Lake of the Woods County Wetland Plan

Prepared by the following Partners:

Headwaters Regional Development Commission and
Lake of the Woods Soil and Water Conservation District

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Introduction

After several years of experience with the implementation of State Wetland Conservation Act regulations, the Lake of the Woods County Board decided in 2001 to develop a local wetland ordinance that is a better fit for the County's unique wetland resources. Subsequently, the Soil and Water Conservation District applied for and received funding from the Minnesota Board of Water and Soil Resources (BWSR) to undertake a wetland planning process. The Headwaters Regional Development Commission was asked to assist the SWCD with plan and ordinance development.

The purpose of the planning process was to develop a plan and local ordinance that reflects local values and addresses the specific wetland protection needs of the County. The process began during the fall of 2001, and was completed December 2002.

Two committees were used during this planning process. The Technical Committee included several local, state and federal staff familiar with wetland issues and, more specifically, wetland issues in Lake of the Woods County. The Policy Committee consisted of individuals that represented a broad range of interest groups within Lake of the Woods County. The membership of both groups can be found below.

Policy Committee

Jeff Hrubes (non-voting)
Pat Lavalla
George Taylor
Les Lemm (non-voting)
Gib Erickson
Mike Schulz
Scott Pieper
Todd Beckel
Ed Arneson
Jenny Moorman
Buck Nordlof
Russ Hansen
Rex Block

Technical Committee

Dan Thul, DNR
Steve Sindelar, Co. Env. Services
Jeff Hrubes, BWSR
Mike Larson, DNR
Les Lemm, Lake of the Woods SWCD
Bruce Hasbargen, Co. Eng.
Jeff Koschak, Corp. of Eng.
Brent Birkeland, Co. MFS/GIS
Nolan Baratono, PCA
Dave Thomas, DNR
Jeff Dettrich, DNR

During the first half of the process the Technical Committee met once, and subsequently communicated via e-mail and telephone. Through this process the Technical Committee analyzed wetland functions using MNRAM. The result of this process was a completed functional assessment of wetlands for the County.

Beginning in September, 2001, and continuing until December, 2002, the Policy Committee met regularly every six to eight weeks. The first series of meetings were designed to provide background information on the wetland resource and existing statutory framework.

At subsequent meetings, the Policy Committee reviewed the functional assessment and assigned values for the identified different types of wetland functions. The last two meetings of the process were used to identify wetland management categories and to develop wetland management policies for wetlands in each category.

An ordinance was created in late summer of 2002 that reflected these policy decisions and the plan and draft ordinance were forwarded to the Lake of the Woods County Board in October 2002.

This Plan contains three sections in addition to this introduction. The first provides an inventory of the wetland resources in the Lake of the Woods County. The second section reviews the decision framework development stage, which includes the completion of a functional assessment, the identification of locally-defined wetland values and the creation of the wetland management categories. The second section highlights the wetland policies that have been developed, including changes in the exemptions and sequencing sections of the Wetland Conservation Act, and the addition of replacement options.

I. Wetland Inventory

Table 1 and Map 1 show the distribution of wetlands in Lake of the Woods County by location and type (Source: National Wetland Inventory). Approximately 181,500 acres, or almost 76% of the entire County land area is considered wetland of some type. Predominant wetland types are Types 6, 7, and 8, and to a lesser extent, Type 2. Most upland is located north of T.H. 11, and south along T.H. 72.

Table 1
Wetlands by Type

Type	Sum Acres	Percentage
Type 1 – Seasonally Flooded	1435	.60
Type 2 – Inland Fresh Meadows	14454	6.05
Type 3 – Inland Shallow Fresh Marshes	878	.37
Type 4 – Inland Deep Fresh Marshes	183	.08
Type 5 – Inland Open Fresh Water	135	.06
Type 6 – Shrub Swamps	51539	21.57
Type 7 – Wooded Swamps	50044	20.94
Type 8 – Bogs	62821	26.29
Upland	57500	24.06
TOTALS	**238992**	**100**

II. Developing the Decision Framework

Functional Assessment

As indicated previously, a Technical Committee met once and communicated several other times via e-mail and phone to develop a wetland functional assessment. Committee membership can be found in the introduction.

The Minnesota Routine Assessment Method for evaluating wetland functions (MNRAM) was used as the assessment tool. It was agreed that the performance of seven wetland functions (shoreland protection, water quality, flood attenuation, commercial and recreational uses, fisheries, ground water interaction, and wildlife) would be assessed and rated on a one-two-three scale. Wetlands having a low performance rating for a particular function would be given a one, with three representing the highest performance rating for a wetland providing a particular function. The results of this assessment can be found on the following page.

The function performance ratings are based on "reference wetlands" (i.e. an undisturbed wetland that is a representative of those that would be found in the setting in question). The performance ratings are from one (low performance) to three (high performance).

Locally Defined Wetland Values

The public can place more value on some functions than others, independent of the functional performance rating of the wetland. As part of the overall decision making framework, the County's Policy Committee identified the value of different wetland functions.

The following table shows the results of the rating process. Each Policy Committee member was requested to rank order the wetland functions. Their rank is shown in the first five columns of the chart listed below. The total number of points listed in the 'total' column is a reflection of the aggregate of these five rankings.

Table 2
Assigned Local Values to Lake of the Woods Wetland Functions

Wetland Function	1	2	3	4	5	Total	Model Value
Shoreland Protection	7	7	6	5	6	31	1.2
Water Quality	5	6	5	7	7	30	1.2
Flood Attenuation	1	1	1	1	1	5	.8
Commercial and Recreation Uses	6	3	3	4	3	19	1
Fisheries	4	4	7	3	5	23	1
Groundwater Interaction	2	2	2	2	2	10	.8
Wildlife Habitat	3	5	4	6	4	22	1

Shoreland protection, water quality, fisheries, and wildlife habitat were seen as the wetland functions of most value to local citizens. These were followed in decending order by the wetland functions of commercial and recreational uses, ground water interaction, and flood attenuation.

Creation of Wetland Categories

After some discussion, it was agreed by the Policy Committee that the wetland policies ought to be devised for three distinct wetland categories. The process of determining which category each wetland falls into is described below.

For a wetland under analysis, a score is derived for each function based on the functional assessment contained in this document. Then, that functional score is weighted by multiplying the model value that was identified in Table 2. Finally, the total score is derived by adding each of the weighted functional assessment numbers.

The following example shows the results of this process for one particular wetland.

Table 3
Example of Wetland Ranking Process

Example: Wetland X

Function	Function Score	x	Value Weight	=	Score
1. Shoreland Protection	3		1.2		3.6
2. Water Quality	2		1.2		2.4
3. Flood Attenuation	1		.8		.8
4. Commercial and Rec. Use	1		1		1
5. Fisheries	3		1		3
6. Ground Water Interaction	1		.8		.8
7. Wildlife	2		1		2
				Total	11.6

In this hypothetical example, Wetland X has a total score of 11.6, derived from the addition of each weighted function rating.

Categories were then created by identifying two cut off points that delineated category one, category two, and category three wetlands. These cut points fell between the aggregate rankings of 10 and 11, and 15 and 16. Hence, a weighted functional assessment score of greater than 15 would place a wetland in category one; a score of 13 would place a wetland in category two; and a rating of less than 11 would place a wetland in category three.

These cut points were identified through a process that analyzed over three dozen real and hypothetical wetlands. The numerical score for each was calculated, and staff looked for natural break points that could serve as delineations for the three categories. The break points that have been identified were seen as being logical delineators for the three categories.

Table 4
Functional Assessment for Lake of the Woods County

Functional Assessment	Rating
1. Shoreland Protection	3 - All wetlands below USGS elevation 1065, and all wetlands within 300' of protected waters 2 - All other wetlands in the area 300' to 1320' from protected waters that have a surficial connection to public waters 1 - All other wetlands
2. Water Quality	3 - All wetlands within 300' of public waters or public drainage systems, or within 500' of the Rapid River 2 - All other wetlands with 1320' of public waters or public drainage systems 1 - All other wetlands
3. Flood Attenuation	3 - All wetlands below USGS elevation 1065 2 - All isolated wetlands not included above 1 - All other wetlands
4. Commercial and Recreational Uses	3 - Wetlands supporting lowland conifer production 2 - All type 7 wetlands and wooded type 1 wetlands not included above 1 - All other wetlands
5. Fisheries	3 - All wetlands below USGS elevation 1065, or within 500' of the Rapid River, or within 300' of all other protected waters or within 1320' from any designated trout stream 2 - All other wetlands within 1320' of protected waters 1 - All other wetlands
6. Groundwater Interaction	3 - Wetland basins in outwash plains and other generally sandy land forms 2 - Basins in transitional landforms containing loams/loamy sands 1 - All other wetlands
7. Wildlife	3 - Types 1,3,4,5 and type 7 black ash and coniferous excluding tamarack 2 - Types 2 and 6 wetlands north of Hwy 11 1 - All others

III. Development of Wetland Policies

The Policy Committee developed wetland management policies for each of three wetland categories. The result of this effort can be seen in Table 5 on the following page.

Management policy was developed so that Category 1 wetlands are provided with the highest level of protection. Individuals that affect these wetlands are given the least flexibility when addressing impacts. Management policies for Category 3 wetlands provide more flexibility in addressing those impacts. The management policy for Category 2 wetlands falls between these two. The following is a summary of the policies for each category.

Exemptions

Wetlands in the shoreland protection zone maintain the 400 square foot de minimus. For Category 2 and 3 wetlands, the agriculture exemptions were extended to non-agriculture impacts for Types 1, 2 and 6 wetlands, except for bottomland hardwood wetlands and wetlands in the shoreland protection zone.

Sequencing

The intent of regulations was, again, to provide less flexibility on the most valuable wetlands (Category 1 wetlands), and more flexibility with the Category 3 wetlands. Therefore, written analysis is required for all non-exempt impacts to Category 1 wetlands, a Sequencing Findings of Fact form must be completed for non-exempt impacts to Category 2 wetlands, and on-site sequencing will be allowed for non-exempt impacts to Category 3 wetlands. This provides flexibility in documenting the sequencing process, but does not imply or intend differing levels of avoidance and minimization.

Replacement Policy

The replacement policy takes two forms: the creation of other wetlands, and the replacement of wetland functions through other function creation activities such as vegetative reestablishment of farmed wetlands and vegetative restoration for water quality enhancement. In some cases, replacement can be in the form of permanent protection of rare or high valued natural resources via a permanent conservation easement.

The intent of the Committee was to establish policy and provide the least flexibility for Category 1 wetland impacts, providing a strong disincentive to impact those wetlands, while providing the most flexibility for the lesser value wetlands (Category 3 wetlands).

Replacement ratios (see enclosed chart) are much higher for the Category 1 wetlands, and ratios for Categories 2 and 3. Individuals affecting a wetland can choose to replace wetland values with other types of replacement activities, including the improvement of wildlife habitat, the vegetative re-establishment of farmed wetlands, shoreland erosion control

measures, and conservation easements. The attached chart shows the different replacement mechanisms, as well as the replacement ratios.

As in the replacement activities involving wetland creation, the ratios are higher for replacement activities within Category 1 than in Categories 2 and 3.

The major advantage in the creation of a local wetland plan and ordinance can be seen in the types of value replacement activities that are proposed. Many of these activities will promote the replacement of wetland-related value, while not necessarily replacing actual wetland area. The activities proposed here will substantially benefit resource enhancement and protection activities in the County.

Table 5
WETLAND MANAGEMENT POLICIES BY CATEGORY

Wetland Types	All wetlands with a score of >15	All wetlands with a score between 11 and 15	All wetlands with a score < 11
Category	**1**	**2**	**3**
Exemptions			
Ag Exemptions	No	Extended to non-agricultural impacts for Types 1, 2, and 6, except for bottomland hardwood wetlands and wetlands in the shoreland protection zone.	
All Other Exemptions	Same as WCA	Same as WCA	
Sequencing	Written Analysis for All Impacts	Complete Sequencing Findings of Fact form.	No written analysis, on-site sequencing.
Direct Replacement and In-County Wetland Bank Ratios	Within 1 1 to 1 Within 2 2 to 1 Within 3 4 to 1	Within 1 1/2 to 1 Within 2 1 to 1 Within 3 2 to 1	Within 1 1/4 to 1 Within 2 1/2 to 1 Within 3 1 to 1
Out of County Wetland Bank	Use WCA Replacement Ratios, including local wetland value fee. Amounts recommended by the TEP and set by formal resolution of the County Board.		
Replacement Types			
Improvement of Wildlife Habitat	No	2 to 1	1 to 1
Vegetative Reestablishment	4 to 1	2 to 1	1 to 1
Vegetative Restoration for Water Quality Enhancement	4 to 1	2 to 1	1 to 1
Shoreland Protection	.1 lin. ft. to 1 sq. ft.	.1 lin. ft. to 1 sq. ft.	.1 lin. ft. to 1 sq. ft.
Wetland Preservation	Flexible; discretion of LGU & TEP via conservation easement.		
Replacement Fund	Amounts recommended by the TEP and set by formal resolution of the County Board.		