

Welcome to the Northern River Ecosystem.

Here's a closer look at its plants!

Plants are **producers**, which are very important living members of ecosystems. We call them producers because they produce their own food through the process of **photosynthesis**. During photosynthesis, plants use energy from the sun to make food (sugar) which they use to grow, reproduce, and survive. They also make oxygen for living things to breathe.

Plants are at the bottom of the **food chain**. A food chain shows us how energy moves in an ecosystem. When animals eat plants, the plants provide the animals with energy. In this way, the energy moves up the food chain.

Besides being a source of energy and oxygen, plants support other living things in other ways. Have you ever made a tree house? Hidden behind a bush or tree in a game of hide and seek? Plants provide animals with **habitat** (that is, a place to live), **shelter** from the weather, and **protection** from predators.

In a river ecosystem, plants grow along the riverbanks and in the water too. It is hard for plants to grow in places where the water moves quickly, but where it moves more slowly you might see them on, over, or under the water.



An example of a **floating** plant that you could see on the water surface is **common duckweed**.

Duckweed is the smallest flowering plant. It gets nutrients from the water through thin string-like roots that dangle beneath it. In a river ecosystem, duckweed is eaten by beavers, Canada geese, fish, and (you guessed it!) ducks. Floating plants like duckweed also provide shade and places for fish to find food.



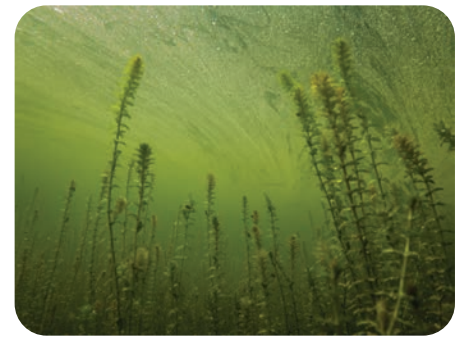
Near the edges of a river you might also see **emergent** plants, which are anchored to the bottom but stick up above the water surface.

The **broad-fruited bur-reed** is an example of an emergent plant. It has round, spiky green flowers and it grows to be about 3.3 feet or 1 meter tall. In river ecosystems, muskrats eat bur-reeds and waterfowl (birds) feed on their seeds. Emergent plants like bur-reeds provide nesting grounds for birds and other living things in the river.



If you like to swim and dive, you might see **submergent** plants that grow completely underwater. Perhaps you'll see some fish hiding among them too!

Waterweed is an example of a submergent plant. It is often used in aquariums so it may look familiar! Usually, you will only see this plant above the water in the summer when its small white flower blooms at the surface. The rest of the time, it stays fully underwater. Waterweed is a food source for muskrats, beavers, and waterfowl, including ducks. It provides habitat for fish, amphibians, and aquatic invertebrates like insects and snails.



When you are near a river, you may also notice another important producer there: algae. Just like plants, algae are photosynthetic, but they do not have roots, stems or leaves. Some, like **green algae**, group together into threads that you can see. Others, like **diatoms**, are so tiny you would usually only see them if you looked at the water under a microscope!

The river ecosystem is full of plants! Which ones do you see in ecosystems near you?

Learn more about the northern river ecosystem in



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