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EXECUTIVE SUMMARY

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DEPARTMENT OF
NATURAL RESOURCES

DNR-Administered Public Lands: Their Suitability To Meet Natural Resource Management Objectives

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DEPARTMENT OF NATURAL RESOURCES
OFFICE OF PLANNING
December 1, 1985

EXECUTIVE SUMMARY
OF
THE LONG RANGE LAND RESOURCE AND MANAGEMENT PLAN STUDY'S FINAL REPORT
TO THE LEGISLATIVE COMMITTEE ON MINNESOTA RESOURCES

DNR-ADMINISTERED PUBLIC LANDS: THEIR SUITABILITY
TO MEET NATURAL RESOURCE MANAGEMENT OBJECTIVES

A REPORT TO THE
LEGISLATIVE COMMISSION ON MINNESOTA RESOURCES
PUBLISHED PURSUANT TO CHAPTER 301, SEC. 31, SUBD. 3(0)
LAWS OF MINNESOTA 1983

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The Minnesota Legislature, through the Legislative Commission on Minnesota Resources, funded the Long Range Land Resource Management Project (the Suitability Project) for the 1982/83 and 1984/85 bienniums.

This summary of the Suitability Project's final report to the Legislature highlights project goals, accomplishments, conclusions and recommendations.

INTRODUCTION

The DNR is the major institutional steward of Minnesota's natural resources. The department administers 5.3 million acres of state-owned land, and nearly ten million acres of mineral rights. It has additional administrative responsibility for the protected waters of the state.

The DNR is charged with managing natural resources in the public interest. The public interest is determined by the legislative, executive, and judicial branches of government.

In serving the public interest, the DNR must function both as a facilitator of resource development and protector of natural resources. The DNR is responsible for developing mineral, timber and recreational resources. It also is responsible for protecting scenic, wildlife habitat and water resources, and preserving sensitive ecosystems. This dual role as a facilitator of resource development and protector provides an important link in promoting wise use and development of the resources within the framework of environmental and regulatory laws authorized by the legislature.

The DNR has established long-range and strategic planning programs to coordinate natural resource management responsibilities. The Suitability Project is one such planning program.

SUITABILITY PROJECT GOALS

The Suitability Project's goals were:

- * to improve DNR land resource management;
- * to address specific strategic DNR land management issues.

In order to improve DNR land resource management:

- * The Suitability Project developed automated resource assessments. These resource assessments provide important perspectives on the management potential of DNR-administered state-owned land.
- * The Suitability Project contributed resource assessment information to other DNR planning and management efforts to ensure common access to relevant resource information.

The Suitability Project addressed a number of strategic resource management issues. In the process, it evaluated the usefulness of automated resource information and contributed to improved resource management.

SUITABILITY PROJECT ACCOMPLISHMENTS

The Suitability Project was primarily a DNR strategic planning effort. Strategic planning is a process that assesses past resource use trends, identifies current resource needs, and anticipates future resource management issues. The process helps identify resource management strategies from which management priorities can be established.

As a strategic planning effort, the Suitability Project accomplished the following:

- * It provided a forum for discussion of departmental management objectives and strategic planning needs.
- * It developed resource information useful for planning the long-range management of DNR-administered land.
- * It identified resource information needed to improve DNR resource management.

The Suitability Project also developed a number of products and effective planning processes. Six of these are significant accomplishments and are addressed in detail.

These accomplishments are presented in the following order:

1. RESOURCE ASSESSMENTS
2. TECHNICAL REPORT FOR THE MINNESOTA FOREST RESOURCES PLAN
3. IDENTIFICATION OF DNR-ADMINISTERED SURPLUS LAND
4. PROPOSAL FOR A NEW LAND CLASSIFICATION EFFORT
5. ACQUISITION AND DISPOSITION PLAN FOR CON-CON COUNTIES
6. CONTRIBUTIONS TO OTHER DNR PLANNING AND MANAGEMENT EFFORTS
7. PRODUCTION OF INTERIM AND FINAL PROJECT REPORTS

1. RESOURCE ASSESSMENTS

The Suitability Project developed a set of resource assessments that analyze the potential of DNR-administered land to achieve resource management objectives.

The Suitability Project evaluated the suitability of land for the following natural resource management objectives and related concerns: timber production, outdoor recreation, wildlife habitat, peat and mineral development, residential development, and agricultural production.

These management objectives and concerns were chosen, because they are either major DNR resource management responsibilities or are significant private sector land uses that may conflict with DNR land management.

Resource assessments provide a statewide context for DNR resource management programs. Within that statewide context, the range of DNR management options in specific geographic areas can be evaluated and prioritized using the resource assessments.

The Suitability Project designed resource assessments based on automated information so that consistent, statewide evaluation criteria could be developed and various DNR planning programs could share in their use.

When appropriately used, the assessments are powerful planning tools. However, they do have limitations. Many of these limitations involve availability and quality of automated resource information. To ensure that limitations are properly recognized, automated resource assessments should be applied within established and ongoing planning processes.

Brief descriptions of the objective, method, information used, limitations, and significant findings of each resource assessment follow. The resource assessments are presented in the following order:

- Resource Assessment For - (A) Timber Production,
(B) Outdoor Recreation,
(C) Wildlife Habitat,
(D) Mineral and Peat Development,
(E) Residential Development, and
(F) Agricultural Production.

(A) Resource Assessment For Timber Production.

Purpose: to evaluate the economic potential of DNR-administered land for long-term timber production.

Method:

- * The analysis estimated potential net return through timber sales on investment in timber management.
- * Roughly 2.7 million acres of DNR-administered forest land were evaluated. This is about two-thirds of the DNR-administered forest land base.

Information Used:

- * site productivity (from the Phase II Forest Inventory);
- * local timber prices (from DNR timber sale records);
- * regional timber management costs (from DNR forest development records);
- * assumptions concerning growth in timber prices and required rate of return.

Limitations:

- * Approximately 850,000 acres of DNR-administered forest land (mostly in Itasca and southern St. Louis counties) were not evaluated because automated Phase II Inventory data was not available at the time of evaluation.
- * Impacts (positive and negative) of timber production on local economies, wildlife habitat, watersheds and outdoor recreation are not considered.
- * Future timber prices and production costs are uncertain, because economic conditions and technologies are constantly changing.

Significant Findings:

- * About one-fourth of the evaluated DNR-administered land has economic potential for long-term intensive timber management.

According to the analysis, these sites will return enough revenue through timber sales to recover reforestation costs.

- * Another third of the evaluated land has economic potential for long-term extensive timber management (natural regeneration with minimal site preparation).

These sites will probably not return enough through timber sales to justify investment in artificial regeneration (although other resource management objectives may indicate that such investment is still appropriate).

- * Evaluated land with economic potential for timber management, either intensive or extensive, is more than adequate to supply the DNR's current share of timber sales, statewide.

- * Over a third of the evaluated land probably cannot return enough through timber sales to be economic for extensive management.

Investment for timber production purposes alone is not appropriate on these sites. However, timber management for other resource objectives may be appropriate on these sites.

- * A modest assumed value for net non-timber impacts can positively affect resource suitability for timber management.

Further analysis is needed to better understand how benefits of timber management compare to its adverse impacts.

(B) Resource Assessment For Outdoor Recreation.

Purpose: to evaluate the physical and locational quality of DNR-administered land for outdoor recreational use.

Method:

- * Assess physical resource characteristics that determine the quality of an area for recreational use.

- * Evaluate resource location relative to current and projected recreational use patterns to assess relative recreational demand.

Information Used:

- * land use and accessibility (from MLMIS data);
- * physical site characteristics such as topography, vegetation, water type and climate (from MLMIS data);
- * recreation user demand information (derived from the Statewide Comprehensive Outdoor Recreation Plan-SCORP-recreation activity data).

Limitations:

- * Perception of resource quality for recreational use is dependent on individual preferences. Thus resource quality can be modelled only broadly.
- * The analysis assesses resources for generalized outdoor recreational use rather than for each of the potentially numerous recreational activities.
- * Recreation use information characterizes general areas rather than individual parcels.
- * Recreation use projections are based on population-specific use trends. They may not reflect the impact of location, intensity and mix of recreational use resulting from: 1) unforecasted changes in population growth; 2) changes in recreational use patterns; or 3) resource development and promotion.

Significant Findings:

- * Not surprisingly, outdoor recreational use patterns show concentrations in north-central Minnesota and other areas where opportunities exist for water-based recreation amid scenic surroundings in relatively close proximity to population centers.
- * About sixteen percent of all DNR-administered land is primitive or natural in character (i.e., relatively undeveloped) and lies within current and projected high recreational use areas. Almost half of this land has moderate to high topographical relief (i.e., hills and/or valleys that add to scenic diversity).

- * Another eleven percent of DNR-administered land is primitive or natural in character, with moderate to high relief, but lies outside present and projected high recreational use areas.
- * In all, over ninety percent of DNR-administered land is primitive or natural (about forty percent of the state is in these two classes), but two-thirds of that--over half of all DNR-administered land--has little topographical relief (is flat and usually wet) and is in current and projected low recreational use areas.
- * In most areas where substantial growth in recreational use is expected, the density of DNR-administered land is relatively low.

Less than ten percent of all land in projected high demand growth areas is DNR-administered. High-quality natural resources administered by the DNR in these areas may become increasingly valuable for public recreation as land in other ownerships receives heavier use or is developed for other purposes.

(C) Resource Assessment For Wildlife Habitat.

Purpose: to develop a process for assessing the wildlife habitat management potential of DNR-administered land; to demonstrate potential use of the wildlife habitat assessment process for a broad range of management concerns.

Method:

- * Assess availability of required habitat components for selected game and nongame species.
- * Evaluate habitat availability with respect to demand for the wildlife resource (patterns of resource uses such as hunting, bird watching or nature study activities).

Information Used:

- * Land use and land cover (from MLMIS data);
- * DNR wildlife inventories and species population census data;
- * Hunting demand information (derived from SCORP hunter activity data).

Limitations:

- * The analysis examined only a few of the primary wildlife species for which adequate information was available.
- * Resource information relevant to wildlife habitat and critical ecological relationships was frequently unavailable. In some instances, information was not available in a form the Suitability Project could use.
- * The analysis does not predict size or location of wildlife populations, but simply indicates where habitat might be present.
- * Wildlife resource use information tends to overlook sites with regional importance in otherwise low use areas, especially in the predominantly agricultural regions of the state where natural habitats are often extremely scarce.

Significant Findings:

- * Virtually all DNR-administered land provides potentially valuable habitat for wildlife.
- * Consumptive use (hunting) of the wildlife resource concentrates in areas with high densities of accessible public land that permit hunting, and around major accessible state and federal wildlife management areas.
- * Nonconsumptive uses of the wildlife resource, such as bird watching and nature study activities, are among the recreational activities with the highest growth potential - particularly near population centers.

(D) Resource Assessment For Mineral and Peat Development.

Purpose: to evaluate the relative potential of DNR-administered land for mineral and/or peat development.

Method: Summarize, with respect to DNR-administered land, existing department studies that:

- * assess potential for recoverable mineral deposits based on available geological information, statewide;
- * determine peatland development potential based on tract size, road access and proximity to potential markets;
- * identify ecologically significant peatlands based on unique formation and biological characteristics.

Information Used:

- * Mineral potential: drill cores, geochemical surveys, aeromagnetic surveys, prospect evaluations and geologic mapping.
- * Peat development potential: peatland maps and surveys from the peatland inventory project, the Minnesota Soils Atlas, MLMIS data, DNR land records, aerial photos and USGS maps.

Limitations:

- * Since mineral research and exploration are ongoing, mineral potential ratings often change as new information becomes available.
- * Economic value currently is not part of mineral potential determination.
- * Peat inventory data is sometimes unreliable, especially with regard to peat depth.

Significant Findings:

- * Mineral exploration indicates that three percent of DNR-administered land contains geologic formations where significant mineralization has been found.
- * Over sixty percent of DNR-administered land possesses geology similar to that in other areas where major metallic mineralization has been found. More exploration is needed.
- * Potentially developable peatlands are concentrated in Koochiching, northern Aitkin and southwestern St. Louis counties, with additional large tracts in Beltrami and Lake of the Woods counties.
- * Ecologically significant peatlands are found mainly in Beltrami and Koochiching counties.

(E) Resource Assessment For Residential Development.

Purpose: to determine where resource management conflicts and opportunities may result from permanent or seasonal residential development on or near DNR-administered land.

Method:

- * Evaluate the permanent residential development potential of DNR-administered land based on population change, road accessibility and proximity to major urban centers.
- * Further evaluate the development potential of DNR-administered shoreland based on tree cover, soils/beach type and lake type.

Information Used:

- * population census data (U.S. Census Bureau);
- * MLMIS data for road orientation, soils and land cover;
- * DNR shoreland data.

Limitations:

- * Missing soils and vegetation data prevent analysis of some DNR-administered parcels on large lakes (greater than 145 acres).
- * The data base for development on rivers and small lakes is not comprehensive.

Significant Findings:

- * Only five percent of DNR-administered land has significant potential for permanent residential development. Most (about sixty percent) of this land was acquired through purchase specifically for parks, water accesses and WMA's.
- * Shoreland development is concentrated around the state's important urban areas with nearby lake resources (the Twin Cities, St. Cloud and Brainerd). Moderately high densities of development also occur near Alexandria, Grand Rapids, Bemidji and Park Rapids.
- * Almost eighty percent of new shoreland development occurs in locations with presently low development densities and within prime shoreland development areas--i.e., the remaining undeveloped shoreland on lakes within prime shoreland areas is being developed.
- * This information could be used as the basis to identify new public use areas that would be suitable for some sort of development.

(F) Resource Assessment For Agricultural Production.

Purpose: to evaluate the relative potential of DNR-administered land for agricultural crop production.

Method: examine DNR-administered land with respect to the cropland productivity potential model developed by the Minnesota State Planning Agency.

Information Used:

- * Cropland productivity potential model: soil properties (Minnesota Soils Atlas, soil landscape units) and climatic regimes;
- * MLMIS public land ownership data.

Limitations:

- * Productivity can vary among soil series within soil landscape units.
- * The model assumes drainage of wet soils in south-central and western Minnesota, resulting in an upward bias in evaluation of DNR-administered wetlands, which are usually undrained.
- * The model evaluates productivity potential for the major Minnesota crops (corn, soybeans, small grains and hay), but not for specialty crops.

Significant Findings:

- * Most DNR-administered land (almost ninety percent) has low productive potential for agricultural crops.
- * Statewide, less than three percent of the land with moderate to high productive potential is administered by the DNR. This land serves vital natural resource management objectives and often is the only remaining uncultivated land within an area.

2. TECHNICAL REPORT FOR THE MINNESOTA FOREST RESOURCES PLAN

The Suitability Project considered effective communication of resource information essential to improving DNR resource management efforts.

To more effectively communicate resource assessment information:

- * The Suitability Project produced a technical report for the Minnesota Forest Resources Plan (MFRP). It focused on regional assessments of resource quality and distribution that can guide management of forest resources.

The Suitability Project compiled and evaluated resource assessment information relevant to DNR forest resource management. It also highlighted additional sources of information that should be considered when updating the MFRP. The technical report will be useful in coordinating the statewide MFRP with forest unit plans.

- * Resource assessment information is available for use by other DNR strategic resource planning efforts.

The DNR is developing statewide management plans for mineral and for fish and wildlife resources. Similar technical reports, focusing on regional resource assessments, might have relevance to these other strategic planning efforts.

3. IDENTIFICATION OF DNR-ADMINISTERED SURPLUS LAND

1983 Resource 2000 legislation requires the DNR to offer for sale as much land as it acquires with 1983 Resource 2000 funds. Ten to twelve thousand acres of surplus DNR-administered land will be needed to meet this legislative mandate.

- * The Suitability Project developed a three-step process that evaluated all DNR-administered land and identified sufficient surplus acreage to meet Resource 2000 requirements.

The three step process involved the following:

1. An automated resource assessment to identify land with high priority for continued management.
2. An in-depth resource evaluation by regional and field staff of land not identified as having high retention priority in step 1.
3. Final identification of surplus land based on field evaluation.

This process identified more than nine thousand acres of surplus DNR-administered land. This acreage, combined with surplus acreage identified in 1982, met the projected acreage requirements for 1983 Resource 2000 acquisition.

The Suitability Project reported these results in "Surplus DNR-administered Land: a report to the Legislative Commission on Minnesota Resources, July 1, 1984".

4. PROPOSAL FOR A NEW LAND CLASSIFICATION EFFORT

Land classification is an important resource management tool. It can provide resource managers with important information on resource potential, existing management, and recommended management.

The Suitability Project evaluated the current DNR land classification system to determine the extent to which it meets management and planning needs.

- * The Suitability Project determined that a new classification of existing DNR land management is needed.
- * The Suitability Project developed the basic framework for that classification.

The DNR will begin classifying land according to existing use or DNR land management based on that framework during the 1986/87 biennium.

That classification would use the following categories that will accomodate multiple uses per parcel:

- Residential
- Agricultural
- Peat Development
- Extractive
- Recreation
- Timber
- Wildlife
- Natural Area
- Fisheries
- Water
- Other

5. ACQUISITION AND DISPOSITION PLAN FOR CON-CON COUNTIES

1984 legislation required the DNR to develop a long-range land acquisition and disposition plan for DNR-administered land in counties with Consolidated Conservation (Con-Con) Areas.

- * The Suitability Project compiled DNR plans for land acquisition and disposition within the seven Con-Con counties: Aitkin, Beltrami, Koochiching, Lake of the Woods, Mahnomen, Marshall, and Roseau. It incorporated these various plans into one document.

The plan indicates general and specific DNR acquisition and disposal intentions in the Con-Con counties. It also indicates wetland and upland character of such lands to the extent that this information is known.

The DNR submitted the plan to the counties for review. The plan was published as the "Long Range Plan for Land Acquisition and Disposition in Counties with Consolidated Conservation Areas".

6. CONTRIBUTIONS TO OTHER DNR PLANNING AND MANAGEMENT EFFORTS

The Suitability Project contributed staff time and provided resource information to a variety of DNR planning and management efforts. The following is a partial list:

- * identification of potential areas for off-road vehicle use;
- * identification of potential areas for field dog trials;
- * identification of federal ownership of riparian lands;
- * analysis of pheasant population declines;
- * evaluation of shoreland resident questionnaires;
- * resource information to assist county governments.

7. PRODUCTION OF INTERIM AND FINAL PROJECT REPORTS

In 1981, the Department of Natural Resources (DNR), with funding through the Legislative Commission on Minnesota Resources (LCMR), began a major evaluation of the suitability of DNR-administered lands to serve various natural resource purposes. The purpose of the Long Range Land Resource and Management Plan Project is to ensure that public lands serve the best interests of the people of the state of Minnesota. Towards this end, interim and final project reports have been produced.

- * The Suitability Project reported its interim results in "DNR-ADMINISTERED PUBLIC LANDS: THEIR SUITABILITY TO MEET NATURAL RESOURCE MANAGEMENT OBJECTIVES, NOVEMBER, 1983."
- * The Suitability Project's reported its final results in an executive summary and a full report in "DNR-ADMINISTERED PUBLIC LANDS: THEIR SUITABILITY TO MEET NATURAL RESOURCE MANAGEMENT OBJECTIVES, OCTOBER, 1985."
- * Maps and other material not used in the interim and final reports are scheduled to be used in a cooperative atlas project within the DNR.

PROJECT CONCLUSIONS AND RECOMMENDATIONS

Conclusion 1:

- * Most DNR-administered land serves important natural resource management objectives.
- * A substantial proportion of DNR-administered land presents opportunities for intensive resource management.

Resource assessments suggest that when all alternative resource uses are considered, a substantial proportion of DNR-administered land possesses high resource management suitability. However, a relatively small percentage of the total land base is highly suitable for any given individual resource use.

Most DNR-administered land possesses moderate suitability for various types of resource management. These areas often may be managed extensively to produce valuable resource goods and services at low levels of management investment.

DNR-administered land concentrated in remote, swampy areas of northern Minnesota often serves important resource conservation objectives under custodial management.

Resource assessments can help identify appropriate levels of management investment on state-owned land. Such information can be used by the DNR to help guide management investment.

Recommendation 1:

- * The DNR should consider the Land Suitability resource assessment information when establishing resource management priorities and developing management plans.
- * The DNR should concentrate intensive resource management on land with the best potential to recover the higher investment costs through benefits produced. Yet the benefits of resource management often are not fully measureable in dollars.
- * The DNR should continue to improve resource assessment information by developing better economic analysis of resource management potential and improved techniques for monitoring resource demand.

Conclusion 2:

- * The DNR does not administer large acreages of state-owned land that are surplus to natural resource management.

Most state-owned land administered by the DNR is managed to serve a variety of public-interest objectives (e.g., timber, wildlife, mineral, recreation, and water resource management).

Some DNR-administered land has low potential for resource management. Such marginal land is often swampy, devoid of peat or unique wildlife habitat, and is isolated from other state-owned land.

Marginal resource management land is also marginal for private sector uses. Consequently, there is very little market for this land.

If marginal resource management land is sold, development of the land could create conflicts with other public-interest management objectives. Development could create environmental problems such as flooding; it could create management conflicts on adjacent parcels; it could be inconsistent with land and resource management plans of local governments.

Furthermore, disposal of large acreages of state-owned land could depress local real estate values.

Finally, the costs of preparing and administering the sale of state-owned land might surpass the lands' market value.

Recommendation 2:

- * The state should continue to offer surplus state-owned land for sale on a limited basis. However, it should continue to ensure that all sales are consistent with the public-interest management priorities of all levels of government.

Conclusion 3:

- * The state's resource management objectives cannot be met fully with the existing state-owned land base.

In some areas, existing land may not have sufficient resource quality or may not be appropriately located to meet some critical resource management needs.

The State Comprehensive Outdoor Recreation Plan (SCORP) indicates continued growth in outdoor recreation. Much of that increased recreation will occur close to population centers. Most DNR-administered land, however, is located in remote areas.

Certain land use trends, such as wetland drainage, are reducing the supply of high quality wildlife habitat.

Management objectives in the R.J. Dorer Memorial Hardwood State Forest include recreation, wildlife and water resources management, and timber production. Often the state can not attain these objectives with the existing state-owned land in that state forest.

Recommendation 3:

- * To meet important public-interest resource management needs, the state should continue land acquisition in high demand/need areas as determined by resource and use monitoring.

Conclusion 4:

- * Without continued investment in data collection, automation, validation and maintenance, the state's ability to address resource management issues will diminish.

The increasing complexity of resource management issues and broad scope of responsibility assigned to the DNR give high priority to data and information needs.

State investment in resource information systems is considerable. Responsibility for collecting, editing, and updating the files are dispersed among various users. This approach meets the needs of many individual users but not always those who need various data elements from different sources.

Automated information needed for resource assessment often is unavailable or has reduced value because of generality or age of the data (e.g., the land use data is almost 20 years old).

Recommendation 4:

- * A "data plan", addressing the needs of all users of automated natural resource information, should be developed.

The plan should address the following areas:

1. Identification of existing natural resource and user demand information, both in automated and manual formats.
2. Identification of current and future data needs and priorities. This would include needs for updating aging files and validating those with accuracy concerns.
3. Determination of need for common data collection and storage formats.
4. Determination of data responsibility: who should collect, store, edit and update key data components.

Conclusion 5:

- * The state requires an effective method for anticipating future natural resource issues and developing appropriate management strategies.

Changes in demographics, economics, and technology will present opportunities, as well as dilemmas, for natural resource management.

Recommendation 5:

- * DNR strategic planning should be continued and expanded so that effective natural resource management strategies will be developed.

Conclusion 6:

- * There are significant resource management opportunities on state-owned shoreland.

The state owns thousands of miles of lake and river shoreland. Resource assessments indicate that many of these shorelands have a high potential for a variety of natural resource management objectives.

There is no comprehensive, strategic plan for state-owned shorelands.

Recommendation 6:

- * The DNR should explore funding options to support a comprehensive, strategic management plan for all state-owned lake and river shoreland.

Conclusion 7:

- * A clarification of the effects of land ownership patterns on resource management objectives would improve coordinated public-interest land management.

Effective natural resource management is strongly influenced by the pattern of public land ownership. A dispersed public land ownership pattern is beneficial to some resource management objectives, while a consolidated ownership pattern is beneficial to other objectives.

Recommendation 7:

- * The DNR should clarify its objectives for land ownership patterns as they relate to resource management priorities. The Accelerated Land Exchange Program should address this issue.

Conclusion 8:

- * Maintenance of a positive relationship between private agricultural development and natural resource management is essential.

The relationship is often marked by competition for land resources or conflict over land management practices. However, agricultural interests and public resource managers often cooperatively pursue common goals.

Recommendation 8:

- * The DNR should explore ways to minimize conflicts with agricultural development and activities. The DNR should also explore ways to maximize opportunities for cooperation in such resource management concerns as: erosion control, re-use of abandoned and marginal farm land, hunting on private land, and habitat protection.

Conclusion 9:

- * Income from some trust lands can be enhanced through certain management changes.

The DNR has responsibility for managing 2.5 million acres of land for the benefit of the state's public schools. It also manages a million acres of severed mineral rights on school trust land that has been sold.

These 'trust' lands were granted by the Federal government to be managed by the state for the exclusive benefit of supporting public schools. Revenues from management or sale of these lands are deposited in Permanent School Fund or reinvested by the DNR for forest management on trust fund lands.

The guiding principal for management of school trust lands is to "secure the maximum long-term economic return...consistent with sound natural resource conservation and management principals and specific policy guidance as provided in state law." (See Laws of Minnesota, 1985, Chapter 116.)

About 64% of trust fund lands are in state forests. Another 32% are outside of management units but managed as forest lands. Timber sales and mineral leasing are the largest revenue sources from the trust lands.

Some trust fund lands are situated in management units, such as wildlife management areas (3.8% of all trust lands), state parks and waysides (0.4%), and all other management units (0.04%), where maximizing long-term economic return may be constrained. The 1985 legislature directed the DNR to resolve these conflicts in state parks. They need to be resolved elsewhere, as well.

Additional revenues might be generated through new approaches to management of trust lands. Such activities as innovative leasing, land exchange and reforestation could enhance revenue without significant increases in management costs. These management techniques on state lands have been promoted through specific program appropriations to the DNR through the Legislative Commission on Minnesota Resources. (See the Minnesota Department of Natural Resources' School Trust Land Management Report, 1983, pages 35-100.)

Recommendation 9:

- * School trust lands should continue to be managed by the DNR to maximize long-term economic return and to enhance real estate market value of trust lands, where feasible and practical, consistent with sound natural resource conservation and management principals and specific policy guidance as provided in state law. The DNR should continue to explore new opportunities for enhancing economic return from management of trust and all other public lands. The DNR should seek legislative authorization and funding as appropriate to implement these opportunities.
- * Conflicts in management of school trust fund lands should be resolved.

