Metadata

Dataset Name	Oblique images of beluga in the Churchill River Estuary
Dataset General Type	photo
Dataset Type	Dataset
Dataset Level	
Program Website	
Keyword Vocabulary	
Keyword Vocabulary URL	
Theme	
Dataset Status	Planned
Maintenance and Update Frequency	Continual
Dataset Last Revision Date	2025-09-16
Dataset DOI	
Metadata Creation Date	2025
Publisher	CanWIN
Dataset Authors	

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Type of Name	Personal

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Contributors

Contributors 1

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Role	DataCollector
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ORCID ID	

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Project Data Curator email	emmaausen@gmail.com
Project Data Curator Affiliation	Centre for Earth Observation Science - University of Manitoba
Dataset Collection Start Date	2020-08-13
Dataset Collection End Date	2020-08-28

Sample Collection

Sample Collection 1

Sampling Instrument Name	Pentax K1 Mark II camera with Pentax HD PENTAX-D FA 28-105mm f/3.5-5.6 ED DC WR Lens
Standardized Sampling Instrument Name	
Sample Collection Method Name	
Comment	
Method Link	
Method Summary	
Method Description Type	Methods

Activity Collection Type

Preferred citation

Analytical Instrument

Analytical Instrument 1

Analytical Instrument Name	
Standardized Analytical Instrument Name	
Analytical Instrument Identifier Id	
Analytical Instrument Title Type	Alternative Title
Analytical Instrument Identifier Type	

Analytical Method

Analytical Method 1

Analytical Method Name

Method Link

Method Summary

Laboratory

Comments

Variables Measured

License Name

Creative Commons Attribution 4.0 International

Licence Type

Open

Embargo Date

Licence URL

https://spdx.org/licenses

Terms of Access

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Awards

Awards 1

Award Title

Website

Funder Name

Funder Identifier Code

Funder Identifier Type

Funder Identifier Scheme

Grant Number

Related Resources

Related Resources 1

Related Resource Name

Resource Code

Identifier Type

Relationship To This Dataset

Resource Type Online Resource

Type

Series Name

Publications

Publications 1

Publication Name

Identifier Code

Identifier Type

Relationship to this dataset

Resource Type Online Resource

Publication Type

Spatial regions

Spatial extent West Bound Longitude

Spatial extent East Bound Longitude

Spatial extent South Bound Latitude

Spatial extent North Bound Latitude	

Data and Resources

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/2795e832-7dce-477f-a1c8-154796f2dbc5/download/beluga_count_byphoto_clean-upload-canwin.csv
Name	Beluga and Vessel pixel location
Description	Pixel location (in x, y) of belugas, motoboats, kayaks, and paddleboard identified in photos. These identify all individual beluga before they were categorized into groups. Column descriptions: Photo name: The name of the photo Camera Field of View: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time Tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval Tide Cycle: Defines weather the photo was taken during rising, high, falling or low tide. Feature: What is identified within the photo, it can be a beluga, motorboat, paddleboard or kayak. None means none of the above were identified in the photo Location pixel x: gives the pixel location along the x axis in the photo for the feature identified in the feature column Location pixel y: gives the pixel location along the y axis in the photo for the feature identified in the feature column
Format	CSV
Resource Category	data

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/05d46d80-0dcf-405d-bfc9-8a06e3711163/download/mc-beluga-response-to-vessels.r
Name	Monte Carlo Code
Description	Created in Cran r version 4.1.1 using the tidyr and ggplot2 packages. To run code will need the following csv files: FallingBeluga Falling Vessel FallingExpected_noobservedb High Beluga High Vessel HighExpected_noobservedb LowBeluga LowVessel LowExpected_noobservedb RisingBeluga RisingVessel RisingExpected_noobservedb
Format	R File
Resource Category	scripts

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/bd6eabe8-e849-414e-9217-0661096c2ace/download/fallingbeluga.csv
Name	FallingBeluga.csv
Description	Pixel location (in x, y) of belugas or the center of a beluga group identified in photos at falling tide with vessels present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if the beluga was identified during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each beluga was identified Photo: The name of the photo without letters where each beluga was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for the beluga or group of beluga identified in the "chat" column y: gives the pixel location along the y axis in the photo for the beluga or group of beluga identified in the "chat" column

Format	CSV
Resource Category	data

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/ff54887c-cd91-46fc-ba81-f255a7ff0dc3/download/highbeluga.csv
Name	HighBeluga
Description	Pixel location (in x, y) of belugas or the center of a beluga group identified in photos at high tide with vessels present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if the beluga was identified during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each beluga was identified Photo: The name of the photo without letters where each beluga was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for the beluga or group of beluga identified in the "chat" column y: gives the pixel location along the y axis in the photo for the beluga or group of beluga identified in the "chat" column
Format	CSV
Resource Category	data

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/c1775bc1-c956-4bbe-be0e-e8aeb8e6019d/download/lowbeluga.csv
Name	LowBeluga
Description	Pixel location (in x, y) of belugas or the center of a beluga group identified in photos at low tide with vessels present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if the beluga was identified during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each beluga was identified Photo: The name of the photo without letters where each beluga was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for the beluga or group of beluga identified in the "chat" column y: gives the pixel location along the y axis in the photo for the beluga or group of beluga identified in the "chat" column
Format	CSV
Resource Category	data

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/8aad78e9-fa07-4fed-8edd-42d5d4374e34/download/risingbeluga.csv
Name	RisingBeluga

Description	Pixel location (in x, y) of belugas or the center of a beluga group identified in photos at rising tide with vessels present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if the beluga was identified during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each beluga was identified Photo: The name of the photo without letters where each beluga was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for the beluga or group of beluga identified in the "chat" column y: gives the pixel location along the y axis in the photo for the beluga or group of beluga identified in the "chat" column
Format	CSV
Resource Category	data

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/867ee0c6-62b1-4b47-90c2-083fb17e740c/download/fallingvessel.csv
Name	FallingVessel
Description	Pixel location (in x, y) of vessels identified in photos at falling tide with belugas present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: photoid: For each tide, gives an id number for each photo starting at 1. This is done for vessel files only. tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if photo was taken during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each vessel was identified. Photo: The name of the photo without letters where each vessel was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for vessel identified in the “chat” column y: gives the pixel location along the y axis in the photo for the vessel identified in the “chat” column
Format	CSV
Resource Category	data

URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/8d5e86a2-d5f4-43af-8a90-3faae71092fd/download/highvessel.csv
Name	HighVessel
Description	Pixel location (in x, y) of vessels identified in photos at high tide with belugas present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: photoid: For each tide, gives an id number for each photo starting at 1. This is done for vessel files only. tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if photo was taken during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each vessel was identified. Photo: The name of the photo without letters where each vessel was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for vessel identified in the “chat” column y: gives the pixel location along the y axis in the photo for the vessel identified in the “chat” column
Format	CSV

Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/648d4673-2015-4b78-962b-ffca1225ee8f/download/lowvessel.csv
Name	LowVessel
Description	Pixel location (in x, y) of vessels identified in photos at low tide with belugas present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: photoid: For each tide, gives an id number for each photo starting at 1. This is done for vessel files only. tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if photo was taken during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each vessel was identified. Photo: The name of the photo without letters where each vessel was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for vessel identified in the “chat” column y: gives the pixel location along the y axis in the photo for the vessel identified in the “chat” column
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/d8ff4d47-ef71-4d78-b91a-2c07fccdae1d/download/risingvessel.csv
Name	RisingVessel
Description	Pixel location (in x, y) of vessels identified in photos at rising tide with belugas present. This csv file is used in conjunction with the Monte Carlo data code. Column descriptions: photoid: For each tide, gives an id number for each photo starting at 1. This is done for vessel files only. tide: Tide measurement in meters collected from the Canadian Hydrographic Service gauge (station 5010) measured to the closest 3m interval ID: unique identifying number for each beluga, group of belugas, or vessel ctide: Defines if photo was taken during rising, high, falling or low tide. FOV: The iteration of the camera field of view as identified in the supplemental materials of Ausen et al. 2022. PhotoO: The name of the photo where each vessel was identified. Photo: The name of the photo without letters where each vessel was identified Date: Date photo was taken in YY-MM-DD (CDT) Time (CDT): Time the photo was taken in Central Daylight Time chat: Identifies if the pixel location is one of the following: one individual beluga (Beluga), a group of beluga (Bgroup), a motorboat tourist vessel (Motorboat), a kayak tourist vessel (Kayak), a paddleboard tourist vessel (Paddleboard), or a zodiac tourist vessel (Zodiac). x: gives the pixel location along the x axis in the photo for vessel identified in the “chat” column y: gives the pixel location along the y axis in the photo for the vessel identified in the “chat” column
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/4cfdb8f3-1575-436a-86f9-8bac5b7e87c3/download/fallingexpected_noobservedb.csv
Name	FallingExpected_noobservedb
Description	Pixel location (in x, y) of belugas identified in photos at falling tide with no vessels present in the photo. This csv file is used in conjunction with the Monte Carlo data code. Ebeluga: numbers the beluga from 1-## at each tide ideb: Unique id number for each expected beluga regardless of tide x: gives the pixel location along the x axis in the photo for beluga identified y: gives the pixel location along the y axis in the photo for the beluga identified
Format	CSV

Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/42e6c8c8-e424-4f49-85c8-235d23d6967b/download/highexpected_noobservedb.csv
Name	HighExpected_noobservedb
Description	Pixel location (in x, y) of belugas identified in photos at high tide with no vessels present in the photo. This csv file is used in conjunction with the Monte Carlo data code. Ebeluga: numbers the beluga from 1- ## at each tide ideb: Unique id number for each expected beluga regardless of tide x: gives the pixel location along the x axis in the photo for beluga identified y: gives the pixel location along the y axis in the photo for the beluga identified
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/468286b7-cb33-4c3c-966d-6228419ea6ef/download/lowexpected_noobservedb.csv
Name	LowExpected_noobservedb
Description	Pixel location (in x, y) of belugas identified in photos at low tide with no vessels present in the photo. This csv file is used in conjunction with the Monte Carlo data code. Ebeluga: numbers the beluga from 1- ## at each tide ideb: Unique id number for each expected beluga regardless of tide x: gives the pixel location along the x axis in the photo for beluga identified y: gives the pixel location along the y axis in the photo for the beluga identified
Format	CSV
Resource Category	data
URL	https://canwin-datahub.ad.umanitoba.ca/data/dataset/32372811-7748-43a6-bf6b-413ab37dc1de/resource/27569194-20cc-4fb5-928e-1b2f9ed01e05/download/risingexpected_noobservedb.csv
Name	RisingExpected_noobservedb
Description	Pixel location (in x, y) of belugas identified in photos at rising tide with no vessels present in the photo. This csv file is used in conjunction with the Monte Carlo data code. Ebeluga: numbers the beluga from 1- ## at each tide ideb: Unique id number for each expected beluga regardless of tide x: gives the pixel location along the x axis in the photo for beluga identified y: gives the pixel location along the y axis in the photo for the beluga identified
Format	CSV
Resource Category	data
URL	https://canwinerddap.ad.umanitoba.ca/erddap/files/Oblique_photos_Churchill_estuary_e541_65b5_6bb2/
Name	Oblique photos from Churchill estuary
Description	
Format	JPEG

Resource Category	supplemental

Related Publications

Title	Beluga (Delphinapterus leucas) response to personal watercraft and motorized whale watching vessels in the Churchill River estuary
URL	https://canwin-datahub.ad.umanitoba.ca/data/en/publication/beluga-response-to-whale-watching-vessels-in-the-churchill-river-estuary
Title	Boating impact on beluga in the Churchill estuary
URL	https://canwin-datahub.ad.umanitoba.ca/data/en/publication/boating-beluga-churchill-estuary