural icons and ecosystem sentinels, management agencies need to be as precautionary as allowed under the ESA when permitting activities in Cook Inlet. However, we are seeing agencies permit activities with little regard to cumulative impacts due to paralysis resulting from claims of insufficient understanding of threats to Cook Inlet belugas. While knowledge about Cook Inlet belugas specifically may be limited, there are other well-studied cetaceans that can serve as research surrogates for literature gaps regarding Cook Inlet belugas. Waiting to fully understand everything about Cook Inlet belugas before taking a more cautious approach to management is contrary to the ESA and is not an appropriate conservation approach for this imperiled population; rather, it is cementing its trajectory toward extinction.

Why Defenders of Wildlife:

Defenders of Wildlife is well-situated to undertake this project. Defenders has a long history advocating for stronger protections and mitigation measures for Cook Inlet belugas. Likewise, Cook Inlet belugas are one of the Alaska Program's priority species. This project will add to our advocacy efforts, especially when encouraging agencies to pursue more protective mitigation measures for Cook Inlet belugas.

Suggested Timeline:

Negotiable, depending on the contractor and publishing requirements; suggested, 6 to 9 months from start of contract (not full-time during the whole period). Start date is negotiable.

Budget Considerations:

TBD.

Project Description:

Cook Inlet belugas are an endangered population of beluga whale near Anchorage, Alaska, that is genetically and geographically isolated from other beluga populations. The population is relatively poorly studied, and the federal agencies tasked with protecting it have been hesitant to require more protective actions in the face of uncertainty. The goal of this project is to help fill the knowledge gap



for the species by reducing uncertainty around threats and recovery actions and suggest mitigation measures to inform effective conservation and management actions. The proposed approach is to conduct a *systematic review* that synthesizes scientific and policy literature on the threats and recovery actions for multiple cetacean species compared to the Cook Inlet belugas. Examples of surrogate species to be considered in the review are other beluga populations, such as the St. Lawrence beluga population; Southern Resident killer whales; and other species and populations as deemed appropriate. There will be multiple final products from this project including but not limited to: 1) a published review in a scholarly journal, 2) published perspective article(s) in a scholarly journal, 3) opinion pieces such as op-eds, and 4) multi-media products (e.g., infographic, video, social media) as appropriate. The systematic review will likely include tables and figures illustrating such concepts as the amount of literature available for each species, protections in place for each species, species threats, management and conservation actions used for different species to address particular threats, the current population statuses and trajectories of the species, and others as deemed relevant. The successful candidate will work closely with Defenders of Wildlife staff throughout this project.

Preferred Qualifications:

- In pursuit of or holding an M.S. degree or higher in related field. Current students are encouraged to apply.
- Excellent writing skills.
- Excellent organizational skills, including reference management with Zotero or Mendeley.
- Experience conducting literature reviews and experience or interest in systematic reviews.
- Experience writing or contributing to literature reviews, perspectives in academic journals, or opinion articles.
- Experience and interest working at the intersection of marine policy and science.
- Willingness to work closely with the Alaska Marine Representative and other Defenders of Wildlife staff.

Deliverables

- Published systematic review in a scholarly journal
- Published perspective article(s)
- Opinion pieces (example: Op-eds)
- Miscellaneous Multi-media products

Brief Example of a possible outline for the review:

- I. Brief summary of threats to Cook Inlet belugas (see Cook Inlet beluga Recovery Plan Table 6)
- II. Identification of appropriate surrogate species
 - a. Why these species are good surrogates



- i. Example: Localized small population, odontocetes, similar life history, social structure, etc.
- III. Discussion of Methodology
- IV. Results
 - a. Figure depicting the amount of literature and data available for Cook Inlet belugas compared with surrogate species.
- V. Comparison of known effects to threats in surrogates and Cook Inlet belugas
 - a. Examples: pollution, prey, habitat degradation, ship strike and vessel traffic
- VI. Recovery actions
 - a. Figure conveying effectiveness of recovery actions for surrogate species
- VII. Policy and management recommendations

How to apply

Send a resume and a statement about why you would be a good fit and how you would set about this project. An example of previous related work may also be included. Emails can be sent to Jen Christopherson, Alaska Program Coordinator at jchristopherson@defenders.org