

**FLIGHT REPORT**  
**ShoreZone Aerial Video Imaging (AVI) Survey**  
**Team Grizzly Bear (GZ)**  
**August 12, 2018**



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Prepared for:  
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This flight report summarizes the field activities of the ShoreZone aerial video imaging survey conducted out of Prince Rupert, British Columbia on August 12, 2018. The survey was conducted by Coastal & Ocean Resources for the Department of Fisheries and Oceans (Contract F5211-180119). Table 1 provides a summary of field crew affiliations and responsibilities.

The tables and figures on the following pages summarize the extent and location of the 285 km of shoreline imagery completed on British Columbia's north coast under this contract.

A Bell 206 Jet Ranger helicopter chartered from Quantum Helicopters based in Terrace, BC was utilized by the team. All imagery was collected according to the latest ShoreZone protocol (Cook *et al.* 2017). Imagery was collected looking at the shoreline from the left side of the aircraft with the doors removed for better field of view. The helicopter maintained a speed of approximately 100 km/hr at an elevation of 100 m while at a distance of 100 m from the low water line so the imagery was collected at an oblique angle to the intertidal.

A total of 3 HD videos and 2,453 high resolution photos were collected during the survey. This report contains a summary table and map for these videos, illustrating their location, length, and key geographic points. All videos and photos for this survey were supplied to DFO on a hard drive organized by video number and named consistent with the ShoreZone image library data schema. The GIS data that accompanied the imagery on the hard drive illustrate the flight trackline positions at 1-second intervals while data and imagery are linked by a date-time code (yyyymmddhhmmss). As of the completion of this report, all imagery has been posted online on the [Coastal and Ocean Resources ArcGIS webpage](#).

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**Team Grizzly Bear Survey Data**

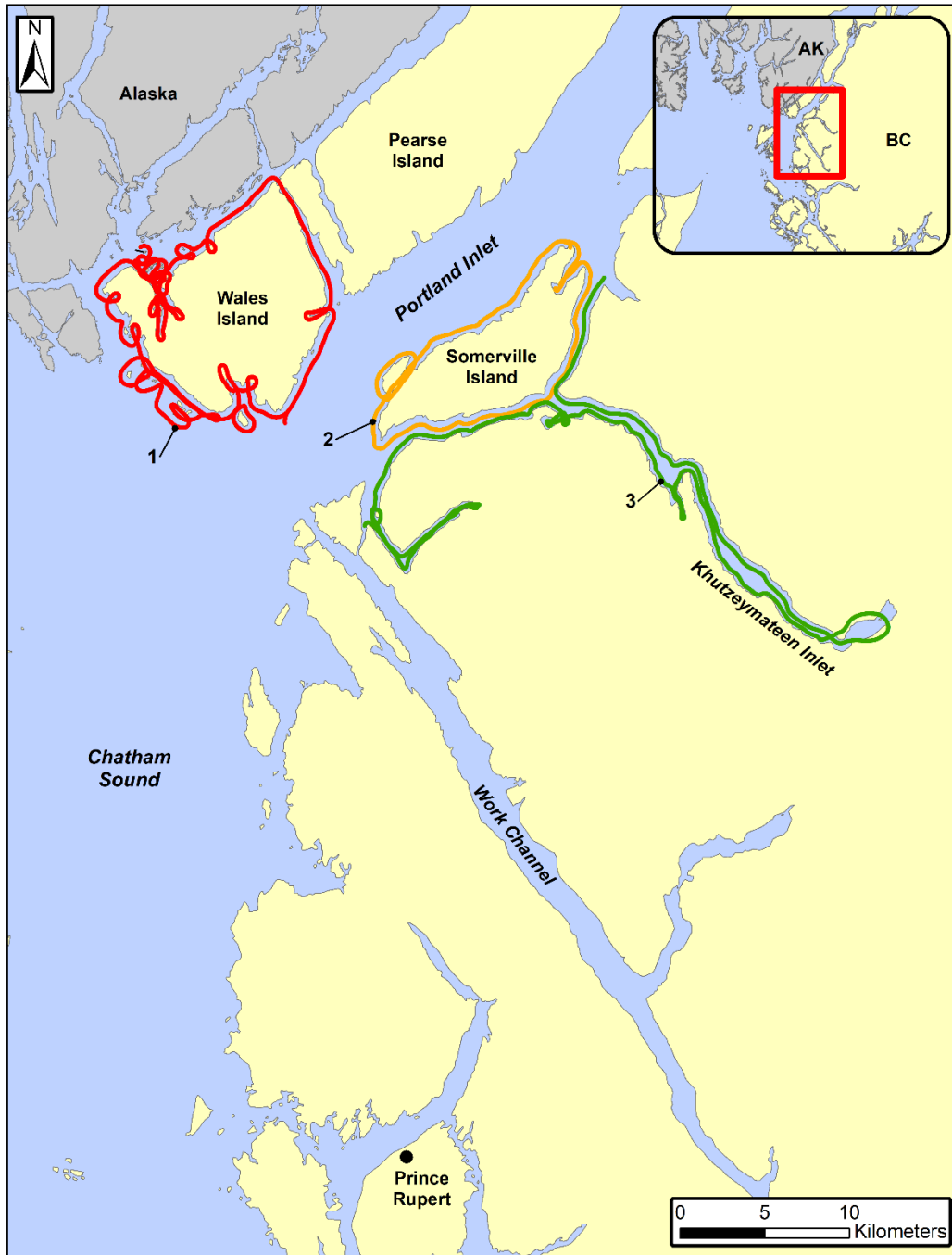
**Table 1.** Flight Personnel and Responsibilities for Team Grizzly Bear (GZ).

<b>Crew Member</b>	<b>Individual / Affiliation</b>	<b>Responsibilities</b>
<i>Geomorphologist</i>	Kalen Morrow Coastal and Ocean Resources, Victoria, BC	Videography, geomorphic commentary, survey planning & coordination, post-flight data processing
<i>Coastal Ecologist</i>	Sarah Cook Coastal and Ocean Resources, Victoria, BC	Digital photography, biologic commentary, post-flight data processing
<i>In-Flight Navigator</i>	Simone Behrens Coastal and Ocean Resources, Victoria, BC	In-flight navigation, post-flight data processing
<i>Pilot</i>	Steve Heskamp Quantum Helicopters Terrace, BC	Bell 206 aircraft operation

**Table 2.** Survey Videos: Team Grizzly Bear (GZ).

<b>Video Number</b>	<b>Location</b>
BC18_GZ_01	Wales Island
BC18_GZ_02	Somerville Island
BC18_GZ_03	Khutzeymateen Inlet, Union Inlet

**ShoreZone Aerial Video Imaging (AVI) Survey**  
**Team Grizzly Bear (GZ), 2018**  
Survey Maps and Video Logs  
Videos: BC18\_GZ\_01 to BC18\_GZ\_03



Video location map for the August 12, 2018 Team Grizzly Bear (GZ) survey conducted out of Prince Rupert, BC.

**2018 British Columbia Aerial Video Imaging Survey  
Team Grizzly Bear (GZ)**

**Video:** BC18\_GZ\_01

**Date:** 12 August 2018

**General Location:** Wales Island

**Time Start (UTC):** 13:55:00

**Time End (UTC):** 15:08:10

**Video Length:** 1 hr 7 min 12 sec

**Weather:** Sun

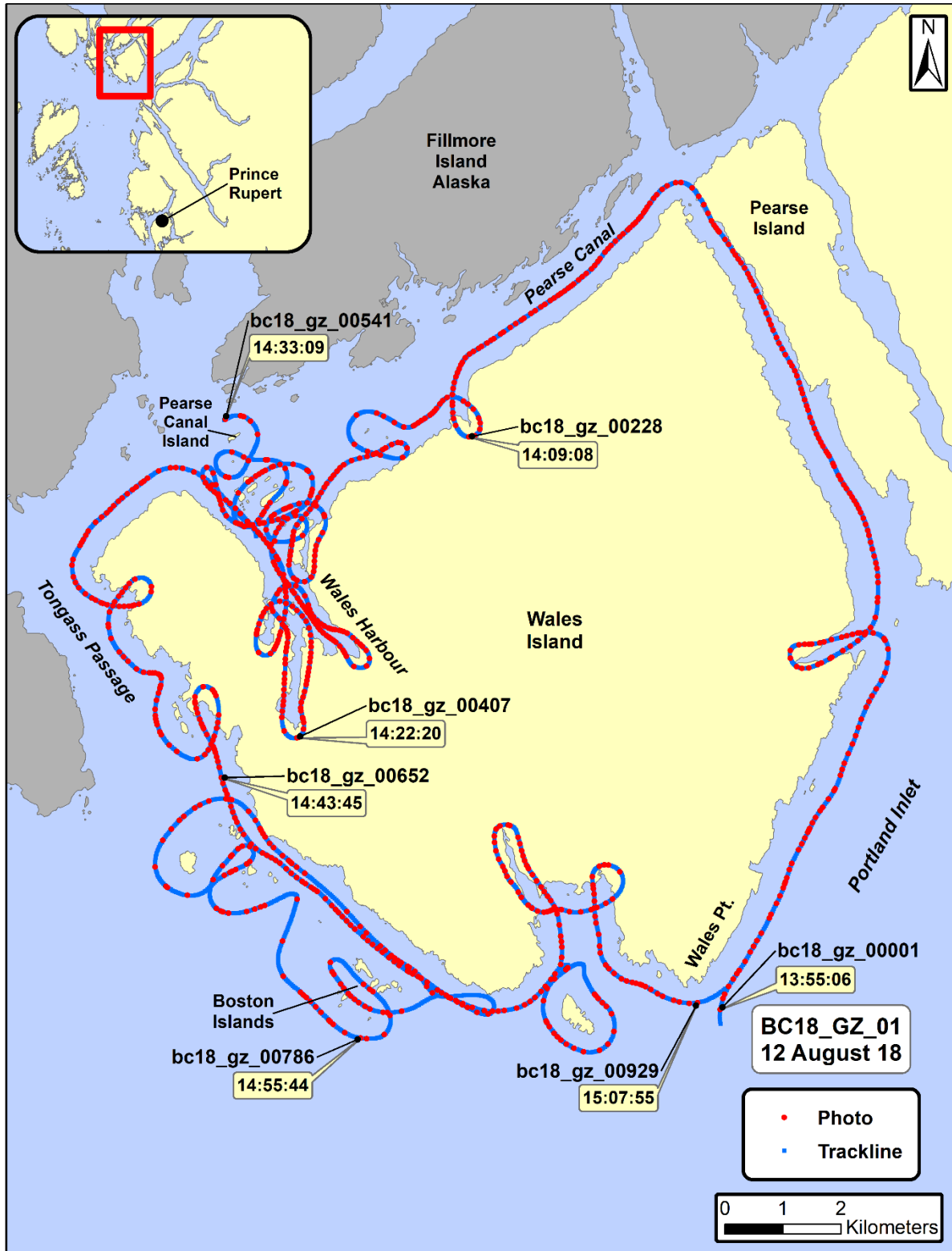
**Geo:** Morrow

**Bio:** Cook

**Nav:** Behrens

**Pilot:** Heskamp

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
13:55:06	Wales Pt., Wales Island	bc18_gz_00001
14:09:08	Pearse Canal, Northwest Wales Island	bc18_gz_00228
14:22:20	Wales Harbour	bc18_gz_00407
14:33:09	Pearse Canal Island	bc18_gz_00541
Video Break: 14:33:11 to 14:35:09		
14:43:45	Tongass Passage, Wales Island	bc18_gz_00652
14:55:44	Boston Islands	bc18_gz_00786
15:07:55	Wales Pt., Wales Island	bc18_gz_00929



**2018 British Columbia Aerial Video Imaging Survey  
Team Grizzly Bear (GZ)**

**Video:** BC18\_GZ\_02

**Date:** 12 August 2018

**General Location:** Somerville Island

**Time Start (UTC):** 15:14:50

**Geo:** Morrow

**Time End (UTC):** 15:46:58

**Bio:** Cook

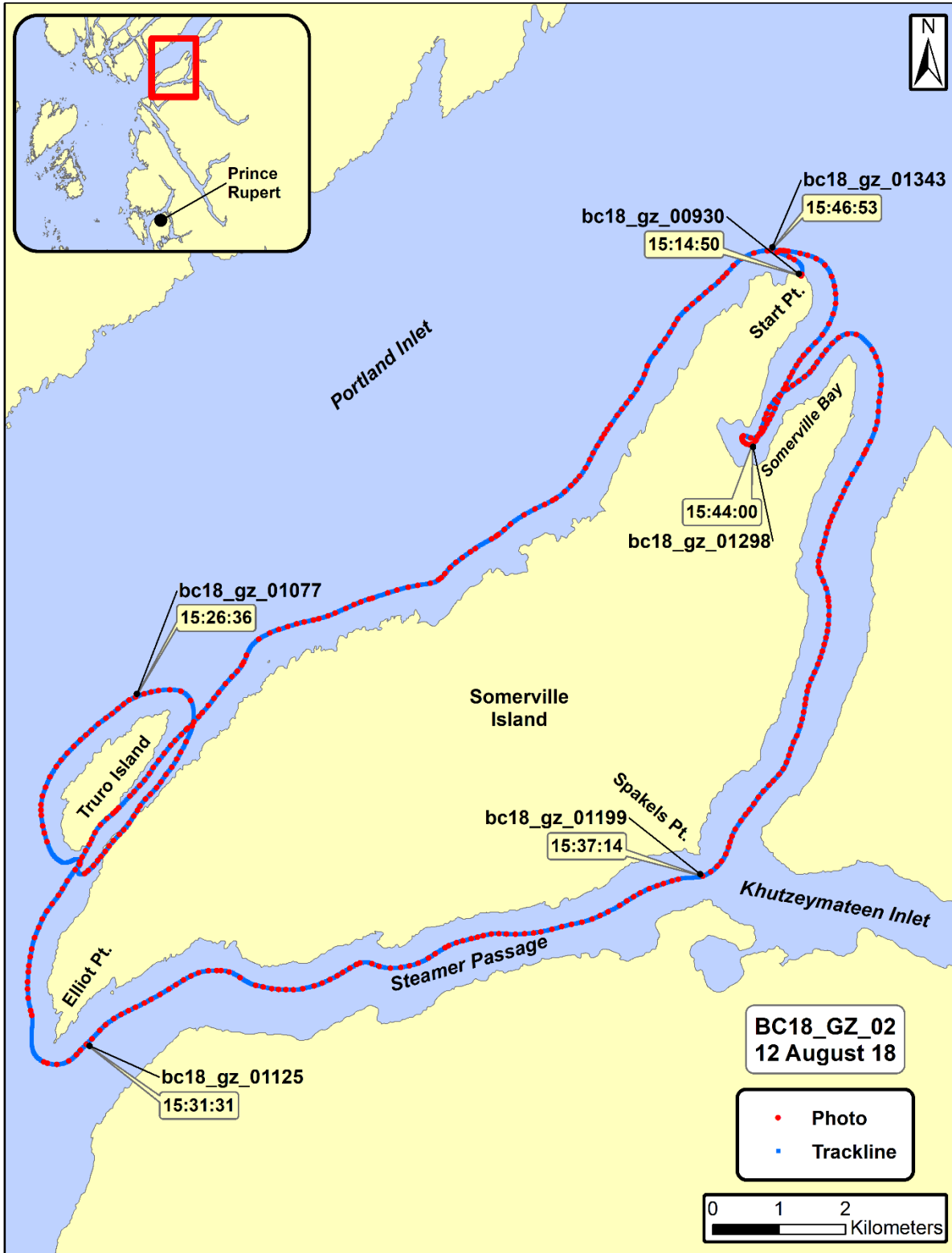
**Video Length:** 32 min 9 sec

**Nav:** Behrens

**Weather:** Sun

**Pilot:** Heskamp

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
15:14:50	Start Pt., Somerville Island	bc18_vr_00930
15:26:36	Truro Island	bc18_vr_01077
15:31:31	Elliot Pt., Somerville Island	bc18_vr_01125
15:37:14	Spakels Pt., Steamer Passage	bc18_vr_01199
15:44:00	Somerville Bay, Somerville Island	bc18_vr_01298
15:46:53	Start Pt., Somerville Island	bc18_vr_01343



**2018 British Columbia Aerial Video Imaging Survey  
Team Grizzly Bear (GZ)**

**Video:** BC18\_GZ\_03

**Date:** 12 August 2018

**General Location:** Khutzeymateen Inlet, Union Inlet

**Time Start (UTC):** 16:36:50

**Geo:** Morrow

**Time End (UTC):** 17:44:00

**Bio:** Cook

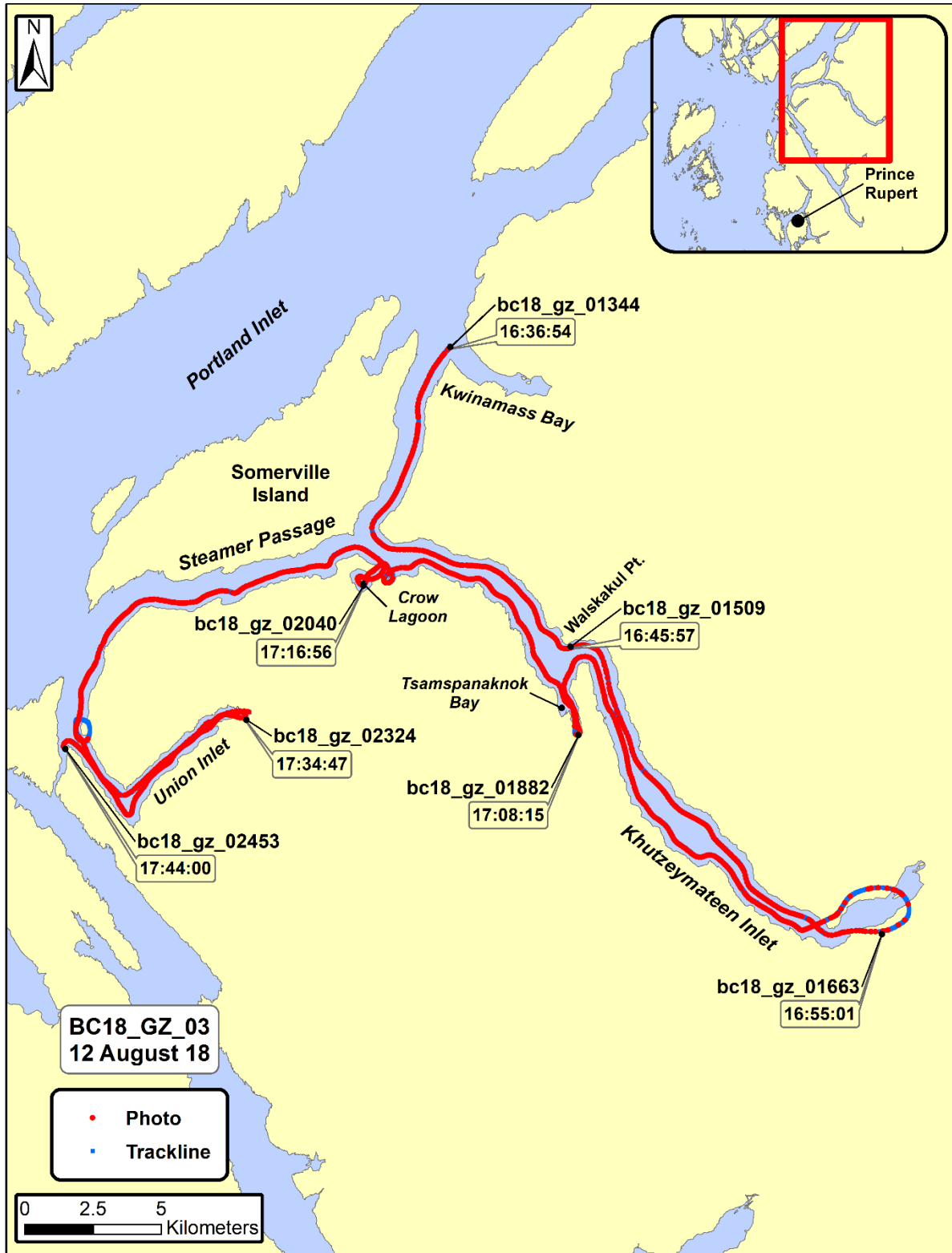
**Video Length:** 65 min 22 sec

**Nav:** Behrens

**Weather:** Sun

**Pilot:** Heskamp

<b>Time (UTC)</b>	<b>Location</b>	<b>Photo</b>
16:36:54	Kwinamass Bay	bc18_vr_01344
16:45:57	Walskakul Pt., Khutzeymateen Inlet	bc18_vr_01509
16:55:01	Head of Khutzeymateen Inlet	bc18_vr_01663
17:08:15	Tspanaknok Pt., Khutzeymateen Inlet	bc18_vr_01882
17:16:56	Crow Lagoon	bc18_vr_02040
17:34:47	Union Inlet	bc18_vr_02324
17:44:00	Emma Pt.	bc18_vr_02453



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## References

Cook, S.E., Daley, S., Morrow, K. and Ward, S. 2017. ShoreZone Coastal Imaging and Habitat Mapping Protocol. Prepared for NOAA Fisheries, Alaska Regional Office, Juneau, Alaska. 78p.

## Acknowledgments

The ShoreZone program is a partnership of scientists, GIS specialists, web specialists, non-profit organizations, and governmental agencies. We gratefully acknowledge the support of organizations working in partnership for the British Columbian ShoreZone effort, including: Department of Fisheries and Oceans, Ministry of Environment & Climate Change Strategy, Prince Rupert Port Authority, Pacific Northwest LNG, Tsleil-Waututh Nation, Metlakatla First Nation, Nisga'a Lisims Government and the Gitxaala Nation.

## Access and Use Constraints

Protocols for data access and distribution are established by the program partner agencies. Please see [www.shorezone.org](http://www.shorezone.org) for a list of partner agencies and related web sites. Video imagery can be viewed and digital stills downloaded online at: <http://www.coastalandoceans.com/Core-Services/Imaging/>

Any hardcopies or published data sets utilizing ShoreZone products shall clearly indicate their source. To ensure distribution of the most current public information or for correct interpretation, contact the ShoreZone project manager at Coastal and Ocean Resources, Inc. At the time of publication, that person is Sarah Cook ([sarah@coastalandoceans.com](mailto:sarah@coastalandoceans.com)).

To effectively and appropriately use ShoreZone data, the user shall refer to the ShoreZone Coastal Imaging and Habitat Mapping Protocol (Cook *et al.* 2017).

Data provided are derived from large, regional databases that are continually being updated and modified. The accuracy of some information is subject to change. Any published data sets utilizing ShoreZone products (printed, digital, or online) shall clearly indicate their source. If the user has modified the data in any way, the user is obligated to describe the types of modifications performed. The user specifically agrees not to misrepresent these data, nor to imply that changes made were approved by the ShoreZone program or its partners.



Proctor Islands (bc18\_gz\_00730)

