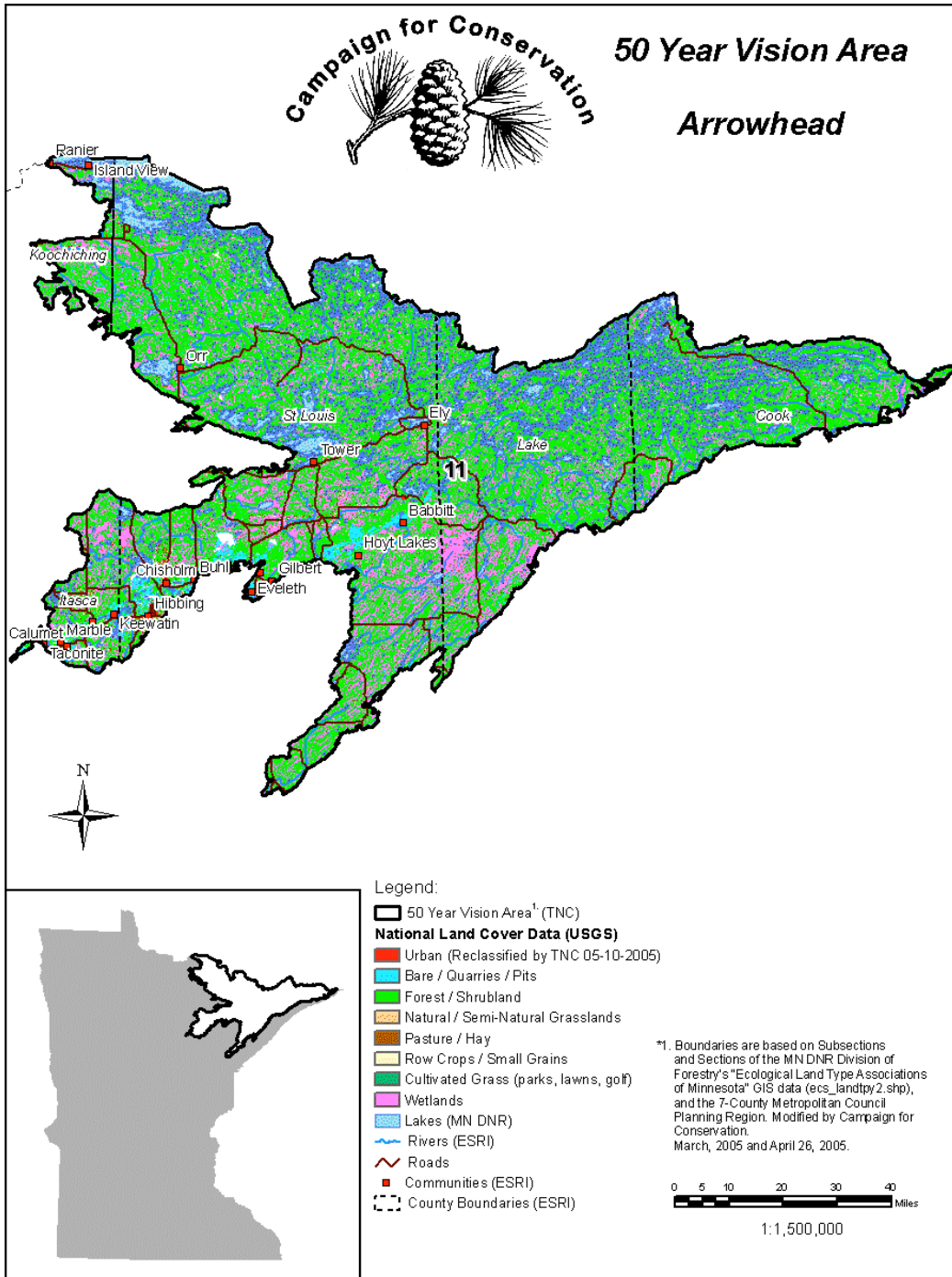


# Arrowhead Conservation Region



Final Working Template  
 January 2007

## **Acres in Conservation Region**

4,488,154

## **Population 2000 Census (Cook, Lake & St. Louis Counties)**

216,754 (total)  
100,000+ (employed)  
31 (people per square mile)

## **Population Change (Cook, Lake, and St. Louis Counties)**

1980 – 2000 -9.4%  
2000 – 2030 +10.4%  
2000 – 2030 Individuals over 65 years of age +78%

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

73.2%

## **Counties (All or Part)**

Cook, Itasca, Koochiching, Lake and St. Louis

## **Natural Characteristics**

Red/White/Jack Pine Forests  
Forest-Lowland Coniferous  
Aspen-birch Forests  
Conifer Bogs & Swamps  
Northern Hardwoods  
River-Headwaters

## **Ecological Classification System Subsection**

Border Lakes, Laurentian Uplands, Nashwauk Uplands, Toimi Uplands

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

The Arrowhead Conservation Region contains some of the most beautiful and treasured landscapes in America. Efforts by some of our nation's most prominent conservationists such as Sigurd Olson and Aldo Leopold led to the establishment of the Boundary Waters Canoe Area Wilderness (BWCAW), Voyageurs National Park and wilderness areas in the Superior National Forest. The BWCAW alone contains more than 1,000 lakes and over 1,500 miles of canoe routes offering one of the last places in North America where one can truly experience the wilderness of our ancestors.

The Arrowhead may be a weekend retreat to some, an annual foray to rediscover one's soul in the serenity of the Boundary Waters for others or, for a lucky few, their year-round residence. Regardless of how often one comes or how long one stays in this area, its wild character and memories of starlit nights are never forgotten. The memories of what this area is and our need to have a place we can trust will never change, a place affording us an escape from the manmade turmoil of our world today, is what makes this area so special to Minnesota.

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

There are four ecological subsections within the Arrowhead Conservation Region: Border Lakes, Laurentian Uplands, Nashwauk Uplands and Toimi Uplands. Extensive forestlands and large wetland complexes dominate each area. The following descriptions are taken from "Tomorrow's Habitat for the Wild and Rare" written by the Minnesota Department of Natural Resources (DNR):

### *Border Lakes*

Much of the Border Lakes Subsection is made up of the Boundary Waters Canoe Area Wilderness, Superior National Forest, and Voyageurs National Park. Water dominates this area, which has more than 300 lakes larger than 160 acres and many rivers, including the Vermilion, Sioux, Moose, Portage, Kawishiwi, and Brule. The topography is largely rolling hills and includes Eagle Mountain, the highest point in Minnesota, at 2,301 feet. Most of the subsection is forested, and the major forest communities are jack, white, and red pine, and hardwood-conifer.

Recreation, tourism, and forestry are the predominant land uses in this subsection, and second-home ownership appears to be on the rise. Some areas here have never been logged, and this subsection contains some of the largest blocks of essentially unfragmented forest habitat in the state. The forest habitats in this subsection depend on fire, which is much less common than it was historically.

### *Laurentian Uplands*

The Laurentian Uplands Subsection, sandwiched between the North Shore Highlands and Border Lakes subsections, is dominated by rolling hills running southwest to northeast. The subsection's high elevation serves as the source of many rivers, including the St. Louis, Cloquet, and Whitefish. Lakes and wetlands are also numerous. Before settlement by people of European descent, the major upland forest types were aspen-birch, jack, and red and white pine. The lowland areas between the hills contained conifer swamps and bogs.

### *Nashwauk Uplands*

The southern boundary of the Nashwauk Uplands Subsection is formed by Giant's Ridge, a high, narrow ridge 200 to 400 feet above the surrounding area. Giant's Ridge forms the northern edge of the Mesabi Range, where the majority of iron mining takes place in Minnesota. Before settlement by people of European descent, the forest in this region consisted of white and red pine, balsam fir, white spruce, and aspen-birch. Wetland vegetation consisted of conifer bogs and swamps.

Today, forestry and mining are the most abundant land uses in this subsection. The predominant tree species used by industry is quaking aspen. Present and past mining activities can affect water quality. A few mining companies are proposing expansions of current facilities or the development of new ones. Outdoor recreation, including motorized recreation, is also an important land use.

### *Toimi Uplands*

The Toimi Uplands is still predominantly forested, and the most important land use is forestry. With 84 percent of the land in public ownership, recreation is important, especially around lakes and rivers, and for hunters in the public forests. Logging of pines in the early part of the 20th century increased aspen-birch forests.

Major rivers throughout the Arrowhead Conservation Region include the Vermilion, Sioux, Moose, Portage, Kawishiwi, Brule, St. Louis, Cloquet and Whitefish.

The beauty that has attracted generations of Minnesotans to this region is increasingly threatened. The Minnesota State Demographer's office estimates that the population in the three dominant Arrowhead counties is expected to rise significantly over the next 25 years. St. Louis County's population is projected to rise by almost 10 percent, Lake County's by nearly 20 percent, and Cook County's by more than 60 percent.

#### *A. Demographics and Economy*

Although the three core counties within the Arrowhead showed a decline in population from 1980-2000 of approximately 9.4% (U.S. Census Bureau), in the future parts of the region are expected to grow rapidly. The population of Cook County will more than double by 2030. Additionally, the state demographer projects a sizeable increase in population for this area in the next 10-20 years as retirees increasingly migrate to this area despite its harsh winter climate. In fact, it is projected that from 2000-2030, this region will see a 78% increase in people over the age of 65.

While the overall population may have decreased, there is a trend toward non-family households, at least in St. Louis County (a "household family" is characterized as a married couple with or without children or a head of household) where they saw an increase of 4,247 non-family households from 1999-2000 while a decrease of 529 family households in the same period. Median household income ranges from 90-96% of the national average, but is only 75-85% of the average for Minnesota.

Logging, mining and tourism are important to the economy of the region. A 2001 analysis of the economic conditions in Northern Minnesota performed by the University of Minnesota Duluth showed a diverse economy that is very dependent upon natural resources for the mining and forest products industries and increasingly for the tourist and services based industries. Employment in this area is especially vulnerable to cycles in the commodities markets. For instance, job growth in St. Louis County

was strong from 1999-2000 when more than 15,000 jobs were added, but the county saw a subsequent decline from 2000-2001 of more than 3,000 jobs. These unpredictable oscillations in employment place a unique strain on efforts to plan for the future and place a premium on being conservative in the use of natural resources.

Minnesota was famous for its soft-ore iron mines that produced a significant portion of the world's iron ore for over a century. Although the pure ore is now depleted, taconite mining remains strong using processes developed locally to save the industry. In 2004 the state produced 75 percent of the usable iron ore in the country. The port of Duluth was created by the mining boom and today continues to be an important shipping port for the Midwest's agricultural and ore products. Much of this economic activity rests in St. Louis County, the largest county in the United States east of the Mississippi River.

Forest products are an important contributor to the regional economy. The three core counties in this region supply more than one fourth of the pulp wood production of the state. In these three counties there are over 4.2 million acres of timberland, 31% of which is privately owned. Private corporate timberland holdings are approximately 345,000 acres. On the public side, there are 13 state forests making up more than 1.1 million acres and federal lands covering 2.2 million acres. The timber and pulpwood production averaged about 880,000 cords in 2004 worth about \$28 million. The value-added economic impact of this timber harvest was about \$1.17 billion dollars to Minnesota's economy.

One major threat for both the forest timber industry as well as conservation is the rapidly changing pattern of the ownership of forest lands. Corporate forest lands were once mostly held by timber and paper companies for long-term rotational harvest. These lands were usually open to public access for hunting, fishing, and other recreational purposes. Recently, however, many of these corporate lands have been sold to Timber Investment Management Organizations (TIMOs) that in turn have decided to sell their properties in small parcels for recreational and residential use. These sales fragment large forest blocks and make timber harvest more difficult or impossible and threaten wildlife species that demand large blocks of continuous forest habitat. In addition the TIMOs may lease the lands they hold to private individuals and groups for exclusive hunting rights. Land that was hunted and fished for generations by the public is becoming increasingly unavailable.

Perhaps the most valuable asset of this region, the wild lands and solitude, is difficult to quantify, but there is little doubt among the residents that it is an essential ingredient to the overall health of the local economy.

#### *B. Land and Habitat*

Most of this region is underlain by rocks of the Canadian Shield that were scoured by continental glaciers within the last 20,000 years. It is a geologically young landscape covered in places by thin deposits of coarse loamy till. This part of Minnesota receives more of its precipitation as snow than any other part of the state and has the longest period of snow cover. As a result of the climate and soils, most of the dominant vegetation is fire-dependent forests and woodlands. Although red and white pine forests were widespread in the past, much of the pine was cut out around the turn of the last century. Forests of aspen, paper birch, and Jack pine were left on the drier and rocky areas, but sugar maple, yellow birch, and regenerated white pine dominate the more mesic sites. On the wettest sites, peatlands and wet forests predominated by white cedar, tamarack and black ash occur.

Currently 68% of the land is forested, although older age conifer species have declined over the years with younger age aspen increasing in acres. Approximately 73% of the land is in public ownership with approximately 17% of that in reserves where timber and other management is restricted. Much of this public land, however, is land owned by county governments that is to be used for revenue from timber

sales (40% to State, 40% to local schools, and 20% to township) and should not be considered protected as it can be sold into private ownership.

Recreation, tourism, mining and forestry are the predominant land uses in this subsection. There continues to be pressure to develop areas of the Gunflint Trail. The breakdown in land area is:

Forest	68%
Wetlands	16
Water	12
Pasture/hay	2
Urbanized	<u>1</u>
	100%

The current land use trends are divestiture of large blocks of forested land and increased pressure for residential development leading to landscape fragmentation. Also, while there is a relatively high percentage of public land, much of the sensitive habitat areas, especially near lakes, are privately owned.

It should also be noted that this area would most likely see the effects of climate change more acutely than other areas of Minnesota. This, along with an altered natural fire regime, will also have a profound impact of the distribution and composition of forestlands.

Much of the white and red pine forests have been logged and replaced with trembling aspen-paper birch, and older age conifer species have declined over the years with younger age aspen increasing in acres. However, the region also includes significant old-growth northern hardwood and upland northern white cedar forest.

The County Biological Survey identified 17 sites for a total of over 18,000 acres that have high or outstanding biodiversity significance in this region. However, the inventory of significant lands is largely incomplete and more will be identified in the near future. Of those that have already been identified, the vast majority are on publicly owned land. The presence of these significant lands points to the need for state and federal government to incorporate sound ecological management into their forest management.

For the entire Arrowhead Region, over 27% is currently being managed in a way that emphasizes the land's ecological value. This percentage of highly protected land, Category 1 and 2 on the scale developed by the International Union for the Conservation of Nature is the highest for any conservation region in Minnesota.

The 73% of the land in public ownership throughout the region includes more than 2.2 million acres of federal land. The U.S. National Forest Service manages 2,023,183 acres and the National Park Service manages the bulk of the rest, 218,054 acres. The State of Minnesota is the other large public landholder with just over one million acres in ownership in the region.

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

As home of the Continental Divide, this region's water flows to the Hudson Bay, the St. Lawrence Seaway and the Gulf of Mexico. There are 420 lakes greater than 150 acres in size and many more smaller ones in the Arrowhead Region and 8,129 miles of rivers and streams. While many of the lakes have high quality water, 335 covering 357,509 acres that are considered impaired primarily because of mercury contamination. While there are also high quality streams in the region, 22 streams are designated as impaired, again, primarily for excessive mercury levels – though contamination from mining activity is

also an issue. The inventory of impaired waters in the state, however, is in its early stages and additional impaired waters within the Arrowhead Conservation Region are likely to be identified in the future.

There are approximately 719,000 acres of wetlands in this region that support a wide array of plant and animal life. Many of these wetlands have been impacted by exotic species and there is a great need for more detailed inventories that not only assess wetland locations and type, but also their ecological functions. Also, there needs to be a greater understanding of groundwater systems and their interplay with wetlands along with an assessment of vulnerability of the drinking water supply.

#### *D. Fish and Wildlife*

The lakes and streams of this area are well known for their trout, smallmouth bass, walleye, northern pike and panfish fisheries. Although best known for the lake fishing, there are 917 miles of designated trout streams present. Considering the abundance of public land and with more than 240 state-designated access points to the lakes in the area, anglers continue to see this area as one of the most important in the state.

Moose populations in northeastern Minnesota have shown an alarming mortality rate, particularly with cows and calves, in recent years. Scientists are unable to determine the precise cause, but growing evidence seems to indicate that the population may be falling victim to the warming climatic conditions. Moose exist at the southernmost end of the range in Minnesota and can become stressed when temperatures exceed 65<sup>0</sup>F for extended periods of time. Grouse populations have shown an increase beyond the cyclical nature, which is likely the result of increased habitat. As climatic warming continues, deer populations have the potential to increase, which could put additional stress on native plant species.

There are more than 60 species in need of conservation action in this region with habitat loss being the dominant issue for nearly all.

The Arrowhead is home to some of the state's largest wolf populations. It also contains habitat for a set of distinctive boreal mammals and birds such as the Canada lynx and Heather vole and the Northern goshawk, Spruce grouse, Common loon, Gray jay, Great Gray Owl, Connecticut warbler, Red-necked grebe, Trumpeter swan, Black-throated blue warbler, and Boreal Chickadee.

#### *E. Outdoor Recreation*

Opportunities to view wildlife are abundant. The area is renowned for birding opportunities and the greatest likelihood of seeing many rare, majestic animals such as bear, moose and wolf. While this area is renowned for its solitude and opportunities to escape a mechanized world, there is also growing pressure to increase opportunities for ATVs and snowmobiles. This challenge to balance the desires of both constituents will define the future land use in this region.

There are nine Scientific and Natural Areas (SNAs) within the Arrowhead Conservation Region that are open to public nature observation including Hovland Woods, Big Island, Burntside Islands, Lost Lake Peatland, Purvis Lake, Sand Lake Peatland, Spring Beauty Northern Hardwoods, Eagle's Nest Island, and Kawishiwi Pines. All tolled, they account for 9,205 acres of protected habitat. These SNAs capture some of the highest quality old-growth forests in the state as well as bog, peatland, and wet meadow communities.

Five state parks are located in this area including Magney, Soudan, Bear Head Lake, McCarthy Beach, and Hill Annex Mine. Currently 8,400 acres are owned within the statutory boundaries, leaving 2,244 that still need to be acquired. The Minnesota State Park plan calls for two more state parks to be

developed in the region. The major protected areas in the region are the 1.3 million acre BWCAW and Voyageurs National Park located on the northern boundary.

The National Forest Service is contemplating a survey in 2007 to determine trends in the use of the BWCAW similar to surveys that were done in 1969 and 1991, but expanded in scope. The state has conducted surveys showing declines in fishing, hunting and camping participants over the past twenty years and this survey of the BWCAW visitors should give us a more refined perspective of what is happening in this area.

There are 180 miles of trails that are developed in the region including the Arrowhead and Taconite State Trails and the Mesabi Trail. A portion of the North Country National Scenic Trail also runs through the region. Of the 195 miles found in the Arrowhead Region, only 109 have been developed.

Within the Arrowhead Region there are 104 miles of designated canoe routes along the Cloquet, St. Louis, and Vermilion Rivers.

Large tracts of public land make this region popular with deer, moose and grouse hunters. Over 90% of the land is open to public hunting.

Due to the abundance of public land open to hunting in state forests, national forests, and other designations, only six Wildlife Management Areas (WMAs) comprise 3,513 acres have been established in the region. The state WMA plan calls for adding about 500 acres of WMA inholdings and 200 additional acres in new WMAs.

Although not broken down by region, as of 2001 there were over 1.6 million anglers in Minnesota who expended \$1.3 billion dollars in fishing related activities. Since the Arrowhead contains some of the highest quality fisheries resources in the state, it is safe to assume that an important percentage of this activity took place in the region.

Game species are abundant throughout the region. Whitetail deer are dominant and also present a threat to native species. Ruffed grouse, spruce grouse, moose, small game and bear round out the most popular species. Forest development patterns can be greatly impacted by certain wildlife species, especially deer when the population is high. In 2001, there were 597,000 hunters in Minnesota who spent \$483 million.

#### *F. Quietude and Solitude*

Aside from the many active recreational opportunities, this area is unique in offering opportunities to just enjoy the quiet. This is a place where sleep is accompanied by a starry night sky and the sounds of wind and owls. Morning is welcomed by arguing crows and scurrying red squirrels. Popularity and serenity are often opposing attributes and as more people seek the solitude of the north, there's less solitude. Everything from increased mining pressures to light pollution has the potential to rob this area of a quality that is precious in today's world and will, undoubtedly, be increasingly valuable in the future.

### **III. Conservation Challenges**

Accommodating the increased desire to develop the limited private holdings along with sustainable management of the forest base is the primary challenge for these residents.

#### *A. Changing Attitudes & Demographic Shifts*

Our modern society has become accustomed to our modern conveniences. While some of us choose to organize our lives in a manner that embraces nature, many of us lead lives that seek to overcome and conquer nature. It is the latter group that can pose a threat to the fragile environment of the Arrowhead. By bringing an attitude of dominance over nature coupled with a hurried lifestyle that attempts to “schedule” serenity with Blackberrys, this new generation of visitors and residents can change the ecological and social character of the area.

The demographers also project an influx of retirees that not only bring a certain level of demand for modern amenities, but also require a whole range of health and social services at a scale not available today.

#### *B. Fragmentation of the Landscape & Urban Growth*

Large tracts of forestland are disappearing and are being replaced by houses. Pressure to develop mineral resources mounts. In turn, there is increased demand for more roads and a change in land use is the result. The changing landscape can lead to increased eutrophication of the lakes and streams, loss of wetlands, loss of natural fire regimes and increased exotic species. All these forces conspire to irreparably damage the resilience of the ecosystems that have sustained this area for thousands of years.

#### *C. Climate Change*

It would be difficult to assign blame for the effects of climate change on anything that anyone has done in the Arrowhead itself, but, unfortunately, the Arrowhead will likely feel the brunt of the impacts of global warming more acutely than any other region of the state. The forests of these areas are particularly vulnerable to shifts in temperature and precipitation. What this area can do is keep their options open by conserving what they have now and try to preserve the ecological processes that can allow for adaptation.

#### *D. Invasive Exotic Species*

Exotic species have hit this region especially hard and will continue to do so. Both terrestrial and aquatic invasives threaten the region. In the next several years, the gypsy moth species is predicted to move westward to the Arrowhead region and wreak havoc on its forested acres.

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

A wealth of plans has been completed in this region with several attempts to integrate land management goals. To an enormous degree, the goal of the Campaign for Conservation to consolidate existing plans into a coherent evaluation of trends and future conservation targets has been accomplished by the *Lake Superior Basin Plan* in an effort orchestrated by the Minnesota Pollution Control Agency (MPCA) in 2004. This document identifies the key challenges for the watershed of Lake Superior and sets forth recommendations for future work. It also provides a descriptive bibliography of existing plans.

The following plans were reviewed in putting this template together:

- Fisheries Management Plan for the Minnesota Waters of Lake Superior, DNR & partners, 2006
- Cook County Land Use Plan, Cook County,
- Cook County Water Management Plan, Cook County SWCD, 2006
- Conservation Biology Institute Protected Area Database, 2006
- Explore Minnesota Tourism, U of MN, 2005
- Lake County Water Management Plan, 2005

- Lake Superior Basin Plan, MPCA, 2004
- Lake Superior Lakewide Management Plan, U.S. EPA & Canada, 2004
- Lower St. Louis River Habitat Plan, St. Louis River Citizen Action Committee, 2002
- Minnesota Comprehensive Wildlife Conservation Strategy, DNR, 2006
- Minnesota Forest Legacy Program, DNR, Potlatch Corp., local government and NGOs, 2006
- Minnesota Pollution Control Agency, MPCA, 2003
- 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
- St. Louis County Economic Report, 2002
- Superior Mixed-forest Ecoregional Plan, TNC, 2002
- Superior National Forest Plan, USFS, 2003
- U.S. Census Bureau, 2006
- Western Lake Superior Sanitary Sewer District Response Plan, 2004

Future conservation planning in this region may want to consult the following plans and/or reports:

- Laurentian Vision
- IRR Iron Range Resources.com
- U.S. Fish and Wildlife Plans
- Arrowhead Economic Development Commission
- MDNR Mining Plans
- Western Mesabi Mine Planning Board
- The Nature Conservatory Superior Mixed Forest Eco-regional Plan
- Lake Vermilion Management/St. Louis County
- Rainy River Basin Plan
- American Indian Plans/DNR (WI & MN) and Tribes
- Shoreland Standards
- DNR Forestry Subsection Plan (SFRMP)
- Koochiching County Water Resource Plan
- U of MN Tourism Report
- MN Water Association
- Each county's Comprehensive Wetland Plan
- Arrowhead Economic Development Corp.
- US Fish and Wildlife plans
- Regional Haze Rule State Implementation Plan
- Parks General Management Plan

## **V. Goals**

The following goals represent a consolidation of the goals contained in the aforementioned existing plans. These goals represent, as best as can be done, a consensus of goals and strategies targeting conservation challenges identified by the variety of groups.

### *A. Demographics and Economy*

1. Economic activity will sustain the natural resource base.

- Encourage a dynamic and diverse year-round tourist industry.
- New development should encourage easy access to recreational opportunities.
- Maintain forests to provide diverse and viable habitat for the plant and animal species of the region.
- Maintain large blocks of mature forestlands as part of the timber base that also protect viable populations for forest-interior animal species.
- Establish 50-year goals for public land ownership setting objectives for not only net acreage of public land, but also location and use.

*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.
  - Enable robust and farsighted planning for growth in all communities, but particularly in unincorporated townships.
  - Encourage private conservation opportunities.
  - Encourage land swaps to protect most vulnerable lands.
  - Continue emphasis on conservation ownership (public and private) in the remote, rural areas with most private ownership near existing infrastructure and services.
  - Maintain public land base, timberlands and public hunting acres.
2. Identify and protect high priority natural areas.
  - Complete Arrowhead natural resource inventory and identify stressors to ecological function.
  - Use the full spectrum of protective tools to ensure critical areas are conserved.
  - Identify restoration targets and acquire rights necessary to restore ecological functions.
  - Develop conservation plans for each county.
3. Control spread and infestation of exotic species (e.g. zebra mussels, purple loosestrife, etc.).

4. Monitor and prepare for impacts of climatic change on the region's native flora and fauna and work to prevent further climate change.

*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 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.
  - Small communities require sewer upgrades (accommodate 100 year storm events) and rural areas should incorporate multi-family systems where possible.
2. Inventory area wetlands and assess ecological function
  - Develop targets for wetland protection and restoration.
3. Determine groundwater systems and identify sources of potential contamination.
  - Develop targets for groundwater protection.

*D. Fish and Wildlife*

1. Develop incentives and regulations for enhanced protection of shoreline and stream restoration.
2. Determine impact of white-tailed deer on native species and adjust harvest limits accordingly.
3. Ensure that suitable habitat for species of concern is primary focus of land and water conservation efforts.
4. Aggressively control non-native invasive species.
5. Determine the impact of domestic animals around the lakes.
6. Maintain robust, naturally reproducing native fish assemblages in at least 50% of lakes and rivers.

7. Manage forestry lands to maintain populations of iconic northwoods species (moose, wolf, loon, etc.).
8. Manage landscapes, including water, to encourage habitats for diverse native species.

*E. Recreation*

1. Acquire inholdings in Voyageurs National Park and look for opportunities to protect buffer around park.
2. Use abandoned mines as opportunity for ATV/OHV use.
3. Ensure protection of 2,244 acres of state park inholdings.
4. Acquire 2 additional state parks as called for in the State Park Plan: one in the Toimi Uplands just north and west of Duluth, the other in the Laurentian Uplands (predominantly in southern Lake County) with a potential recreational focus.
5. Complete the North Country Scenic Trail. Currently 109 of 105 miles o trail have been developed.
6. Promote opportunities for passive recreation in the area.
7. Identify key trout habitat and ensure long-term protection.
8. Maintain consistent strategy for harvest limits and adjust as needs of species demands.
9. Acquire additional 700 acres identified in WMA plan.
10. Work with U.S. and Canadian partners toward the development of a sustainable Lake Superior fishery.
11. Develop greater access to the region's outdoors or people with disabilities.
12. Create better interconnectedness among existing trails.

*F. Quietude and Solitude*

1. Develop strategies for protecting quiet enjoyment of the Arrowhead outdoors.
2. Retain 90,000 acres of roadless areas.
2. Teach children and adults about the importance of outdoor experiences to our physical and mental health.

**VI. Opportunities and Strategies**

- A. Large buildings on small lots.*
- B. Population around lakes effecting water quality, light pollution, etc. (making sure septics are working properly.*
- C. Educating people*

- D. *Exotic species*
- E. *Go native*
- F. *Studies of lake bottoms? What makes a good quality lake(s)*
- G. *Opportunity to fund immediate, current, needs and costs for private land protection, due to current demands and resulting land fragmentation (both conservation easements and acquisitions)*
- H. *Always a need for outreach and education in schools and environmental learning centers, nature center (not just in metro areas)*
- I. *Immediate staffing issues at WMA's, parks*
- J. *Mining issues – new tech*
- K. *Evaluate school trust and county administered state lands for site and landscape level ecological value and implement exchange/buy-out program to protect high value habitat/natural areas.*
- L. *Establish fund to protect all remaining undeveloped shoreline on “wild” and “recreational” lakes.*
- M. *Purchase all divesture tracts from private industrial forest owners with high ecological and recreation value*
- N. *Complete a comprehensive suite of scientific natural areas to protect a network of core areas for species of greatest conservation need (secondary benefit is opportunities for low-impact, dispersed recreation)*
- O. *Lobby for increased federal LWCF funding to Minnesota to enhance ability to acquire and protect critical inholdings.*
- P. *Expand scope of forest legacy (and its \$ amount) to maintain working forest lands and create contiguous blocks of protected forest land.*
- Q. *Develop elementary environmental education curriculum and mandate its implementation in public schools.*
- R. *Fund public/private partnerships with USFS and NPS to increase enforcement and on-the-ground maintenance projects in the wilderness and parks through increased staff and volunteers*
- S. *Fund education of all visitors, especially young people*
- T. *Funding from the LSCF for local and regional conservation projects large and small*
- U. *Exotic species and forest disease*
- V. *Renewed development on the Range, i.e. steel manufacturer/power production/iron ore*
- W. *Conservation easements on large (paper company) and small (individual) land parcels.*
- X. *Septic management upgrades for communities and cluster sewer projects for rural neighborhoods/lake shore owners (Crane Lake example)*
- Y. *Education programs*

#### Threats

- A. *Upgrading, expanding roads (in general)*
- B. *Land sales (in general)*
- C. *Mesabi Energy's project at taconite*
- D. *Harvesting tree tops in black spruce bogs*
- E. *Non-Ferrous mining*
- F. *Increasing ORV usage*
- G. *Private land sell off and forest fragmentation*