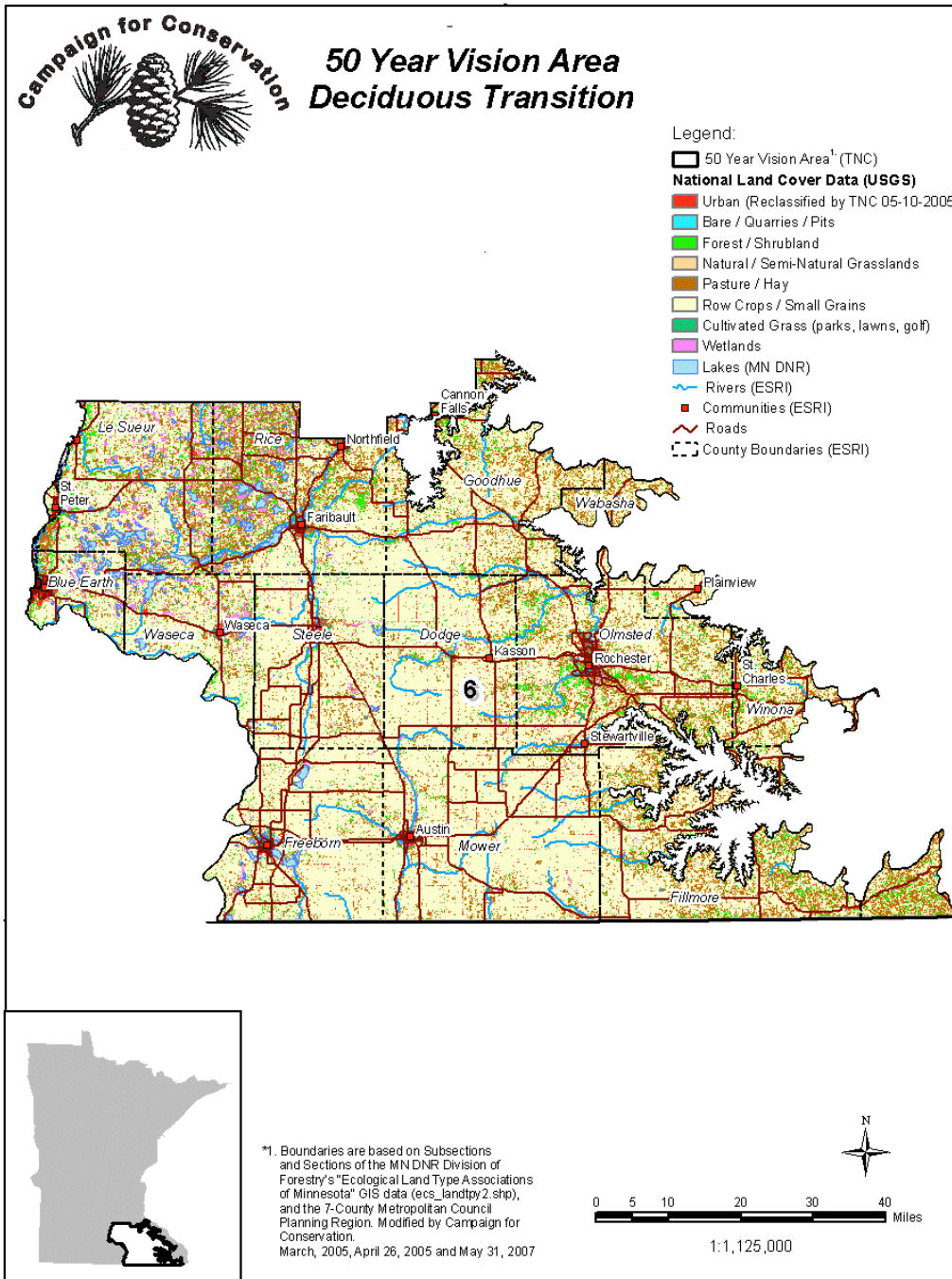


Deciduous Transition Conservation Region



Final Working Template
 October 2007

Acres in Conservation Region

3,545,564

Population

466,710 (2000 Census)
297,216 (Employed)
84 (People per Square Mile)

Population Change in Core Counties (2000- 2010)

1980 – 2000 + 7.5%
2000 – 2030 +50.8%
2000 – 2030 Increase in Individuals over 65 years of age +99.4%

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

1.2%

Counties (All or part)

Core Counties: Le Sueur, Rice, Goodhue, Dodge, Olmsted, Steele, Freeborn,
Mower and Fillmore
Peripheral Counties: Blue Earth, Houston, Nicollet, Wabasha, Waseca, and Winona

Ecological Classification System Subsections

Oak Savanna and Rochester Plateau [not including Scott or Dakota Counties] and
Big Woods [portion east of the Minnesota River in Le Sueur, Rice, and Blue Earth
Counties]

Natural Characteristics

Burr Oak Savanna
Tallgrass Prairie
Maple-basswood Forest
Wetlands and Shallow Lakes
Aquatic Riverine Communities and associated Riparian Forests

I. Why We Live Here

The Deciduous Transition Region offers an appealing mix of remnant forests, prairies, savannas, and wetlands set in an agricultural landscape. The headwaters of many of Minnesota's cold-water trout streams are located here. This rural farm countryside offers wide-open spaces broken by river valleys and bluffs where woodlands still are common. The pastoral nature of the region is balanced by a close proximity to urban amenities of the rapidly growing southern Twin Cities and Rochester. The overall result is a landscape of small towns where it is still possible to make a

living off the land and regional growth centers that offer rapidly expanding economic opportunities.

II. Current Conditions and Trends

A. Demographics and Economy

One of the most dominant features of this region today is rapid population growth and urbanization in the southern Twin cities and Rochester areas. Although the change is not as rapid as is in Dakota and Scott counties immediately to the north, the growth is expanding outward. All of the counties in this region will continue to see increases through 2030. Particularly rapid growth is expected in Olmsted County where the population is expected to increase 198% from 2000 to 2030, and in surrounding areas where bedroom communities spring up. The same phenomenon is occurring around Austin, Owatonna, Faribault, and Northfield although to a lesser extent.

Because counties outside the seven county Twin Cities metropolitan area are beyond the purview of the Metropolitan Urban Services Area (MUSA), low density development is common. The MUSA, determined by the Met Council, is the area to which development is to be directed and which will receive metropolitan sewer and road services. However, development often leap-frogs over this managed-services area into the collar counties where there is less regulation.

In addition to the collar counties, Minnesota's growth corridor extends south to Rochester, also included in this zone. The Rochester area alone added more than 20,000 new residents between 1990 and 2000 and is expected to add another 60,000 by 2030. Growth in the Rochester area is largely the result of Mayo Clinics, IBM, and supporting businesses.

The overall economy of the Deciduous Transition region is driven largely by agriculture. According to the 2002 Census of Agriculture, there were 10,800 farms in the nine core counties that together added to 2,947,000 acres. The cropland found within these farms covered 2,536,300 acres or about 11.2% of the total cropland in Minnesota. Total gross sales for the year 2002 amounted to \$1,173,719,000.

Federal farm policy and its implementing subsidy programs greatly influence the use of this farmland, and upcoming changes in the 2007 Farm Bill could either drive more land into row crop systems or into conservation activities. Of particular importance is the fate of the land currently enrolled in CRP contracts. Many of these contracts will expire between 2007 and 2010.

Another major change currently underway in the region is the growth of the biofuels industry. In 2006, there were 16 ethanol plants in Minnesota including ones in Claremont (Dodge County), Preston (Fillmore County), and Albert Lea (Freeborn County). These 16 plants produced 550 million gallons of ethanol from 196 million bushels of corn (15% of the states corn crop). By 2008, the number of plants will grow to 21 and they will use 25% of the state's corn crop to produce 1 billion gallons. This huge consumption of corn is already driving up corn prices, the price of farmland, and the conversion of CRP and other lands to corn production.

In contrast to northern Minnesota, forest products accounted for very little of the region's total economy. Total timberland in the nine core counties covered 250,691 acres of which 233,569 or

93% was privately owned. The total wood produced on a yearly average during the period of 2002-2004 was 11,473 cords of pulp and timber. The total value of the wood produced was \$365,000 that had an estimated economic impact of \$15,194,000.

B. Land and Habitat

This region contains parts of three ecological subsections, all originally characterized by deciduous forest interlaced with extensive prairie and oak savanna. The three subsections are: the Minnesota's original Big Woods, which extended through much of the present day Metro area from Wright to Rice counties, the Oak Savanna subsection in the south central part of the state, and the Rochester Plateau.

The Big Woods subsection in this region includes parts of Le Sueur, Rice, Waseca, and Blue Earth Counties. Seventeenth century French explorers encountered vast stretches of basswood, maple, oak, and elm forests in the lands between present-day St. Cloud and Mankato. This band of forest contrasted markedly enough with the surrounding prairies, savannas, and brushy oak and aspen woodlands. French explorers traveling through Minnesota in the 1700s designated it the *bois fort* or *bois grand*, which English-speaking inhabitants later translated as "big woods." The Big Woods included a large number of lakes. The presences of these lakes, as well as topographical differences, prevented the fire disturbance typical of the prairie to the west, resulting in the establishment of the dense forest. Red oak, sugar maple, basswood, and American elm were most common in this heavily forested region.

Extending south from the Big Woods is the Oak Savanna subsection, where fires from the surrounding prairies to the south, west, and east were periodically intense enough to maintain oak openings rather than forest. Further east is the Rochester Plateau, a gently rolling plateau which contains few lakes but is the headwaters of the Root, Whitewater, Zumbro, and Cannon Rivers. Tallgrass prairie and bur oak savanna were major vegetation communities on the Plateau. Oak savannas are one of the most endangered ecosystems in the world. Only small examples of prairie and oak savannas (less than 1%) still exist in the region and none are large enough to maintain their original ecological function.

The southern portion of the Big Woods have been extensively converted to agricultural uses, although significant examples of natural forests still remain in Nerstrand State Park in Rice County and along some lakeshores. Greater than 75% of the former Big Woods is cropland, with an additional 5-10% pasture.

The Oak Savanna and Rochester Plateau subsections are also extensively cultivated. Eighty-two percent of the Oak Savanna and 69% of the Rochester Plateau are in row crops and another 10 and 21% respectively are pastures. The vast majority of wetlands in the south central have been lost. In Steele, Dodge, Freeborn and Mower counties, less than 3% of original wetlands remain.

For the region as a whole, USGS National Land cover Types comprise:

Row crops/small grain	70.9%
Pasture/hay	18.4
Wetlands	03.0
Forest/shrubland	05.2
Natural grassland	00.1
Bare Rock/Quarries/Gravel Pit	00.1
Urban	01.7
Cultivated grasses	<u>00.6</u>
	100%

Many of the natural resources in the region have persisted due to conservation efforts on privately owned lands. Many conservation practices such as buffering streams, strip farming and no-till were adopted early in this region and some of their best examples are found here.

Urban and suburban land use is measured at only 1.7%, but the effects of fragmentation due to development is expanding outward from the south Metro and Rochester growth areas. This rapid development will have profound impacts on native plant and animal populations as well as decreasing the percentage of people in the region who have a direct economic tie to the land.

Although fairly small and widely separated, high quality examples of the regions natural heritage still exist. Among the most notable are Scientific and Natural Areas such as Cannon River Trout Lily, Kasota Prairie, Iron Horse, Wild Indigo, Shooting Star, Oronoco Prairie, Racine Prairie, and Cherry Grove Blind Valley. All of these areas have natural communities of high biodiversity significance. They offer vestiges of undisturbed natural Minnesota and contain native plants that are adapted to the local environment. They can serve as sources of local ecotypes for natural community restoration in surrounding areas. Sakatah Lake, Myre-Big Island, Rice Lake, Nerstrand Woods, Carley, and Forestville Mystery Cave are state parks that also have important native plant communities. Some lands within the statutory boundaries of Richard J. Dorer Memorial Hardwood State Forest capture important biological diversity as well.

The Minnesota County Biological survey has conducted inventories and analyzed about half of the area of the Deciduous Transition region. Those inventories identified 335 sites totaling 35,323 acres of high quality natural communities with biodiversity significance. A biodiversity planning effort conducted by The Nature Conservancy for the Prairie-Forest Ecoregion identified 14 high priority sites in this region of 52,690 acres for possible protection or restoration. The Audubon Society has identified 4,702 acres of Important Bird Areas in the region, 42% of which are in public ownership.

There are currently a total of 17 Scientific and Natural Areas in the Deciduous Transition region covering 1,815 acres.

Many of the existing conservation areas in the region are being increasingly isolated as residential and other development occur on their boundaries. Most of these areas are too small to be able to maintain ecological integrity within their own boundaries. The influences of border developments are resulting in the overall degradation of the protected areas of the region.

The single biggest threat to existing high biodiversity areas is invasive species. Every forest, prairie, wetland, and stream is impacted by exotic plants and animals. In some cases, the invasive species may have relatively minor impacts, but in other cases the ability of the natural community to provide ecological services is disrupted or rare native species are threatened with extirpation.

The vast majority of land in the Deciduous Transition Region is privately owned. The state of Minnesota is the largest public landowner with 37,339 acres while the federal government owns 1,279 acres and local governments own a total of 2,070 acres. This relatively low level of public land ownership (1.1%) puts high demands on the lands that are open to the public.

Patterns of private landownership are also changing within the region. Large areas of agricultural and undeveloped land are being subdivided for rural residential development and other uses. Countering this fragmentation due to rural residential development is a trend to increase the size of the remaining commercial agricultural operations. As aging small producers leave the

business, larger operations consolidate the farm land leaving a bimodal distribution of a few large farms and a growing number of small hobby farms.

C. Lakes, Rivers, Wetlands, and Groundwater

The Deciduous Forest Conservation region contains the headwaters of the Canon, Zumbro, Whitewater, Root, and Cedar Rivers. There are over 9,100 miles of streams and rivers running through the region. About 14 % of those miles have been straightened for drainage. Included in the stream total are 107.1 miles of dedicated trout streams although the bulk of the streams, rivers, and lakes in the region are classified as warm-water habitat. Within the region there are 69 lakes over 150 acres and many more smaller lakes and wetlands. Many of the aquatic features are threatened because of the rapid growth of the region. Lakeshore and riparian areas are particularly popular locations for the rural residential development.

The quality of water found in streams and rivers vary across the region. In agricultural areas many rivers and streams are impaired due to high turbidity as a result of sedimentation from soil and stream-channel erosion and eutrophication from high nutrient loads (phosphorous and nitrogen). Most rural streams also suffer high fecal coliform levels from livestock manure and septic and sewerage systems. In urban areas, increased runoff due to impervious surfaces and loss of undeveloped lakeshore has also impacted surface water quality. Although most of the “point sources” of contamination have been addressed in the region, “non-point sources” continue to be a major issue. Another pollutant problem that can affect both rural and urban areas is mercury contamination. The headwaters of the Cannon River from Faribault to Lake Byllesby and the Cedar River through Mower County to Hayfield in Dodge County have been impaired because of high mercury levels. In total, there are 78 different stream and river segments that have been labeled as impaired (mostly fecal coliform and turbidity) by the Minnesota Pollution Control Agency. Twenty-four lakes covering 13,657 acres have also received the impaired designation. The numbers of impaired waters will undoubtedly grow, however, as more waters are tested in the region. Only about 40% of the waters in Minnesota have actually been examined. It is reasonable to assume that the ultimate impaired waters list will probably be more than twice as long as it is currently.

Most of wetlands that existed in this region in European pre-settlement times have been lost to agricultural activities. In the southern part of the region, the loss has been at very high levels. According to Anderson and Craig in a 1984 study, less than six percent of the original wetlands still remain in Freeborn, Mower, Fillmore, Olmsted, Dodge, Steele, and Goodhue counties. Le Sueur County has lost up to 90% of its wetlands while Rice County has retained slightly more. Overall for the region, only about 3% of the total area is currently classified as wetlands.

Besides the impacts of wetland conversion from drainage, many wetlands also suffer from the same pollution that impacts rivers and streams. Most of the wetlands and shallow lakes in the region are hyper-eutrophic as the result of high nutrient loads. These increased nutrient loads dramatically increase the ability of invasive species to dominate these wetlands.

Agricultural run-off is a major problem not only for surface waters but also for groundwater. An aggravating factor to groundwater quality in this region is geologic features that make the southern part particularly sensitive to water pollution. Limestone in this area has been riddled by infiltrating acidic rainwater, forming rapid pathways (including sinkholes or caves) from pollution release points to drinking water wells. These near-surface karst landforms result in aquifers that are highly vulnerable to contamination from activities on the surface such as run-off, of fertilizer, pesticides, and animal waste.

D. Fish and Wildlife

Due to the rural nature of much of this region, hunting remains a popular pastime and cultural tradition. Among the chief game species are deer, pheasant, turkey, waterfowl, and other small game. Furbearers are another source of recreational opportunities and income for the region's trappers. Fishing focuses on brown and brook trout in cold-water streams and warm water species in the rest of the region. Small and large mouth bass, sunfish, crappie, catfish, and walleye are popular targets for the region's fishermen.

A variety of forest, wetlands and grasslands, provide habitat to a wide range of wildlife species. There are 94 Species in Greatest Conservation Need (SGCN) recorded from the Rochester Plateau ecological subsection, 93 species from the Oak Savanna subsection, and 121 species from the Big Woods subsection. Minnesota's Comprehensive Wildlife Conservation Strategy, *Tomorrow's Habitat for the Wild and Rare*, identifies the Oak Savanna natural community as one of Minnesota's rarest wildlife habitats. Savanna with its scattered trees in a prairie landscape was once common in this area and its inhabitants such as Swainson's hawks, red-headed woodpeckers, regal fritillaries, bobolinks, sandhill cranes, wood turtles, Blanding's turtles, trumpeter swans, and dickcissels were once more common than they are today. The threats that impact the greatest percentage of Species in Greatest Conservation Need include in ranked order: Habitat loss, Habitat Degradation in Minnesota, Habitat Loss and Degradation outside of Minnesota, Invasive Species and Pollution.

E. Recreation

During spring migration, this region draws bird watchers from around the state and surrounding areas. The Big Woods and riparian areas across the region attract large numbers of warblers and other song birds as they move northward. Most of the songbirds are in their brightest breeding plumage and more visible than when the trees have fully leafed out later in the year. Although fall migration is not as much of a draw, committed birders find the more challenging fall plumages rewarding as well.

While this region already contains eight state parks including Nerstrand, Sakatah Lake, Carley, Rice Lake, Whitewater, Myre Big Island, Forestville/Mystery Cave, and Lake Louise, the region was identified by the State Park Land study as needing an additional state park. In particular, a park focused on biological representation is needed within the Rochester Plateau ecological subsection, a subsection currently with out any state parks. In addition to a new state park, 4,755 acres of inholdings need to be added to the 7,073 acres currently owned and managed by the Minnesota state parks system. There is also a need in the rapidly growing counties for additional county park recreational opportunities. Oxbow and Chester Woods Parks in Olmsted County totaling 1,950 acres are good examples county parks in a growth area.

Additional development is also needed in the state trail system. Only 74.6 miles of 365.8 miles of legislatively authorized trails have actually been developed. The Douglas trail is an excellent example of the type of trails that are needed to meet the region's growing recreational demand.

Another popular form of recreation is canoeing and boating. Within the region are 321 miles of designated canoe routes focused on the Cannon, Zumbro, Root, Minnesota, and Straight Rivers.

Most of the hunting opportunities in the Deciduous Forest Region occur with permission on private land. According to the WMA Citizens' Report, less than 3% of the land in this zone is open for public hunting, although the region includes 104 Wildlife Management Areas consisting of 19,324 acres. Existing hunting lands suffer from overcrowding. Additional wildlife habitat has been protected through 451 permanent RIM reserve easements covering 13,641 acres, but many of these easements do not offer public access. The WMA Citizens' report calls for the acquisition of an estimated 15,053 acres of inholdings within existing WMAs and adding an estimated additional 19,208 acres of new WMAs. The newly created WMAs should be focused on increasing grassland habitat for pheasant and creating larger core forest blocks (1,700 acres and larger) needed for sustainable breeding populations of forest-dependent species such as cerulean warbler, wood thrush, and red-headed woodpecker.

The Minnesota Pheasant Plan calls for the protection or creation of 254,592 acres of additional pheasant habitat in this region to meet the statewide goal of 1.56 million additional acres. An increase of this magnitude would increase the statewide pheasant harvest by 750,000 roosters. Recent statewide harvests have been about 361,000 roosters. The Minnesota Duck Plan did not cover the entire Deciduous Transition region and as a result it is difficult to estimate the total number of acres needed to reach a statewide total duck population of 2 million. Based on available figures, an estimate of about 100,000 acres for this region is probably close.

Most of this region is part of what is known as the "Driftless Area". It is a part of Minnesota that was not heavily impacted by the last glacial advance ending about 14,000 years ago. As a result, much of the landscape is dissected with streams and there are few deep-water lakes. Most of the fishing opportunities occur in reservoirs and ponds, shallow lakes or within streams and rivers. There are 107.1 miles of designated trout streams in the region. River and stream access are somewhat limited with only 21 in the region, although unofficial access is sometimes available at road crossings.

III. Conservation Challenges

The greatest conservation challenges faced by the Deciduous Forest Conservation Region are the increasing population of the region and changes in the agricultural economy. Residential development is a major problem especially when it occurs as low-density rural development. The nature of agriculture is also changing, although in ways that could be beneficial to natural resources. To the extent that agriculture policy and practice can be directed toward conservation measures and toward diversified small family operations, environmental gains can be expected. In the short term, there are issues that must be dealt with: the retirement of marginal CRP lands back into corn production, the expansion of row crop agricultural to meet biofuel demands, and the continuing high level of nutrient runoff to surface and ground water. Other important threats include the impaired waters of the region, the lack of public outdoor recreation opportunities, the increasing impact of invasive species and the unknown impacts of global climate change on the regions economy and natural resources. How we deal with these big issues will largely determine the fate of natural resources in the Deciduous Forest Conservation Region over the next 50 years.

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)
- 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

Plans that should be reviewed for future planning:

- Olmsted County General Land Use Plan
- Rochester Urban Service Area Land Use Plan
- Olmsted County Water Management Plan
- MN Forest Resources Council SE Landscape Plan
- Big Woods Landscape Plan, DNR
- Rice County Natural Resource Inventory
- Dodge County Land Use Plan
- Waseca County Comprehensive Plan
- Root River Watershed Conservation Action Plan and Rapid Protection Plan, TNC 2007
- Fillmore County Comprehensive Plan
- Oak Savanna Landscape Plan, DNR
- County Water Plans
- Basin Alliance for the Lower Mississippi in Minnesota Scoping Document
- TMDL Plans for watersheds in the Deciduous Forest Region
- USDA Rapid Watershed Assessments
- Scenic Byway Plans, MN DOT

V. Goals

The primary goal in this region is to protect high quality examples of the regions natural communities, especially remaining savanna and prairie sites. The remnant communities can serve as the core of multiple use areas such as Wildlife Management Areas, State Forests, and State Parks.

A second important goal 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. Help communities develop a sense of identity (Why do we live here?).
 - Establish ordinances and guidelines at the local level that promote low-impact development
 - Diversify agriculture with perennial crops and mixed row-crop/livestock operations.
 - Promote the local production of food for local consumption. Foster the establishment of permanent year-round farmer's markets.
 - Promote outdoor-based recreation with an emphasis on fish and wildlife plus species of greatest conservation need.

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
 - √ Provide assistance and require local units of governments to develop and implement natural resource based land use plans.

- √ Require any rural suburban development to be conservation developments.
 - Continue emphasis on conservation ownership (public and private) in the remote, rural areas with most private ownership near existing infrastructure and services.
 - Establish scenic river standards for all rivers in the region. Prevent additional development that is viewable from the river.
2. Identify and protect high priority natural areas.
 - Complete finely focused 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.
 - Increase easement and fee acquisition of natural plant communities and areas buffering existing protected areas.
 - Establish a compatible use buffer on all sides of public conservation lands equivalent to 10% of the protected area.
 - Require the development of conservation plans as part of County Comprehensive Planning with input from multiple stakeholders. Each plan should address management guidelines that address the spread of invasive species and climate change.
 - Increase native plant communities to 15% of the landscape in the region.
 - Restore fire as an ecological process on 40% of remaining fire-dependent natural communities.
 3. Develop and promote management strategies that reduce the spread and dominance of non-native invasive species (e.g. zebra mussels, purple loosestrife, buckthorn, spotted knapweed, garlic mustard, curly leaf pond weed, etc.).
 4. Promote educational programs to reduce the spread of invasive species on private lands. Institute a private lands invasive species eradication and control program.
 5. Establish Cooperative Weed Management Programs that strive to control invasive species on public lands.

6. Monitor and prepare for impacts of climatic change on the region's native flora and fauna.

C. Lakes, Rivers, Wetlands and Groundwater

1. Habitat Protection

- Work toward 100% compliance with shoreline rules on all rivers and lakes.
- Implement programs to protect remaining undeveloped lakeshore and riparian areas.
- Develop a no net loss policy for riparian habitats.
- Ensure long-term viability of coldwater streams through headwater protection reforestation, groundwater recharge zones, etc.
- Increase the perennial vegetation cover within the landscape to 45%.

2. Reduce pollutants load of streams and rivers

- Decrease sediment loads by 50% through the use of best management practices on residential, agricultural and commercial lands. Enforce all farm conservation plans and FSA compliance rules.
- Complete impaired waters analysis for all lakes and streams in the region as soon as possible.
- Develop Total Maximum Daily Load (TMDL) studies for all impaired waters in the region.
- Reduce peak flows in streams that result from excess storm water runoff. Reduce annual discharge by 40% to surface waters. Consider charging individual property owners for excess storm water runoff.
- Enforce and enhance regulations regarding private septic systems and other individual sewage treatment systems.
- Require native buffer strips along lakes and streams in all developed and agricultural areas.
- Educated landowners as to landscaping options which are sensitive to the environment.

- Require confined livestock sewage to conform to the same standards as human sewage.
3. Inventory area wetlands and assess ecological function
 - Develop targets for remaining wetland protection and restoration.
 4. Restore 5% or more of the original wetlands in the region to allow the interception of 40% or more of the surface runoff in order to stabilize hydrology.
 5. Reform the drainage code so that public costs are fully accounted and mitigated.
 6. Determine groundwater systems and identify sources of potential contamination
 - Develop groundwater flow models.
 - Develop targets for groundwater protection. Create ordinances that are ecologically based to protect sensitive ground water zones.
 - Assess capacity in light of growth demands and direct growth away from areas of fragile or limited groundwater supplies.
 7. Develop a policy of no net gain of Nitrogen, Phosphorus, or pesticides in groundwater.

D. Fish and Wildlife

1. Develop incentives and regulations for enhanced protection of shoreline and stream restoration.
2. Protect and establish wildlife corridors to prevent isolation of populations. Connect existing conservation areas and expand where needed.
3. Stabilize and increase breeding populations of all native species to ensure healthy sustainable populations including native fish (both warm and cold water species).
4. Ensure that suitable habitat for species of concern is primary focus of land and water conservation efforts. Restore healthy breeding populations of all bird and reptile species in the region.

E. Recreation

1. Acquire an additional 4,775 acres of state park inholdings.
2. Create and open one new state park.
3. Fully fund existing state parks to keep them open.
4. Create new county parks focused on natural biodiversity particularly in growing areas.
5. Develop the 365.8 miles of legislatively authorized trail that have not yet been completed.
6. Identify additional trail needs to complete a regional trail system. Connect all large parks to the trail system. Develop a trail from Whitewater State Park area to Rochester.
7. Establish outdoor recreation opportunities within walking distance of each community in the region.
8. Promote opportunities for outdoor recreation in the area especially for senior citizens and the disabled.
9. Develop a public outreach program to immigrant communities to educate them about public recreational opportunities.
10. Encourage school districts to use existing parks as outdoor classrooms.
11. Restore and protect 254,592 acres of grasslands as called for in the Pheasant Plan. Much of this area will be protected in easements and temporary contracts.
12. Identify key trout habitat and protect and restore necessary land.
13. Maintain consistent strategy for harvest limits and adjust as needs of species demands.
14. Restore native game populations sufficient to support sustainable hunting and trapping e.g. sharp-tail grouse, prairie chicken, bobwhite quail, and jackrabbits.
15. Acquire additional 15,000 acres of WMA inholdings and 19,200 acres of new WMAs as called for in WMA plan. Develop building-free zones within ½ mile of WMA boundaries as appropriate to allow their continued use as public hunting areas.
16. Teach children and adults about the importance of outdoor experiences to our physical and mental health and to reconnect them to the land.

VI. Opportunities and Strategies

Conservation opportunities within the Deciduous Transition region can be categorized into four major categories. The first category focuses on protection and restoration of examples of the area's native Big Woods habitat. Among the areas highlighted as possible locations for increased conservation efforts are forests along the Minnesota River, the Cannon River headwaters near Kilkenny township and Shields Lake, forest parcels around Nerstrand Woods State Park, easements adjacent to the Carleton College arboretum, shoreline along Eagle, Buffalo and Elysian Lakes, forests near the confluence of Rush Creek and the Straight River, woodlands along Silver Creek, the headwaters of the Root River near Bear Creek and Deer Creek, parcels near Forestville State Park, and the confluence of the Middle Fork of the Root River and Spring Creek.

A second identified conservation focus is the protection of wetland and prairie habitats. Opportunities for protecting important prairies exist in Warsaw township southwest of Faribault, fens near Hayfield, prairies and wetlands along the Upper Iowa River, and prairie remnants near the Shooting Star Trail among others,

Besides land protection, there is a great concern within the region for the quality of its waters and the protection of streams and rivers. Maple Creek in Steele County, the Straight River in Steel, the Zumbro in Dodge and Olmsted, the Shell Rock River and its connected lakes (Pickerel, Fountain, Albert and Lea) in Freeborn County, Millican Creek in Dodge, Geneva Lake/Turtle Creek in Freeborn, and Goose Creek in Freeborn County all are candidates for cleanup and protection work. Removal of dams that no longer provide their original functions such as the Lake Louise Dam and flood mitigation projects especially along the Red Cedar River, Dobins Creek, and Turtle Creek are examples of projects that could include important conservation benefits.

The final category of conservation opportunities involves dealing with the rapid growth and development of parts of this region. Development is often focused on scenic or high-quality natural areas or undeveloped lakeshore. Land planning and zoning is important and regulations need to be vigorously enforced and plans fully implemented. Care must be taken, however, to avoid pushing residential development from marginal farmlands that are being protected to bluff areas and other natural habitats. Besides that outright loss of important habitats, development also has less direct impacts that need to be considered in planning such as storm water runoff.