

CMECS
Surface Geology Component
and
Sub-Benthic Component
(SGC and SBC)

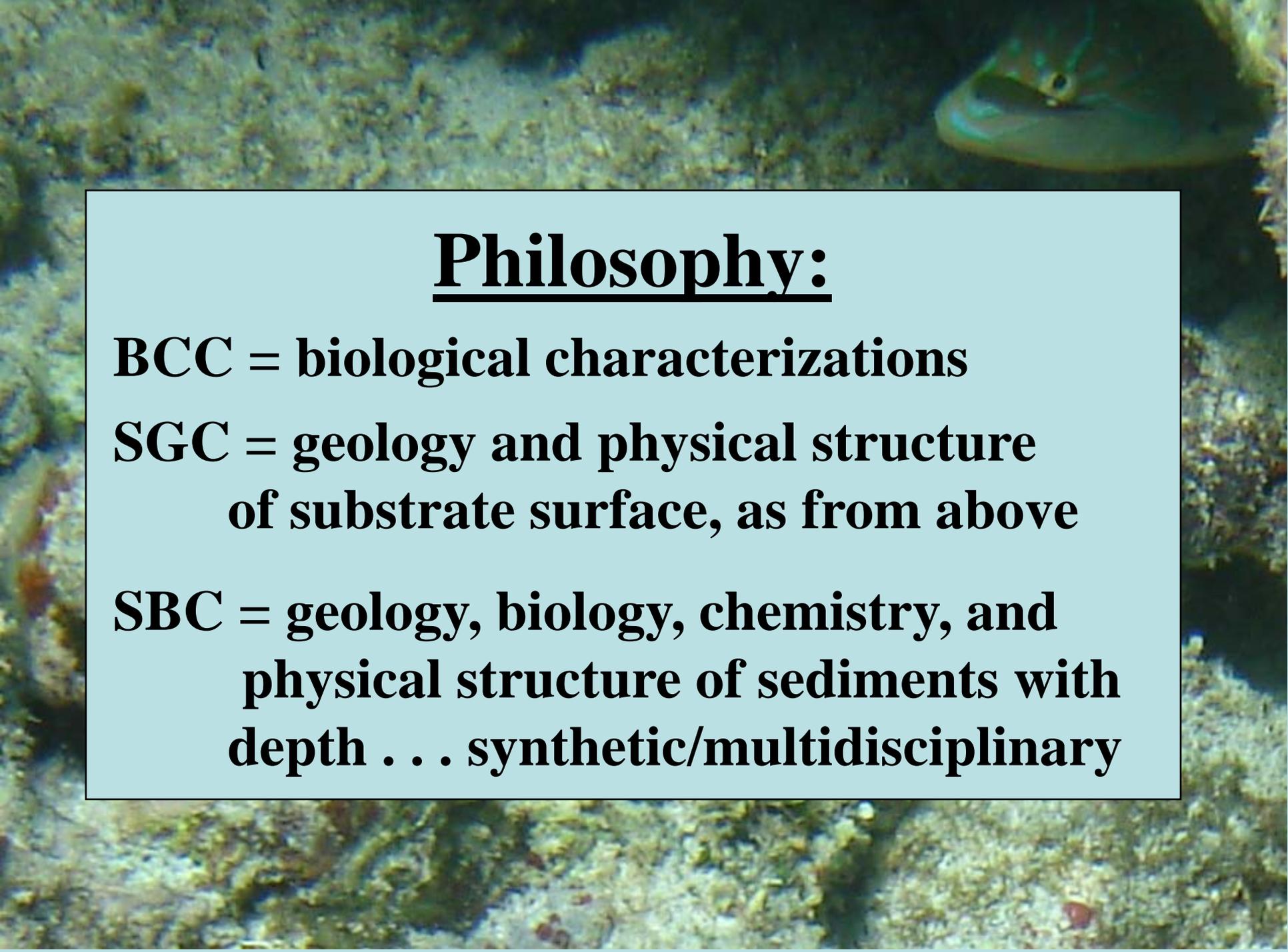
SGC History:

Benthic Cover Classes

Rock Bottom [RB]
Unconsolidated Bottom [UB]
Rocky Shore [RS]
Unconsolidated Shore [US]
Coral Reef [CR]
Faunal Reef [FR]
Aquatic Bed [AB]
Faunal Bed [FB]
Emergent Wetlands [EM]
Forested Wetlands [FO]

**SGC = shift-over of
abiotic “Benthic
Cover” classes**

**SBC = new Component in development
by MapCoast Consortium**

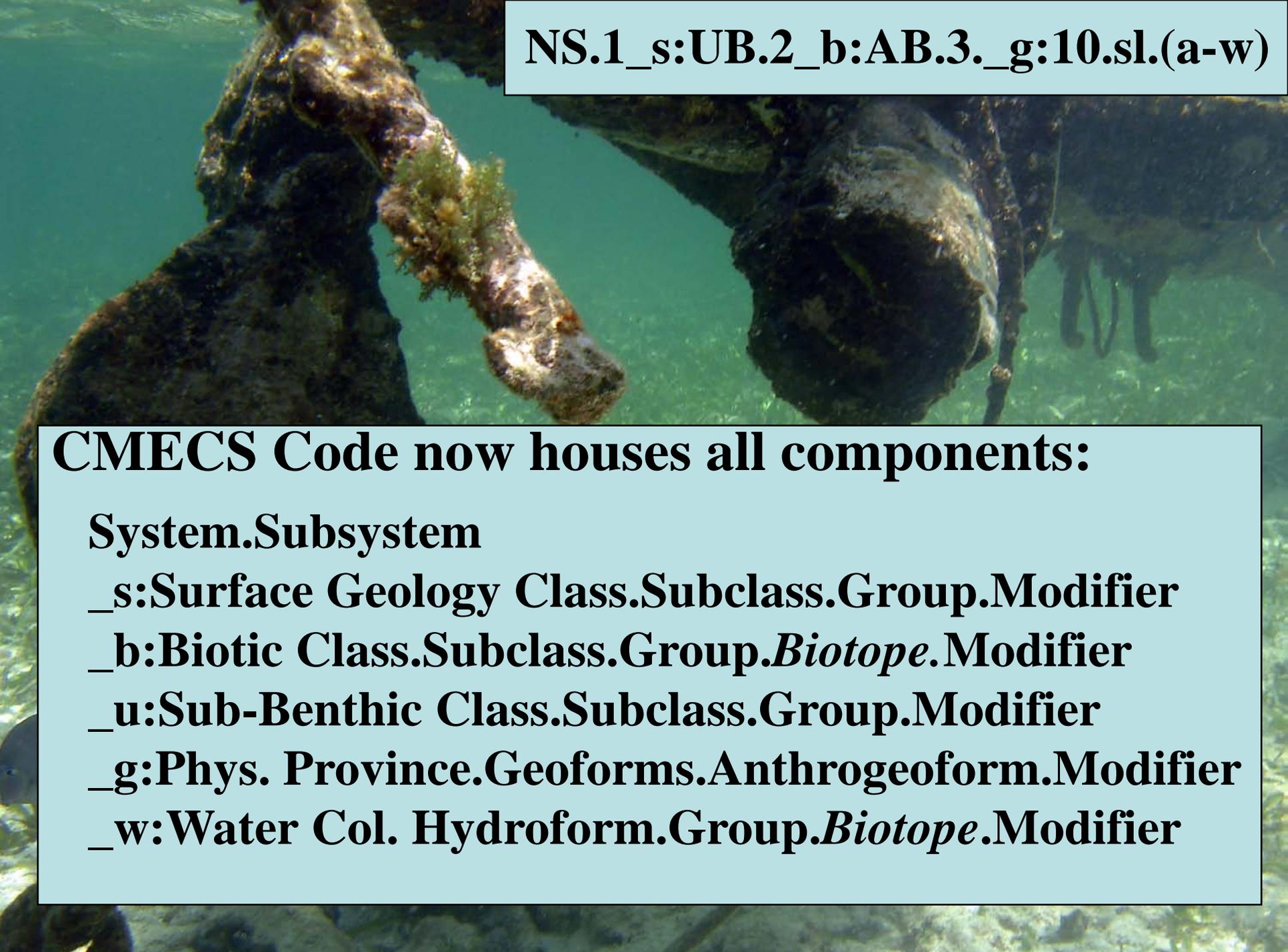


Philosophy:

BCC = biological characterizations

**SGC = geology and physical structure
of substrate surface, as from above**

**SBC = geology, biology, chemistry, and
physical structure of sediments with
depth . . . synthetic/multidisciplinary**



NS.1_s:UB.2_b:AB.3._g:10.sl.(a-w)

CMECS Code now houses all components:

System.Subsystem

_s:Surface Geology Class.Subclass.Group.Modifier

_b:Biotic Class.Subclass.Group.*Biotope*.Modifier

_u:Sub-Benthic Class.Subclass.Group.Modifier

_g:Phys. Province.Geoforms.Anthrogeoform.Modifier

_w:Water Col. Hydroform.Group.*Biotope*.Modifier

The background of the slide is a close-up photograph of a beach. It shows a mix of dark brown sand, small pebbles, and numerous light-colored, possibly white or cream, seashells scattered across the surface. The lighting is bright, creating some highlights on the shells and sand.

The Surface Geology Component (SGC)



Classes:

Rock Bottom [RB]

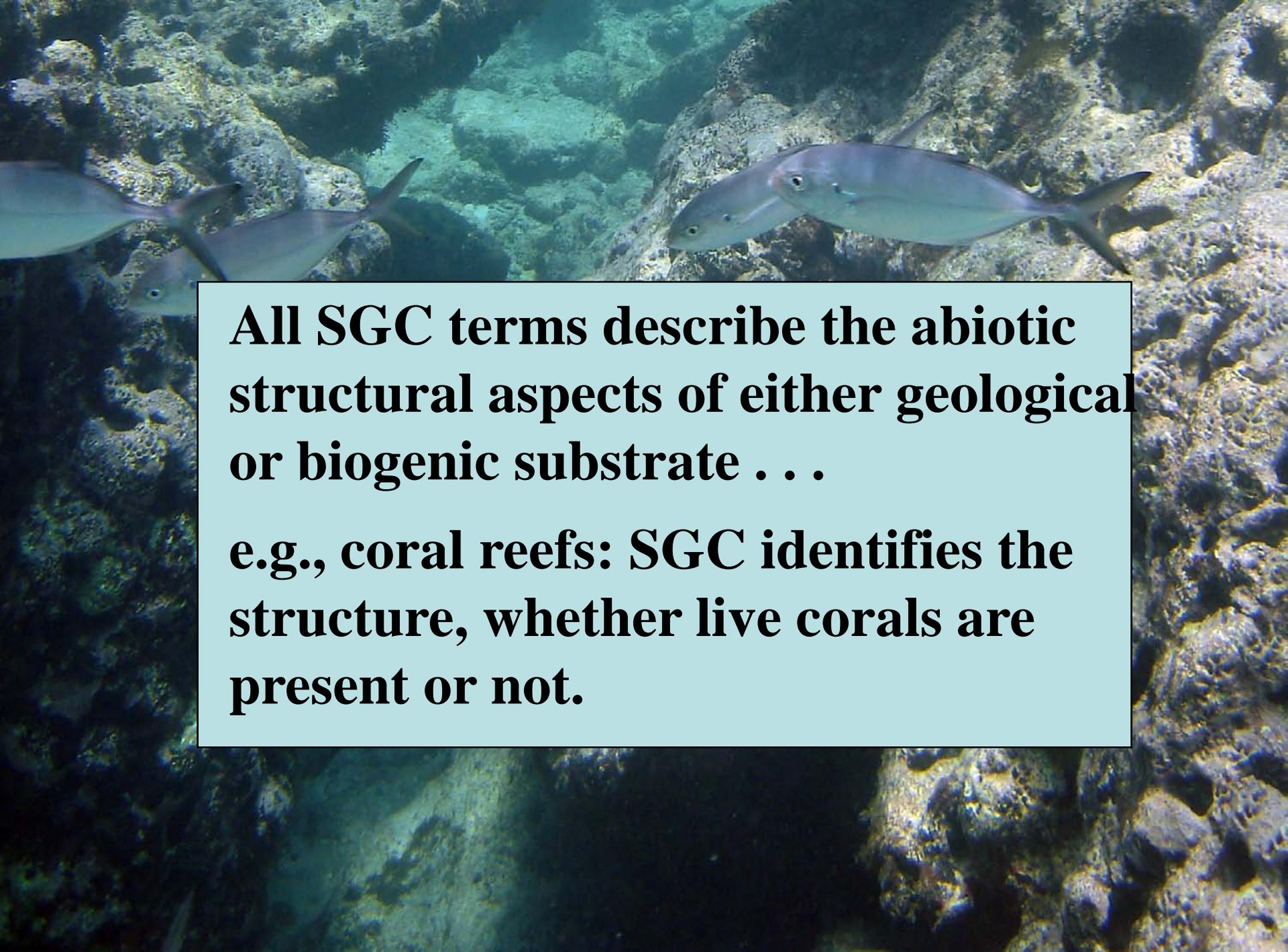
Unconsolidated Bottom [UB]

Rocky Shore [RS]

Unconsolidated Shore [US]

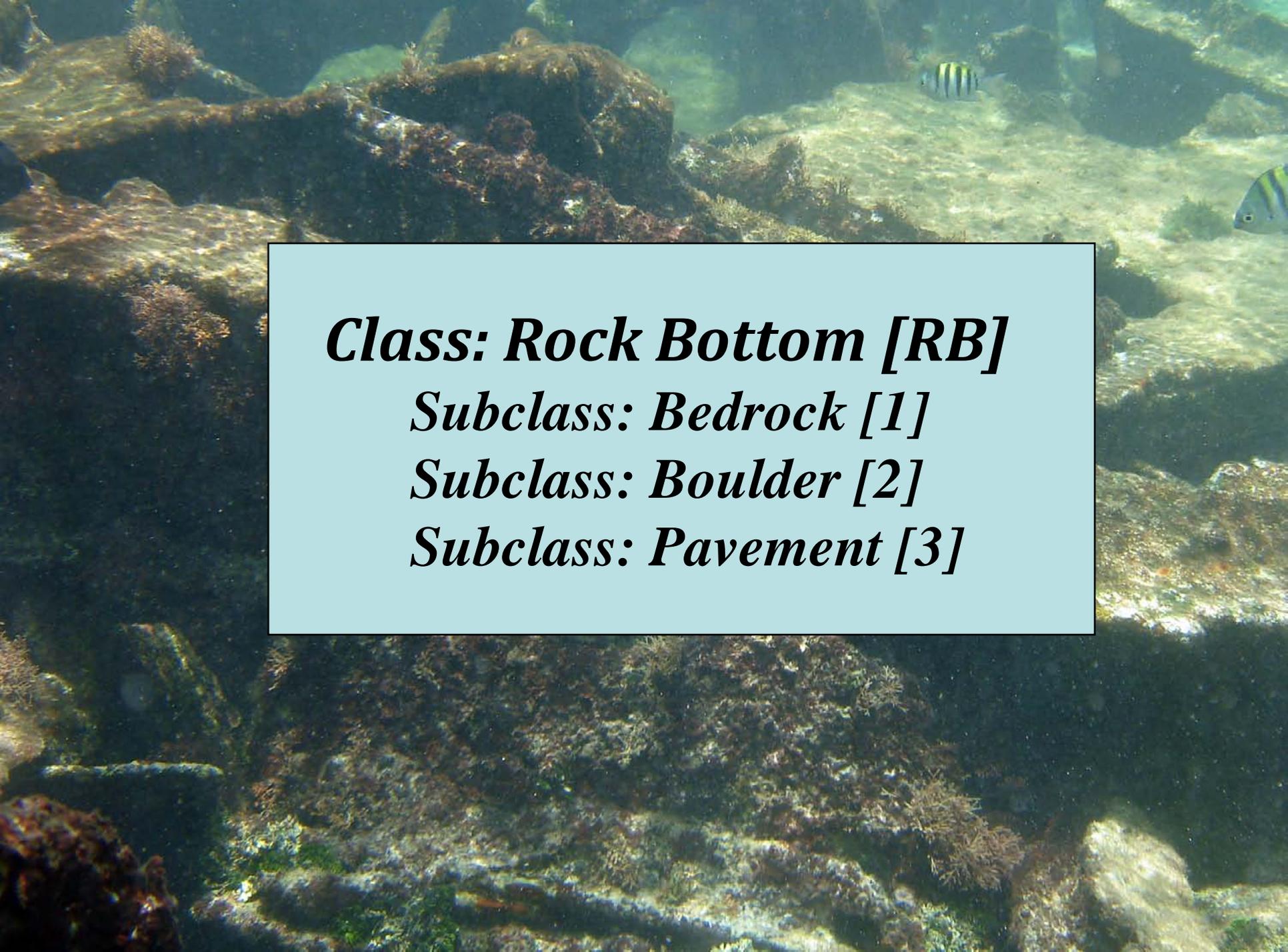
Coral Reef [CR]

Faunal (non-coral) Reef [FR]

An underwater photograph of a coral reef. Several silver fish are swimming in the water. The coral is dark and textured, with some green algae visible. The water is clear and blue.

All SGC terms describe the abiotic structural aspects of either geological or biogenic substrate . . .

e.g., coral reefs: SGC identifies the structure, whether live corals are present or not.

An underwater photograph showing a rocky seabed covered in various types of algae and coral. The water is clear, and several small fish are visible swimming in the background. The lighting is bright, suggesting a shallow depth.

Class: Rock Bottom [RB]

Subclass: Bedrock [1]

Subclass: Boulder [2]

Subclass: Pavement [3]

Class: Unconsolidated Bottom [UB]

Subclass: Cobble/Gravel [1]

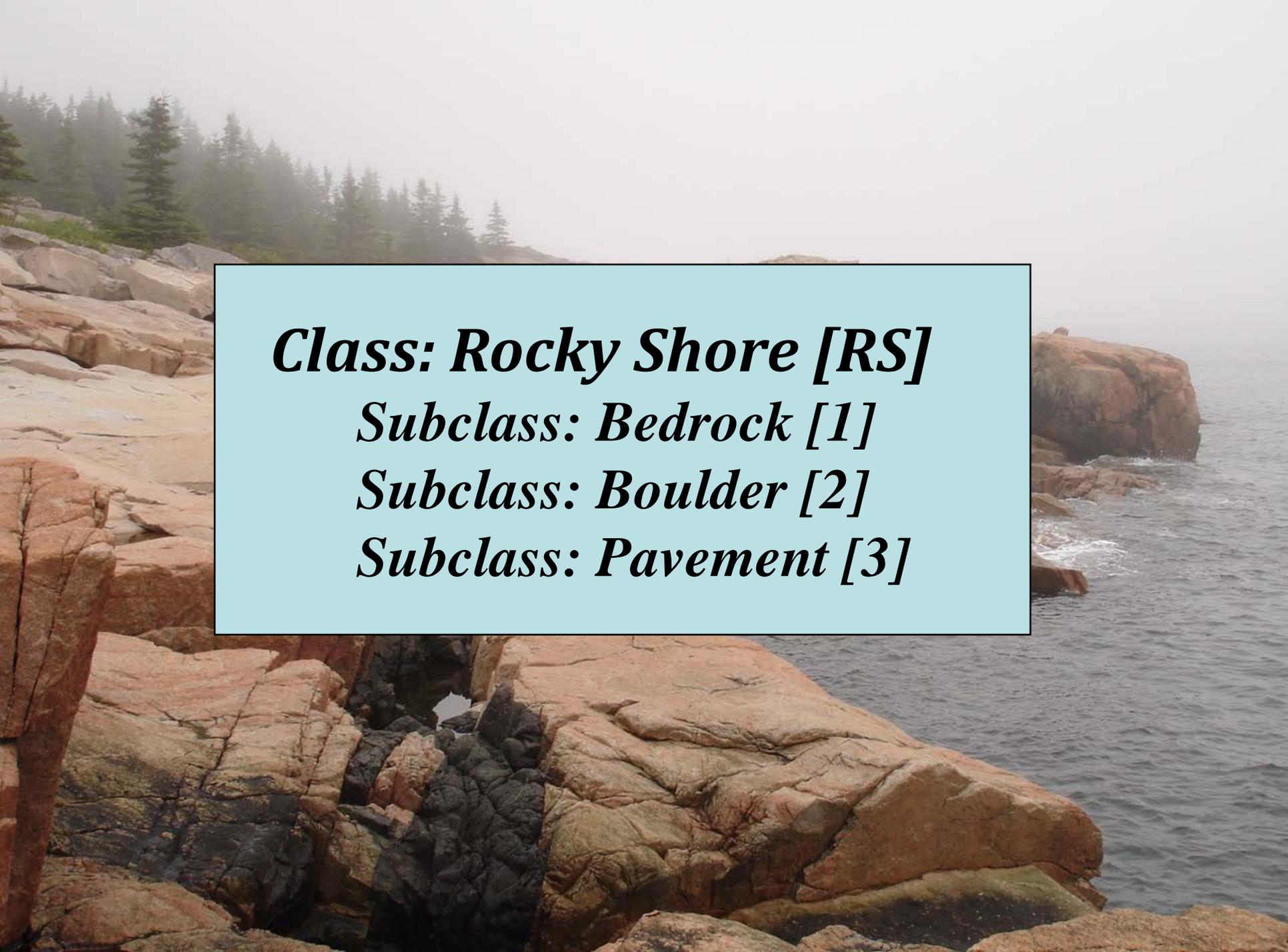
Subclass: Sands [2]

Subclass: Muds [3]

Subclass: Organic [4]

Subclass: Shell [5]

Subclass: Mixed Sediments [6]

A photograph of a rocky coastline. The foreground and middle ground are dominated by large, reddish-brown and tan rocks of various sizes and shapes. Some rocks are partially submerged in the water. In the background, a dense forest of evergreen trees is visible on a hillside, partially obscured by a light mist or fog. The sky is overcast and grey. A light blue rectangular box with a thin black border is centered in the image, containing text.

Class: Rocky Shore [RS]

Subclass: Bedrock [1]

Subclass: Boulder [2]

Subclass: Pavement [3]



Class: Unconsolidated Shore [US]

Subclass: Cobble/Gravel [1]

Subclass: Sands [2]

Subclass: Muds [3]

Subclass: Organic [4]

Subclass: Shell [5]

Subclass: Mixed Sediments [6]



Class: Coral Reef [CR]

Subclass: Reef Lagoon [1]

Subclass: Back Reef [2]

Subclass: Reef Flat [3]

Subclass: Reef Crest [4]

Subclass: Forereef [5]

Subclass: Deep Forereef [6]

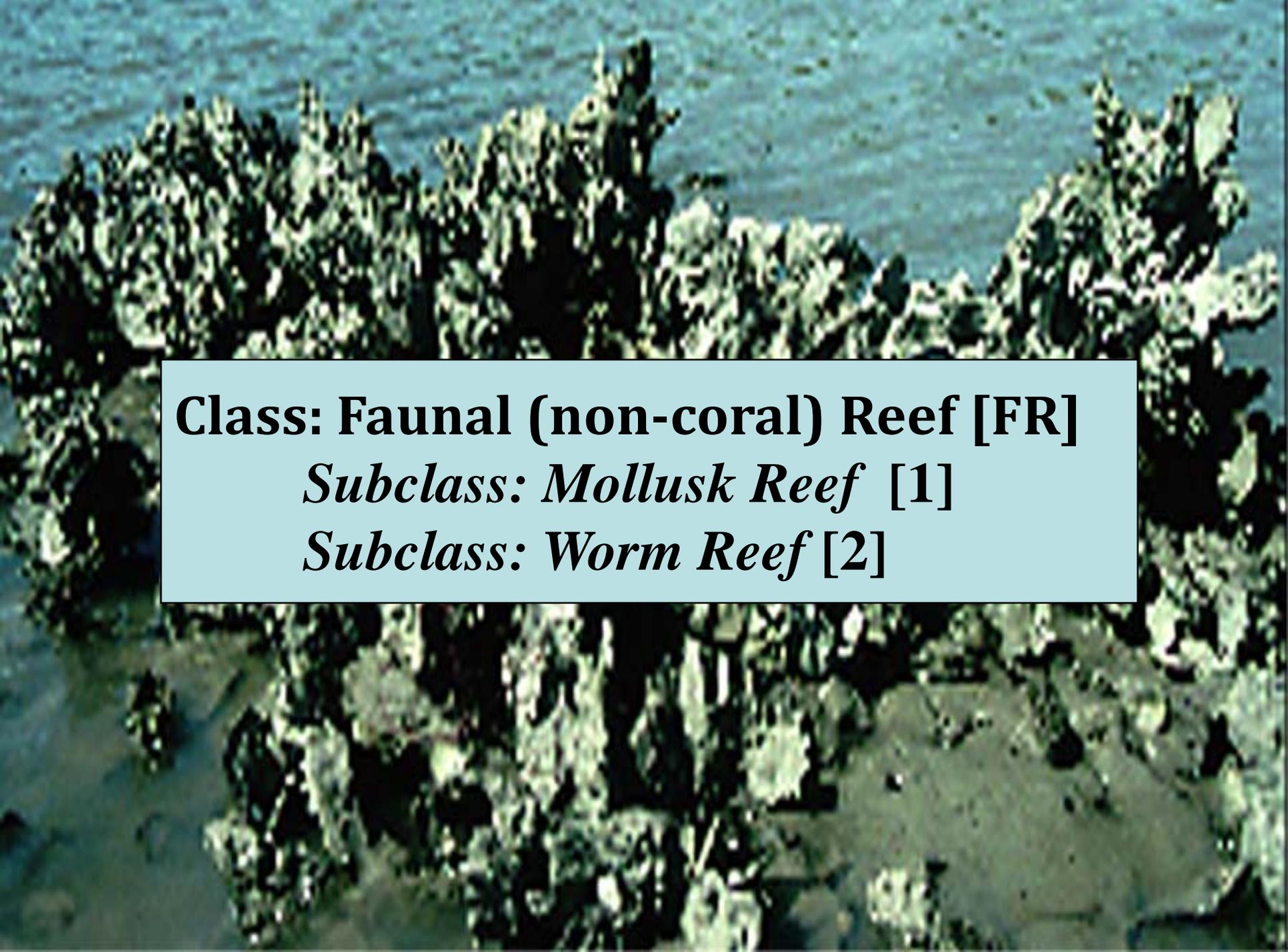
Subclass: Pinnacle Reef [7]

Subclass: Mesophotic Reef [8]

Subclass: Deep/Cold Water Reef [9]

Subclass: Outlier Reef [10]

describes a setting

An aerial photograph of a coral reef system, showing a complex, branching structure of coral in shades of green and brown, extending into the blue ocean. A light blue rectangular box with a black border is overlaid on the center of the image, containing text.

Class: Faunal (non-coral) Reef [FR]

Subclass: Mollusk Reef [1]

Subclass: Worm Reef [2]



An underwater photograph showing a sandy seabed with some dark, possibly organic, material. A light blue rectangular box is overlaid on the center of the image, containing the title text in a bold, black, serif font.

**The
Sub-Benthic
Component
(SBC)**



Challenges:

Consider geology, biology, chemistry and physical structure of sediments/soils with depth.

Merge disciplines and terms of soil scientists, marine geologists, Cowardin, NVC.



MapCoast Consortium

www.mapcoast.org

- **USDA NRCS**
- **University of Rhode Island**
- **NOAA**
- **RI Coastal Resources
Management Council**
- **Narragansett Bay Estuary
Program**
- **RI Sea Grant**
- **RI Department of
Environmental
Management**
- **US EPA**



Mike Bradley

