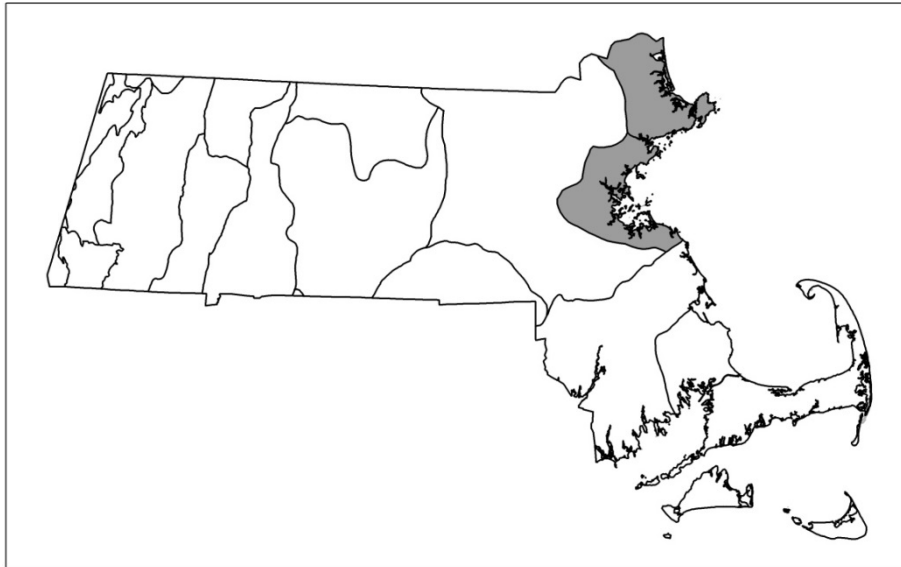




Marine Intertidal Rocky Shore Community

Community Code: CM2A000000

State Rank: S4



Concept: A community dominated by invertebrates and non-vascular plants, in a high-stress environment alternately covered by tides and exposed to desiccation and thermal stress.

Environmental Setting: Marine Intertidal Rocky Shore Communities occur along rocky shores, from the supratidal splash zone to the limits of light penetration in the subtidal zone. This community grades into the rocky subtidal community on the ocean side and the Maritime Rock Cliff Community toward the upland above the tidal zone. Marine Intertidal Rocky Shore Communities are dominated by invertebrates and non-vascular plants, in a high-stress environment alternately covered by tides and exposed to desiccation and thermal stress. The largest natural disturbances to the community are from winter storms that directly remove organisms. In the absence of physical removal during such events, competition for space on rocks determines the types of species that dominate. Microhabitat features include tide pools of varying depth and sizes, rocks (granite) ranging in size from huge boulders and bedrock to cobbles, rock faces varying in degree of exposure to wave energy, and crevasses and surge channels within and between rocks.

Vegetation Description: The communities of rocky shores are dominated by crustaceans, molluscs, and macroscopic algae. The algae (seaweed) provide cover and food for the animals. The rocky shore community shows a distinct zonation from the splash zone to the zone of complete inundation. The community is dominated by marine algae, especially bladder wrack (*Fucus vesiculosus*) and rockweed (*Ascophyllum nodosum*) on mid-tidal rock faces. In low intertidal tide pools, marine red algae such as Irish moss (*Chondrus crispus*), *Polysiphonia* spp., and encrusting red algae (*Chytolithion*) are



common. Common green algae include sea-lettuce (*Ulva lactuca*), which is common throughout.

Differentiating Occurrences: This is the only marine rock community covered in saltwater twice daily and fully exposed to the waves. Marine Intertidal Gravel/Sand Beach Communities have smaller substrates, but may share some of the species, are also inundated by twice daily tides, and receive the full force of waves.

Associated Fauna: This was probably the habitat of the extinct sea mink (*Mustela vison macrodon*). Wintering sea birds such as Harlequin Duck (*Histrionicus histrionicus*) and Great Cormorants (*Phalacrocorax carbo*) feed among submerged rocks close to shore. Wintering Purple Sandpipers (*Calidris maritima*) forage among exposed rocks in low tide. This is a foraging area for marine fish such as striped bass (*Morone saxatilis*) during high tide. Rocky shores provide habitat, including tidal pools, for many marine invertebrates that are important to community structure, including blue mussels (*Mytilus edulis* - a competitive dominant for space); several species of herbivorous gastropods, especially periwinkle snails (*Littorina littorea*, an exotic marine species); a predatory snail, dog whelk, (*Nucella lapillus*); and sea stars (*Asterias forbesi* and *A. vulgaris*).

Public Access: Halibut Point State Park, Rockport; East Point/Lodge Park, Nahant. The Marine Intertidal Rocky Shore Community occurs where bedrock is at the surface, particularly from Cape Ann south to Marshfield. There are scattered occurrences along Buzzards Bay and the Elizabeth Islands.

Threats: Invasive species.

Management Needs:

USNVC/NatureServe: Tidal temperate or subpolar alga vegetation: A4133 North Atlantic Tidal Rocky Shoreline Alliance; *Ascophyllum nodosum* - *Fucus vesiculosus* Tidal Algal Nonvascular Vegetation (CEGL006341); *Laminaria agardhii* Tidal Algal Nonvascular Vegetation (CEGL006344).