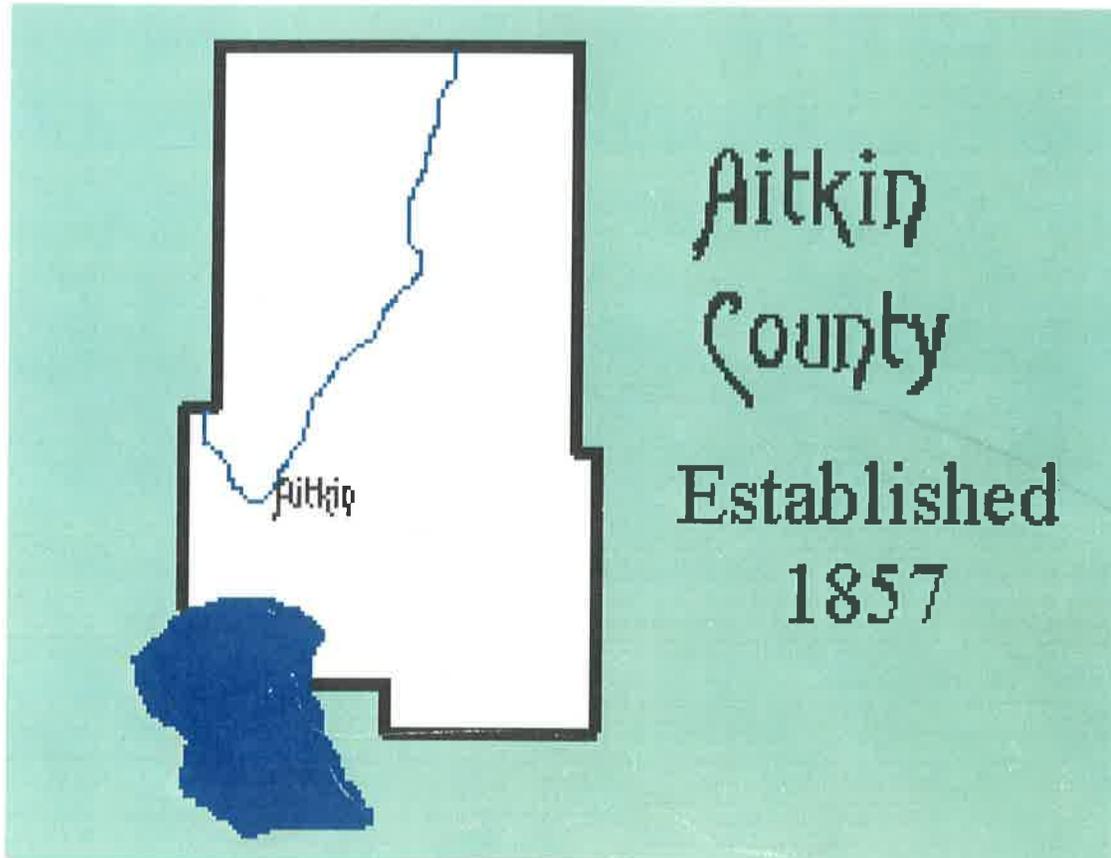


Aitkin County Comprehensive Land Use Management Plan



Adopted April 2000

SUSTAINABLE DEVELOPMENT
A PROCESS of analyzing decisions
in order to find a balance among:
ECONOMIC ACTIVITY
ENVIRONMENTAL REQUIREMENTS
SOCIAL NEED

TABLE OF CONTENTS

- I. Introduction
 Executive Summary
- II. Principal Goals
- III. Community Goals
 Sustainable Development
 Application of Sustainable Development
- IV. Comprehensive Plan Recommendations
- V. Updating and Maintaining the Comprehensive Plan
- VI. Planning History
- VII. Resources and People

I. INTRODUCTION

The Comprehensive Plan sets overall goals for Aitkin County in areas where County government activities impact the economy, the environment and the activities of people. The plan updates two previous comprehensive planning efforts in 1941 and 1970 and draws upon other County planning efforts in tourism, transportation and water planning. The plan has developed goals and recommendations organized around major land use activities and resources and proposes update of the present zoning map.

Since the first land use plan and County zoning was adopted in the early 1940's Aitkin County has changed much. The County lost almost one-third of its population in the 1940's and 1950's when the agriculture sector reorganized, but has now entered a new growth era based on natural resource amenities, quality of life, technology, services and value added resource processing. The new plan reflects these realities and is a blueprint for managing the current growth.

EXECUTIVE SUMMARY

The plan seeks to encourage:

- A strong commercial forestry and agricultural base by recommending enhanced zoning controls to protect these existing land uses.
- Increased densities of residential development permitted around existing cities.
- Better management and protection of the fast expanding rural residential development around the County's lakes and along the rural wooded roadways
- Better coordination on land use changes between cities and the surrounding rural townships.
- Continued economic development by expanding and diversifying job opportunities and income growth. Specific actions include
 - encouraging growth of modern telecommunications infrastructure,
 - continuing to support and work with outside entities that foster and stimulate economic development, link new residents with local business expertise,
 - continuation of community education and
 - making public records needed by business easily accessible.
 - adding industrial and neighborhood commercial districts to the zoning map to concentrate use on the best sites for these uses and to streamline the development approval process.
- Policies to expand tourism opportunities both resource and culture based, and to lengthen the tourist season. The plan also proposes to add a shoreland

commercial zoning class to the land use map to better protect and manage key tourist facilities. Incorporating lakeshore homes both seasonal and permanent in tourism promotions because they are the largest source of tourists is recognized.

- Continuing the County's long standing policies in management of public lands. This includes continuation of the land classification committee, the County park and recreation system, and the pioneering initiatives in sustainable forestry.
- Development of a County Wetlands Management Plan. This action will allow the County to take over from the state the management of the wetland resource, which covers one-third of Aitkin County. This plan should include an official wetlands map and a standard method for ranking each wetland for each function and benefit it can provide under state law. The wetlands will be administered through the zoning and subdivision process.
- Policies for management of the transportation infrastructure of airports, roads, trails, railroads and pipelines. These policies should:
 - coordinate directly with state guidelines to maximize use of state-aid dollars.
 - provide for incentives to minimize environmental impact and visual impacts of roads in scenic areas.
 - manage driveway access along high- speed roads.
 - organize placement and mapping of utilities such as cable electric, phone, or gas in road right-of-way
 - expand trail systems and increase resources for maintenance and enforcement from the state.
- Close coordination between the County Water Plan and the Comprehensive Plan. Updates of the Comprehensive Plan are coordinated with the County Water Plan on a periodic basis.
- Careful management of the lakes and surrounding watersheds. The bulk of Aitkin County revenues come from lakeshore property so the health of the lake resource is vital to the County.
- Development of individual lake plans. In southern Aitkin County high quality lakes and agriculture occur together. The plan encourages the development of a lake region plan built off the English Lake Region National Park model where farmers and lake- users work together.
- Construction of a new reservoir in Aitkin County for downstream water storage. The largest recreation and tax asset in Aitkin County is Big Sandy Lake. Projections indicate that increased water use south of Aitkin County of Mississippi River water may necessitate a drawdown of Big Sandy in the next drought. To safeguard Big Sandy and foster more careful water use planning downstream from Aitkin County the plan includes a proposal to construct a new reservoir.

II. PRINCIPAL GOALS

The following are the principal goals of each section of the comprehensive plan.

NATURAL RESOURCES

Forestry Goals:

- Ensure that the County maintains a strong economic forestry land base well into the future without degrading the resource base on which forestry is dependent.
- Encourage retention of the highest quality forestry lands for economic forestry purposes.
- Develop and maintain guidelines and policies that encourage the highest possible economic value for the wood grown and processed in the County.

Agriculture Goals:

- Ensure the County maintains a strong and vigorous agriculture base well into the future.
- Encourage the retention of quality agriculture lands for agriculture purposes.
- Encourage the highest economic value for the agriculture products grown and processed in the County.

Conservation Goals:

- The County should encourage protection of a representative sample of each significant landscape that existed in the County at the time of European settlement.

Public Land Goals:

- The public lands of Aitkin County are a valuable asset for residents and visitors. The lands held in public ownership need to be managed, protected and preserved in the best interest of the public to enhance the economic base, including but not limited to: forestry, tourism and outdoor recreation.

WATER RESOURCES

The management strategies and recommended actions of the Comprehensive Local Water Management Plan should complement the following goals and recommendations.

Lakes Goal:

- The County shall protect and enhance the lake resources through management policies that balance human benefits and protect the quality of the resource.

Rivers and Streams Goal:

- Maintain, protect and improve the quality of the river resource through active management, monitoring and protection.

Mississippi River Goal:

- Preserve and protect the natural, cultural, scenic, scientific, transportation and recreational values of the Mississippi River in Aitkin County.

Drainage Ditches Goal:

- Initiate and implement a process and office within the County structure to administer the maintenance of a public drainage system, continually review the needs of the system, address drainage concerns and make reports to the Ditch Authority.

Wetlands Goal:

- The County shall protect and enhance the wetland resources through management policies that maximize the functions and benefits this resource provides.

Groundwater Goal:

- Development and use of the ground water resource should not degrade the water quality or reduce the quantity of the resource. The highest priority sites are aquifers.

Climate Fluctuation Goal:

- The County should develop local management contingencies to handle periods of below and above average precipitation.

ECONOMY

Commercial/Industrial Development – Goals:

- Assist and encourage economic growth and job creation across all sectors of the County, by expanding and diversifying job opportunities and income growth.

Tourism Goal:

- Promote a strong and balanced tourism program that maximizes the economic benefit of the natural and human resources on a sustainable basis by bringing and encouraging visitors to recreate in the Aitkin County area.

Residential Development Goals:

- Ensure the orderly development of a full range of housing options that does not despoil the amenities of scenery and open space, does not diminish more than necessary rural land uses such as agriculture and forestry and is, to the extent possible, integrated with orderly expansion of existing cities.

Extraction (Sand / Gravel, Other) Goal:

- Assure the availability of sand and gravel aggregate deposits for both public and private use into the future without detracting significantly from recreational and amenity values.

Recreation Goal:

- Maintain adequate facilities and land and water base for diverse quality outdoor recreation for all social-economic levels.

TRANSPORTATION

Air Transportation Goal:

- Support continued development and maintenance of the airport system serving the County.

Roads Goal:

- Improve, preserve, manage and maintain a safe, efficient, attractive and high quality highway transportation system.

Trails Goal:

- Promote the development and maintenance of a system of trails for diverse types of outdoor recreation where potential for use is high.

Railroads and Pipelines Goal:

- Support the maintenance and safe use of the remaining railroad system and pipelines, and maintain abandoned railroad right-of-way intact when feasible.

SENSE OF COMMUNITY

Goals:

- Consider the enhancement of the quality of life of each resident and visitor to Aitkin County when all County policies are developed.
- Strive to maintain a strong sense of community, such as sense of family and feeling of safety when developing goals and policies that affect children, schools, other community-based organizations, medical care and emergency services.
- Strive for increased resident input on policy issues.
- Build upon the valuable resource of all Aitkin County residents and seasonal property owners and encourage their participation socially through clubs and communities, and economically through their experience, use of capital, and volunteerism.

GOVERNMENT

Goals:

- Deliver the highest quality, most cost-effective services possible to

County residents.

- Use the Comprehensive Plan to link together the various plans of each County department into an overall coordinated program.
- Establish the Comprehensive Plan as the foundation for policy-making, work plan preparation and program evaluations.
- Be actively involved in the establishment of state rules and regulations that affect Aitkin County residents.
- Design each County program to take maximum advantage of federal, state and private financial resources to the fullest extent possible without compromising County program goals.
- Promote close working relationships and consistency among the County, cities and townships regarding the expansion of urban service areas for residential, commercial and industrial growth.
- Promote cooperation with area counties by working together on common goals and common issues.

III. COMMUNITY GOALS

SUSTAINABLE DEVELOPMENT

A variety of pressing environmental and economic opportunities and challenges face us today, and will also face our children in the future. The opportunities and challenges we have are of interest and should be a concern to all of us, especially in a County where much of the economy and lifestyle are dependent on a high quality environment.

The principles of sustainable development have been utilized as a framework to guide development of the comprehensive plan. Sustainable development provides a means to protect our environment, provide economic growth opportunities, and enhance our society. This concept depends on the active involvement and participation of all citizens to find solutions to challenges, identify opportunities, and create the type of society that meets our needs and those of future generations.

Sustainable development encourages diversification and development of the economy in a way that provides

stability and prosperity for communities.

The goals of environmental protection and economic development need not be conflicting, but can, in fact, be mutually reinforcing. Environmentally sound and sustainable economic development emphasizes the promotion of diverse economic opportunities while protecting the productivity and diversity of natural systems. There can be no sustained development without a clear commitment to preservation of the environment, and the promotion of wise and efficient use of all resources. In the absence of appropriate growth and development, it may be difficult to protect the environment.

Sustainable development can be a catalyst for development of new industries. Its benefits are many—environmental enhancement, job creation, industrial development—and may include improved waste management and increased cooperation and involvement of its citizens.

APPLICATION OF SUSTAINABLE DEVELOPMENT

Community Goals Statement

The Aitkin County Comprehensive Plan is developed around the goal of Sustainable Development. To implement the goal of sustainable development, three objectives have been developed:

1. Expand, diversify, and improve income and job opportunities.
2. Sustain and enhance resource productivity while improving the environmental qualities and aesthetics of Aitkin County.
3. Enhance the quality of life of each County resident and visitor.

Open Communication of Ideas and Development of Information

The Comprehensive Planning Steering Committee has organized and facilitated meetings of groups of residents representing various sectors of interests. These subcommittees represent economic,

social, and environmental sectors. Each of these groups has contributed their ideas on how to develop goals and policies to guide future County development.

Participating Subcommittees:

Agriculture
Development and Building
Economic Development
Forestry
Tourist
Transportation
Water

As a result of the background information gathered through resource and development inventories, and through citizen involvement, the Comprehensive Planning Steering Committee has developed a set of goals and recommended actions.

IV. COMPREHENSIVE PLAN RECOMMENDATIONS

The comprehensive plan has developed goals and recommendations organized around major land use activities. The recommendations for each activity are organized around the concept of sustainable development.

NATURAL RESOURCES –

**Forestry
Conservation**

**Agriculture Conservation
Public Land**

Public Land Tourism

FORESTRY

Forestry - Goals:

- Ensure that the County maintains a strong economic forestry land base well into the future without degrading the resource base on which forestry is dependent.
- Encourage retention of the highest quality forestry lands for economic forestry purposes.
- Develop and maintain guidelines and policies that encourage the highest possible economic value for the wood grown and processed in the County.

Forestry - Economic Facts/Concerns:

- Economic forestry and its related manufacturing facilities are very important to the County. The principal products are: pulp/paper, specialized building products, firewood, Christmas trees and dimension lumber. Specialty crops include maple sap and Balsam boughs.
- The demand for forest wood product in the County is at the highest level in recent history and there is strong indication that high demand will be sustained.
- The four most important suppliers of material to the forest products industry are: County managed forest lands, state-managed forest lands, forest product industry lands and private forest land owners.

- In parts of the County with concentrated rural residential development, the value of forest land has increased. The resulting higher valuations put pressure on landowners to convert rural forest land to more intensive uses.
- There is increasing demand for specialized wood products, especially, sustainable certified forest products.

Forestry - Economic Recommendations:

- Create an economic forestry class in the County zoning ordinance. Create a minimum lot size, for example, 40 acres. Allow higher densities of cluster development if common open space is managed under an approved sustainable forest management plan.
- Incorporate into the commercial forestry classification the ability to integrate wood processing facilities into or adjacent to forest production areas.
- Maintain long term stability in public land ownership by maintaining present management and planning procedures for County land resources. Continue review of present ownership policies through the Land Classification Committee.
- Encourage the planning and zoning administrator to work closely with the Land Classification Committee on zoning matters on private land adjacent to public land parcels and the impacts of sale, exchange, and purchase of public land.
- Continue and if possible strengthen the commitment to the County's pioneering Smart Wood Certification Program on County lands and state forest lands.
- Encourage expansion of the Wood Certification Program to appropriate forest industry lands and private forest land owners utilizing County zoning, property tax policies, state sponsored forest stewardship programs, and BWSR resources.
- The County should encourage the state to enact legislation to expand the green acres concept to forest lands in areas of the state similar to Aitkin County where there is significant rural residential growth.

Forestry – Environment Facts/Concerns:

- Some rural landowners object to resource utilization such as timber harvesting or gravel mining on lands near other residences, even if

AGRICULTURE

Agriculture – Goals:

- Ensure the County maintains a strong and vigorous agriculture base well into the future.
- Encourage the retention of quality agriculture lands for agriculture purposes.
- Encourage the highest economic value for the agriculture products grown and processed in the County.

Agriculture – Economic Facts/Concerns

- Quality agriculture land is a unique natural resource that is being converted to non-agriculture uses at an increasing rate. Loss of quality agriculture land is a global problem resulting in more marginal land being placed into production to maintain an adequate world food supply. Loss of quality agriculture land also contributes to the destruction of major forest areas.
- Conversion of land to non-agriculture use raises the value of surrounding agriculture land resulting in significant increases in taxes and other costs to farmers. Eventually it becomes economically unfeasible to continue farming resulting in conversion of additional land to non-agriculture uses.
- When residential development occurs in agriculture zones, disagreement may occur between residential and agriculture landowners as to what are allowable practices relating to agriculture operations. These disagreements can be costly to all concerned and often end up in court for resolution.
- There is significant non-agriculture development in quality agricultural areas within Aitkin County.
- In order to be economically viable, agriculture operations must be allowed to operate at a scale of production and at a level of regulation that ensures an acceptable rate of return on the investment.

Agriculture – Economic Recommendations

- Strengthen the agriculture-zoning component of the County zoning ordinance to encourage the preservation of quality agriculture land.
- Include a right to farm provision in the agriculture-zoning component of the County zoning ordinance.
- Encourage the development and production of livestock, grains and specialty crops that make the best economic use of the County's unique agriculture resources. Examples of County agriculture resources include: abundant forage

and grazing lands, rich and productive cropping soils, abundant water and wetlands suitable for wild rice and cranberry production, etc.

- Maintain roads, bridges and drainage ditches in agricultural areas at standards that support transportation and production needs.
- Follow Minnesota Department of Agriculture and Minnesota Pollution Control Agency agriculture related regulations. If local agriculture related guidelines are adopted that are more stringent than statewide regulations, compliance should be voluntary, not mandatory. Local regulations that are adopted should be based on clear scientific and economic impact documentation.

Agriculture – Environmental Facts/Concerns

- Where agriculture best management practices are followed, the agriculture land base is enhanced, water quality is maintained and overall rural quality of life is preserved.
- Agriculture land provides unique wildlife habitat for animals, waterfowl, songbirds and reptiles that is not duplicated in the natural environment.
- Properly managed agriculture activities in shore land areas preserve water quality, increase fish and wildlife habitat and improve overall recreational value of the surrounding areas.

Agriculture – Environmental Recommendations

- Encourage—through education and, where appropriate, by government-supported technical assistance—the following best management practices for the handling of manure, herbicides, pesticides and fertilizers.
- Encourage agriculture operations to take advantage of government supported technical assistance to develop and implement approved conservation plans. Encourage—through education and, where appropriate, technical assistance—agriculture practices that enhance and preserve critical fish and wildlife habitat, improve the value of timber stands and preserve water quality.
- Encourage the voluntary compliance with applicable sections of the Local Water Plan relating to ground and surface waters resources.
- Support adherence to Minnesota Department of Agriculture and Minnesota State Pollution Control Agency agriculture-related regulations.

Agriculture – Social/Well-Being Facts/Concerns

- Present agriculture zoning regulations do not effectively protect agriculture land from encroachment of residential development.
- Some rural residents are not familiar with accepted agriculture management practices.
- With effective zoning regulation and adherence to agriculture best management practices, agriculture activities, lake associated recreational areas and residential neighborhoods can coexist without conflict. Without effective zoning regulations and failure to adhere to agriculture best management practices they will conflict.

Agriculture – Social/Well-Being Recommendations

- Amend the zoning ordinance to encourage cluster or village concept for residential development in agriculture areas. New residential developments could be built contiguous to existing farming operations utilizing a village concept. This would serve to preserve more quality agriculture land and minimize the potential for conflict between residential and agriculture activities.
- Encourage the development of dialog between agriculture landowners, lake associations and rural non-farm residents. The dialog should include but not be limited to: (1) education on the critical role agriculture activities play in creating and preserving critical wildlife habitat and preservation of water quality. (2) Education on the positive impact increased residential development has on the County economy. (3) Education on the positive impact a profitable agriculture industry has on the County economy.
- Encourage the preservation of quality agriculture land in lake areas by supporting cooperative efforts between rural agriculture landowners, lake associations and non-farm residents. Develop a lake region recreational agriculture landscape patterned after the English Lake Region National Park System. In suitable lake and river recreational areas the family farm could expand their role as a farmer to include recreation provider and rural landscape manager.

CONSERVATION

Conservation – Goals:

- The County should encourage protection of a representative sample of each significant landscape that existed in the County at the time of European settlement.

Conservation – Economic Facts/Concerns

- Costs and time delays in new development and construction result when inventories need to be conducted to assess site environmental impacts on natural ecosystems.

Conservation – Economic Recommendations

- A representative sample of each significant natural ecosystem that occurs in the County should be set aside and protected. If good samples of these natural systems exist on public land, they should have the highest priority for protection and management.
- Once a representative sample is set aside others do not need to be considered or inventoried in development proposals affecting other areas.

Conservation – Environment Facts/Concerns

- Aitkin County is relatively undeveloped so it is possible to save samples of natural ecosystems and preserve a diverse genetic base for medical and related research.

Conservation – Environment Recommendations

- Setting aside representative samples of natural systems can create both an education, tourism and research resource.

PUBLIC LAND

Public Land – Goals:

- The public lands of Aitkin County are a valuable asset for residents and visitors. The lands held in public ownership need to be managed, protected and preserved in the best interest of the public to enhance the economic base, including but not limited to: forestry, tourism and outdoor recreation.

Public Land – Economic Facts/Concerns

- Public lands supply an important source of raw materials to the forest products industry.
- The value of timber reserves on public and private lands is increasing rapidly.
- In 1996 in-lieu-tax payments to Aitkin County from the state were \$430,000. Local school districts also received interest payments from school trust fund lands.
- As private land parcels become smaller, public lands will come under more pressure by forest product users for forest products.
- Tourism is an important revenue source from the public lands.

Public Land – Economic Recommendations

- Maintain long term stability in public land ownership by maintaining present management, record keeping and planning procedures for County land resources. Continue review of present ownership policies through the Land Classification Committee.
- Public lands should be retained unless it is in the public interest to sell.
- Financial resources for enhanced management of public lands should be pursued.
- Tourism should continue to be promoted on public lands.
- The County and state should continue the process to consolidate holdings through exchanges of scattered parcels.

Public Land – Environment Facts

- Some public lands are located in environmentally sensitive areas in the immediate watersheds of major recreation lakes and protect the water quality of those lakes.
- Limited areas of the public land base contain rare and endangered plant and animal communities.

Public Land – Environment Recommendations

- When the Heritage Program of the Minnesota Department of Natural Resources completes Aitkin County, the collected and verified information on rare and endangered species should be stored in the County computer data base and consulted in the public land management process.
- Parcels of state and County land near water with high recreation use should be managed with an emphasis on best management practices for water quality.

Public Land – Social/Well-Being Facts/Concerns

- As private land parcels become smaller and increase in value, public outdoor recreation activities will concentrate on public lands.
- Outdoor recreation on public lands provides many social benefits.
- The continuing increase in both permanent and seasonal populations is putting more pressure on public lands for outdoor recreation purposes.
- As the inventory of undeveloped lakeshore decreases, more recreation development will locate on the edge of public land. This will restrict access to public land adjacent to new development.
- Some areas of the public land base contain significant historic and cultural sites.

Public Land – Social /Well-Being Recommendations

- Create a plan for public access to public land with emphasis on areas where public and private land is intermixed.
- Identify public land with appropriate signage, maps and GPS compatible information. In areas of intermixed public and private ownership the County should give highest priority for new accurate modern land surveys.

WATER RESOURCES –

**Lakes
Rivers & Streams
Mississippi River**

**Drainage Ditches
Wetlands**

**Groundwater
Climate Fluctuation**

The management strategies and recommended actions of the Comprehensive Local Water Management Plan should complement the following goals and recommendations.

LAKES

Lakes – Goal:

- The County shall protect and enhance the lake resources through management policies that balance human benefits and protect the quality of the resource.

Lakes – Economic Facts/Concerns

- The most intensively used recreation areas in the County are the lakes and surrounding shore land areas.
- The highest value residential property in the County is the prime lakeshore on the larger, deeper lakes.
- The largest single source of local tax revenue comes from lakeshore property.
- Most prime lakeshore in the County is now developed. Present and future development pressure is concentrating on lesser value lakeshore where fish and wildlife values are high.
- There is increasing pressure on small to medium-sized resorts to convert to residential uses.

Lakes – Economic Recommendations

- The provisions of the Aitkin County Water Plan that relate to management actions to preserve lake water quality need to have high priority.
- The County should work toward developing improved management information systems for its valuable lakeshore property. The management data should be built around land parcel files (Figure).
- Encourage the continuation of a viable family resort and camping industry as part of the County recreation base.

- Encourage the preservation of quality agriculture and forestry land in lake areas by supporting cooperative efforts between rural agriculture landowners, lake associations and non-farm residents. Develop a lake region recreational agriculture landscape patterned after the English Lake Region National Park System. In suitable lake and river recreational areas the family farm could expand their role as a farmer to include recreation provider and rural landscape manager (Appendix: English Lake Region National Park in Great Britain).

Lakes – Environment Facts/Concerns

- Water use is increasing but the size of the water resource is not. Per acre pressure from fishing, boating, personnel watercraft and sailing are projected to continue increasing.
- Increasing lakeshore development will generate more human and lawn management waste near water.
- Continued demand for lakeshore property is moving development pressure to lesser value lakeshore where fish and wildlife values are high. The County needs to determine how much lakeshore to keep undeveloped.
- Decisions will soon have to be made between residential development and other uses that depend on large expanses of rural land on some lakes.
- Development is increasing pressure on wetlands within the shoreland impact zone.

Lakes – Environment Recommendations

- Continuing and targeted shore land education efforts need to continue. Present programs involving realtors and the Aitkin COLA are good examples.
- High water impact shore land lawn management practices need to be discouraged.
- A program to preserve key spawning areas should be developed.
- All wetlands in the shoreland impact zone should be preserved.
- Continue to work with the Water Planning Task Force and assist in promoting programs such as “Green Shores”

Lakes –Social /Well-Being Facts/Concerns

- There is a shortage of recreation areas adjacent to high quality lakes.
- If present development trends persist there will be little undeveloped lakeshore left in the County.
- There are significant public lakeshore resources in Aitkin County.

Lakes – Social /Well-Being Recommendations

- A management plan is needed for each major lake in the County. Part of that management plan should set goals for how much lakeshore should remain undeveloped.
- Individual lakes should be managed differently due to their individual differences in size, shape and depth.
- On the larger lakes, parts of their shorelines could be put in different zoning classes and districts. For example; a sheltered bay with abundant wildlife habitat on a General Development lake could be managed to Natural Environment standards.
- A water surface management plan and a fisheries management plan should be part of any lake management plan.
- Encourage reasonable access to the lake resource through public water access and utilization of resorts.
- Continue to work within the County and with State agencies to obtain additional funding to manage public and private shore line areas.
- Existing public lakeshore should be carefully managed and where needed developed for maximum public benefit.
- Encourage non-boat use of lake and river resources by providing scenic overlooks, shore land walkways, fishing piers and auto parkways.

MISSISSIPPI RIVER

Mississippi River – Goal:

- Preserve and protect the natural, cultural, scenic, scientific, transportation and recreational values of the Mississippi River in Aitkin County.

Mississippi River – Economic Facts/Concerns

- The Mississippi River is the only river in the County large enough to permit significant boating use.
- The Mississippi River along with Mille Lacs Lake are the most well known water resources in Aitkin County.
- A river parkway called the Great River Road was authorized many years ago. This parkway has not been completed through Aitkin County.

Mississippi River – Economic Recommendations

- A plan for completion of the Great River Road should be developed, along with timelines and road standards that assure a scenic parkway and complementary recreation development.
- The Mississippi River name can serve as a focus to build recognition of other recreation and tourist attractions. (For example, the proposed national millennium bike trail).

Mississippi River – Environment Facts/Concerns:

- The Mississippi River in Aitkin County is under the jurisdiction of the Mississippi Headwaters Board. There are special land use management standards applied to the shore area to preserve the uniqueness and water quality of the river. The Corps of Engineers and the Federal Emergency Management Agency also play an important role in Mississippi River management.
- The flood way and flood plain adjacent to the Mississippi is large and poorly mapped in Aitkin County.

Mississippi River – Environment Recommendations:

- The County should work with the Mississippi Headwaters Board to facilitate accurate mapping of the floodway and flood plain, and promote the use of more innovative development patterns such as cluster development to more effectively preserve the natural character of the river and permit wise development.

DRAINAGE DITCHES

Drainage Ditches – Goal:

- Initiate and implement a process and office within the County structure to administer the maintenance of a public drainage system, continually review the needs of the system, address drainage concerns and make reports to the Ditch Authority.

Drainage Ditches – Economic Facts/Concerns

- Aitkin County has approximately 660 miles of County ditches, comprised of several systems.
- Generally, the drainage systems were implemented and constructed from about 1900 through the 1920's.
- Public drainage systems belong to the land that the ditch system benefits.
- The cost of the system is assessed against the benefited property for construction, maintenance or improvement of the system.
- The County Board is the Drainage Authority charged with the responsibility of maintaining the drainage systems.
- Past maintenance to the ditch systems has been minimal and spotty.
- In the early part of the 20th century, several of the drainage systems were initiated by the State in an effort to promote settlement.
- A large part of the land on several of the drainage systems apparently did not generate enough revenue to make it worthwhile for the private landowners to retain their parcels and pay the initial ditch assessments and taxes. The land then reverted to the County along with the ditch bond obligations.
- A 1931 law allowed Aitkin County to enter into an agreement whereby the State would assume the ditch bond obligation and take possession of the defaulted property, hence, "the consolidated conservation lands".

Drainage Ditches – Economic Recommendations

- The County should work with citizens and other government entities through public meetings to address drainage issues.
- The greatest drainage concerns should be addressed first.
- A search for grant funds to reduce the tax burden for ditch maintenance should be initiated.

Residential Development – Environment Facts/Concerns

- Most residential development outside of trade centers is in environmentally sensitive areas adjacent to lakes.
- Aitkin County has many structures in the flood plain with well and sewage treatment systems not in compliance with special flood plain regulations.
- Aitkin County has many structures in the flood plain without flood insurance.
- Most of the easily buildable and accessible lakeshore is developed.
- All of the development is dependent on private wells and on-site sewage treatment systems.
- Almost all the private wells and sewage treatment systems are operated without maintenance plans or monitoring of performance.
- There are indications that many of the presently operating on-site sewage treatment systems, even those installed to modern standards are not functioning properly.

Residential Development – Environment Recommendations

- Encourage the use of alternative sewage treatment systems to reduce costs and improve the quality of waste disposal. Sponsor a pilot project utilizing new sewer technology.
- Promote with other units of government and private enterprise, the creation of a long-term research program to develop effective, easily monitored, and lower cost on-site sewage treatment systems.
- Monitor on a periodic or sample basis all on-site sewage treatment systems for effectiveness and compliance to standards.
- Utilize state financial resources such as low interest loans and grants to assist individuals in upgrading individual sewage treatment systems.
- Continue and improve education programs that promote lawn and vegetative management practices that protect surface and ground water resources.
- Continue and expand education programs on proper use of on site sewage treatment systems, specifically proper pumping procedures and maintenance procedures.
- Continue and, if possible, expand programs that work with realtors and others connected with the land development and sale process to accurately and effectively explain to buyers the rules and reasons for rules governing their land purchase and future use of their land.
- Consider creation of water quality cooperatives to handle waste treatment, maintenance and operation as well as water reservoirs for fire fighting.

Residential Development – Social/Well-Being Facts/Concerns

- There is a shortage of housing for lower and middle-income people.
- There is a lack of housing and housing alternatives for the elderly in areas surrounding the lakes, where they now live.
- Much of the newer residential development is oriented to the high-speed rural road network. This creates traffic safety problems, forces lowering of speed limits, creates pedestrian safety problems, and makes it hard to upgrade roads to needed traffic and safety standards and cuts off back land from future development.
- Most people living in rural settings want to live in a natural appearing rural landscape (north woods), but do not own enough of the resources to control their wishes.

Residential Development – Social Well-Being Recommendations

- Encourage cluster development concepts for detached housing in rural locations that emphasize preservation of natural resources, common sewage treatment facilities, service roads and common open space.
- Encourage the use of alternate building techniques to reduce costs and improve the quality of new housing. Sponsor a pilot project in manufactured housing linking manufactured housing product directly with the development process.
- Develop, with appropriate partners, a model cluster development rural neighborhood. Partners can be: state agencies, the University of Minnesota, the Urban Land Institute, a land developer, and local bankers, builders and realtors.
- Encourage the development of senior citizen housing near existing concentrations of housing.
- Encourage the development of dialogue between agriculture and forestry landowners, lake associations and other rural residents. The dialog should include but not be limited to: (1) education on the critical role that agriculture and forestry activities play in creating and preserving critical wildlife habitat and preservation of water quality. (2) Education on the positive impact increased residential development has on the County economy. (3) Education on the positive impact a profitable agriculture and forestry industry has on the County economy.

EXTRACTION (Sand/Gravel, Other)

Extraction – Goal:

- Assure the availability of sand and gravel aggregate deposits for both public and private use into the future without detracting significantly from recreational and amenity values.

Extraction – Economic Facts/Concerns

- Low cost, easily accessible and high quality sand and gravel is important for continued economic growth and development and maintenance of the transportation system.

Extraction – Economic Recommendations

- Key deposits of sand and gravel resources needed to support transportation and development need to be mapped, and a geographically well-distributed portion of them need to be set aside. Those on public land can be allocated for present and future extraction purposes.
- The official land use map of Aitkin County should designate key sand and gravel sites and the land uses surrounding these sites should be compatible.

Extraction – Environment Facts/Concerns

- There has been little publicly-perceived reclamation of abandoned sand and gravel extraction sites.
- Sand and gravel extraction and processing sites when not properly located and managed can pollute surface and ground waters and impact surrounding lands.

Extraction – Environment Recommendations

- Environmental concerns of maintaining ground and surface water quality and plant and animal diversity need to be addressed in the regulations governing the location and operation of sand and gravel extraction and processing.
- Clear and well-publicized standards and procedures for rehabilitating sand and gravel extraction, processing sites and top soil need to be

implemented.

Extraction – Social/Well-Being Facts/Concerns

- Gravel pits and aggregate processing facilities are hard to locate near residential developments and recreation facilities because of real and perceived environmental concerns.

Extraction – Social /Well-Being Recommendations

- The County zoning ordinance and land use maps need to have areas designated permitting sand and gravel extraction and processing.
- Residential development and other areas negatively impacted by sand and gravel extraction need to be separated from key sand and gravel deposits where extraction is ongoing or planned. This can be accomplished through setback and lot size regulation.
- A continuing education program summarizing the costs and benefits of sand and gravel utilization needs to be done on a continuing basis to County residents and property owners.
- Follow state mineral regulations and assure environmental protection for all new non-sand and gravel mining proposals.

RECREATION

Recreation Goal:

- Maintain adequate facilities and land and water base for diverse quality outdoor recreation for all social-economic levels.

Recreation – Economic Facts/Concerns

- Recreation use by both residents and non-residents has increased significantly, but the resource base available has not increased.
- Lake shore residents of both seasonal and permanent homes in the summer recreate on land near the lakes almost as much as they participate in the water-based recreation activities. The leading off-lake recreation activities are walking/hiking and gardening. Participation in bicycling is also high.
- Winter recreation is dominated by snowmobiling. Snowmobiling is concentrated around an extensive system of grant-in-aid trails, much of which is on private lands.

Recreation – Economic Recommendations

- Land based recreation facilities such as walking and biking trails need to be provided for lake shore residents, their guests and resort guests in the vicinity of lakes. This can be accomplished by utilization of road right-of-ways and through the development of easements on private land building upon the concept of grant-in-aid trails and partnerships with farmers from the English Lake Region Park concept.

Recreation – Environment Facts/Concerns

- Most recreation takes place on public lands and waters and is concentrated in shore land areas.
- Many key shoreland areas are in public ownership but not actively managed.

Recreation – Environment Recommendations

- Recreation development needs to be designed and managed to sustain the quality of recreation resources.
- The County, in conjunction with the State, should continue development

of riparian land management plan.

Recreation – Social/Well-Being Facts/Concerns

- Water use is increasing but the size of the water resource is not. Per acre pressure from fishing, boating, personal watercraft and sailing are projected to increase.

Recreation – Social/Well-Being Recommendations

- Establish more off-lake recreation opportunities to reduce pressure on water resources.

TRANSPORTATION

Air

Roads

Trails

Railroads & Pipelines

AIR

Air Transportation Goal:

- Support continued development and maintenance of the airport system serving the County.

Air Transportation – Economic Facts/Concerns

- Aitkin County has two airports with paved runways, but no scheduled air service.
- The closest scheduled air service is Brainerd and Grand Rapids.

Air Transportation – Economic Recommendations

- Support continued maintenance and improvement of the airports adjacent to Aitkin, McGregor, Hill City and Isle.
- The County should work with each city or airport manager to assure plans are developed to reserve space for future airport expansion.
- Support expansion of the Brainerd and Grand Rapids airports.

Air Transportation – Environment Facts/Concerns

- In times of below average rainfall the fire danger in many parts of Aitkin County can become high.
- Effective wildfire fire control techniques include aerial patrol and dropping fire retardant from aircraft, working closely with ground patrols.

Air Transportation – Environment Recommendations

- Support the continued maintenance and improvement of the DNR managed firebases at Brainerd and Hibbing and the smaller facility at Hill City.

Air Transportation – Social /Well-Being Facts/Concerns

- Airports need adequate buffer areas from landfills and urban land uses to meet Federal Aviation Administration standards.
- Air ambulance is an important segment of the emergency responder network where population density is low and access to emergency services requires travel.

Air Transportation – Social Well-Being Recommendations

- Assure that zoning districts surrounding existing airports are compatible with airport use and expansion and have adequate space for associated business development.
- Future studies should designate and reserve potential heliport sites.

ROADS

Roads – Goal:

- Improve, preserve, manage and maintain a safe, efficient, attractive and high quality highway transportation system.

Roads – Economic Facts/Concerns

- Highway usage has increased in the last 20 years, and that increase is continuing.
- Increasing demands are being placed on the highway system that requires it be maintained for a high level of diverse use on a year around basis.
- There has been much residential growth in the lake regions which generates commuting traffic to employment centers such as Aitkin, Grand Rapids, Brainerd/Baxter, Mora and Duluth/Cloquet.
- Many people are commuting outside the County for work, and people are commuting from other counties to jobs in Aitkin County.
- Many shopping services not available in Aitkin require travel outside the County, primarily to Brainerd/Baxter or Grand Rapids.
- The highway system is aging and in need of continuous maintenance.
- New demands are being placed on highway rights-of-way for utilities (phone, cable, electric and gas).
- There are very limited transit systems or taxi services available in Aitkin County.

Roads – Economic Recommendations

- The County shall continue to maintain and keep up to date a roadway plan that classifies roads into types. These types reflect the expected type and amount of use along with appropriate engineering standards. Include in this system the designated forest roads.
- The roadway plan shall be developed and maintained in cooperation with the regional road plans of Development Regions 3, 7E and 5, and the road plans of cities and townships in Aitkin County.
- Maintain a database for each road segment which includes a survey, location of utility lines by type, and right-of-way distances
- Identify and delineate right-of-way for future road expansion in conformance to the roadway plan.

- The County shall continue to maintain and improve TEA-21 (Federal funding programs) mandated management systems for pavement, bridges, safety, congestion, public transportation, intermodal facilities and traffic monitoring.
- Policies for mapping and location of utilities in the road right-of-way need to be developed.
- The County shall attempt to maximize the amount of state aid transportation related dollars that are available for the County road system.

Roads – Environment Facts/Concerns

- Many State and County administered highways pass through highly scenic forested lake areas in Aitkin County.
- With increasing population and traffic loads on Aitkin County roads there will be need to increase the traffic capacity and safety of existing roads and to construct new roads.

Roads – Environment Recommendations

- When roads are improved, retain existing alignments and sites whenever possible.
- Route new road facilities around environmentally sensitive areas.
- Preserve, replace or enhance the values of wetlands impacted by transportation.
- Locate facilities in areas that require minimal cutting and disposing of soil materials.
- When new bridges on major County routes or in scenic areas are constructed or reconstructed, include in the design and construction, bridge catchbasins to temporarily catch rain, storm-water runoff and potential accidental chemical spills that may occur on the bridge.
- Reduce salt usage when possible. Explore the use of new de-icing materials and pre-wetting agents to enhance the effectiveness of initial salt applications, and to reduce the need for repeated applications.
- When possible, utilize new pavement marking tape and striping paints to eliminate the use of lead and chrome. Also use airless paint nozzles to reduce the need for solvent cleaners and related hazardous materials.
- Promote bituminous and concrete recycling on all County road projects when feasible.
- Work with the County Land Commissioner and the Department of Natural

Resources to efficiently harvest forest products or relocate valuable or rare plants when highway construction displaces natural vegetative communities.

- Continue to encourage implementation of visual best management forestry practices along public roads.
- Utilize state programs that emphasize joint development for transportation and recreation purposes when improving roads in the scenic areas of Aitkin County. Three important programs to utilize are Highways in Recreation Areas (HIRA), Scenic Byways and historic areas.
- Foster citizen leadership to spearhead road preservation projects.
- Install signs identifying major lakes, coordinate sign design and placement with County Engineer and Lake Associations.

Roads – Social /Well-Being Facts/Concerns

- Much of the rural residential development fronts directly on high-speed roads.
- Most commercial development is on or near highway intersections.

Roads – Social Well-Being Recommendations

- Limit residential driveways on major rural high-speed roads. For example, limit driveways to one per existing highway land frontage parcel.
- Develop roadway corridor plans for major state and County roads for control of aesthetics, signage and litter, and ensure acquisition of adequate right-of-way.
- Promote policies and projects that encourage local traffic to stay off high-speed roads. Solutions should encourage better planning of plats along with greater use of frontage and backage roads.
- Develop intersection plans and setback regulations that allow for intersection upgrading in the future without disrupting residential values or business activity and increased intersection safety and efficiency.

- Offer the County as a site for pilot studies by State and County-based organizations as part of employee training and recognition as a way to capture more outside financial and intellectual support.
- Each County program should list important sources of outside financial assistance and plans to seek that assistance as part of an annual plan.
- In order to interest students in local government functions and careers the County should supply the schools with education materials on the major County programs and County program managers should be made available to present their programs to classes. This should be one of the duties of a program manager.
- Develop a closely supervised continuous student intern program and senior volunteer program to enter and process County records. This would allow continuous updating of County information and familiarize students and seniors with government functions.
- Begin an annual student government day, where students run the County. This would be patterned after the student legislature program.

V. UPDATING AND MAINTAINING THE COMPREHENSIVE PLAN

Maintain the Commitment to the Principals of Sustainable Development

The County needs to continue the process of long range planning through the County Board appointed Land Use Plan Steering Committee working with Environmental Services and other County departments. The Land Use Plan Steering Committee should monitor the implementation of recommendations of the comprehensive plan and review the policies and recommendations using key indicators of change. The plan should be updated every five years. The most efficient procedure would be to do this in conjunction with the update of the Local Water Plan.

Citizen Task Force

The Land Use Plan Steering Committee should hold an annual joint meeting to review the A State of the County with representatives of each of the groups represented on the subcommittees which provided input to the plan, also included in the meeting could be: Water Planning Task Force, Land Classification Committee, the Planning Commission, Board of Adjustment and appropriate County managers.

Development, Maintenance and Analysis of Key Indicators

Develop and implement a work program to build a system of key indicators that are needed to monitor and evaluate the effectiveness and relevance of the Comprehensive Plan policies and recommendations. These indicators should allow better management of change. The ongoing record keeping systems of County and city government can generate many of these indicators. All units of government in Aitkin County should build into each permit issued or activity inspected (building permit, sewer permit, timber sale) a common geographically registered identification code. This action will allow the continued development of automated mapping. There also needs to be developed a simple set of key economic indicators such as employment information, traffic counts, and retail sales.

The product of this system should be the maintenance of an up-to-date standard set of Countywide resource and development maps and tables (many of which are contained in the comprehensive plan) that all County planning efforts can draw upon. This will reduce the up front development costs of both present and future planning and development efforts, reduce the dependence on outside consultants, and make the information available for easy use and reference.

Developing ties to the higher education community can enhance maintenance and development of this information. The County can offer internships through these institutions and be partially compensated for any expenses incurred (one example is utilizing the Center for Urban and Regional Affairs at the University) these interns can develop reports and encourage class projects to utilize Aitkin County as class project sites.

Fosters Integrated Planning Efforts

Facilitate periodic meetings with local government officials and staff to discuss common issues of mutual concern and to coordinate data collection and planning efforts. In addition joint proposals to acquire capital to address agreed upon challenges and solutions can be developed with cooperation, enhancing chances of success.

VI. PLANNING HISTORY

- The County was established in 1857 and the first County Board meeting was held in 1872. The present day County boundaries were established in 1872.

- Aitkin County Planning History
Longest Running Land Use Planning Program in Rural Minnesota
1940 Comprehensive Plan
 - Population 17,865 (all time high)
 - 124 school districts
 - Total assessed value in 1939 \$2,138,922 (decrease of 72% from 1929)
 - Tax levied \$381,000
 - Taxes paid \$182,000
 - 46% land tax forfeited/ 26% tax delinquent
 - Major issues:
 - Better roads
 - More compact settlement patterns
 - Relocation of settlers
 - Property tax reform
 - More local control of welfare
 - Classify all land for highest and best use
 - Manage public timber lands - do not sell
 - Continue land use study through county extension program

- 1970 Comprehensive Plan

- Comprehensive Local Water Plan

- Updates will now be coordinated with Comprehensive Plan Updates.

VII. RESOURCES AND PEOPLE

The following maps, charts, and text describe the land resource, transportation, and settlement patterns of Aitkin County. This information was developed in close coordination and using the resources of the GIS Coordinator and Advisory Committee to minimize the up-front costs of both preparation and maintenance. Existing information currently collected and available to the County was used whenever possible and additional needed information integrated with existing County data bases. This approach saved money and makes it possible to keep the Comprehensive Plan information up to date using the daily activities of the County. The strategy was to design the databases so that their ongoing maintenance can be come an integral part of the County's standard operating procedures.

Maps, Charts, and Text

Map 1 - Aitkin County Base Map

Map 2 - Aitkin County Transportation System

Map 3 - Aitkin County Uplands Map
Uplands Description

Map 4 - Aitkin County Land Use 1997
Land Use Description

Map 5 - Aitkin County Population Density Per Square Mile of Private
Ownership Map

Population Density Description

Aitkin County Population Change

Aitkin County Population Projections

Aitkin County Cities

Aitkin County Lakes

Map 6 - Aitkin County Market Value Map
Market Value Description

Map 7 - Aitkin County Dwelling Density
Dwelling Density Description

Map 8 - Aitkin County Seasonal Residence Density
Seasonal Residence density Description

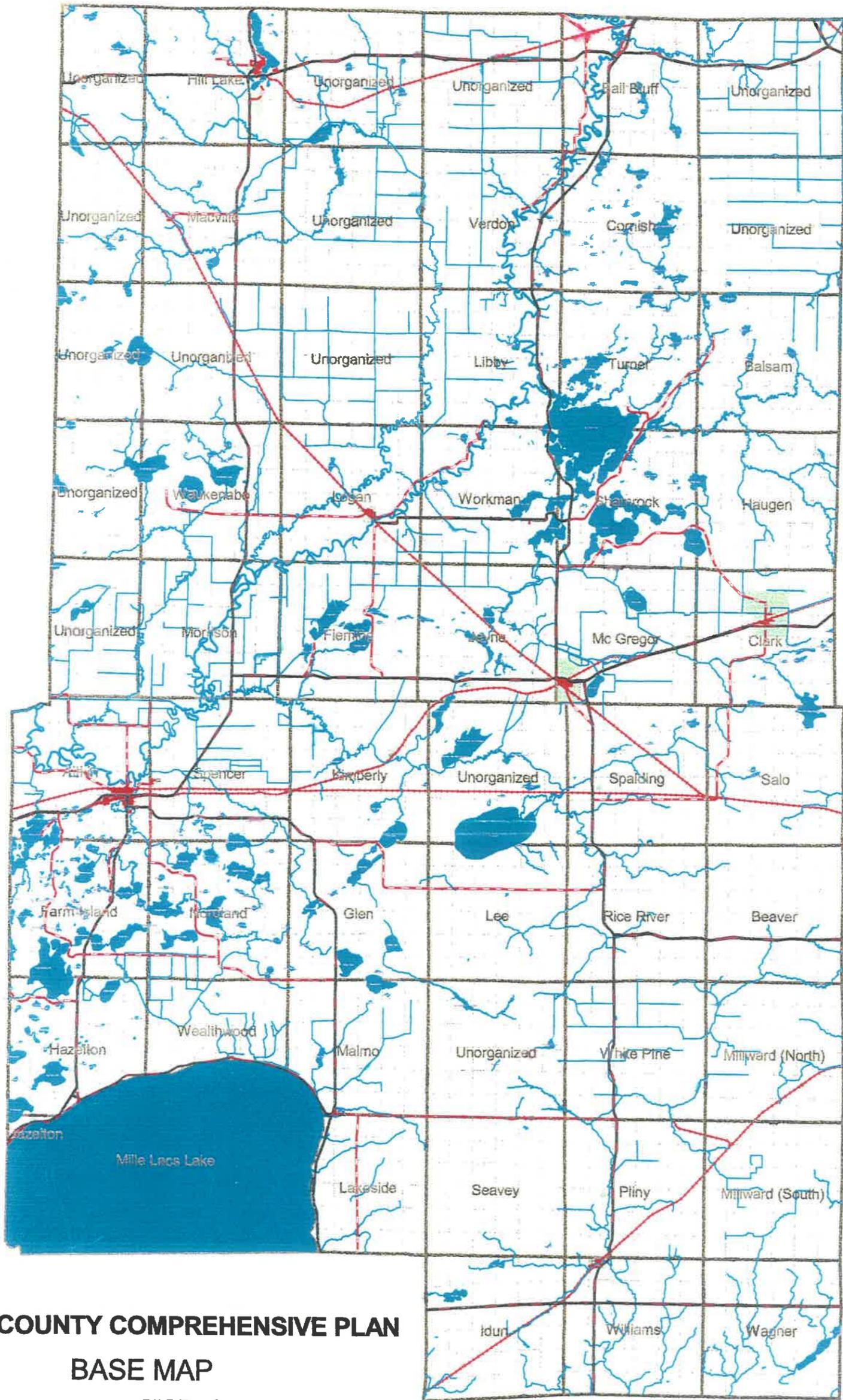
Map 9 - Public and Private Lands Map

Map 10 - Aitkin County Zoning Classification Map

Map 11 - Aitkin County Cropland Production Ratings for Forage
Crops Map
Production Rating for Forge Crops

Map 12 - Aitkin County Growth Classes for Key Forest Species Map
Growth Class for Key Forest Species

Map 13 - Aitkin County Scenically Attractive Areas Map
Scenically Attractive Areas
Scenically Attractive Areas Description
Outdoor Recreation Lodging Facilities



AITKIN COUNTY COMPREHENSIVE PLAN

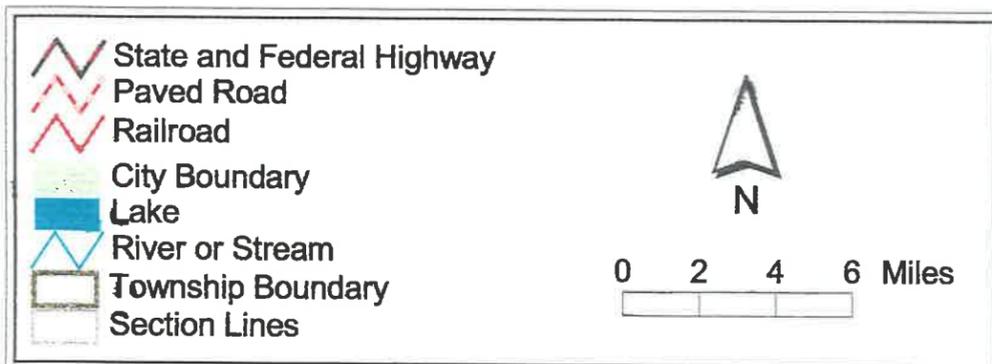
BASE MAP

MAP 1



SUSTAINABLE DEVELOPMENT

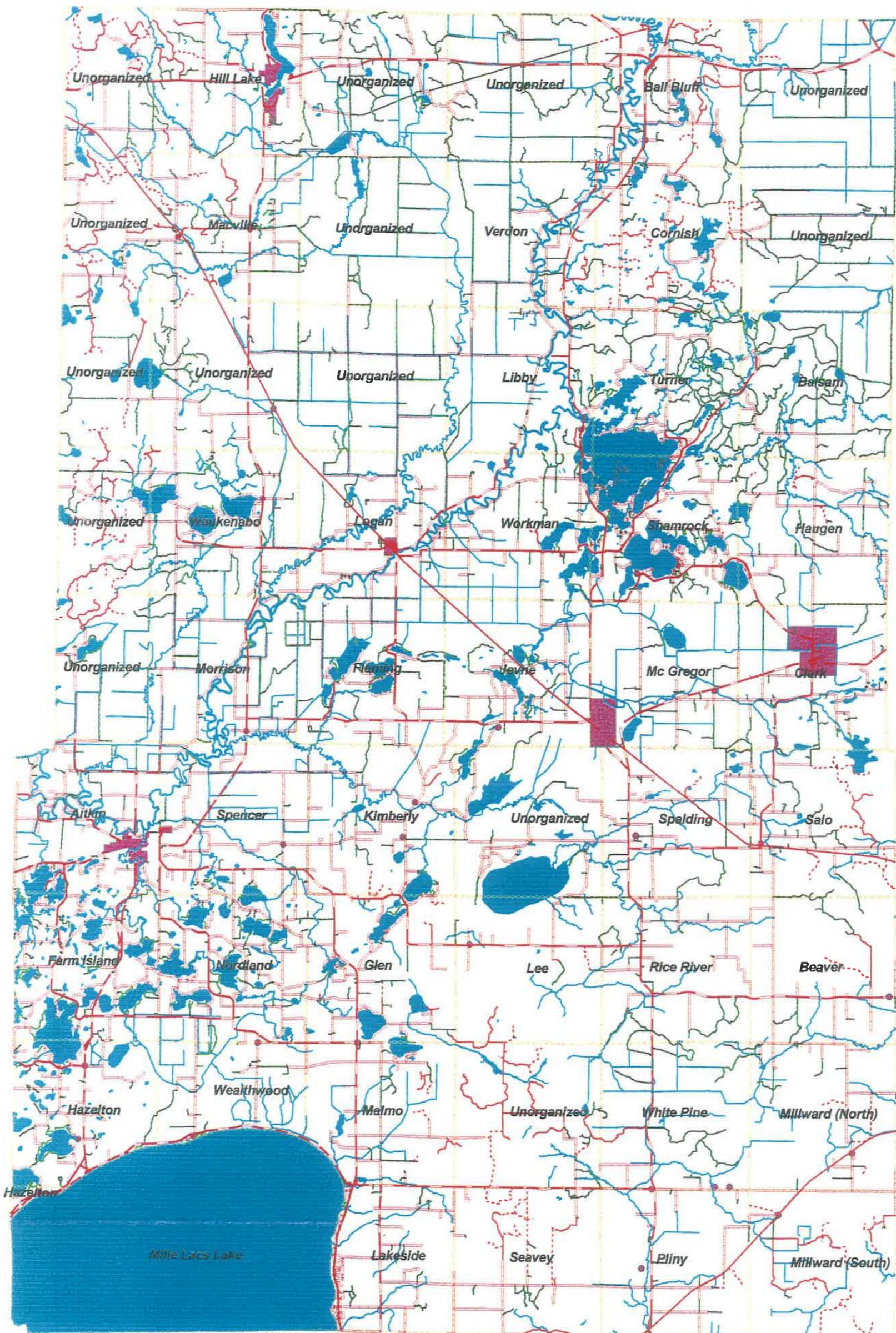
A PROCESS of analyzing decision
In order to find a balance among:
ECONOMIC ACTIVITY
ENVIRONMENTAL REQUIREMENTS
SOCIAL NEEDS



WIDSETH SMITH NOLTING
ENGINEERS
ARCHITECTS
LAND SURVEYORS
PROJECT MANAGERS



June 1997



AITKIN COUNTY COMPREHENSIVE PLAN
Transportation System

- Paved Road
- Gravel Road
- Graded Road
- Primitive/Unimproved Road
- Mowed Road
- River or Stream
- Lake
- City Boundary
- Township Boundary

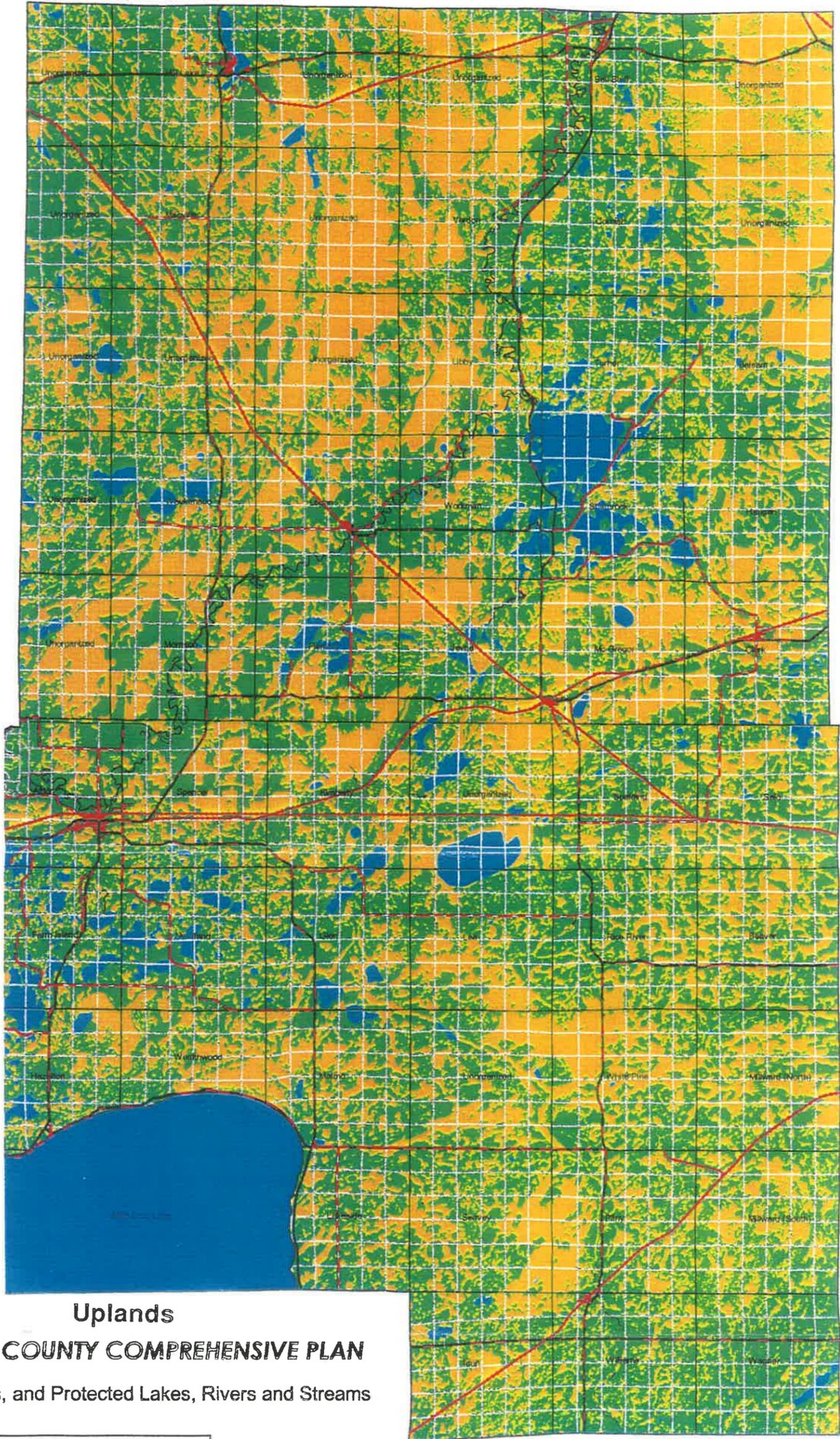


SUSTAINABLE DEVELOPMENT
 A PROCESS of analyzing decisions in order to find a balance among:
 ECONOMIC ACTIVITY
 ENVIRONMENTAL REQUIREMENTS
 SOCIAL NEEDS

MAP 2

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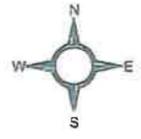
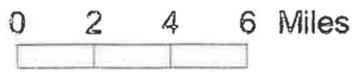
Uplands

AITKIN COUNTY COMPREHENSIVE PLAN

Wetlands, and Protected Lakes, Rivers and Streams

	State and Federal Highway
	Paved
	Railroad
	Township Boundary
	Section Lines
	Protected Rivers and Streams
	Protected Lakes
	Wetland
	Upland

SUSTAINABLE DEVELOPMENT
 A PROCESS of analyzing decisions
 In order to find a balance among:
 ECONOMIC ACTIVITY
 ENVIRONMENTAL REQUIREMENTS
 SOCIAL NEEDS



June 1997

MAP 3

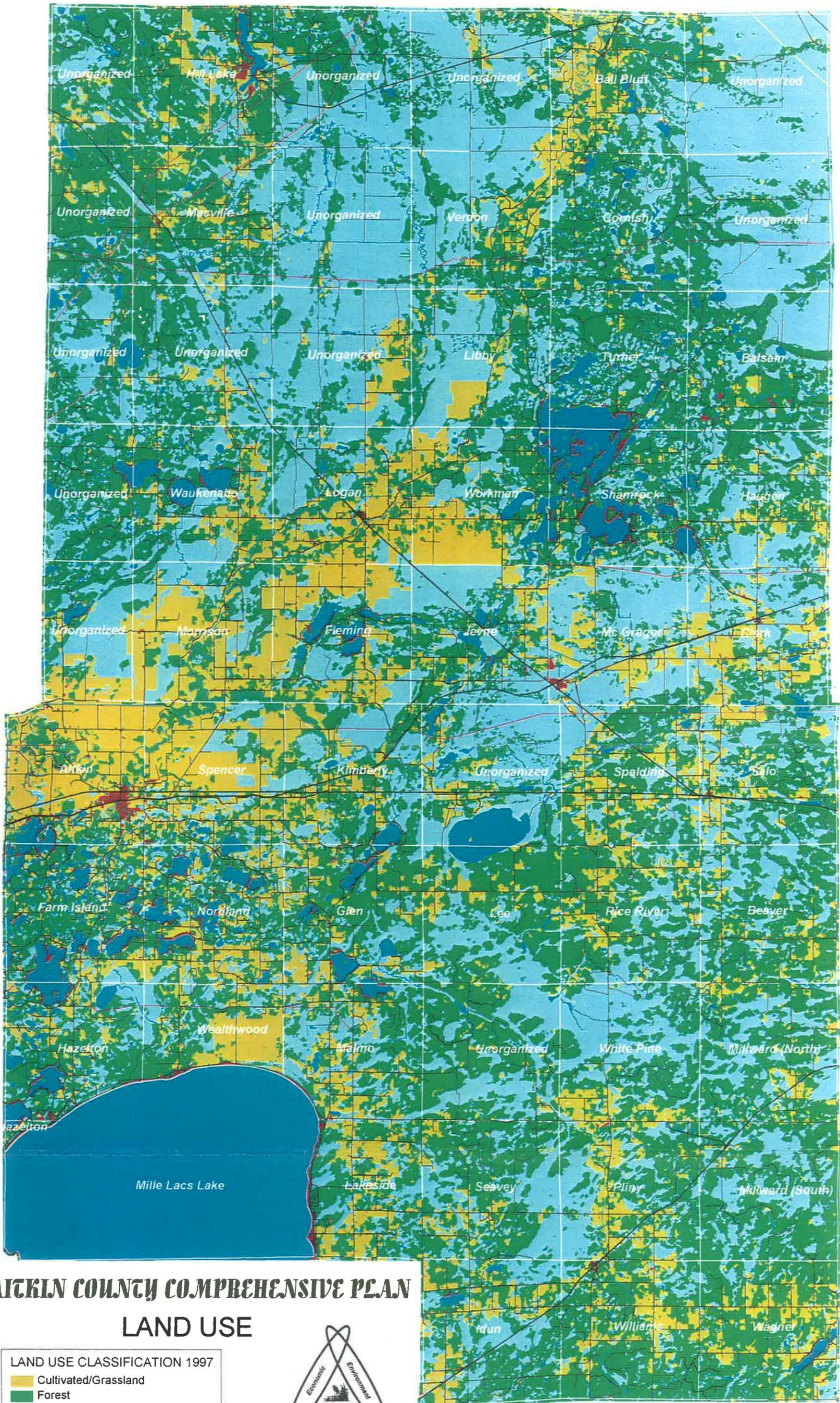
WIDSETH SMITH NOLTING
 ENGINEERS ARCHITECTS LAND SURVEYORS PROJECT MANAGERS

PRO-WEST & Assoc., Inc.
 CONSULTING ENGINEERS

AITKIN COUNTY UPLANDS

- About 1/2 of area is upland

- Concentrations
 - East and south of Hill City
 - North and south of Big Sandy
 - South of Aitkin
 - Southeastern corner of County



AITKIN COUNTY COMPREHENSIVE PLAN

LAND USE

- LAND USE CLASSIFICATION 1997
- Cultivated/Grassland
 - Forest
 - Water
 - Wetlands/ Marsh / Fens/ Bogs
 - Urban/ Industrial
 - Extractive/ Bare Rock
 - Roads/ Improved Trails/ Rail Lines
 - Township Lines



SUSTAINABLE DEVELOPMENT

A PROCESS of analyzing decisions in order to find balance among:
 ECONOMIC ACTIVITY
 ENVIRONMENTAL REQUIREMENTS
 SOCIAL NEEDS

Map 4



0 1 2 3 4 Miles

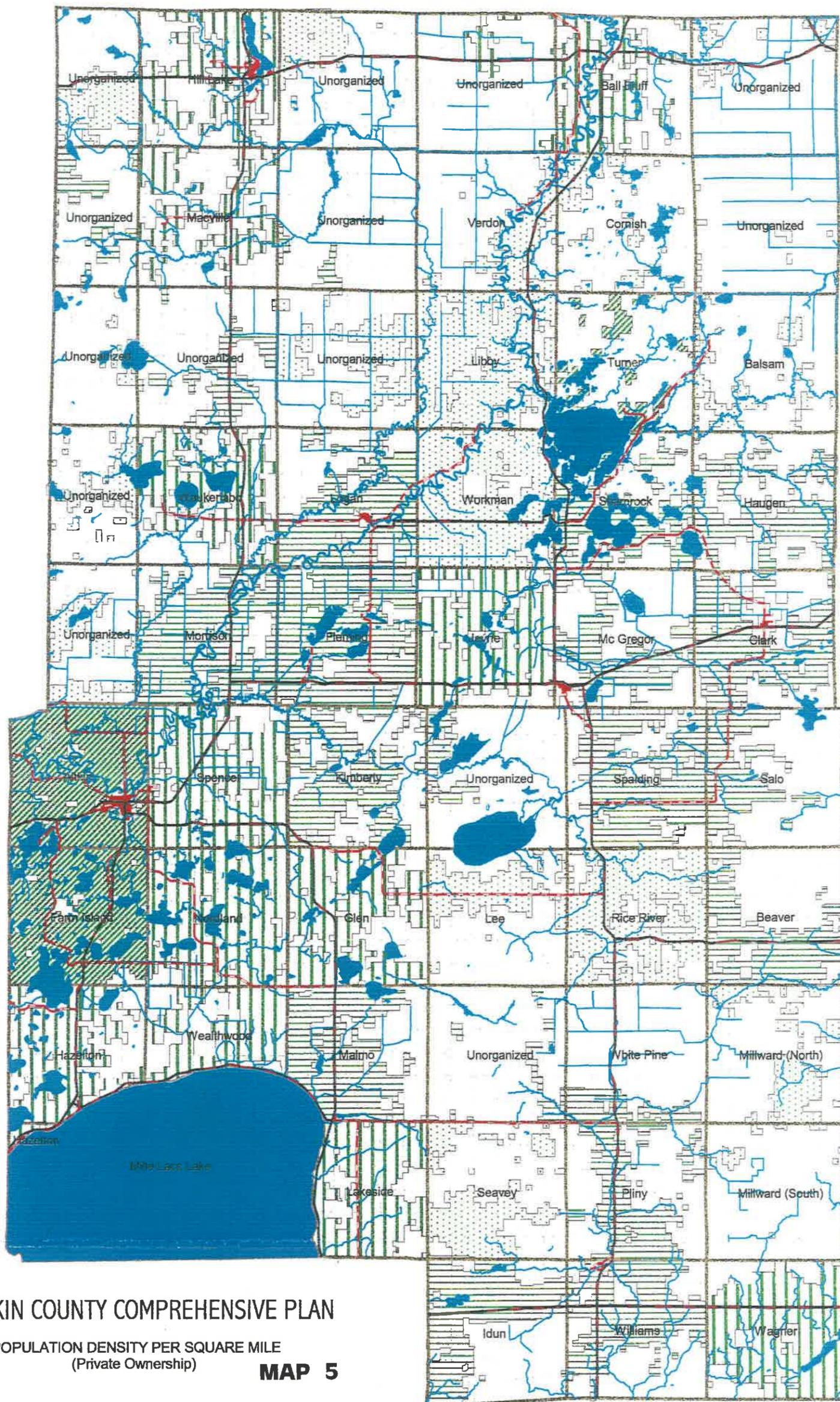
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 LAND USE PLANNERS
 PROJECT MANAGERS



LAND USE DESCRIPTION

- Over 2/5 of the County is wetlands/water
- Forest land covers almost 2/5 of the County
- Only 10% of the forest land has been recently cut.
- About 1/6 of County cultivated/pasture

	Acres	Percent of County
Cultivated/Grassland/Shrubby Grassland	203,423	15.8
Forest	487,448	37.8
Water	121,465	9.4
Wetlands/Marsh/Fens/Bogs	443,494	34.4
Urban/Industrial	9,112	0.8
Extractive/Bare Rock	540	0.0
Roads/Improved Trails/Rail Lines	23,275	1.8
TOTAL	1,288,757	100.0



AITKIN COUNTY COMPREHENSIVE PLAN

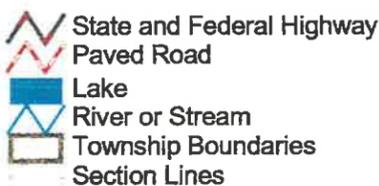
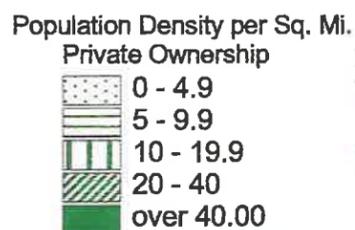
POPULATION DENSITY PER SQUARE MILE
(Private Ownership)

MAP 5



SUSTAINABLE DEVELOPMENT

A PROCESS of analyzing decisions
in order to find a balance among:
ECONOMIC ACTIVITY
ENVIRONMENTAL REQUIREMENTS
SOCIAL NEEDS



June 1997

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PROJECT MANAGERS



Population Density (private land)

Highest densities in:

- Aitkin
- Hill City
- McGregor

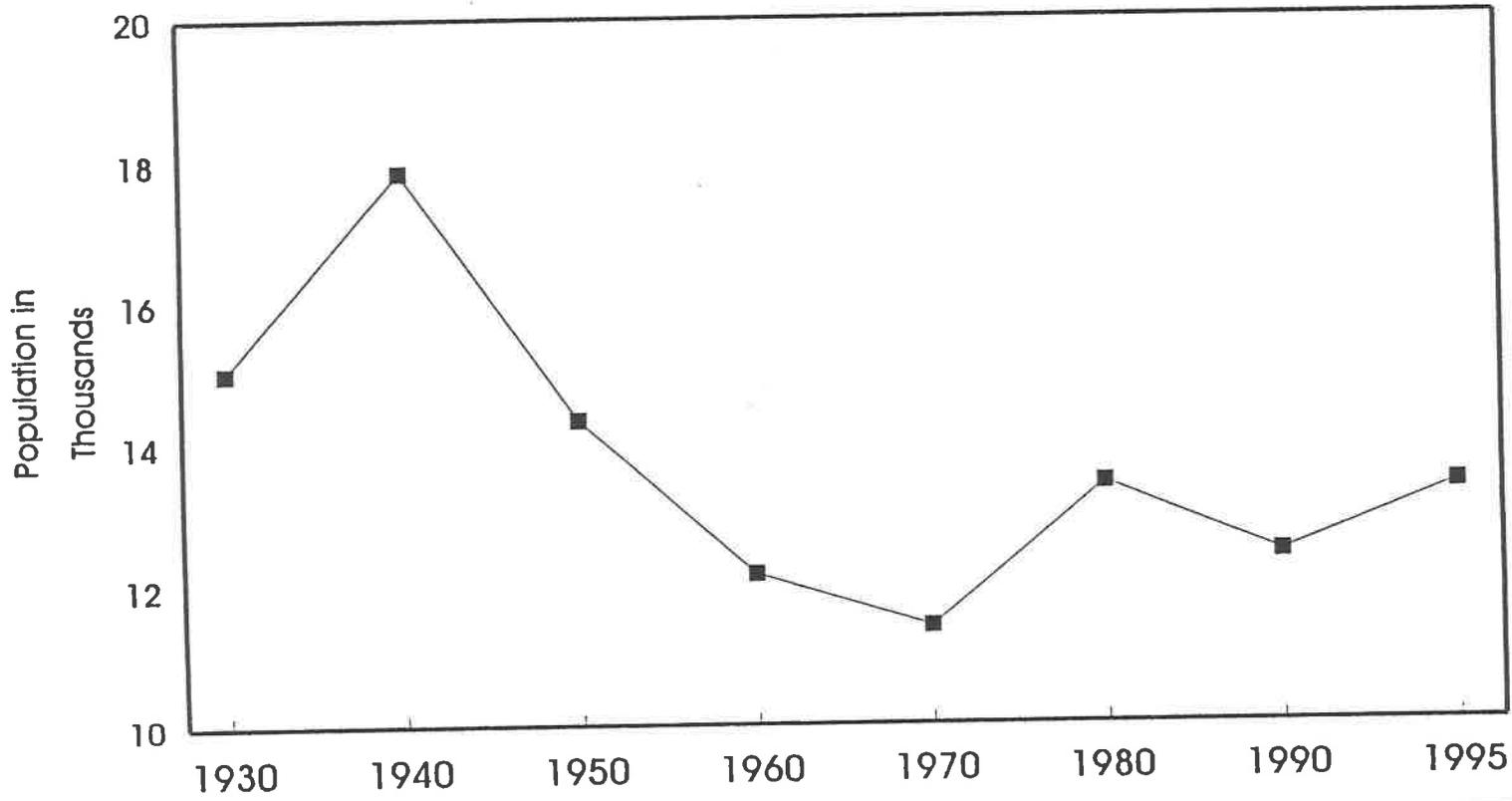
Highest rural densities are around lakes in:

- Aitkin Township
- Farm Island Township
- Turner (Big Sandy) Township

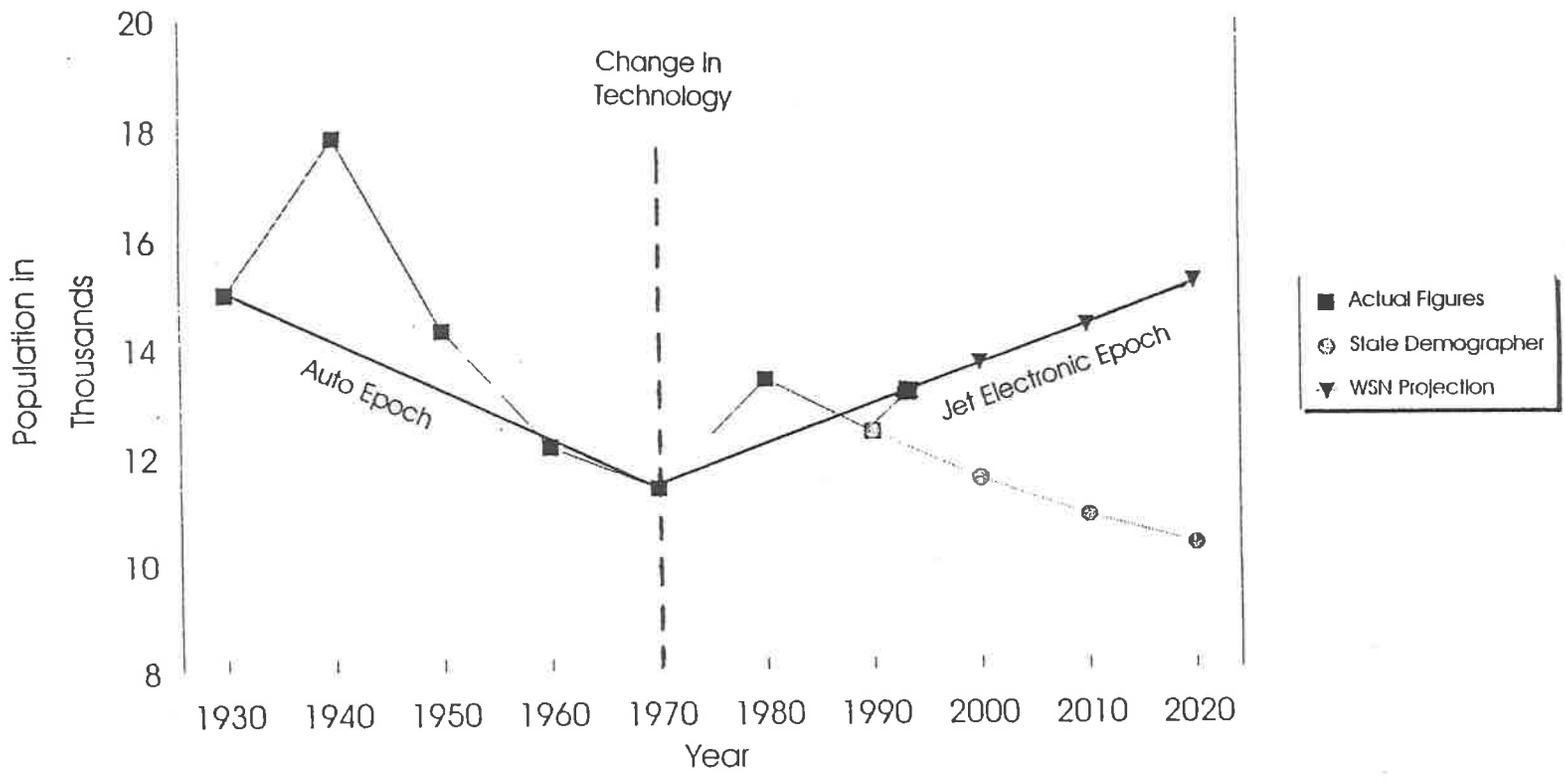
Above average rural densities in:

- Aitkin/Mille Lacs Lake Region
- Hill City
- The southeast corner (Wagner)

Aitkin County Population Change

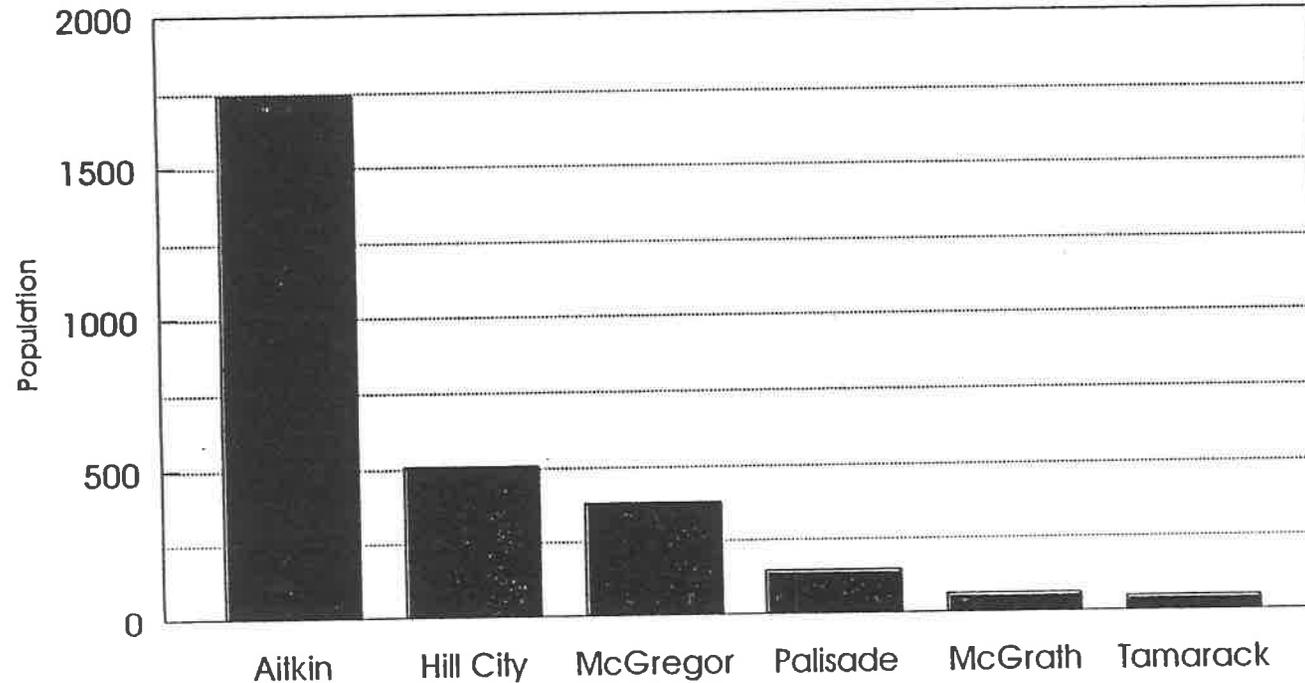


Aitkin County Population Projections



Aitkin County Cities

1995 Population



- Total urban population 2,886 (22%)
 - One fifth of county population
 - 3% growth since 1990
 - All growth in Aitkin and Hill City

Aitkin County Lakes

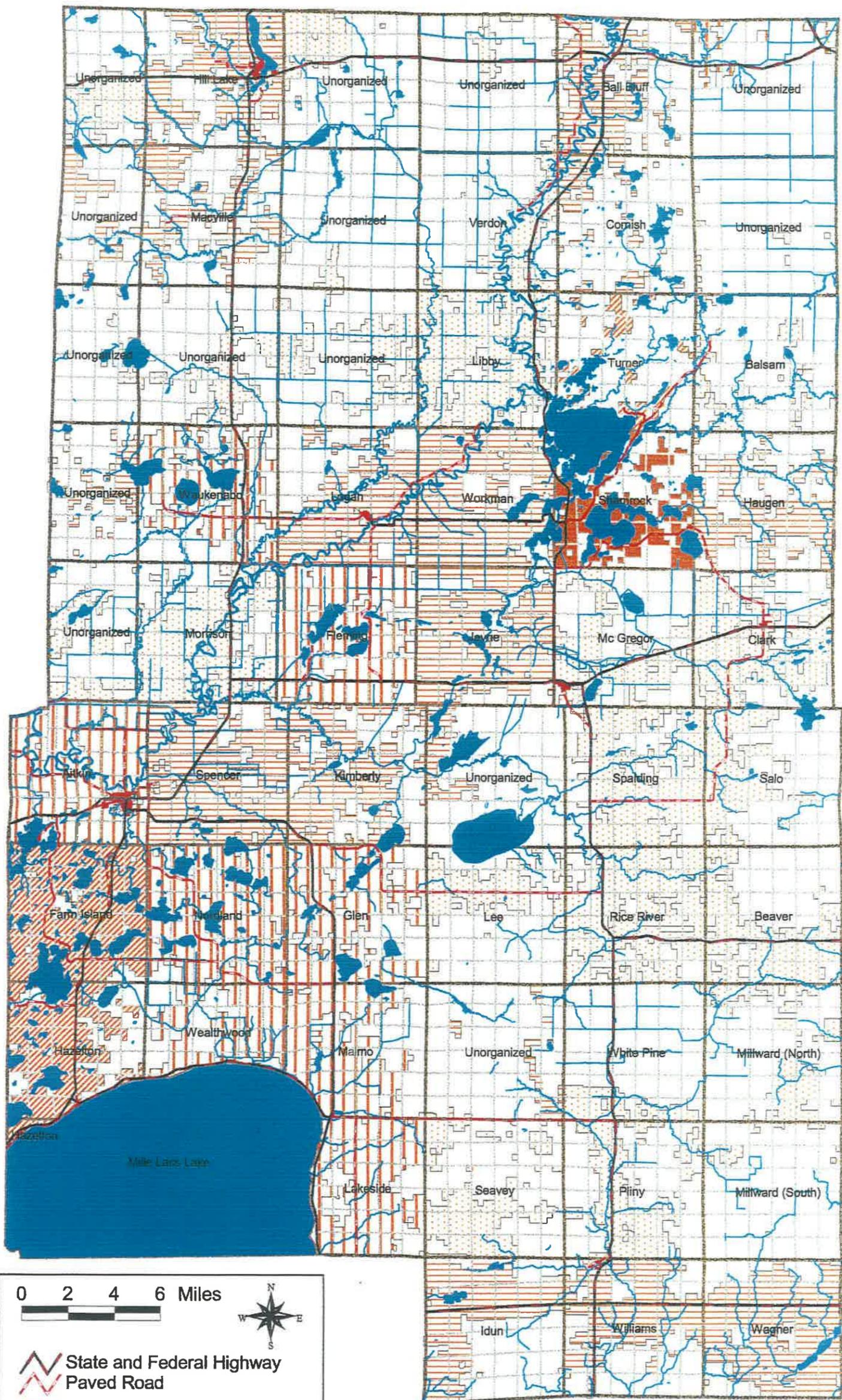
Mille Lacs Lake 132,520 acres

Top 11 Other Lakes

Name	Size acres	Dominant shore type
Big Sandy	9,380	Coniferous/sand
Minnewawa	2,450	Coniferous/sand
Farm Island	2,030	Deciduous/sand
Cedar	1,790	Deciduous/loam
Hill	900	Deciduous/loam
Gun	740	Deciduous/loam
Pine	650	Mixed
Dam	630	Deciduous/sand
Clear	590	Deciduous/sand
Round	570	Coniferous/sand
Spirit	520	Deciduous/sand

■ All over 500 acres

■ All with extensive development



0 2 4 6 Miles



State and Federal Highway
 Paved Road

Lake

River or Stream

Township Boundaries

Section Line

Market Value per Square Mile
 (Private Ownership)

	\$0 - \$281,023
	\$281,024 - \$613,199
	\$613,200 - \$1,295,907
	\$1,295,908 - \$2,199,399
	\$2,199,400 - \$4,742,020



**SUSTAINABLE
 DEVELOPMENT**

A PROCESS of analyzing decisions
 In order to find a balance among:
 ECONOMIC ACTIVITY
 ENVIRONMENTAL REQUIREMENTS
 SOCIAL NEEDS

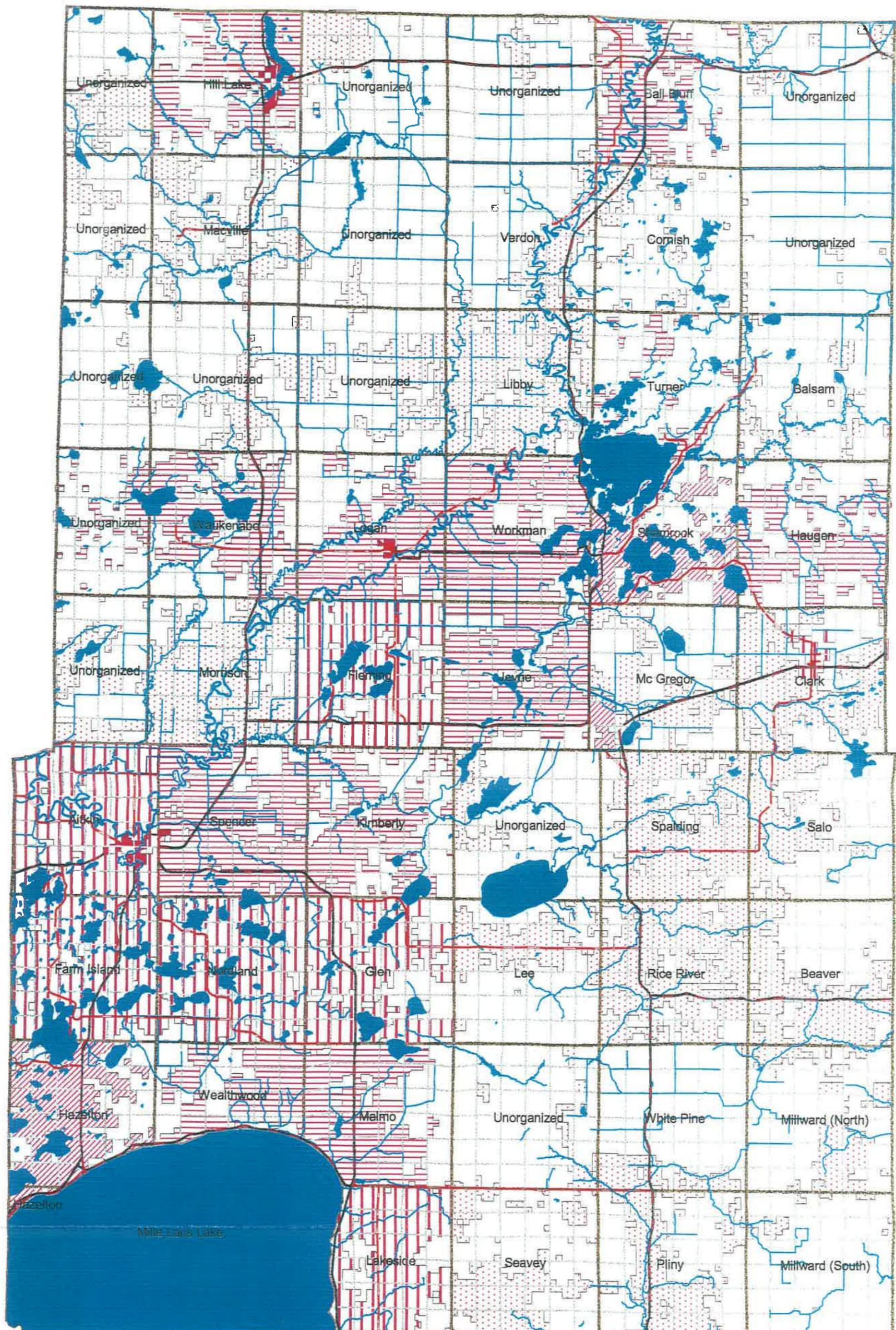
AITKIN COUNTY COMPREHENSIVE PLAN
 TOTAL MARKET VALUE PER SQUARE MILE
 PRIVATE OWNERSHIP

**WIDSETH
 SMITH
 NOLTING**
 ENGINEERS
 ARCHITECTS
 LAND SURVEYORS
 PROJECT MANAGERS



MAP 6

June 1997



AITKIN COUNTY COMPREHENSIVE PLAN
Dwelling Density on Private Ownership

Total Dwelling Density of Private Ownership	# of Dwellings	% of Total Dwellings
0 - 3.8	1834	13.1%
3.9 - 12	3638	25.9%
12.1 - 29.3	3972	28.3%
29.4 - 141.7	3511	25.0%
141.8 - 398.8	1084	7.7%
Total # of Dwellings	14,039	

- State and Federal Highway
- Paved
- Lakes
- Rivers, Streams, Creeks, Ditches
- Township Boundary
- Section Lines



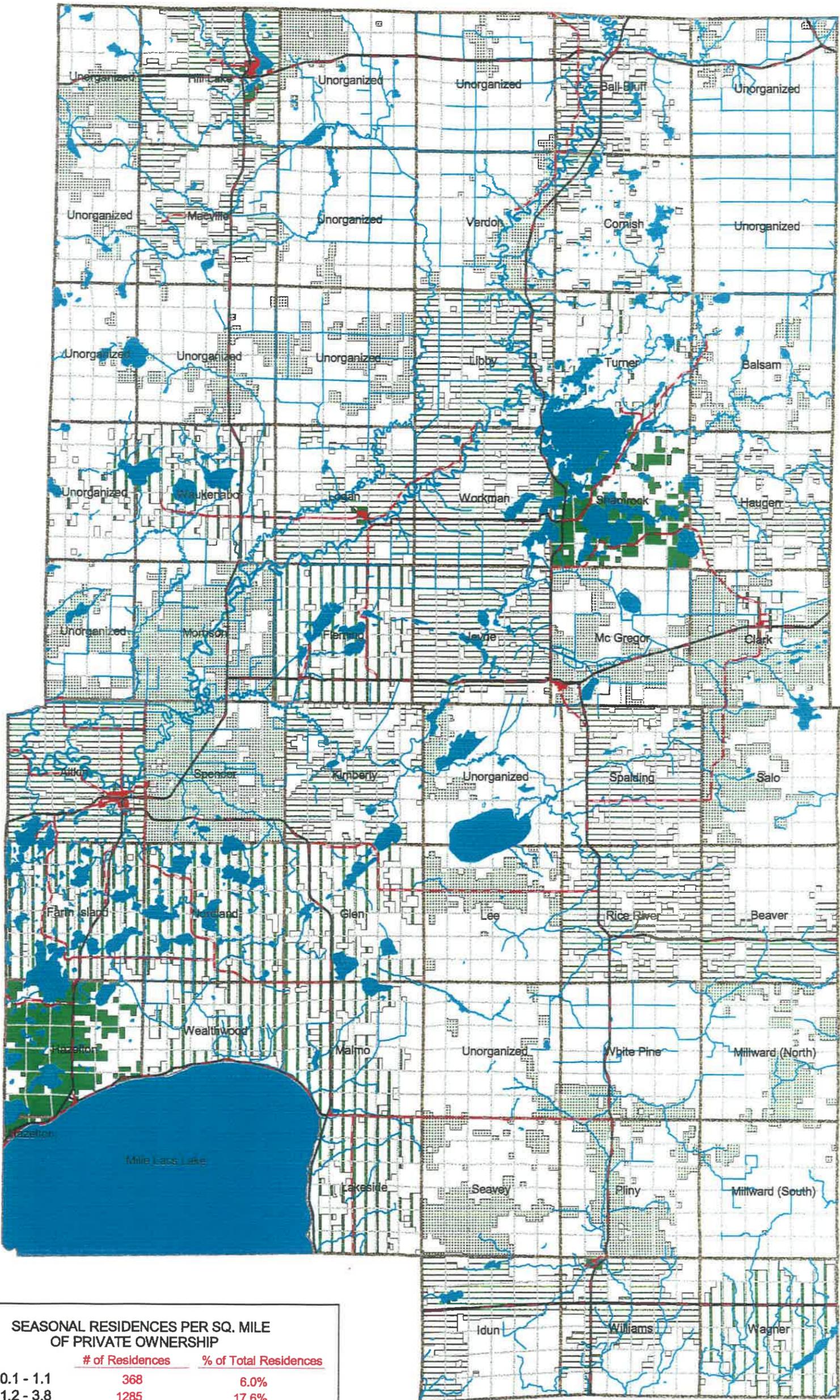
SUSTAINABLE DEVELOPMENT
 A PROCESS of analyzing decisions
 in order to find a balance among:
 ECONOMIC ACTIVITY
 ENVIRONMENTAL REQUIREMENTS
 SOCIAL NEEDS

MAP 7



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 LAND SURVEYORS
 PROJECT MANAGERS





SEASONAL RESIDENCES PER SQ. MILE OF PRIVATE OWNERSHIP

	# of Residences	% of Total Residences
0.1 - 1.1	368	6.0%
1.2 - 3.8	1285	17.6%
3.9 - 18	3000	41.2%
18.1 and above	2670	35.2%
Total # of Seasonal Residences	7323	

- State and Federal Highway
- Paved
- Lakes
- Rivers, Streams, Creeks, Ditches
- Township Boundary
- Section Lines

0 1 2 3 4 5 6 Miles



SUSTAINABLE DEVELOPMENT

A PROCESS of analyzing decisions in order to find a balance among:
ECONOMIC ACTIVITY
ENVIRONMENTAL REQUIREMENTS
SOCIAL NEEDS

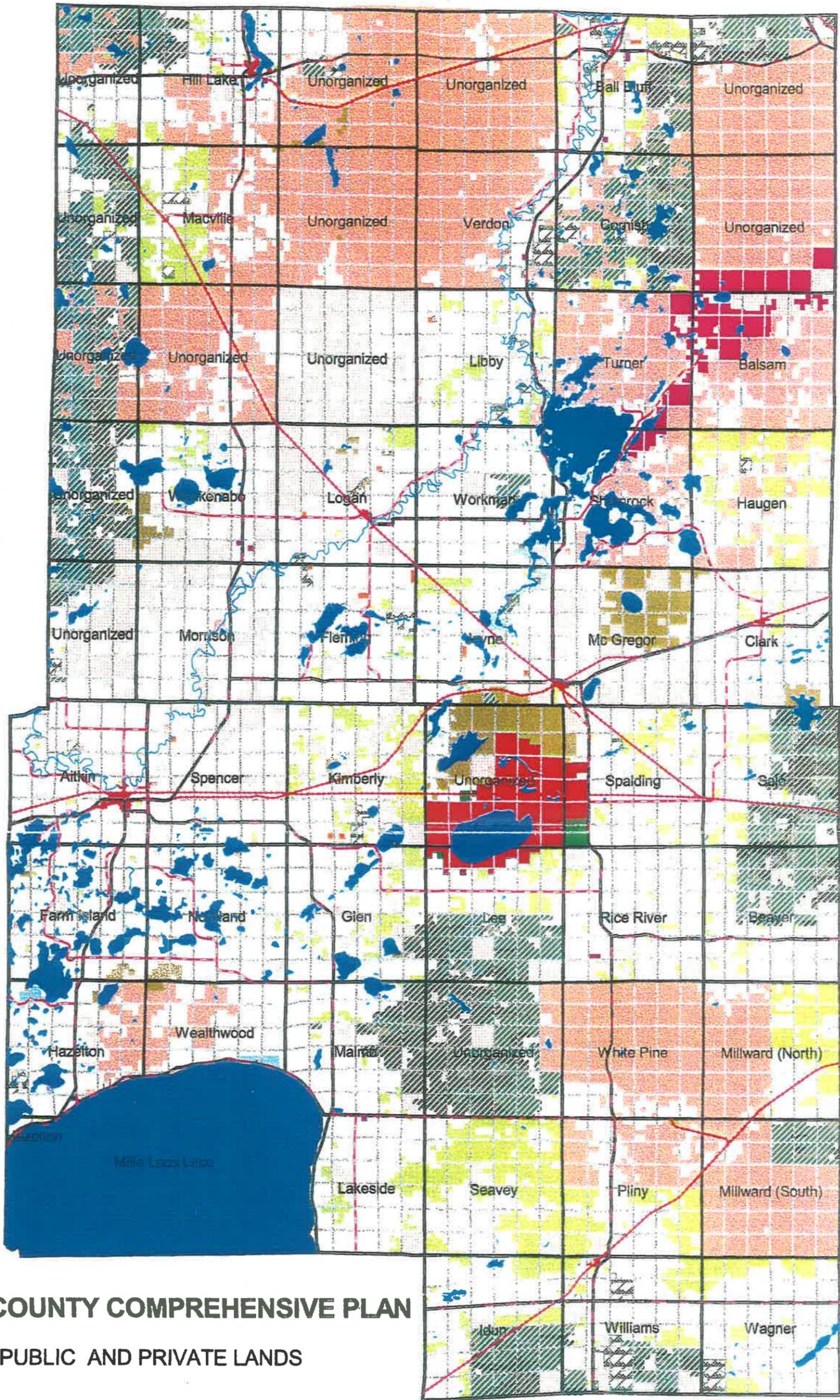
AITKIN COUNTY COMPREHENSIVE PLAN
Seasonal Residences
MAP 8

WIDSETH SMITH NOLTING
 ENGINEERS ARCHITECTS LAND SURVEYORS PROJECT MANAGERS



SEASONAL RESIDENCE DENSITY DESCRIPTION

- Over half (52.2%) of all dwellings in Aitkin County are seasonal residences, almost all are on lakeshore.
- Almost all are concentrated in the lake districts.
- Over 1/3 are in three jurisdictions; Hazelton, Shamrock, and Hill City.
- Other areas of higher densities are the lake district south of Aitkin, Fleming, and Wagner Townships. These areas have densities of between 4 and 18 per square mile and contain 2/5 of all seasonal homes.



AITKIN COUNTY COMPREHENSIVE PLAN

PUBLIC AND PRIVATE LANDS

MAP 9

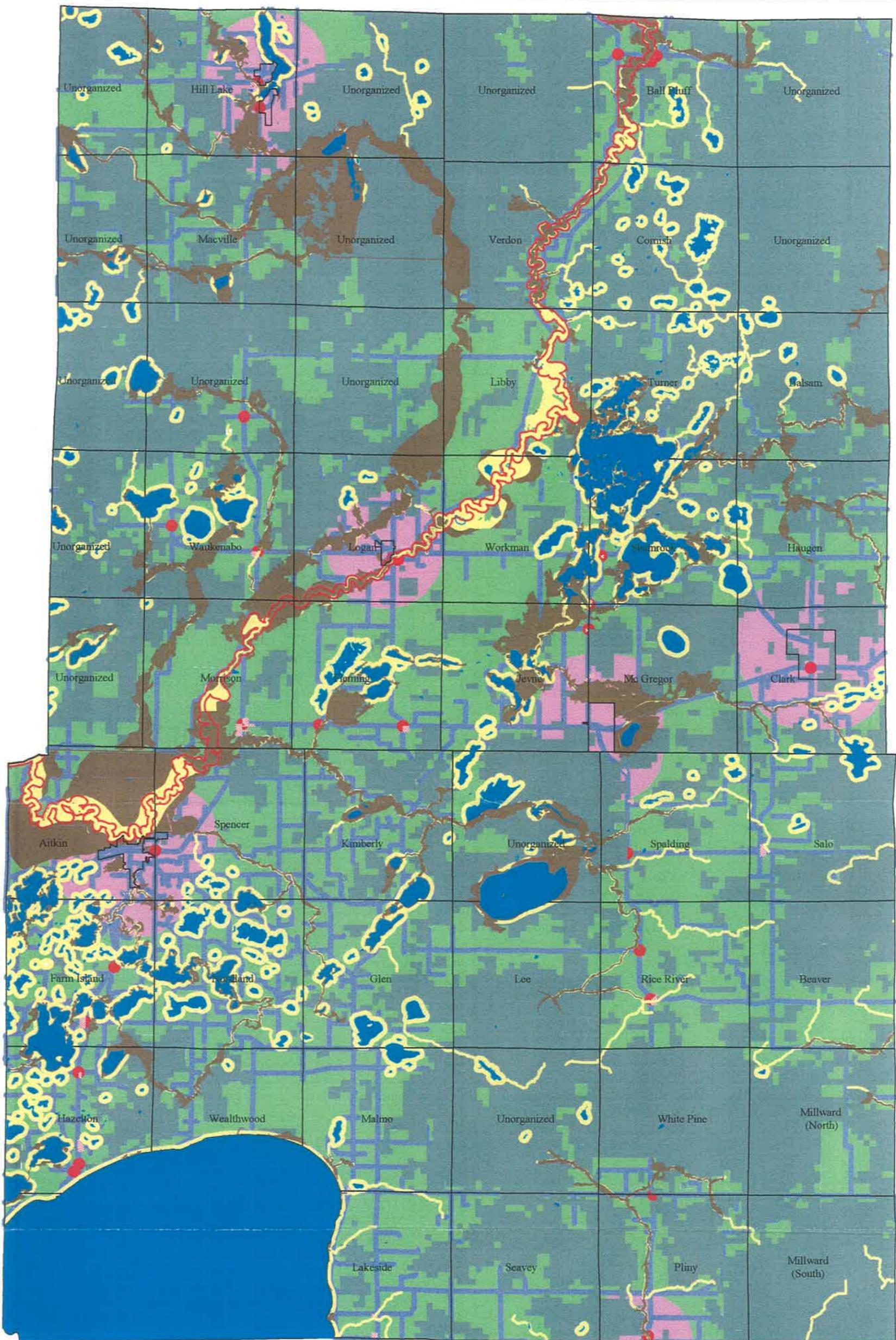
<p>Ownership of Public and Private Lands</p> <ul style="list-style-type: none"> National Forests National Wildlife Refuges Both Federal and State Both Federal and County DNR Forestry Lands (within forest) DNR Forestry Lands (outside forest) DNR Other DNR Wildlife Management Areas DNR Fisheries DNR Enforcement DNR Parks and Recreation Multiple State Agencies MnDOT Rest Areas MnDOT Adjacent to Lakes & Streams MnDOT Gravel Pits Both State and County Military Affairs County Forests Other County County Parks None of the Above 	<ul style="list-style-type: none"> State and Federal Highway Paved Road Railroad River Lake Township Boundary Section Lines Park Rice Lake National Wildlife Refuge 	<p>0 2 4 6 Miles</p> <p>N</p> <p>June 1997</p>
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WIDSETH SMITH NOLTING
ENGINEERS ARCHITECTS LAND SURVEYORS PROJECT MANAGERS

PRO-WEST & Assoc., Inc.
ENGINEERS ARCHITECTS LAND SURVEYORS PROJECT MANAGERS



SUSTAINABLE DEVELOPMENT
A PROCESS OF BALANCING ECONOMIC, ENVIRONMENTAL, AND SOCIAL NEEDS

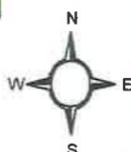
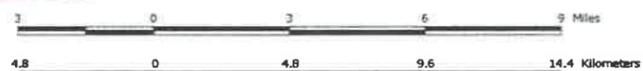


Aitkin County Zoning Classifications-Proposed

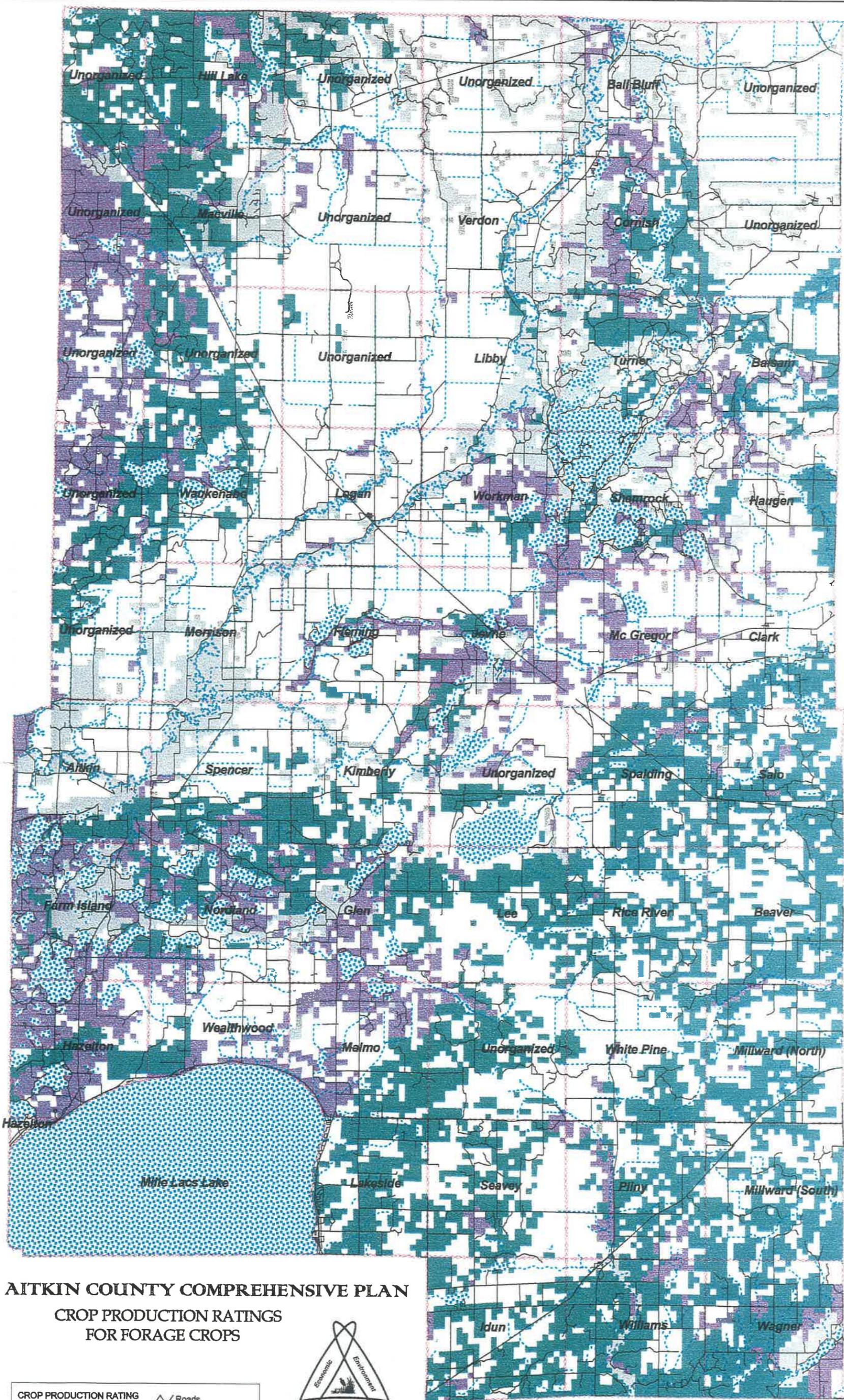
- | | |
|------------------------|------------------------------|
| MHB Corridor | Public |
| Residential Restricted | Neighborhood-Commercial |
| Commercial-Existing | Rural Residential-Lo Density |
| *100 Year Floodplain | Rural Residential-Hi Density |
| *Shoreland | Forestry-Agriculture |



*Shoreland zoning may be subject to change. *All structures must be one foot above 100 year floodplain.



Map prepared by the Aitkin County GIS for graphic display purposes only. Aitkin County assumes no liability for errors, omissions or inaccuracies herein contained. (April, 2000)



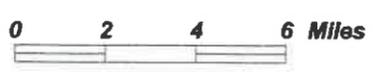
AITKIN COUNTY COMPREHENSIVE PLAN
CROP PRODUCTION RATINGS
FOR FORAGE CROPS

CROP PRODUCTION RATING	
	Not Rated
	Low
	Medium
	High

- Roads
- Township Lines
- Rivers and Streams
- Lakes



SUSTAINABLE DEVELOPMENT
 A PROCESS of analyzing decisions
 in order to find a balance among:
 ECONOMIC ACTIVITY
 ENVIRONMENTAL REQUIREMENTS
 SOCIAL NEEDS



MAP 11

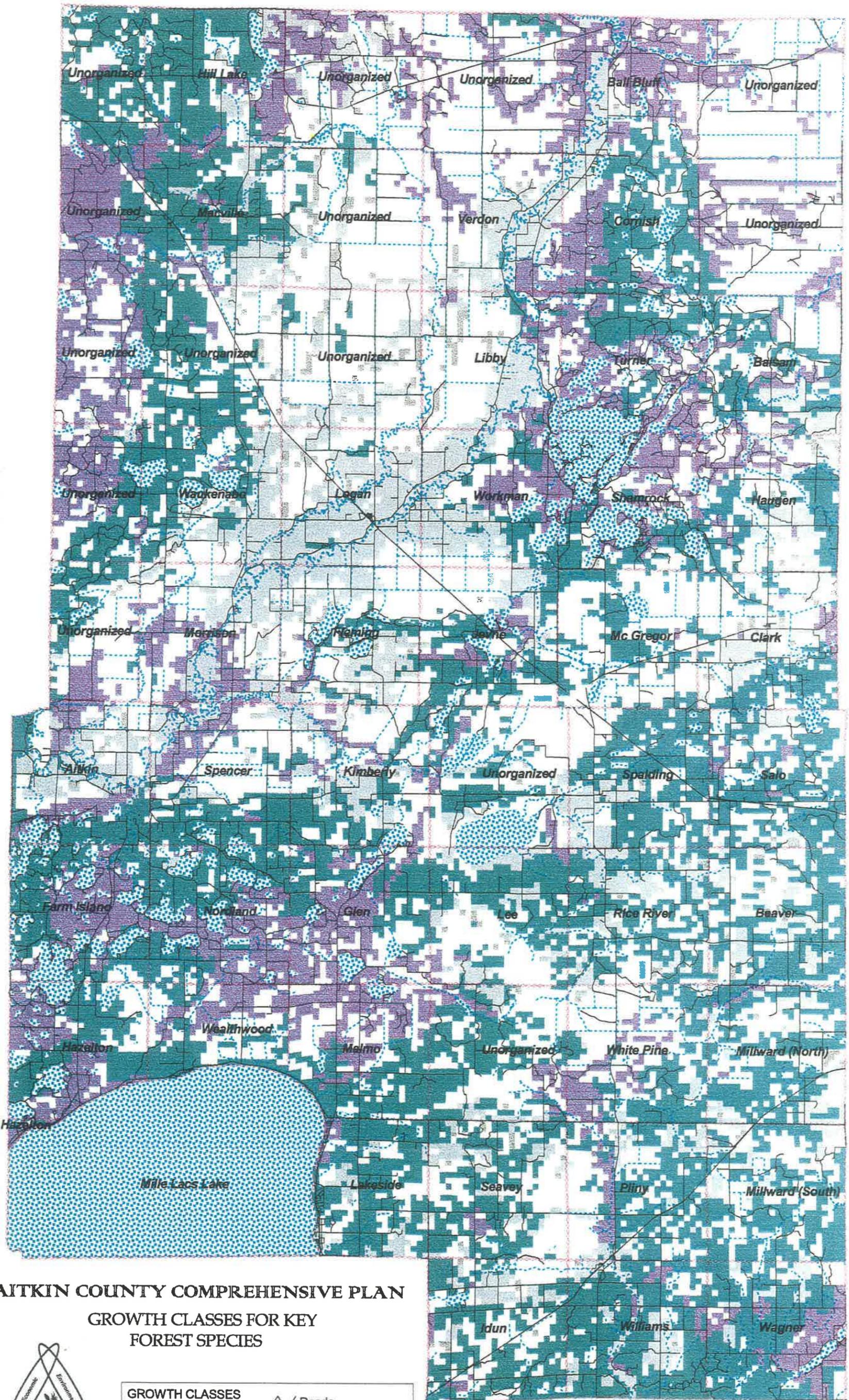
WIDSETH SMITH NOLTING
 INCORPORATED
 ARCHITECTS
 LAND ECONOMISTS
 PROJECT MANAGERS



June 1997

PRODUCTION RATINGS FOR FORAGE CROPS

- The highest rated lands are well drained uplands.
- The best lands are the uplands in the southeastern part of the County and a north-south band of land in northeastern Aitkin County.
- There is high correlation between higher productivity forage lands and forestry lands.



AITKIN COUNTY COMPREHENSIVE PLAN
GROWTH CLASSES FOR KEY FOREST SPECIES



SUSTAINABLE DEVELOPMENT
 A PROCESS of analyzing decisions
 in order to find a balance among:
 ECONOMIC ACTIVITY
 ENVIRONMENTAL REQUIREMENTS
 SOCIAL NEEDS

GROWTH CLASSES

	Not rated		Roads
	Low		Township Lines
	Medium		Rivers and Streams
	High		Lakes



0 2 4 6 Miles

MAP 12

WIDSETH SMITH NOLTING
 INCORPORATED
 LAND USE PLANNING
 PROJECT MANAGERS



GROWTH CLASS FOR KEY FOREST SPECIES

Rankings	Acreages	Percent of County	Percent of Upland
Low	168,861	13.1	22.8
Medium	193,868	15.1	26.3
High	376,582	29.2	50.9
Other	549,445	42.6	
	1,288,756	100	100

- Over 2/5 of Aitkin County land is unproductive for forest management.
- Of the uplands ½ is highly productive forest land.
- Much of the County land is in medium to high forest productivity areas.
- Much of the State land is not rated or unproductive.

SCENICALLY ATTRACTIVE AREAS

Class	Description	% of Scenically Attractive land in County
1	Water oriented/mixed or conifer forest/rolling and steep	2.4
2	Water oriented/deciduous forest/rolling and steep	12.8
3	Water oriented/mixed-conifer forest	5.6
4	Water oriented/deciduous forest	24.1
5	Water oriented/rolling and steep	29.8
6	Mixed conifer forest/rolling and steep	3.8
7	Deciduous forest/rolling and steep	21.5
TOTAL		100%

Water oriented 1 mile of lake
 1/2 mile of river
 1/4 mile of stream

Slope: Rolling - 6-12%
 Steep - 12-25%

SCENICALLY ATTRACTIVE AREAS DESCRIPTION

- 3/4 of all scenically attractive land is near water.
- About 15% of the scenic land combines hills, trees, and water.
- The largest class of amenity land 29.8% is water oriented deciduous forest. This is concentrated in the lake region south of Aitkin.
- The three largest blocks of scenically attractive land are: south of Aitkin, Big Sandy and the area to the north, and the northeastern part of the County.

**OUTDOOR RECREATION - LODGING FACILITIES
IN AITKIN COUNTY**

	<u>1978</u>	<u>1996</u>
Resorts	81	30
Resort Lodging Units	575*	592
Campgrounds	43	31
Campsites	929*	760
Seasonal Homes	4280*	7323
Total Lodging Units	5784	8675

- 50% increase in total lodging units
- 2/3 decrease in resorts
- 1/4 decrease in campgrounds
- 84% of seasonal lodging units are seasonal homes

* Estimate