

Freshwater Ecosystems



A freshwater marsh in Florida.

Freshwater Ecosystems

Lakes, ponds, streams, springs, and wetlands are examples of bodies of freshwater. This means that the water in these bodies of water is not salty. The organisms that live in them are part of **freshwater ecosystems**. These ecosystems vary by temperature, pressure (in lakes), and the amount of light that can go through. The type of plants that grow in these ecosystems can be very different.

Ponds

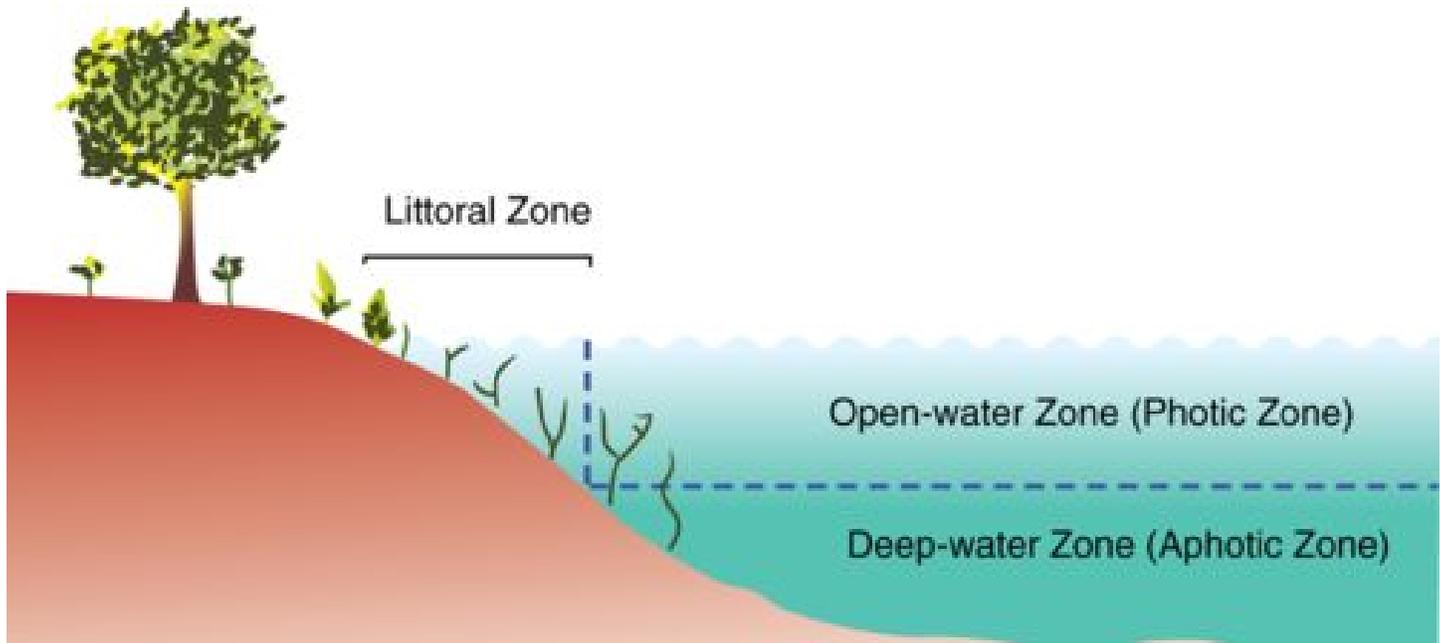
Ponds are small bodies of freshwater that usually have no outlet; ponds are often fed by underground springs. Like lakes, ponds are bordered by hills or low rises so the water is blocked from flowing directly downhill. To the right is a picture of a pond found in the country of Japan.



Lakes

Lakes are larger bodies of water. Water usually drains out of a lake through a river or a stream and all lakes lose water to evaporation. A lake is one example of a freshwater ecosystem. A lake has zones just like the ocean. The ecosystem of a lake is divided into three distinct zones shown in the figure:

- The surface zone is the sloped area closest to the edge of the water.
- The open-water zone has sunlight.
- The deep-water zone has little or no sunlight.



The three primary zones of a lake are the surface, open-water, and deep-water zones

There are several life zones found within a lake:

- In the surface zone, sunlight allows plants to grow. Plants provide food and shelter to animals such as snails, insects, and fish.
- Other plants and fish live in the open-water zone, like bass and trout.
- The deep-water zone is dark so there is no photosynthesis. Most deep-water organisms are scavengers. They feed on dead organisms that fall to the bottom of the lake. Catfish is an example of a scavenger. Fungi and bacteria are decomposers that live in the deep zone.

Wetlands

Some of Earth's freshwater is found in wetlands. A **wetland** is an area that is covered with water, or at least has very soggy soil, during all or part of the year. Certain kinds of plants thrive in wetlands, and they are rich ecosystems. Freshwater wetlands are usually found at the edges of streams, rivers, ponds, or lakes. Saltwater wetlands can also be found at the edges of seas.

Types of Freshwater Wetlands

Not all wetlands are alike, as you can see in the Figure below. Wetlands are different in how wet they are and how much of the year they are soaked. Wetlands are also different in the kinds of plants that live in them. This depends mostly on the climate where the wetland is found. Types of wetlands include marshes, swamps, and bogs.

Types of Freshwater

A **marsh** is a wetland that is usually under water. It has grassy plants, such as cattails.



A **bog** is a wetland that has soggy soil. It is generally covered with mosses.



A **swamp** is a wetland that may or may not be covered with water but is always soggy. It has shrubs or trees.



Importance of Wetlands

People used to think that wetlands were useless. Many wetlands were filled in with rocks and soil to create solid land. This land was then developed with roads, golf courses, and buildings. Now we know that wetlands are very important. Laws have been passed to help protect them. Although the rate of loss has slowed, wetlands are still being destroyed today. Why are wetlands so important?

- Wetlands have great biodiversity. They provide homes or breeding sites to a huge variety of organisms. Because so much wetland area has been lost, many of these species are endangered.
- Wetlands purify water. They filter sediments and toxins from runoff before it enters rivers, lakes, and oceans.
- Wetlands slow rushing water. During hurricanes and other extreme weather, wetlands reduce the risk of floods.

Summary

- Freshwater ecosystems include: ponds, lakes, freshwater marshes, bogs, and swamps.
- A pond is a smaller body of water that usually has no outlet for water to get out.
- A lake is a larger body of water that is sometimes drained by a river or stream.
- A lake ecosystems is affected by how much light can get through the water, temperature, and water depth.
- Wetlands are lands that are wet for a significant portion of the year. Examples of wetlands include: marshes, bogs, and swamps.
- Wetlands are extremely important as an ecosystem and as a filter for pollutants.