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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/P/P
-  8 - Estuary or Sand/Mud - CC 27-31 - VP/P/SP
 9 - Sediment - CC 21 - 30 - SE/E
-  10 - Bedrock or Sediment - CC 34 - VP/P/SP
 11 - Bedrock or Sediment - CC 35 - VP/P/SP
- Current Dominated**
Tidal Lagoon

CC	Type	CC	Type	
Block shore types - characterized by a lack of clastic sediments such as gravel or sand.		Sediment Shore Types - have substrates that have little or no bedrock cropping out		
1	Beach, Wide	21	Gravel Flat, Wide	
2	Rock Platform, Wide	22	Gravel Beach	
3	Rock Cliff, Narrow	23	Gravel Tidal Flat	
4	Rock Cliff, Narrow	24	Sand and Gravel Tidal Flat or Fan, Wide	
5	Rock Tumble, Narrow	25	Sand and Gravel Tidal Flat or Fan, Narrow	
6	Rock Platform, Narrow	26	Sand and Gravel Beach	
Rock and Sediment Shore Types - rock and pebbles of clastic sediments		27	Sand Beach, Wide	
6A	Gravel with Gravel Beach, Wide	28	Sand Beach, Narrow	
7	Platform with Gravel Beach, Wide	29	Gravel Beach	
8	Cliff with Gravel Beach	30	Rock Flat	
9	Platform with Gravel Beach, Narrow	31	Sand Beach, Narrow	
10	Platform with Gravel Beach, Narrow	32	Cliff Beach	
11	Platform with Sand and Gravel Beach, Wide	Man-Made Features		
12	Platform with Sand and Gravel Beach, Wide	33	Breakwater, permeable	
13	Platform with Sand and Gravel Beach	34	Man-made, impermeable	
14	Platform with Sand and Gravel Beach, Narrow	Current Disturbed		
15	Platform with Sand and Gravel Beach, Narrow		35	Thrust
16	Platform with Sand Beach, Wide		36	Deep Lagoon
17	Platform with Sand Beach, Wide			
18	Cliff with Sand Beach			
19	Platform with Sand Beach, Narrow			
20	Platform with Sand Beach, Narrow			

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 units' biological and geomorphological characteristics.

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 indicator 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 mapper 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 swelllines usually fetches >500km

VE - Very Exposed - Extreme high wave exposure

SE - Semi-Exposed - High wave exposure, open swelllines, areas usually fetches more and more sheltered, usually fetches 50 to 500

P - Protected - Low wave exposure, sheltered inlets, usually fetches less than 10km

MP - Moderately Protected - Moderate wave exposure, partly sheltered, usually fetches 10-50km

VP - Very Protected - Very low wave exposure, fetches < 1 km, sheltered anchorages at heads of bays and inlets

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-DOMINATED	TIDAL LAGOON
	BEACHROCK	BEACHROCK/BOULDER	BEACHROCK/GRAVEL	BEACHROCK/GRAVEL	SAND & GRAVEL	SAND & GRAVEL	SAND/MUD	SEDIMENT		
MAJOR SUBSTRATE CLASSES	BEACHROCK	BEACHROCK/BOULDER	BEACHROCK/GRAVEL	BEACHROCK/GRAVEL	SAND & GRAVEL	SAND & GRAVEL	SAND/MUD	SEDIMENT	BEACHROCK OR SEDIMENT	BEACHROCK OR SEDIMENT
EXPOSURE CLASS	1-20	1-23, 32, 33	1-23, 33	1-23, 33	24-30, 32 no SAIL band	24-30, 32 no SAIL band	24-30, 31 has SAIL band	24-30, 34	SE, E	34, 35 VP, P, SP
COMMUNITY CODE	2	3	4	5	6	7	8	9	10	11
upper	<i>Vernicaria</i> <i>Enteromorpha</i>	<i>Vernicaria</i> <i>Enteromorpha</i>	<i>Vernicaria</i> <i>Enteromorpha</i>	<i>Vernicaria</i> <i>Enteromorpha</i>	<i>Vernicaria</i> <i>Enteromorpha</i>	<i>Vernicaria</i> <i>Enteromorpha</i>	<i>grasses & rushes</i> <i>Salicornia virginica</i>			
middle	<i>Balanus glandula</i> <i>Polidoriopsis pilosulus</i> <i>Mytilus californianus</i>	<i>Balanus glandula</i> <i>Pecora divitius</i> <i>Mytilus californianus</i>	<i>Balanus glandula</i> <i>Pecora divitius</i> <i>Mytilus rosalia</i> *	<i>Balanus glandula</i> <i>Pecora divitius</i> <i>Mytilus rosalia</i> *	<i>Balanus glandula</i> <i>Pecora divitius</i> <i>Semibalanus carterius</i>	<i>Balanus glandula</i> <i>Pecora divitius</i> <i>Ulex Ulexia</i> spp.	<i>Balanus glandula</i> <i>Pecora divitius</i> <i>Ulex Ulexia</i> spp.	<i>Balanus glandula</i> <i>Pecora divitius</i> <i>Ulex Ulexia</i> spp.	no visible macrofauna may be a trace of sediment mobility	lidd current dominated, may be a trace of wave exposure but no assembly of macrofaunal species and a reduced bio. wave exposures. Assembly observed is "anomalous" for the wave energy of the site
mid/low		<i>Hydrophilum variegatum</i>								predominant in lagoon areas; more industrial and more in brackish water; may have associated current defined at outfall
lower	<i>Leontopodium littorale</i>	<i>Phyllospira saccardi</i>								
		<i>Alaria wrightii</i> spp. <i>Lithothamnion</i>	<i>Laminaria glandulosa</i> <i>Laminaria saccharina</i> <i>Alaria wrightii</i> spp. <i>Lithothamnion</i>	<i>Laminaria saccharina</i> <i>Alaria wrightii</i> spp. <i>Laminaria</i> <i>Lithothamnion</i>	<i>Laminaria glandulosa</i> <i>Laminaria saccharina</i> <i>Alaria wrightii</i> spp. <i>Laminaria</i> <i>Lithothamnion</i>	<i>Laminaria saccharina</i> <i>Alaria wrightii</i> spp. <i>Laminaria</i> <i>Lithothamnion</i>				
subtidal	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>	<i>Nereocystis luteolus</i> <i>Macrocystis integrifolia</i> <i>Agardh</i> spp. <i>Strongylocentrotus</i> <i>Franciscanus</i>
					<i>Zostera marina</i>	<i>Zostera marina</i>	<i>Zostera marina</i>	<i>Zostera marina</i>		

