



# Nisga'a Lisims Government



Sayt-K'ìlim-Goot

*one heart, one path, one nation*

New Available LNG Sites on  
Canada's West Coast

# Disclaimer

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This presentation contains information that is preliminary in nature and may be subject to change in the future.

Forward looking statements involve risks and uncertainties because they relate to events and depend upon circumstances that will or may vary in the future. Actual outcomes may differ

Any party interested in pursuing the opportunities presented here should undertake its own research and due diligence to satisfy itself of the quality of the information presented within.

# Contents

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	<i>Page</i>
Introduction	4
Welcome	5
The Nisga'a Nation – An Overview	6
Natural Gas Supply in Western Canada	11
Nisga'a Nation Sites for a Floating or Land-Based LNG Facility	15
Regional Context and Infrastructure	28
Next Steps	37
Contacts	39

# Introduction

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- The Nisga'a Nation wishes to attract sustainable economic development, including LNG projects, to our area.
- Canada's vast resources of natural gas are ideal as a new LNG supply source for global markets.
- Suitable sites for LNG development along the west coast of Canada are limited due to the mountainous terrain and restricted access.
- Some perceive that most, if not all, sites have already been selected by various parties for their LNG projects.
- The Nisga'a Nation owns all or part of four first rate sites for development that have not previously been identified for LNG projects.
- These sites offer unique opportunities as a result of the Nisga'a Treaty, our Nisga'a Government, our property interests and our unique environmental assessment rights.
- This package is a preliminary description of available LNG sites on the Portland Inlet waterway, near the Nass River, on Canada's west coast, north of Prince Rupert.

# Welcome

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*“Thank you for allowing us to introduce you to the Nisga’a Nation and to our sites suitable for LNG development.*

*The Nisga’a Nation is unique among Canada’s Aboriginal peoples. Because of our modern Treaty with the governments of Canada and British Columbia we have increased control of our land and our destiny and we are actively seeking opportunities for sustained economic development within our lands.*

*LNG provides a long term future opportunity for both our Nation and for your company. We welcome your interest and invite you to visit our people, our communities and our lands.”*

*H. Mitchell Stevens  
President  
Nisga’a Lisims Government*



# The Nisga'a Nation – An Overview

# The Nisga'a Nation - An Overview

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- The Nisga'a Nation is a self-governing Aboriginal nation on Canada's northwest coast in the province of British Columbia.
- The Nisga'a Nation is unique in Canada. We negotiated the first modern-day treaty with the governments of Canada and British Columbia.
- The Nisga'a Treaty, which came into effect in May 2000, provides certainty with respect to Nisga'a Nation ownership, use and jurisdiction over lands and resources within the area of the Nass River.
- We believe the unique legal status of the Nisga'a Nation and the Nisga'a Lisims Government provide advantages which could expedite LNG development and reduce the potential for disputes and conflicts.

# The Nisga'a Nation - An Overview

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- The lands owned and controlled by the Nisga'a Nation include:
  - approximately 2,000 square kilometres at the lower end of the Nass River, including all surface and subsurface resources and within which Nisga'a Government has jurisdiction ("Nisga'a Lands").
  - Approximately 27.5 square kilometres of additional fee simple lands outside Nisga'a Lands.
- The Nisga'a Nation also has constitutionally protected Treaty interests in the Nass Area and Nass Wildlife Area, including:
  - fisheries management and harvesting rights in approximately 26,000 square kilometres, and
  - wildlife management and harvesting rights in approximately 16,000 square kilometres.





# The Nisga'a Nation - An Overview

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- The Nisga'a Treaty provides the Nisga'a Nation with constitutionally protected rights and legislative jurisdiction that would facilitate the construction and operation of an LNG facility on lands owned by the Nisga'a Nation, including:
  - jurisdiction to determine the use of Nisga'a Lands, including surface and subsurface resources,
  - authority to enact environmental assessment legislation for projects on Nisga'a Lands,
  - ownership of additional fee simple lands outside of Nisga'a Lands,
  - unique rights pertaining to environmental assessment of projects in the area,
  - reduced pipeline construction costs and reduced pipeline tolls based on a shorter pipeline route compared to sites located further south (eg. Grassy Point or Prince Rupert).

# The Nisga'a Nation - An Overview

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- The population of the Nisga'a Nation is approximately 6,700 people
  - 1,900 Nisga'a citizens live in four villages on Nisga'a Lands and another 4,800 Nisga'a citizens live elsewhere, including Prince Rupert, Terrace and Vancouver. The Nisga'a Villages are:
    - Gingolx
    - Gitwinksihlkw
    - Laxgalts'ap
    - Gitlaxt'aamiks



# Natural Gas Supply in Western Canada

# Western Canada: an emerging LNG source for the Asia Pacific



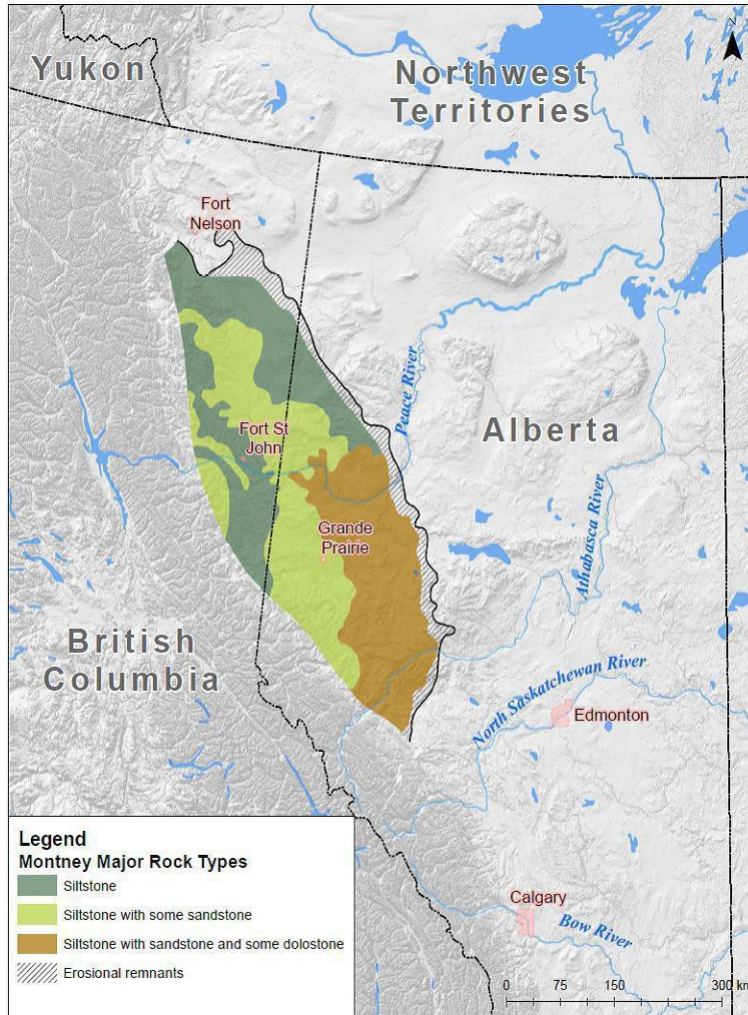
Source: BC MNGD

- Western Canada is the next logical supply source for traditional and emerging LNG markets.
- British Columbia and Canada offer:
  - vast reserves of natural gas
  - history of reliable energy exports
  - experienced oil and gas and construction sectors
  - lower shipping costs due to proximity to Asia
  - strong regulatory framework
  - stable governments
  - strong governmental support at both the federal and provincial levels
  - transparent and effective legal system
  - low political risk
  - no Panama Canal tolling risk



# Natural Gas Supply in Western Canada

## The Montney Formation



Source: NEB, BC OGC, AER and BC MNGD

- The Montney formation is the closest large shale gas basin to the West Coast of Canada.
- The National Energy Board, the British Columbia Oil and Gas Commission, the Alberta Energy Regulator, and the British Columbia Ministry of Natural Gas Development jointly released a study estimating the marketable unconventional petroleum resources in the Montney Formation.
- The report estimates that there are approximately:
  - 12,719 billion m<sup>3</sup> (449 Tcf) of marketable natural gas,
  - 2,308 million m<sup>3</sup> (14,521 million barrels) of marketable natural gas liquids, and
  - 179 million m<sup>3</sup> (1,125 million barrels) of marketable oil.



# Natural Gas Supply in Western Canada

## Horn River Basin



- The Horn River Basin is found in north eastern British Columbia, north of the Montney Formation.
- It lies north of Fort Nelson and extends northwards to the NW Territories boundary (60° N).
- Three major shale series comprise the Basin:
  - Muskwa
  - Otter Park and
  - Evie
- The shales are of Devonian age and are primarily calcareous and siliceous.
- The National Energy Board estimates the marketable gas in the Horn River at 78 TCF.

\*Approximate



# **Nisga'a Nation Sites for a Floating or Land Based LNG Facility**

# Nisga'a Nation Sites for a Floating or Land Based LNG Facility

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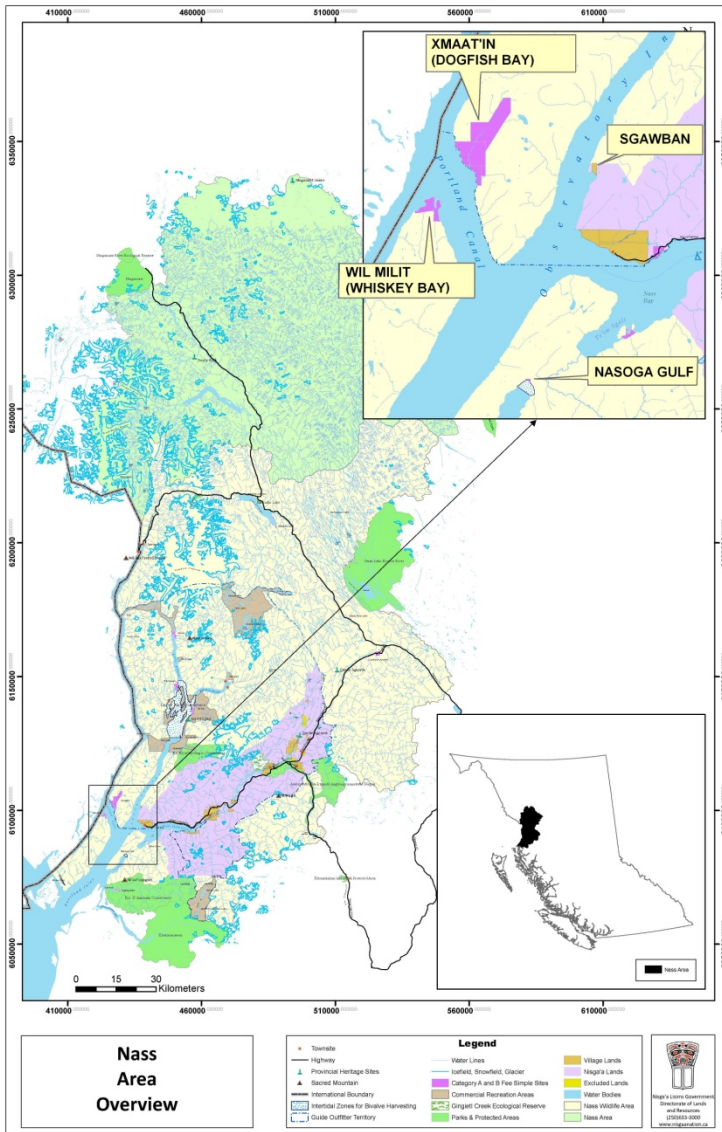
## LNG sites on or near Nisga'a Lands

The potential sites at Sgawban, Wil Milit (Whiskey Bay), Xmaat'in (Dogfish Bay) and Nasoga Gulf, which include both Nisga'a Nation and provincially owned land, have been selected because each offers:

- a sufficiently large and flat land base to support an LNG facility
- access to lay-down areas and areas for construction camps and related infrastructure,
- sufficient room for LNG carrier turning circles,
- an entrance channel which could support the arrival and departure of LNG carriers,
- access to deep water to support a floating LNG facility and
- compatibility with the proposed pipeline routes through northwestern British Columbia.



# Nisga'a Nation Sites for a Floating or Land Based LNG Facility

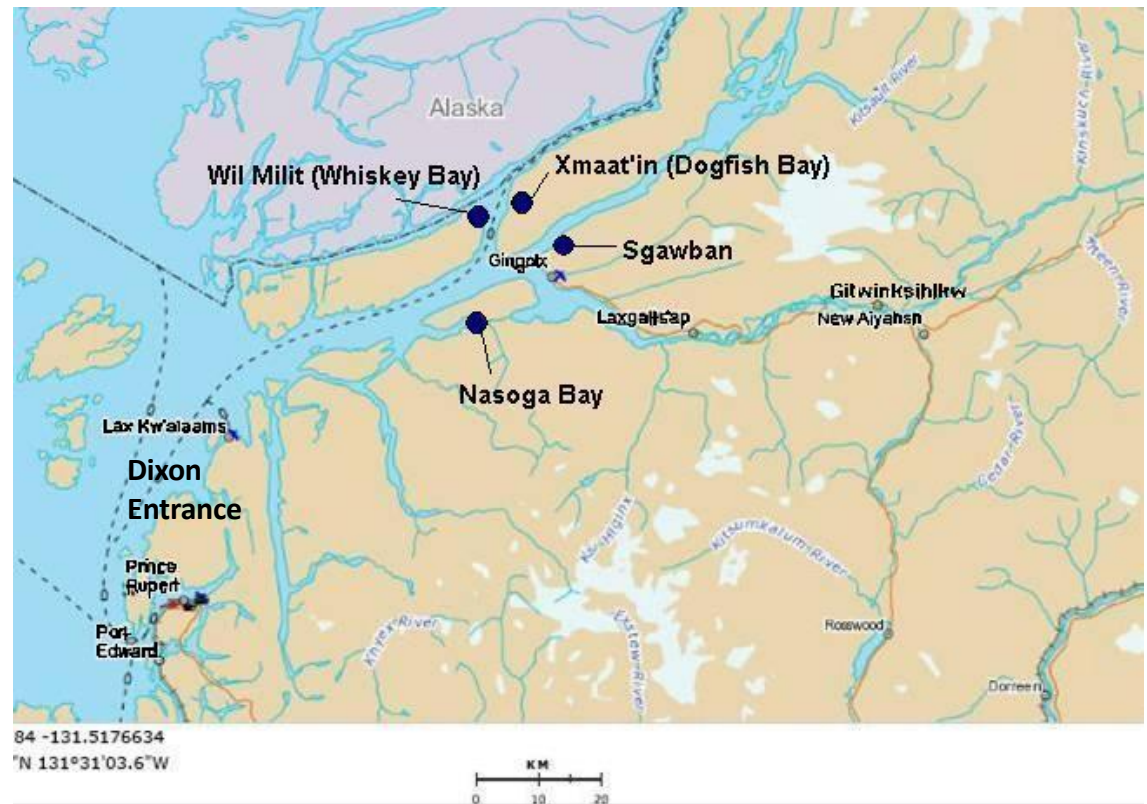


- The 4 Nisga'a LNG sites are:
  - Sgawban (on Observatory Inlet) within Nisga'a Lands
  - Wil Milit (Whiskey Bay) (on Portland Canal) Nisga'a Fee Simple Lands
  - Xmaat'in (Dogfish Bay) (on Portland Canal) Nisga'a Fee Simple Lands
  - Nasoga Gulf (on Portland Inlet) Nisga'a Fee Simple Lands and Crown land

# Marine Approach to the LNG Sites



- These four sites are 30 - 50 km up Portland Inlet from Dixon Entrance.
- Portland Inlet lies north of Prince Rupert. The inlet is wide, up to 13 km in spots, and very deep.
- The potential LNG sites are about 90-110 km from Triple Island, the point where mandatory pilotage begins.



Source: The Atlas of Canada

# Nisga'a Nation Sites for a Floating or Land Based LNG Facility



## LNG Site Locations and approximate areas

Nisga'a Nation LNG Sites				
Site	Location	Latitude	Longitude	Acreage
		Deg N	Deg W	Hectares
Sgawban	Observatory Inlet	54 03 11	129 58 56	57 (141 acres)
Wil Milit	Portland Canal	55 01 40	130 11 16	114 (282 acres)
Xmaat'in	Portland Canal	55 03 00	130 08 18	84 (207 acres)
Nasoga Gulf	Portland Inlet	54 53 40	130 03 31	200 (495 acres)

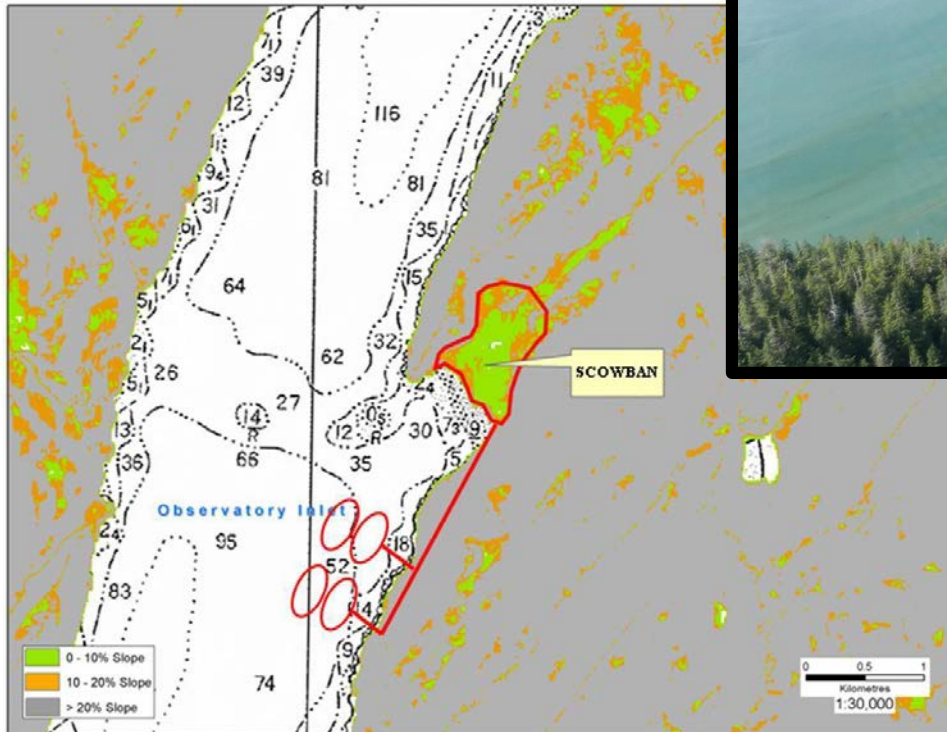
Areas and Latitude / Longitude are approximate

# Nisga'a Nation Sites - Sgawban



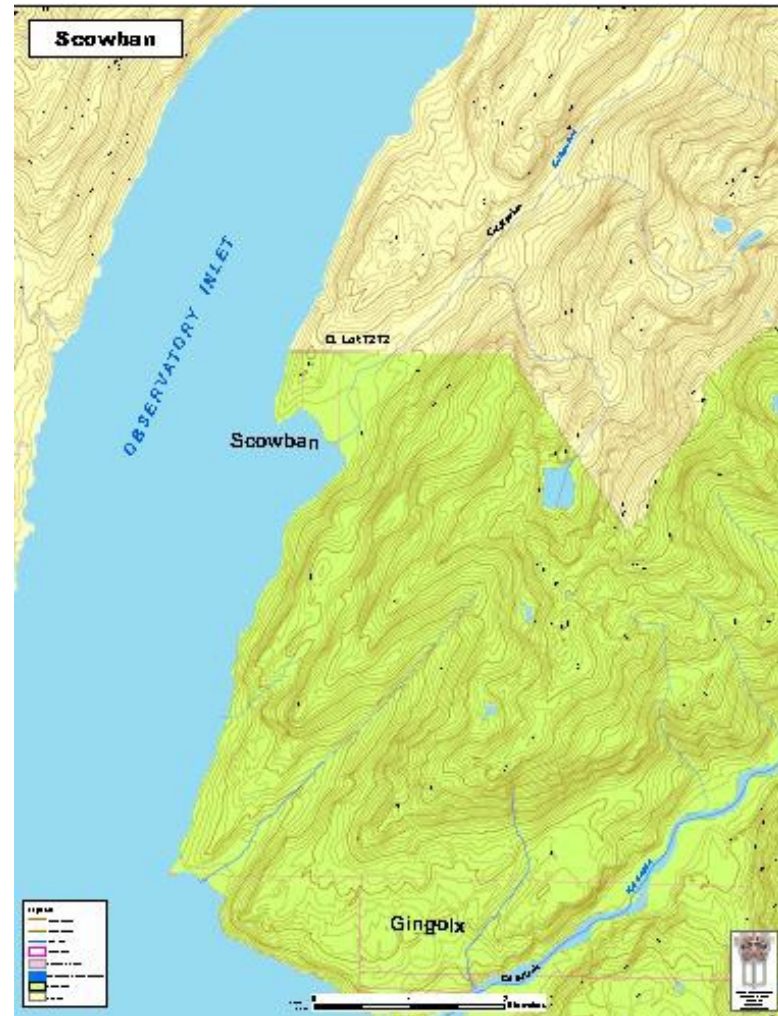
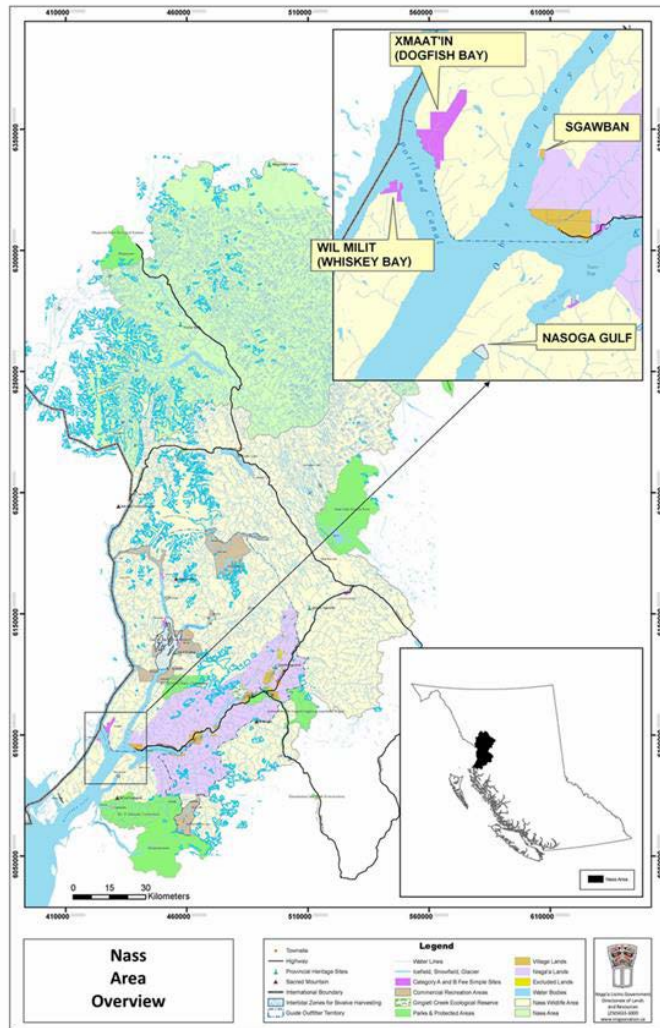
## Sgawban

Sgawban is located on Observatory Inlet about 5 kilometres north of Nass Point.



The Sgawban site is approximately 57 hectares and is located entirely on Nisga'a Lands. The Nisga'a Nation has jurisdiction over the use and development of this site.

# Nisga'a Nation Sites - Sgawban

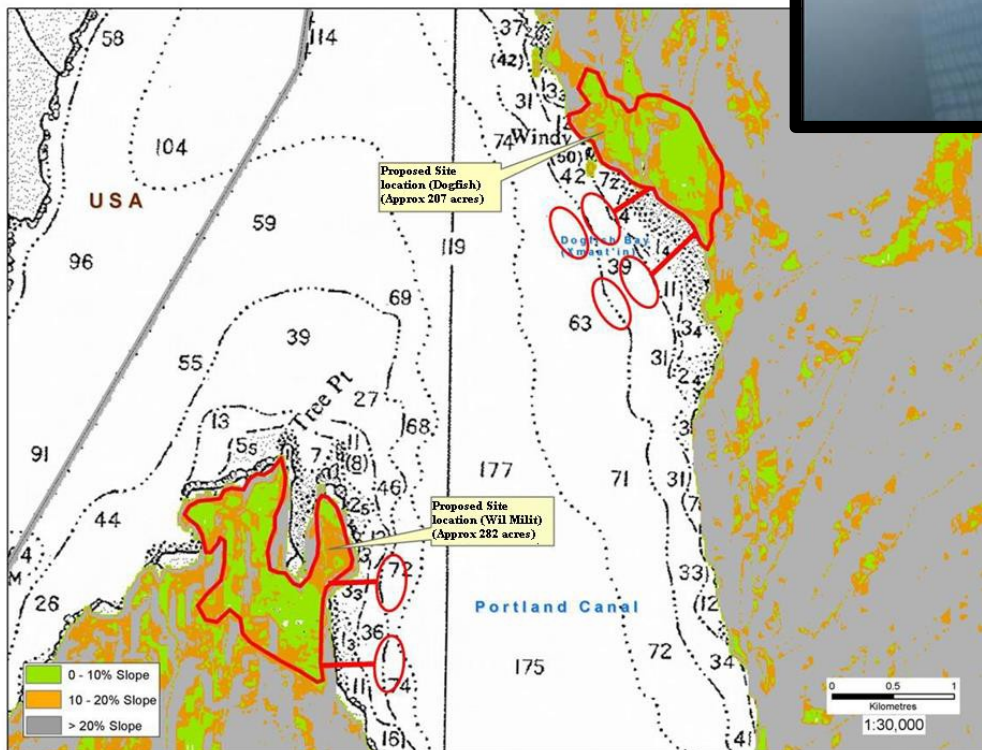


# Nisga'a Nation Sites – Wil Milit



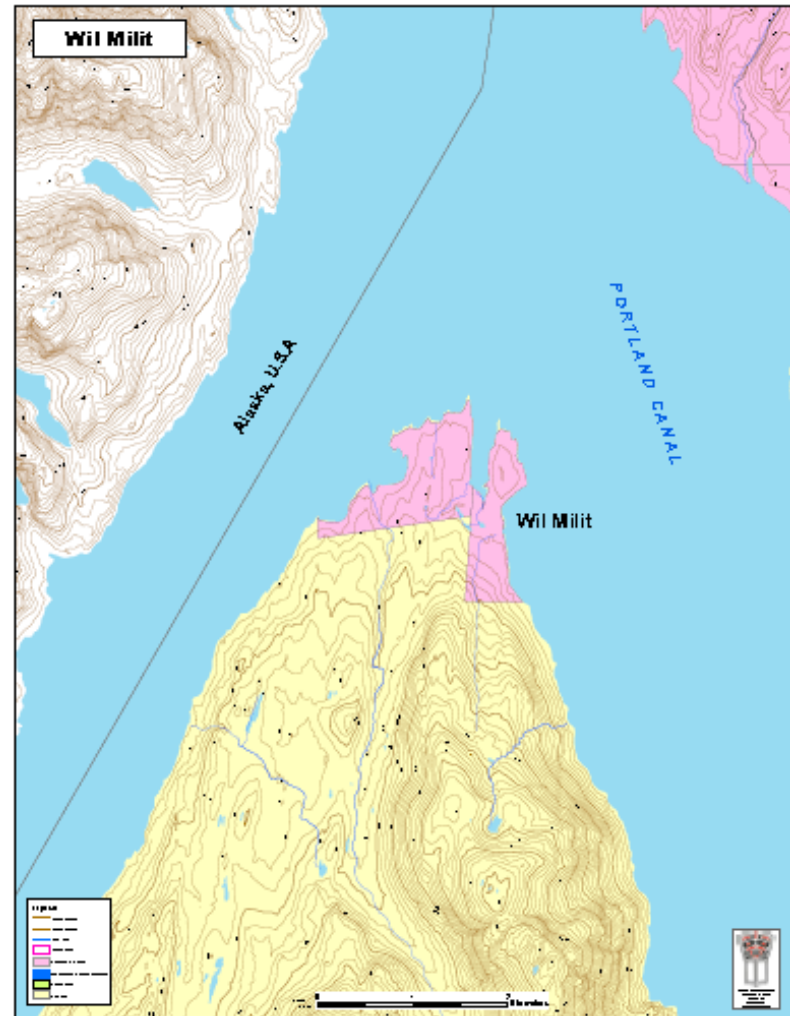
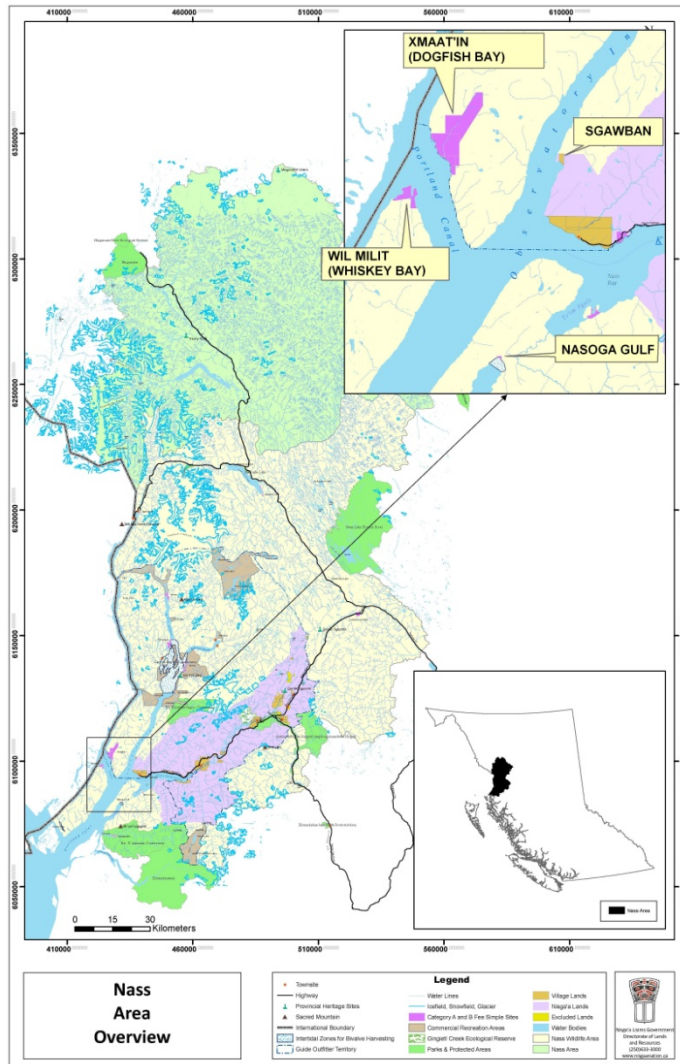
## Wil Milit (Whiskey Bay)

Wil Milit is on the Portland Canal at the northern tip of Pearse Island.



The Wil Milit site is located on approximately 114 hectares of level land. Wil Milit is owned by the Nisga'a Nation in fee simple. If additional Crown Lands are required for the site, the Nisga'a Nation intends to collaborate with the Province on development of this site as a potential LNG facility.

# Nisga'a Nation Sites – Wil Milit

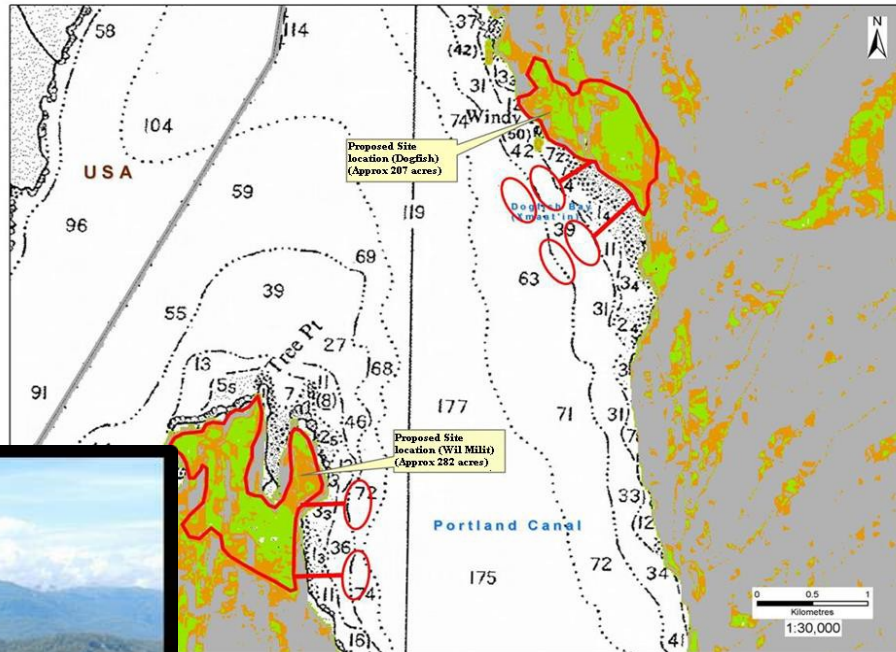


# Nisga'a Nation Sites – Xmaat'in



## Xmaat'in (Dogfish Bay)

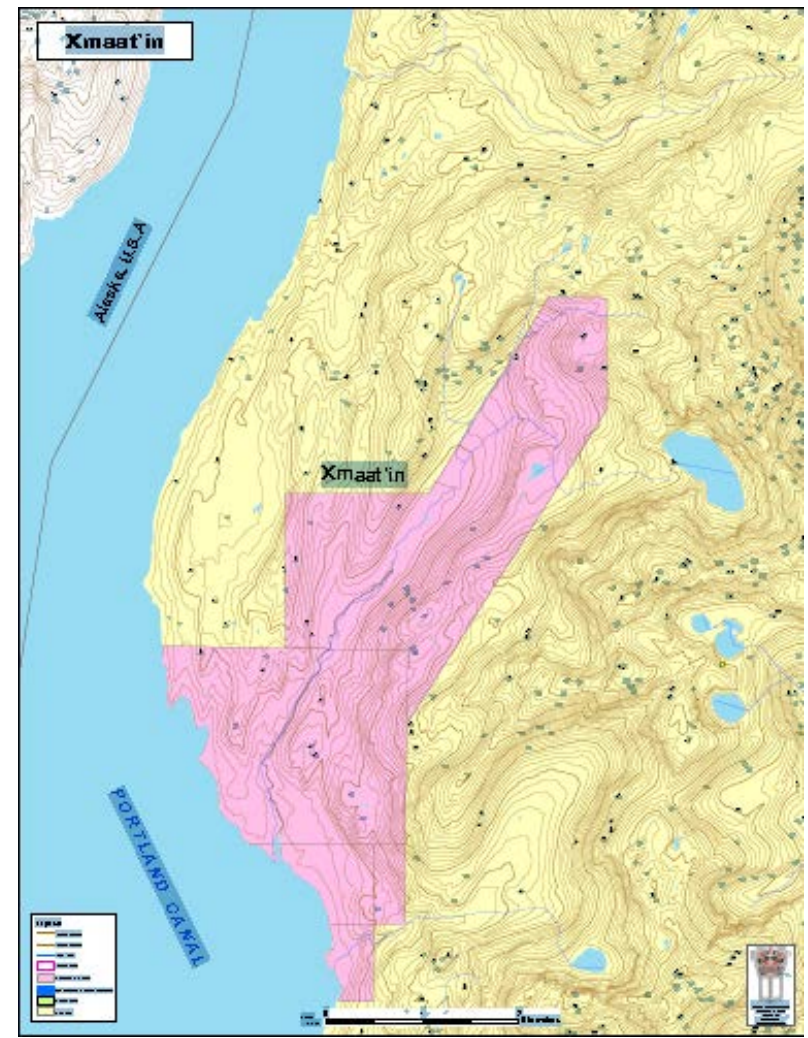
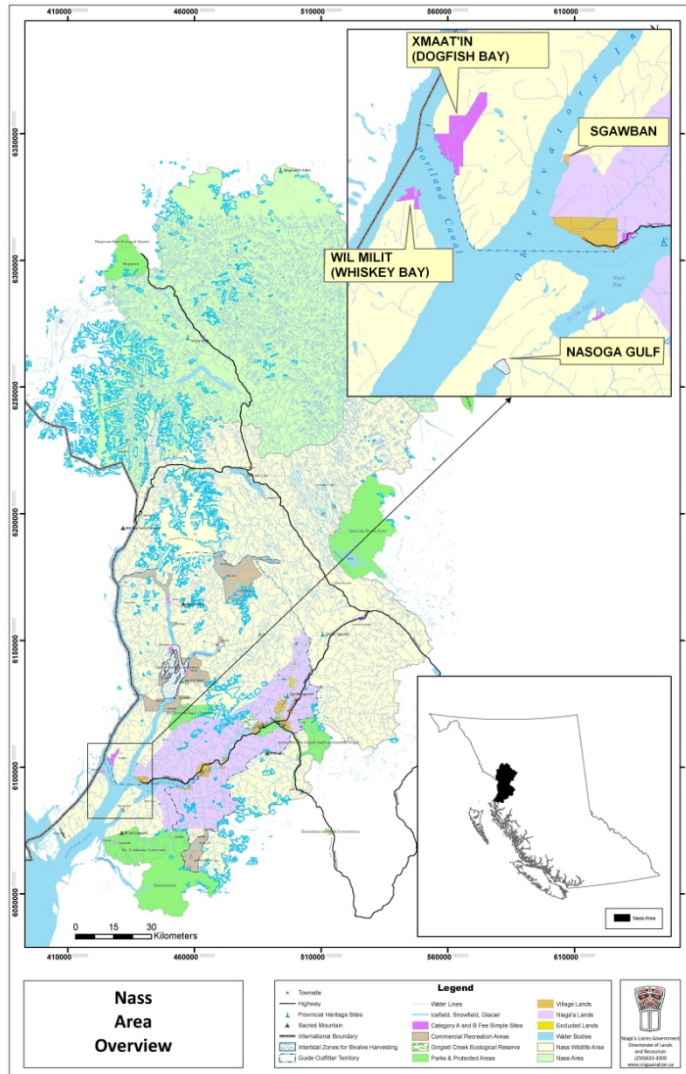
Xmaat'in is on the east side of Portland Canal.



The Xmaat'in site is located on approximately 84 hectares of low lying, low slope lands. Xmaat'in is owned by the Nisga'a Nation in fee simple. If additional Crown Lands are required for the site, the Nisga'a Nation intends to collaborate with the Province on development of this site as a potential LNG facility.



# Nisga'a Nation Sites – Xmaat'in



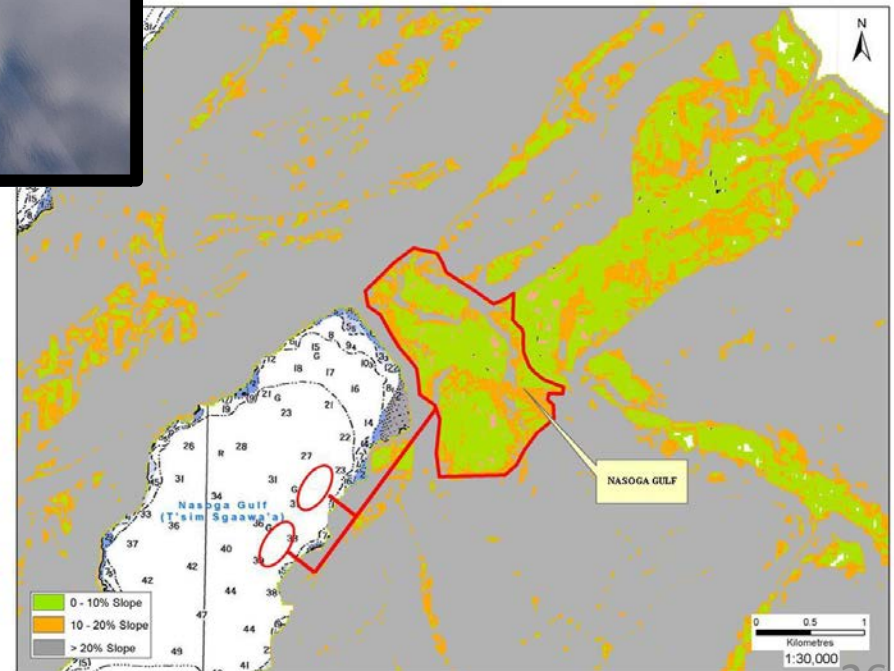
# Nisga'a Nation Sites – Nasoga Gulf



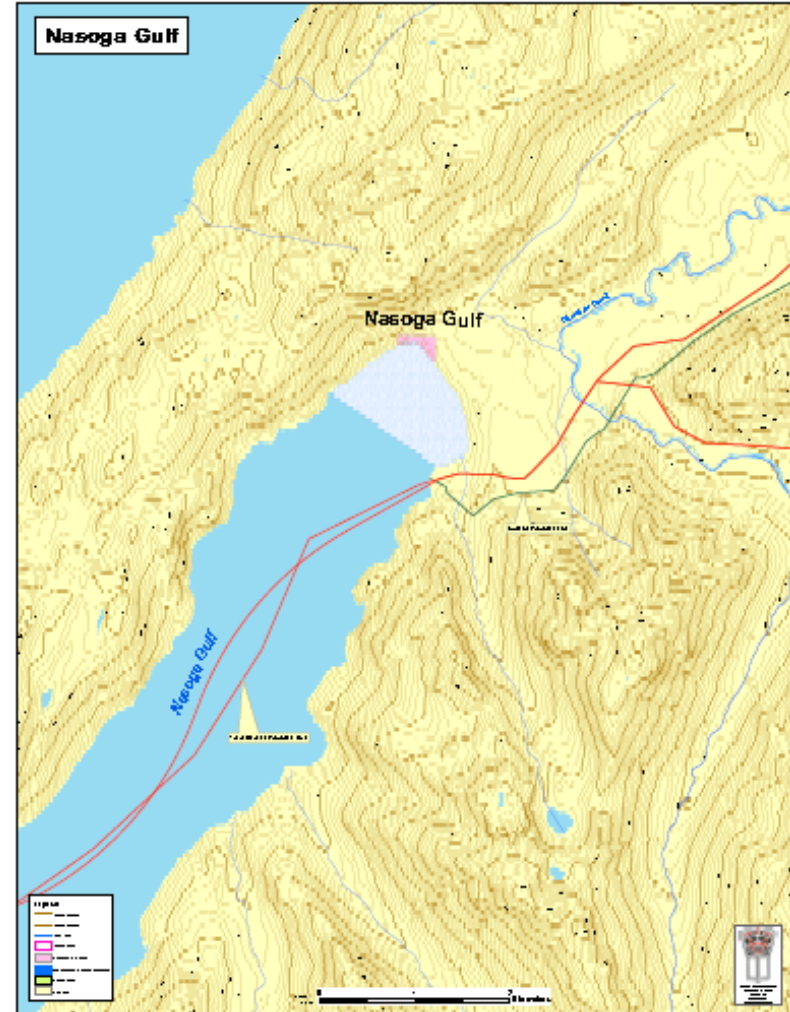
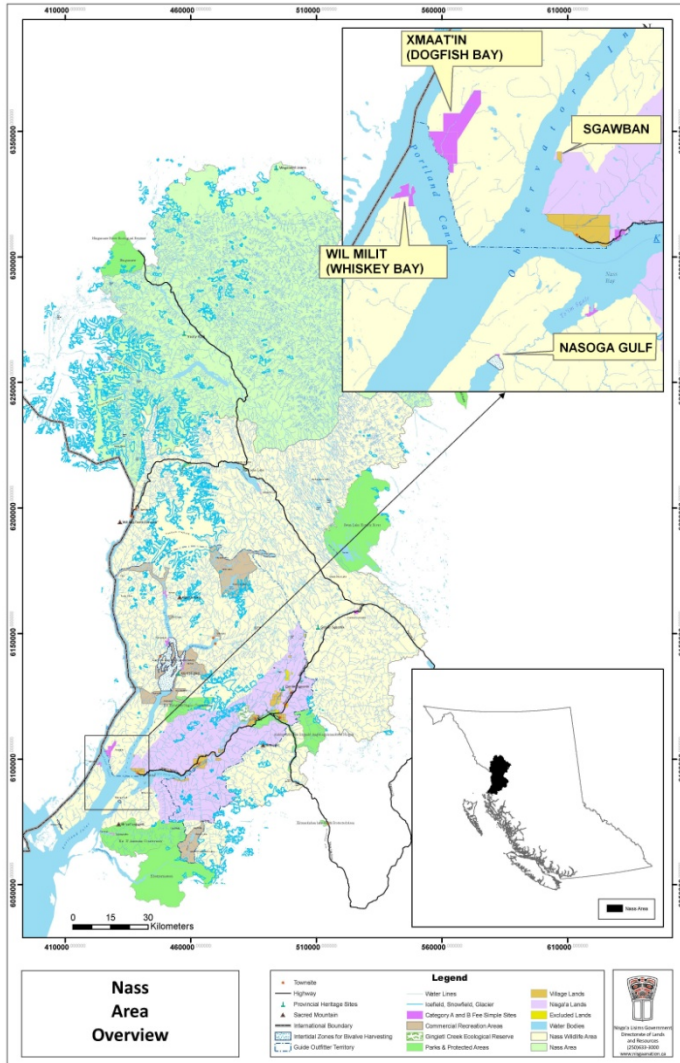
## Nasoga Gulf

Nasoga Gulf is a deep gulf located approximately 9 kilometres east of the Portland Canal

Nasoga Gulf is the largest site at approximately 200 hectares. The site is located mainly on Crown Lands in the Nass Wildlife Area. Nisga'a Nation owns a fee simple property adjacent to the Nasoga Gulf site. If additional Crown Lands are required for the site, the Nisga'a Nation intends to collaborate with the Province for development of a potential LNG facility.



# Nisga'a Nation Sites – Nasoga Gulf





# Regional Context and Infrastructure

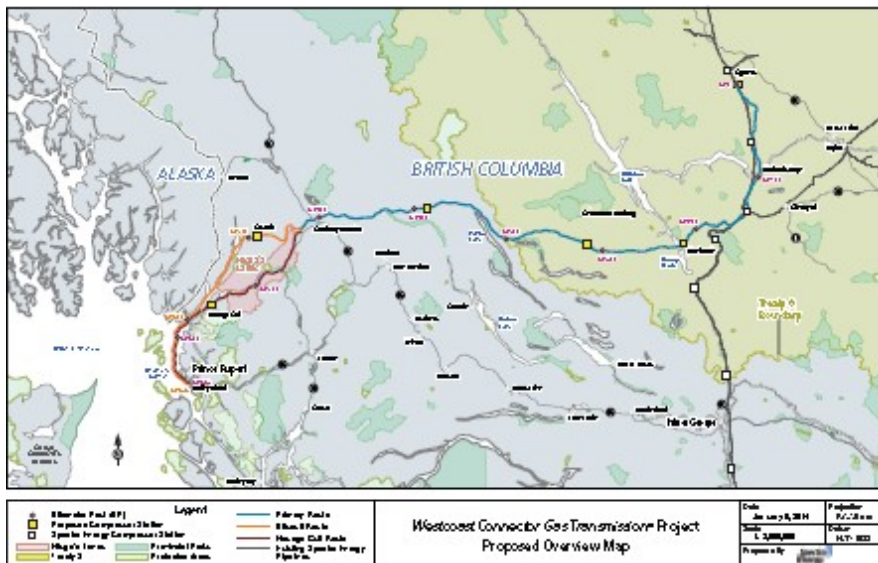






# Pipeline Infrastructure

- Proposed routes for the Spectra Westcoast Connector Pipeline
- Note the proximity to the Nisga'a LNG sites and reduction in overall pipeline length



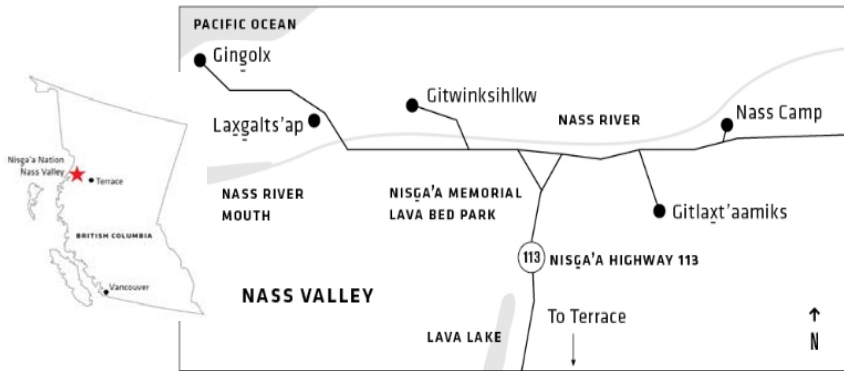
Source: Spectra Energy/Westcoast Connector Gas Transmission Project

Source: Spectra Energy/Westcoast Connector Gas Transmission Project

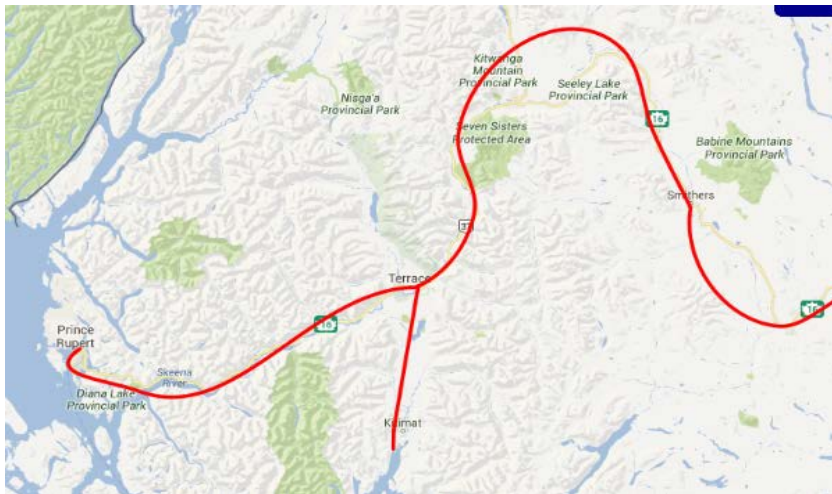


# Regional Road and Rail Infrastructure

## Highways in the Nass River Basin



## CN Rail Route



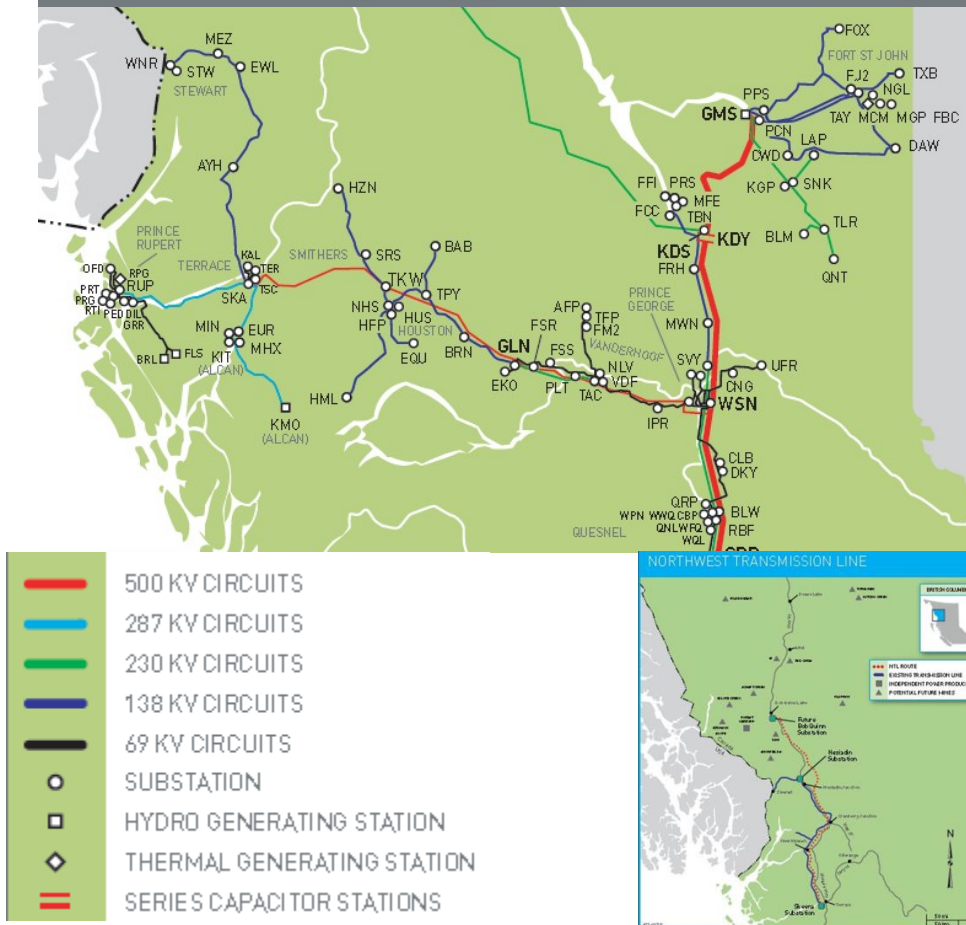
- Gitlaxt'aamiks is approximately 100 km north of Terrace.
- Access to Gitlaxt'aamiks by road is via an all-weather paved highway (Nisga'a Highway - Provincial Highway 113) from Terrace.
- This highway continues to the coast where it terminates at Gingolx.
  - Nisga'a Nation proposed LNG sites are all located within 15 kms of Gingolx.
  - Sgawban and Nasoga Gulf both have potential road access.
- Rail access is at Terrace or Prince Rupert (CN Rail mainline).





# Electrical Transmission

## Northern Region Transmission

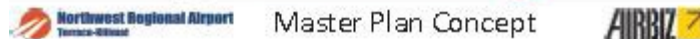
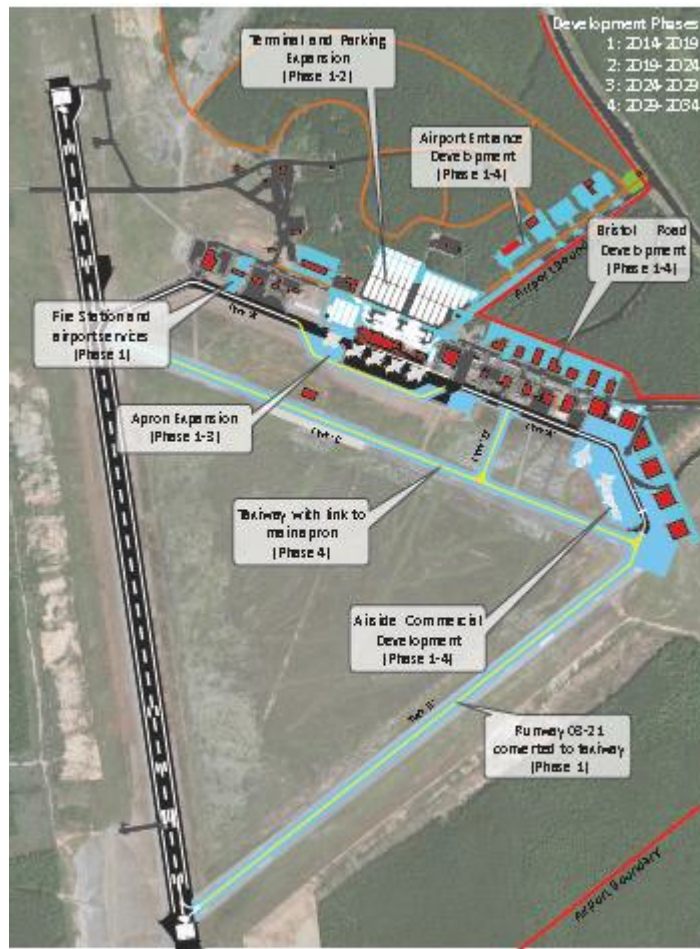


Source: BC Hydro

- The Nass River valley is served by an existing 138 kV transmission line originating from BC Hydro and Power Authority's Skeena substation near Terrace
- A new 287kV line, the Northwest Transmission Line, will soon be completed (Spring 2014)
  - The NTL will access new independent power projects north of the Nass River
- The Nisga'a Nation has potential sites for power projects that could be developed as part of an LNG project



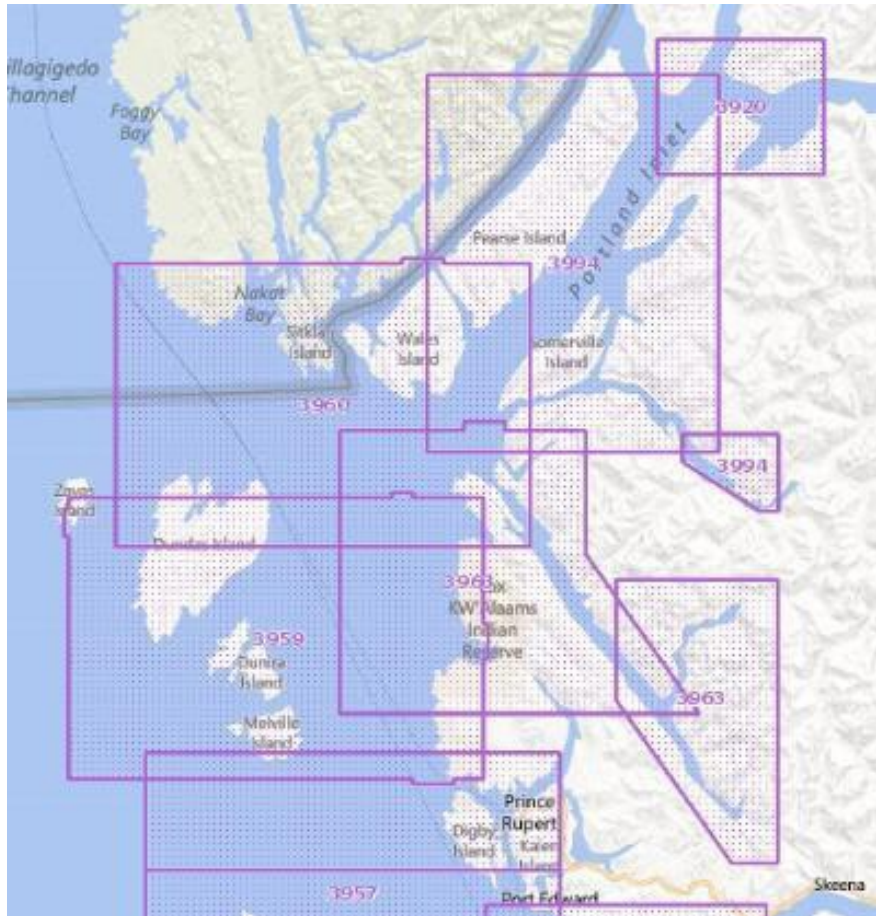
# Northwest Regional Airport (Terrace – YXT)



- The Northwest Regional Airport in Terrace (YXT) serves the Nisga'a Villages, Terrace and Kitimat with daily scheduled flights to Vancouver and other destinations
  - It has two paved strips of 5,000 and 7,500 feet in length
  - The airport is located at 54 28 07 N, 128 34 42 W
  - More information about Northwest Regional Airport at [www.yxt.ca](http://www.yxt.ca)
- Other landing strips (gravel) exist in the Nass Area at Nass Camp
- The Nisga'a Nation is interested in discussions with parties concerning upgrades to airstrips located at Nass Camp or elsewhere on Nisga'a Lands

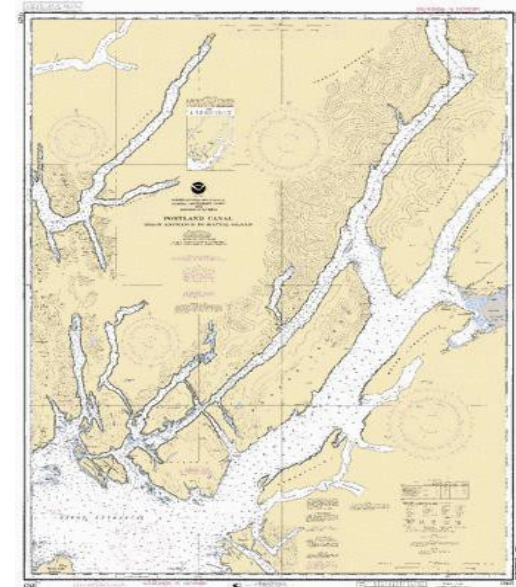
Source: Northwest Regional Airport Mater Plan

# Regional Hydrography



Source: Canadian Hydrographic Service

- Hydrographic Charts for the region are available from the Canadian Hydrographic Service

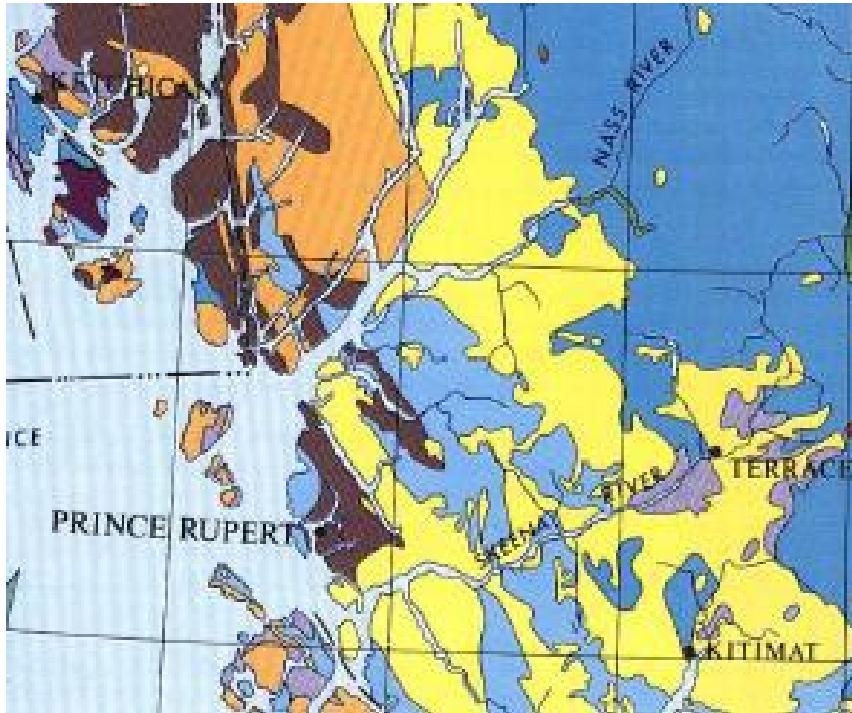


- <http://www.charts.gc.ca/chart-s-cartes/find-trouve-eng.asp>



# Regional Geology

## GENERALIZED GEOLOGICAL MAP OF THE CANADIAN CORDILLERA



Source: CIMM Special Volume 15





## Next Steps



## Next Steps

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- If you are interested in learning more about the Nisga'a Nation LNG sites, please:
  - Visit our Web site at [www.nisgaanation.ca/opportunities/LNG](http://www.nisgaanation.ca/opportunities/LNG)
  - Contact a member of the Nisga'a Nation LNG Team by phone or email (see contacts).
  - Visit the LNG team and the Nisga'a Lisims Government in Gitlaxt'aamiks.
- The Nisga'a LNG Team is planning a visit to Asia in Q1 2014 and we would like to visit with you directly to:
  - Provide additional information and data on the potential sites and the unique opportunity in working with the Nisga'a Nation.
  - Determine your interest in pursuing a land based or floating LNG project.
  - Learn more about your operating capabilities by visiting your regasification and/or liquefaction sites.



# Contacts



## Contacts

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# Nisga'a Lisims Government



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*one heart, one path, one nation*

THANK YOU