

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

NATURAL AREAS PROGRAM STRATEGIC PLAN

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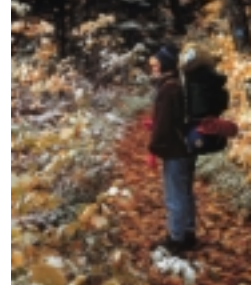
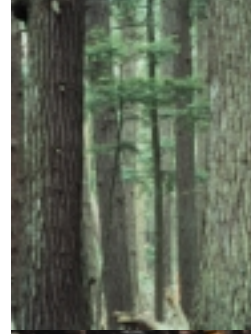
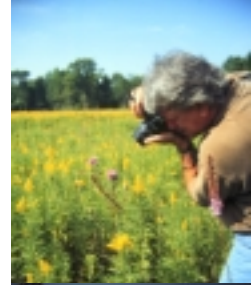


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EXECUTIVE SUMMARY

With only a very small portion of Michigan’s original landscape remaining, it is integral to the mission of the Michigan Department of Natural Resources (MDNR) to protect representative examples of the native ecosystems and unique natural features that remain. Natural areas¹ are recognized internationally as an important tool for managing ecosystems, associated natural resources, and safeguarding our natural heritage. In Michigan, it is the role of the Natural Areas Program to coordinate the identification, protection, management and administration of natural areas. The Natural Areas Program currently recognizes 80 State Natural Areas, totaling approximately 130,000 acres of MDNR administered lands and waters. These areas, together with the many natural areas managed by other public and private organizations and individuals, make up a statewide “system” of natural areas.

A working group was established in April 1997 by George Burgoyne, then Chief of the Wildlife Division, to address the needs of the Natural Areas Program. The group, comprised of representatives from each Division, was asked to:

1. “Develop and recommend to the Division/Bureau Chiefs a common direction for natural areas on Department administered lands.”
2. “Recommend immediate and long-term actions to implement this common direction.”

The working group’s recommendations will maximize the chances for long-term success of the Department’s efforts to ensure that Michigan continues to have a Natural Areas System of which we can be proud.

Natural Areas Working Group

The Natural Areas Working Group began by creating vision and mission statements for the Natural Areas Program, to give the Working Group and the Department a common direction for natural areas planning and management.

Vision Statement: We envision that in Michigan there exists an extensive system of representative, high quality, and ecologically viable natural areas on public and private lands reflecting Michigan’s rich and diverse native natural heritage.

We envision a system through which: biodiversity conservation is enhanced; natural areas are an essential element of ecosystem management; natural areas serve as native reference systems for developing sustainable production of wildlife, aquatic life, forest products, and other renewable resources; the public is provided with unique recreational opportunities; and valuable and important research and educational experiences are available.

Mission Statement: The mission of the Natural Areas Program is to identify, establish, maintain and administer a system of high quality, representative, and ecologically viable natural areas in Michigan. To do this we will:

- Continue to assure that consideration of natural area values and benefits are a component of resource management decisions, through cooperation with Department Divisions, Bureaus and Offices, State, Federal and international agencies, and local units of government.
- Continuously review the best available information in order to identify potential new natural areas and dedicate or otherwise protect those for which it is appropriate.
- Continue to provide for the professional management (e.g., stewardship) of natural areas and to assure that existing areas are properly maintained.
- Continuously communicate the value of natural areas to the public.
- Continuously seek innovative means of providing adequate and stable resources for the program.
- Continue to establish and strengthen partnerships and cooperate with organizations and volunteers dedicated to the preservation of natural areas (e.g., the natural areas community).

The Working Group then developed specific strategies to implement each element of the mission. These strategies are found in the following Natural Areas Program Strategic Plan (p. 10). The Natural Areas Program will subsequently identify the tasks needed to accomplish the stated strategies.

Finally, the Working Group reviewed the Strategic Plan and identified the highest priority immediate and long-term actions necessary to implement the vision and mission.

¹ The term “natural area” refers to Wilderness, Wild and Natural Areas dedicated under *Section 35103 of Part 351, 1994 PA 451, Wilderness and Natural Areas*, and other protected areas on public and private lands.

Natural Areas Working Group Recommendations

The Department recognizes and accepts the necessity of, and responsibility for, managing natural areas in Michigan.

LONG-TERM ACTIONS

- Commit to ongoing cooperation across the Department. Continue the current arrangement of a formal liaison to the Natural Areas Program within each resource managing Bureau/Division.
- Consider natural area values in joint management efforts, even if there is not a natural area designated.
- Complete the natural features inventory of all lands and waters in Michigan for identifying new natural areas.
- Provide adequate staffing for natural areas management, including full-time, field-based, Stewardship Ecologists.
- Develop, populate, and continuously update a Geographic Information System (GIS) of natural areas data that will be available to all Department staff through the MDNR Spatial Data Library.
- Provide a stable source of funds for natural areas management.
- Develop and implement a stewardship/management plan, based upon a standardized model, for each natural area.
- Develop and implement an ongoing plan for strategic outreach.
- Develop a statewide volunteer stewardship network for natural areas.
- Integrate “State Natural Areas” into the common terminology of the Department, along with “State Parks,” “State Game Areas,” “State Forests” and “State Recreation Areas.”

IMMEDIATE ACTIONS

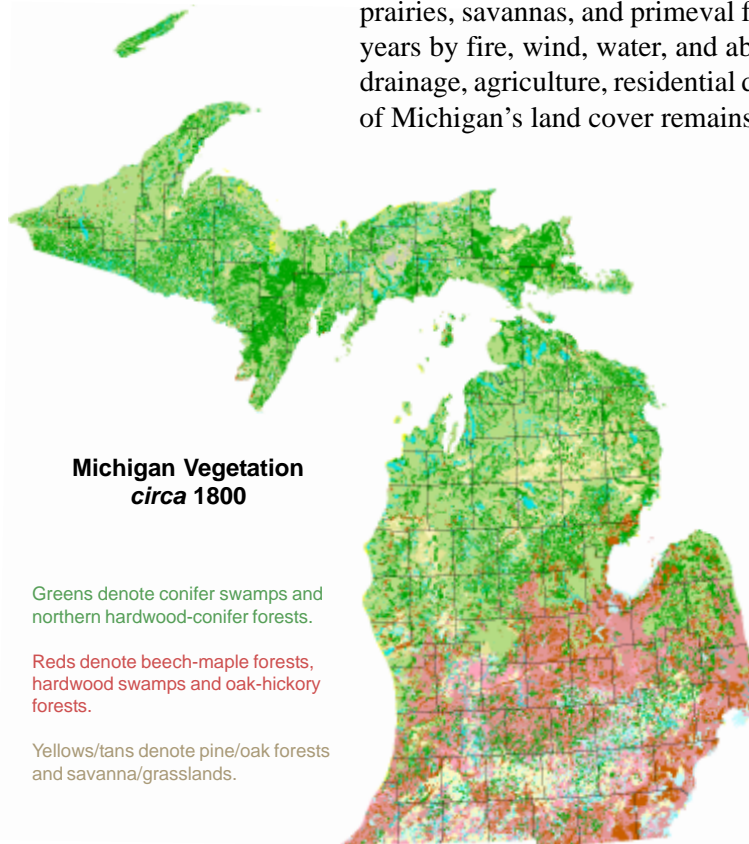
- Raise the Department’s awareness of State Natural Areas
 - Hold an annual meeting of Department resource managers that work with lands or waters directly associated with a State Natural Area.
 - Initiate on-site visits with Department resource managers.
 - Establish a calendar or timeline of when natural area nominations will be requested and accepted.
 - Post boundaries on all State Natural Areas.
- Ensure ecoregional teams integrate natural areas into their planning efforts.
- Complete a biological inventory for each State Natural Area.
- Create limited-term field positions to assist with immediate needs and urgent threats to State Natural Areas.
- Re-initiate a formal dedication process.
- Develop protocol to acquire and manage State lands solely as natural areas, when no other managing unit (State Park, State Forest, State Game Area, etc.) is adjacent or in the general area.
- Use new funding sources to implement the strategic plan, including:
 - Conservation and Reinvestment Act (CARA) – federal income from offshore oil & natural gas leases
 - Critical Nongame Wildlife Habitat Fund-Raising Registration Plate
- Digitize the boundaries of State Natural Areas and make them available electronically.
- Complete an initial assessment of each State Natural Area for immediate management needs.
- Develop a volunteer stewardship network in Southeast Michigan.
- Initiate the unification of mineral rights for dedicated Natural Areas with split ownership (i.e. subsurface rights not State-owned).
- Review boundaries of dedicated Natural Areas for ecological integrity.

The Working Group further recommends that the Department adopt and use this Strategic Plan. It is an active document that should be continuously updated and adapted to incorporate new natural area needs.

INTRODUCTION & BACKGROUND

The Natural Areas System

Michigan's unique landscape was shaped by glaciers and its climate is defined by the presence and magnitude of the Great Lakes. A myriad of natural communities and interconnected ecosystems, including open dunes, coastal marshes, prairies, savannas, and primeval forests, resulted from modifications over the last 10,000 years by fire, wind, water, and aboriginal resource management. As a result of logging, drainage, agriculture, residential development and urbanization, only a very small portion of Michigan's land cover remains as it was 150 years ago.



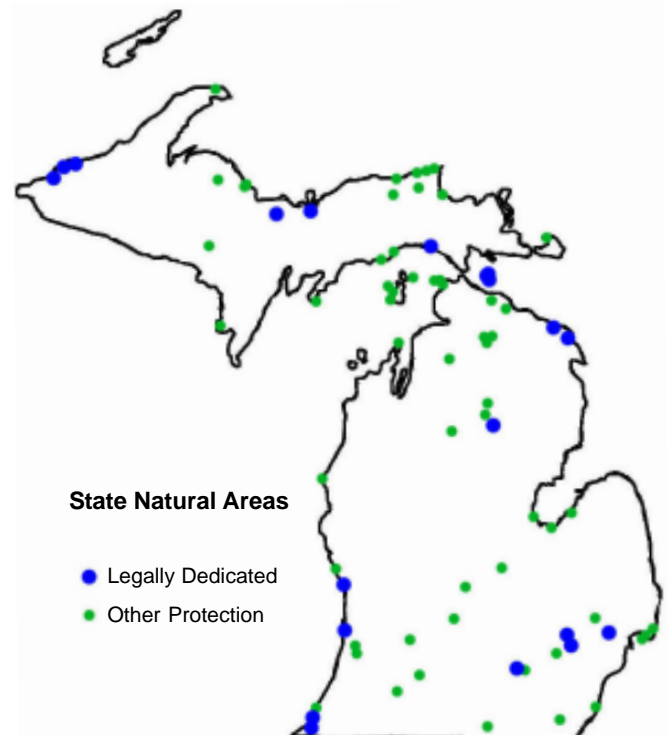
Map produced by Michigan Natural Features Inventory, 1998.

Areas that have retained the best examples of Michigan's native landscapes, ecosystems, natural communities or scenic qualities are recognized throughout Michigan as natural areas. Features used to identify natural areas include: size, uniqueness, pristine nature, aesthetic or scenic qualities, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. To be legally dedicated, natural areas must also contain ecological, geological, or other features of scientific, scenic, or natural history value. Many areas also have populations of endangered and threatened species.

Natural areas occur on public and private lands. They may be legally dedicated by State or Federal statute, administratively recognized by public agencies, or recognized by conservation organizations, private corporations and individuals. Together these areas comprise a larger statewide "system" of natural areas which helps to protect, preserve, and restore representative, viable examples of Michigan's and the Great Lakes Region's natural heritage.

Natural Areas on State-Owned Land

Eighty natural areas on state-owned land are recognized as being documented and secure. This includes 20 areas that are legally dedicated and 18 that were dedicated by the Natural Resources Commission, prior to the 1972 Wilderness and Natural Areas Legislation. Most areas have multiple, overlapping forms of protection that also include National Natural Landmarks, Proposed Wilderness, Wild and Natural Areas, Park/Forest/Recreation Area Management Plans, and cooperative agreements between the Department and The Nature Conservancy. They range in size from less than one acre to 47,671 acres.



Timeline of the Natural Areas Effort in Michigan	
1925	P. J. Hoffmaster and others recommend acquisition of the Porcupine Mountains.
1947	Wilderness Tracts and Trails Committee of the Southeast Chapter of the Michigan Botanical Club (MBC) formed.
1948	Porcupine Mountain State Park established. P. J. Hoffmaster requests the Michigan Botanical Club make scientific surveys on state parks to assist in the Department's park planning effort.
1949	Haven Hill Ecology Trail and Nature Preserve Subcommittee of the Wilderness Tracts and Trails Committee, MBC formed to provide recommendations to the Department.
1950	Michigan Natural Areas Council (MNAC) established from the Wilderness Tracts and Trails Committee.
1951-1971	Following the recommendations of the MNAC, 76,175 acres on State land dedicated as Natural Areas via Natural Resource Commission resolutions.
1971	Advisory Council for Natural Areas established via State of Michigan Executive Order, 1971-5 by Governor Milliken.
1972	Wilderness and Natural Areas Act 241, PA of 1972 passes. Wilderness and Natural Areas Board (WNAB) appointed by Governor Milliken.
1973	Wilderness and Natural Areas Program responsibilities transferred to Office of Land Use, Division of Land Resource Programs.
1979	Michigan Natural Features Inventory (MNFI) established in Office of Land Use, Division of Land Resource Programs, via a MDNR contract with The Nature Conservancy. MNFI was established to complete a state wide inventory of endangered, threatened, and special concern species and high quality natural communities and to establish a database of their occurrences in order to determine priorities for protection, including Natural Area dedication of State and private lands.
1984	Michigan Natural Heritage Recommendations prepared by Ron Kapp, Chair of WNAB, lead to positive changes in the Wilderness and Natural Areas Program.
1985	Natural Heritage Program Evaluation Task Force created within the MDNR.
1987	Michigan Natural Heritage Program formed within the Wildlife Division, MDNR, to consolidate under one umbrella program: the Endangered Species Program, Nongame Wildlife Fund, Natural Areas Program, National Natural Landmarks, Natural Beauty Roads, Living Resources Program, and Michigan Natural Features Inventory.
1991	WNAB dissolved under Executive Order 1991-31.
1994	Wilderness and Natural Areas Act, Public Act 241 of 1972 re-codified as Section 35102 of Part 351, 1994 PA 451 (Appendix A) and all previous functions of the WNAB shifted to the Director of the MDNR. Section 35102 of Part 351, 1994 PA 451 amended to allow management with motorized equipment and utility easements on legally dedicated Natural Areas, under certain circumstances.

A Brief History of Natural Areas in Michigan

The story of Michigan's natural areas began with concern over the fate of the Porcupine Mountains. In 1925, P. J. Hoffmaster, then chief of State Parks, recommended the acquisition of the Porcupine Mountains to prevent further tree cutting. Twenty years later, the State acquired the area and the State Park was established in 1946. However, the Porcupine Mountains continued to be threatened: copper mining in 1958, a proposed scenic road to the heart of the park in 1965, and later a proposal for fish ladders that would require dynamiting the falls in the Presque Isle River. These plans were dropped, but it was clear that "State Park" designation alone could not protect the area's virgin forests, waterfalls, scenic shorelines, geological, and ecological resources.

As the above events unfolded, the Michigan Botanical Club formed a committee, leading to the 1950 incorporation of the Michigan Natural Areas Council. During the next twenty years, the Council evaluated and made recommendations about natural areas to the Natural Resources Commission (NRC). In 1971, the Natural Areas Advisory Board was created by Executive Order and in 1972, the legislature created the State's Natural Areas Program with the passage of the Wilderness and Natural Areas Act. A flurry of activity in the 1970s resulted in several legislative re-dedications of Natural Areas previously dedicated by the NRC, including Haven Hill Natural Area and the Porcupine Mountains Wilderness Area.

In 1979, the Michigan Natural Features Inventory was created through a partnership between the MDNR and The Nature Conservancy (TNC). In response to a decrease in Natural Area dedication activity in the 1980s, TNC provided an interim and then MDNR a permanent coordinator to assume natural areas responsibilities. For 20 years, natural area efforts in Michigan were focussed on dedications, with the Natural Areas coordinator serving primarily as a liaison between the MDNR and the Wilderness and Natural Areas Board (WNAB). The most recent legal Natural Area dedication occurred in 1988.

In the early 1990s the WNAB was dissolved and the Natural Areas Legislation recodified. Then, in 1994, the Natural Areas Coordinator's position was rewritten to focus not only on dedications, but also stewardship and management of natural areas in Michigan. As a new century begins, the Natural Areas Program is planning for the future, while building on our past.



P.J. Hoffmaster in the Porcupine Mountains

How does the MDNR currently protect and manage natural areas on state lands?

It is the role of the Natural Areas Program to coordinate the natural areas system in Michigan and to ensure that the elements of the system are protected. In addition, the Program ensures that MDNR Divisions/Bureaus are able to recognize and protect natural area elements. Natural Areas Program staff consists of one full time Coordinator and a Natural Heritage Specialist shared with other programs.

The Coordinator works cooperatively and strategically with liaisons from Forest Management Division, Parks and Recreation Bureau, and Wildlife Division to incorporate agreed upon stewardship activities into annual work plans. To help facilitate this, site conservation and management plans are being developed for selected natural areas. While it is the role of the managing Divisions/Bureaus to implement management goals and objectives, assistance is provided as needed by the Wildlife Division Lansing and District staff.

Examples of current Natural Areas Program efforts:

Restructuring the Natural Areas dedication process pursuant to current legislative and Department requirements;

Seeking legislative dedication of recognized natural areas on State land;

Providing expertise to resource managers on restoration and management methods and techniques including prescribed burns, invasive species control, brush control, native plant species, ecological restoration, monitoring, and site conservation planning;

Working to raise the visibility of stewardship issues within the state and the Department, to identify road blocks to effective stewardship and management of natural areas, and to develop cooperative solutions at the State policy level;

Working cooperatively to provide educational materials used for interpretation of natural areas by the public, including helping to develop and fund signs, brochures, and displays;

Developing and providing opportunities for resource managers to attend stewardship training workshops related to stewardship of natural areas or biodiversity elements;

Engaging local communities, industry, and neighbors in the implementation of stewardship activities on State Natural Areas, establishing core groups of volunteer stewards for each natural area, and helping protect significant ecological processes outside the boundaries of the natural areas;

Working to identify appropriate funding sources to fully implement protection and management of natural areas, priority natural heritage elements and related programs.

A Case Study for Ecosystem Management: St. Clair Delta Natural Areas

The St. Clair River Delta, in southeast Michigan, is one of the world's largest fresh water river deltas. It encompasses several unique, high quality natural communities, including Great Lakes Marsh and globally imperiled Lakeplain Prairie & Savanna; it is an important fish spawning and waterfowl area; it has significant biological diversity, with a high concentration of endangered, threatened and special concern plants and animals; and it has exceptional recreation opportunities.

This Delta system and the associated natural areas provided a unique opportunity for ecosystem management, protection and restoration. An interdivisional ecosystem team composed of representatives from Parks & Recreation, Wildlife and Forest Management began management planning, followed by implementation. These Divisions are sharing responsibility for funding, personnel, and equipment. Additional funding is coming from Federal and private partners.

Past changes and current landuse are threatening the ecosystem: hydrologic disruption from county drains and shoreline armoring has changed seasonal and annual water table fluctuations; this dewatering combined with a history of fire suppression has converted oak savanna and prairie systems to shrubs and red maples; invasive plants are spreading; and gypsy moth outbreaks have devastated stands of 150 year old oaks.

Ongoing stewardship activities to resolve these issues include:

- Southeast Michigan Ecosystem Management Planning efforts
- Site Conservation Planning
- Prescribed fire and preparation
- Shrub and brush removal
- Invasive species control - herbiciding
- Seed collection
- Lakeplain prairie and savanna restoration
- Biological inventory
- Ecological monitoring
- Research - forest health, oak ecosystems, restoration



Prescribed burning in the Algonac savannas



Post-burn plant monitoring in St. John's Marsh lakeplain prairie



Fisheries Division Mission:
To protect and enhance the public trust in populations and habitat of fishes and other forms of aquatic life, and promote optimum use of these resources of benefit to the people of Michigan.

Forest Management Division Mission:

To provide for the protection, integrated management, and responsible use of a healthy, productive, and undiminished forest resource base for the social, recreational, environmental, and economic benefit of the people of the State of Michigan.



Parks & Recreation Bureau Mission:
Acquire, protect, and preserve the natural, historic, and cultural features of Michigan's unique resources and provide public recreation and education opportunities.

Wildlife Resources

Natural Areas:

- Help ensure viable populations of native wildlife species that are representative of Michigan's natural heritage.
- Protect endangered, threatened, and special concern species and their habitats.
- Provide unique wildlife related recreation, including hunting opportunities.
- Provide opportunities for viewing wildlife near urban areas.
- Provide wildlife research opportunities in areas with minimal human influence.
- Serve as corridors for wildlife movement.
- Maintain integral species interactions (pollinators, herbivores, seed dispersers).

Land Resources

Natural Areas:

- Preserve representative examples of Michigan's ecosystems.
- Protect and preserve special natural features and community types.
- Enhance other protection designations, such as Natural Rivers and Old Growth areas.
- Protect natural ecological processes, community structure, and function.
- Serve as a reference when establishing criteria for biodiversity goals.
- Provide untreated "controls" against which management practices can be compared.
- Provide models and biological materials for ecosystem restoration.

WHY NATURAL AREAS?

The Michigan Department of Natural Resources is committed to the conservation, protection, management, use and enjoyment of the State's natural resources for current and future generations.

Natural Areas:

- Maintain and enhance ecosystem condition and productivity.
- Enhance Department conservation efforts.
- Provide a tool to managers on state land:
 - working systems and processes to use as models for restoration in other areas
 - references against which adaptive management results can be evaluated
 - help to set quantitative criteria for management goals
- Provide a stepping stone to Ecosystem Management:
 - cross-Divisional management is required;
 - interdisciplinary management is required;
 - partnerships are required since natural areas cross ownership boundaries; and
 - a statewide network exists on which further ecosystem wide efforts can be built.
- Provide special opportunities for protection and education in urban areas.
- Link biodiversity conservation efforts to other public agencies and private organizations.
- Ensure the protection of native natural communities not represented on State land.
- Provide the core for a statewide system of protected areas and corridors.

Aquatic Resources

Natural Areas:

- Preserve representative examples of Michigan's native aquatic ecosystems.
- Help ensure viable populations of native aquatic species.
- Protect water quality, including ground water recharge and discharge areas.
- Protect endangered, threatened and special concern aquatic species.
- Protect special aquatic habitats, communities and ecosystems.
- Provide unique, high quality fishing experiences.
- Enhance opportunities for watershed management.
- Provide corridors for movement of aquatic species through undeveloped waterways.

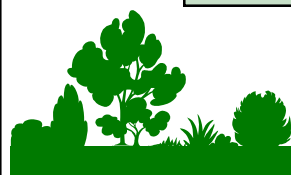
Human Resources

Natural Areas:

- Provide unique, high quality recreational experiences.
- Increase and enhance unique public education and interpretation opportunities.
- Provide the opportunity to view historic landscapes exemplifying Michigan prior to European settlement.
- Provide opportunities for eco-tourism and associated commerce.
- Provide aesthetic/restorative qualities to human beings, including solitude.
- Provide volunteer opportunities in ecosystem restoration.
- Allow for exploration into the importance of human influences on Michigan's native diversity.

Wildlife Division Mission:

To conserve and enhance all of the State's wildlife resources and their habitats and to provide wildlife related recreation opportunities for the social and economic benefit of Michigan's citizens and their guests.



Legal Authority And Other Related Legislation

Part 5, "Department of Natural Resources," of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, being section 324.501 *et seq.* of the Michigan Compiled Laws.

Part 351, "Wilderness and Natural Areas," NREPA, 1994 PA 451, being section 324.35102 of the Michigan Compiled Laws.

Michigan Department of Natural Resources Commission Policy No. 2704 Dated June 8, 1979.

Michigan State Park Policy based on Part 741, "State Parks System," being section 324.74101 *et seq.* of the Michigan Compiled Laws, and Part 5, "Department of Natural Resources" Supra, of NREPA, 1994 PA 451.

National Natural Landmark Program, Federal Historic Sites Act of 1935 and section 2 of Reorganization Plan No. 3 of 1950.

Endangered Species Act of 1973, Public Law 93-205 as amended.

Part 365, "Endangered Species Protection," NREPA, 1994 PA 451, being sections 324.36501 *et seq.* of the Michigan Compiled Laws.

Part 439, "Non-game Fish and Wildlife Trust Fund," NREPA, 1994 PA 451 being section 324.43901 *et seq.* of the Michigan Compiled Laws.

Part 355, "Biological Diversity Conservation," NREPA, 1994 PA 451, being section 324.35501 *et seq.* of the Michigan Compiled Laws.

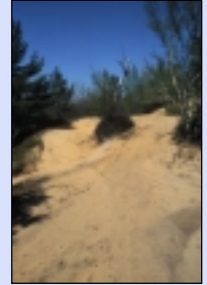
National Trails System, Public Law 90-543.

Wild and Scenic Rivers Act of 1968, Public Law 90-542.

Wilderness Act of 1964, Public Law 85-577.

Threats to Natural Areas

- **Spread of invasive species**
 - garlic mustard
 - autumn olive
- **Pollution**
 - trash
 - water contamination
- **Overuse and inappropriate use**
 - ORVs
 - collecting
- **Alteration of ecological processes**
 - fire suppression
 - hydrologic changes
- **Inconsistent development and management**
 - fragmentation
 - adjacent landuse



ORV damage at French Farm Lake



Garlic mustard invading from the roadside at Warren Woods

Michigan Wilderness and Natural Areas Legislation Highlights

The legislation sets out the general guidelines under which the Department is required to identify, dedicate and administer Wilderness, Wild and Natural Areas:

- Specifies that there must be an annual review of all State lands to identify potential new areas.
- "Proposed" areas are to be administered so as to protect their natural values.
- Dedications may be submitted by any citizen.
- An emphasis on identifying potential natural areas near urban areas.
- Provides for the dedication of private land or land under the control of other governmental units.
- Prohibits the following activities within Wilderness, Wild and Natural Areas:
 - "removing, cutting, picking, or otherwise altering vegetation, except as necessary for appropriate public access, the preservation or restoration of a plant or wildlife species, or the documentation of scientific values and with written consent of the department," or for an easement
 - exploration or extraction of minerals
 - a commercial enterprise, utility, or permanent road
 - any use of mechanical transport (includes bicycles and motorboats), except when necessary for emergency - this is a misdemeanor offense
 - use of motorized equipment, except for Department approved management.
- Requires dedicated Areas be maintained or restored so as to preserve their natural values.
- Requires the department to "enlist the voluntary cooperation and support of interested citizens and conservation groups."
- "Grasslands, forested lands, swamps, marshes, bogs, rock outcrops, beaches, and wholly enclosed waters of this state that are an integral part of a Wilderness Area, Wild Area, or Natural Area shall be included within and administered as part of the Area."
- Requires boundaries to be posted.
- "The Department may acquire land through purchase, gift or bequest for inclusion in a Wilderness, Wild or Natural Area."

NATURAL AREAS PROGRAM STRATEGIC PLAN

Vision Statement

We envision that in Michigan there exists an extensive system of representative, high quality, and ecologically viable natural areas on public and private lands reflecting Michigan's rich and diverse native natural heritage.

We envision a system through which:

- Biodiversity conservation is enhanced.
- Natural areas are an essential element of ecosystem management.
- Natural areas serve as native reference systems for developing sustainable production of wildlife, aquatic life, forest products, and other renewable resources.
- The public is provided with unique recreational opportunities.
- Valuable and important research and educational experiences are available.

Mission Statement

The mission of the Natural Areas Program is to identify, establish, maintain, and administer a system of high quality, representative, ecologically viable natural areas in Michigan.

To do this we will:

- Continue to assure that consideration of natural area values and benefits are a component of resource management decisions, through cooperation with Department Divisions, Bureaus and Offices, State, Federal and international agencies, and local units of government.
- Continuously review the best available information in order to identify potential new natural areas and dedicate or otherwise protect those for which it is appropriate.
- Continue to provide for the professional management (i.e., stewardship) of natural areas and to assure that existing areas are properly maintained.
- Continuously communicate the value of natural areas to the public.
- Continuously seek innovative means of providing adequate and stable resources to the program.
- Continue to establish and strengthen partnerships and cooperate with organizations and volunteers dedicated to the preservation of natural areas (i.e., the natural areas community).

Elements, Strategic Outcomes, Strategies & Tasks

The Elements, Strategic Outcomes and Strategies are written in a hierarchical format, each one bolstering the success of the next higher level:

- *Elements* are written as continuous actions, not goals that would be achieved and then forgotten. They are ongoing processes that will ensure the continued success of the Mission.
- *Strategic Outcomes* related to each element are viewed as necessary to the achievement of that element.
- *Strategies* are those actions that the Working Group believes are necessary to realize the Strategic Outcomes.
- *Tasks* needed to accomplish the Strategies will be subsequently identified by the Natural Areas Program.

As this is a working document, we (the Working Group) recognize that these Elements, Strategic Outcomes and Strategies must be continuously updated and adapted to incorporate new natural area needs.

ELEMENT 1: Continue to assure that consideration of natural area values and benefits are a component of resource management decisions, through cooperation with Department Divisions, Bureaus and Offices, State, Federal and international agencies, and local units of government.

Strategic Outcome 1.1: Natural areas are incorporated into the overall management philosophy of the Department.

- 1.1.1. Communicate the value of natural areas to the Department Management Team and Statewide Council.
- 1.1.2. Communicate the value of natural areas to the Natural Resources Commission.
- 1.1.3. Develop and implement a Departmental direction that allows and provides funds for land to be purchased and administered solely as a natural area.
- 1.1.4. Integrate the Natural Areas Program's mission and goals into the planning and implementation for wildlife, forestry, fisheries, parks and recreation management on an annual cycle.
- 1.1.5. Incorporate natural areas into the State's ecosystem management and biodiversity conservation goals.
- 1.1.6. Communicate why natural areas are important to fishing, forestry, and hunting.
- 1.1.7. Communicate why natural areas are important to ecosystem management.
- 1.1.8. Develop and implement a Department policy on invasive species.
- 1.1.9. Develop and implement a Department policy on the use of native plant material.

Strategic Outcome 1.2: The Natural Areas Program has an "identity" within the Department.

- 1.2.1. Communicate responsibilities of the Natural Areas Program to the Department.
- 1.2.2. Use on-site workshops, presentations and field visits to strengthen relationships with Department field staff.
- 1.2.3. Make natural areas data available to resource managers.
- 1.2.4. Hold an annual meeting of Department resource managers that work with lands or waters directly associated with a State Natural Area.

Strategic Outcome 1.3: Natural areas are incorporated into the overall management philosophy of the Wildlife Division.

- 1.3.1. Communicate the value of natural areas to the Bureau Management Team.
- 1.3.2. Participate in annual resource management activities' planning process ("greenbook").
- 1.3.3. Integrate more fully Natural Areas Program needs into other Natural Heritage Programs : Endangered Species, Natural Heritage Stewardship, Nongame Wildlife, Watchable Wildlife, and Michigan Natural Features Inventory.

Strategic Outcome 1.4: Partnerships exist with other agencies (international, Federal, State and local units of government).

- 1.4.1. Cooperate with other agencies to facilitate stewardship and find solutions to common problems.
- 1.4.2. Share natural areas data with other agencies.
- 1.4.3. Cooperate with other agencies in the identification and establishment of new natural areas.
- 1.4.4. Manage resources within ecosystems cooperatively with other agencies, especially when their ownership is adjacent to State Natural Areas.
- 1.4.5. Establish a regional natural areas working group with other agencies in the Great Lakes area (e.g., Minnesota, Wisconsin, Ontario, Indiana, Illinois, Ohio, Pennsylvania and New York State natural resources agencies, USFS, USFWS, and Ontario's Federal natural resources agencies.)
- 1.4.6. Work to raise visibility of stewardship issues and work cooperatively to find solutions at the State and Federal policy level.

ELEMENT 2: Continuously review the best available information in order to identify potential new natural areas and dedicate or otherwise protect those for which it is appropriate.

Strategic Outcome 2.1: A state-wide Natural Areas System exists, including areas managed by Federal, State, and local governmental units and private entities.

- 2.1.1. Complete a comprehensive natural features inventory/survey of all lands and waters in Michigan for identifying potential new natural areas.
- 2.1.2. Complete a biological inventory of each State Natural Area.
- 2.1.3. Develop a relational database and associated GIS to manage Natural Areas System data.
- 2.1.4. Analyze the Natural Areas System using an eco-regional framework, land ownership, and protection status to identify where the protection gaps of representative native ecosystems, natural communities, and species occur in the system.
- 2.1.5. Utilize the results of the inventories and gap analysis to set priorities for legally dedicating or otherwise protecting natural areas in Michigan.
- 2.1.6. Create a state registry of all publicly and privately owned natural areas.

Strategic Outcome 2.2: The best available information is continuously reviewed in order to identify potential new natural areas.

- 2.2.1. Cooperate with other Department conservation efforts to identify and manage potential natural areas (e.g., Old-Growth Project, Parks & Recreation Stewardship Program).
- 2.2.2. Cooperate with others in the natural areas community to identify potential natural areas (e.g., Michigan Natural Features Inventory, Michigan Natural Areas Council).
- 2.2.3. Complete an annual review of State lands to identify potential natural areas, as required by the Wilderness and Natural Areas Legislation.
- 2.2.4. Establish a formal request to Department staff for dedication nominations, which will occur on a specified periodic basis, as required by the Wilderness and Natural Areas Legislation.
- 2.2.5. Establish a formal request to the public for dedication nominations, which will occur on a specified periodic basis.

Strategic Outcome 2.3: The best available information is continuously reviewed in order to dedicate or otherwise protect those natural areas for which it is appropriate.

- 2.3.1. Complete and implement a clear, workable and timely process for legally dedicating new Natural Areas.
- 2.3.2. Create and implement a plan for completing the legal dedications of previously Proposed Natural Areas.
- 2.3.3. Create criteria for selecting identified potential natural areas for specified types of protection.
- 2.3.4. Utilize other protection tools or leverage existing protection for natural areas meeting criteria for recognition within the Natural Areas System but where legal dedication is not the best option.

ELEMENT 3: Continue to provide for the professional management (i.e., stewardship) of natural areas and to assure that existing areas are properly maintained.

Strategic Outcome 3.1: A database of all existing natural areas has been developed and is continuously updated.

- 3.1.1. Develop a natural areas relational database.
- 3.1.2. Develop a natural areas GIS that relates directly to the natural areas database.
- 3.1.3. Update the status (ecological and physical) of each natural area on a specified periodic basis.
- 3.1.4. Maintain an inventory of what biodiversity elements occur on each natural area.
- 3.1.5. Update the status of biodiversity element occurrences at each natural area on a specified periodic basis.
- 3.1.6. Continue to cooperate with Michigan Natural Features Inventory to identify and track biodiversity element occurrences on natural areas.
- 3.1.7. Create detailed individual maps (including element occurrences) of each natural area, available electronically and in hardcopy to on-site and off-site managers.

Strategic Outcome 3.2: A management plan exists for each natural area.

- 3.2.1. Complete an initial assessment of each State Natural Area for immediate management needs.
- 3.2.2. Complete a landscape analysis of each natural area (including lands adjacent to natural area) on a specified periodic basis and amend boundaries as necessary.
- 3.2.3. Utilize GIS technologies as tools for conservation and management planning.
- 3.2.4. Complete a site conservation plan for each natural area.
- 3.2.5. Complete a management plan for each natural area.
- 3.2.6. Complete a threat/risk assessment for each natural area on a specified periodic basis.
- 3.2.7. Coordinate management of State Natural Areas as much as possible with adjacent lands.
- 3.2.8. Identify ecosystem relationships between managed areas and consider how management actions on one may affect another.
- 3.2.9. Create a list of appropriate uses for each natural area and consider the necessary provisions for the uses.
- 3.2.10. Establish an ongoing research program for each natural area.
- 3.2.11. Explore the options of contracting resource management to a non-State organization at State Natural Areas where this might be beneficial.

Strategic Outcome 3.3: Utilizing an adaptive management approach, restoration of natural areas and processes and other stewardship activities are ongoing.

- 3.3.1. Implement site conservation and management plans at each natural area.
- 3.3.2. Using information in the natural areas database, determine the current status of areas and ecological processes.
- 3.3.3. Determine the optimal status of areas and ecological processes.
- 3.3.4. Create and implement a restoration plan for achieving the above “optimal status” at each natural area for which it is appropriate.
- 3.3.5. Create and implement a plan for invasive species control on each natural area.
- 3.3.6. Develop a GIS to track stewardship activities for each natural area.
- 3.3.7. Provide expertise and consultation for restoration and management methods and techniques (e.g., prescribed burns, exotics control, brush control, native plant species, ecological restoration, monitoring, site conservation planning).
- 3.3.8. Monitor stewardship outcomes to promote better informed management decisions in the future.
- 3.3.9. Provide grants for natural areas inventory, management, and monitoring.

Strategic Outcome 3.4: Utilize data and resources from Natural Areas System and System participants for better management of natural areas.

- 3.4.1. Complete a survey of all System participants to identify new areas that should be part of the System, or that need further protection.
- 3.4.2. Cooperate with System participants to develop a set of standard management guidelines for the Natural Areas System.
- 3.4.3. Partner with other System participants for greater management opportunities.

ELEMENT 4: Continuously communicate the value of natural areas to the public.

Strategic Outcome 4.1: The Natural Areas Program has an “identity” readily recognizable to the public.

- 4.1.1. Create an environment where natural areas are strongly identified with ecosystem management and biodiversity conservation.
- 4.1.2. Publicize the values of natural areas, including the benefits to fishing, hunting and trapping.
- 4.1.3. Demonstrate the benefits of restoration and active management in natural areas.
- 4.1.4. Create and utilize a natural areas logo.
- 4.1.5. Create individual maps and brochures, which will be available to the public, of each natural area for which they are appropriate.
- 4.1.6. Provide articles in publications and other written information to the public constituency.
- 4.1.7. Continue to provide information and resources via the DNR website.
- 4.1.8. Continue to contact and strengthen relationships with private landowners near natural areas.
- 4.1.9. Develop and utilize consistent signage (entrance and perimeter) for all natural areas.

Strategic Outcome 4.2: An ongoing plan for information and education exists.

- 4.2.1. Create and implement a strategic plan for outreach.
- 4.2.2. Cooperate with the Department Information and Education Office to provide accurate, timely, and quality information to the public.

Strategic Outcome 4.3: New and innovative methods of communicating the value of natural areas are continuously explored.

- 4.3.1. Create the opportunity for volunteer participation in restoration through public information meetings, workshops and workdays on natural areas.
- 4.3.2. Cooperate with other Divisions, Bureaus and Offices to provide educational material and interpretive displays at natural areas.
- 4.3.3. Create and make available to the public a guidebook to Michigan’s natural areas.
- 4.3.4. Utilize local, regional and national conferences to communicate the value of natural areas.
- 4.3.5. Create and distribute a natural areas newsletter.

ELEMENT 5: Continuously seek innovative means of providing adequate and stable resources to the program.

- Strategic Outcome 5.1:** Field staffing exists whereby the Natural Areas Program functions efficiently and effectively.
- 5.1.1. Determine the responsibilities/duties of potential field staff (functions and activities).
 - 5.1.2. Determine the optimal number of field staff for specified geographic regions.
 - 5.1.3. Coordinate with other Divisions and Bureaus to provide all or some of the above staffing needs.
 - 5.1.4. Hire other field staff as necessary.
 - 5.1.5. Utilize volunteers whenever possible.
- Strategic Outcome 5.2:** Central staffing (including specialists) exists whereby the Natural Areas Program functions efficiently and effectively.
- 5.2.1. Determine the responsibilities/duties of potential central staff (functions and activities).
 - 5.2.2. Determine the optimal number of central staff positions.
 - 5.2.3. Hire central staff as necessary.
- Strategic Outcome 5.3:** Natural areas staff (field and central) have access to the equipment necessary for the Natural Areas Program to function efficiently and effectively.
- 5.3.1. Complete an assessment of the current equipment status.
 - 5.3.2. Complete an assessment of the optimal equipment status.
 - 5.3.3. Seek cooperation from other Divisions and Bureaus to provide all or some of the equipment necessary for the above “optimal status.”
 - 5.3.4. Purchase equipment as necessary.
- Strategic Outcome 5.4:** Departmental staff have received the training necessary for the Natural Areas Program to function efficiently and effectively.
- 5.4.1. Determine what training of which Department staff is necessary (e.g., restoration and management methods, including prescribed burns, exotics control, brush control, use of native plant species, ecological restoration, monitoring, site conservation planning, and GIS).
 - 5.4.2. Develop stewardship training workshops.
 - 5.4.3. Create a plan/schedule of training to be completed.
 - 5.4.4. Provide opportunities for site managers and volunteers to attend workshops.
 - 5.4.5. Implement an ongoing training program.
- Strategic Outcome 5.5:** The Natural Areas Program has the funding necessary to function efficiently and effectively.
- 5.5.1. Determine the optimal level of funding.
 - 5.5.2. Determine the current level of funding.
 - 5.5.3. Seek potential new funding sources, and utilize when and where appropriate.
 - 5.5.4. Continue to support Teaming with Wildlife.
 - 5.5.5. Create an endowment for natural areas stewardship (e.g., Offer the opportunity for people to adopt an acre of their favorite natural area by donating funds).
- Strategic Outcome 5.6:** A statewide volunteer stewardship network exists.
- 5.6.1. Cooperate with existing Department volunteer programs.
 - 5.6.2. Coordinate with existing Private and Public volunteer organizations.
 - 5.6.3. Utilize lessons learned from successful volunteer stewardship models, such as TNC’s Chicago Region Volunteer Stewardship Network.
 - 5.6.4. Initiate the effort in southeast Michigan, and then expand to statewide.

ELEMENT 6: Continue to cooperate and establish and strengthen partnerships with organizations and volunteers dedicated to the preservation of natural areas (i.e., the natural areas community²).

Strategic Outcome 6.1: Strong relationships exist between the Natural Areas Program and others within the natural areas community.

- 6.1.1. Continue to cooperate with the Michigan Natural Features Inventory to identify new natural areas and track biodiversity element occurrences on existing and proposed natural areas.
- 6.1.2. Coordinate management of State Natural Areas with adjacent non-State owned natural areas.
- 6.1.3. Use workshops and workdays to encourage and strengthen relationships with non-State organizations and individuals.
- 6.1.4. Engage local communities and appropriate partners in the development of site conservation plans for selected natural areas.
- 6.1.5. Empower volunteer Natural Heritage Stewards through development and implementation of management plans for natural areas and annual workshops.
- 6.1.6. Explore the options of contracting natural areas management to a non-State organization at State Natural Areas where this might be beneficial.

Strategic Outcome 6.2: The Natural Areas Program has an “identity” within the natural areas community.

- 6.2.1. Continuously communicate with others within the natural areas community.
- 6.2.2. Coordinate data sharing opportunities within the Natural Areas System.
- 6.2.3. Survey others in the natural areas community for potential natural areas to be included in the Natural Areas System.
- 6.2.4. Include all others within the natural areas community when soliciting nominations for natural areas dedications.

² Natural areas community: conservation groups, land trusts, Natural Areas System participants, natural areas programs from other states, academic institutions, the Native American community, volunteer groups and Federal natural areas programs.