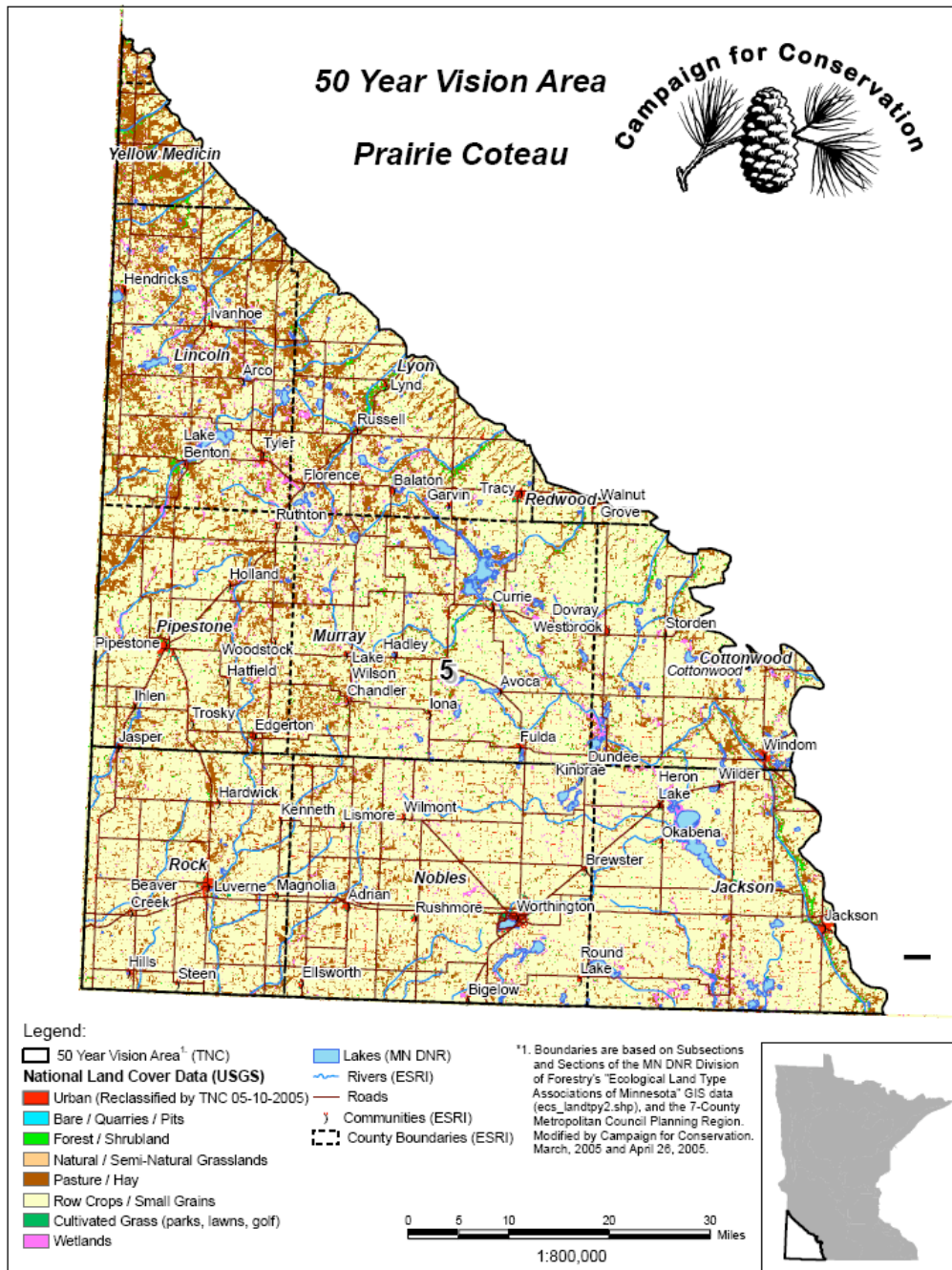


Prairie Coteau Conservation Region



Final Conservation Template
October 2007

Acres in Conservation Region

2,822,311

Counties (All or part)

Core Counties: Jackson, Lincoln, Lyon, Murray, Nobles, Pipestone, and Rock

Peripheral Counties: Cottonwood, Lac Qui Parle, Redwood, and Yellow Medicine

Population

83,126 (2000 Census)

49,665 (Employed 2007 Seven Core Counties)

18.9 (People per Square Mile)

Population Change in Seven Core Counties

1980 – 2000 - 9.8%

2000 – 2030 +2.4%

2000 – 2030 Increase in Individuals over 65 years of age +38.1%

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

1.8% = 51,030 acres

Ecological Classification System Subsections

Coteau Moraines Subsection

Inner Coteau Subsection

Natural Characteristics

Tallgrass Prairie

Wet Prairie

Prairie wetlands

Shallow lakes and marshes

Riparian woodland

I. Why We Live Here

The Prairie Coteau Conservation Region captures the true feel of our prairie heritage perhaps better than any other part of Minnesota. There are still wide-open spaces that have the wind-swept feel of the Great Plains further to the west. Residents prize the rural landscape with a relatively low human population. Many have long family ties to the land and have stayed despite an ebbing population because of a simpler, more-affordable lifestyle where outdoor recreation remains an important activity. There is also a small-town feeling of belonging, where neighbors are valued. Buffalo Ridge is a reminder of the region's prairie history although it is now becoming better known for its potential as a major source of wind energy. Wind farms and biofuels promise the next wave of prosperity from the prairie. Some extensive prairie wetlands such as Heron Lake were once legendary among duck hunters, and still support relatively large populations of waterfowl that are a visible part of the seasonal rhythm during fall and spring migration.

II. Current Conditions and Trends

A. Demographics and Economy

Worthington in Nobles County and Marshall in Lyon County are the largest population centers. Like many counties in the Great Plains, growth has been slow or declining over the past 50 years. The trend is expected to continue into the future. From 2000 to 2030, Nobles, Lyon, Rock, Jackson, and Lincoln counties will see slight population increases, but Pipestone and Murray are expected to see a slight loss. In a few growth areas such as Lake Shetek and Lake Sarah in Murray County, there has been an increase in residential housing. Lakeshore development in general is an environmental issue due to a loss of habitat and decline in water quality on many of the Coteau's shallow lakes.

The makeup of the regions population is also changing. The recent influx of immigrants to the meat packing and other agriculture-related industries is adding to the region's ethnic diversity. These newcomers don't necessarily have the same traditional ties to the land. Educational programs will help new residents learn about the region's outdoor recreational opportunities and gain an appreciation for why the protection of the Coteau's natural resources is so important.

The economy of the Prairie Coteau Conservation Region is driven largely by agriculture. According to the 2002 Census of Agriculture there were 6,077 farms in the seven core counties covering a total of 2,433,734 acres. Total harvested cropland consisted of 2,033,775 acres. The total gross market value of agricultural products sold was \$974,392,000. Crops comprised 45% of this value while livestock and poultry made up the other 55%.

The comparative rank of agricultural in this region illustrates its predominance. With only 5.2% of the area of the state, 7.5% of Minnesota's farms are found here and they produce 11.4% of the state's gross market value of agricultural products. However, the number of persons employed in the farming sector has been declining since 1980. Farm operations have been consolidating with lost jobs in the agricultural sector being replaced with jobs in services, small manufacturing, retail and government.

Federal farm policy and its implementing subsidy programs greatly influence the use of farmland. 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 those in Luverne (Rock County), Bingham Lake (Cottonwood County), and Marshall (Lyon County). These 16 plants produced 550 million gallons of ethanol from 196 million bushels of corn (15% of the state's 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 demand for corn is already driving up corn prices, the price of farmland, and the conversion of CRP and other lands to corn production.

Further in the future is the potential development of a cellulosic ethanol industry where prairie grasses and other biomass feedstocks are used to produce ethanol. Extensive areas of perennial grasses in the agricultural landscape could greatly benefit wildlife if the harvest is managed to maintain habitat at critical times. However, a cellulosic ethanol industry could also compete with livestock produces for grass and convert land from other uses to biomass production.

Alternative means of energy production is affecting this region in other ways. The recent development of large-scale wind production is a highly visible feature of the Coteau landscape. Buffalo Ridge is one major site, but all areas in the region have substantial potential for wind generation. Currently the ownership of the wind farms largely lies with outside corporations and investors and provides limited long-term benefits to the local economy.

Tourism is a growing economic activity in the Prairie Coteau as well. Hunting and fishing have always drawn sportsmen to this region but many other attractions also have a natural resource base. Jeffers Petroglyphs and Pipestone National Monument are regional attractions. The type of people pulled to the Coteau includes birdwatchers, night-sky gazers, native prairies enthusiasts, and wind-farm aficionados. More culturally oriented tours, such as those related to native-American history and the "Little House" book series, often emphasize the natural environment context of past events.

B. Land and Habitat

The Prairie Coteau is one of the most remarkable landforms in North America. During the last glacial period, the Coteau formed a barrier that split the ice flowing down from the Red River Valley into two streams. The southeast flowing stream, the Des Moines Lobe, passed through Minnesota into Iowa while the James Lobe moved southwest through South Dakota. The Coteau rises 300 to 600 feet above the Minnesota River Valley consisting mostly of glacial sediments overlaying a core of Sioux Quartzite and other rocks.

Most of the Coteau is a high glacial landform whose surface is gently rolling and topped by the Buffalo Ridge (1995 feet above sea level) in northern Pipestone County. This high elevation is caused by thick deposits of pre-Wisconsin age glacial till (up to 800 feet thick). George Catlin called this area the *Coteaus des Prairies*, or highland of the prairies. Streams flowing off the Coteau escarpment have carved deep coulees in places. They tend to be cooler than the surrounding area providing habitats and oxygenated water not found in the rest of southwest Minnesota.

Tallgrass prairie once covered virtually all of the landscape. This area is part of the Prairie Pothole region. Wet prairies and marshes were scattered throughout but are more abundant in the areas of the region that were glaciated in the last ice advance. As a result, wet prairies covered a

much smaller proportion of the Prairie Coteau than of the Minnesota River Prairie because less was glaciated. Forest was restricted to ravines along a few streams. Windy conditions are very common. The elevation, broken topography, and sufficient precipitation favor dense deciduous forest growth in riparian areas. What little native prairie is left is under threat by tree encroachment due to fire suppression and limited use of prescribed fire.

The Coteau Region is composed of two ecological subsections. The Inner Coteau subsection (the most southwestern triangle of the zone) is somewhat drier with fewer wetlands than the Coteau Moraines subsection (the remainder of the Coteau triangle). The region as a whole contains some of the highest elevations in the southern part of Minnesota and captures the divide between three major river systems. The Rock River and creeks to the west flow into the Missouri River, many watercourses of the central portion of the Coteau flow southwest to the Des Moines River, and the northern and northeastern portion of the Coteau flow off the edge of the Coteau towards the Minnesota River and its tributaries. The large Heron Lake watershed is located in portions of Jackson, Nobles, Murray and Cottonwood County.

Agriculture is the now the dominant land use, with approximately 76% of the land currently under cultivation. The Coteau Moraines have slightly more land in hay or pasture than the Inner Coteau, due to the fact that the soil on the moraines is less ideal for crops. In both subsections, steeper areas are often covered with woodlands which are used for pasture. Flatter areas are cropped unless they are in the lowest wettest areas. Tiling, ditching and channelization of streams have significantly reduced the number of wetlands.

Current land cover composition is:

Row crops/small grain	76.4%
Pasture/hay	17.8
Wetlands	02.6
Forest/shrubland	01.8
Urban	01.2
Cultivated grasses	<u>00.2</u>
	100%

Although fairly small and separated, high quality examples of the regions natural heritage still exist. Among the most notable are Scientific and Natural Areas such as Compass, Prairie Bush Clover, Des Moines River, Glynn, Holthe, Lundblad, and Prairie Coteau SNAs. Together these seven sites comprise 1,314 acres. Pipestone National Monument also has examples of native prairie. All of these areas contain important prairie communities of high biodiversity significance. Several state parks including Split Rock Creek, Blue Mounds, Kilen Woods, and Camden State Parks also preserve important biodiversity features. Many Wildlife Management Areas contain areas of native vegetation as well and can add to the habitat base of both game and nongame native species.

Although most of the area has not been completely inventoried or analyzed, the Minnesota County Biological Survey has identified 38 important natural community locations totaling 2,344 acres. Using another type of biodiversity planning analysis, The Nature Conservancy identified 4 large areas of 22,434 acres within this conservation region that are part of the Northern Tallgrass Prairie ecoregional portfolio. Not all land within these areas need to be protected but important conservation targets are present that do merit preservation.

Protection of prairie remnants has also been accomplished on private lands. There are 28 Native Prairie Bank easements totaling 1,648 acres located in the Prairie Coteau Region. RIM Reserve easements offer permanent protection to wetlands and other habitats. The state of Minnesota holds rights on 16,602 acres in 447 RIM Reserve easements.

The vast majority of land in the Prairie Coteau Region is privately owned. Only 1.8% of the total land area is owned by federal, state, or local governments. The State of Minnesota is the largest public landowner with 41,507 acres while the federal government owns another 9,523. The federal land includes 8,627 acres managed by the US Fish and Wildlife Service and 326 acres in Pipestone National Monument. This low level of public land ownership puts high demands on the lands that are open to the public.

Within the region there is a perceived problem of absentee private ownership. Although the percentage of absentee landowners has not been quantified for the region, it is an issue for natural resource management because owners that don't live in the area may be out-of-touch with local concerns and conservation programs.

C. Lakes, Rivers, Wetlands, and Groundwater

There are nearly 7,800 miles of streams and rivers that flow through the Prairie Coteau Conservation Region. About 6% of them have been ditched. Included in the total are 40 miles of designated trout streams. These cool-water streams include portions of Canby Creek in Yellow Medicine County, the Redwood River in Lyon County, and Scheldorf Creek in Cottonwood County.

There are also 62 lakes greater than 150 acres in size in the region and many smaller wetlands and lakes. The depth of many shallow lakes has been increased by placing low dams across their outlets. The creation of deeper water means the lakes can maintain a permanent fish population because winterkill is reduced and makes the lakes more attractive for recreational water sports.

Water quality and availability are major concerns. The Minnesota Pollution Control Agency has surveyed only about 40% of Minnesota's waters yet has labeled 59 streams and rivers and 12 lakes in the Prairie Coteau Region as impaired. Most of the identified rivers and streams have been impaired by either high turbidity as a result of soil erosion and eutrophication from high nutrient loads (phosphorous and nitrogen) or by fecal collators bacteria. Both turbidity and fecal coliform bacteria have impaired segments of Pipestone Creek, Elk Creek, Beaver Creek, Okabena Creek, Rock River, and the Des Moines River.

Some watersheds, such as Heron Lake, are prone to seasonal flooding which can be a significant problem.

Most of the wetlands that existed in this region in European presettlement times have been lost to agricultural activities. The National Wetland Inventory identified nearly 112,000 acres of wetlands remaining in the region, but that total represents less than 5% of the wetlands originally found in the area. Anderson and Craig estimated in 1984 that Rock, Nobles, Pipestone, Jackson, Lyon and Cottonwood Counties had all lost at least 99% of their presettlement wetlands.

A major threat to the biological value of the region's wetlands and shallow lakes is the presence of carp and bullhead. These species and other bottom feeders stir up bottom sediments and destroy emergent plants making the wetlands less attractive and in some cases unsuitable for waterfowl and other wetland species. A related problem is the use of wetlands and shallow lakes

for commercial aquaculture. The addition of minnows, other baitfish, or fingerling game fish to a waterbody that otherwise would be fish-free due to winterkill, can change the nature of the wetlands. These aquaculture endeavors can cause increased turbidity, a change in the composition of the aquatic invertebrate community, and make the wetlands unsuitable for waterfowl.

Shallow aquifers that once supplied the rural population with water are now polluted with nitrates, phosphates and pesticides. Presently, rural water associations provide much of the water for residents living outside of municipal areas. The source of this association water and most municipal systems often are deep wells that tap into the Dakota Aquifer but some of the water still comes from shallow aquifers. There is generally a shortage of water for industrial uses, which could be a limiting factor in the siting of ethanol plants. Initial planning to run a pipeline from the Missouri River in South Dakota has been conducted but removing water across state lines and between major river basins is often problematic.

D. Fish and Wildlife

Waterfowl, pheasant and deer are the targets of most hunting activity in the area. In the past, this area of the Prairie Pothole region was the location of some of the finest waterfowl habitat and hunting in the world. Duck numbers have been reduced greatly and there is a critical need for nesting and migratory habitat to restore populations to something approaching their past abundance. Fishing in this region focuses on walleye, crappie, channel catfish, and perch.

Over 260 species of birds have been recorded in Murray County alone, but loss of habitat has resulted in fewer species and smaller populations. Despite their presettlement abundance, upland birds such as the prairie chicken have been absent from this zone for many decades. Raptor and songbird populations have also declined. Currently there are 82 wildlife Species of Greatest Conservation Need in the Prairie Coteau Conservation Region. Many of the rarest species are prairie adapted, including the prairie vole, Franklin's ground squirrel, badger, grasshopper sparrow, short-eared owl, upland sandpiper, bobolink, burrowing owl, dickcissel, Dakota skipper, powesheik skipper, regal fritillary, plains topminnow and Topeka shiner. The Topeka shiner is particularly notable because some of the largest populations in the world of this federally listed endangered species are found in the Prairie Coteau.

On the other hand, some rare species such as bald eagles and jack rabbits are making a comeback as they find a niche within the changing agricultural landscape.

There are a number of shallow lakes across the region that form a migratory bird corridor for waterfowl and other prairie wetland birds. Heron Lake is probably the best known but others including Badger Lake, Talcot Lake, and Lake Maria are important links in the chain of migratory stopover sites.

Increasing wind power generation facilities and related infrastructure changes may have undetermined impact on wildlife and may create a competing demand on land use.

E. Recreation

Tourism has been helping to diversify local economies. Pipestone National Monument in Pipestone County and Blue Mounds State Park in Rock County draw visitors to the area. Other state parks include Split Rock Creek, Camden, Lake Shetak and Kilen Woods. The five state

parcs contain 6940 acres within their statutory boundaries, but only 3,901 acres are actually owned by the state. The remaining 3,034 acres are inholdings that need to be added to the state park system. The State Park Land study also identified the need for an additional state park in the Inner Coteau Ecological Subsection with a geological theme representation.

The Casey Jones State Trail, the only state trail in the region, currently has three short segments near Pipestone. Only 19.9 miles of the 94.1 approved by the Minnesota State Legislature have actually been developed. The remaining 74.2 miles need to be completed and the trail extended to tie into the developing state trail network.

Trails can also play an important role in connecting natural resource areas with corridors of natural vegetation. Such connections can allow movement of animal and plant species to maintain gene flow and the colonization of better habitat as environmental conditions change due to global warming.

The Prairie Coteau is usually not thought of as a part of the state with a strong boating background, but 127 miles of the Des Moines River has been designated as a state canoe route.

Hunting is a popular form of outdoor recreation, although many hunters are drawn across the border to South Dakota. There is a high demand for public hunting opportunities in the Prairie Coteau Region due to the estimate that less than 3% of its total area is open to public hunting. There are about 236 Wildlife Management Areas in the region consisting of 42,769 acres. The Wildlife Management Plan Acquisition Plan sets a 50-year goal of doubling public hunting opportunities for pheasant and waterfowl by acquiring an estimated 70,000 acres of new WMA lands as well as acquiring 26,938 acres of inholdings at the existing WMAs. The newly created WMAs should be focused on increasing grassland and wetland habitat for pheasant and waterfowl and creating large core grassland blocks (>2000 acres) for multiple grassland species.

Partly because the southwest region of Minnesota has the shortest average duration of severe winter weather, the region ranks third in the state in the potential to produce pheasants. The state Pheasant Plan aims to increase Minnesota's pheasant harvest to 750,000 roosters by 2025. To accomplish this, an additional 1.56 million acres of grassland habitat must be added or restored in the state. The Prairie Coteau's share of that habitat is around 246,000 acres. A further complication to the pheasant's future in Minnesota is the fate of USDA Conservation Reserve Program lands. The rebound of the Minnesota's pheasant population in the last twenty years is largely attributable to the expansion of suitable habitat created through CRP. However, large numbers of CRP contracts are set to expire in the next few years, and there is concern regarding the availability of federal funds to renew the current acreage levels. Inadequate funding could result in the loss of many acres of marginal land to production.

The Minnesota Duck Plan is another ambitious effort to improve wildlife habitat in Minnesota. This plan calls for adding 2,000,000 new acres of habitat statewide to produce a breeding duck population averaging 1 million birds. To accomplish this goal in the Prairie Coteau will necessitate adding about 116,000 acres focused on wetland/grassland complexes of working lands, each 4-9 square miles in size.

III. Conservation Challenges

The greatest conservation challenges faced by the Prairie Coteau Conservation Region are restoring the ecological function of a significant number of the regions wetlands, shallow lakes, and prairies. There are far too few of these natural habitat areas remaining and most of those that

still exist have been heavily impacted by such factors as excessive nutrients, hydrologic alterations, and exotic species introduction. The nature of agriculture in the Prairie Coteau is also changing, although in ways that are unpredictable. 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 addressed: the retirement of marginal CRP lands back into corn production, the expansion of row crop agricultural to meet biofuel demands, shortages of water stemming from the high consumption of ethanol plants, and the continuing high level of nutrient runoff to surface and ground water. Other important threats include the impaired waters of the region, inadequate 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 Prairie Coteau 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:

- Experiment in Rural Cooperation, University of MN, 2006 (ongoing)
- Minnesota Comprehensive Wildlife Conservation Strategy, DNR, 2006
- Minnesota Pheasant Plan, DNR, 2006
- Minnesota Duck Plan, DNR, 2005
- 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
- Southwest Regional Development Commission – economic reports
- Casey Jones State Trail Master Plan, MN Dept. of Natural Resources, Draft, May 2005
- HAPET modeling conducted by USFWS for wetland/grassland protection and restoration

Further Planning should consult these additional planning efforts:

- County Comprehensive Water Plans
- Working Lands Initiative
- Statewide Corridors Project
- Redwood-Cottonwood Rivers Control Area Plan
- Wellhead Protection Plans
- Watershed District Plans

V. Goals

Agriculture will continue to be the primary land use in the zone. The primary goal will be to achieve a 70/30 balance of cropland to grasslands and wetlands. Conservation efforts should be centered on improving wildlife habitat by expanding existing protected areas. Increasing grassland buffers near surface waters will improve water quality and reduce flooding.

Converting some cropland to grassland for grazing will assist in recharging and filtering ground water aquifers. The focus will be on the Coteau Moraines, where the soil is less suitable for crop production and there are more opportunities to convert cropland to grass.

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

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 and severely restrict lakeshore development.
 - Locate new wind power generation facilities away from migration corridors and away from native prairie to avoid the introduction of invasive species during the construction process and reduce the impact on declining prairie bird species.
 - Increase grass-based agriculture as an alternative to row crops. Specifically, increase the use of free-ranging cattle to diversity agricultural systems and increase the area of grassland. Also increase native-grass fields for cellulosic biofuel production while providing wildlife habitat.
 - Encourage more organic agriculture and direct food production.
 - Implement best management practices in environmentally sensitive agricultural areas including the use of terraces, conservation tillage, and filter strips.
2. Teach residents about the importance of outdoor experiences, natural resource protection, and conservation initiatives for themselves and future generations.

B. Land and Habitat

1. Identify and protect high priority natural areas
 - Complete finely focused natural resource inventory and identify stressors to ecological function.

- Identify restoration targets for prairies and wetlands and acquire rights necessary to restore ecological functions.
 - Develop conservation plans for each county specifying the actions needed to protect natural resources and maintain a high quality natural environment. Specific goals for prairie and wetland restoration should be included in each plan.
 - Use the full spectrum of protective tools to ensure critical areas are conserved.
2. Control spread and infestation of invasive species (e.g. curly leaf pondweed, purple loosestrife, leafy spurge, reed canary grass, etc
 3. Monitor and prepare for impacts of climatic change on the region's native flora and fauna.
 4. Research the impact of genetically modified plants on insects (especially pollinators) and other small animals.

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.
 - Develop statewide standard for greater buffer strip margin and new wetland buffer strip rule. Enforce mandated buffer strips 66' wide on all ditches, 50' for wetlands, lakes, and streams.
 - 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 storm water runoff.
 - Enforce and enhance regulations regarding private septic systems. Ensure statewide standards rather than local standards are used for compliance.
 - Educated landowners as to landscaping options which are sensitive to the environment.
2. Set goals for returning ditches to natural hydrology and morphology.
3. Restore 50 shallow lake basins of 50 acres or greater.

4. Inventory and evaluate dams and work with local stakeholders to replace fixed crest dams with variable crest structures or fish passages that can be managed to replicate natural hydrology.
5. Inventory area wetlands and assess ecological function
 - Develop targets for wetland protection and restoration.
 - Complete the restorable wetland inventory for the region (HAPET).
6. Establish a goal of restoring 5% of the original small wetlands (<50 acres) in the region.
7. Reduce the carp and bullheads in 50 shallow lake and wetland complexes.
8. Restore the Great Oasis, and Slaughter Slough in Murray County and Lake Augusta wetland in Cottonwood County, and Goose Lake in Lyon County.
9. Maintain and expand temporary easements and contracts for conservation utilizing federal farm bill programs.
10. Complete enrollment in the CREP II federal farm bill program recently authorized to protect 18,000 acres as part of SW MN CREP
11. 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.
 - Follow and enforce Wellhead Protection Plans as established by Rural Water Associations and municipalities.

D. Fish and Wildlife

1. Develop incentives and regulations for enhanced protection of shoreline and stream restoration.
2. Improve shallow lake and large wetland management.
 - Severely restricted residential development along lakeshores
 - Offer financial incentives for Best Management Practices along lakeshores.

3. Ensure that suitable habitat for species of concern is primary focus of land and water conservation efforts.
4. Expand private landowner stewardship programs.
5. Evaluate fish stocking versus creating habitat for natural production.
6. Identify riparian corridor needs and promote conservation practices leading to their creation and management.
7. Develop incentive for rotational harvest of grass to provide wildlife habitat on fields managed for biofuels.

E. Recreation

1. Acquire an additional 3,034 acres of state park inholdings.
2. Create and open one new state park.
3. Support full funding and staffing for the current state park system.
 - Fund naturalist programs.
 - Fund ranger salaries and benefits.
 - Repair and maintain existing facilities.
4. Develop the 74.2 miles of legislatively authorized trail that have not yet been completed. Strong local support for expanded trails may offer opportunities for linking natural communities while increasing recreational access.
5. Identify additional trail needs to complete a regional trail system.
6. Promote opportunities for passive recreation in the area.
7. Restore and protect 246,000 acres of grasslands as called for in the Pheasant Plan. Much of this area will be protected in easements and temporary contracts. Increased pheasant populations could help draw hunters to the area, which would help diversify local economies and provide visitors in the non-summer months. Grassland birds would also benefit from the same habitat and would draw increasing numbers of birder watchers to the area.
8. Restore and protect 116,000 acres of grassland/wetland complexes and protect and restore 20% of the 1800 shallow lakes within the Prairie Coteau Region all as called for in the Duck Plan.

9. Maintain consistent strategy for harvest limits and adjust as needs of species demands.
10. Acquire additional 27,000 acres of WMA inholdings and 70,000 acres of new WMAs as called for in WMA plan. The Talcot Lake Wildlife Management Area in southwest Cottonwood County was highlighted by the WMA Report as a priority for completion/expansion.
11. Teach children and adults about the importance of outdoor experiences to our physical and mental health.

VI. Opportunities and Strategies

Issues of water and aquatic habitats dominate discussions of what conservation activities need to be accomplished in the next fifty years. The Prairie Coteau has limited supplies of both surface water and groundwater. As a result, the protection, conservation, and efficient use of water are important issues and opportunities for the region. The improvement of water quality is key. All impaired waters including the Rock River, Redwood River, Cottonwood River, Yellow Medicine River, Des Moines River, Pipestone Creek, Lake Shaokatan, Lake Shetek, Lake Sarah, and Heron Lake need to be cleaned up to levels safe for human and ecosystem health. There is a strong likelihood that state resources will be available in the future to address the task.

The restoration of wetlands and lakes is another great opportunity to improve the ecosystem function of the region. The protection and improvement of the wetlands still remaining is needed but there is also opportunity to restore former wetlands such as the Great Oasis, Lake Augusta, and the Great Wetland. Where dams are failing or no longer provide expected environmental benefits, such as those at Anderson Lake, Talcot Lake, and Jackson, they need to be updated or removed. Increased floodwater retention by wetlands is also an issue as is residential development along lake shorelines. Groundwater issues need attention as well, particularly to prevent contamination via wells and to avoid shortages around water-use intensive projects such as ethanol plants.

For the Coteau's upland systems, the remaining native prairie deserve some level of protection. The developing new industries of corn and cellulosic ethanol and wind energy need regulation to ensure that changes occur in ways that are economically viable and are beneficial to the environment. Other potential threats including large feedlots, gravel and coal mining should be managed with the overall viability of the region in mind.

To improve the economic health of the region, nature-based tourism can be expanded. There are great birding destinations in the region such as Salt Lake and Heron Lake that need to be promoted better. Other great attractions include an excellent regional trail system and native prairies that can highlight not only the ecology of the area but also it's Native American History such as the site at Jeffers Petroglyphs. In general, the Prairie Coteau Region needs to embrace its prairie heritage and use it as a tool to provide recreational and educational opportunities for residents and visitors alike.