

Master Plan  
for the  
Antrim Creek Natural Area

Antrim County, Michigan

prepared for:  
Antrim County Board of Commissioners  
Antrim Creek Natural Area Commission

prepared by:  
Site Planning Development, Inc. December 10, 1998

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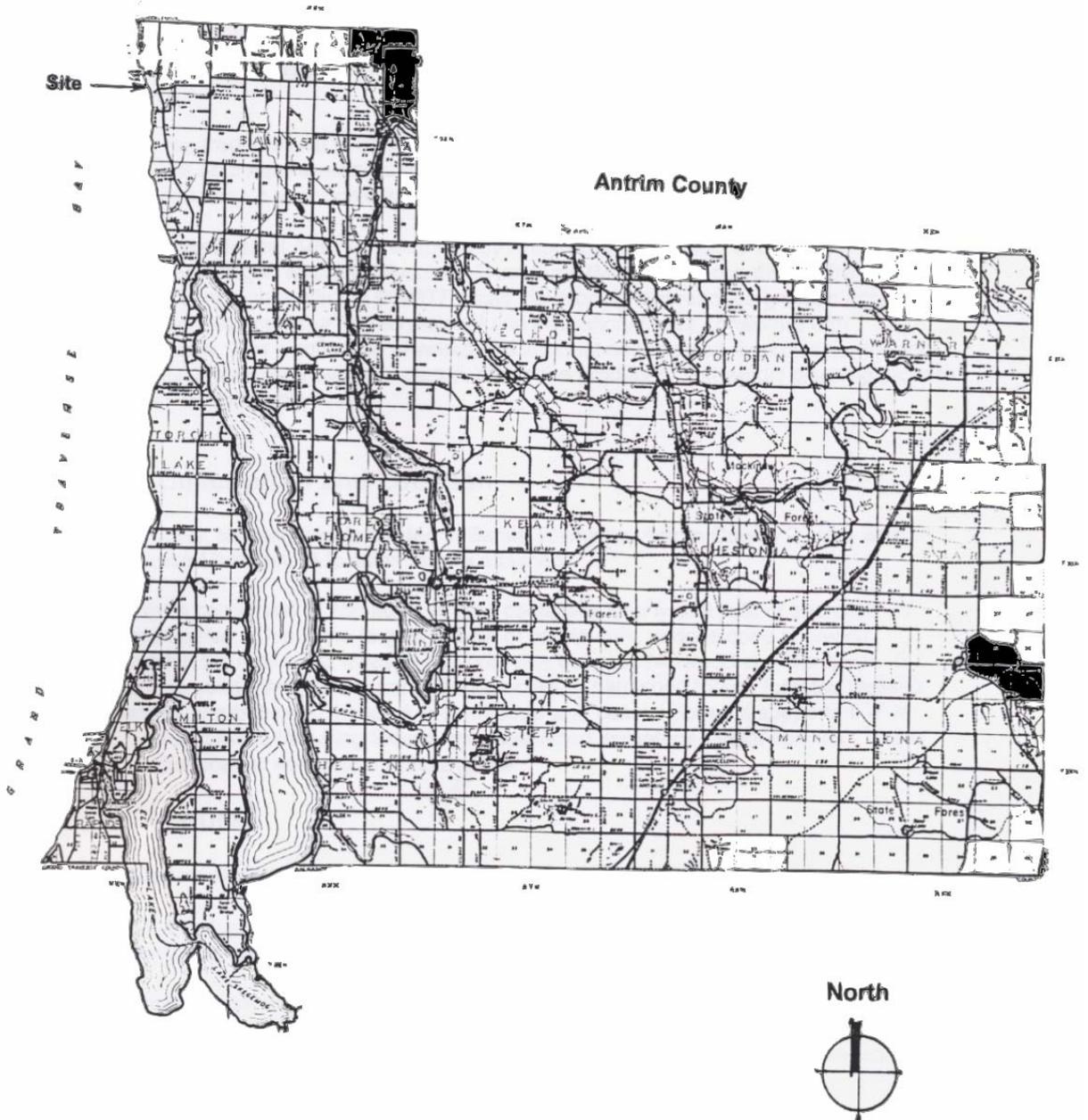
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### Illustrations

Master Site Plan

Plan Detail North Access

Plan Detail South Access



**Antrim Creek Natural Area  
Location Map**

## Introduction

This Master Plan is the final product of an eleven month planning effort by community members and leaders of Antrim County and surrounding areas, with the assistance of design consultant, Site Planning Development, Inc., for the purpose of providing guidance for growth, public improvement, and preservation of the Antrim Creek Natural Area, located in Banks Township, Antrim County.

This plan is prepared to assist in achieving the Antrim Creek Natural Area mission: "To manage the site as a natural area, to protect the diversity and fragile natural features found on the property and keep it accessible for recreational and educational use by the public".

The Antrim Creek Natural Area was acquired by Antrim County in 1996 with public monies provided by the Michigan Natural Resources Trust Fund (MNRTF). Accordingly, this plan is intended to be compatible with the MNRTF goals: developing and managing public access to the Antrim Creek Natural Area for recreational and educational uses consistent with preservation goals. It is a collection of works and information prepared by professionals and interested individuals over a two year period, and is the product of a strategic planning process conducted at the community level.

## Property Description and Location

The Antrim Creek Natural Area is located in Banks Township, Antrim County 2 miles west of Atwood on Lake Michigan. A location map is attached.

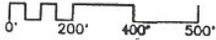
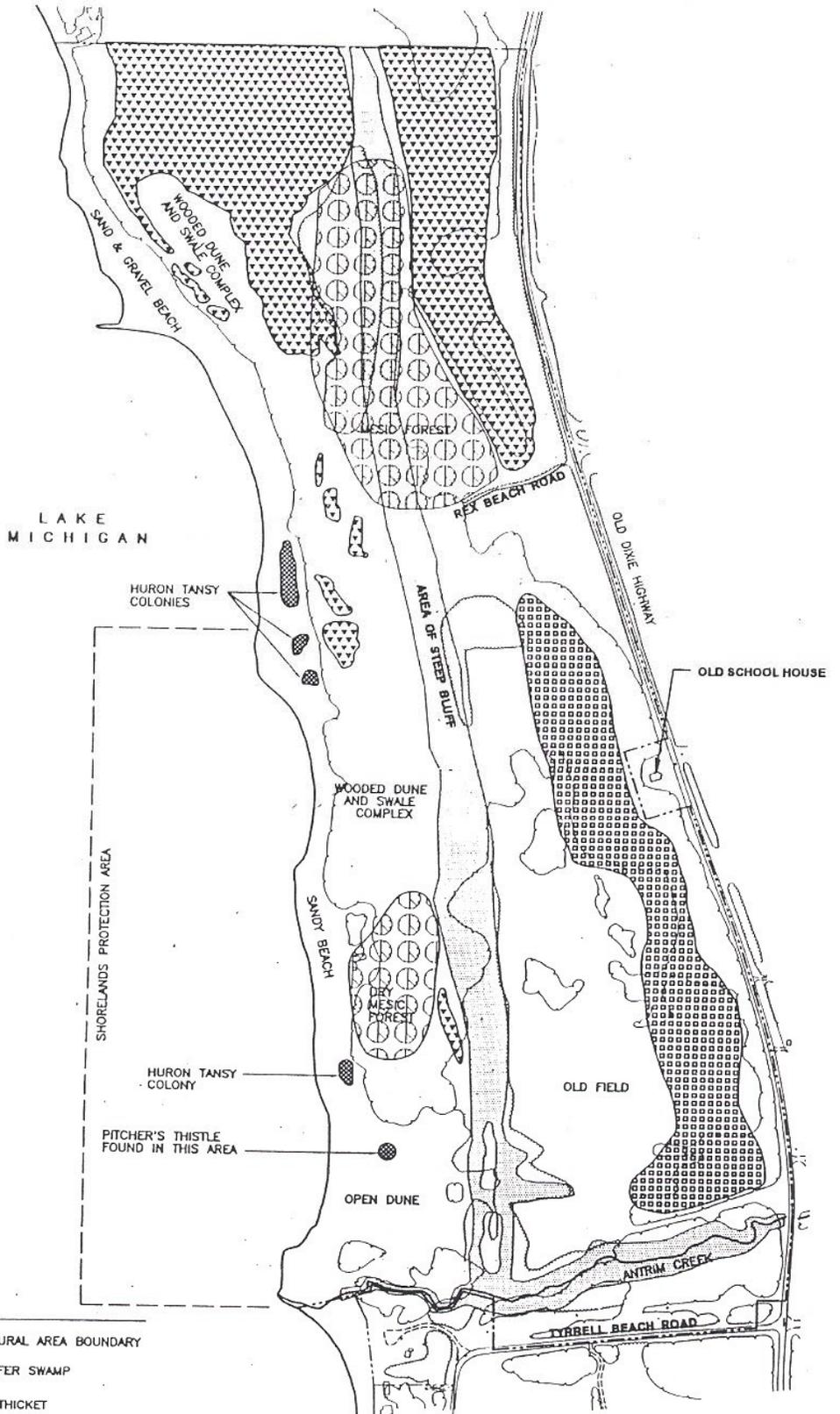
The property is comprised of 156 acres of land containing nearly one mile of shoreline on Grand Traverse Bay. This is the largest stretch of contiguous, undeveloped shoreline remaining within the entire 132 miles of bay coastline between Norwood and Northport. It supports an incredible array of natural diversity including hardwood forest, forested wetland, conifer swamp, shrub thicket, meadow, wet meadow and coastal dune. It supports a wide range of flora and fauna including federal and state listed threatened plant species. This is rare and unique coastal ecosystem without equal.

## Natural Features

### General Description

Looking at the Natural Features Map on the following page, you will notice a few distinct features which may be used as reference throughout this text.

- **A steep slope**, or bluff, bisects the property longitudinally, dividing the lower beach, dune and forest from an upper plateau containing both forest and meadows.
- **Rex Beach Road**, or more specifically a two-track extension thereof, is a seasonal county road dividing the property into nearly equal north and south halves.
- **Sandy beach** and dune areas predominate the southern shore area.
- **Cobble beach** predominates the northern shore areas.
- **An open dune** distinguishes the southern shore area with sharply undulating sandy landforms extending several hundred feet inland.



**SYMBOL LEGEND**

- ANTRIM CREEK NATURAL AREA BOUNDARY
- HARDWOOD / CONIFER SWAMP
- NORTHERN SHRUB THICKET
- STATE OR FEDERAL THREATENED SPECIES
- STEEP SLOPE
- PREDOMINANTLY EVERGREEN FOREST
- PREDOMINANTLY DECIDUOUS FOREST

## NATURAL COMMUNITIES MAP

### Antrim Creek Natural Area

- **Antrim Creek** is a deeply carved streambed along the southern boundary of the natural area.

### **Protected Plant Species**

At least sixteen plant species found at the Antrim Creek Natural Area are worthy of protection, according to a research and inventory report prepared by White Pine Associates, entitled Ecological Inventory of the Antrim Creek Natural Area.

Most noteworthy are Pitcher's Thistle and Lake Huron Tansy, found on the property in several places in the shore and dune areas. These are provided legal protection pursuant to the Federal Endangered Species Act of 1973 and the Endangered Species Act of Michigan, respectively. Permits are required prior to construction on the property, and plans must satisfy Federal and State requirements for protection of these plants.

The state act also identifies plants of special concern which, while not currently on the protection list, represent declining or rare populations in the state. If the trend continues, plants of special concern are planned for addition to the list. The Pale Sedge is one such plant found on the property.

Other plants found on the property are recognized by the MDNR as having precarious future existence and, while not legally protected, the Department is requesting they not be disturbed. These include: Starflower, Indian Pipe, Yellow Trout Lily, Wood Lily, Columbine, Twin Flower and Jack-in-the-Pulpit.

### **Wetlands**

Wetlands, as defined by both State and Federal Statute, are present on the property. Dredging or filling of wetlands within the Antrim Creek Natural Area are regulated by both the Michigan Department of Environmental Quality and the U. S. Army Corps of Engineers. A permit to construct in these areas is required from the regulating agencies.

The general type and location of wetland areas are shown on the Natural Features Map incorporated in this plan. The delineation shown thereon is based solely upon remote interpretation including a review of aerial photographs and general soils information, and a preliminary cruise of the property. The Natural Features Map may not be relied upon when identifying wetland areas for construction. Detailed wetland delineations have been performed over some, but not all, of the property.

### **Soils**

A range of soil types are found on the property, some of which are not suitable for building or recreational purposes. Wetland areas comprise the most limiting soil types for building and recreation, and should be avoided for all but educational uses and interpretive display.

For reference, soils types found on the property are described more fully in the appendix in an excerpt from an Ecological Inventory of the Antrim Creek Natural Area prepared by White Pine Associates.

## **Background Information**

### **Historical and Current Uses**

The Antrim Creek Natural Area, formerly known as the Jones property, was purchased by Harry and Eleanor Jones in 1943 and kept undeveloped, in its natural condition, over the duration of the Jones family's 53 year stewardship. The property was used by the Joneses and by community members with the Joneses consent, for such activities as swimming, hiking, hunting, fishing, picnicking, cross country skiing, and snowshoeing. These uses have continued, and by some observer's account have intensified since acquisition of the property by the County.

No buildings or structures are present on the property. The hiker or sportsman will find narrow paths through the woods in places historically traveled, but none are obvious nor marked. The open dune and creek area is criss-crossed with footsteps and barren earthen paths.

Predictably, the most intense use occurs during the summer months for such passive activities as swimming and picnicking and occur on the sandier beaches and dunes of the southern half of the property.

The beaches and dunes are currently used for ATV and four-wheel drive joy-riding, evidenced by tire tracks throughout the area, in some places damaging the Lake Huron Tansy and Pitcher's Thistle plant species protected by state and federal statute. ATV tracks have been observed running south from the Rex Beach access, crossing Antrim Creek, trespassing onto and across adjoining property and running over the beach ridge. Motorized vehicle use over beaches and dunes and across neighboring property is inconsistent with the terms of the acquisition grant agreement between the county and the state. Destruction of threatened or endangered plant species is a punishable offense pursuant to state and federal laws.

The northern half of the property is generally wetter with less popular beach areas, and used primarily for hiking and hunting.

### **Access**

Currently, the most used access is via the two-track extension of Rex Beach Road, which runs to the shore near the center of the property and provides the easiest access for swimming, picnicking and small boat launching for fishermen. Anglers also have favored access near Antrim Creek, often parking on the Jones's private property, which is acknowledged as trespass and a nuisance.

The central "Rex Beach" access road runs through woodland on the upper plateau and traverses the slope over a steep and narrow roadway. This road was created with simple cut and fill techniques sometime in the past; we do not know when or by whom. Historically, the road has received little maintenance or improvement, including occasional grading by the County, and is known to be subject to erosion and failure of the cut slope. In 1997, a retaining wall and erosion control structures were built by the County in an attempt to stabilize the cut slope and control erosion. Although these measures were an improvement, recent observations reveal continuing longitudinal and cross-slope erosion, and the road remains in

need of additional attention for regular public use.

An existing "old farm lane" is located just north of Antrim Creek, running from Old Dixie highway to the crest of the bluff. This is a grassy two-track formerly used for farming the meadow area on the southern portion of the property. This lane was used only by the Joneses and their guests and was kept closed to the public. It is relatively stable and there is no sign of recent improvement.

## **Previous Planning and Analysis**

Professional and community planning efforts have been implemented for the Antrim Creek Natural Area. An Ecological Inventory of the Antrim Creek Natural Area was prepared by White Pine Associates, Bellaire, Michigan, for the Grand Traverse Regional Land Conservancy. The final product of this study is an exhaustive report completed in October 1996, including much useful information for project planning and user education, such as geologic history, an inventory of plant communities and plant and animal species found on the property, as well as an outline of human history and influence. Selected portions of the White Pine Associates report (White Pine report) are attached to this plan for reference.

Other useful studies completed by interested community members have been used in this plan. The Antrim Creek Natural Area property is well known by several local residents who have for years enjoyed the property for hunting, fishing, hiking and beach activities. Many of these individuals combined to form "The Friends of Antrim Creek", an ad-hoc committee spending significant effort collecting information and analyzing such issues as signage, access, parking, and trail configurations. The record of their efforts reside in the minutes of their meetings, sometimes incorporated in minutes of the Antrim Creek Natural Area Committee. Research for this plan included meeting with principal members of the "Friends" to review their work and suggestions.

## **Historical Background and Significance**

Antrim Creek and vicinity is believed to have been the site of prehistoric Native American activity and is known to be more recently the site of old Antrim City. The Antrim City Cemetery still remains at an adjoining site directly across Old Dixie Highway. Very little is known, however, about exact siting of settlement or structures on the property.

Records at The State Historic Preservation Office (SHPO) indicate there is one recorded site on the property, identified by its site number which is 20AN22. Conversation between Site Planning personnel and Dean Anderson, State Archeologist at SHPO, revealed this site was recorded as a result of phone calls received over a period of several years, wherein the callers either questioned or shared their belief that significant activity had occurred here. Site 20AN22 is not an exact spot on the property and is of unknown size and shape. A SHPO staff person has sent correspondence suggesting an archeological survey be conducted prior to site clearing or construction activity.

The State Archeologist may waive the need for the archeological survey if satisfied that historical and archeological resources are unlikely to be damaged by the proposed activity. It is anticipated that such will be the case here, as the very nature of this project is to minimize impact to the natural environment.

For historical background, an interesting outline was prepared by Mary Kay McDuffie for the White Pine report, titled "Historical Features Indicating Human Use" at the Antrim Creek Natural Area. A copy is attached in the appendix for reference.

## **Conservation Easement**

A portion of the Antrim Creek Natural Area is subject to a conservation easement, created for the purpose of limiting impact upon the natural resource in that area. The easement area is generally located along Antrim Creek and the adjoining open dune area. This conservation easement is an agreement between the donors and Antrim County, successor to the Grand Traverse Regional Land Conservancy and is recorded in Liber 421, Page 282 at the Antrim County Register of Deeds. A review of the conservation easement agreement must be incorporated into the final design process.

## **The Planning Process**

### **Strategic Planning**

This master plan is the product of community input and professional assistance. Strategic planning, by its definition, is proactive rather than reactive, requires collaborative decision making, and creates a method for adopting a course of action. Also by definition, strategic planning is a dynamic process requiring periodic review and revision. Accordingly, a three year evaluation is expected, wherein the county will review progress, determine whether the plan and implementation is achieving project goals, and modify the plan and management practices as needed.

The planning process for the Antrim Creek Natural Area included several opportunities for public participation, including community workshops and public meetings. At each meeting, results and directives from the preceding meeting were evaluated, discussed and affirmed by the participants. The purpose of the community workshops was to collect public input used in creating project goals. The planning consultant's task is to achieve those goals to the extent possible, applying a knowledge of physical and biological sciences, and meeting obligations to protect public health, safety and welfare.

### **Public Participation Workshops**

Public participation in the design of the Antrim Creek Natural Area is essential. To maintain effective stewardship of this natural area, the community must have a stake in its creation and feel a sense of ownership. Public design workshops are a way to achieve this goal.

Two public workshops were conducted for this project, the first in March and the second in July, the intent to provide full-time and seasonal residents an equal opportunity for participation. Advertising was extensive for these workshops: for the first workshop a notice was placed in every Banks Township property owner's tax bill, both workshops were advertised at numerous community events and notices posted in businesses throughout the county, all in addition to normal publishing for public hearings.

"Nominal group" and "large group" methods were employed at the workshops to encourage public participation and input. With the nominal group process, the audience is divided into small groups where active and moderated discussion is generated to discover public perceptions, ideas and issues. Comments generated during group discussion are then reviewed by the general audience and consolidated into a manageable number of main ideas or goals for the project. This method was used at the first workshop where the objective was to solicit input for creation of a local goals list.

The large group method was used at the second workshop, where a smaller number of participants made nominal group methods impractical. The objective of our second workshop was to review outcomes of the first workshop, to review and evaluate project goals, and to collect public input on specific plan concepts and features.

Each of the workshops was well attended. Additionally, monthly meetings of the Antrim Creek Natural Area Commission provided a forum for public participation. Meeting times and dates are routinely posted and available. A detailed review of the public workshops and their outcomes is attached in the appendix.

## **Project Goals**

The primary project goals for the Antrim Creek Natural Area were established by the county in its application for acquisition funding. A separate listing of project goals was created as an outcome of the public participation workshops. Interestingly, the latter affirms the former, emphasizing environmental protection, public access and experience, education, and hunting & fishing.

The primary goals are:

1. Develop and manage the public access to the Antrim Creek Natural Area for recreational and educational uses consistent with preservation goals.
2. Protect the diversity and fragile natural features found at Antrim Creek Natural Area.
3. Facilitate environmental education experiences centered on the property's rich natural and historical features.
4. To keep the property accessible for recreational uses including fishing and hunting by the public.
5. Ensure all designs and plans for Antrim Creek Natural Area are constructed in a manner as to not disturb or alter the historical and natural uses of the property.
6. Enhance the safety and efficiency of vehicular ingress and egress to the property, thus ultimately reducing the liability while still maintaining the accessibility to the property.

The goals identified as an outcome of the public participation workshops are:

1. Provide access to unimproved boat launch

2. Protect Natural Features
3. Create paths & trails
4. Provide adequate parking
5. Keep area open to hunting & fishing
6. Create public awareness & educational opportunities

## **Discussion**

Clearly, the predominate goal shared by all of the stakeholders in this project is protection of natural features. This goal is repeatedly stated as top priority in the mission statement, the management goals, and the local goals. It is the overwhelming reason it was selected over many other competing projects in the state for such substantial MNRTF acquisition funding. Accordingly, where a public use is contemplated which might conflict with protection of the natural resource, protection must be the higher priority.

Potential conflicts exist in a few areas. For example, several sportsmen were so outspoken at public hearings over the issue of small boat launching that the county agreed to attempt keeping that use. How do we maintain access to the beach for small boat launching, while ensuring protection of the dunes and threatened plant species currently suffering from damage by vehicles in the dunes? One solution may be placement of physical barriers to prevent vehicles from traversing the beach and reaching the dune areas. Strict enforcement of "no vehicle" rules is essential. If the implemented solution is ineffective in preventing destruction of the natural resources, other effective methods must be found and employed.

Here is another example of potentially conflicting, but prescribed uses. Hunting and hiking might conflict with one another during the hunting season. How are these uses managed to promote safety? Solutions may include seasonal hunting limitations, limitations on the area open to hunting, and seasonal posting of trails to notify hikers of hunting activity.

Camping, campfires, and horseback riding, are examples of uses potentially harmful or destructive to the natural environment.

## **Growth and Future Use Projections**

As lakefront property is developed, public access becomes more scarce and more valued. Large "virgin" parcels are becoming rare. Already in this region there is an unprecedented pressure to create new, and to maintain existing, public access to the lakes. Therefore it is logical to expect ever-increasing use of land preserves in general, and especially those providing access to water.

There is a current trend towards land preservation in this region, and an appreciation of natural areas and preserves by a growing population. Demonstrating this trend is the recent growth in the number of land preserves administered by area land conservancies, such as The Grand Traverse Regional Land Conservancy in Traverse City and The Little Traverse Conservancy in

Petoskey.

Future use predictions for the Antrim Creek Natural Area might best be made by observing user counts at other local preserves and recreation facilities. At Grass River Natural Area, traffic counts reveal 13,000 cars visited the Grass River site over a twelve month period, according to Mark Randolph, director. Extrapolation of the count indicates approximately 20,000 visitors. This count does not include visitors coming by boat. Predictably, summer is by far the busiest time. Data reveals that 66% of park use occurs from the last week of June to the middle of August.

Data for Barnes Park, a nearby county campground facility, indicates a 2500% increase in revenues from 1969 to 1993. While revenues may not have a direct relationship to the number of users, it is a powerful indicator that the number is growing dramatically. Similar to Grass River, most use occurs in the summer between Memorial Day and Labor Day. These campers are likely candidates as Antrim Creek Natural Area users.

In general, area growth is demonstrated by population counts, including permanent residents, seasonal residents and overnight visitors. According to Census Counts for Michigan Regions and Counties the permanent residential counts for Antrim, Charlevoix, and Grand Traverse counties have grown 75%, 60% and 92% respectively over the 30 year period between 1960 and 1990. Significant increases in population are observed during the months of June, July and August when it is estimated that seasonal residents and overnight visitors increase populations by another 35%.

No visitor counts have been taken at the Antrim Creek Natural Area since acquisition in 1996, however, long-time residents and users of the property have shared the opinion that already, even before advertisement traffic has increased significantly, citing as many as 15 cars parked at the Rex Beach access.

## **Plan Features and Recommendations**

### **Foreword**

Management and improvement of the Antrim Creek Natural Area is intended to comply with the mission statement:

"To manage the site as a natural area, to protect the diversity and fragile natural features found on the property and keep it accessible for recreational and educational use by the public."

The goals established during the strategic planning process and confirmed by the county and community are the basis for design. Having heard local public opinions on the issues and ideas for plan features at workshops and hearings, the challenge is to incorporate as many of those ideas and features as possible while meeting the county's obligations to the state and its general obligation to protect the health, safety and welfare of the public at large.

A recurring phrase associated with the Antrim Creek Natural Area mission is, "to maximize access while minimizing impact". The implied obligation is to find that balance between satisfying the demands of a growing number of users while maintaining the natural environment

and providing adequate protection of the natural resource.

The value of the Antrim Creek Natural Area is in the diversity and uniqueness of its habitats, which is the overwhelming reason it was selected over many other competing projects in the state for such substantial MNRTF acquisition funding. For this reason, early phases of planned activity should weigh more heavily on the side of protection of the natural resource. Future evaluation, being a normal part of the strategic planning process, will provide the opportunity for revising plan features to achieve the proper balance of protection and use.

## **Entry Access**

Access to the Antrim Creek Natural Area is planned at two locations: the existing Rex Beach Road, or "North Access", and the existing Old Farm Lane, or "South Access". The North Access provides ready access to the shore area by swimmers, picnickers, hikers and mobility-limited users. The South Access provides a more convenient, yet low impact, place for fishermen, swimmers and hikers to approach the creek, dune and beach areas. While both of these are existing or former drives, each will require some degree of improvement for regular public use.

In general, access roads shall keep their rural character: gravel surfacing and perhaps even a seeded cover to maintain a two-track appearance.

North Access improvements are anticipated to include fresh road gravel and grading throughout and, specifically where the road traverses the bluff, grading for proper drainage, installation of additional drainage structure, installation of a guardrail and resurfacing with a stable aggregate product compacted in place. It may be prudent to consider bituminous paving where the road traverse the bluff in order to prevent erosion and reduce maintenance requirements.

The North Access road is currently classified by the county as a one-lane "seasonal road", subject to normal seasonal-road limitations. It will not be plowed in the winter. Appropriate signage is suggested, notifying users of road conditions.

Current conditions where this north access traverses the bluff warrant study and recommendations by a qualified engineer before final design is implemented.

The South Access road is planned to keep its grassy two-track appearance. Improvements here are anticipated to include placement and grading of road gravel only where determined necessary for vehicle support. First phase work might omit new gravel in places already stable enough to support traffic. Seeding along road edges would be allowed to creep into the roadway to keep the "Old Farm Lane" appearance.

## **Parking**

Parking at both the north and south access will be "slot" type instead of "lot" type. It is planned to be low impact, created where possible between existing trees and vegetation masses using clean fill and gravel. Because fill placement and soil compaction have an adverse affect on plant roots and health, judgments must be made onsite to determine exact location and the prudent number of spaces to construct in each slot.

## **Visitor Control**

No gates or barriers are currently planned at entrances to the Antrim Creek Natural Area. No restrictions on the hours of operation are currently planned, so to allow visitors and seasonal hunters to quietly enjoy the natural area any time of the day or night. Visitor control is presently planned to consist of their honoring the rules for use, trail markers and directional signposts, and protective markers. The rules for use will be posted near parking areas at the access places. Enforcement of the rules shall be by designated personnel or representatives of the county.

## **Boater Control**

The County is obligated to protect the diverse environments, the natural resources present on this property and access to the natural resources, and must implement measures needed to provide that protection.

At the north access, where fishermen have launched small boats over the beach area, special provisions are needed to protect the threatened plant species there and to prevent vehicle access along the shore area. The first phase of work will include the installation of large boulders in the beach area, placed perpendicular to the shore with a random and natural appearance, in a fashion to prevent vehicle access outside the launching area. Should these provisions fail to prevent vehicle access along the shore or into the dune area, or if maintenance associated with keeping these provisions effective proves impractical or unreasonable, other measures preventing vehicle access must be implemented. Michigan statute prohibits vehicles in dune areas and, accordingly, rules for use will be posted prohibiting vehicles on the beach.

Near-shore use of personal water craft, commonly referred to as "waverunners" or "jet-skis" along the shore area, and the noise and nuisance associated with them is inconsistent with the quiet and passive uses associated with the Antrim Creek Natural Area. Accordingly, their use will be discouraged to the extent possible, including but not limited to signage expressing such discouragement of their use in this area.

## **Barrier-Free Access**

Barrier-free features shall be incorporated into the Antrim Creek Natural Area, including vehicle access design, parking design and designations, trail loops, decks or overlooks and toilet facilities, using A.D.A. and Michigan Barrier-Free Design Standards.

## **Visitor Education**

The Antrim Creek Natural Area offers a unique experience to the visitor due primarily to the presence of its rare natural features, including diverse wildlife habitats and federally protected plant species.

Accordingly, the first phase of work will include sign displays describing the purpose of the natural area and providing directions for respectful use and protection. Signs will be grouped or individual as appropriate, and located in places the visitor must pass to enter areas of interest. Educational displays will include, for example:

- The Mission Statement
- The Visitor as Steward
- Rules for Use
- Identifying Endangered/Threatened Species (Photographic Display)
- Identification Plaques located at endangered plant colonies

Future phases of work should include additional interpretive display describing human history, geologic history and project history. These are suggested for location at the trail head at the South Access.

## **Structures**

Structures at the Antrim Creek Natural Area are planned to be simple, durable and rustic in appearance. Heavy timber and/or log materials for all structures are appropriate, detailed to be consistent with a historic theme for the project. Finish and color selections should be durable and subtle, using high quality products, natural or muted shades wherever possible and bright, alarming colors only if required for safety.

Examples of structures include boundary markers, signs and signposts, trail markers, the "entry arbor" and toilet facilities.

## **Signage**

Signage should be used sparingly and only where necessary for identification, direction or education. The need for directional signs is reduced by appropriate site plan layout. Instructional and educational signs should be grouped together wherever possible to reduce intrusion into the natural area. Signage for the project is anticipated to include the following:

- Project Identification at each access
- MNRTF recognition plaque at each access
- CZM recognition plaque at each access
- Directional signs
- Barrier-free parking
- "Steep Slope" & "One-Lane"
- Rules of Use (Stewardship Rules)
- Endangered Plant Species Identification
- Interpretive Displays and Educational Signage
- Site and Trail Map
- Trail and Boundary Markers
- No Lifeguard on Duty

The first phase of work must include project identification, MNRTF and CZM recognition, rules of use, barrier-free parking designation, boundary markers, trail markers (as prudent), and endangered plant species identification and boundary markers. Other educational and interpretive displays may be incorporated during first or subsequent phases.

## **Trails**

A trail system is planned for the use and enjoyment of hikers, cross-country skiers and wildlife enthusiasts. Trails will be laid out in a fashion to introduce visitors to the variety of habitats and environments present on the property, approaching but not entering the most sensitive areas. Where appropriate, timber posts and identification signage should be used to direct and educate the visitor regarding special points of interest and environmental sensitivity.

A hierarchy of trail types is planned with only two levels. To maintain as natural an experience as possible, trails will consist fundamentally of a 2'-3' wide earthen path constructed by clearing a 5'-6' width, then grubbing, filling, smoothing and tamping the narrow footpath only as required to create safe footing.

Barrier-free and handicap accessible trail loops are planned to provide as broad an exposure and experience as feasible. Barrier-free trails are planned to consist of a 5' wide compacted stone chip surface with gradients measuring less than 5% slope. These loops will approach special points of interest including an Antrim Creek overlook, accessible from the south access, and the shore/beach area, accessible from the north access. Both loops will be near designated handicap parking spaces.

The proposed trail layout shown on the Master Site Plan is derived from White Pine Associates recommendations and intended to be modified in the field as prudent.

## **Path, Trail and Boundary Markers**

Path, trail and boundary markers shall be simple timber or log posts. Boundary markers might include small but legible "Antrim Creek Natural Area" identification, and be installed at 100'-200' intervals. Trail markers are needed only where trails divide. The need for trail markers is reduced when trail layout is simple or when trail maps are provided or posted on the site at strategic locations.

Particular attention should be given the frequency and placement of boundary markers near the outlet and at strategic locations along the westerly portion of Antrim Creek. In this area, trespass onto neighboring property is becoming more common, and increased public use is likely to create an even greater nuisance. Signs in this area might warn natural area visitors, "Private Property beyond this Point", or something similar.

## **Threatened and Endangered Species Protection**

Lake Huron Tansy (*Tanacetum huronense*), a threatened specie on the state list and Pitcher's Thistle (*Cirsium pitcherii*), a threatened specie on the federal list, are found in several places on the property. These are legally protected by federal and state law.

Methods for protection included in this plan are visitor education, identification and labeling of plants, and the placement of markers or posts at the fringe of plant colonies. Education will include photographic display, description of the plants' habitat and an explanation of the plants' rarity on the global scale. While some plant colonies are already found and mapped, qualified

personnel should be employed periodically to conduct new searches and evaluation of existing colonies.

### **Environmental Protection**

Environmental protection is planned using four methods: identification, education, physical barriers, and enforcement of the rules for use.

Identification includes placement of plaques and markers at places needed, such as at found colonies of Pitchers Thistle and Lake Huron Tansy.

Education includes methods such as the Rules for Use and interpretive signs displaying photographs of threatened plant species and describing, for example, the importance of dune vegetation and wetland habitat. Hiring of a student-intern/caretaker conducting educational seminars or walks through the natural area might be a long-term goal for natural area management.

Physical barriers are appropriate where departure from assigned paths into sensitive areas might be anticipated or observed, such as over vegetation into the open dune area or over steep slopes subject to erosion if disturbed.

Enforcement of rules is self explanatory and essential to protection and proper stewardship of the natural area.

### **Environmental Rehabilitation**

Wherever human influence is introduced into the natural environment, there is potential disturbance and even destruction of the natural resource or feature. Even permissible uses such as vehicle traffic (where planned), foot traffic, and trail construction present an opportunity for disturbance. Periodic assessments and evaluation should be conducted by qualified personnel, looking for such disturbances as erosion, destruction of plants, disturbance of the dune, errant "trail blazing" and any other harmful activity, then preparing a plan for repair and rehabilitation, if needed.

We recommend the county has an evaluation and report completed at 6 month intervals, or more frequently during heavy use, by qualified personnel with a background in botanical, biological or environmental sciences. Suggested resources for such a service might include private consultants, the Grand Traverse Regional Land Conservancy, and the Little Traverse Conservancy.

### **Restroom and Waste Disposal**

Pit toilets are planned for each entry area. The toilets will be designed for durability, barrier-free accessibility and a rustic appearance. The Michigan Department of Natural Resources has standard plans available for such purpose, which appearance may be modified to fit the theme of the project. A contract should be secured with a local vendor for regular inspection and pumping of the pit.

A potable water supply is not planned.

## **Trash Removal and Control**

Trash receptacles are intentionally omitted from the plan. Experience indicates that receptacles at this relatively remote site are likely to be more often abused than used by visitors, becoming the repository for large waste bags and household trash. Instead, educational and policy signs will request that visitors enjoy themselves, respect the natural area, and take their trash with them when they leave.

## **Rules for Use**

General rules for use of the Antrim Creek Natural Area are modeled after other parks and natural areas in the neighborhood and are consistent with rules normally applied to state land preserves. The criteria for these regulations are safety and protection and preservation of the resource. For specific language, use the models attached in the appendix as a guide. Suggested rules are:

Permitted Uses within the natural area, Visitors may:

- hike or ski the trails
- sun and swim
- play on the beach
- hunt or fish during permitted seasons

Prohibited Uses within the natural area, Visitors may not:

- operate a motorized vehicle of any kind except on designated roads and parking areas
- operate any recreational vehicle, including snowmobiles and ATV's
- operate any bicycle except on designated roads and parking areas
- camp on the natural area
- allow a dog or any other animal in areas used for swimming or wading
- ride horses on the natural area
- bring glass containers onto the natural area
- dump or leave refuse of any kind
- destroy, damage or remove state property including vegetation of any kind
- build campfires anywhere on the natural area
- engage in violent, loud, boisterous, obscene or otherwise disorderly conduct

It is suggested that a special note be added to rules signage informing visitors how to report observed abuses. Example: "Be an active steward. Report abuse of this natural area by dialing 911"

## **Regulations Enforcement**

Regulations are effective pursuant to municipal ordinance which must first be adopted by the county, specifying allowed and prohibited uses and penalties.

The agent of authority enforcing the county ordinance is the County Sheriff's Department. The state Conservation Officer is also an agent of authority, traditionally enforcing state statutes relative to such violations as poaching and motorized vehicles on the beach. At many natural

areas, a permanent or seasonal caretaker is employed to help ensure visitor compliance and respect for the rules, as well as educate visitors regarding stewardship.

Because there is a history of damages resulting from uncontrolled access to the beach area, primarily by vehicles running over threatened plant species and the sensitive dunes, a concerted effort is warranted by friends of the natural area and by the enforcing agents to identify and swiftly penalize violators and change current traditions which are damaging.

### **Maintenance**

While the intent is to construct features that are durable and require minimal maintenance, a routine inspection and maintenance schedule will be developed as features are implemented. A maintenance schedule is anticipated to include the following:

- Frequent (daily or weekly) inspection and repair of vehicle barriers at the beach area
- 3-6 month periodic evaluation, report and rehabilitation plan by qualified personnel
- Annual inspection and grading of roads, parking and trails
- Routine cleaning of toilet facilities and regular pumping of toilet pits
- Regular inspection and periodic repair, refinishing or replacement of structures, signs and markers

### **Schoolhouse**

The old Antrim City Schoolhouse, located on Old Dixie Highway and surrounded by the Antrim Creek Natural Area, is an attractive opportunity for an interpretive display and education center. While its acquisition has not been identified as a primary goal, a strong sentiment for acquisition was expressed by several participants in public workshops. There is merit to a plan for acquisition, based upon its historic significance and its potential as an interpretive and educational center for the Antrim Creek Natural Area. Its acquisition would "complete" the boundary of the natural area and, as its use would be controlled by management, would eliminate an existing impedance to hunting in that area resulting from safe clearances required for that use.

### **Natural Area Management**

The County has established a Antrim Creek Natural Area Commission, which body makes recommendations to the County Board of Commissioners regarding proposed activities and management of the natural area. The Commission shall be comprised of five (5) members as follows:

- 3 members - County Nominations
- 2 members -Township Nominations

Nominations shall be made by each of the aforementioned bodies and approved by the County Board of Commissioners. Requests for nominations should be published, nominees screened, and selection made by the County Board. Members may serve for two or three year terms, rotating so that no more than two new members join the Commission each year.

## Plan Phasing and Funding

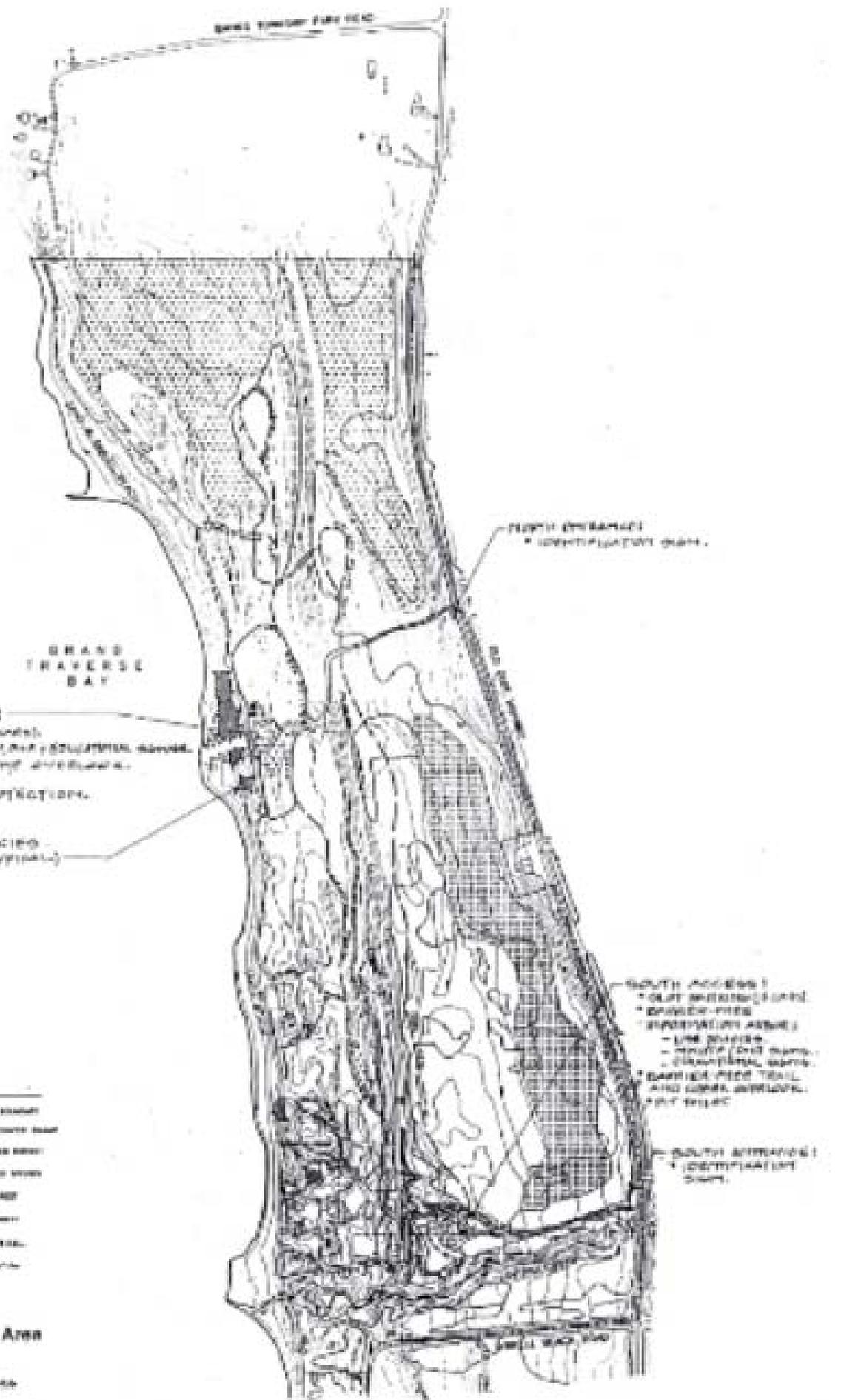
Project goals are most effectively achieved by completing this project in a single construction phase. Funding single-phase construction may be possible using a combination of the Antrim Creek Natural Area endowment fund, Michigan Natural Resources Trust Fund (MNRTF) and Coastal Zone Management (CZM) grants in addition to other foundations and local contributions of capital and/or labor. If needed, the project might be separated into two or three phases.

The state's CZM grants are made available for non-infrastructure intensive recreation projects, such as The Antrim Creek Natural Area. The CZM grant program tends to favor projects emphasizing resource protection, public access, overlooks, trails, and informational & interpretive displays. While no standard grant amount exists, there is a \$35,000 cap on requests and it is not unusual for successfully competing projects to be granted \$20,000 to \$30,000. It is customary for the grantors to require matching local contributions of services or cash equaling 50% of the project amount. Currently, the application deadline is April 1 of each year.

The MNRTF also has monies available for recreational improvements development. MNRTF grantors favor new projects, such as the Antrim Creek Natural Area. Application deadlines are currently April 1 and September 1 of each year. MNRTF grant monies may be used to meet local match requirements of the CZM grant program.

### Suggested Phasing

- |        |   |
|--------|---|
| Year 1 | MNRTF grant application<br>Concurrent CZM grant application<br>Explore additional funding resources<br>Design for Construction<br>"Essential" Improvements <ul style="list-style-type: none"><li>Vehicle Barriers</li><li>Guardrail at North Access</li><li>New road construction and Parking at North Access</li><li>Identification Signage and Boundary Markers</li><li>Directional and safety-related signage</li><li>Endangered Species Identification and Boundary Markers</li></ul> |
| Year 2 | All remaining Improvements  |



- NORTH ACCESS**
- OUTLINE (as used)
  - USE PLANTS, ROCKS, AND VEGETATION COVER
  - BARRIER FREE TRAIL AND OTHER APPROACH
  - PIT TRAIL
  - BEACH / DUNE PROTECTION

• ENDANGERED SPECIES IDENTIFICATION (TYPICAL)

NORTH ENTRANCE / IDENTIFICATION SIGN

- SOUTH ACCESS**
- OUTLINE (as used)
  - BARRIER FREE IDENTIFICATION AREA
  - USE PLANTS
  - ROCKS (DUNE MOUND)
  - VEGETATION COVER
  - BARRIER FREE TRAIL AND OTHER APPROACH
  - PIT TRAIL

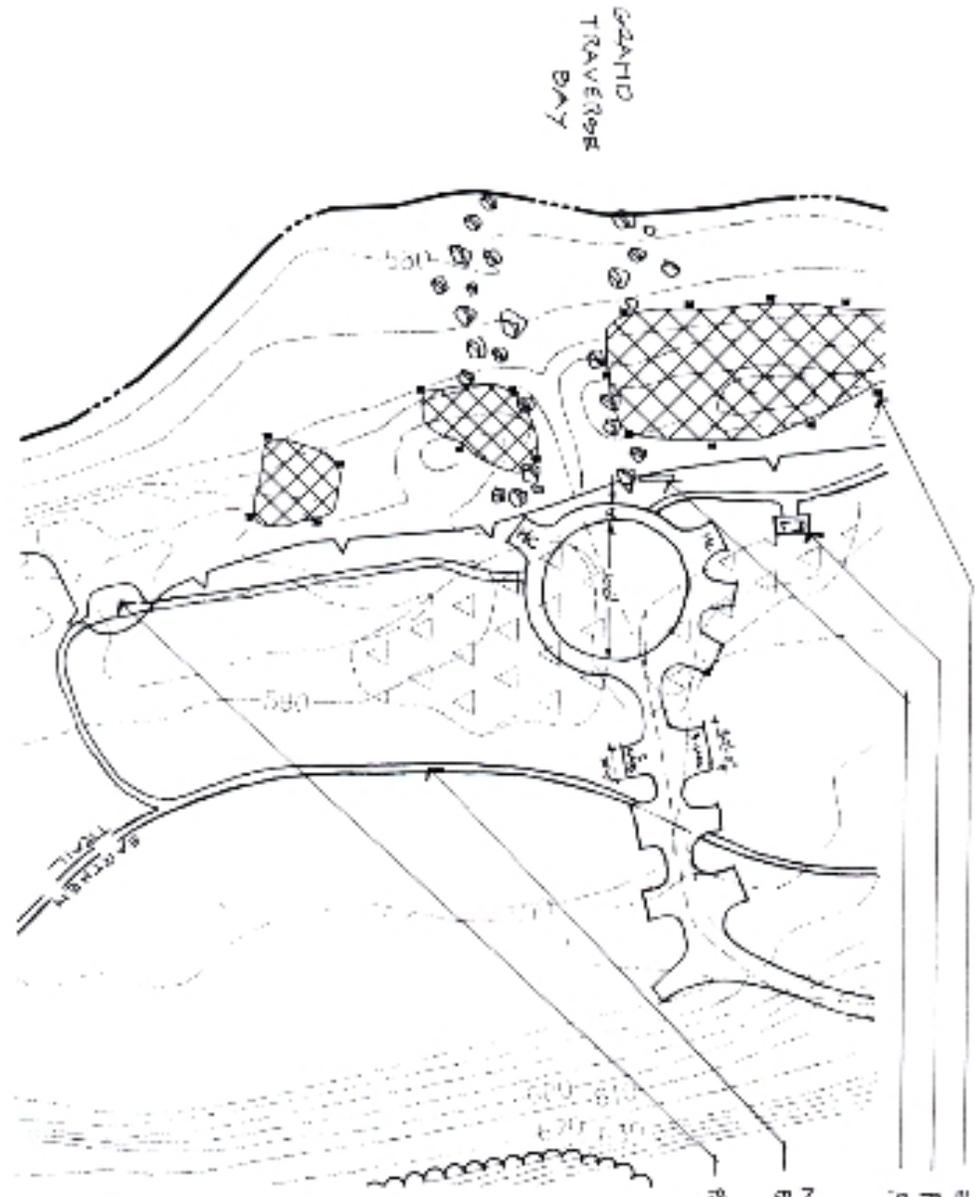
SOUTH ENTRANCE / IDENTIFICATION SIGN



- SYMBOLS**
- BARRIER FREE TRAIL AND OTHER APPROACH
  - ▨ BARRIER FREE TRAIL AND OTHER APPROACH
  - ▩ BARRIER FREE TRAIL AND OTHER APPROACH
  - ▧ USE PLANTS, ROCKS, AND VEGETATION COVER
  - ▦ IDENTIFICATION AREA
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**Antrim Creek Natural Area  
Master Plan**

DATE: 4/15/98



SHANNONWATER SPECIES IDENTIFICATION.

PIT TOILETS  
 PRESERVE USE POLICIES SIGN.  
 • MNRPS AND DNR SIGNAGE.

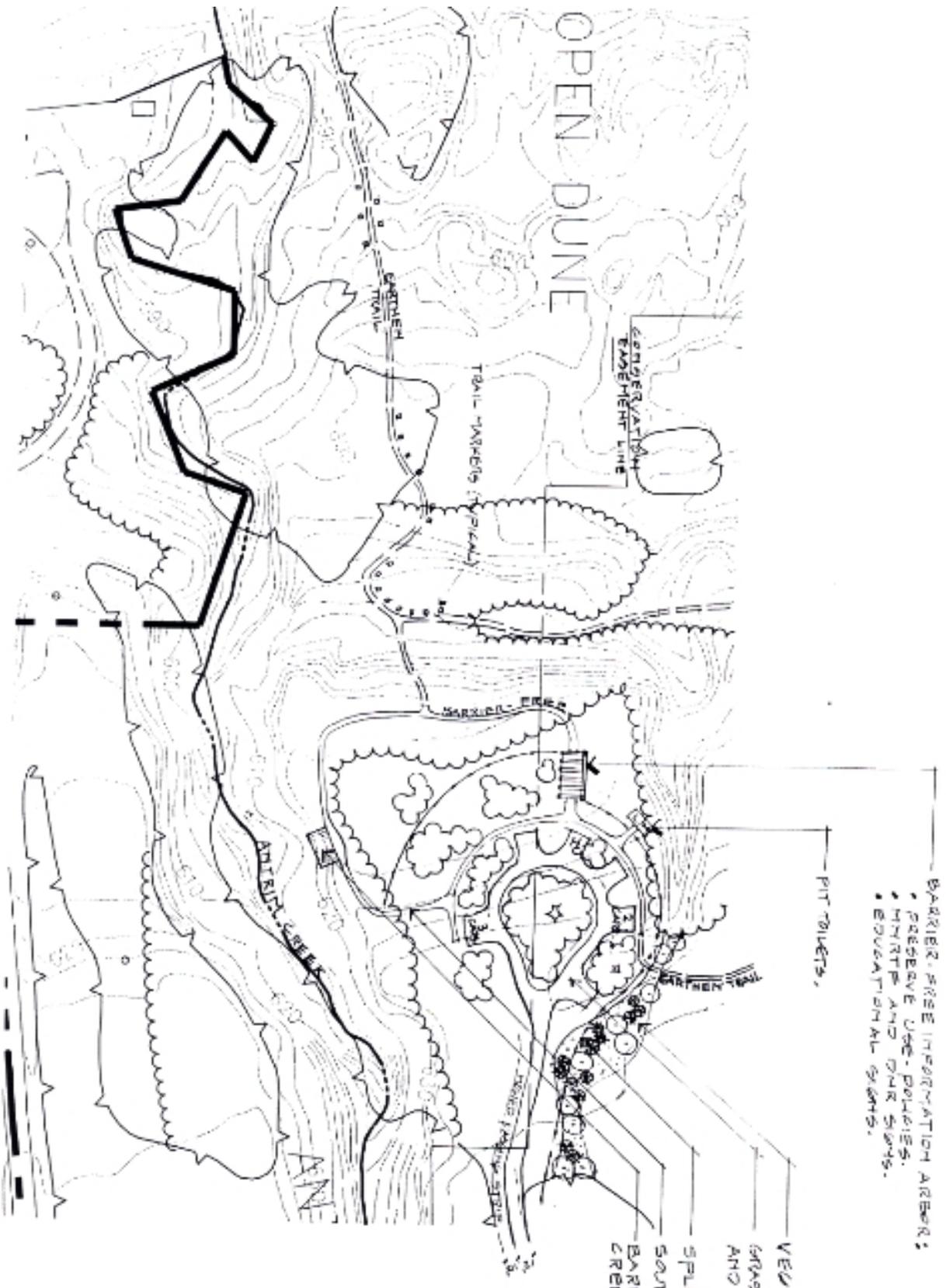
NORTH  
 BARRIER-FREE TRAIL LOOP.

BARRIER-FREE DUNE OVERLOOK.

NOTE:  
 OH SITE WETLAND  
 DELINEATION REQUIRED.

NORTH ACCESS 0 20 40 80  
 9/29/98

**Antrim Creek Natural Area  
 Master Plan**



- BARRIER-FREE INTERPRETATION AREA:
- PRESERVE USE POINTS.
- HIKE AND DRIVE SITES.
- EDUCATIONAL SIGNS.

PIT TOWERS,

VEGETATED STRIP,

GRASS SLAT PARKING AND TWO-TRACK ROAD,

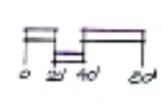
SPLIT RAIL FENCE,

SOUTH BARRIER-FREE LOOP,

BARRIER-FREE CREEK OVERLOOK,

GUARDRAIL.

NORTH



SOUTH ACCESS

9/29/98

# Antrim Creek Natural Area Master Plan