

# Hardwood-Coniferous Swamp Wetlands Type 7



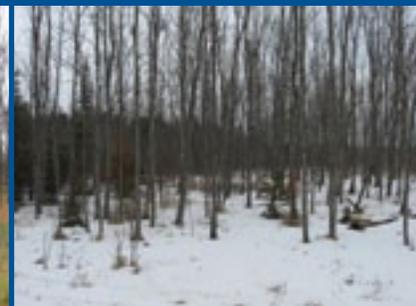
Spring



Summer



Fall



Winter

## Function and Values

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.



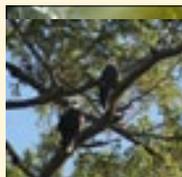
Water Quality



Flood Control



Erosion Control



Habitat

## 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.



Tamarack



White Cedar



Black Spruce



Black Ash



Lake Sedge



Ostrich Fern



Marsh Marigold



Jewelweed

## 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**

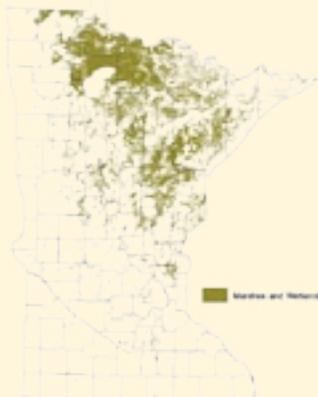
Replacement wetlands must replace the functions and values that are lost from a wetland that is drained or filled. Replacement of wetland functions and values may occur at more than one location.

**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.

**Wetland Areas in Minnesota**

This map illustrates the concentrated amount of wetlands present in northern Minnesota when compared to the amount of wetlands throughout the remainder of the state emphasizing the need for wetland conservation.



**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.



**Don'ts**



# St. Louis County Contact Information

## Wetland Administration, Technical Assistance & Enforcement

### Primary Contact for all Wetlands Issues

Contact these agencies **FIRST** if you suspect wetlands exist, to request a review, or obtain necessary permits for projects that may affect wetlands.

After working with primary contacts, try these agencies for additional technical assistance.

#### St. Louis County Planning and Community Development



Local administrators of the Minnesota Wetland Conservation Act. Provides plan and site reviews for wetland determinations, delineations, banking and replacement. Coordinates enforcement with DNR.

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](http://www.stlouiscountymn.gov)

#### Soil & Water Conservation District North St. Louis or South St. Louis

Provides technical, educational, and financial resources to land occupiers in order to implement practices and projects that preserve, protect, and enhance water quality and other natural resources.

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.nslswcd.org](http://www.nslswcd.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](http://www.southstlouisswcd.org)

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

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.

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

#### U.S. Army Corps of Engineers



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.

U.S. Army  
Corps of Engineers  
1554 Hwy. 2, Ste 2  
Two Harbors, MN 55616  
218-834-6630

[www.mvp.usace.army.mil](http://www.mvp.usace.army.mil)

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



State Administration of the Minnesota Wetland Conservation Act

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

[www.bwsr.state.mn.us](http://www.bwsr.state.mn.us)

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



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.

DNR Waters  
Duluth Metro  
1568 Hwy. 2  
Two Harbors, MN 55616  
Phone: 218-834-1440  
Fax: 218-834-6639

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

[www.dnr.state.mn.us](http://www.dnr.state.mn.us)

### 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](http://www.stlouiscountymn.gov)

St. Louis County  
Planning and Community Development  
100 Missabe Building  
227 West First Street  
Duluth, MN 55802



### Publishing Information

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The Wetland Guide was developed and published by St. Louis County Planning and Community Development Department.

### 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.