Supplementary Material

# Camera errors

The camera system was designed to receive power from a wall outlet in the gallery using an AC power converter from Harbotronics. Within a week of camera setup on July 23rd 2020, the system stopped working as intended. A backup system was available to replace the original setup, however when in place the AC power cord no longer functioned to charge the camera battery. Every one to two days the camera battery was replaced with a charged battery, by removing the camera from the tripod and replacing the camera after. Photos were inspected using GNU Image Manipulation Program (GIMP) version 2.99.2. When these photos were inspected, it was revealed that the removal and replacement of the camera resulted in small changes in the field of view (< 21 x or y pixels). By overlaying images from different dates in GIMP the field of view shifts and dates were recorded (**Supplementary Figure 1, Supplementary Table 1**). Larger shifts in the field of view occurred several times due the tripod being knocked out of place. This inspection was done before photos were corrected for lens distortion. The georeferencing points taken covered field of view shifts of up to 20 pixels (**Supplementary Table 1**). The distance equations used all georeferencing points from shifts in field of view up to 20 pixels, allowing for photos between August 13th, 2020 at 11:55 AM and August 28th, 2020 at 10:45 AM to be used in analysis (field of view 7 through 14) (**Supplementary Table 1**).

## Supplementary Table 1. The dates for photos used in analysis with the shift in field of view from the previous day represented in x and y pixels. This table includes the number of georeferencing points from each field of view (FOV) shift.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Pixel shift | |  | Georeferencing points | |
| Date | x | y | FOV | All | <700 y pixels |
| 8/13/2020 | 22 | -52 | 7 |  |  |
| 8/14/2020 |  |  | 7 |  |  |
| 8/15/2020 | -10 | 10 | 8 |  |  |
| 8/16/2020 | 17 | -10 | 9 |  |  |
| 8/17/2020 |  |  | 9 | 7 | 4 |
| 8/18/2020 | 3 | 3 | 10 | 3 | 1 |
| 8/19/2020 |  |  | 10 | 8 | 5 |
| 8/20/2020 | 3 | -4 | 11 |  |  |
| 8/21/2020 |  |  | 11 |  |  |
| 8/22/2020 |  |  | 11 | 7 | 5 |
| 8/23/2020 | -20 | 18 | 12 | 4 | 2 |
| 8/24/2020 | -4 | 1 | 13 |  |  |
| 8/25/2020 |  |  | 13 |  |  |
| 8/26/2020 | 1 | 1 | 14 |  |  |
| 8/27/2020 |  |  | 14 |  |  |
| 8/28/2020 | -179 | 15 | 15 |  |  |

# Edge impacts

An edge impact would affect results from this analysis if there were belugas or vessels just out of view of the photo. Because we are considering the distance relationships of belugas to vessels, we can test for an edge impact by removing belugas from the ends of the image and complete the same analysis. Belugas in 50% of the photo area (does not change with tide) were removed from analysis by cropping the edges of the photos. Belugas within x from 1350 to 6010 and y of 750 to 3000 remained for analysis along with all vessels from the original photo dimensions (**Supplementary Figure 2**). Results from 100 iterations of this analysis are shown in **Supplementary Table 2**, which match Monte Carlo analysis results conducted in the methods section of this paper.

## Supplementary Table 2. Attraction, avoidance, and neutral results from one-sided Wilcoxon Rank sum tests out of 100 iterations for beluga distance relationships to kayaks, paddleboards, motorboats, and Zodiacs with removal of beluga from the edges to test for edge-impacts.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Attraction | Avoidance | Neutral |
| Kayak | 100 | - | - |
| Paddleboard | - | 100 | - |
| Motorboat | - | - | 100 |
| Zodiac | - | - | 100 |