

I. MARINE SYSTEM

The marine system consists of open ocean overlying the continental shelf, the associated coastline that is exposed to wind and waves, and shallow coastal bays that are saline because they lack significant freshwater inflow. The limits extend from mean high water seaward, beyond the limits of rooted vascular vegetation. Salinity is greater than 18.0 parts per thousand (ppt) ocean-derived salts.

A. MARINE SUBTIDAL

This subsystem includes the area below the lowest tide that is permanently flooded with tidal water.

1. Marine deepwater community: a broadly-defined community that includes both quiet and rough waters of the open ocean below the lowest tide level and beyond the seaward limits of rooted vascular vegetation. This community includes all substrate types (ranging from rock bottom to unconsolidated bottom).

Distribution: in the open ocean surrounding Long Island, in the Coastal Lowlands ecozone.

Rank: G5 S5

Source: Cowardin et al. 1979

2. Marine eelgrass meadow: a community of subtidal aquatic beds occurring in quiet waters below the lowest tide level where fluctuations in salinity are minor. Characteristic plants include eelgrass (*Zostera marina*), sea lettuce (*Ulva lactuca*), and algae such as *Enteromorpha* spp., *Polysiphonia* spp., and *Cladophora gracilis*. Characteristic animals include bay scallop (*Aequipecten irradians*), fourspine stickleback (*Apeltes quadracus*), mummichog (*Fundulus heteroclitus*), northern pipefish (*Syngnathus fuscus*), and threespine stickleback (*Gasterosteus aculeatus*). Brant (*Branta bernicla*) utilize eelgrass meadows in winter. Eelgrass meadows are highly productive, provide habitat for a rich variety of marine organisms, and enhance sediment stability.

Distribution: in the ocean surrounding Long Island, in the Coastal Lowlands ecozone.

Rank: G5 S3

Example: Great South Bay, Suffolk County.

Sources: Briggs and O'Connor 1971; Muenscher 1939; Thayer et al. 1984.

B. MARINE INTERTIDAL

This subsystem includes the area between the highest tide level and the lowest tide level; the substrate is periodically exposed and flooded by semidiurnal tides (two high tides and two low tides per tidal day).

1. Marine intertidal mudflats: a community of quiet waters, with substrates composed of silt or sand that is rich in organic matter and poorly drained at low tide. The substrate may be covered with algae. Characteristic organisms are polychaetes such as *Polydora ligni*, *Streblospio benedicti*, *Nereis virens*, *Lumbrinereis tenuis*, and *Heteromastus filiformis*, mudsnail (*Ilyanassa obsoleta*), softshell clam (*Mya arenaria*), and blue mussel (*Mytilus edulis*). This community is an important feeding ground for shorebirds such as American oystercatcher (*Haematopus palliatus*), and willet (*Catoptrophorus semipalmatus*).

Distribution: along the seacoast of the Coastal Lowlands and Manhattan Hills ecozones.

Rank: G5 S4

Sources: Whitlatch 1982; Townes 1939.

2. Marine intertidal gravel/sand beach: a community washed by rough, high-energy waves, with sand or gravel substrates that are well-drained at low tide. These areas are subject to high fluctuations in salinity and moisture. A relatively low diversity community, it is perhaps best characterized by the benthic invertebrate fauna including polychaetes (*Spiophanes bombyx*, *Pygospio elegans*, *Clymenella torquata*, *Scoloplos fragilis*, and *Nephtys incisa*) and amphipods (*Protohaustorius deichmannae* and *Acanthohaustorius millsii*). It provides feeding grounds for migrant shorebirds such as sanderling (*Calidris alba*) and semipalmated plover (*Charadrius semipalmatus*) and breeding shorebirds such as piping plover (*Charadrius melodus*).

Distribution: along the seacoast of the Coastal Lowlands and Manhattan Hills ecozones.

Rank: G5 S5

Sources: Whitlatch 1982; Townes 1939.

MARINE COMMUNITIES

3. Marine rocky intertidal: a community inhabiting rocky shores that are washed by rough, high-energy ocean waves. Characteristic organisms are attached algae, mussels, starfish, urchins, and barnacles that are capable of withstanding the impact of the waves and periodic desiccation. The community is typically rich in species. Usually more than 60% of the substrate is covered by attached organisms. Characteristic marine algae attached to the rocks include *Ascophyllum nodosum*, *Fucus vesiculosus*, *Rhizoclonium tortuosum*, *R. riparium*, *Enteromorpha clathrata*, *E. intestinalis*, and *Monostroma latissimum*. More data on this community are needed.

Distribution: uncommon along the seacoast of the Coastal Lowlands and Manhattan Hills ecozones.

Rank: G5 S1S2

Example: Huckleberry Island, Westchester County.

Sources: Conard 1935; Künstler and Capainolo 1987.

C. MARINE CULTURAL

This subsystem includes communities that are either created and maintained by human activities, or are modified by human influence to such a degree that the physical conformation of the substrate, or the biological composition of the resident community is substantially different from the character of the substrate or community as it existed prior to human influence.

1. Marine submerged artificial structure/reef: the aquatic community associated with an artificially introduced structure submerged in marine waters that provides habitat for marine fish and other marine organisms. This includes structures that have been intentionally sunk for the purpose of attracting fish, as well as sunken

ships, disposed waste, or any other introduced material that provides suitable habitat.

Distribution: in the ocean surrounding Long Island, in the Coastal Lowlands ecozone.

Rank: G5 S5

Source: Weisburd 1986.

2. Marine dredge spoil shore: the wetland community of a constructed, intertidal or subtidal, marine shore in which the substrate is composed of dredge spoils. This community has minimal vegetative cover and relatively low species diversity. Dredge spoil shores provide foraging habitat for terns, gulls, and several shorebirds. Characteristic fishes in Great South Bay on sandy dredge spoils include Atlantic silverside (*Menidia menidia*), striped killifish (*Fundulus majalis*), and sheepshead minnow (*Cyprinodon variegatus*).

Distribution: along the seacoast of the Coastal Lowlands and Manhattan Hills ecozones.

Rank: G5 S5

Source: Briggs and O'Connor 1971.

3. Marine riprap/artificial shore: the wetland community of a constructed marine shore in which the substrate is composed of broken rocks, stones, wooden bulkheads, or concrete placed so as to reduce erosion. Characteristic organisms are attached algae, mussels, and barnacles; percent cover and species diversity are low compared to a marine rocky intertidal community.

Distribution: along the seacoast of the Coastal Lowlands and Manhattan Hills ecozones.

Rank: G5 S5