

5 - Bedrock/Gravel - CC 1-23,33 - P/VP Tidal Lagoon 11 - Bedrock or Sediment - CC 35 - VP/P/SP 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
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 21 Gravel Flat, Wide
22 Gravel Beach
23 Gravel Flat or Fan
24 Sand and Gravel Flat or Fan, Wide
25 Sand and Gravel Flat or Fan, Narrow 26 Sand and Gravel Flat or Fan, Narrow
27 Sand Beach, Wide
28 Sand Flat 6 Ramp with Gravel Beach, Wide 7 Platform with Gravel Beach, Wide 7 Platform with Gravel Beach, Wide
8 Cliff 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, Wide
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 29 Mud Flat
30 Sand Beach, Narrow
31 Estuaries
Man-Made Materials
32 Man-made, permeable
33 Man-made, impermeable
Current Dominated Current Dominated

4 - Bedrock/Gravel - CC 1-23, 33 - SP 10 - Bedrock or Sediment - CC 34 - VP/P/SP

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

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

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

