



## Salt Marsh

**Community Code:** CE2B100000

**State Rank:** S3



**Concept:** A graminoid-dominated, tidally flooded coastal community with several zones.

**Environmental Setting:** Salt marshes form in areas subject to oceanic tides that are mostly sheltered from wave energy. They usually develop in estuaries and behind barrier beaches and spits. A peat develops in the higher marshes, with marsh plants extending into flats in stabilized areas as plants trap sediments and organic material, raising the surface area. Upper edges may be brackish where freshwater surface runoff enters from the upland.

**Vegetation Description:** Saltwater cord-grass (*Spartina alterniflora*) dominates the low marsh area, between the low and mean high tide. Between the mean high tide and the spring high tide, in the high marsh area, salt-hay (*Spartina patens*) dominates, usually mixed with spike grass (*Distichlis spicata*). Towards the upland edge, black grass (*Juncus gerardii*) becomes more common. Mixed throughout, especially towards the upper edges, are sea-lavender (*Limonium carolinianum*), seaside goldenrod (*Solidago sempervirens*), and other salt-tolerant species. At the freshest edges, salt marsh switchgrass (*Panicum virgatum*) may be common. At those upper edges and on ditch spoils, groundsel-tree (*Baccharis halimifolia*) and saltmarsh elder (*Iva frutescens*) can form shrubby zones. Scattered in low, poorly drained, salty areas, salt pannes form with populations of glasswort (*Salicornia* spp.).

**Differentiating Occurrences:** Salt Marsh is flooded by saltwater (annual average salinity >18ppt). Dominated by saltwater cordgrass and salt hay, it looks grassy. Brackish Tidal Marsh has salinity levels between fresh- and salt water (0.5-18 ppt,). The vegetation is mixed with saltmarsh bulrush, salt reedgrass, and narrow-leaved cattail. Freshwater Tidal



Marsh lacks saltwater cordgrass and salt hay, and has sweet flag, wild rice, climbing hempweed, and other broad-leaved herbaceous plants. It is flooded by freshwater (salinity <0.5 ppt).

**Associated Fauna:**

Many species of birds forage in salt marshes. A few, such as Seaside Sparrow (*Ammodramus maritimus*) and the Saltmarsh Sharptailed Sparrow (*A. caudacutus*), nest there as well. In fall and winter, Short-eared Owls (*Asio flammeus*), Snowy Owls (*Nyctea scandiaca*), and Northern Harrier (*Circus cyaneus*) hunt in salt marshes. In summer, Snowy Egrets (*Egretta thula*), American Black Ducks (*Anas rubripes*), and a number of shorebirds forage in pools at low tide. Few mammals are resident in salt marshes, but meadow voles (*Microtus pennsylvanicus*) use them, retreating to dryer areas during high tides. Fiddler crabs (*Uca* spp.) are identified with saltmarsh creeks on Cape Cod and to the south. Native sesarma crabs (*Sesarma reticulatum*), which graze on cordgrass, appear to be increasing, and possibly expanding northward into saltmarshes in the Gulf of Maine.

**Public Access:**

Parker River National Wildlife Refuge, Newbury; Salisbury Marsh, Salisbury; Great Marshes, Barnstable; Nauset Marsh, Eastham; Great Sippewissett Marsh, Falmouth.

**Threats:**

Invasive species, coastal erosion, sea-level rise, coastal development, tidal restrictions, stormwater flows and land source impacts, filling, dredging, and ditching.

**Management Needs:**

**USNVC/NatureServe:**

Salt Marsh System, includes: *Spartina alterniflora* Tidal Herbaceous Alliance -- *Spartina alterniflora*/(*Ascophyllum nodosum*) Acadian, Virginian Zone Herbaceous Vegetation [CEGL004192]; *Spartina patens* - (*Distichlis spicata*) Tidal Herbaceous Alliance -- *Spartina patens* - *Distichlis spicata* - *Plantago maritima* Herbaceous Vegetation [CEGL006006] and *Spartina patens* - *Agrostis stolonifera* Herbaceous Vegetation [CEGL006365]; *Panicum virgatum* Tidal Herbaceous Alliance -- *Panicum virgatum* Tidal Herbaceous Vegetation [Provisional] [CEGL006150]; *Baccharis halimifolia* - *Iva frutescens* Tidal shrubland Alliance - *Baccharis halimifolia* - *Iva frutescens*/*Panicum virgatum* Shrubland [CEGL006063]; *Sarcocornia perennis*- (*Distichlis spicata*, *Salicornia* spp.) Tidal Herbaceous Alliance - *Sarcocornia perennis* - *Salicornia* spp. - *Spartina alterniflora* Herbaceous Vegetation [CEGL004308].