Metadata

Field	Value
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 **Dataset Authors 1**	

Field	Value
Name	Ausen, Emma L.
Type of Name	Personal
Email	emmaausen@gmail.com
Affiliation	Centre for Earth Observation Science - University of Manitoba
ORCID ID	https://orcid.org/0000-0002-9719-1354
	ORCID
	http://orcid.org/

Dataset Authors 2

Name	Marcoux, Marianne
Type of Name	Personal
Email	marianne.marcoux@dfo-mpo.gc.ca
Affiliation	Freshwater Institute - Fisheries and Oceans Canada
ORCID ID	

Contributors

Field	Value
Contributors 1	
Name	
Role	DataCollector
Email	
Affiliation	
ORCID ID	
Project Data Curator	Ausen, Emma L.
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	

Field	Value
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	

Field	Value
Variables Measured	
Licence Name or Copyright Statement	Creative Commons Attribution 4.0 International
Copyright Statement	
Licence Type	Open
Embargo Date	
Licence URL	https://spdx.org/licenses
Terms of Access	CanWIN datasets are licensed individually, however most are licensed under the Creative Commons Attribution 4.0 International (CC BY 4.0) Public License. Details for the licence applied can be found using the Licence URL link provided with each dataset. By using data and information provided on this site you accept the terms and conditions of the License. Unless otherwise specified, the license grants the rights to the public to use and share the data and results derived therefrom as long as the proper acknowledgment is given to the data licensor (citation), that any alteration to the data is clearly indicated, and that a link to the original data and the license is made available.
Terms of Use	By accessing this data you agree to [CanWIN's Terms of Use](/data/publication/canwin-data-statement/resource/5b942a87-ef4e-466e-8319-f588844e89c0).
Awards	
Awards 1	
Award Title	
Website	
Funder Name	

Field	Value
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	

Field	Value
Spatial extent West Bound Longitude	
Spatial extent East Bound Longitude	
Spatial extent South Bound Latitude	
Spatial extent North Bound Latitude	

Data and Resources

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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

Field	Value
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/

Field	Value
Name	Oblique photos from Churchill estuary
Description	
Format	JPEG
Resource Category	supplemental

Related Publications

Field	Value
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/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/publication/boating-beluga-churchill-estuary