

# 4.2 WETLANDS

## BACKGROUND

**Wetlands are ecologically important and should receive special consideration to protect water quality, wildlife habitat, and aesthetic values.**

Wetlands protect water quality, help control floods, recharge groundwater, and provide recreational and scenic opportunities. Wetlands are among the most critical parts of any forest ecosystem. Forested wetlands can include economically important trees as well as rare plants and natural communities. Forty-seven rare plants grow in forested wetlands in New Hampshire, including 31 listed as endangered. Riparian areas and wetlands are used by more than 90 percent of the region's wildlife species and are the preferred habitat for more than 40 percent of them.

Wetlands are identified by hydrological features, soils, and vegetation. Wetland hydrological indicators include the presence of water at or near the soil surface, swollen tree trunks, drift lines, and water or silt-stained leaves or plant stems. All wetlands have saturated soil for at least part of the growing season, and all support vegetation adapted to wet conditions.

Wetlands may be forested (such as red maple or cedar swamps) or nonforested (such as marshes, wet meadows, scrub-shrub wetlands, peatlands or beaver-created meadows). They can have open water. Shrub wetlands are dominated by shrubs and saplings and may be in a transitional state between an open wetland and a forested one, or they may remain shrubby. They include small or ephemeral areas such as seeps and vernal pools (7.2 Seeps and 7.3 Vernal Pools). Riparian areas are associated with wetlands and surface waters (4.3 Forest Management in Riparian Areas). *Best Management Practices for Erosion Control on Timber Harvesting Operations in New Hampshire* includes a basic guide to wetland identification.

Wetlands and the adjacent uplands have a long history of use and alteration by humans. Combined pressures, along with their ecological significance, underscore the importance of properly managing those that aren't yet heavily impacted and restoring those that are currently degraded. Wetlands protection begins with careful road and skid-trail layout to minimize wetland and surface-water crossings. The timing and silvicultural methods used in wetlands and adjacent uplands also are key.

## OBJECTIVE

**Maintain the important functions and values of wetlands.**

## CONSIDERATIONS

- The N.H. Dept. of Environmental Services (NHDES), pursuant to RSA 482-A, regulates activities in wetlands and the N.H. Dept.



Illustration by Victor E. Young, courtesy of UNH Cooperative Extension

of Resources and Economic Development, pursuant to RSA 227-J, regulates timber trespass, basal area and slash. Together they regulate forestry practices in wetlands.

- Municipalities may further identify wetlands of significant value worthy of extra protection because of their uniqueness, fragility, or unspoiled character. These wetlands and the 100-foot buffer adjacent to the wetland are designated as “prime wetlands” and are afforded special protection under RSA 482-A.
- Guidelines for harvesting in and adjacent to wetlands and surface waters are known as best management practices, or BMPs. These guidelines are found in *Best Management Practices for Erosion Control on Timber Harvesting Operations in New Hampshire* by the N.H. Dept. of Resources and Economic Development, Division of Forests and Lands. Consult the latest version before harvesting timber.
- Proper planning reduces the number, width, and length of surface-water and wetland crossings, and also saves money.
- Use of corduroy or tree tops minimizes impact to the ground. In wetlands these materials are considered fill and require a permit from NHDES. However, corduroy can be left in place where the stream channel isn't defined.
- Excessive rutting in wetlands affects the surface hydrology, severs plant roots, and can cause erosion.
- Identification of forested wetland boundaries may be difficult.
- Activities of others throughout the watershed may affect the integrity of wetlands.
- Forested wetlands may be highly productive. Limiting harvesting in wetlands and upland areas bordering them may entail an economic loss.
- Some wetlands are rare, some are designated exemplary natural communities, and some wetlands are more sensitive to disturbance than others. Look to the N.H. Natural Heritage Bureau (NHNHB) as a source for determining whether a wetland is rare, an exemplary natural community, or susceptible to disturbance.
- Wetlands can be surrounded by productive upland forests and may be affected by cutting along the wetland edge. Uplands bordering wetlands filter run-off, capture pollutants before they enter the wetland, and are critical to the survival of wetland-dependent wildlife.
- A wetland buffer, as used in this chapter, is the vegetated upland area adjacent to a wetland. Deciding on the width and management actions in wetland buffers depends on what functions and values you want to preserve. It is difficult to generalize about wetland buffer widths because of the many types of wetlands and the diversity of wildlife.
- Different wildlife species require different widths for breeding, nesting, and overwintering. Leaving the understory adjacent to wetlands intact will provide many wildlife and water-quality services. Timber harvesting within a wetland buffer can provide benefits to wildlife habitat (6.8 Beaver-Created Openings). The size of a buffer is influenced by, among other things, the type of wetland, steepness of slope surrounding the wetland, the erodibility of soils, the size and type of vegetation within the wetland, and the landowner's objectives.
- Landowners may have wildlife, ecological and silvicultural reasons to harvest in wetlands.

### RECOMMENDED PRACTICES

- ✓ Survey the property (ideally in early spring) and identify important hydrologic features such as streams, ponds and wetlands including seeps and vernal pools.
- ✓ Consult a natural resource professional to help identify wetlands and determine what permit(s)

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you need.

- ✓ Check with the NHDES or the city or town before timber harvesting in or within 100 feet of prime wetlands.
- ✓ Protect surface waters and wetlands by appropriately locating roads before harvesting begins and applying other BMPs.
- ✓ When logging in and near forested wetlands, avoid rutting and other damage by cutting when the ground is frozen or sufficiently dry to support the type of equipment used.
- ✓ Before harvesting within or near rare or highly sensitive wetlands, consult with the NHNHBB for suggested management recommendations specific to the wetland type and landscape context.
- ✓ Designate a wetland buffer adjacent to forested and nonforested wetlands. Include steep slopes, highly erodible soils, known threatened and endangered species habitat, rare plants and exemplary natural communities, and heron, eagle or osprey nests. A buffer's effectiveness increases with its width. Sensitive wetlands require larger areas of upland to reduce the risk of disturbance.
- ✓ Leave the area closest to the stream, pond, or wetland unharvested to provide increased protection to aquatic habitats and allow a reliable long-term supply of cavity trees, snags, and downed woody material. Larger zones will increase the protection of nontimber values, however, no-harvest zones may not always align with ecological or silvicultural objectives.
- ✓ Retain trees with cavities, standing dead trees, downed logs, and large supracanopy trees.

## CROSS REFERENCES

2.2 Forest Structure; 2.3 Regeneration Methods; 3.5 Soil Productivity; 4.1 Water Quality; 4.3 Forest Management in Riparian Areas; 4.4 Stream Crossings and Habitat; 5.2 Invasive Plants; 6.8 Beaver-Created Openings; 6.9 Deer Wintering Areas; 6.10 Woodland Raptor Nest Sites; 6.11 Bald Eagle Winter Roosts; 6.12 Heron Colonies; 6.13 Wildlife Species of Greatest Conservation Need; 7.1 Natural Communities and Protected Plants; 7.2 Seeps; 7.3 Vernal Pools.

## ADDITIONAL INFORMATION

Chase, V., L. Deming, and F. Latawiec. 1995. *Buffers for Wetlands and Surface Waters: A Guidebook for New Hampshire Municipalities*. Audubon Society of New Hampshire, Concord, N.H. 80 p.

Elliott, C.A. 1988. *A Forester's Guide to Managing Wildlife Habitats in Maine*. University of Maine Cooperative Extension Service, Orono, Maine.

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RSA 227-J. *Timber Harvesting*. <http://www.gencourt.state.nh.us/rsa/html/xix-a/227-j/227-j-mrg.htm> Accessed May 27, 2010.

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