

Section II: Existing Forest Context



Beltrami County is one of 17 Counties in northern Minnesota that manages tax-forfeited forest lands for a variety of uses. With its location in north-central Minnesota, Beltrami lies mostly in the Laurentian Mixed Forest Province. The LMF Province in Minnesota is characterized by broad areas of conifer forest, mixed hardwoods and conifer forests and conifer bogs and swamps. Beltrami County is one of three counties that share the world-famous Big Bog – a peatland reservoir that covers much of the northeast part of the County. Just to the south and west of the Big Bog is Red Lake – the largest freshwater lake entirely contained in one state in the continental U.S.

Beltrami County itself manages approximately 147,000 acres of forest lands. The majority of this land is located in southern Beltrami County, where it intermingles with state, federal, and tribal land. The modern composition of the county's forest is largely pine and aspen, with a mix of other northern hardwood species. A considerable amount of lakes and wetlands has produced a cross-section of lowland, non-merchantable timber stands.

Landscape Context

The Minnesota Forest Resources Council provides assessment and coordination functions for public forest managers in the North Central landscape region. Their "Minnesota North Central Landscape: Current Conditions and Trends Assessment (2000)" provides a base of information for all forest managers in the region to work from.

All areas of the state have been categorized within a national system that categorizes areas on several levels, from the largest landscape provinces, to a broadly defined section of that landscape, down to the specific native plant community of a particular area. The North Central Landscape, described within the Ecological Classification System (ECS) as the Northern Minnesota Drift and Lake Plains Section, covers most of southern Beltrami County, contiguous with much of the county's forest land. A small portion of the County's tax-forfeited forests are located in the more Northern Minnesota and Ontario Peatlands Section.

Beltrami County, along with Aitkin, Becker, Cass, Clearwater, Crow Wing, Hubbard, Itasca, Mahanomen, and Polk counties, serves on a regional forest resource committee for the North Central landscape. This committee is a key part of the county's collaborative strategy, drawing upon the knowledge, resources and research of a larger group to specifically benefit Beltrami County forests. The County, through its participation on this committee, benefits the larger forest system as well.



North Central
Minnesota
Landscape Region

The following summary, drawn from the “Current Conditions and Trends Assessment” and other resources, provides a glimpse into the broad context of forestry for Beltrami County.

Tables 2-1 and 2-2 reflect a substantial but slightly declining base of forest cover within the North Central Landscape.

Table 2-1 - Extent of Forestland in the North Central Landscape, 1977 & 1990

Land Use	1977 area thousands of acres ^A	1990 area thousands of acres ^B
Nonforestland	3,231.0	3372.2
Forestland ^C	5,569.8	5491.3
Total	8800.8	8863.5

Table 2-2 - Ratio of Forestland to Non-forestland for the North Central Landscape, 1977 - 1990

Ratio: forestland to nonforestland	1977 ^A	1990 ^B
North Central landscape	1.72	1.63

Table 2-3 shows the predominance of aspen/birch cover types in the Northern Pine Forest, which is a slightly modified but still relevant ecological categorization of the area Beltrami County covers. In addition to aspen/birch, the area contains a mix of northern hardwoods and pine/spruce cover types.



Northern Pine
Forest Inventory
and Analysis Unit

Table 2-3- Extent of Forest Type Groups for the Northern Pine Forest Inventory and Analysis Unit, 1990

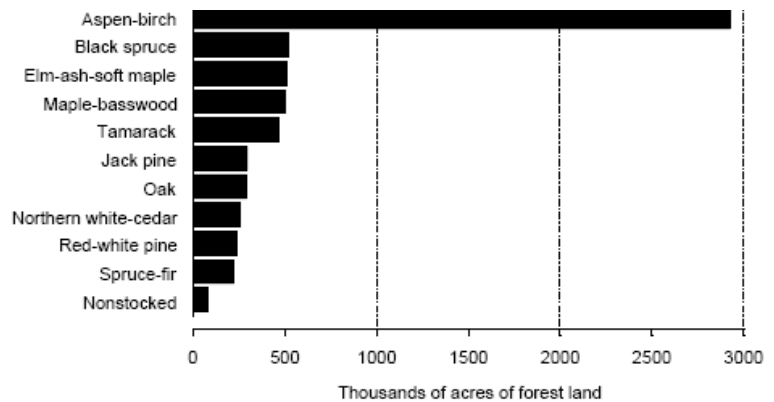
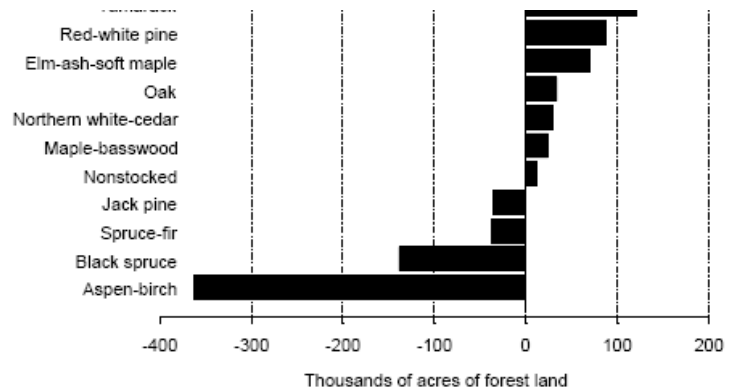


Table 2-4 depicts a change in the Northern Pine Forest’s cover types from 1977 – 1990. Most cover lost is in the aspen/birch category, with some regeneration into tamarack/pine and northern hardwoods.

Information in the Landscape Context Section is taken from the Minnesota Forest Resources Council's "Minnesota North Central Landscapes: Current Conditions & Trends Assessment (2000)."

Table 2-4 - Change in Forest Type Group Acreage for the Northern Pine Forest Inventory and Analysis Unit, 1977 - 1990



The predominant forest regeneration method in Minnesota is clearcutting with or without residuals. This reflects both the preferred regeneration method for shade intolerant species such as aspen and red pine, as well as the historical and economical use of this particular treatment.

Table 2-5 - Extent of Silvicultural Systems Used on Minnesota's Timberland, 1991 - 1996

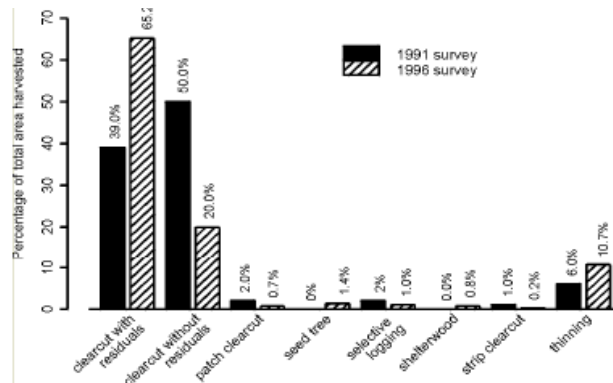


Table 2-6 Type and Relative Extent of Regeneration Activities on Minnesota's Timberland 1991 - 1996

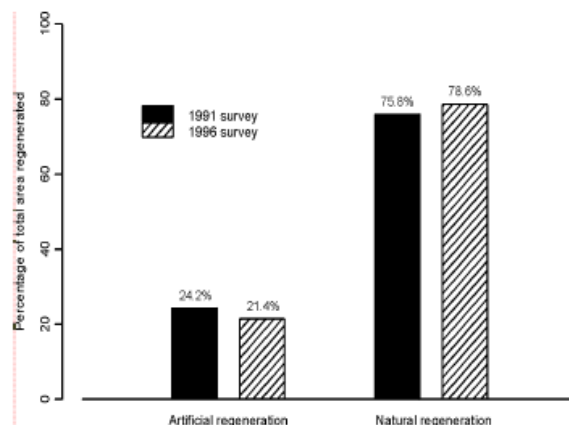


Table 2-6 reflects the traditional methods of regeneration in an aspen/birch and pine forest through the predominant use of natural regeneration.

Table 2-7 highlights the North Central Landscapes inventory of Endangered, Threatened and Special Concern species. Additional information on these particular species is available through the Minnesota DNR.

Table 2-7 - Richness of Vascular Plants *Ownbey & Morley (1991)* by MRFC Landscape

MFRC Regional Landscape	Number of species ^A	1996 State List of Endangered, Threatened, and Special Concern Species ^B		
		Endangered	Threatened	Special Concern
North East	1,201	16	19	50
Northern	1,014	1	8	30
West Central	1,066	2	4	19
North Central	1,186	3	11	29
East Central	1,356	12	10	38
Southeast	1,395	21	34	51
Metro	1,088	11	6	19
Prairie	1,199	12	13	45
Statewide	1,887	55	64	125

In the North Central Landscape, the majority of all forests are in public ownership, as shown in Table 2-8.

Table 2-8 - Forestland Ownership in the North Central Landscape

Owner	All forestland	Type of forestland		
		Timberland	Reserved forestland	Other forestland
Private ^A	2,131.0	2,113.1	2.1	15.8
Public ^B	3,345.6	3,103.1	33.4	209.1
Total	5,476.6	5,216.2	35.5	224.9

Public forestlands have been increasing in importance for the overall resource base as private forests have converted to other uses over time. While the ratio of public to private forestland has decreased statewide (meaning a higher percentage of the forest is in private ownership), the ratio has actually increased in the Northern Pine Forest Inventory and Analysis Unit.

Table 2-9 - Ratio of Public Forestland to Private Forestland for the Northern Pine Forest Inventory and Analysis Unit, 1977 - 1990

Ratio public to private forestland	1977 ^A	1990 ^B
Northern Pine FIA Unit	1.63	1.65
Statewide	1.5	1.46

Table 2-10 lists the ownership of forestland in the North Central Landscape by ownership class. The bulk of Beltrami County's forests are included in the category listed as "State, including tax-forfeited lands under county stewardship".

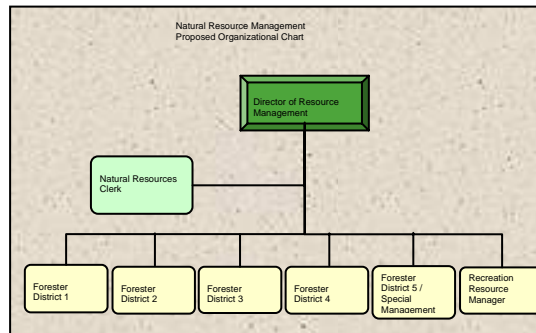
Table 2-10 - Ownership of Land in the North Central Landscape

Ownership Class	Acres
County	6,680
Federal	773,611
Other private property	115,163
Other Public	4,922
Private Conservancy	1,301
Private Industrial, more than 1000 acres owned within affected county	327,527
Private Non-Industrial Business or Trust, more than 1000 acres owned within affected county	6,939
State, including tax-forfeited lands under county stewardship	2,775,672
Tribal	63,552

Management Context

Beltrami County's Natural Resource Management (NRM) department consists of a department director, five foresters, a recreation specialist and departmental clerk.

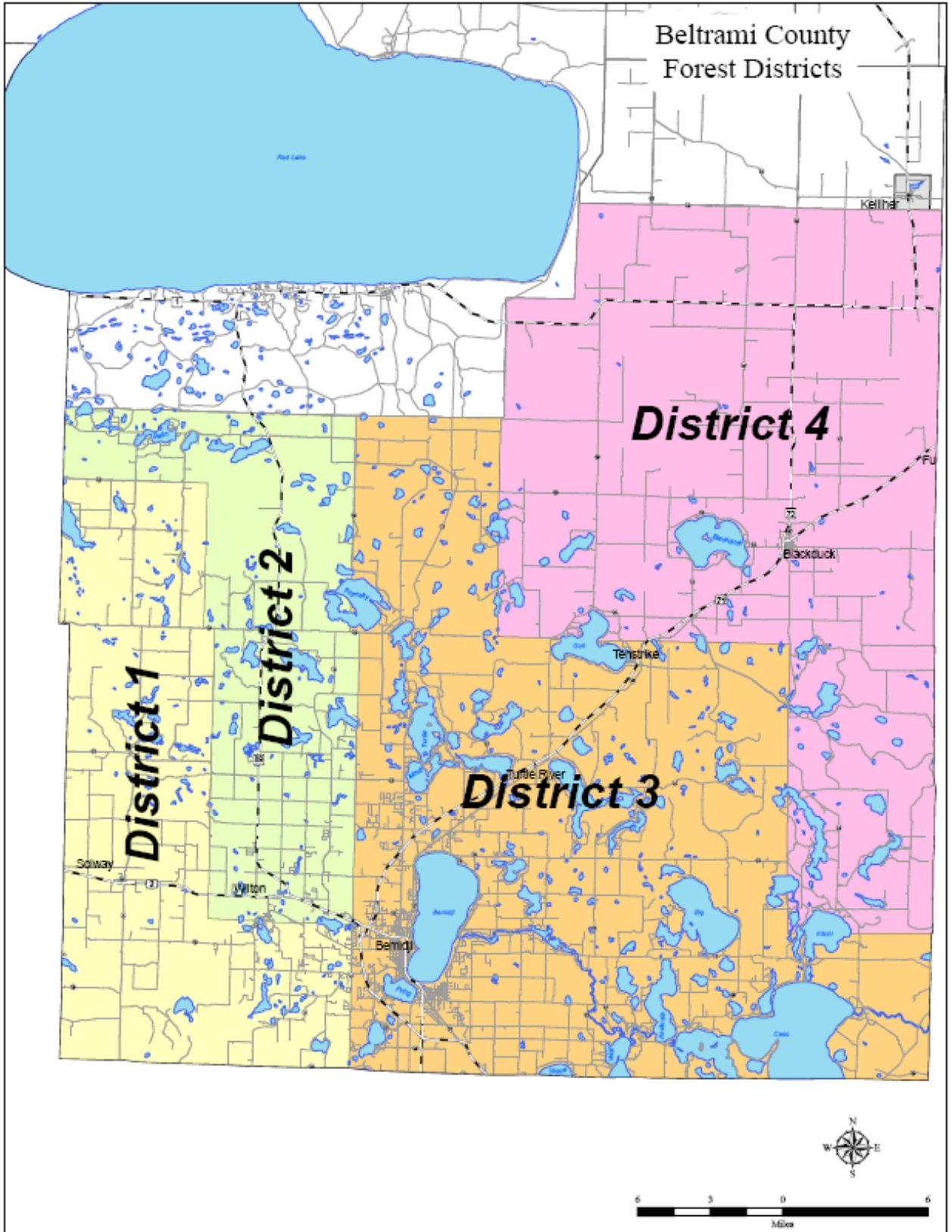
More information about Beltrami County government can be found at www.co.beltrami.mn.us



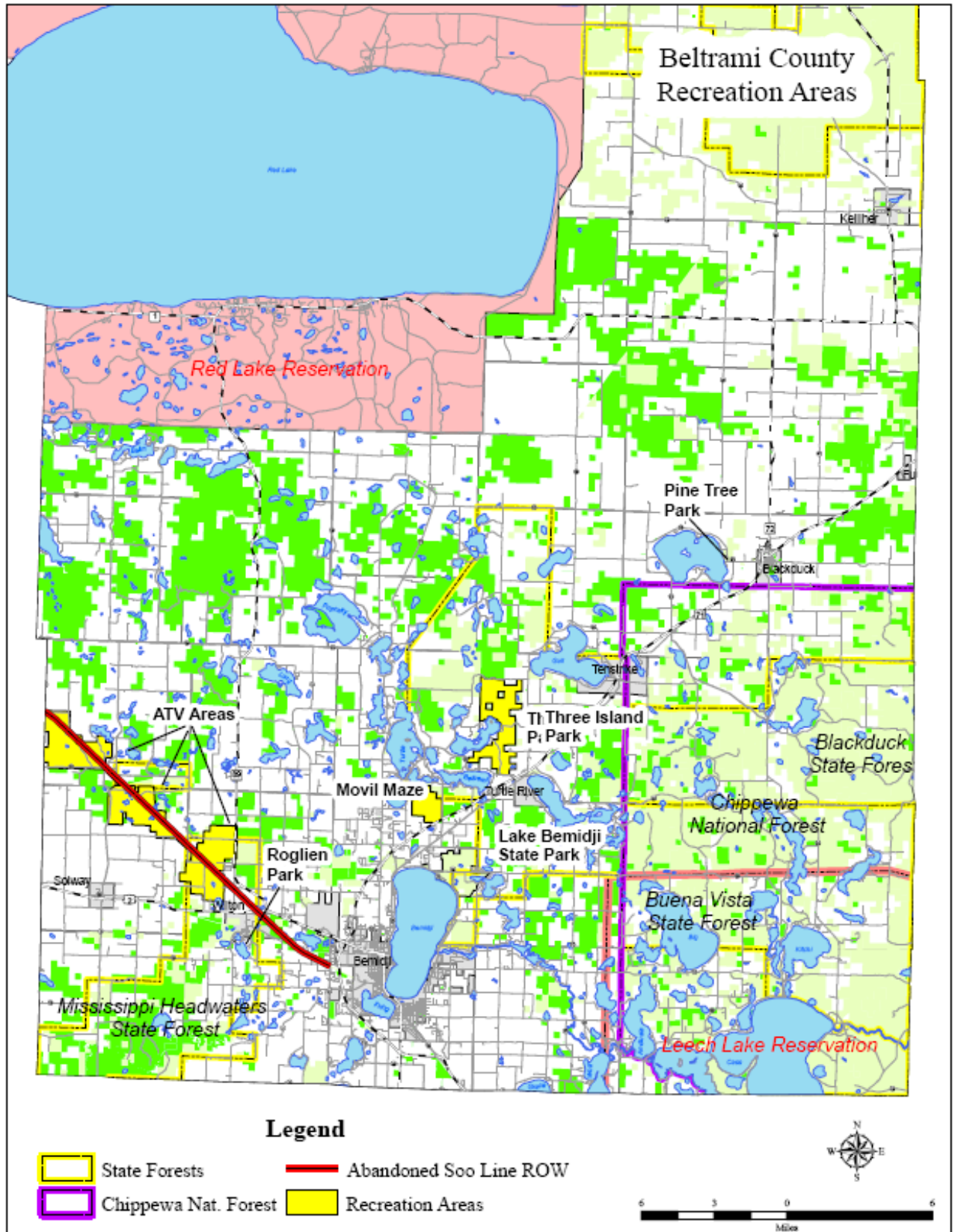
Beltrami NRM is part of the overall county management framework, overseen by the County Board and County Administrator. More information about each of these entities and how the county operates can be found at the County's website, www.co.beltrami.mn.us.

The NRM department foresters are each assigned specific areas of duty, called districts (Map 2-1). One forester is permanently assigned to manage each district, with one additional forester assigned to manage the forests in special areas across the County, particularly designated recreation areas. A recreation manager is responsible for the management of recreational uses and facilities in parks/recreation areas (Map 2-2) and their connecting trails.

Map 2-1



Map 2-2



Additional information on the economy of Beltrami County can be found in Chapter 3 of the County's Comprehensive Plan or by contacting the Bemidji/Beltrami Joint Economic Development Commission.



*A load of logs is delivered to a local processing plant.
(Courtesy JEDC)*

Socio-Economic Context

Beltrami County's Comprehensive Plan (2002) contains a wealth of information on the county's socio-economic background and trends. For detailed information on the county's economics, refer to chapter 3 of the Comprehensive Plan.

Economic Development

Historically, the County's economic growth has been focused on access to natural resources (forests, lakes, etc.) and a large supply of available workers. In recent years, a new economy has begun emerging nationally. This new economy will affect urban and rural areas alike, including Beltrami County.

This new economic framework focuses on knowledge, skill and technology to add value to the local economic base. Training and entrepreneurship, while important in the past, are now critical for economic success. Finally, because of technology, employees and employers can now locate anywhere they choose. As a result, quality of life factors including quality education, safe communities, recreational opportunities, and a high quality natural environment are now economic development issues.

In the forest industry, the new economy has manifested itself in the use of more efficient, safer harvesting equipment, more technologically advanced processing equipment, and fewer but more highly educated workers. In response to the quality of life framework of the new economy, Beltrami County forests are increasingly being used in ways that take advantage of their recreational opportunities, such as hunting, trail use and berry picking.

The following chart lists the revenue generated from timber and related products on county forest land. Sand, gravel and other non-timber related products are not included in the chart.

Table 2-11 - Revenue Generated from Beltrami County Forest

	2000	2001	2002	2003	2004
Timber	\$1,061,32	\$955,214	\$1,059,84	\$1,605,21	\$1,994,789
Contracts	1		8	6	
Fuelwood & Miscellaneous	\$4,095	\$10,345	\$10,246	\$24,288*	\$9,583*

*includes trespass fines received

Long term trends for Beltrami County show timber receipts at about \$1,000,000. Receipts for 2003-2004 trend higher due to special harvests instituted to treat a jack pine budworm invasion.



A variety of public and private landowners manage timber in Beltrami County as this timber sale on Chippewa National Forest land depicts.

A portion of the Chippewa National Forest is located in Beltrami County. A variety of agencies and landowners manage forests within the county, providing a large economic recreational and cultural base for the area.

The Beltrami/Bemidji Joint Economic Development Commission (JEDC) has identified a significant economic impact to the area from forest management. On the industry side alone, as detailed in Table 2-12, the economic impact in the area from forestry is estimated to be approximately 1.2 billion. This industry includes local logging and sawmill operations, as well as the larger regional timber product manufacturers such as Potlatch, Norbord and Ainsworth.

Table 2-12 Area Timber Industry Expenditures, average annual (JEDC).

Wood Purchases	\$90 million
Labor	\$30 million
Suppliers	\$80 million
Total	\$200 million
Multiplier of 6X = \$1.2 Billion Impact!	

In addition, local public forestry agencies themselves have a significant economic impact on the area (JEDC):

- Chippewa National Forest = \$12 million
- Mn DNR Forestry Northwest Region = \$6.4 million
- Beltrami County NRM = \$1.5 million

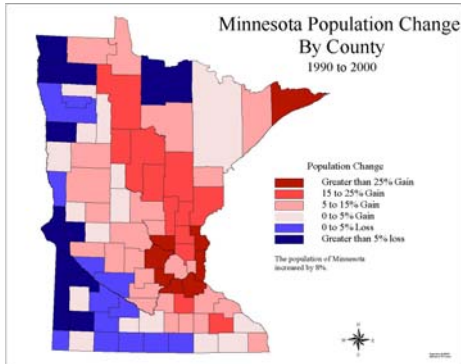
Beltrami County timber sale proceeds benefit a variety of local units of government, which is a critical function in an area with a low amount of taxable land.

Table 2-13 Beltrami County Timber Sale Proceeds Allocation, 2004 (JEDC)

Memorial Forest	\$400,000
General Revenue	\$257,938
School Districts	\$256,438
County Development	\$199,670
County Parks	\$160,274
Timber Development	\$145,774
Townships	\$128,225
Total	\$1,548,319

Demographics and Land Use

Beltrami County is located in the population growth corridor that extends from Rochester, in southern Minnesota, north to Roseau County. The population of Minnesota grew by 12 percent between 1990 and 2000. Beltrami County’s population increased



Beltrami County is at the north end of a lakes and pines growth corridor that runs from the Twin Cities to Lake of the Woods

from 34,384 to 39,650, a rate of 15 percent, over that same time period. This strong rate of growth was in stark contrast to the population losses that occurred in most of the agriculturally based counties of northwestern Minnesota. However, the growth rate was not unusual for a county located in the high amenity lakes and pines region.

While population growth in Beltrami has been strong, it has not been uniform throughout the County. The increasing prominence of the City of Bemidji as a major regional center, and a strong natural population increase combined with substantial in-migration at Red Lake, have caused those areas to grow dramatically over the past decade. The Bemidji area increased in population by 14 percent, from 22,998 to 26,174, between 1990 and 2000. The Beltrami County portion of the Red Lake Reservation increased from 3,660 to 5,057, a growth rate of 38 percent, that same decade. At the same time, the remainder of Beltrami County grew from 7,726 to 8,419, a rate of just under 9 percent. Much of that population increase occurred immediately surrounding the Bemidji growth area, and also in the Blackduck area.

Additional information about Beltrami County’s demographics and land use can be found in chapter 3 of the Comprehensive Plan.

Ownership Context

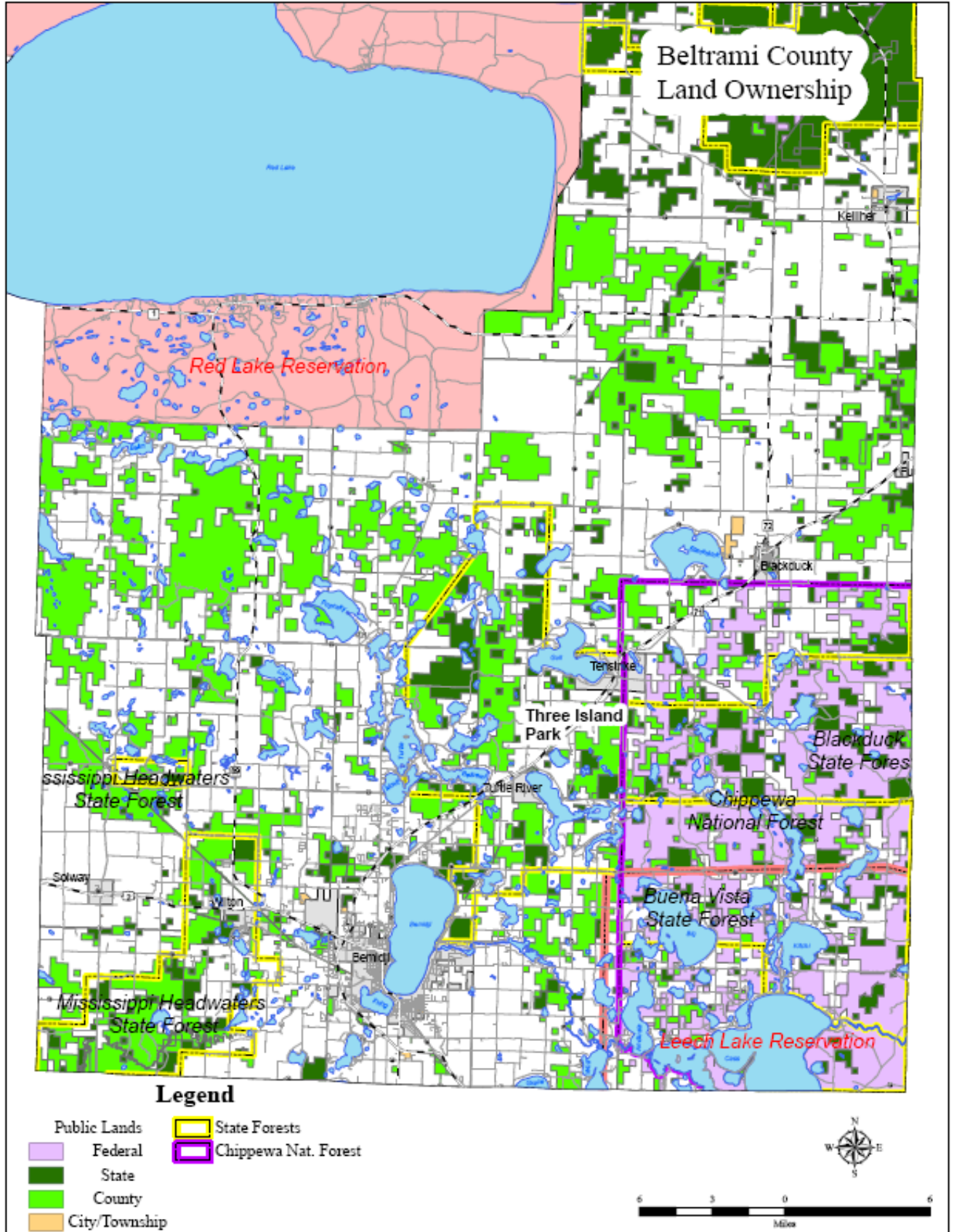
Southern Beltrami County forests are abundant, but distributed among a variety of different ownership jurisdictions. This checkerboard ownership includes cities, the state, federal, tribal and private ownership. Approximately 70% of the land in Beltrami County is non-taxable or publicly owned. The following table identifies the forest ownership distribution among the major public landowners in acres (excluding tribal).

Table 2-14 - Beltrami County Public Land Ownership

Manager	Total Acres
City	777
County	149,713
State	48,714
United States	68,833
Grand Total	268,039

The major public owners include Beltrami County, the Minnesota DNR, Chippewa National Forest, Red Lake Band of Ojibwe, and Leech Lake Band of Ojibwe. It is important to recognize that even within the boundaries of state or federal forests, not all of the land is owned by a single entity. The exception to this rule is the Red Lake Reservation, which is unique as a closed reservation with no private or non-tribal public ownership within its borders.

Map 2-3



Trends in Natural Resource Management

Because of growth and development in Beltrami County, several trends can be identified that impact the Natural Resource Management department. The key current trends are listed here; others may be present on a smaller scale or can develop over time.

- There is increasing pressure on public lands for recreational uses as private lands become developed.
- County population and development growth increases pressure to provide revenues from tax-forfeited county managed lands.
- In high growth areas, development adjacent to forestland negatively affects the variety of silvicultural techniques and other forest management strategies that can be applied in some situations.
- Market trends indicate a need for more consistent sources of saw timber and pulpwood, as well as timber that is 3rd party certified, in order to maintain the local timber products industry.
- At the same time, recreational and clean environment values are an important part of the “quality of place” characteristic of the new economy.