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- Land exchange study.



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i. EXECUTIVE SUMMARY

In 1985 the Legislative Commission on Minnesota Resources (LCMR) funded the Land Exchange Study. Study objectives were to evaluate use of automated data in the land exchange process and to assess constraints to wider use of land exchange.

The study initiated a pilot effort in Cass County to evaluate use of automated data in potential land exchanges between the state, United States Forest Service and Cass county. The pilot effort concluded that constraints in the state's automated data files (aging data, data gaps and lack of site-level detail) prevent their use in identifying parcels for land exchange. The state's automated data files do have valuable applications for providing a regional context on land exchange proposals and to assess the resource characteristics (e.g. timber types, wildlife value, road access) of parcels proposed as part of a large-scale land exchange.

The study sponsored a regional land exchange conference. Conference objectives were:

- * **to educate attenders on key aspects of the state land exchange program,**
- * **to explore alternative land exchange approaches and opportunities,**
- * **to promote dialogue between land exchange participants.**

The conference was attended by about one hundred persons from the private sector, and from federal, state and local governments in Minnesota and five other states. Conference proceedings have been published. (**Proceedings of the Minnesota Land Exchange Conference, Department of Natural Resources, 1988**)

The study researched the history of land exchange in Minnesota to better understand the foundations for the present program. Findings from that research will be published in a soon-to-be released report. (**History of Land Exchange in Minnesota**)

The study recommended the following.

- * **The DNR should develop land exchange priorities as the basis for a more proactive approach to land exchange.**

*That effort has been completed and has been incorporated into **DNR Commissioner's Procedural Guidelines for Land Exchange and Other Duties Relating to the Land Exchange Board.***

- * **DNR land exchange review procedures should be modified to better accommodate large-scale exchange proposals.**

That review has been completed. The DNR has revised its land exchange procedural guidelines as a result of that review. Now, land exchanges proposed as part of a DNR PERT-approved process (See Page 32 for a description of PERT) require less time for project review. This should not only accelerate the exchange process but also facilitate greater consensus on parcels suited to exchange.

- * **Automated data should continue to be used in evaluating large-scale land exchange proposals.**

Major improvements in the state's automated data files are being studied as part of the DNR's interest in Geographic Information Systems.

- * **Legislation should be developed by the DNR in cooperation with the Minnesota Attorney General's Office to allow exchange of county-administered, tax-forfeited land (Class B land) with state land (Class A Land).**

*That legislation has been introduced and passed.
(Laws of Minnesota, Chapter 628, Sec. 19, Subd. 3.)*

- * **Greater flexibility is needed on state requirements for timber appraisals of land being exchanged.**

Legislation was proposed and did not pass.

- * **DNR policy of not providing abstracts for state land being exchanged should be evaluated.**

That policy has been evaluated. As a result, the DNR now offers abstracts on land it exchanges with counties.

- * **Staff increases may be needed for the DNR land exchange program.**

The DNR has submitted a proposal to the LCMR for continued funding for various land exchange efforts in the Bureau of Real Estate Management. That proposal has received preliminary approval and may be funded.

- * **Legislation should be developed by the DNR in cooperation with the Minnesota Attorney General's Office allowing exchange of School Trust land for other state land.**

That legislation was proposed and passed. (Laws of Minnesota, Chapter 628, Sec. 15, Subd. 5)

II. INTRODUCTION

In 1985, the Legislative Commission on Minnesota Resources (LCMR) funded the Accelerated Land Exchange and Improved Land Management Study. Funding for the two year study was dedicated to the Office of Planning and the Land Bureau (now the Bureau of Real Estate Management). The Office of Planning's responsibility was the Land Exchange Study. The Land Exchange Study objective was to evaluate use of automated data in the land exchange process and to assess constraints to wider use of land exchange. This report describes accomplishments and conclusions from that study and progress in implementing study recommendations.

The Land Exchange Study initiated a pilot effort in Cass County to explore opportunities to exchange DNR-administered land with the county and United States Forest Service (USFS). The Study used the state's automated files on resource characteristics of public land to evaluate parcels for exchange. Results of that effort are reported in this document. In addition, the Study identified constraints to wider use of land exchange.

*The Land Exchange Study hosted a land exchange conference. Abstracted proceedings of that conference are included in this report. The entire proceedings have been published separately. (**Proceedings of the Minnesota Land Exchange Conference, Department of Natural Resources, 1988**) The Land Exchange Study also will publish a History of Land Exchange in Minnesota.*

The Land Exchange Study issued a number of recommendations in 1987. The DNR has sought to implement those recommendations by revising its land exchange procedures and by introducing legislation to address a number of problem areas.

I. THE STATE LAND EXCHANGE PROGRAM

A. Program Initiation, Statehood to 1945:

Economic and social forces that shape demand for public land are dynamic and ever-changing. In response, land in public ownership changes as agencies sell, buy, exchange and are given land. Land exchange is one way of adjusting public land ownership patterns to meet the changing public interests. The land exchange program has slowly evolved through legislation, constitutional amendments, and agency policy development.

Minnesota has been exchanging public land for nearly a century. However, the program was not formally established by legislation until 1929. According to Laws 1929, Chapter 246, Section 2:

"The executive council is hereby authorized and empowered to exchange any and all of the lands which may be acquired by the state by purchase as aforesaid for lands of the United States of the same general character and of substantially the same value as in its judgement will promote the best interests of the state, upon such terms and conditions as it shall deem proper, and to that end may accept or pay out any available funds such cash differences as will affect an equitable exchange of lands. The said council is hereby authorized to cause any lands so acquired to be appraised by such competent authority as it shall appoint or direct."

Four years later, the legislature passed the Land Exchange Act of 1933 allowing the state to exchange land acquired through tax forfeiture.

Land exchange played a role in the state's resettlement efforts during the Great Depression. Land exchange was used to acquire land from settlers in remote areas for relocation to sites where accessibility and soils fertility were more favorable to permanent settlement. Land within each of nine target counties was classified into agricultural or conservation zones to guide resettlement efforts.

In 1938 a constitutional amendment was passed creating the Land Exchange Commission. Article VIII, Section 8 of the state's constitution reads:

"Any of the public lands of the state, including lands held in trust for any purpose, may, with the unanimous approval of a commission consisting of Governor, the Attorney General, and the State Auditor, be exchanged for lands of the United States and/or privately owned lands..."

The following year, the legislature took action to better protect the state's mineral and water interests by retaining rights to minerals and waters in all land exchanged by the state. According to Laws 1939, Chapter 382 (SF 697) Section 2:

"...and the state shall reserve all mineral and water power rights in lands so transferred (exchanged) by the state."

Reservation of mineral and water power rights continue to strongly influence the selection of lands exchanged by the state.

The legislature identified public land consolidation as a land exchange objective. According to Laws 1939, Chapter 382, Section 2

"For the purpose of consolidating the holdings of land owners by the State the Commission may, by unanimous approval, exchange any lands to which the state now holds title or to which title shall be acquired by the state, including lands held in trust for any purpose, for lands of equal value and kind owned by the United States or land owned by private citizens or corporations."

B. Program Development, Post 1945 Period:

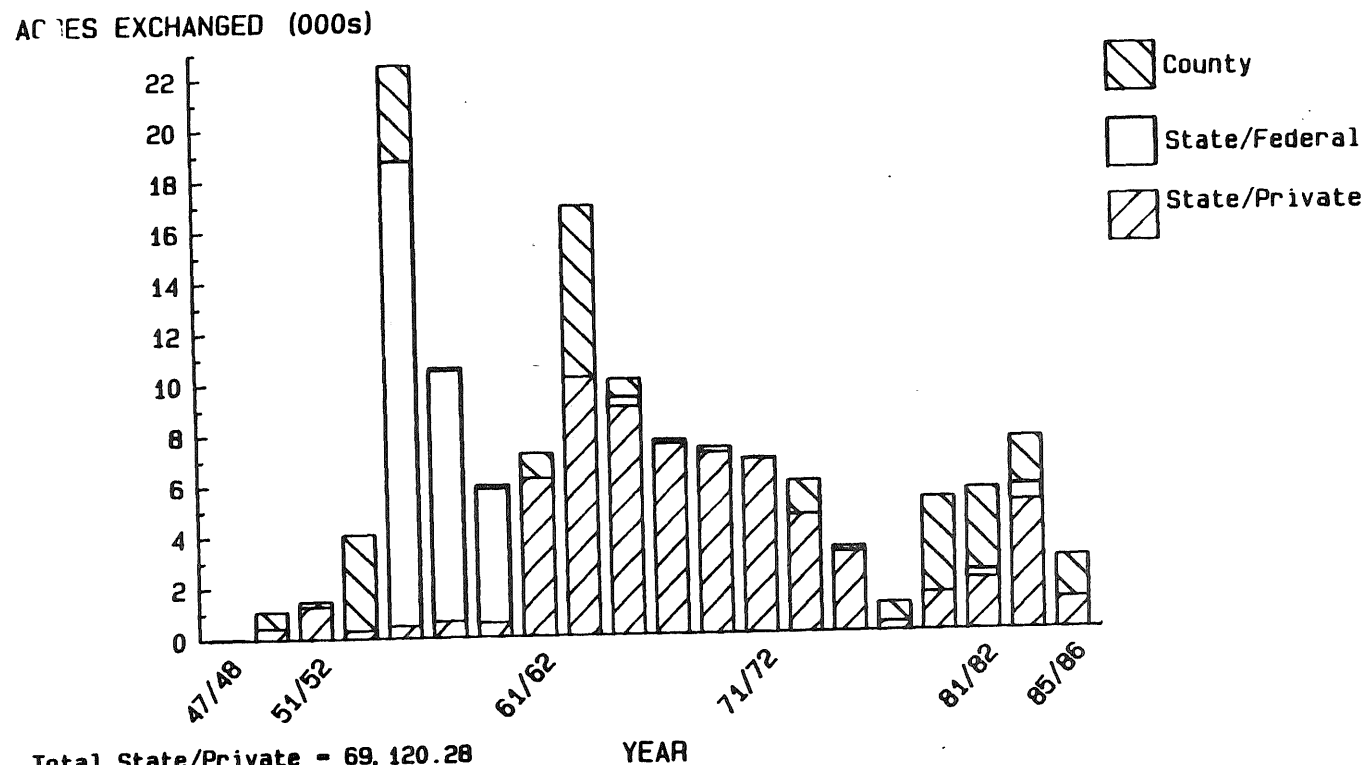
Since 1945, changes in the land exchange program were designed to protect the public interest. Legislation and procedures established during this period created a more orderly program that insured title protection and fairness to all parties and guaranteed comparability in value and resources of land being exchanged.

In the middle 1940's, land consolidation continued to be a land exchange objective. The case for consolidation was described in the Department of Conservation's Eighth Biennial Report, 1945-1946. That report states:

"...effective management of Minnesota's timber resources is hampered by the jumbled pattern of timberland ownership, with federal, state and private holdings mixed up like pieces of a crazy quilt, causing much confusion, duplication of effort, and unnecessary expense. ... In order to authorize exchanges for the purpose of consolidating the various land holdings, state, federal and private, in furtherance of better management, the land exchange amendment to the state constitution was adopted in 1938, followed by enabling legislation. ... This work now should be stepped up by all means available. The cost will be saved many times over in the long run through economy of management of general timber production. The faster the exchange program proceeds, the greater will be ultimate saving."

In the middle 1950's, the state and the United States Forest Service negotiated several large-scale land exchanges (15,000+ acres) in the Superior National Forest. This was the period of greatest post-war exchange activity. See Figure 1. Although interest in large-scale land exchanges remained strong, the program focus shifted in the 1960's towards small-scale exchanges between the state and private sector.

FIGURE 1:
TOTAL EXCHANGE ACRES BY TYPE
1947 TO 1986



Total State/Private = 69,120.28
 Total State/Federal = 39,751.31
 Total County = 30,363.01
 SOURCE: DNR LAND BUREAU LAND EXCHANGE FILES

C. The Land Exchange Program in the 1980's:

Although interest in consolidating public land remained strong in the 1980's, the primary land exchange focus continued to favor smaller scale exchanges between the state and private parties. A note of definition is appropriate here. Large-scale exchanges in this study are defined as exchanges of 640 acres or more. This is a convenient benchmark since the Land Exchange Board requires that exchanges of 640 acres and larger must be brought to it for approval prior to the initiation of field examination, appraisal and public hearing.

'Pursuant to Resolution adopted June 22, 1960, the Land Exchange Board requires that any proposal to exchange more than 640 acres of state land must first be submitted to the Board and its approval obtained prior to the initiation of field examination, appraisal and public hearing.'

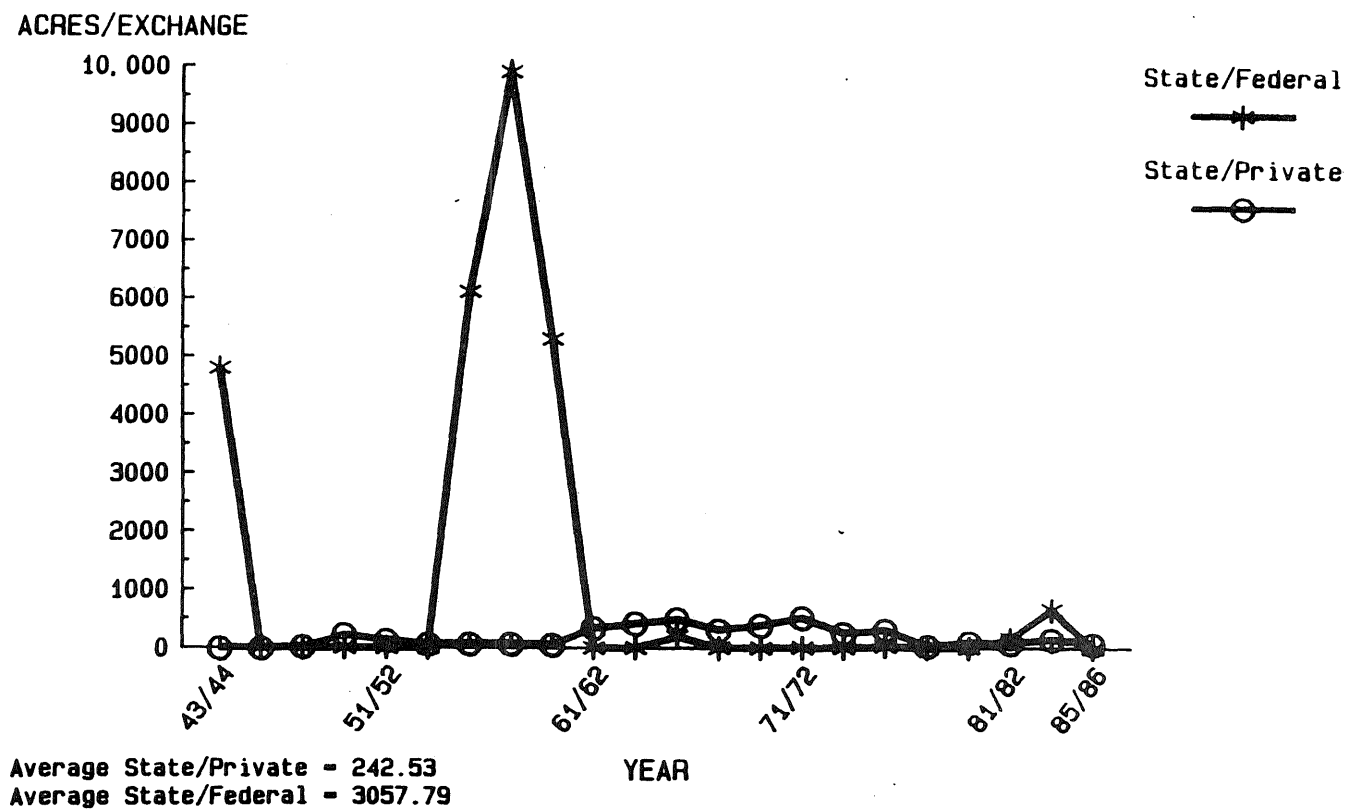
Small-scale exchanges in this study are defined as exchanges of less than 640 acres.

The shift to smaller scale exchanges was reflected in a decline in the average size of land exchanges over the past two decades. (See Figure 2.) During the peak years of large-scale exchanges in the mid-1950's and early 1960's the average exchange size was a thousand acres or more. In the 1985-86 biennium, the average size of a land exchange was 156 acres.

Exchanges were smaller in size because of the shift from exchanges between public agencies to exchanges between the state and the private sector. Most state/private sector exchanges tend to be considerably smaller in size than state/USFS land consolidation exchanges. For example, since 1943, state/USFS land exchanges have averaged more than 3,000 acres each while state/private sector exchanges have averaged 242 acres each. Some state/private sector exchanges, most notably those with timber corporations, have potential for larger-scale land consolidations. However, most state/private sector exchanges are with individuals who own relatively small blocks of land and who are seeking a relatively small acreage from the state.

The shift to smaller scale exchanges was due to the complexities of developing large scale exchanges and due to staff constraints. Difficulties in balancing resources in large-scale exchanges and concerns about political and public support at the local level were and continue to be constraints to large-scale exchanges between public agencies. Small-scale land exchanges probably require less time to develop, review and administer, although there have been too few recent large-scale exchanges to establish a valid comparison.

**FIGURE 2:
AVERAGE ACREAGE OF LAND
EXCHANGE BY TYPE
1943 TO 1986**



SOURCE: DNR LAND BUREAU LAND EXCHANGE FILES

Staff levels also have constrained land exchange efforts. DNR disciplines have not had staff persons assigned specifically to land exchange efforts. Until the 1985\86 biennium, the Land Bureau (now the Bureau of Real Estate Management) had only one full time staff person assigned to the land exchange program. In addition, the one Land Bureau staff person in each region was assigned to a broad range of responsibilities of which land exchange was just one. With limited staff, the DNR focused most of its efforts on responding to exchanges proposed by private individuals and less time to structuring exchange proposals between public agencies.

Although the acreage exchanged has declined, the actual number of exchanges completed has steadily increased. Figure 3 indicates that the number of exchanges has varied from year-to-year but has experienced a long-term increase. Also, the backlog of pending exchanges has been reduced with the addition of a staff person to the Bureau of Real Estate Services land exchange staff (funded through this LCMR program).

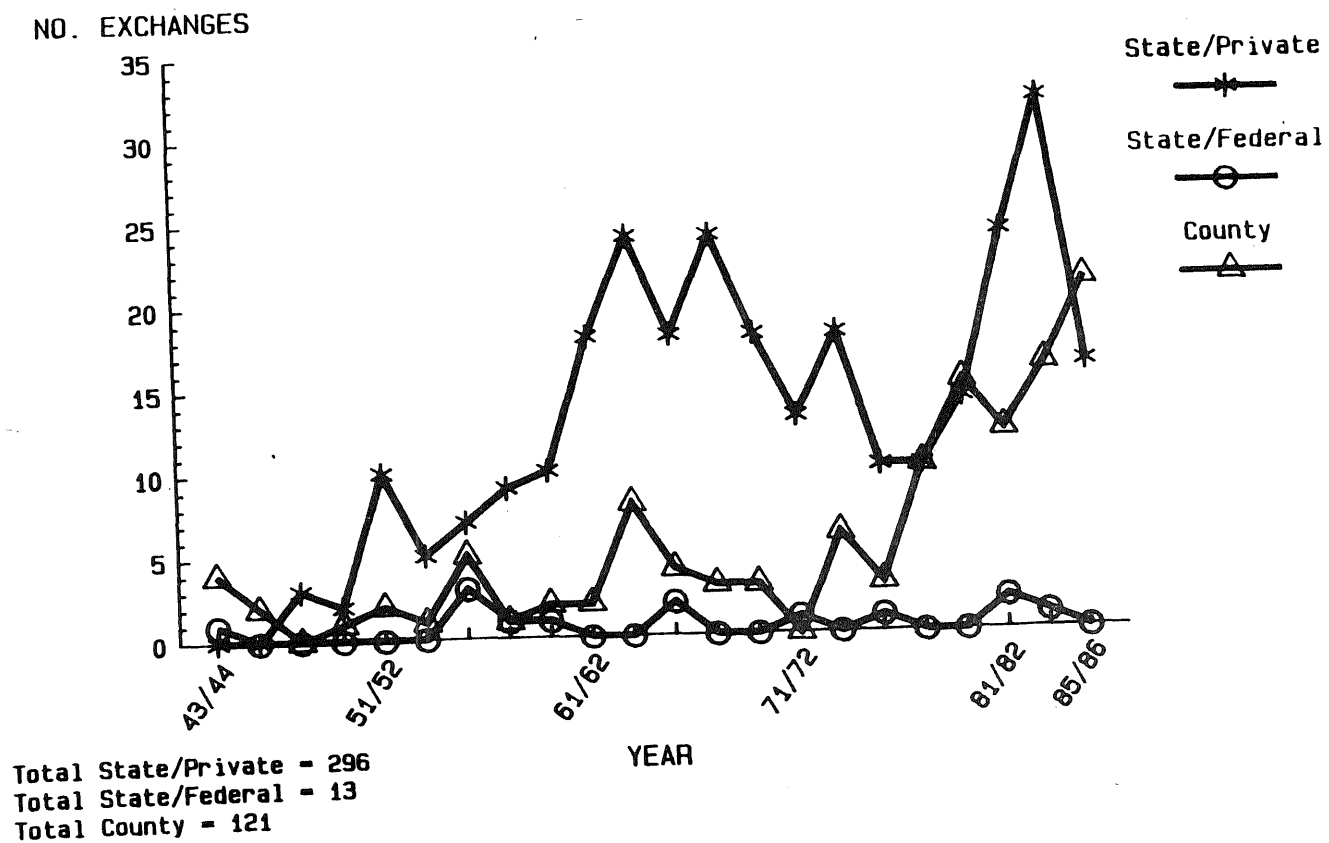
A 1983 Legislative Auditor's report on the state land exchange program (Evaluation of the State Land Exchange Program, July 13, 1983) observed that the program was used infrequently and that DNR staff seldom initiated exchange proposals. However, use of the land exchange program has increased sharply during the 1980's, an increase that was not yet apparent from figures available to the Auditor. Prior to 1980, there were seldom more than 25 exchanges per biennium. In the two bienniums since 1983, 86 land exchanges and transfers have been completed. (A transfer 'exchanges' land between the state and a governmental subdivision of the state, e.g. a county. Minnesota Statutes 94.349.)

The DNR uses land exchange to a greater extent than may be reflected in the summary reports. Many exchange proposals formally submitted by the public were actually initiated by DNR staff to obtain valued resource land. DNR Regional Land Specialists estimate that about 50% of all state/private sector exchanges are initiated by the DNR.

DNR land exchange activity cannot be measured alone by the number of completed land exchanges. Much staff time is devoted to administering exchanges that are never approved. Between June 1980 and July 1985, 78 formally-proposed exchanges were rejected. Of these, 17 were rejected by the landowner (e.g. death, unable to equalize value, lost interest, etc.), 44 were rejected for resource management considerations (e.g. valued timber, public waters frontage, etc) and 17 were rejected for miscellaneous reasons (e.g. title problems).

In addition, many exchanges are rejected at the regional level before they are formally proposed. In the four years between 1981 and 1985, 140 exchange proposals in DNR Regions I, II and III were terminated before reaching formal proposal status. About two-thirds of these were terminated by the various disciplines because the proposals were inconsistent with resource management objectives. The remaining third were rejected mostly for legal reasons or because of difficulty in establishing equal value between lands being exchanged. All of these rejected exchanges require administrative and review time.

FIGURE 3:
YEARLY NUMBER OF LAND EXCHANGES BY TYPE 1943 TO 1986



SOURCE: DNR LAND BUREAU LAND EXCHANGE FILES

D. Land Exchange Objectives:

Land exchange is a tool that serves a broad range of resource management and land administration objectives. As such, its primary function is to serve those broader objectives in an efficient and effective manner.

Land exchange can address the following resource management objectives:

- * *acquisition of valued resource land; e.g. wildlife habitat, timber land, peatlands, etc.*
- * *uniting surface and sub-surface ownership in areas where mineral potential is high,*
- * *consolidation of public land in management units to improve management efficiency,*
- * *acquisition of recreation land (state parks, water accesses, other).*

Land exchange serves land administrative objectives by functioning as a limited alternative to land acquisition or sale. The DNR has used land exchange to acquire thousands of acres of land that might not have been acquired through purchase. However, land exchange cannot fully replace sale and acquisition actions. Those actions are targeted at specific parcels for which a viable exchange proposal may not be feasible.

Land exchange also performs a public service to private individuals. Most land exchanges are with the private sector (individuals or businesses). For example, in the three bienniums between 1981 and 1986, the state had three exchanges with the federal government, six land transfers with counties and 71 exchanges (or about 90% of the total) with the private sector. (As stated earlier, many exchanges between the state and private sector were actually proposed to private parties by DNR resource managers.)

Private sector objectives for exchanging land with the state vary. They may seek to improve the efficiency of a farm or other resource business; acquire resource land for recreation, etc. The state is responsive to such proposals when the state also benefits from the proposed exchange.

E. Land Exchange Opportunities:

The potential for exchange of state land is very large. Acreage estimates of that potential are difficult to generate. Site-specific studies, such as management unit planning, will identify specific acreages in the years ahead. The following are major categories of opportunities for exchange of DNR-administered land:

- 1) **U.S Forest Service:** *the USFS hopes to consolidate land within the Chippewa and Superior National Forests through exchange with the state and counties.*
- 2) **Counties:** *most counties in northern Minnesota with large acreages of state-owned, county-administered land are receptive to exchanges with the state and federal government.*
- 3) **Boundary Waters Canoe Area Wilderness (BWCAW):** *About 84,000 acres of state School Trust Fund land in the BWCA could be exchanged with the USFS for federal land outside the BWCAW.*
- 4) **Trust Fund Land:** *School Trust Fund land precluded from producing revenue under current management could be exchanged where feasible so that income-producing management can be pursued on this land. This includes School Trust Fund land, Internal Improvements land, and Swamp land whose proceeds contribute to the Permanent School Trust Fund pursuant to the Minnesota constitution. All such land will be referred to as School Trust Fund land in this report.*

Other land exchange opportunities exist that address the broad scope of DNR resource management responsibilities. The DNR has identified and prioritized these opportunities and has included them in the DNR Policy #16; **Land Exchanges and Land Title Transfers.**

F. Interagency and Cooperative Management Agreements:

The state uses several less-than-fee title acquisition techniques to establish management control of resource areas. An often-used approach is development of agreements that allow the state to manage land owned by another party. Such agreements with private parties are called Cooperative Management Agreements or CMA's. Comparable agreements between public agencies are called Interagency Agreements. For simplicity both will be referred to as CMA's in this report. The Land Exchange Study evaluated these agreements to determine their value as alternatives to land exchange.

A CMA usually provides specific resource management rights. These types of agreements have been used effectively by the Division of Fish and Wildlife, for example, to allow anglers access to private land on trout streams. A different type of CMA has been employed successfully in peat leasing. Currently, the Department has a CMA with Carlton County that directs the Minerals Division to manage a peat lease covering county tax-forfeit lands. Other resource management CMA's between different government units are conceivable and may be explored in the future.

Conceptually, CMA's might function as alternatives to land exchange if it were feasible to transfer the sum total of all management rights while maintaining fee title with the original owner. Used in this way, CMA's might pose a number of advantages over land exchange. For example,

because title is not transferred and because appraisals are not needed, CMA's are less expensive to develop. Also, CMA's are less complex than a land exchange to negotiate since legislative and constitutional land exchange restrictions do not apply. Finally, CMA's usually require less time to negotiate than a land exchange.

However, the state's major trading partners generally are disinterested in using CMA's as an alternative to land exchange. Counties have expressed strong reservations about use of CMA's that extend DNR management control over county-administered land. Quoting from a letter from the Minnesota Association of County Land Commissioners (MACLC) (Wayne Golly, Chairman of MACLC to Joseph Alexander, DNR Commissioner, May 30, 1985):

"I understand that currently there are inter-departmental discussions going on regarding whether land exchange ought to be the accepted policy for changing administrative responsibility for state lands or some sort of cooperative management agreement between state and county developed.

The position of the MACLC is that land exchange should be the policy. Our Association campaigned in support of the constitutional amendment that was adopted and now allows state/county land exchange to occur. To now use some other method would seem to degrade that effort and certainly would fall short of the intent of the amendment. We believe that the purpose of resource management can best be served by land exchange." (See Appendix A.)

The U.S. Forest Service also is reluctant to use Interagency Agreements that exchange the sum total of management rights to land. Citing from a letter from Clay Beal, Supervisor of the Superior National Forest to Steve Thorne, DNR Deputy Commissioner (March 19, 1986):

"We have finally received a legal opinion on the feasibility of our entering into cooperative management agreements with the Minnesota Department of Natural Resources that would transfer the full management responsibilities for the involved lands without changing ownership. The opinion is that a transfer of management responsibility without an accompanying transfer of fee title is not possible under existing federal legislation governing the National forests. Such legislation is based on federal fee ownership of the land in the National Forest System.

We believe that we can achieve most, if not all, of the benefits that would result from cooperative management through use of our exchange authorities and by working closely with you as we have in the past...." (See Appendix B.)

Some private landowners also are unreceptive to CMA's as alternatives to land exchange. Some landowners feel that state management control over a parcel should be acquired through purchase or exchange not through a CMA. Many landowners desire monetary compensation rather than the resource benefits offered by CMA's. Other landowners are reluctant to enter long-term agreements involving land use practices on their property.

Although CMA's have valid applications for many resource management efforts, without cooperation from potential trading partners, they cannot function as a widely-used alternative to land exchange.



II. THE LAND EXCHANGE CONFERENCE

A. Conference Objectives:

The Legislative Auditor's Report (Evaluation of The State Land Exchange Program, July 13, 1983) recommended a regional conference to learn how land exchanges work in other jurisdictions. In response, the Land Exchange Study sponsored a land exchange conference on September, 1986. The Eastern Lands and Resources Council co-sponsored that conference. The conference had three primary objectives:

- 1) *To dialogue: the conference sought to establish opportunities for better rapport between counterparts in public agencies.*
- 2) *To learn new approaches to addressing land exchange constraints, new opportunities to exchange, alternatives to land exchange, advantages and disadvantages of Minnesota land exchange approaches, perspectives of staff from other states, counties and agencies on land exchange constraints and opportunities.*
- 3) *To educate: the conference provided the DNR an opportunity to educate attendees on key components of the land exchange program.*

The conference was held in Brainerd and was attended by about one hundred persons from federal, state, and local government in Minnesota and five other states.

B. Conference Results:

The following is an abstract of presentations made by each speaker.

- 1) **Topic:** Exchange in Minnesota: Past, Present and Future
Speaker: Steve Thorne, Deputy Director, Minnesota Department of Natural Resources
Abstract: Steve Thorne described conflicting land exchange goals; e.g. consolidation of public lands versus other resource management goals. He described a history of the land exchange process with respect to the legal challenges it created. He discussed current goals, problems and opportunities
- 2) **Topic:** Legal Aspects of Land Exchange
Speaker: Carl Conney, Special Assistant Attorney General, State of Minnesota
Abstract: Carl Conney described the amendment to the Minnesota Constitution that created and gave responsibility to the Land Exchange Board, and the statutory requirements that impact the land exchange process.

Speaker: James Pfeil, Office of General Counsel, United States Department of Agriculture, Milwaukee, Wisconsin

Abstract: James Pfeil addressed federal land exchange from a legal standpoint. He offered information on the various statutory authorities, and provisions within them that allow federal agencies to exchange lands.

Speaker: Chuck Andreson, Attorney at Law, Bye, Boyd, Andreson & Sullivan, Duluth, Minnesota

Abstract: Chuck Andreson discussed land exchanges from a private attorney - client perspective. He outlined a chronological progression of steps in the land exchange process and gave advice on avoiding some common pitfalls.

3) Topic: Exchanging With Uncle Sam

Speaker: Rollie Harmes, Chief, Land Division, Michigan Department of Natural Resources

Abstract: Rollie Harmes spoke from his extensive experience working with the federal government on land exchanges. He offered information on public land ownership in Michigan, a history of land exchange between the U.S. and Michigan, Michigan's land exchange goals and some insights on matters crucial to achieving successful exchanges.

Speaker: Bill Hink, Forester, Chippewa National Forest, United States Forest Service

Abstract: Bill Hink spoke about land exchange in the Chippewa National Forest. Specifically, he addressed the land acquisition history of the Chippewa and current goals and land exchange requirements.

Speaker: Darrell Lauber, Land Commissioner, Itasca County

Abstract: Darrell Lauber spoke of the improvement he sees in the ability of the USFS Service and Itasca County to cooperate on land exchange. He offered examples of land suited for exchange.

4) Topic: Other Exchange Partners

Speaker: Dave Fricke, Executive Director, Minnesota Association of Townships

Abstract: David Fricke approached land exchange from a rural township official's perspective. He discussed the role of the rural township in the land exchange process, outlining potential problems, as well as benefits to the township level of government.

Speaker: Bill Brown, Land Commissioner, Cass County
Abstract: Bill Brown addressed the land exchange process from a county land commissioner's perspective. He offered insights on the working relationship between county boards and their land departments. He concluded with thoughts on the land exchange process and its impact on county programs.

Speaker: Richard W. Swanson, County Attorney, Cook County Minnesota

Abstract: The land exchange process from the county's perspective is addressed by Richard Swanson. He explained the various ways counties deal with classed lands and the limitations they work under. He included a step by step explanation of the exchange process.

Speaker: James W. Sanders, Assistant Secretary and Counsel, Oglebay Norton Company, Cleveland, Ohio

Abstract: James Sanders spoke from a corporate lawyer's perspective. He discussed his experiences with federal, state and county agencies during the land exchange process.

5) Topic: One Legislator's View

Speaker: Paul Thiede, Representative, Minnesota Legislature

Abstract: Representative Thiede offered a view of the land exchange process through the eyes of his constituents. He spoke to the need to make land exchange a less cumbersome and frustrating process for all involved.

6) Topic: Consolidation and Dispersed Ownership: Costs & Benefits

Speaker: John Helmberger, Land Economist, Minnesota Department of Natural Resources

Abstract: John Helmberger described benefits and costs of consolidating public land ownership through large-scale land exchanges between the state and other public land owners. He provided a general perspective on the economic feasibility of consolidation.

7) Topic: Alternatives That Work

Topic: Land Banks

Speaker: Lance Kiley, Chief, Division of Land Management and Conservation, California State Land Commission

Abstract: Lance Kiley explained the California land bank system. Specifically, he described procedural requirements of using the land bank system and the utility of the system in facilitating land exchanges.

Topic: Land Trusts

Speaker: Jane Prohaska, Regional Attorney, Nature Conservancy

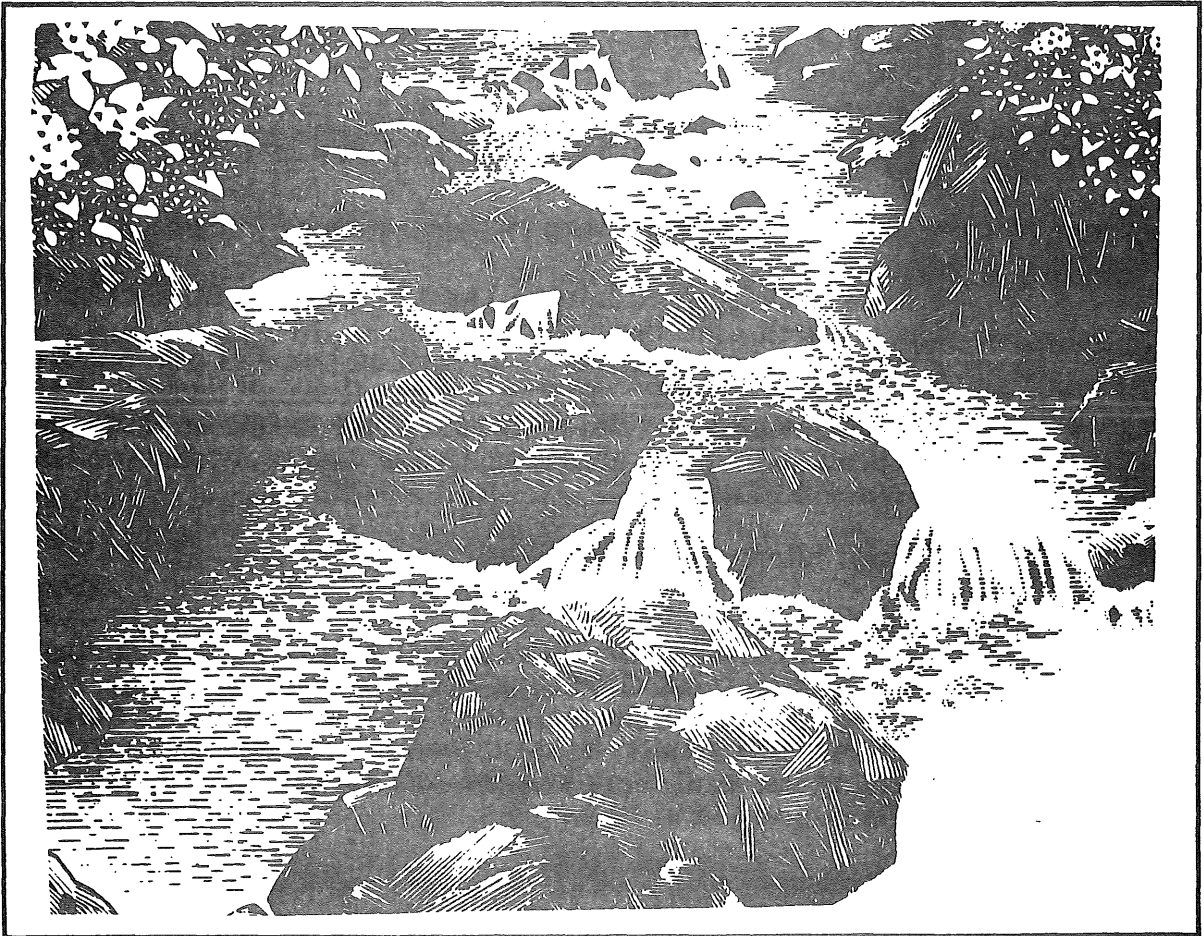
Abstract: Jane Prohaska offered background information on The Nature Conservancy, its structure, philosophy and mission. She also explained the flexible means and methods the Conservancy uses to preserve ecologically important lands.

Topic: Exchange For Commercial Property

Speaker: Mark Jordan, Natural Resources Manager, Arizona State Land Department

Abstract: Mark Jordan described Arizona's land exchange program. He focused on advantages and disadvantages of using land exchange to acquire commercial or industrial property to produce revenue for the state.

Proceedings of the Land Exchange Conference are available from the DNR Office of Planning (**Proceedings of the Land Exchange Conference, Department of Natural Resources, 1988**).



III. CASS COUNTY PILOT

A. Pilot Objectives:

The Cass County Pilot effort explored the potential for large scale land exchanges between the state, Cass County and the U. S. Forest Service in the Chippewa National Forest. The Pilot Project had two objectives.

- 1) *One objective was to evaluate use of automated data and models in the land exchange process. Automated data and models have four possible applications for land exchange. See Section IIIH for an assessment of the following applications:*
 - a) *providing a regional perspective by comparing the resources of the focus area with the resources of adjacent townships,*
 - b) *identifying parcels and areas to be exchanged,*
 - c) *evaluating resource characteristics of parcels to be exchanged,*
 - d) *providing information useful in appraising real estate values.*
- 2) *A second objective was to learn how large-scale land exchange proposals fit the current land exchange process. The administrative process existing at that time functioned effectively for small exchanges but was not entirely appropriate for large-scale exchanges. The Pilot Project sought to determine if modifications were needed in the land exchange process to accommodate large-scale land exchanges.*

B. Pilot Area Selection Criteria:

Several areas were considered for a pilot focus. Cass County was selected for the following reasons:

- 1) *DNR area and regional staff were interested in promoting land exchange in their jurisdictions.*
- 2) *The USFS and Cass county were interested in exchanging land with the state.*
- 3) *Potential resource gains from exchange were significant. The state, county and federal government might all benefit from consolidation of public land.*

- 4) *Resource constraints were not significant. For example, little mineral exploration activity has occurred in the area.*
- 5) *Public support for exchange probably could be generated since all three agencies had good working relationships with local township officials and the public.*

C. Pilot Task Force:

A task force was selected to guide the pilot effort. That task force consisted of the following individuals:

*Bill Brown, Cass County Land Commissioner
 Bill Hink, USFS Forester
 Mike Chapman, DNR Area Forester
 Alex Gurtin, DNR Region III Land Specialist
 Dennis Olson, DNR Area Wildlife.*

In addition, other staff from the three agencies participated in the process. The Task Force role was to:

- * *identify focus areas,*
- * *identify parcels for exchange consideration,*
- * *identify data and information needs,*
- * *review the usefulness of automated data,*
- * *structure a specific land exchange proposal,*
- * *communicate information on the pilot to others in their agency,*
- * *meet with local officials and the public to explain exchange proposals.*

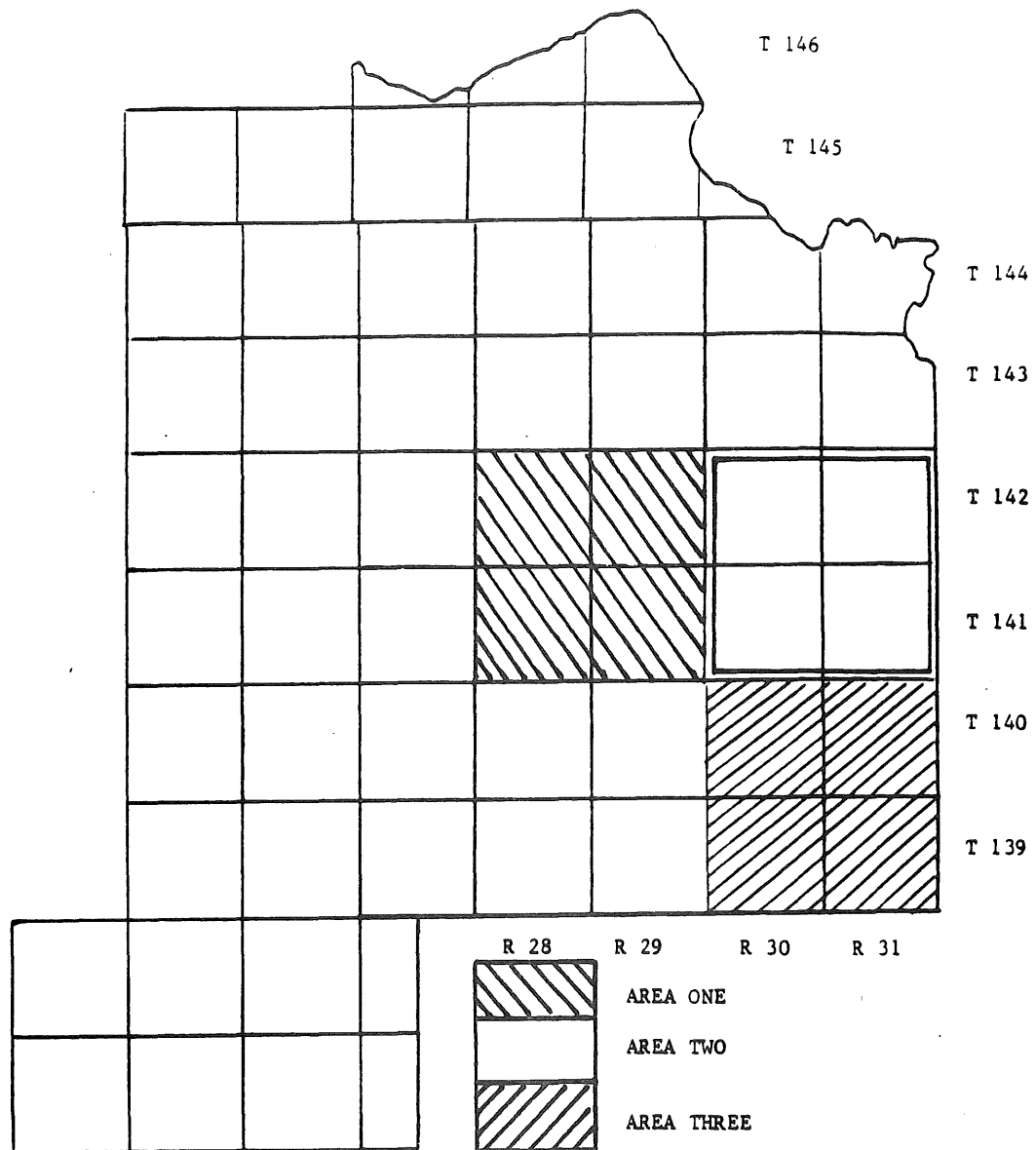
D. Focus Area Determination:

Four criteria were used to select focus areas.

- 1) *Existing ownership patterns in focus areas were highly dispersed and consolidation would economically benefit exchange partners.*
- 2) *General resource management objectives would be furthered by the exchange.*
- 3) *Title problems in the focus area would not severely constrain exchange.*
- 4) *Local support for a large-scale land exchange was possible.*

Three focus areas within the Chippewa National Forest were selected. See Figure 4. Area One was within the Leach Lake Indian Reservation boundary and might pose title problems. Area Three involved exchange between Cass county and state which at the time required special enabling legislation. (See Recommendation A for a description of that concern.) Area Two was selected for the pilot focus.

FIGURE 4: CASS COUNTY PILOT FOCUS AREAS



E. Cass County Pilot Process:

The following process was used in the Cass County Pilot:

- 1) *Selecting a Pilot Area: To insure consensus, selection of a pilot area was an interdisciplinary effort. This reduced chances that significant resource priorities of any discipline would be compromised in selecting parcels for exchange. Potential pilot projects were posed to DNR directors, who assessed their relative merits and selected Cass county as the most productive opportunity.*
- 2) *Early Involvement: Task force deliberations were communicated widely among DNR disciplines to insure early involvement, understanding and support for decisions.*
- 3) *Regional Data Evaluation: Several task force sessions were devoted to evaluating data and models. Early sessions focused on regional scale data applications.*
- 4) *Parcel Identification: The task force identified parcels to be considered for exchange.*
- 5) *Selection of Parcel Evaluation Data: The task force was presented with the broad scope of automated data and models that could be used to describe resource characteristics of specific parcels. The task force indicated data elements that would be of greatest use in the process. They also determined appropriate categories for reporting data.*
- 6) *Data Evaluation: Before automated approaches could be initiated, incompatibilities between state and federal data needed to be adjusted. State and federal agencies recorded data using different categories and definitions. Eliminating those differences required redefining data categories by either combining or expanding data groupings.*

State and federal agencies each evaluated their own data using their own automated systems. The results of the state data evaluation were compared with preliminary USFS analysis. USFS data were being automated and final data totals were not available at the time of this printing. However, based on that preliminary assessment, it was determined:

- a) *USFS and DNR automated forest cover data are comparable and can be used to assess characteristics of parcels exchanged between the two agencies.*
 - b) *Parcels selected by staff of the two agencies for exchange were comparable in timber resources.*
- 7) *Exchange Structure: An exchange proposal is being structured for formal review.*

F. Communication and Early Involvement:

Large-scale land exchanges can highlight legitimate differences in resource management objectives within an agency. Such differences are an outgrowth of the widely varying objectives served by multiple resource management approaches. For example, the need to protect habitat of rare wildlife species may conflict with some timber development interests. Also, mineral development interests could be negatively affected by the separation of surface and sub-surface ownerships resulting from land exchanges serving non-mineral resource objectives.

In the Cass County Pilot, minor differences surfaced within each of the federal, state and county participants. Two approaches were used to minimize potential for conflict:

- 1) *Communication: In the Cass County Pilot, objectives of all land exchange participants were openly discussed so that concerns could be raised and addressed.*
- 2) *Early Involvement: In the Cass County Pilot, all parties with an interest in the exchange were involved at the earliest possible stage. Within the DNR, all disciplines assisted in identifying a study area that posed minimal conflict or maximum gain for their objectives. Disciplines were kept informed and involved through the process. As soon as parcels were identified, disciplines were given opportunity to evaluate exchange implications. As a result, concerns such as severance of surface and sub-surface ownership were minimized as a constraint to exchange.*

These actions should be the norm for all large-scale land exchanges. A special emphasis should be placed on the need for all land managing disciplines to be involved at the early stages of each land exchange process. It is essential that all land managing disciplines participate when land exchange objectives and focus areas are determined and especially at the point where parcels are identified for exchange consideration.

G. Automated Data Defined:

The state has an extensive array of automated data on Minnesota's land and water resources. Automated data are those data that have been placed on computer for ready access and rapid analysis. These data includes information on the state's land use, land cover, geology, terrain, hydrology, watersheds, underground water, lakes and rivers, mineral resources, etcetera. These data can be combined with such socio-economic information as population, economic development, employment and more.

The data have been derived over a period of twenty years from many different sources, e.g. the University of Minnesota, federal agencies, state agencies,. Public agencies continue to add to and update data files so that access to available data is constantly expanding.

Development of automated data have been guided by requirements that the data be compatible and use common geographic location codes. Most of the data are stored at the Land Management Information Center (LMIC) of the State Planning Agency. Through the efforts of LMIC and other state agencies, these various data files are being developed into a Geographic Information System.

Automated data are used in a variety of resource management efforts. By combining differing elements, computer models can be developed that help describe, predict or evaluate resource management issues and interests. Some modeling can be especially useful in evaluating land for exchange consideration. More detailed data are needed to make such approaches more effective. Of particular interest are more detailed information on topography, geology, mineral potential, roads, soils, water orientation and land cover. Acquisition of these data will require additional investment by the state in automated data development.

H. Automated Data Applications:

- 1) **Developing a Regional Perspective:** *Automated approaches are well- suited to providing regional perspectives and should be considered a preliminary component in developing large-scale land exchange proposals. Specific gains from these approaches include the following:*
 - a) A regional perspective helps in narrowing the focus from a county to specific townships. In the Cass County Pilot, the pilot area included the entire county. With the assistance of a regional perspective, specific township target areas were selected.
 - b) Regional-scale data illustrate how the resources of specific parcels fit within broader resource patterns and management priorities. For example, it helps gauge the extent to which the resources of a given parcel are unique or common, an important consideration in balancing the resource values of parcels being exchanged.
- 2) **Identifying Exchange Parcels:** *Models can be developed to identify most parcels considered for exchange. However, this would not be an optimal use of automated data resources for tworeasons:*
 - a) Field staff have considerable first-hand knowledge of parcels they manage. Such information is essential in selecting or rejecting many parcels for exchange.
 - b) Automated files are not complete enough to be used effectively in making site management decisions. Automated data are best used as tools to assist in making those decisions.

Thus, automated data are best used to evaluate the resource characteristics of parcels already identified for exchange by agency staff with detailed knowledge of the area being considered for exchange.

- 3) **Evaluating Exchange Parcels:** *the primary benefit of automated approaches is realized in assessing resource characteristics of parcels being evaluated for exchange. The Task Force determined that some data evaluations were more useful than others. Two were found to be most useful:*

- a) **Timber Resources:** Most federal, state and county public land in Minnesota is managed by forestry agencies. Timber production is a major resource objective of forestry managers. Detailed timber data are available from what is officially designated as the Phase II Forest Inventory. That inventory has data on species type, size, condition, site index, understory, etc. for all state owned land including county-administered land. Minimum stand size is five acres (smaller in some areas). This inventory has been automated and can be used to develop a detailed description of timber resources of parcels being considered for exchange. The inventory also provides opportunities for modeling other considerations where vegetative cover is a primary component.

In land exchange, an important evaluation objective is to insure that lands being exchanged are comparable in timber species and volume. Typically, such evaluation has been done using manual approaches. However, automated approaches using Phase II information can reduce the time and increase the flexibility of the evaluation process.

- b) **Wildlife Resources:** Wildlife management is an important objective for federal, state and most county land managers. The DNR has not developed an approach for rating the relative value of all wildlife resources using either automated or non-automated approaches. Constraints have been the lack of site-specific resource data and the need for more information on relationships between wildlife species and their habitat components.

The Cass County Pilot used two approaches to measure wildlife resource considerations. One approach identified parcels or areas with threatened and endangered species. Automated files of the Natural Heritage Program were used for that purpose. Such information helps insure appropriate attention to these resources when specific parcels are selected for exchange.

The second approach calculated a 'Habitat Value Index' for each parcel. That index is a weighting system that relates numbers of species to habitat types and assigns a numerical value to each parcel. The Habitat Value Index was developed by the USFS just for the Chippewa National Forest. If used throughout the state, additional information would be needed to calibrate the model to habitat/species relationships in other regions.

The index is useful in calculating a general habitat value of parcels. Because it approximates habitat importance, it has minimal use when applied to a small-scale land exchange. However, it has promise for evaluating the general comparability of a large number of parcels with widely differing habitat types.

Other data elements had varying levels of usefulness at the regional level. However, many of these data elements are appropriate for Department-wide review since they provide a statewide resource assessment for large land exchange proposals.

- 4) **Real Estate Appraisals:** *The Cass County Pilot has not yet reached the stage of real estate appraisals. Conclusions here are based on discussions with DNR Regional Land Specialists. Some data used to evaluate resource characteristics of parcels may help in real estate appraisal. For example, timber resources are appraised for land being exchanged. Site information from Phase II Forest Inventory already has proven useful in appraising timber value. In the Bowstring exchange, Phase II timber type and volume data from a sampling of 25% of the exchange parcels were compared with timber data developed from on-site evaluation. Phase II data proved to be highly accurate giving promise to continued future use in timber appraisal efforts.*

I. Automated Data Limitations:

Data limitations hindered more effective application of the state's automated information in the Cass County Pilot. Limitations exist in the data itself and in data system organization. Data limitations fall into three categories:

- 1) **Dated Data:** *the current data base contains information that is up to twenty years old, e.g. the land use variable. Such data are too old for effective use in resource management.*
- 2) **Data Resolution:** *most of the data are accurate at the level of the forty acre parcel or larger. More detailed information (i.e. 2.5 or 10 acres detail) is needed for evaluation of site characteristics.*

- 3) **Data Gaps:** *detailed data are available for some areas but not for others. For example, Phase II forest cover information is available only for state and county land. Essential resource information is not available in automated files for much of the non-state land. Certain other types of data are lacking for all areas of the state (e.g. mineral potential and bedrock geology).*

System limitations relate to the problems of accessing automated information from various sources. While data elements are all compatible, they are stored in different locations and on different computer systems. This increases the cost of integrating data from differing sources for application on any given resource issue. These inadequacies do not preclude use of automated data in the land exchange process. Rather, they increase the cost and limit the applications.

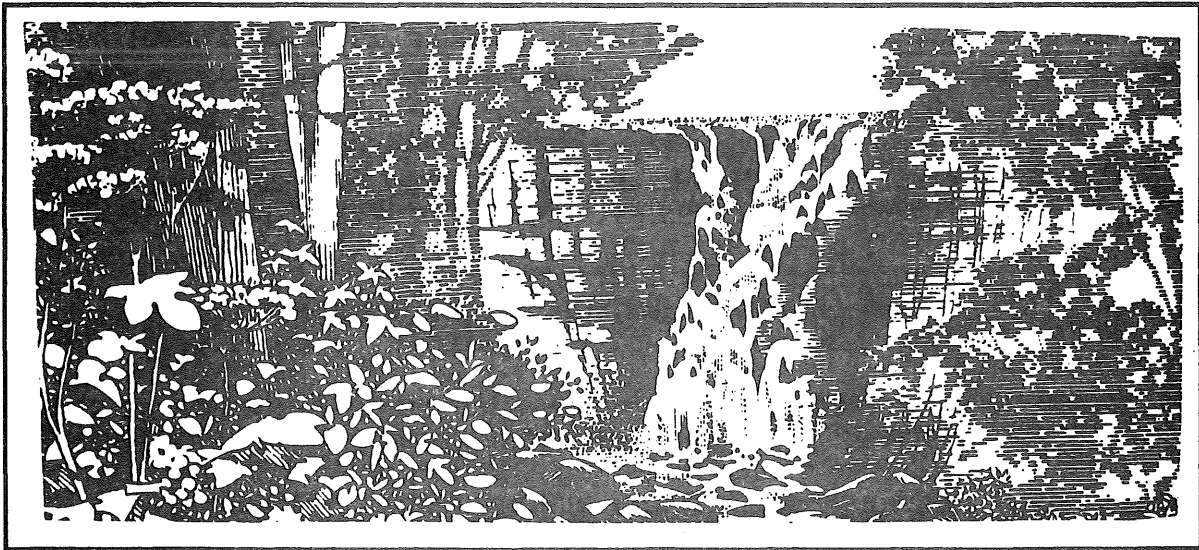
J. Cass County Pilot Conclusions:

Automated data can play a major role in facilitating large scale land exchanges. However, several needs must be addressed.

- 1) **Data and System Needs:** *The state's automated resource data files should be updated and expanded. The DNR and the Land Management Information Center with funding from the LCMR have invested heavily in developing automated resource data files. Continued investment is needed to insure that this information is current and relevant to expanding management needs. More detailed site-level data are needed. Of particular value is data on land use, land cover and soils. The state needs to continue integrated systems development of the next generation of geographic information so that automated data are better integrated and more accessible.*
- 2) **DNR Commitment:** *The initiative begun with the Cass County Pilot suggests possibilities for an ongoing service of using automated data to assist with large-scale land exchanges. Currently, LMIC, the DNR Division of Forestry, and other DNR units are cooperating on development of a Geographic Information System that should improve the state's ability to use automated data in resource management. The DNR needs to continue its commitment to using automated information resources in land exchange and other resource management efforts.*
- 3) **Communication:** *Continued communication with data users, especially in regional and field offices, is essential if the full potential of automated approaches are to be realized in land exchange and resource management. Credibility of automated data approaches will continue to benefit from cooperative efforts between data and resource managers.*

Three other conclusions emerged from this pilot effort.

- 1) **Legislation:** state statutes need to be amended to grant the county express authority to exchange tax-forfeited (Class B land) for state lands administered by the DNR (Class A land). In addition, the statute needs to be changed to provide for an acceptable method of exchanging lands contributing to the Permanent School Fund for other state lands administered by the DNR to prevent the appearance of any breach of DNR trust duty to the Permanent School Fund. (Such change has been made. See IVH.)
- 2) **Early Participation:** The DNR needs to insure that all disciplines participate at the earliest possible opportunity in all large-scale land exchange efforts. Since most such exchanges will be initiated by the Division of Forestry, the Division of Fish and Wildlife and Division of Minerals should assist in the initial identification of parcels for exchange consideration.
- 3) **Review Requirements:** Some DNR programs, such as forest unit planning, incorporate interdisciplinary cooperation at the very earliest stages of a project. Exchange proposals developed from such programs may pose different review requirements than exchange proposals developed without interdisciplinary cooperation. Review requirements of the land exchange review process should recognize interdisciplinary approaches used in structuring an exchange proposal and not duplicate those efforts. This will require modification of DNR Policy #16, **Land Exchange and Land Title Transfers**. (That Policy has been modified. See IVC.)



IV. RECOMMENDATIONS

A. State/County Land Exchanges:

- 1) **Concern:** *Counties administer 2.8 million acres of tax-forfeited, state-owned land. Most of that land is managed for resource objectives similar to those of the state. Like state land, county-administered land tends to be dispersed. Several counties have expressed interest in exchanging land with the state so as to better consolidate their land holdings. (Such exchanges technically are land transfers since the state holds title to county-administered lands.) Cass County has shown particular interest in exchanging with the state.*

In 1985, state statutes did not expressly allow exchanges of tax-forfeited (Class B land) for state lands administered by the DNR (Class A land). Opportunities for exchange between the state and Cass county could not be pursued in the Cass County Pilot because of this situation.

- 2) **Recommendation:** *The Land Exchange Study recommended that legislation should be developed by the DNR in cooperation with the Attorney General's office to allow exchange of county-administered, tax-forfeited land (Class B land) with state land (Class A land).*
- 3) **Implementation:** *Legislation was introduced and passed allowing exchanges between state and county land. (Laws of Minnesota, Chapter 628, Sec. 19, Subd. 3)*

B. Land Exchange Priorities:

- 1) **Concern:** In the 1980's, the land exchange program has focused mostly on responding to land exchange proposals developed by DNR staff, staff of other agencies and especially exchanges proposed by private parties. In recent years, about half of the completed state/private sector land exchanges have been initiated by private parties. These exchanges are usually small in scale and relatively expensive to administer. While these exchanges provide a public service, they usually have fewer resource or management benefits than exchanges initiated by resource managers.

Resource management objectives, such as land consolidation, uniting surface and sub-surface ownerships, acquiring recreation land and wildlife habitat can all be served more effectively by a more proactive land exchange program. By being more proactive, the DNR will better serve a broader public interest.

- 2) **Recommendation:** The Land Exchange Study recommended that the DNR establish a more proactive land exchange program. That could be accomplished by setting priorities that place greater emphasis on exchanges that benefit resource management objectives and enable more efficient management and use of public land. As a public service, the DNR should continue to administer exchanges proposed by private individuals.

The Land Exchange Study recommended that the DNR develop a land exchange policy statement to guide implementation of land exchange priorities.

- 3) **Implementation:** The DNR developed a land exchange policy and incorporated the policy into DNR Policy #16, **Land Exchanges and Land Title Transfers**. The DNR land exchange policy is:

"It is the Department policy to use land exchange, when appropriate, as a tool to improve the pattern of public land ownership for the management of natural resources. A variety of land tenure patterns are needed to manage the state's diverse resources. Consolidated and dispersed land holdings respectively benefit the management of different resources. Therefore, the Department's policy recognizes the benefit of both dispersed and consolidated holdings. Land exchange will be used to address specific resource management objectives according to approved unit plans, or, lacking those, on a case-by-case basis.

The DNR developed land exchange priorities and also incorporated them into DNR Policy #16. The land exchange priorities are as follows: (A = highest priority, etc.)

PRIORITY

- A** **Exchange of state school trust lands located within the Boundary Waters Canoe Area Wilderness (BWCAW) for federally-owned lands outside the BWCAW**
- A** **Exchange of school trust lands located in DNR management units precluded from generating revenue for the Trust for DNR-administered non-Trust lands capable of generating revenue for the Trust**
- A** **Exchange opportunities identified by the department in approved unit management plans (e.g. wildlife area management plans, forest unit plans, park plans, etc.).**
- B** **Exchange to acquire unique resources**
- B** **Exchange to reunite surface ownership and mineral rights in areas of high mineral potential**
- C** **Exchanges not included in approved management plans.**

C. Land Exchange Review:

- 1) **Concern:** *The state land exchange process effectively administers small-scale land exchanges. However, large-scale land exchanges have posed review requirements not easily addressed by the existing process. There were two concerns.*
 - a) Large-scale exchanges are complex and require review and interdisciplinary coordination at an earlier stage than occurs with small-scale land exchanges.
 - b) The second concern is somewhat the reverse of the first. Exchanges derived from such efforts as unit planning have already experienced extensive interdisciplinary review and coordination. For some of these exchanges, the current land exchange review process could be streamlined.
- 2) **Recommendation:** *The Land Exchange Study recommended that DNR Policy #16 be revised to accomplish two changes:*
 - a) All land managing disciplines should be given an opportunity to participate at an early stage in large-scale land exchange processes. That participation should occur at the point where parcels are identified for exchange consideration.
 - b) Review processes should be revised to allow appropriate reduction in review requirements for exchange proposals derived from PERT*-approved, interdisciplinary management plans (e.g Forest Unit Plans).
- 3) **Implementation:** *DNR Policy #16 was revised to accommodate the above recommendations.*

* *PERT is the DNR Planning and Environmental Review Team. It consists of regional administrators and directors and administrators of DNR divisions and bureaus. Their role is to review significant DNR actions and advise the DNR Commissioner.*

D. Timber Appraisals:

- 1) **Concern:** *Timber appraisals for land exchange are time consuming and costly and may be an unwarranted expense in certain situations. State law requires separate appraisal of timber and land value for the purchase, exchange or sale of any state-owned parcel. Minnesota Statutes Chapter 90.061, Subd. 4 states:*

"When an appraisal of valuation of any land is made, the state appraiser shall place an estimate and valuation of any timber thereon and make a separate appraisal thereof..."

The intent is to protect the public interest by insuring that timber values are fully recognized in state land transactions.

The measure of insurance provided by separate appraisal of land and timber values may be unwarranted in certain situations. The Land Exchange Study has not conducted an in-depth assessment of appraisal needs. Therefore, the conclusion is based mostly on the verbal comments of resource managers. Although no evidence was uncovered that separate appraisals have ever prevented an exchange, resource managers have cited a number of reasons for concern with the requirement. It can increase the cost, complexity and time required to complete a land exchange. Also, separate appraisals can be irrelevant in situations where the timber characteristics of land being exchanged is identical or where timber values are insignificant.

The Land Exchange Study has uncovered no evidence that separate appraisals yield a significantly improved result. The U.S. Forest Service does not require separate appraisals for timber. In a survey of twelve other states with large land management programs, only four required timber appraisals in all exchanges; another three required them under certain conditions.

- 2) **Recommendation:** *The Land Exchange Study recommended that the DNR should evaluate timber appraisal requirements for land exchange and identify conditions where appraisals can be discretionary without compromising the public interest. The DNR should sponsor legislation to implement findings of that evaluation.*
- 3) **Implementation:** *The DNR undertook that evaluation in the 1987/89 biennium and proposed legislation to modify timber appraisal requirements. That legislation did not pass.*

E. Abstract and Title Requirements:

- 1) **Concern:** *State real estate abstract requirements pose barriers to land exchange with some other public agencies. Minnesota Statutes 94.343, Subdivision 9 states:*

"No exchange of Class A land shall be consummated unless the attorney general shall have given an opinion in writing that the title of the land proposed to be conveyed to the state is good and marketable, free from all liens and encumbrances except reservations herein authorized. If required by the attorney general, the land owner shall submit an abstract of title and make and file with the commissioner an affidavit as to possession of the land, improvements, liens, and encumbrances thereon, and other matters affecting the title.

In practice, the Attorney General's office always requires an abstract of title in order to prepare an opinion on good and marketable title.

Preparation of abstracts is not always a significant cost factor for the state's exchange partners. Actually, a far higher cost may be incurred in clearing defects on titles found to be defective. Nevertheless, abstract requirements have been a concern for two reasons:

- a) *the state does not offer title abstracts on land it conveys to its exchange partners unless it already possesses an abstract. This creates an impression of inequity, since the state requires abstracts but does not reciprocate.*
 - b) *even relatively small abstract costs can deter counties from large-scale land exchanges.*
- 2) **Recommendation:** *The Land Exchange Study recommended that the DNR should evaluate practices on abstract requirements and should consider two alternatives:*
- a) *On request of its exchange partner, the state should consider providing an abstract of title for land it conveys in an exchange. (The DNR already is doing this on a limited basis.)*
 - b) *The feasibility of legislative appropriations to pay for county abstracts for state/county exchanges should be studied.*
- 3) **Implementation:** *The DNR Bureau of Real Estate Services reviewed the DNR's abstract procedures during the 1985\87 biennium. When requested, the DNR now provides abstracts of title on land it exchanges to counties.*

F. Automated Data and Land Exchange:

- 1) **Concern:** *Automated data can play a major role in evaluating resource characteristics of exchange parcels, however, data base limitations constrain that potential. As a result of priorities established to guide the land exchange program, the DNR probably will initiate more large-scale land exchanges. Those exchanges mostly will be generated through unit planning approaches such as Forest Unit Planning. Proposed exchanges often will include a complex range of resource characteristics and objectives.*

The Land Exchange Study has demonstrated that automated data can provide the following:

- a) a regional context by which broad general resource management concerns can be understood,
- b) a quick snap-shot look at the resource management characteristics of land proposed for exchange,
- c) a more detailed assessment of a broad range of resource characteristics,
- d) a quantifiable approach to assessing complex resource management concerns (e.g. timber economic model, wildlife model),
- e) a clear context by which regional and central office staff can review large-scale exchange proposals.

Data base limitations constrain more effective use of automated files in land exchange or other resource management efforts. There are three data concerns:

- a) **dated data:** the current data base contains information that is up to twenty years old, e.g. the land use variable. Such data are too old for effective use in resource management.
- b) **data resolution:** most statewide data are accurate at the forty acre parcel level or larger (section or township). More detailed data (2.5 to 10 acre level) are needed for evaluation of site characteristics.
- c) **data gaps:** detailed data are available for some areas but not for others. For example, digitized soils survey information is available only in certain counties and Phase II forest cover information is available only for state land and county land. Essential resource information is not available in automated files for much of the non-state land. Certain other types of data are lacking for all areas of the state (i.e. mineral potential and bedrock geology).

In addition, while data elements are all compatible, they are stored in different locations and on different computer systems. This increases the cost of integrating data from differing sources for application on any given resource issue. These limitations do not preclude use of automated data in the land exchange process. Rather, they increase the cost and limit the applications.

- 2) **Recommendation:** *The Land Exchange Study recommended that the DNR, counties, and the Land Management Information Center (LMIC) should continue to explore use of automated information in all future large-scale land exchanges.*

The DNR should explore approaches for developing better and more comprehensive automated resource data files.

The DNR should continue to expand its development and use of geographic information as one approach to better integrating resource data files.

- 3) **Implementation:** *Several actions have been taken partly in response to the recommendations of this study but largely in response to long-term data and geographic information needs. The DNR Division of Forestry and the DNR Office of Planning, in cooperation with the Land Management Information Center, are exploring development of the next generation of Geographic Information Systems (GIS) that will improve the state's ability to use automated data in land exchange and other resource management efforts. The DNR and LMIC have created a statewide natural resources GIS consortium and are issuing a GIS newsletter to better coordinate interest in a state GIS system.*

The DNR, in cooperation with LMIC, Bemidji State University, and the University of Minnesota, has embarked on a pilot project to explore use of satellite imagery to update significant aspects of the state's land use/land cover data base.

The DNR Office of Planning will continue to assist as requested in providing automated data services for large-scale land exchange proposals.

G. Land Exchange Program Staffing:

- 1) **Concern:** Opportunities for land exchange in Minnesota are significant. However, the state was not able to address those opportunities in a timely fashion with staff assigned to land exchange program when the Land Exchange Study was conducted. The primary constraint was in the DNR Bureau of Real Estate Services.

The Bureau of Real Estate Services provides administrative support services for land exchange proposals. This includes responsibilities for appraisals, landowner negotiations, administrative reviews and coordination of surveys and title opinions with the Attorney General's office. They administer all exchanges involving state and county land and function as staff to the State Land Exchange Board.

In the past, the Bureau of Real Estate Services has not had sufficient staff to process a significant increase in land exchange proposals. In the 1985/87 biennium, the Land Bureau received two additional staff positions, one each in DNR Regions One and Two. These positions have addressed Bureau of Real Estate Services regional responsibilities including land exchange. Also, the DNR Bureau of Real Estate Services has received LCMR funding to implement the conclusions of the Accelerated Land Exchange and Improved Land Management Study. Given the broad scope of Bureau of Real Estate Services responsibilities, these additions may not allow a significant increase in land exchange completions.

- 2) **Recommendation:** The Land Exchange Study recommended that the Bureau of Real Estate Services should assess results of recent staff additions and determine whether or not those additions are sufficient to effectively address land exchange opportunities. If the Bureau of Real Estate Management concludes that additional staff is needed on a long-term basis to administer DNR land exchange interests, then a permanent funding source should be sought to fund those additional positions.

Disciplines, such as the Division of Forestry, interested in exchanging a large acreage of DNR-administered land to reach their resource management objectives should consider assigning staff to develop their land exchange interests.

- 3) **Implementation:** Implementation needs will be addressed when Bureau of Real Estate Services staffing levels are considered at the end of the current biennium.

H. School Trust Lands:

- 1) Concern:** *Some DNR-administered School Trust lands are located in management units where income is not generated (e.g some Wildlife Management Units). This deprives the School Trust Fund of income. The DNR has responsibility for managing School Trust lands in a way that benefits the School Trust Fund. To effectively meet that responsibility, the DNR must be able to manage such lands for income generation. However, the state lacked specific legislative authorization to exchange School Trust lands for other state lands so that income generation for the Trust would be possible.*
- 2) Recommendation:** *The Land Exchange Study recommended that legislation be developed by the DNR to allow exchange of School Trust land for other state land.*
- 3) Implementation:** *Legislation was introduced and passed allowing exchange of School Trust land with other state land. (Laws of Minnesota, Chapter 628, Sec. 15, Subd. 5)*

