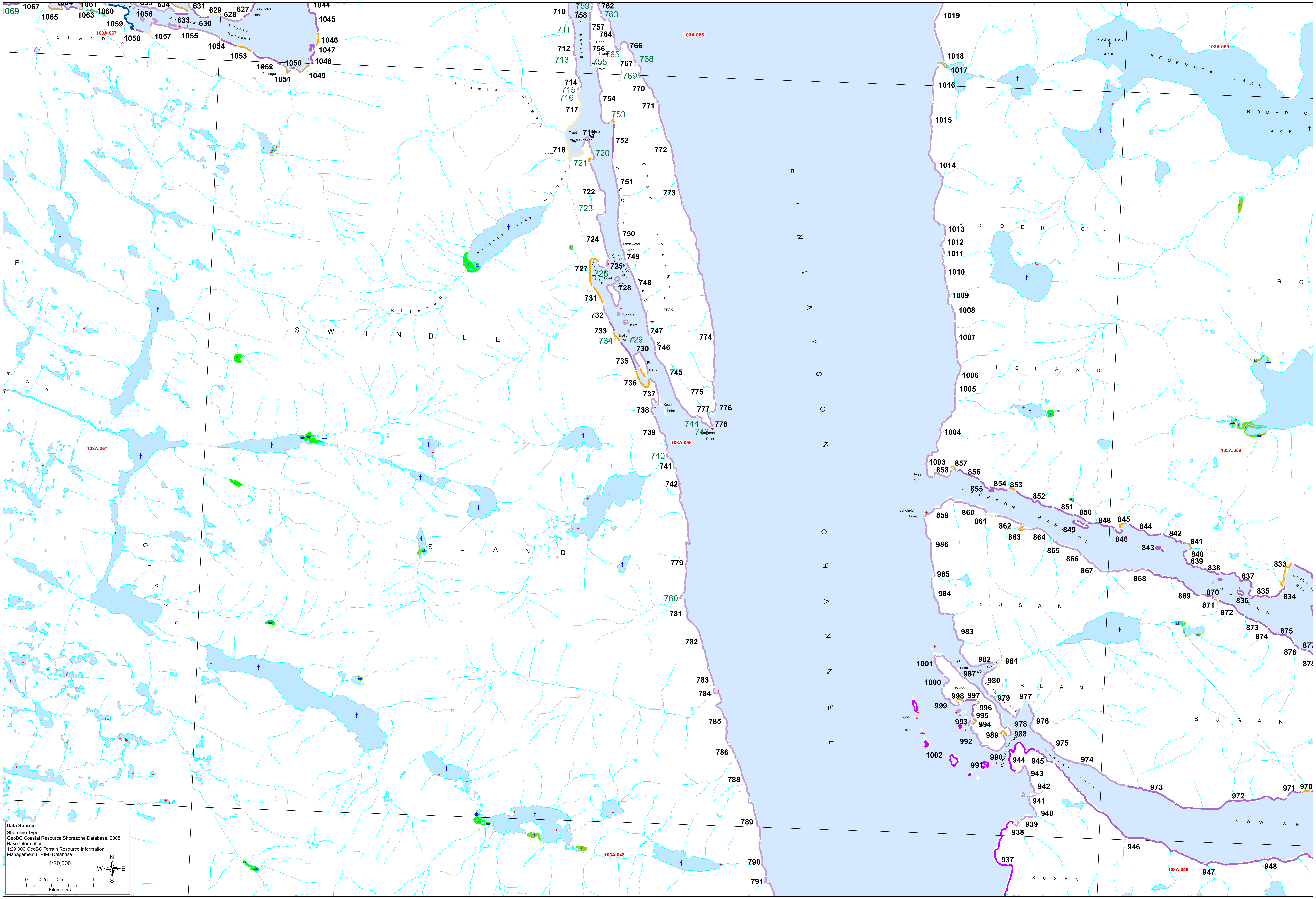
103A.058



Data Source:

Shoreline Type
GeoBC Coastal Resource Shorezone Database, 2008
Base Information
1:20,000 GeoBC Terrain Resource Information
Management (TRIM) Database

1:20,000

Legend

○ Unit Break Points

Undefined

Immobile Substrates

1 - Bedrock - CC 1-20 - VE

2 - Bedrock - CC 1-20 - E

3 - Bedrock/Boulder - CC 1-23, 32, 33 - SE

4 - Bedrock/Gravel - CC 1-23, 33 - SP

5 - Bedrock/Gravel - CC 1-23,33 - P/VP

Mobile/Partially Mobile Substrates

6 - Sand & Gravel - CC 24-26, 32 -SP

7 - Sand & Gravel - CC 24-26,32 - VP/P

8 - Estuary or Sand/Mud - CC 27-31 - VP/P/SP

9 - Sediment - CC 21 - 30 - SE/E

Current Dominated

10 - Bedrock or Sediment - CC 34 - VP/P/SP

Tidal Lagoon

11 - Bedrock or Sediment - CC 35 - VP/P/SP

CC	Type		CC	Type
Rock Shore Types - characterized by a lack of clastic sediments such as gravel or sand.			Sediment Shore Types - have substrates that have little or no bedcrock cropping out	
1	Rock Ramp, Wide		21	Gravel Flat, Wide
2	Rock Platform Wide		22	Gravel Beach
3	Rock Cliff Narrow		23	Gravel Flat or Fan
4	Rock Ramp, Narrow		24	Sand and Gravel Flat or Fan, Wide
5	Rock Platform Narrow		25	Sand and Gravel Beach
Rock and Sediment Shore Types - rock and pockets of clastic sediments			26	Sand and Gravel Flat or Fan, Narrow
6	Ramp with Gravel Beach, Wide		27	Sand Beach, Wide
7	Platform with Gravel Beach, Wide		28	Sand Flat
8	Cliff with Gravel Beach		29	Mud Flat
9	Ramp with Gravel Beach, Narrow		30	Sand Beach, Narrow
10	Platform with Gravel Beach, Narrow		31	Estuaries
11	Ramp with Sand and Gravel Beach, Wide		Man-Made Materials	
12	Platform with Sand and Gravel Beach, Wide		32	Man-made, permeable
13	Cliff with Sand and Gravel Beach		33	Man-made, impermeable
14	Ramp with Sand and Gravel Beach, Narrow		Current Dominated	
15	Platform with Sand and Gravel Beach, Narrow		34	Channel
16	Ramp with Sand Beach, Wide		35	Tidal Lagoon
17	Platform with Sand Beach, Wide			
18	Cliff with Sand Beach			
19	Ramp with Sand Beach, Narrow			
20	Platform with Sand Beach, Narrow			

Shoreline Habitat

The Habitat Type provides a simplified picture of the "look" of the unit overall, based on the detailed biophysical attributes that have been mapped. The Habitat Type category is a summary of the observations of both the unit's biologial and geomorphological features.
Each Habitat Type has a definition that includes the typical substrate, wave exposure and biobands. For example, for the Semi-exposed, Immobile substrate Habitat Type, part of the definition of that class is a certain combination of the most likely biobands and indictor species present at a bedrock shoreline with no mobile sediment present.

How is Habitat Type determined?
Each Habitat Type has typical biological features (including both an indicator species list and typical associated biobands).
To determine the Habitat Type, the biomapper looks at the along-shore Units as designated and described by the physical mapper, and
1. records the observations of the biobands in the unit and looks for indicator species,
2. assigns a bio-(wave) exposure category,
3. reviews the physical mapped information, and
4. assigns the Habitat Type that best describes the unit.

The Habitat Type is based on the whole unit and is similar to the physical mappers use of the ‘Coastal Class’ category, in that the detailed across-shore data are summarized into one attribute. The simplified category describes the features of the whole unit.

Habitat Type is a summary of the biophysical classification of the whole shore unit, based on:
- the biobands observed,
- the wave exposure as indicated by the bands, and
- the substrate types in the unit.

Legend Definitions
CC - Coastal Classification number

Wave Exposure
E - Exposed - Very high wave exposure, open ocean swellsm usually fetches >500km
VE - Very Exposed - Extreme high wave exposure
SE - Semi Exposed - High wave exposure, open shorelines, areas between fully exposed and more sheltered, usually fetches 50 to 500km
P - Protected - Low wave expsoure, sheltered inlets, usually fetches less than 10km
SP - Semi Protected - Moderate wave expsoure, partly sheltered, usually fetches 10-50km
VP - Very Protected - Very low wave exposure, fethces < 1km, sheltered anchorages at heads of bays and inletes

Table MIDCOAST and NORTH COAST project area which includes BIO_AREAS CC, JS and NC.
The Species/ wave exposure/ substrate table for Habitat Classification (HAB_OBS)., for the Mid-coast BC study area, from Johnstone Strait/Central Coast Mapping Regions 5, 6 and 7.

SUBSTRATE STABILITY	IMMOBILE SUBSTRATES				MOBILE OR PARTIALLY MOBILE SUBSTRATES				CURRENT-DOMI-NATED	TIDAL IAGOON
MAJOR SUBSTRATE	BEDROCK	BEDROCK/BOULDER	BEDROCK/GRAVEL	BEDROCK/GRAVEL	SAND & GRAVEL	SAND & GRAVEL	SAND/MUD	SEDIMENT	BEDROCK OR SEDIMENT	BEDROCK OR SEDIMENT
COASTAL CLASSES	1-20	1-23, 32, 33	1-23, 33	1-23, 33	24 – 30, 32 no SAL band	24 – 30, 32 no SAL band	24 - 30, 31 has SAL band	24-30	34	35
EXPOSURE (EXP BIO)	E	SE	SP	VP, P	SP	VP, P	VP, P, SP	SE, E	VP, P, SP	VP, P, SP
COMMUNITY CODE (HAB OBS)	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
upper	*Verrucaria* *Balanus glandula*	*Verrucaria* *Enteromorpha* *Balanus glandula* *Fucus distichus*	*Verrucaria* *Enteromorpha* *Balanus glandula* *Fucus distichus*	*Verrucaria* *Enteromorpha* *Balanus glandula* *Fucus distichus*	*Verrucaria* *Enteromorpha* *Balanus glandula* *Fucus distichus*	*Verrucaria* *Enteromorpha* *Balanus glandula* *Fucus distichus*	**grasses & rushes** ***Salicornia virginica*** *Balanus glandula* *Fucus distichus*	no visible macrobiota due to sediment mobility	tidal current dominated; may be a Protected wave exposure but shows an assemblage of indicator species from higher wave exposures. Assemblage observed is ‘anomalous’ for the wave energy of the site.	*Balanus glandula* *Fucus distichus* ponded water in lagoon creates narrow intertidal and a reduced biota in brackish water, may have associated current dominated at outflow
middle	***Pollicipes polymerus*** *Mytilus californianus* *Semibalanus carriosus*	*Mytilus californianus* *Semibalanus carriosus*	*Mytilus trossulus** *Semibalanus carriosus* ***Ulva/ Ulvaria spp.***	*Mytilus trossulus ** ***Ulva/ Ulvaria spp.***	*Semibalanus carriosus* ***Ulva/ Ulvaria spp.***	***Ulva/ Ulvaria spp.***	*Mytilus trossulus** *Ulva/ Ulvaria*			
mid/low	*Alaria ‘nana’ morph*	***Hedophyllum sessile*** ***Phyllospadix scouleri***								
lower	***Lessoniopsis littoralis*** *Lithothamnion*	*Alaria ‘marginata’ morph* *Lithothamnion*	*Laminaria groenlandica* ***Laminaria saccharina*** *Alaria ‘marginata’ morph* *Lithothamnion*	***Laminaria saccharina***	*Laminaria groenlandica* ***Laminaria saccharina*** *Alaria ‘marginata’ morph* *Lithothamnion*	***Laminaria saccharina***				
subtidal	*Nereocystis luetkeana*	*Nereocystis luetkeana* ***Macrocystis integrifolia*** *Agarum spp.* ***Strongylocentrotus franciscanus***	*Nereocystis luetkeana* *Macrocystis integrifolia* *Agarum spp.* ***Strongylocentrotus franciscanus*** ***Zostera marina***	*Macrocystis integrifolia* *Agarum spp.* ***Zostera marina***	*Nereocystis luetkeana* *Macrocystis integrifolia* *Agarum spp.* ***Strongylocentrotus franciscanus*** ***Zostera marina***	*Macrocystis integrifolia* *Agarum spp.* ***Zostera marina***	***Zostera marina***