Wild About Wetlands!

Marblehead is home to several different types of wetland ecosystems. Forest River Conservation Area is a 26-acre natural area encompassing a large saltmarsh. Steer Swamp Conservation Area boasts a freshwater marsh and swamp within its 48-acre forest. Ware Pond consists of a large freshwater marsh surrounding the pond, totaling nearly 9 acres of green space. In the simplest terms, wetlands are lands that are wet. More specifically, wetlands are saturated with water for most or part of the year. Wetland plants, called hydrophytes, are specially adapted to living in waterlogged soils. Many wetland plants have hollow stems allowing oxygen to reach their submerged root systems.

Wetlands are classified by the unique plants that grow in them and how they receive water. For example, freshwater marshes are fed by freshwater ponds, streams, or groundwater and mainly consist of tall reeds, such as cattails and phragmites, and floating or emergent plants such as duckweed or lilypads. Saltmarshes receive their water from tides or a mixture of fresh and saltwater as rivers spill into the sea. Common saltmarsh plants are cordgrass and spartina, but phragmites can also invade these areas. Swamps are differentiated from marshes with their tall trees or shrubs that emerge from the water. Species such as Red maple, White Oak, Atlantic White Cedar, Silver Maple, River Birch, and Larch are commonly found in New England swamps. Like marshes, swamps can be found along coastal shorelines or recharged by groundwater or freshwater streams and lakes. For more information about the wetlands classification, click here: United States Environmental Protection Agency: Wetland Classifications.

You can learn more about wetland plants by observing where they grow. Aquatic plants can be ***floating***, ***emergent,*** or ***submerged***. Floating plants do just that; they float on top of the water! Emergent plants "begin growing underwater with their roots firmly in the saturated soil, and eventually growing above the water's surface."[1] Submerged plants live their lives entirely underwater, some are rooted in the soil, and some are drift underwater. Below are examples of common hydrophilic or aquatic plants and where they grow.

Floating	Emergent	Submerged
Duckweed is a tiny floating plant in freshwater wetlands; ducks devour it and many aquatic animals hide beneath it! 	Cattails emerge from the water's edge with their hotdog looking seed heads. They are a favorite nesting site for red-winged black birds. 	Coontail is an underwater plant that looks like a racoon's tail. It is a favorite food for carp and ducks. 

[1] Wallace, Marianne D. *America's Wetlands: Guide to Plants and Animals*. Fulcrum Pub., 2004.

Visit a local wetland to observe the plantlife: Don't be discouraged if you cannot identify plants by name. Scientists often develop their field observation skills by taking notes and drawing pictures before they identify species with a fieldguide. If you are curious to learn more, try using the iNaturalist or Seek App. These Apps also offer fun ways to contribute to local citizen science projects too!

Walk along the water's edge and look for plants that live in these three different zones. Draw a sketch with a pencil and take some brief notes about the color, texture, and shape of leaves.

Location: _____

Season: _____ Date/Time: _____ Weather: _____

Floating Plant	Emergent Plant	Submerged Plant
Sketch	Sketch	Sketch
Notes:	Notes:	Notes:

Floating Plant	Emergent Plant	Submerged Plant
Sketch	Sketch	Sketch
Notes:	Notes:	Notes:

Investigating the Functions and Values of Wetland Ecosystems

Wetlands are not just beautiful natural spaces; they work to help humans and wildlife survive in various ways! Below you will find images of everyday items that symbolize how wetland soils and plants function together as a restorative ecosystem.

Insert each object's name into the sentence below and try to finish the sentence by pondering how wetlands are like each one to help the environment. Use the list of wetlands functions and values at the bottom to help you. A wetland is like a _____ because...

coffee filter 	hotel 	tree 
soap 	stone wall 	sponge 
cereal 	crib 	fan 

- Wetland plants filter debris and toxic chemicals from the water.
- Wetlands provide homes or nursery grounds for many animals, including endangered species.
- Wetlands provide a place for migratory birds to rest.
- Wetlands absorb a lot of water and help prevent floods, saving homes & cities from damage.
- Wetlands provide food for humans and wildlife (examples: cranberries, clams, game birds, & rice).
- Wetlands plants and soils absorb carbon dioxide (a greenhouse gas), keeping Earth cool.
- Wetland plants release life-sustaining oxygen into our atmosphere.
- Wetland plants help bind soil, keeping it in place to prevent erosion; this is especially important in areas where saltmarshes buffer shores from hurricanes.

Work Cited: Slattery, Britt Eckhardt, et al. *WOW!: the Wonders of Wetlands*. Environmental Concern, 2003.

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