SALT MARSHES

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SALTMARSHES

- A **salt marsh** is an environment in the upper coastal intertidal zone between land and salty or brackishwater, dominated by dense stands of halophytic (salt-tolerant) plants such as herbs, grasses or low shrubs.

- These plants are terrestrial in origin and are essential to the stability of the salt marsh in trapping and binding sediments.

Salt-Marsh distribution and their importance

- Salt marsh plants are adapted to a harsh semi-aquatic environment and saline soils.
- They have stout stems and small leaves.
- which are mostly grasses and low perennial herbs.
- They have physiological adaptations for salt excretion and gas exchange.
- Salt marsh plants trap debris and dissolved nutrients with tidal cycle.

Salt-meadow Cordgrass

- Salt-meadow Cordgrass, *Spartina patens* sometimes grows in salt marshes.
- This perennial plant grows from 12-18 inches (30-45 centimeters).
- When the water comes up, and special membrane on its roots that only sucks up the water.
- Glands on the leaves spit the salt out. But even with these adaptations, the plant grows bigger with fresh water.
- Salt-meadow Cordgrass grows from June to October.
- They are the main food for many birds, including black ducks and sharp-tailed sparrows.

Salt-water Cordgrass

- *Spartina alternaflora* has a powerful root system.
- Its roots spread beneath the ground and grows to trap silt forming in the salt marsh.
- It grows on the outer rim of salt marsh bogs, because it needs to be covered with salt water twice a day.
- Its found commonly in Atlantic and Pacific coast.

Saltwort or Glasswort

- *Salicornia europaea* is a cactus-like plant that lives by salt marshes.
- It is a leafless and smooth annual.
- It is found from six to eighteen inches tall.
- In the fall it is bright red, and people find it very beautiful.
- People also sometimes add it to fresh salad because it's extremely salty.

Blackgrass

- Kinds of species are reported *Juncus tenuis, J.gerardi* and *J.roemerianus*.
- Blackgrass is not usually a dominant plant of the salt marsh.
- It always grows in the salt marsh, and from a distance patches of it look brown.
- The part of the plant covering by the fruit

Goldenrod

- Seaside Goldenrod, *Solidago sempervirens* is a common salt marsh species often found on the border of salt marshes.
- This smooth-stemmed plant is in the sunflower family and is 1-3 feet tall.
- It has yellow flowers, and a shade of purple-red, because of it's purplish pigment.

Gerardia

- The lovely pink blossoms of a *Gerardia* can be found from mid-July to September.
- The fruit found among this plant's narrow leaves look almost like a miniature acorn (oak nut).
- Gerardia is related to the golden snap dragon and grows to be no larger than 8 in. tall.

Spikegrass

- Spikegrass is a common enough plant to be found, sprinkled in various areas of salt marsh.
- Spikegrass may also be found in a strong line by the water.
- It has long pale green stems which are how Spikegrass got it's name.
- This plant is eaten by the geese living in the midst of the marsh.

Groundsel Tree

- Groundsel Tree is a shrub living in the outer edge of the salt marsh.
- Groundsel Tree is related to the sunflower and grows to be 3 to 6 ft. tall.
- The leaves are in assortment clustered on the stem and look somewhat like tiny spades.
- The edges of these leaves are slightly uneven.

Bayberry

- In the summer, Bayberry was green and bare.
- By late summer, they have turns a rich blue and has a very fragrant smell.
- Bayberry is quite often used for candles because of the wonderful scent it gives off and sometimes, insects like the praying mantis nest in its leaves.

Phragmites

- Phragmites is a fern-like plant living at the outskirts of salt marshes and other moist areas.
- This rapidly spreading vegetation, with its powerful roots, chokes out all the other plants and takes over.
- This plant is very common with its bright violet flowers and gray fruits,.
- Phragmites was once used as a pen, as was a feather at the time.

Marsh Elder

- Marsh Elder is a bush that grows on the border of high water in the salt marsh.
- It can be as short as three feet or as tall as five feet or in between.
- The leaves on the plant grow opposite to each other, and their texture is fleshy and sharp-toothed.
- Its flowers, which grow in the summer, and greenish-white.

Sea Lavender

- Sea Lavender blooms in August with a beautiful purple blossom.
- They're on the endangered species list.
- It has small cone-shaped flowers, and it is pale purple.
- They will grow up to one feet or more.

Orach

- The vine-like plant with wedge-shaped leaves.
- Found in the less saline marshes or scattered about saltmeadow cordgrass.

Poison Ivy

- Found on the way out of the salt marsh.
- The leaves are shiny and green for most of the summer.
- They only turn reddish in the fall.
- The hairy root of this plant can be poisonous to the touch.

Juncus canadensis

- This plant found in the wet places nearby coast.
- The leaves are long and tapering.
- Fruits are brown in colour.

Sesuvium portulacastrum

- Perennial creeper.
- Growing in muddy tidal flats.
- Leaves-simple, thick and fleshy.
- Flowers are pink

Suaeda maritima

Much branched stems, Stems with reddish streaks.

Leaves are long, linear, base truncated, purple coloured, green when drying.

DISTRIBUTION OF SALT-MARSH

- **Salt marshes extensively found in Atlantic, Pacific and Indian coastal area.**
- **Abundant in Atlantic and Gulf coast of North America.**
- **In Pacific coast of North America found in scanty.**
- **Especially, cord grasses, *Spartina alterniflora* and *S.foliosa* found common in Atlantic and Pacific coast.**
- **Pickel weed, *Salicornia* dominated in Pacific and Indian coast.**
- ***Suaeda maritima* very common in Indian coast.**

ROLE IN COASTAL ECOSYSTEM

Provide shelter and food

Coffee bean snail (*Melampus*) and marsh periwinkles (*Littorina*, *Littoraria*).

Horse mussel, *Geukensia demissa* is lives in the mud among the cordgrass.

Juvenile fishes (*Menidia*) is found in salt marshes

Crustaceans and small fishes lives in pools and tidal creeks at low tide.

Rails and American coots are feed and nest in salt marsh areas.

ROLE IN COASTAL ECOSYSTEM

- Many land birds (Ospreys) and mammals (raccoons) are common visitors to salt marshes.
- Some burrowing invertebrates and vertebrates are inhabit the salt marshes.
- Muddy salt marsh serves as substrate for bacteria, diatoms, filamentous green algae and cyanobacteria.
- Saltmarshes are protect the soreline from heavy flood and wave action.
- It play a large role in the aquatic food web and the exporting of nutrients to coastal waters.
- They also provide support to terrestrial animals such as migrating birds.