



## Shoreline mapping in north and central British Columbia

### Understanding British Columbia's coastline

The overall health of Canada's oceans is strongly influenced by the coastal marine environment. Through the Oceans Protection Plan, Environment and Climate Change Canada, in partnership with coastal First Nations in British Columbia, is working to protect, preserve, and restore Canada's marine environment. Together, we are developing a baseline dataset to understand the current state of the coastal environment and identify environmentally sensitive and culturally significant areas. This information will help emergency responders plan and prepare for potential marine pollution incidents.

### How do we understand the coastal environment?

#### 1. Collecting location-specific videos and photos

- Using helicopters flying at low altitude, we are surveying the British Columbia coast to capture videos and photos of the shoreline.
- We are focusing the videos and photos on the area of the shore between the high- and low-tide lines (intertidal zone).
- The imagery is available through an innovative web mapping application. Users can select any position along the helicopter's flight path to see videos and photos of that area.



#### 2. Creating a shoreline database

- We are using location specific (geo-tagged) videos and photos to split the coastline into uniform segments based on shoreline type.
- Our scientists are recording detailed information describing the physical characteristics of the shoreline, such as rock, sand, mud, beaches, cliffs, and tidal flats.
- We are also collecting other baseline coastal information such as infrastructure, human use, fauna, and biological features.

## How do we use this information?

The shoreline characterization database will identify the environmentally sensitive shoreline types, support the rapid response to pollution incidents, and aid in effective clean-up efforts. By presenting the data on an interactive map, we are improving decision-making during oil-spill responses. These resources are also available for responders to access remotely when on-site.

## How have we progressed and what are our next steps?

Since the introduction of the Oceans Protection Plan in 2016, we have completed the following:

- Characterizing 7,150 km of shoreline in the Kitimat-Douglas Channel area, including Haida Gwaii (2013–2015 imagery); and,
- Imaging of more than 15,500 km for Northern Vancouver Island and the central and north coasts, during the summers of 2018–2019.

Year	Days of Mapping	Shoreline Coverage (km)	Total Flight Time (hours)	Photos Taken
2018	14	6,900	65.7	58,426
2019	19	8,800	80.4	109,111
<b>Total</b>	<b>33</b>	<b>15,700</b>	<b>146.1</b>	<b>167,537</b>

Our scientists are currently interpreting the past two years of imagery and other data to make available a full coastal map from Alaska to North Vancouver Island. We encourage our partners and stakeholders to contribute information to further expand the database.



**For more information on shoreline mapping,**  
contact the Landscape Science and Technology Division at 613-998-9393.

Cat. N°: En4-401/2020E-PDF  
ISBN: 978-0-660-33836-1

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