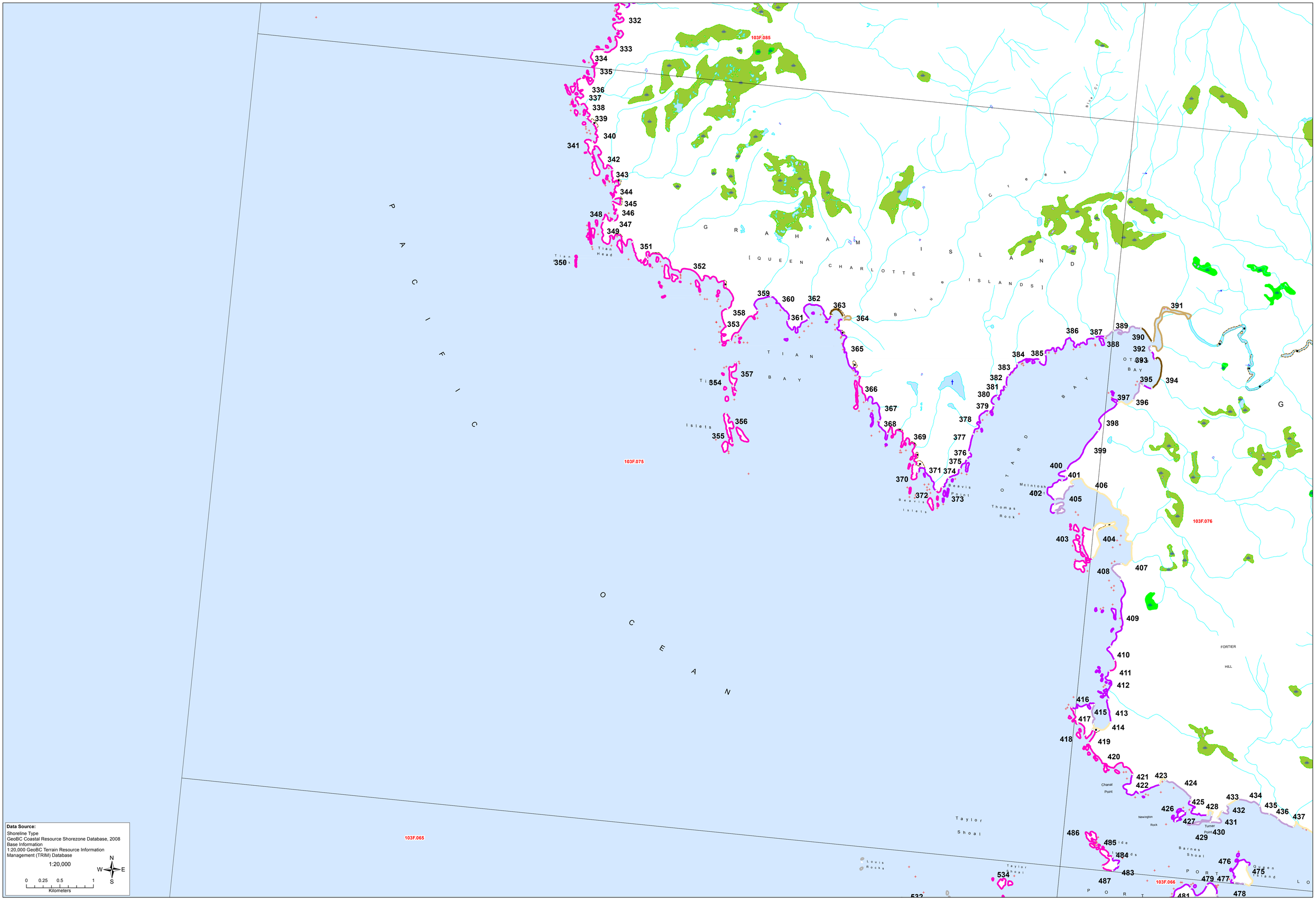


## Legend

- 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

| CC | Type |
|---|---|
| **Rock Shore Types - characterized by a lack of clastic sediments such as gravel or sand.** | |
| 1 | Rock Ramp, Wide |
| 2 | Rock Platform Wide |
| 3 | Rock Cliff Narrow |
| 4 | Rock Ramp, Narrow |
| 5 | Rock Platform Narrow |
| **Rock and Sediment Shore Types - rock and pockets of clastic sediments** | |
| 6 | Ramp with Gravel Beach, Wide |
| 7 | Platform with Gravel Beach, Wide |
| 8 | Cliff with Gravel Beach |
| 9 | Ramp with Gravel Beach, Narrow |
| 10 | Platform with Gravel Beach, narrow |
| 11 | Ramp with Sand and Gravel Beach, Wide |
| 12 | Platform with Sand and Gravel Beach, Wide |
| 13 | Cliff with Sand and Gravel Beach |
| 14 | Ramp with Sand and Gravel Beach, narrow |
| 15 | Platform with Sand and Gravel Beach, Narrow |
| 16 | Ramp with Sand Beach, Wide |
| 17 | Platform with Sand Beach, Wide |
| 18 | Cliff with Sand Beach |
| 19 | Ramp with Sand Beach, Narrow |
| 20 | Platform with Sand Beach, Narrow |

| CC | Type |
|---|---|
| **Sediment Shore Types - have substrates that have little or no bedcrock cropping out** | |
| 21 | Gravel Flat, Wide |
| 22 | Gravel Beach |
| 23 | Gravel Flat or Fan |
| 24 | Sand and Gravel Flat or Fan, Wide |
| 25 | Sand and Gravel Beach |
| 26 | Sand and Gravel Flat or Fan, Narrow |
| 27 | Sand Beach, Wide |
| 28 | Sand Flat |
| 29 | Mud Flat |
| 30 | Sand Beach, Narrow |
| 31 | Estuaries |
| **Man-Made Materials** | |
| 32 | Man-made, permeable |
| 33 | Man-made, impermeable |
| **Current Dominated** | |
| 34 | Channel |
| 35 | Tidal Lagoon |

# 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 exposure, sheltered inlets, usually fetches less than 10km
SP - Semi Protected - Moderate wave exposure, partly sheltered, usually fetches 10-50km
VP - Very Protected - Very low wave exposure, fethces < 1km, sheltered anchorages at heads of bays and inletes

**Table QCI/GH. Original spp/hab table from Gwaii Haanas**
**Habitat Classification Based on Visible Macro-Biota Assemblages for the Queen Charlotte shoreline**

| SUBSTRATE STABILITY | IMMOBILE SUBSTRATES | | | | | MOBILE OR PARTIALLY MOBILE SUBSTRATES | | | | CURRENT-DOMI-NATED |
|---|---|---|---|---|---|---|---|---|---|---|
| MAJOR SUBSTRATE | BEDROCK | BEDROCK | BEDROCK/BOULDER | BEDROCK/GRAVEL | BEDROCK/GRAVEL | SAND & GRAVEL | SAND & GRAVEL | ESTUARY or SAND/MUD | SEDIMENT | BEDROCK OR SEDIMENT |
| COASTAL CLASSES | 1-20 | 1-20 | 1-23, 32, 33 | 1-23, 33 | 1-23, 33 | 24, 25, 26, 32 | 24, 25, 26, 32 | 27, 28, 29, 30, 31 | 21-30 | 34 |
| EXPOSURE (CCE' 2003) | VE | E | SE | SP | VP, P | SP | VP, P | VP, P, SP | SE, E | VP, P, SP |
| COMMUNITY CODE (HAIDA OBS) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| upper | *Verrucaria*<br>*Balanus glandula* | *Verrucaria*<br>*Balanus glandula* | *Verrucaria*<br>*Enteromorpha*<br>*Balanus glandula*<br>*Fucus distichus* | *Verrucaria*<br>*Enteromorpha*<br>*Balanus glandula*<br>*Fucus distichus* | *Verrucaria*<br>*Enteromorpha*<br>*Balanus glandula*<br>*Fucus distichus* | *Verrucaria*<br>*Enteromorpha*<br>*Balanus glandula*<br>*Fucus distichus* | *Verrucaria*<br>*Enteromorpha*<br>*Balanus glandula*<br>*Fucus distichus* | grasses & rushes<br>***Salicornia virginica***<br>*Balanus glandula*<br>*Fucus distichus* | no visible intertidal 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.<br><br>Assemblage observed is 'anomalous' for the wave energy of the site. |
| middle | ***Pollicipes polymerus***<br>*Mytilus californianus*<br>*[Semibalanus carriousus]* | ***Pollicipes polymerus***<br>*Mytilus californianus*<br>*Semibalanus carriousus* | *Mytilus californianus*<br>*Semibalanus carriousus* | *Mytilus trossulus*<br>*Semibalanus carriousus*<br>***Ulva/ Ulvaria spp.*** | *Mytilus trossulus*<br>***Ulva/ Ulvaria spp.*** | *Mytilus trossulus*<br>*Semibalanus carriousus*<br>***Ulva/ Ulvaria spp.*** | *Mytilus trossulus*<br>***Ulva/ Ulvaria spp.*** | *Mytilus trossulus*<br>*Ulva/ Ulvaria* | | |
| mid/low | *[Alaria 'nana' morph]* | *Alaria 'nana'* morph | *Halosaccion glandiforme*<br>***Holophyllum sessile***<br>*Codium fragile*<br>***Phyllospadix scouleri***<br>***Egregia menziesii*** | *Halosaccion glandiforme*<br>*Codium fragile* | *Halosaccion glandiforme* | *Halosaccion glandiforme*<br>*Codium fragile* | *Halosaccion glandiforme* | | | |
| lower | ***Lessoniopsis littorallis***<br>***[Laminaria setchellj]***<br>**lush foliose coralline reds:** *Bostrella/ Calliarthron/ Corallina*<br>*Lithothamnion* | ***Lessoniopsis littorallis***<br>*Laminaria setchellj*<br>**foliose coralline reds**<br>*Lithothamnion* | *Laminaria setchellj*<br>*Laminaria groenlandica*<br>*diverse* mixed red algae<br>*Alaria 'marginata* morph<br>*Lithothamnion* | *Laminaria groenlandica*<br>***Laminaria saccharina***<br>*Alaria 'marginata* morph<br>*Lithothamnion* | ***Laminaria saccharina*** | *Laminaria groenlandica*<br>***Laminaria saccharina***<br>*Alaria 'marginata* morph<br>*Lithothamnion* | ***Laminaria saccharina*** | | | |
| subtidal | *Nereocystis luetkeana* | *Nereocystis luetkeana* | *Nereocystis luetkeana*<br>***Macrocystis integrifolia***<br>*Agarum spp.*<br>***Strongylocentrotus franciscanus*** | *Nereocystis luetkeana*<br>*Macrocystis integrifolia*<br>*Agarum spp.*<br>***Strongylocentrotus franciscanus***<br>***Zostera marina*** | *Macrocystis integrifolia*<br>*Agarum spp.*<br>***Zostera marina*** | *Nereocystis luetkeana*<br>*Macrocystis integrifolia*<br>*Agarum spp.*<br>***Strongylocentrotus franciscanus***<br>***Zostera marina*** | *Macrocystis integrifolia*<br>*Agarum spp.*<br>***Zostera marina*** | ***Zostera marina*** | | |

* Bolding indicates diagnostic species used to distinguish "communities". Square brackets [ ] enclose species at VE/ AB_OBS 1 which may be present but are in reduced abundance and size. Note that the absence of species assemblages are as diagnostic as species' presence. Community Code type 1 (VE – very exposed) occurs only on the southwest coast of Moresby Island.