

Alaska Beluga Monitoring Partnership (AKBMP): Volunteer Monitoring Protocol

Overview:

Thank you for your interest in our shore-based beluga monitoring program. Belugas are an important part of the Cook Inlet ecosystem and your participation in our monitoring efforts will provide researchers, managers, and the public with valuable information on beluga distribution, behavior, and habitat use. This monitoring protocol provides a standardized methodology for conducting shore-based beluga monitoring sessions and enables the systematic collection of AKBMP field observations. The data you collect will be submitted to the National Oceanic and Atmospheric Administration's (NOAA) *Cook Inlet Beluga Whale Opportunistic Sightings Database* and *Cook Inlet Beluga Ecosystem Portal* and will help inform the conservation and management of this important endangered species.

Participant Safety: All participants are responsible for ensuring their own safety while participating in AKBMP monitoring sessions. We recommend at least two volunteers on site during a monitoring session. Each participant should come prepared to a monitoring session and ensure that the equipment outlined on the *Monitoring Checklist* (presented below) is available on site. If at any time you feel unsafe during a monitoring session, please leave the monitoring site and do not return until safe conditions are restored. If you observe any suspicious activities occurring on or around a monitoring site, please inform your local police or the National Marine Fisheries Service (NMFS) Office of Law Enforcement Hotline (800) 853-1964 when appropriate.

Responsible Viewing: All marine mammals are protected under the U.S. Marine Mammal Protection Act (MMPA) and several marine mammal species, including the Cook Inlet beluga whale, are protected under the U.S. Endangered Species Act (ESA). Per this legislation, it is illegal to harass, pursue, feed, hunt, capture, or kill wild marine mammals in the United States. Please review and abide by the *National Oceanic and Atmospheric Administration's Marine Mammal Viewing Guidelines for Alaska* (available on our website) at all times.

Reporting Marine Mammal Strandings, Entanglements, and Suspicious Activities: Please report stranded and/or entangled live or dead animals to the NMFS Stranding Hotline (877) 925-7773 and report marine mammal harassment or other suspicious activities to the NMFS Enforcement Hotline (800) 853-1964. In the event of an emergency please dial 911. Please make a note of this report in your data entry for that monitoring session.

AKBMP Monitoring Sites:

We currently monitor from five official sites in Cook Inlet. Below, we list the location of these sites and specify the AKBMP partner organization facilitating monitoring at each site. In Fall 2021 we will be adding The Point at Alaska Wildlife Conservation Center as a pilot site to determine if it is a location we want to permanently add to our program.

Ship Creek

Site Location: At the base of Ship Creek in Anchorage overlooking entrance to Knik Arm

Partner Organization: Beluga Whale Alliance and Defenders of Wildlife

Mile Marker 95.3 Pullout

Site Location: At the Seward Highway mile marker 95.3 pullout

Partner Organization: Beluga Whale Alliance

Twentymile River

Site Location: At the Twentymile River mouth in front of the boat launch

Partner Organization: Beluga Whale Alliance

Kenai River

Site Location: On the bluffs above the lower river

Partner Organization: Alaska Wildlife Alliance and Kenai Peninsula College

Kasilof River

Site Location: At the Kasilof River mouth

Partner Organization: Alaska Wildlife Alliance and Kenai Peninsula College

The Point*

Site Location: Within the Alaska Wildlife Conservation Center where Placer and Portage River meet

Organization: Alaska Wildlife Alliance and Kenai Peninsula College

Prior to Monitoring

Prior to monitoring with us in the field, we require that each volunteer attend a volunteer orientation and complete a volunteer form and liability waiver. Please visit our website (<http://akbmp.org>) to view and sign up for upcoming monitoring orientations in your area or virtually; if none are scheduled, please contact the AKBMP coordinator to receive a link to a recorded volunteer orientation. You will not have access to the signup schedules to monitor until you fill in your volunteer form and waiver. You must complete at least one training session in the field with a Lead Observer prior to monitoring on your own. You can do this by signing up for a monitoring session (how to do this described in next section) that has a Lead Observer assigned.

Signing Up for a Monitoring Session

Monitoring sessions are scheduled in advance by the AKBMP coordinator and are updated monthly (i.e., the September monitoring schedule will be posted at the end of August and so on). All monitoring sessions last for about two hours and occur during daylight hours, scheduled around the tide. We ask that volunteers remain on site for the entire session duration to maximize the likelihood of observing

beluga activity and completing the session. You can sign-up for monitoring sessions on our website (<http://akbmp.org>) under the **Monitor** page. The schedule is only accessible by volunteers that have completed the necessary steps. Click the site you would like to monitor at and add your name to any and all sessions that you would like to attend. If you're experiencing difficulties signing up for a session online, please contact the AKBMP coordinator (alaskabmp@gmail.com). We ask that each volunteer commit to attending a minimum of three monitoring sessions over the course of the field season; however, there is no maximum limit to the number of monitoring sessions a volunteer can sign-up for.

Preparing for a Monitoring Session

Participants should read through this protocol, the datasheets, the *Monitoring Key* and *Monitoring Session Checklist* below prior to conducting a session. Please come prepared for each session with your own binoculars and the additional items outlined below on the checklist at the end of this protocol as needed.

AKBMP Datasheets

We record data on two separate datasheets during a monitoring session. The first is the *Session Log*, on which we record participant information and the environmental conditions on site. The second datasheet we use is the *Beluga Log*, on which we record data on beluga sightings. Please review the *Monitoring Definitions* and the *Monitoring Key* provided below for a description of the information you will be recording during your session.

Participant Roles

For safety reasons, we recommend a monitoring session be attended by at least two individuals whenever possible. When this is the case, one individual should serve as the *Primary Observer* and the other as the *Data Recorder*. Both should actively scan for belugas and other marine mammals over the course of the monitoring session. If only one observer is on site during a session, this individual should serve as the *Primary Observer* and *Data Recorder*.

During a Monitoring Session

Monitoring volunteers should begin and end each session in accordance with the monitoring start and end times specified on the session schedule for their site. At the start of each session, the *Data Recorder* should fill out the information requested on the *Session Log* and should record any notable changes in site conditions under the *notes* section on the *Site Form* as they occur. Environmental conditions should be recorded at the end of the session as an average over the monitoring duration (any extreme environmental conditions can be added to the *Site Form* note section). Over the course of the session, the *Observer(s)* and *Data Recorder* should continue to actively scan the monitoring area for belugas and other marine mammals (alternating between using their unaided eye and binoculars). The *Data Recorder* should record all beluga or other marine mammal sightings on the *Beluga Log* as they occur. On the back of this log is a section for recording a timeline and visual summary of the session and/or beluga group sighting. The *Data Recorder* should use a new *Beluga Log* for each new group of belugas observed in the monitoring area (see below for definition of group).

End of Session Debrief

At the end of each session, this is a good time to fill in the environmental conditions as an average of what was experienced over the duration of your session. The *Observer(s)* and *Data Recorder* should review the datasheets to ensure that each is accurate and complete.

Data Entry and Submission

Following each monitoring session that you participate in, please have one volunteer that was present during the session enter the data recorded during that session into the *AKBMP Online Data Entry Form* (this form can be found under the **Monitor** page on our website). If possible, please also photograph or scan your datasheets and upload them on our website (also located on the **Monitor** page on our website). If you do not feel that you are able to enter your monitoring data into our online form, please communicate this to the AKBMP coordinator so that we can find an alternative. If you prefer to return a hard copy of your datasheets (instead of photographing or scanning your forms), you can arrange for them to be picked up or delivered to the AKBMP coordinator.

Monitoring Definitions

The following content was adapted and modified from the NMFS Best Practices Guidelines for documenting Cook Inlet Beluga Whales and from Steinert (2017) unpublished. Content was modified and new content was added as necessary.

Site Name: The name and/or location information for the particular site you are monitoring at (e.g., Ship Creek, MM 95.3, Twentymile River, Kenai River, Kasilof River).

Monitoring Area: Refers to the area within your range of view (using the unaided eye or binoculars) over which you can observe and confidently identify marine mammals.

Monitoring Start: The time at which a monitoring session begins (e.g., 8:00 AM); the start time for each session is indicated on your monitoring site's sign-up sheet.

Monitoring End: The time at which a monitoring session ends (e.g., 10:30 AM); the end time for each session is indicated on your monitoring site's sign-up sheet.

Observers: The individual(s) in the field team responsible for scanning the monitoring area for belugas and other marine mammals and relaying these observations to the *Data Recorder*.

Data Recorder: The individual in the field team primarily responsible for recording participant information, site information, environmental conditions, and beluga observations; this individual should also scan for belugas and other marine mammals when not recording data. Additionally, this person will be responsible for submitting the data to the online form.

Sighting Conditions: The quality and range of your visibility from the monitoring site during a

monitoring session; this can be affected by rain, glare, fog, whitecaps, or low light; please refer to *Monitoring Key* for the scale.

Weather Conditions: Circle the predominant weather condition on site at the beginning of each monitoring session. Describe any significant change in weather conditions as they occur over the monitoring session in the *notes* section.

Glare: Indicate the extent of glare affecting the monitoring area. You can also describe the severity of the glare (e.g., the percentage of the monitoring area affected) in the *notes* section.

Beaufort Sea State: Refer to the Beaufort Scale in the *Monitoring Key*; discontinue all monitoring activities if sea state reaches force 6 conditions.

Ice Cover: Indicate the percentage (0-100) of ice covering the monitoring area; please base this percentage on the total surface area of the water that would be visible under ice-free conditions.

Number of Motorized Watercrafts: Total number of motorized watercrafts observed within the monitoring area over the course of a monitoring session. Please describe any additional details in the *notes* section.

Number of Non-motorized Watercrafts: Total number of non-motorized watercrafts observed within the monitoring area over the course of a monitoring session. Please describe any additional details in the *notes* section.

Number of Fishers: Total number of fishers of any gear type (on shore or in a boat) you observe fishing within the monitoring area over the course of a monitoring session. Please describe any additional details in the *notes* section.

Trash / Marine Debris Present: Indicate the extent to which trash or marine debris are present in and around the monitoring. Please describe any additional details in the *notes* section.

Number of Aircraft Flights: Total number of aircraft flights observed flying over the monitoring area during a monitoring session. Multiple flights by the same aircraft can occur and each flight should be counted in total.

Beluga Sighting: When an individual or group of belugas is observed in the monitoring area.

Group: A discrete group of belugas or other marine mammals observed traveling or milling in unison. Use your best judgment to differentiate between one and multiple groups. Ask a Lead Observer or the AKBMP coordinator if you have issues with understanding what defines a group. If one discrete group merges with another, please record this in the *notes* section on your *Beluga Log*. Assign a new Group ID (A, B, C...) to each new group of belugas observed in the monitoring area.

Group ID: An alphabetical code assigned to each new group of belugas observed during a monitoring

session at a given monitoring site (e.g., group A, B, C, and so on). If a group (e.g., Group A) travels outside of your field of view for an extended period of time but you observe them again at a later time or a different location, please add a number to the end of that group's ID code (e.g., Group A.1, A.2, and so on).

Monitoring Start (on Beluga Log): The time you first observe a discrete group of belugas (e.g., Group A) in the monitoring area. Please record an observation start time for each new group of belugas observed. If you lose sight of a group (e.g., Group A) but observe that group again at a later time or from a different location (e.g., Group A.1) please record a new start time for this observation.

Monitoring End (on Beluga Log): The time you last observe a discrete group of belugas (e.g., Group A) in the monitoring area. Please record an observation end time for each discrete group of belugas observed. If you lose sight of a group (e.g., Group A) and observe them again at a later time or from a different location (e.g., Group A.1) please record a new end time for this observation.

Estimated Group Size: The best estimate of the total number of belugas in a group (see the *Methods for Determining Group Size* section below).

Beluga Color/Age: Refers to the likely age of a beluga based on its color and body size (e.g., calves are born dark grey and lighten in color as they mature). See the *Monitoring Key* for color and age class definitions. Please fill in the spaces provided with the number of belugas in the group that fit within each age class.

Group Distance from Shore: Circle how far the group is from the shoreline of the monitoring site.

Behavior: Circle any behaviors you observe over the course of a group sighting; refer to the *Monitoring Key* for behavior codes and definitions. Please differentiate between behaviors that are observed and those that are inferred (observing a fish in a beluga's mouth would constitute *observed feeding*; whereas observing fish jumping and birds circling above a group of milling belugas would constitute *suspected feeding*).

Other Marine Mammals Observed: Please refer to the *AKBMP Marine Mammal Guide for Cook Inlet* (provided under the **Resources** page on our website) or to a regional marine mammal identification guide (e.g., Wynne 2007) for help identifying other species of marine mammals that you observe during a monitoring session.

Other Sections on the Datasheets:

Notes Section (Session Form)

Use this section to record any notable changes in site dynamics or environmental conditions as they occur over the course of a monitoring session (e.g., a bear entered the monitoring site and observations ceased until the bear departed; storm clouds rolled in mid-way through the session and sighting conditions decreased to X). You can also use this section to record any notable ecological activity observed over the course of a session (e.g., we observed gulls and hooligan dip-netters

catching hooligan in the monitoring area; the river was covered in ice at the start of the session, but the ice broke up as the tide came in).

Notes Related to the Beluga Sighting (Beluga Log)

Record any additional information related to the beluga group sighting. Include any notable behaviors you observe (e.g., six seals were traveling in close proximity to the group of belugas); notable changes in group spread or formation (e.g., the group transitioned from milling in a tight circle to traveling in a long line); relevant information on an individual's body condition (e.g., signs of illness, infection, tagging scars, wounds, etc.); or signs of entanglement (e.g., rope wrapped around dorsal ridge). If you observe an entangled animal, please notify the NMFS Stranding Hotline immediately (877) 925-7773.

Human Activity

Recording human activity at during a monitoring session when whales are not in the area is just as important as recording them when whales are. Having a complete understanding of this activity is helpful for understanding any impacts on the whales.

Human Activity and Belugas (Beluga Log)

Record human activities that you observe while belugas are present in the monitoring area. Please note whether the humans involved in this activity were aware of the belugas' presence (this can be very difficult to know so please only note it if you are sure). If you observe beluga activity and human activity occurring within the monitoring area simultaneously, please use the timeline on the back of the Beluga Log to record the timing of initial beluga behavior, when human activity entered the area, when beluga behavioral changes were observed (if any), and when human activity ended. A timeline of the human events and whale events is the best way to document if there were interactions occurring. If you observe any activities that constitute harassment, please report this to the NMFS Enforcement Hotline immediately (800) 853-1964. Make note of this harassment in your notes.

Methods for Determining Group Size

Refer to the following guidelines when estimating beluga (or other marine mammal) group size; only count the number individuals that you actually observe surface (i.e., not ripples or blows).

When a group is milling:

Small group: Count the total number of whales that surface simultaneously to determine the minimum number of individuals in the group. Repeat this process several times and record your highest count as the estimated group size.

Large group: If multiple observers are present, break the monitoring area into subsections. Assign one observer to each subsection and have them count the total number of whales surfacing simultaneously in their section, add up the count for each section and record this as the estimated group size.

When a group is traveling:

Choose a geographic feature ahead of you on the horizon and in front of the group of belugas you are observing (i.e., in their direction of travel). Count each individual whale that surfaces as they pass by this point; record your total as the estimated group size.

For a large group (and if several observers are on site), have each observer generate their own count using the above technique. After the entire group has traveled past the reference point, add up each of the observer counts and record the average of these counts as the estimated group size.

Photographing Belugas:

If possible, please photograph the belugas you observe and submit these photos to the AKBMP website or email to AKBMP coordinator; all of the images we receive will be submitted to our partner, Cook Inlet Beluga Whale Photo-ID Project.

When possible -- Capture images from 90-degree angles to marks or wounds -- Capture a time sequence of photographs showing the various parts of an individual beluga -- Capture images of the dorsal ridge and sides of the belugas -- Capture images of the head or tail if visible during a sighting.

Monitoring Session Checklist:

Recommend Gear

- | | | | |
|---|---|---|---------------------------------------|
| <input type="checkbox"/> Datasheets | <input type="checkbox"/> Monitoring key | <input type="checkbox"/> Writing utensils | <input type="checkbox"/> Binoculars |
| <input type="checkbox"/> Charged cell phone | <input type="checkbox"/> First aid kit | <input type="checkbox"/> Bear spray | <input type="checkbox"/> Extra layers |
| <input type="checkbox"/> Rain gear | <input type="checkbox"/> Waterproof boots | <input type="checkbox"/> Hat and gloves | <input type="checkbox"/> Sunglasses |
| <input type="checkbox"/> sunscreen | <input type="checkbox"/> Camp chair | <input type="checkbox"/> Camera | <input type="checkbox"/> Dry bag |
| <input type="checkbox"/> notebook | <input type="checkbox"/> Snacks | <input type="checkbox"/> Water bottle | |

Conducting a Monitoring Session from Start to Finish

Prior to the Start of a Monitoring Session

- Review the AKBMP monitoring protocol, monitoring key, and datasheets
- Contact the AKBMP coordinator with any questions you have
- If it is your first session, make sure you signed up with a lead observer

At the Start of a Monitoring Session

- Ensure you have the equipment you need on site (outlined on the Monitoring checklist)
- Scan the monitoring site to ensure that it's safe to monitor
- Identify who will be data recorder and fill out the Session Log (fill in environmental data at the end)
- Have a Beluga Log on hand for when/if you see belugas

During the Monitoring Session

- Actively scan for belugas alternating between the unaided eye and binoculars
- When belugas, use back of Beluga Log to fill in timeline of events related to group
- Complete all information for a group, use a new Beluga Log for each group
- Record any notable changes in site or environmental conditions in the Session Log notes
- If desire, capture photos of the belugas or other marine mammals observed during session

At the End of a Monitoring Session

- Fill in the average environmental conditions for the session (note any extreme changes in the note section on the Session Log)
- Review all of the datasheets to ensure that they are accurate and complete
- Check the site to ensure that you have left no trash or belongings behind
- Store your completed datasheets in a secure place
- Have only ONE volunteer enter the data into the AKBMP online data entry form
- Upload your datasheets digitally to the AKBMP website (OR you may arrange to turn in the hardcopies of your datasheets to the coordinator)
- Upload any photos you took of belugas or other marine mammals to AKBMP website
- If you encounter any issues email your coordinator to help get your data submitted