Hardwood-Coniferous Swamp Wetlands
Type 7
Hardwood-coniferous swamp wetlands support diverse plant and animal species because they serve as migration corridors. Wildlife species include wood ducks, barred owls, herons, egrets and a variety of songbirds. Pools within the forest may provide habitat for amphibians and invertebrates. Adjoining areas of open sand may provide habitat for reptiles. During high water periods, these forests even provide habitat for fish. Wooded swamps are extremely important for floodwater storage. Swamp wetlands are important for stormwater and floodwater retention. Diking of wooded swamps to allow development or agricultural use can increase both upstream and downstream flooding.

Vegetation

Hardwood-coniferous swamp wetland vegetation includes tamarack, white cedar, black spruce, balsam fir, red maple, and black ash. Northern evergreen swamps usually have a thick ground covering of mosses. Deciduous swamps frequently support beds of duckweeds, smartweeds, and other herbs.

- **Submergent and floating** – vegetation requiring complete immersion, and are rooted in the bottom or free floating with majority of the leaves floating on the surface;
- **Emergent** – rooted vegetation where most of the plant material is above the water surface; water levels must fluctuate for proper growth and seed germination (usually during drawdown in late summer);
- **Herbs and forbs** – broad-leaved plants that typically grow either in the shallow water edges of wetlands, or ponds, and streams;
- **Shrub** – woody vegetation that is less than 20 feet tall with single or multiple stems; species can be broad-leaved deciduous, or broad-leaved evergreen;
- **Tree** – woody vegetation that dominates forested wetlands and is greater than 20 feet tall.

Hardwood-coniferous swamp wetlands are vegetatively productive because nutrients are periodically added to the system by flooding.

What is a Wetland?

Wetlands are among the most productive ecosystems in the world and a source of support for all of the major groups of biological organisms.

By most standards, a wetland has mostly wet soil, is saturated with water either above or just below the surface, and is covered with plants that have adapted to wet conditions. A wetland is a term to describe a wide variety of wet environments from a slight depression, which holds water after spring runoff, to a forested swamp with peat soils. The Identification of wetlands can be difficult and it may be necessary for the landowner to hire a consultant to identify wetland boundaries. A consultant can also help with wetland replacement and permitting requirements.

Characteristics

Hardwood-coniferous swamp wetlands are forested wetlands dominated by mature conifers and/or lowland hardwood trees. They are usually associated with ancient lake basins and former riverine oxbows. These swamps are distinguished by whether the dominant trees are deciduous, hardwood or coniferous.

The soil in hardwood-coniferous swamp wetlands is waterlogged at least to within a few inches of the surface during the growing season and is often covered with as much as one foot of water. These wetlands occur mostly along sluggish streams, on old riverine oxbows, on floodplains, on flat uplands, and in very shallow lake basins.

Sequencing

Prior to any draining, filling or excavating in a wetland, proposed impacts to nonexempt wetlands must undergo a process known as sequencing. Sequencing is a step-by-step process that must be followed for clearly defined projects that intend to impact wetlands and reviewed to assess the efforts made by the applicant to follow these principles: avoidance, minimization, reduction or elimination of impacts over time, and replacement. Therefore, a Local Government Unit (LGU) may not consider or approve a wetland replacement plan unless the LGU finds that the applicant has demonstrated the activity impacting the wetlands has complied with all of the following principals in ascending order:

1. **Avoiding Impacts**
   
   The first priority is to avoid impact to a wetland. If a project can be redesigned or relocated to eliminate any wetland impact, you must select this option.

2. **Minimization**

   If St. Louis County determines that wetland impacts are unavoidable, you must then demonstrate that the project minimizes wetland impacts to the greatest extent possible. The county will determine if sufficient effort was made to minimize impacts by considering:
   
   - The purpose of the project
   - Size requirements of the project
   - Location
   - Sensitivity of the site design to the natural features of the site, including topography, hydrology, and existing vegetation
• The function and value of the wetlands on the site
• Applicants efforts to show alternatives to modify the size and scope of the project

3. Rectification
There may be times that a wetland impact is not possible to avoid, but the impact either is temporary or results in no net loss of wetlands. Temporary impacts may be approved by the county if the activity is completed and the physical characteristics of the wetland are restored within six months from the start of the activity. An example would be the construction of a temporary road through a wetland that is needed for a short term project. Once the project is completed, the road is removed. A performance bond would need to be provided to the county for an amount sufficient to cover the cost of restoring the wetland to pre-project conditions.

4. Reduction or Elimination of Impacts Over Time
Further impacts from draining or filling must be reduced or eliminated by managing the project in a manner that preserves remaining wetland functions and values. The county must require the applicants to implement Best Management Practices (i.e. silt fences) to protect wetland functions and values.

5. Replacement
Replacement wetlands must replace the functions and values that are lost from a wetland that is drained or filled. Replacement of wetland functions and values may occur at more than one location.

Conservation Level
In nonshoreland areas, hardwood-coniferous swamp wetlands are in the lowest protection level and have impacts limited to 10,000 square feet. To the extent that a local shoreland management ordinance is more restrictive than 10,000 square feet, the local shoreland ordinance applies. In shoreland areas, the impact is limited to 1,000 square feet.

Typical Impacts
Filling: adding any material to change the bottom level of a wetland;
Draining: removing the water from a wetland by ditching, tilling, pumping, or other such techniques;
Excavating: dredging and removing soil and vegetation from a wetland;
Diverting water: preventing the flow of water into a wetland by removing water upstream, lowering lake levels, or lowering groundwater tables;
Clearing: removing vegetation by digging or scraping;
Flooding: raising water levels, either behind dams or by pumping or otherwise channeling water into a wetland so that water levels are too high for wetland vegetation and animals to survive (i.e., converting a wetland to a lake or pond);
Diverting or withholding sediment: trapping sediment through the construction of dams, channelization or other such projects that inhibit the regeneration of wetlands in natural areas of deposition, such as deltas;
Shading: placing pile supported platforms or bridges over wetlands, causing vegetation to die;
Conducting activities in adjacent areas: disrupting the interactions between wetlands and adjacent land areas, or indirectly impacting wetlands through activities at adjoining sites.

Do’s
Rather than draining or filling wetlands, seek compatible uses involving minimal wetland alteration, such as waterfowl production, fur harvest, hay and forage, wild rice production, hunting and trapping leases, and selective timber harvest.
Maintain wetlands and adjacent buffer strips as open space.
Encourage neighbors, developers, and state and local governments to protect the function and value of wetlands in your watershed.
Select upland rather than wetlands sites for development projects and avoid wetland alteration or degradation during project construction.
After working with primary contacts, try these agencies for additional technical assistance.

**St. Louis County**

Planning and Community Development

Northland Office Bldg
307 1st St. S.
Virginia, MN 55792
Phone: 218-749-0633
800-450-9777
Fax: 218-749-0620

www.stlouiscountymn.gov

**Soil & Water Conservation District**

North St. Louis or South St. Louis

North St. Louis County Soil and Water Conservation District (SWCD)

US Bank Place
230 1st St. S. Ste 104B
Virginia, MN 55792
Phone: 218-749-2000
Fax: 218-749-2004

www.nlswwcd.org

South St. Louis County Soil and Water Conservation District (SWCD)

215 N. 1st Ave. E.
Duluth, MN 55802
Phone: 218-723-4867
Fax: 218-723-4731

www.southstlouisswcd.org

**Fond Du Lac Reservation Office of Water Protection**

Fond du Lac Reservation
1720 Big Lake Rd.
Cloquet, MN 55720
Phone: 218-878-8022
Fax: 218-879-4854

Administers wetland regulations on all lands on the Fond du Lac Reservation and provides technical and educational resources to help protect and enhance water quality.

**U.S. Army Corps of Engineers**

US Army Corps of Engineers

1554 Hwy. 2, Ste 2
Two Harbors, MN 55616
218-834-6630

www.mvp.usace.army.mil

Regulates deposition of fill or dredge material in waters of the U.S. or adjacent wetlands through section 404 of the Clean Water Act and section 10 of the Rivers Water Act of 1899.

**State of Minnesota Board of Water & Soil Resources (BWSR)**

BWSR

394 S. Lake Ave. Ste 403
Duluth, MN 55802
Phone: 218-723-4923
Fax: 218-723-4794

www.bwsr.state.mn.us

State Administration of the Minnesota Wetland Conservation Act

**State of Minnesota Department of Natural Resources (DNR) Waters Division**

DNR Waters

Duluth Metro
1568 Hwy. 2
Two Harbors, MN 55616
Phone: 218-834-1440
Fax: 218-834-0639

Rest of St. Louis County
7979 Hwy. 37
Eveleth, MN 55734
Phone: 218-744-7450
Fax: 218-744-7451

www.dnr.state.mn.us

Describes deposition of fill or dredge material in waters of the U.S. or adjacent wetlands through section 404 of the Clean Water Act and section 10 of the Rivers Water Act of 1899.

Regulates Public Waters Permits for all work within public water wetlands of types 3, 4 and 5 that are 10 or more acres in size or 2.5 acres in incorporated areas.

**About the Guide**

This guide is designed to give general information about wetland regulations, identifying wetland areas, common species, and impacts to wetland areas for residents, contractors, and professionals associated with wetland property.

St. Louis County has over 1,000 lakes, countless rivers and streams, and hundreds of thousands of acres of wetlands that provide recreational opportunities to both residents and tourists.

**Obtaining the Guide**

Copies of this guide are available free to all residents. Requests for a large number of guides should be directed to St. Louis County Planning and Community Development and may be charged a minimal fee to cover printing and production costs. All requests should be directed to:

218-725-5000
Toll Free Minnesota 800-450-9777
www.stlouiscountymn.gov

St. Louis County Planning and Community Development

100 Missabe Building
227 West First Street
Duluth, MN 55802

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**Information Updates**

St. Louis County strives to maintain the latest information available. If any information in this guide is incorrect or any additional information is needed, please contact St. Louis County Planning and Community Development, 218-725-5000.