

# ENVIRONMENTAL Fact Sheet



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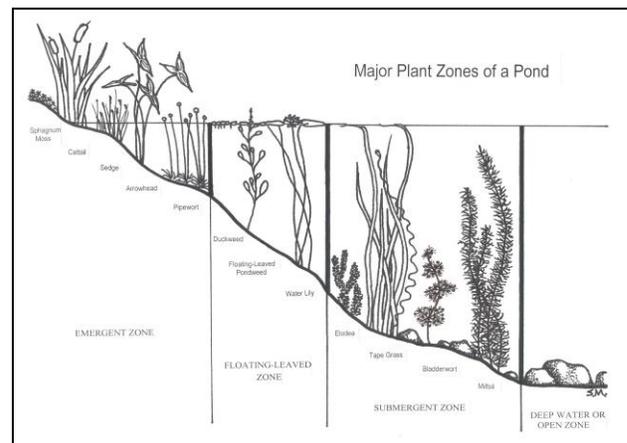
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## Aquatic Plants and Their Role in Lake Ecology

Aquatic plants are a common sight in New Hampshire's waterbodies. Many lake residents, as well as visitors to New Hampshire's numerous waterbodies, may question the importance and role of aquatic vegetation, particularly if plants are increasing or already high in abundance. One may ask whether these plants are beneficial or detrimental to the health of a lake ecosystem. This fact sheet will seek to address the most commonly asked questions and concerns regarding aquatic vegetation and their role in lake ecology.

### What Types of Aquatic Plants Live in My Lake?

There are three common categories of aquatic vegetation: emergent, submergent and floating. The first category is often the first one encountered as you approach a lake or pond, and is called the "emergent" vegetation. Emergent vegetation is one of the most common types of aquatic vegetation and it grows with its roots down in the sediment and the majority of the shoots stick up out of the water. Submergent plants are those that are wholly underwater and may be rooted or unrooted. They are usually in depths of 2-10 or more feet. Floating leaved plants are those that have leaves that float on the surface of the water and can be rooted or unrooted. Smaller plants called phytoplankton, commonly known as algae, are also present in our waterbodies and, though present in the shallows near shore, are the primary plants found in off-shore, open water areas of lakes, where it is too deep for other vegetation to root.



In most cases, all of these vegetative forms are present in a waterbody, creating a diverse aquatic habitat for a wide range of organisms. Most waterbodies have a few dozen different species of aquatic plants growing in them. All types of aquatic vegetation are beneficial to a lake ecosystem provided that they are native to New Hampshire waters.

### What Are the Benefits of Aquatic Plants?

Aquatic plants provide many of the same functions as terrestrial plants. Aquatic plants provide a food source, habitat, removal of carbon dioxide and production of oxygen through photosynthesis. Plants act as the producers in an ecosystem since they produce their own food as well as food for the consumers or animals of

that ecosystem. Aquatic vegetation provides food for tiny microscopic animals called zooplankton, fish, waterfowl, moose and other mammals, and in some cases humans.

Aquatic vegetation also acts as a habitat. Submerged vegetation provides a habitat for small fish, which may seek refuge from predators. They may also use this vegetation as spawning beds to lay their eggs. Emergent vegetation provides a habitat for certain songbirds, or wading birds that may nest at these sites or use them as feeding areas. Many insects use the leaves of floating plants to deposit eggs and to feed.

Not all aquatic plants are nuisances which require removal. Native plants provide many benefits to the lake including spawning and habitat areas for organisms in the lake, as well as fishing and wildlife viewing areas for the residents around the lake.

The wildlife that resides in and around a lake, as a result of healthy habitats, adds to its serenity. Melodies sung by songbirds, the cry of the common loon, the chirping of frogs, dazzling dragonflies, the painted turtle sunning itself on a rock, and even the majestic herons would be threatened if it weren't for the food and habitat which aquatic vegetation provide.

Aquatic plants also provide several items which humans use. Some of these include rice, cranberries, blueberries, fiber for rope, reeds for caning, herbs, medicinal compounds and aesthetic items such as flowers and colorful fruits and berries for decoration.

### **What Can Be Done to Limit Nuisance Amounts of Plant Growth?**

As a lake resident or concerned citizen, be aware of the activities that take place within the watershed. Nonpoint source pollution is the most common means of nutrient transport into a waterbody. Runoff from roads, septic systems, lawns and agriculture may bring with it much nitrogen and phosphorus and even silt and sediment. In freshwater, phosphorus is a nutrient that limits plant growth. The lower the phosphorus levels, the lower the growth. The best way to protect a waterbody is by protecting its shoreland by maintaining a healthy, well-distributed stand of trees, saplings, shrubs and groundcover, which act as a filter for nutrients and sediments. Specifically, maintaining a wooded shorefront will go a long way toward providing a canopy for shading the shoreline, and reducing the overall of direct sunlight to the lake bottom, which provides conditions for expanded plant growth.

### **Aquatic Plants Are a Natural and Beneficial Part of Your Lake**

Aquatic plants are found in most lakes and ponds in New Hampshire. They are a natural component and vital link to a healthy and diverse aquatic ecosystem. Aquatic systems are not intended to be sterile swimming pools. When aquatic plants interfere with human activities, the plants may be quickly viewed as "weeds" or nuisances that must be removed. However, complete removal of native plants is not recommended. Not only is it costly, impractical and may need a permit, it is detrimental to a healthy lake ecosystem. In addition, if the lake is cleared of its native aquatic vegetation, exotic aquatic vegetation may start to colonize the lake or the lake may shift to an algal dominated system in which clarity is low and the water is murky. This occurrence has been proven in a number of New Hampshire waterbodies where disturbances to native plant communities have take place. Maintaining a healthy and diverse population of native plant life in a waterbody is the ultimate goal.

If you suspect you have a plant that may be a state-listed invasive species, please contact the NHDES Exotic Species Program immediately at (603) 271-2248.