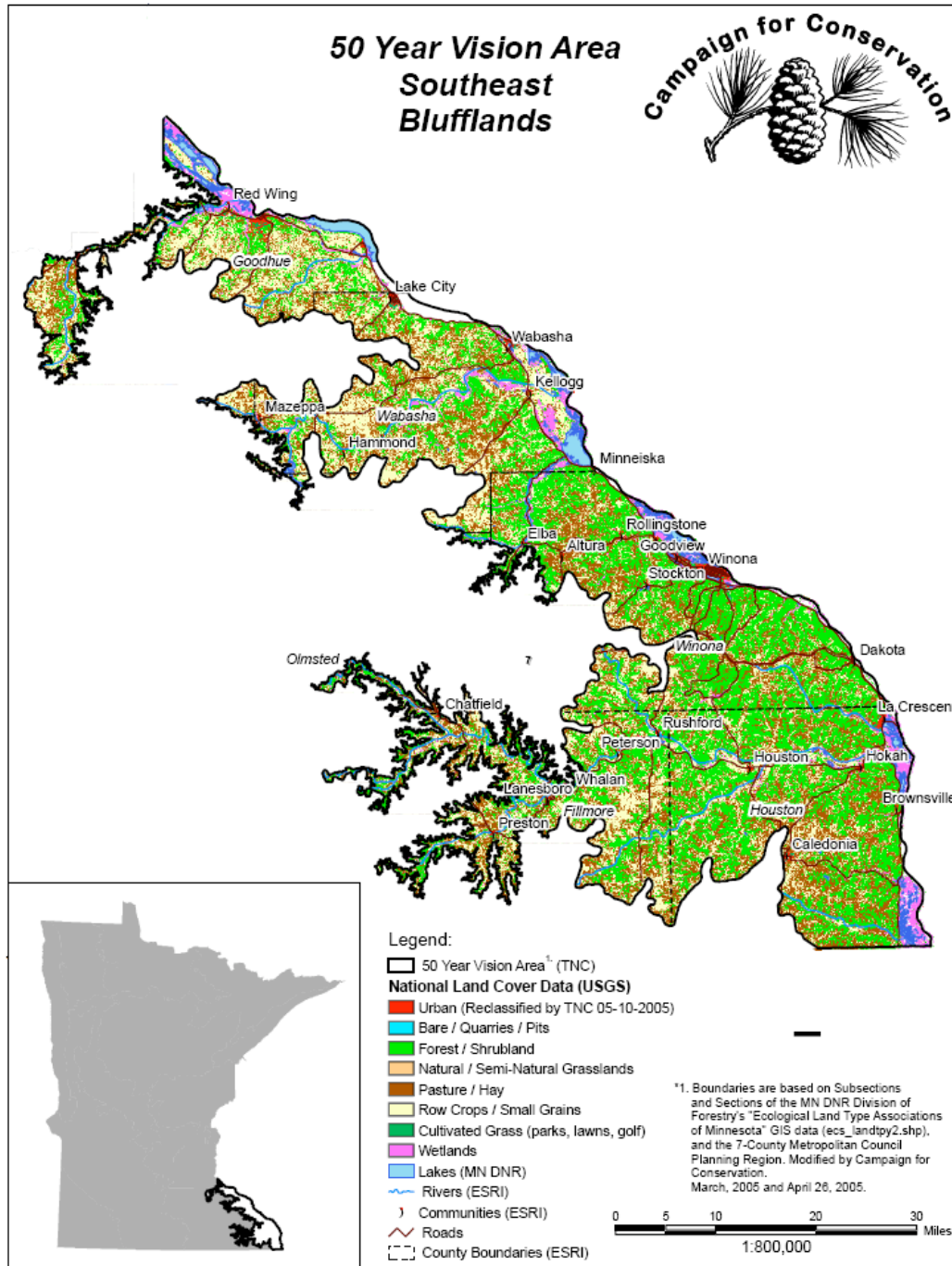


# Southeast Blufflands Conservation Region



Final Conservation Template  
March 2007

## **Acres in Conservation Region**

1,278,560

## **Population**

156,562 (2000 Census)  
62,167 (employed)  
78 (people per square mile)

## **Population Change**

1980 – 2000 +8%  
2000 – 2030 +16%  
2000 – 2030 Individuals over 65 years of age +87%

## **Percent of Land in Federal, State, or Local Public Ownership**

11 %

## **Counties**

Fillmore, Goodhue, Houston, Wabasha, Winona

## **Ecological Classification System Subsections**

Blufflands

## **Natural Characteristics**

Oak Savanna  
Prairie  
Wetland (non-forest)  
Shoreline-dunes-talus-cliffs  
River-Headwater to Large  
River-Very Large (Mississippi River)

## **I. Why We Live Here**

The Blufflands are unique in Minnesota. Nowhere else in the state can you find the rugged limestone cliffs or the breathtaking views of the majestic Mississippi River. The river towns of Red Wing, Lake City, Winona and La Crescent serve as the cultural centers for this area reminding visitors of the days of steamboats and lumber barons. The parks and trails in this area have long attracted visitors and tourism is an increasingly important component of the local economy.

This region is, however, challenged by the increase in development of its fragile habitats.

## **II. Current Conditions and Trends**

### *A. Demographics and Economy*

The major population centers are Winona and Red Wing. All counties in the region are projected to see growth through 2030 ranging from 12% in Winona County to 20% in Goodhue and Wabasha County. Light manufacturing accounts for the majority of the employment base (approximately 27%) and agriculture continues to contribute to the area's economy, but tourism has been playing an increasingly important role. In 2004, gross sales for the hospitality industries were more than \$4.1 billion generating nearly \$54 million in tax revenue.

Much of this area will see expanding commercial and residential development, including bluff top development. Rural residential development and development in and around municipalities is projected to continue at or faster than the rates of the previous 20 years. The Lake Pepin area is becoming increasingly popular for second home development.

### *B. Land and Habitat*

Forested blufflands, karst topography, coldwater trout streams, and pastureland are the unique natural assets of southeastern Minnesota. This region is largely a plateau carved by a number of rivers and streams that flow eastward into the Mississippi River. The region is an old. The western boundary is complex as it follows the outline of these river valleys. Bluffs and deep stream valleys (500 to 600 feet deep) are common. River bottom forests grow along major streams and rivers.

The Mississippi River, the largest river in North America, is the defining geographic feature in this landscape. This Mississippi River is home to at least 260 fish species (25% of North American species) and is a globally important flyway for 326 bird species (60% of North American species and 40% of its waterfowl.) In southeast Minnesota, the Upper Mississippi River is a major roosting site for wintering bald eagles, particularly in Wabasha County.

In the land of 10,000 lakes, this region has the fewest lakes with only 32 larger than 150 acres. However, the region contains major tributaries to the Mississippi River including the Root, Whitewater, Zumbro, and Cannon Rivers.

Prior to settlement, tall grass prairie and bur oak savanna were major vegetation types on ridge tops and dry upper slopes. Red oak-white oak-shagbark hickory-basswood grew on moister

slopes, and red oak-basswood-black walnut forests in protected valleys. Prairie was restricted primarily to the broader ridge tops.

The varied landscapes and geology of this region, including bluff lands, floodplains, sand savannas, forests and prairies, contributed to a wide variety of biological richness. The current land cover is:

Forested	40%
Cultivated Land	37%
Hay/Grassland	15%
Urbanized	3%
Other	<u>5%</u>
Total	100%

Most timberland in the region is privately owned, approximately 83%. Although there are two fairly large state forests comprising 47,336 acres, these are fragmented by large numbers of inholdings.

Prairies on the upper bluff land slopes are becoming increasingly rare due to conversion to agriculture or, more recently, to residences. This area's high amenity value as well as its proximity to the high growth areas in Rochester and the southern Twin Cities metro has led to increasing development.

As documented in "Tomorrow's Habitat for the Wild and Rare", there are 156 Species in Greatest Conservation Need (SGCN) are known or predicted to occur within the Blufflands – the most of all the ecological subsections in Minnesota. These SGCN include 82 species that are federal or state endangered, threatened, or of special concern. The table, SGCN by Taxonomic Group, displays by taxonomic group the number of SGCN that occur in the subsection, as well as the percentage of the total SGCN set represented by each taxon. For example, nine mammal SGCN are known or predicted to occur in the Blufflands, approximately 41% of all mammal SGCN in the state.

- The Blufflands provides a critical migratory corridor for forest songbirds, raptors, and waterfowl. It is the most important subsection for reptiles and one of the most important subsections for mollusks.
- It is an important area for birds such as the Henslow's Sparrow, Prothonotary Warblers, Cerulean Warbler, Red-shouldered Hawk, Louisiana Waterthrush, and Peregrine Falcons. It is also an important area for the Regal Fritillary, Karner blue butterflies and Blanding's turtles and the timber rattlesnake.
- Reptiles, amphibians, snails, mussels, and fish are special features of this landscape, including timber rattlesnakes, milk snakes, paddlefish, shovelnose sturgeon, pallid shiners, American eels, pirate perch, skipjack herrings, and several Pleistocene snails.
- Areas important for SGCN include the Whitewater, Gores Pool, and McCarthy Lake WMAs; Upper Mississippi River NWR; Kellogg-Weaver Dunes, Great River Bluffs, John Latsch, Whitewater, and Frontenac State Parks; and Cannon River Turtle Preserve and Mound Prairie SNAs.

Of the 118,247 acres across 522 sites identified in the Minnesota County Biological Survey as being important, approximately 25% are protected and 41% are in public ownership. Additionally, of the 41,452 acres identified by the Audubon Society as Important Bird Areas, approximately 61% are classified as protected.

There are 11 Scientific Natural Areas (SNAs) in the Blufflands covering 3,241 acres with an additional 1,279 acres identified by DNR as worthy of SNA status.

Of the wide variety of habitat types in this region, oak savannahs contain the highest percentage of SGCNs and it the community that has seen the highest levels of destruction and degradation. Exotic species have also taken a toll on the forest and riparian communities in this region.

Land ownership is mostly private with only 11% in public ownership and approximately 6% of the region's land and water under permanent protection. The state owns 89,252 acres and the federal government owns 45,106 acres with most of that, 37,784 acres, owned and managed by the United States Fish and Wildlife Service. Total public ownership is 134,358 acres in the region.

#### *C. Lakes, Rivers, Wetlands & Groundwater*

In the early 20<sup>th</sup> century, attempts to control flooding led to widespread channelization and straightening of streams. Changes to the natural meander of streams and rivers resulted in faster and warmer stream a flow, which has had a negative impact on trout populations. Also, loss of forest cover resulted in devastating erosion on the steep slopes near river valleys.

Steep slopes with erodable soils impact the many streams in this region. Row crops in river valleys contribute to increased surface runoff to streams.

Lake Pepin, the mid-channel lake within the Mississippi River that was formed when the sediment delta at the mouth of the Chippewa River formed a dam some 9,500 years ago, is currently listed as impaired water. It is the target of the most ambitious Total Maximum Daily Load (TMDL) study currently underway in the state. Additionally, there are three other lakes and 42 stream segments that are listed as impaired by the MPCA.

Today, steep slopes with highly erodable soils continue to contribute to water quality concerns in the streams especially where row crops are located in river valleys. Seasonal flooding remains a problem in some areas. Some attempts have been made to return streams to their natural meander.

The National Wetland Inventory has identified approximately 108,000 acres of wetlands in the region. For the most part, and unlike other areas in the state, these wetlands are not challenged by ditch drainage given that there are only five miles of agricultural ditches in the entire region.

Given the karst geology of the area, groundwater supply and contamination are primary concerns in the region. The groundwater has high amounts of nitrates and phosphates. These pollutants are mainly the result of agricultural activities.

#### *D. Fish & Wildlife*

This region, which includes the Mississippi River as well as a variety of forest communities, provides habitat to a wide variety of wildlife species. However, partly due to urbanization and

related loss of water quality, a large number – 154 species – are considered by the Department of Natural Resources to be Species of Greatest Conservation Need. Invasive species in the Mississippi River, as well as declining water quality, have placed particular pressure on aquatic species including freshwater mussels.

This region is one of the most important migratory bird areas in the state. Some 260 species of birds make the park their home for part or all of the year in the Blufflands, while others just stop by on their way up or down the Mississippi River flyway. Bald eagles are commonly seen in the fall, winter and spring. Many species of warblers visit every year, particularly the first part of May.

#### *E. Recreation*

Outdoor recreation opportunities abound in this region and reflect the highly scenic nature presented by the varied topography. State parks include Frontenac, John A Latsch, and Whitewater State Parks. The are recreational opportunities at the Richard J. Dorer Memorial Hardwood State Forest and the Upper Mississippi Fish and Wildlife Refuge is one of the country’s best opportunities to see Bald Eagles or simply canoe the many backwaters of the Mississippi. The Goodhue-Pioneer and Root River State trails extend into this region and draw significant numbers of visitors from around the state. Touring the area’s backroads either by bicycle or car, to view the spectacular fall foliage is a popular pastime.

Despite the number of existing opportunities for outdoor recreation, demand for outdoor recreation from the Twin Cities Metro and the Rochester area is placing increasing pressure on parks, trails, hunting lands, and fishing streams. The northern half of the region has been identified as having one of the highest recreational demands in the state.

There are 18 Wildlife Management Areas (WMAs) in the region totaling 34,242 acres. The state WMA plan calls for an additional 56,540 acres to be acquired.

The Pheasant Plan calls for 63,042 acres to be restored and protected in this region.

Currently, the Blufflands has 930 miles of designated trout streams with 39 access points. An estimated 520,879 angler days were recorded on these streams in 2001. The Whitewater River complex is extremely popular with anglers. Lake Pepin and the Mississippi River are also popular fisheries.

Approximately 5% of the land is open to public hunting.

### **III. Conservation Challenges**

#### *A. Demographics and Economy*

The region is seeing substantial residential growth that is often concentrated in areas that are ecologically fragile. While decision-makers strive to ensure that individual property rights are preserved, there still needs to be actions taken by our leaders to ensure the common good. The challenge lies in creating an economic base that sustains the unique and delicate environment of the Blufflands.

#### *B. Land and Habitat*

Lack of coordinated land use decisions involving development that don't account for the preservation of ecological processes serves as a formidable threat to this region's terrestrial habitat. Fragmentation has impacted the Blufflands ability to function effectively and land alteration has led to a proliferation of exotic and invasive species. Additionally, poor silviculture and agricultural practices have also scared the land.

*C. Lakes, Rivers, Wetlands & Groundwater*

The karst geology of the region leaves it vulnerable to contamination of its water resources from a variety of fronts. Poor stormwater management to treat runoff, failing septic systems and feedlots are a substantial sources of pollution. Erosion and subsequent sedimentation is also a problem in these thin soils where lack of effective buffers around agricultural lands, farming on steep slopes and development too close to our waterways are common issues of concern.

*D. Fish & Wildlife*

The abundant wildlife of the Blufflands is challenged by urbanization. Fragmentation has taken a toll on the region's ability of function as a key component of the Mississippi Flyway. Foresighted planning and preservation of important ecological systems is vital to the integrity of the Blufflands.

*E. Recreation*

Passive and active recreational needs in the region must be balanced for the continued enjoyment of both activities. The Bluffland's stellar trout streams are extremely popular and care must be taken if they are to continue to function.

#### **IV Status of Current Planning Efforts**

The following plans or studies were reviewed and incorporated into this summary:

- Bluffland/Rochester Plateau Subsection Forest Resource Management Planning, DNR, 2000
- Experiment in Rural Cooperation, University of MN, 2006 (ongoing)
- Lake Pepin TMDL Study, MPCA, 2007 (ongoing)
- Minnesota Comprehensive Wildlife Conservation Strategy, DNR, 2006
- Minnesota Forest Legacy Program, DNR, Potlatch Corp., local government and NGOs, 2006
- Minnesota Pheasant Plan, DNR, 2006
- Minnesota Sales Tax Statistics for Tourism, MN Dept. of Revenue, 2004
- Minnesota State Comprehensive Outdoor Recreation Plan (SCORP), DNR, 2002
- Minnesota State Park System Land Study, DNR, 2000
- Minnesota Wetlands Conservation Plan, BWSR, DNR and other MN state agencies, 1997
- Minnesota Wildlife Management Area Acquisition, DNR, 2002
- Strategic Plan for Coldwater Resource Management in Southeast Minnesota 2004-2015, DNR, 2003
- Timber Rattlesnake Recovery Plan, DNR, 2005

Below are additional plans that should be considered for future conservation planning in the Southeast Blufflands region:

- Upper Mississippi River NWR master plan – Winona office (Don Hultman)
- Flood plain restoration plan for various tributaries (Zumbro, Root River, etc) Lake City DNR (Scott Johnson)
- Hiawatha Valley Atlas – Hiawatha Valley Partnership
- Common visions for Minnesota Blufflands (Contact Bob Hurt, Landscape photographer – Winona)
- Great River Road – Interpretive Center Plan or Guide
- TNC – Weaver Dunes/Zumbro Delta Conservation Action Plan 2007
- TNC – Root River Watershed Conservation Action Plan 2007
- Minnesota Forest Resources Council – SE MN Landscape Plan
- Richard J Dorer Memorial Forest – a plan for protection
- UMR FWR USFWS – Conservation Plan – 2006
- UMRFWS Comprehensive Conservation Plan
- Zumbro River Local River Plan
- Whitewater River Watershed Plan – Linda Dahl
- MN Important Bird Areas – Audubon Society
- Bluffland Landscape Team (MNDNR)

## V. Goals

The primary goals in this region are to improve and protect the quality of the area's coldwater trout streams by increasing vegetative buffers, including forested riparian areas. Stream buffers will also improve the quality of water flowing into the Mississippi River.

Goals will also include preserving the forest resource by increasing forested areas by approximately 3%. Preserving existing large blocks of forest are important to reducing forest fragmentation. Specialty forestry in combination with private stewardship practices may provide the economic basis for profitable and sustainable use of the forest resource.

All of these goals can be met while creating additional opportunities for outdoor recreation for the area's growing population. Because tourism is already an important part of the area's economic base, preserving these resources will ensure the continued vitality of this sector. Further, expanding opportunities for less intensive specialty agriculture may enhance the economic base of the region while reducing the impacts from traditional agricultural practices.

### A. *Demographics and Economy*

1. Promote economic activity that sustains the natural resource base.
  - Promote industries that have a relatively low impact on the environment.
  - Provide assistance to local communities in developing economic strategies that promote sustainable growth.
  - Establish ordinances and guidelines at the local level that promote low-impact development

*B. Land and Habitat*

1. Ensure that residential and commercial development does not jeopardize the quality of life unique to this region.
  - Concentrate residential and commercial growth in community centers helping to control public service costs and preserve the valuable wild and undeveloped character of the area.
    - a. Enable robust and farsighted planning for growth in all communities, but particularly in unincorporated townships.
  - Continue emphasis on conservation ownership (public and private) in the remote, rural areas with most private ownership near existing infrastructure and services.
2. Identify and protect high priority natural areas
  - Use finely focused natural resource inventory to identify stressors to ecological function and mitigate their impacts.
  - Use the full spectrum of protective tools to ensure critical areas are conserved.
  - Identify restoration targets and acquire rights necessary to restore ecological functions.
  - Use adaptive management techniques to incorporate uncertainty of climate changes into our land management planning
  - Develop conservation plans for each county and/or watershed and create incentives for natural resource protection.
3. Control spread and infestation of exotic species (e.g. buckthorn, zebra mussels, purple loosestrife, etc.) and increase proportion of native vegetation on the landscape.
4. Monitor and prepare for impacts of climatic change on the region's native flora and fauna

*C. Lakes, Rivers, Wetlands and Groundwater*

1. Reduce pollutants load of streams and rivers
  - Decrease sediment loads by use of best management practices on residential, agricultural and commercial lands.
  - Complete impaired waters analysis for all lakes and streams in the region.

- Develop Total Maximum Daily Load (TMDL) studies for all impaired waters in the region.
  - Reduce peak flows in streams that result from excess stormwater runoff.
  - Enforce and enhance regulations regarding private septic systems.
  - Educated landowners as to landscaping options that are sensitive to the environment.
2. Inventory area wetlands and assess ecological function
  3. Develop targets for wetland protection and restoration.
  4. Determine groundwater systems and identify sources of potential contamination
    - Develop groundwater flow models.
    - Develop targets for groundwater protection.
    - Assess capacity in light of growth demands and direct growth away from areas of fragile or limited groundwater supplies.

*D. Fish and Wildlife*

1. Develop incentives and regulations for enhanced protection of shoreline and stream restoration.
2. Ensure that suitable habitat for species of concern is primary focus of land and water conservation efforts.
3. Identify keystone species for critical habitat areas and develop means of using keystone species as surrogates for monitoring overall ecological function for each area.

*E. Recreation*

1. Acquire additional 4,900 acres of state park inholdings.
2. Promote opportunities for passive recreation in the area.
3. Restore and protect 63,000 acres of wetlands as called for in the Pheasant Plan.
4. Identify key trout habitat and protect and restore necessary land.

5. Maintain consistent strategy for harvest limits and adjust as needs of species demands.
6. Acquire additional 56,540 acres of WMA lands called for in WMA plan.
7. Teach children and adults about the importance of outdoor experiences to our physical and mental health.

## **VI. Opportunities and Strategies**

### *A. Goodhue County*

1. Looking at open space acquisition/natural areas already identified
2. Frontenac Township/zoning
3. Hiawatha Valley Partnership Project
4. Threat...population growth from metro
5. Wells Creek Watershed Project

### *B. Wabasha County*

1. Lower Zumbro floodplan restoration (6-7,000 acres)
2. General “red-neck” attitude toward zoning
3. Organic
4. Flood Plan Restoration - NESP

### *C. Winona County*

1. Bluff Land Protection Project for city of Winona
2. Threat – Winona doing some of the worst Bluff Land planning
3. EDA/local foods and energy focus
4. Loss of rural culture – taking care of one another
5. Whitewater à housing/losing wilderness/rural feel

### *D. Houston County*

1. Major flood plain restoration project/ Root River
2. Root River (bike/snowmobile/hiking) Trail/trying to complete
3. Threat...public land ownership à don’t like state to own
4. Forest products à diversified hardwoods/management and sustainable

### *E. Fillmore County*

1. Threat...ordinances tend to shift development to sensitive areas
2. Pasture and hay lands shift to grow crops (corn)
3. Switch grass (hybridizing it) à would dominate prairies and harm
4. Encourage to stay out of ethanol debate

### *F. Olmsted County*

1. Rochester growth is threat to region
2. Haven’t acquired 3rd park (Region 6)

*G. Overall*

1. Invasive species
2. Climate change
3. Alternative agriculture
4. Loss of recreational access
5. Flood Plain Restoration
6. Threat...ordinances tend to shift development to sensitive areas