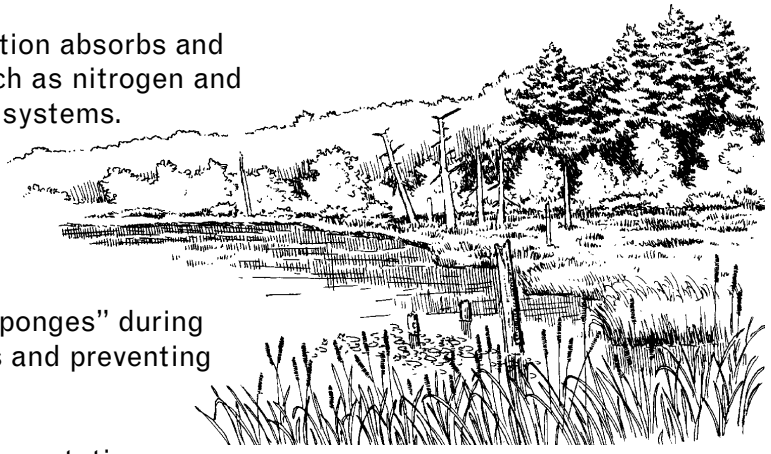
Wildlife Habitat Improvement: Wetlands and Wildlife

Introduction

New Hampshire is considered water rich compared with many states. We have more than 10,000 miles of rivers and streams, over 150,000 acres of lakes and ponds, and an estimated 200,000 acres of combined inland and tidal wetlands.

New Hampshire's wetlands range from wet meadows to bogs, tidal marshes and wooded swamps. In the past, wetlands were viewed as wastelands, but wetlands are highly productive, beneficial environments. Some examples of wetland functions and values include:

- **Fish and Wildlife Habitat** - As the most productive and diverse of wildlife habitats, wetlands provide for nearly 140 of New Hampshire's 400 plus wildlife species. Wetlands also serve as critical feeding, spawning, and brood rearing habitat for many fish species.

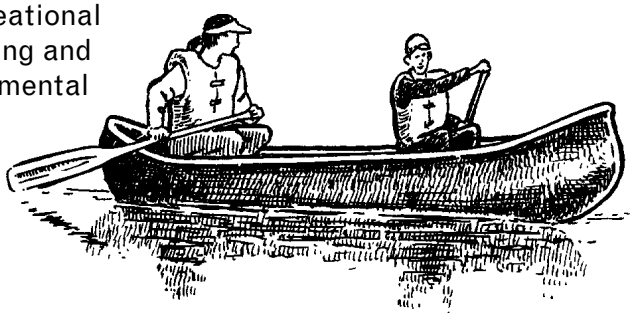


- **Natural Water Purifiers** - Wetland vegetation absorbs and temporarily retains excessive nutrients, such as nitrogen and phosphorus, from reaching adjoining water systems. Wetland plants also slow the flow of moving water, trapping sediments and minimizing impacts from erosion and storm runoff.

- **Flood Control** - Wetlands act as natural "sponges" during heavy precipitation, absorbing flood waters and preventing downstream property damage.

- **Shoreline and Erosion Control** - Wetland vegetation reduces bank and shoreline erosion by binding soil with roots and by absorbing the force of wave action.

- **Recreation and Scenery** - Wetlands are valued recreational sites for photography, swimming, fishing, boating, hiking and hunting. They are also outdoor classrooms for environmental education.



What Is A Wetland?

Wetlands are semi-aquatic lands that have water at or near the surface for an extended period during the growing season. The presence of water in wetlands promotes the growth of vegetation adapted to wet environments. Water influences the development of soil characteristics associated with wetland soils. By combining the information from all three criteria, vegetation, soils, and water, wetlands and their boundaries can be determined despite the presence or absence of visible water.

Types Of Wetlands

New Hampshire has a variety of wetland types, each with a particular value as wildlife habitat. In general, types include:

Emergent wetlands are characterized by the presence of rooted, emergent herbaceous vegetation. Some vegetation such as cattails and reeds remain present throughout the year. Other vegetation, such as pickerelweed and arrowhead, is present only during the growing season. Emergent wetlands include marshes, meadows and fens.

Marshes can be deep or shallow. They are generally covered with water during the growing season. Marshes can occupy an entire wetland or can be part of a larger wetland of another type. Cattails, pickerelweed, water lilies, sedges and rushes are typical marsh plants. Marsh wrens, rails, red-winged blackbirds, painted turtles, bullfrogs and minks live in marshes.

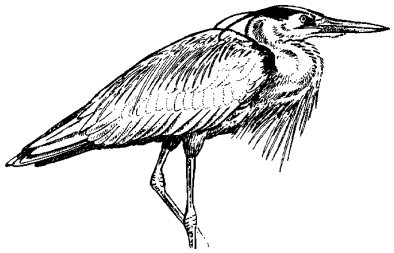
Meadows may or may not be covered with water during the growing season but the soil remains saturated. Meadows generally have some water present during the spring and fall. Meadows can occur on farmland, under utility lines, and as part of the cycle of beaver ponds. Joe-Pye-weed, boneset and soft rush are typical wet meadow plants. Leopard frogs, sedge wrens and northern harriers inhabit wet meadows.

Scrub-Shrub wetlands are dominated by shrubs and tree saplings less than 20 feet tall. These wetlands may permanently or seasonally flood and encompass an entire wetland or occur as patches within other wetland types. Common plants include buttonbush, alder, willow, dogwood and red maple. Black bear, gray tree frog, wood turtle, Blandings turtle, water snake and red fox all use scrub-shrub wetlands.

Bogs are scrub-shrub wetlands that have floating mats of peat growing outward from the shore. These wetlands contain oxygen-poor, acidic waters with organic soils. Sphagnum moss, leatherleaf, sheep laurel, black spruce, and pitcher plant are common bog plants. Because of acidity, fish and other wildlife are unable to survive in bogs. However, the four-toed salamander

is regarded as a peatland species. Other bog wildlife includes painted turtles, water shrew, pickerel frog, and many songbirds.

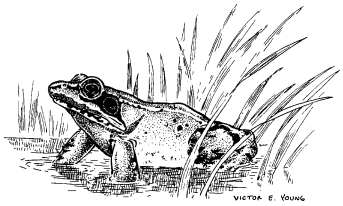
Forested Wetlands are dominated by vegetation 20 feet and taller. These wetlands usually have an overstory of trees, an understory of shrubs, and a herbaceous layer. Examples of forested wetlands are red maple swamps and Atlantic white cedar swamps.



Red maple swamp is the predominant type of forested wetland in New Hampshire. These wetlands occur in poorly drained depressions and are inundated with water part of the year. The dominant vegetation is red maple. Green-backed heron, swamp sparrow, northern water thrush, moose, and bobcat frequent this environment.

Atlantic white cedar swamps are found primarily in coastal regions. The dominant vegetation is Atlantic white cedar. These wetlands often occur in old kettle holes where the vegetation grows best on peat or muck soils over a sandy deposit. Mink, deer, star-nosed mole, and many songbirds inhabit this wetland type.

Unique Wetlands and Wetland Features



Vernal Pools are small wetland pools that hold water for a short period in early spring. They are generally found in small depressions in woodlands. A rich food supply and lack of vertebrate predators make vernal pools an important habitat for early breeding amphibians such as wood frogs, and spotted and blue-spotted salamanders. Vernal pools are also important habitat for the rare Blandings and spotted turtles.

Precautions should be taken to reduce impacts and preserve these special environments. If there is no water present, vernal pools can be recognized by water marks on trees, by matted leaves, or a depression in the land. Log landings, wood roads, and trails shouldn't be located through vernal pools. Maintain shade around the pool by leaving a buffer of uncut trees. Slash should be kept out of the pool, although it's valuable to leave limbs that were naturally there.

Springs and Seeps occur when the water table intersects with the surface. Seeps are valuable to many wildlife as they remain unfrozen in winter and provide the first green vegetation in early spring. Plants typically found near seeps are sedges, skunk cabbage and goldthread. Wild turkey, northern dusky and spring salamanders, veery, and wood thrush all use seeps. Similar to vernal pools, these wetlands should be maintained as wildlife habitat.

Riparian areas are the vegetated areas along a wetland, stream, river or other water body. These areas moderate stream flow, stabilize river banks, and provide shade to stabilize soil and water temperatures. Riparian areas are especially valuable habitat for many wildlife species including frogs, turtles, snakes, minks, otters, and birds.

Riparian areas encompass adjacent wetland including springs, seeps, and highly erodible soils. However, the width of a designated riparian area varies depending on soil, topography, type of vegetation, and size of water body.

Features of riparian areas that benefit wildlife include multiple layers of vegetation, high numbers of snag and cavity trees, and the presence of water. Riparian areas also function as travel corridors for animals moving from one habitat to another.

Forest management within riparian areas should be limited to small scale operations using long rotations. Logging roads and skid trails should be 150 to 200 feet away from the water edge, though this can vary due to steepness of slopes.

Enhancing Habitat For Wildlife in Freshwater Wetlands

Often, the best strategy for managing wetlands is to conserve and protect what you already have. However, wetland habitats can be enhanced to attract a wider variety of wildlife.

When planning, evaluate what you have, look beyond your property to get a broader landscape scale perspective, designate areas that shouldn't be impacted by cutting and plan the appropriate cutting strategy. Help can be obtained by contacting your local UNH Cooperative Extension office.

Vegetative Management

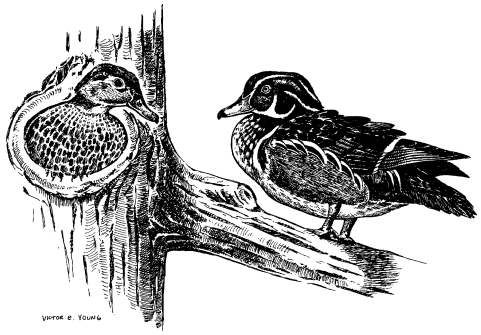
Vegetative management is the most practical way to enhance wetland habitats. Vegetative management creates or enhances vegetative layers, both horizontally and vertically. Numerous heights and layers of vegetation appeal to a wider variety of wildlife.

Shrubby borders along wetlands enhance sites for nesting, and provide cover from predation. Cutting back overtopping trees and releasing fruiting shrubs such as winterberry, blueberry, dogwood, and viburnum provides a shrubby border and a valuable food source.

Small patch cuts in or near wetlands can make an area more attractive to a variety of wildlife. Patch cuts improve food supplies and cover for wildlife such as beaver, deer, moose and snowshoe hare.

Planting should be a last resort to vegetative management if there are no existing shrubs within or next to the wetland. If planting is the only option, it's important to remember the vegetation chosen for planting should match the characteristics of the site and be native to the area.

Natural Cavities and Artificial Nest Boxes

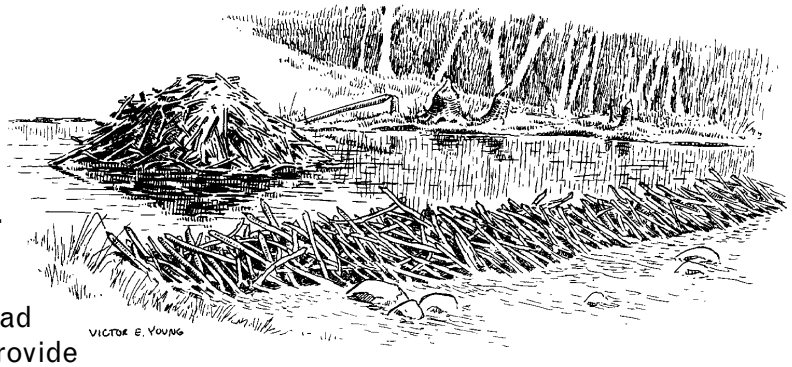


Retaining live and standing dead trees with a diversity of cavity sizes provides a special habitat for more than 40 species of wildlife. Chickadees and tree swallow use small cavities in stems less than six inches diameter at breast height (dbh). Screech owls, wood ducks, and various woodpeckers use cavities in stems from 12 to 18 inches dbh. Pileated woodpeckers, fishers and raccoons benefit from the larger cavities found in stems more than 18 inches dbh.

If your property lacks cavity trees, artificial nest boxes can provide a substitute, set in a wetland or in the woods near a wetland. The wood duck is one wildlife species that benefits from installation of nest boxes.

Wood duck nest boxes should be placed four to five feet above the surface of the water and installed in groups of two to four per acre. Because females won't gather their own nesting materials, three to four inches of wood chips or wood shavings, not sawdust, should be added to the nest box. It's essential to add some form of predator guard. Boxes must be maintained with an annual cleaning and change of wood chips before the ducks arrive in early spring.

Beaver Control Structures



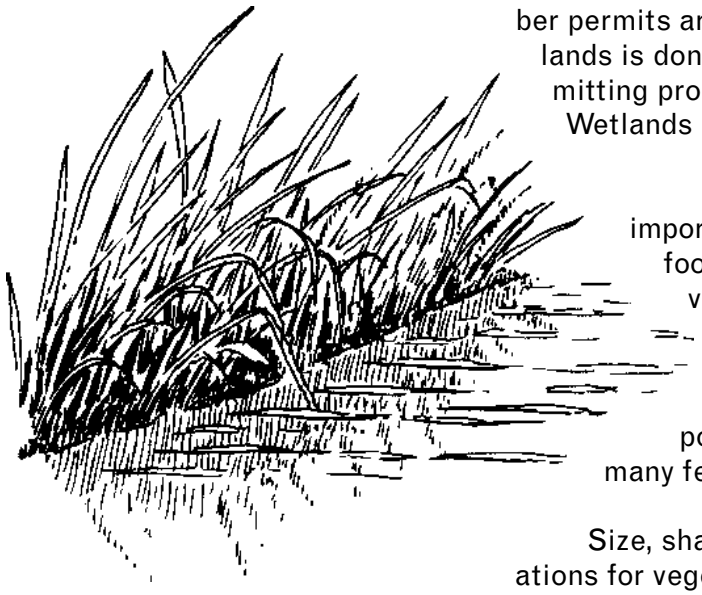
Beaver ponds are highly valued wildlife habitats. They attract mink, raccoons, and herons who hunt frogs and other prey along the edge. Migratory birds rest, and some nest around the edges of beaver ponds. Moose browse on the sodium rich aquatic plants. Fish, reptiles and amphibians spend winters in beaver ponds. Even the flooded dead trees attract insects and woodpeckers and provide nest sites for herons, flycatchers and swallows.

Once beavers eliminate all suitable food, they abandon their site. The dam slowly disintegrates, and with time the pond fills with vegetation, creating a rich meadow. White-tailed deer, ruffed grouse, red-winged blackbird and other wildlife benefit from the meadow habitat. Eventually, the meadow environment fills with shrubs and trees. The changes in a habitat through each successional stage ensure opportunities for other wildlife.

Though beaver ponds are beneficial to wildlife, when beavers build dams, the rise in water level can flood properties and cause damage. Contact your local UNH Cooperative Extension office for more information on beavers and flood control.

Changing Wetland Habitat

Often there's a desire to construct a wetland, usually in the form of a pond. Constructed ponds often have less wildlife habitat value than an existing wetland that becomes disturbed when creating a pond. Consider the wildlife values of the existing wetland area before creating a different wetland type. Also, remember permits are required before any dredging or filling of wetlands is done. Information on wetland restrictions and the permitting process can be obtained from the New Hampshire Wetlands Bureau in Concord.



Water depth is important to plant growth, and so important to the animals who depend on the plants for food and cover. Shallow waters support aquatic vegetation that provides food, cover and nesting sites. On the other hand, deep water is a consideration to many fish species and is especially important during periods of low water levels. A pond that varies in depth from several inches to many feet deep provides for a greater variety of wildlife.

Size, shape, and topography of pond edges are considerations for vegetative diversity. An irregularly shaped pond provides more edge space, contributing to a greater diversity of both aquatic and terrestrial plants. Construction of an island within a pond provides more protection and nest site areas.

To enhance your pond further, placing logs and rocks inside the pond edge provides loafing sites for toads, turtles and snakes. Adding brush creates habitats for amphibians and invertebrates.

Constructed ponds are subject to the same environmental fluctuations as natural wetland areas. Consideration should be given to water level control capabilities as well as flood control drains to ensure water levels are maintained.

This publication is one of a series on Wildlife Habitat Improvement. More information and additional help can be obtained through your local UNH Cooperative Extension office.

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