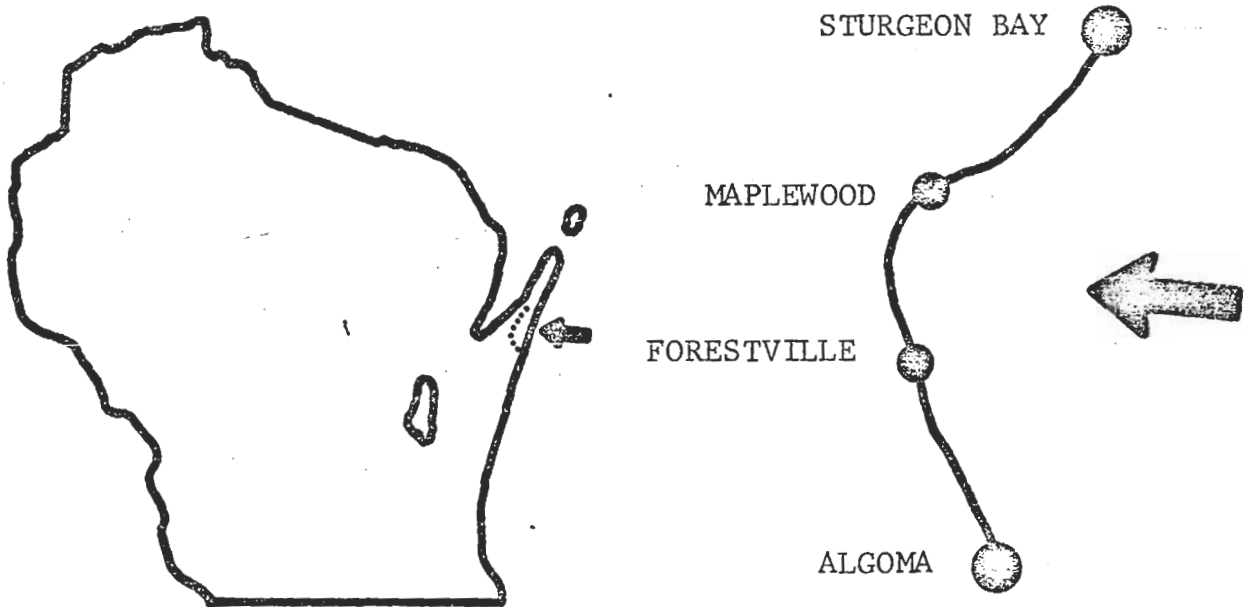


MASTER PLAN

Ahna~~n~~pee State Trail
Door and Kewaunee Counties



Master Plan Prepared by: Daniel C. Rogers

Master Plan Completed: March 4, 1975

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Madison, Wisconsin 53701

MASTER PLAN

Ahnapee State Trail

I. DESCRIPTION OF THE PROPOSED PROJECT

A. INTRODUCTION

The Department of Natural Resources has acquired approximately 15 miles of abandoned railroad right-of-way from the Ahnapee and Western Railroad Company for the purpose of developing a recreational trail for hiking, bicycling and snowmobiling. In the spring of 1970 the Natural Resources Board approved and established the Ahnapee State Trail as one of Wisconsin's state parks.

The railroad itself was originally established between 1892 and 1895. Its line ran from Sturgeon Bay in Door County, south to Algoma in Kewaunee County. At Algoma a wye connected it to a line ultimately ending at Green Bay. The railroad carried lumber, farm produce, foundry products and building materials. By 1969 operation of the A & W had become impractical due to lack of freight business and physical deterioration of the line and equipment. Subsequently, the Interstate Commerce Commission granted a permit to terminate service and abandon the right-of-way between Sturgeon Bay and Algoma. Eventually the land was sold to the DNR and designated as a recreational trail.

The small communities of Maplewood and Forestville are evenly spaced along the trail route. State Highway 42 roughly parallels the trail for two-thirds of its length, and State 57/42 parallels it the rest of the distance. These highways are also a part of the Wisconsin Pioneer Trail road network.

The soils of Door and Kewaunee Counties are generally loams which are derived from the weathering of limestone bedrock and glacial deposits. The most prevalent soil groups which the Ahnapee Trail passes through are the Kewaunee loams and the Miami loams. There are also a few areas of peat, one of which is causing a minor problem. In T26N, R5E, section 25, there is a one-half mile long section of the trail which passes through a peat swamp. This area is low and poorly drained. In the spring and during heavy rains this part of the Ahnapee Trail is under several inches of water. The rest of the trail has few soils engineering problems, if any.

The slope of the Ahnapee Trail is nearly level and the curves are very long and gentle as a result of the usual railroad engineering standards. The general character of the landscape through which the trail passes has the gently rolling striated pattern caused by glacial scraping. At Forestville the Ahnapee River valley begins and becomes more prominent as it travels southward. The trail follows this valley and its scenery will provide added interest for trail users.

The major tree communities of the Sturgeon Bay area are those of the conifer-hardwood forest. However, much of the land along the Ahnapee Trail is cultivated farmland. These areas of farmland have little natural vegetation except along fencerows. The most commonly occurring plant community that the trail passes through is the "cedar swamp" or "lowland cedar woods". It also passes through low areas of alder thicket. These low areas contain a large quantity of white cedars, and some balsam fir, spruce and tamarack, along with smaller species such as red osier dogwood, spirea, viburnum, American currant and clematis. At some points the trail is enclosed by woods, and as it passes in and out of these areas a spatial effect is created which makes trail travel pleasant.

Wildlife habitat along the trail is limited to brush and vegetation along farm fencerows and the swamp in section 25. The wooded and swampy areas along the Ahnapee River also provide some cover. In these areas birds and mammals are located. Main game species consist of white-tailed deer and ruffed grouse, both of which have been observed in the area. The Ahnapee River is important in the local fishery. It accommodates spawning runs of Lake Michigan trout and salmon as well as other warmwater species. The dam at Forestville limits the runs. The millpond at Forestville also contains some warmwater fish although it is sometimes subject to winterkill.

B. TRAIL DESIGN CONCEPTS

As stated previously, the Ahnapee Trail is intended for use by the public for summer as well as winter recreation. Bicycling and snowmobiling are anticipated to be the primary uses, with pedestrian use as a secondary one. These activities will keep the trail facility in use most of the year, with short periods between use seasons. In the late autumn bicycling and hiking use will taper off and winter recreational uses will begin as soon as suitable snow conditions exist.

All other motorized vehicles, except for authorized service, patrol or emergency vehicles will be prohibited from using the trail.

Components of the Ahnapee Trail will be:

1. The prepared trail surface.
2. Two terminal areas at the trail's ends.
3. Two rest areas along the route.
4. Grade crossings and warning signs.
5. Administration and maintenance system.

The trail surface will be prepared directly on top of the existing railroad ballast and will be 7 feet wide. The material of the surface will be limestone screenings, easily available in Door and Kewaunee Counties due to the Niagara escarpment bedrock. The same type of surface has been successfully used on the Elroy-Sparta Trail. The screenings will be applied and rolled after the accumulated sod has been broken up with a plow. At the time of construction an application of an approved pre-emergent herbicide such as "Preen" or "Simazine" will be made to prevent the growth and infiltration of grasses and broadleaves into the trail bed. All manufacturer's directions will be followed, and no more than a 7-foot wide area will be treated.

Along certain segments of the trail it will be necessary to add material to the existing ballast to bring the grade up to a more level slope, as some unevenness has occurred due to settling and from removal of tracks and ties. Also, where the railroad grade passes through the swamp in T26N, R25E, section 25, some material must be added to bring the grade up above the spring water level. Only enough fill will be added to accomplish this, and no further encroachment will be made on the swamp than has already existed for the past 70 years.

One railroad trestle built by the Ahnapee and Western is a part of the trail system. It crosses the Ahnapee River several miles north of Algoma, and has been converted to facilitate public use by addition of plank flooring and side railings.

Two terminal areas at the ends of the trail will serve as official start/finish points. These two areas will provide parking for automobiles and snowmobile trailers, shelter, toilets, drinking water, shaded picnic area and public telephone. About 10 acres of land is needed for each terminal area. One terminal is located near the southern edge of Sturgeon Bay, and the other at the northern edge of Algoma.

One state-owned rest stop will be provided for trail users. Pit toilets, shelter and drinking water will be available. At Forestville the trail passes through a county-owned park which can be used as a rest stop in cooperation with Door County.

The location of the rest areas will be evenly spaced along the trail at 5-mile intervals. One will be at the Town of Maplewood and one at Forestville, both in Door County. Approximately one to two acres of land is required for development of the Maplewood rest stop.

During the winter months the shelters at the terminals and rest stop will be enclosed on at least three sides to offer protection from the cold weather for trail users.

A total of 22 acres of land is needed for development of terminal areas and the Maplewood rest area.

Another component of the Ahnapee Trail is the grade crossing. There are 16 places where the trail crosses public roads, and appropriate warning signs for both trail users and automobile traffic must be installed. Access to the trail from these crossings will be discouraged by prohibiting parking within 500 feet in either direction from the trail. An exception to this would be the grade crossings which occur in Maplewood and Forestville, and at the two ends of the trail.

Administration and maintenance of the facility will be executed by the DNR personnel from Potawatomi State Park in Sturgeon Bay. Also, some type of bicycle connecting link between the park and the trail should be established. The distance between the northernmost end of the Ahnapee Trail and the entrance to the campground at Potawatomi is about 5 miles. There exists no path to link the state park and the Ahnapee Trail other than the established road network. A suitable link must be established by use of road shoulder and roadway. This link would also give access to Sturgeon Bay. The attached development map shows the exact route.

C. CURRENT STATUS OF DEVELOPMENT

Since this project was initiated before any legislation pertaining to environmental impact existed, certain steps have already been taken to further the development of the Ahnapee Trail. Salvage operations by the railroad have been completed. All tracks and ties have been removed. The one existing trestle which crosses the Ahnapee River has been converted for trail use by the

public. The trail bed has been worked up with a disc harrow and has been leveled. A nominal trail width of 14' exists now. The width of the right-of-way is 100' except for a short section of 60' width.

The trail has been open for winter use already, since the snows form a useable surface.

D. ACTIONS NECESSARY FOR PROJECT COMPLETION

The work of preparing certain sectors of the trail bed and the application of the surface material remains. Once this is done the trail will be useable.

Land acquisition and development of terminal areas and rest stops is all that remains to complete the total project. Proposed land for acquisition is as follows:

1. Door County - Township 27 north, range 26 east, section 19, NE 1/4, SW 1/4, 6-10 acres
Ahnapee State Trail - North access point (Sturgeon Bay)
2. Door County - Township 26 north, range 25 east, section 4, SW 1/4, SW 1/4, 1-2 acres
Ahnapee State Trail - Maplewood Rest Stop
3. Kewaunee County - Township 25 north, range 25 east, section 21, NE 1/4, SE 1/4, 6-10 acres
Property of Wenzel Blahnik - Proposed southern access point (Algoma) Ahnapee State Trail

Twenty-two acres of land, in addition to the presently owned trail right-of-way, are needed for terminal and rest area development.

The general locations and sizes of the proposed acquisition sites are shown on the four attached maps (see maps). Specific site plans are not yet available for the terminal areas or rest stops. The areas will, however, include the components described previously. All design work will be done by the park planning section to approved standards.

II. PROBABLE IMPACT OF THE PROPOSED PROJECT

Environmental impact created by this project falls into two categories: Impact as a result of development; and impact as a result of operation.

During the grading and surfacing operation on the trail a small amount of air pollution due to dust, noise and exhaust emissions from construction equipment will be generated. These factors will last only for the duration of the construction phase of the trail. The presence of men and machinery will cause a visual impact for anyone having the opportunity to observe the work.

At the time of construction, or immediately prior, a pre-emergent herbicide will be applied to kill any vegetation within the seven-foot width of the trail bed. This will prevent a buildup of sod from breaking up the trail surface. The obvious impact of this action will be the removal of the vegetation. The changes in the condition of the railroad bed as it is converted to a useable recreation trail will constitute a visual impact.

Since the general purpose of the Ahnapee Trail is recreational transportation, only a slight land use change is taking place. The corridor established by the Ahnapee and Western railroad was used for commercial transportation of freight. Now it will be used for public recreational travel.

Land acquired for development of terminals and rest stop will undergo a change also. Most of the proposed acreage lies fallow the year-round. The property near Algoma (see list in Part I) is agricultural, being sown to hay. All of the three parcels will be changed to recreational land use, as backup facilities.

Development, that is, actual construction of the terminal and rest stop facilities will create some environmental effects. There will be noise, dust and exhaust emissions generated by construction machinery. There may be some very slight erosion or transport of soil by water while the earth is disturbed for building foundations, pavement and wells. When construction is completed a visual impact will have been made on the four sites. In addition, landscape planting materials will be installed. The impact of this action will be a pleasant one, hopefully.

People who use the Ahnapee Trail for hiking purposes will cause a definite, though minimal, impact. This impact will mainly be limited to user visibility and pollution caused by destination use of automobiles. Impact caused by bicycle users will be of the same order, although bicycles will travel the length of the trail in less time than hikers.

The most evident impact will be caused during the winter by snowmobilers. The usual visibility and destination use impact will occur, as well as additional effects of high sound levels of snowmobile engine noise and emissions from their two-stroke engines. The sounds from snowmobile engines may alter local wildlife patterns, although no conclusive evidence supports this idea. Also, the encouragement of the use of gasoline powered recreational vehicles will cause the consumption of extra fossil fuel resources. Maintenance and patrolling of the trail by DNR personnel will also consume fuel resources.

Operation and use of the terminal areas will consume water from the wells and electricity for lights and telephones. Operation of the sealed pit-type toilets will not have any direct effects. Periodic servicing by a pumping service will consume a small amount of fossil fuel.

The construction and operation of the Ahnapee Trail will have some localized economic effects, but there is no anticipation of any major change. Benefits will be directly realized by contractors and laborers who participate in the construction of the various components of the trail. Funding for the project will be through state ORAP and federal LAWCON funds.

Economic effects due to trail operation will probably induce local gains. Some local stores, restaurants, service stations, and private campgrounds will receive patronage from trail users. No doubt, when the trail becomes more widely popular, an increasing number of visitors will arrive with the Ahnapee Trail as their primary destination.

Cost estimate and budget allocations have been made prior to development. The development cost, not including original right-of-way expenditures, is expected to be approximately \$60,000. Itemization follows:

1. Trail surfacing	\$32,000
2. North terminal land site development	2,500
3. North terminal shelter	1,500
4. North terminal utilities	2,000
5. North terminal parking	2,500
6. North terminal toilets	1,000

7. Maplewood terminal site development	2,500
8. Maplewood rest stop utilities	1,000
9. Maplewood rest stop shelter	1,500
10. Maplewood rest stop toilets	1,000
11. South terminal site development	2,500
12. South terminal shelter	1,500
13. South terminal utilities	2,000
14. South terminal parking	2,500
15. South terminal toilets	1,000
16. Small miscellaneous projects	\$ 3,000
Total development cost	60,000
Railroad right-of-way cost	25,000
Additional right-of-way cost (22 acres)	15,000
Grand total	\$100,000

Operation and maintenance costs for the Ahnapee Trail are anticipated to be similar in unit cost to other existing state trails. Maintenance responsibilities will include:

- Erosion control
- Trail grooming
- Trash pickup
- Bridge repairs
- Law Enforcement
- Administration
- Sign and fence repair

The cost of providing these services is anticipated to be about \$500 per mile per fiscal year, or \$7,500 annually for the 15 mile long trail.

Annual trail use is anticipated to be about 30,000 per year after two years operation. At that time the cost per user-mile is anticipated to be about \$0.39 per user per mile. This figure is based on amortization of initial purchase cost, development and maintenance costs over a period of 20 years. The formula used is as shown:

$$\frac{\text{Acquisition Cost} + \text{Development Cost} + \text{Maintenance for 20 years}}{\text{Projected Attendance for 20 years}} = \text{Cost per user per mile}$$

III. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

ADVERSE EFFECTS DUE TO DEVELOPMENT

During the construction of the trail bed certain adverse effects, although short-term, will be caused. A minimal amount of dust, noise and engine emissions will be created, and then cease when the trail surface has been completed. These effects are unavoidable if the Ahnapee Trail is to be put into operating condition.

The application of the pre-emergent herbicide described in sections I and II will kill grasses and broadleaves in the direct course of the trail bed. Although negative in nature, the overall effect of this action will be to prolong the useable life of the trail surface, thus forestalling any major repairs.

Actual construction of the trail terminals and rest stops will have the same type of adverse effects as in the trail construction. Air pollution, dust, noise and engine emissions will be caused by various machinery. Disturbance of the earth for excavations and well drilling may cause some soil transport, but all areas of disturbance will be healed with grass or other vegetation when the work is completed.

At the construction sites some clearing of vegetation may be necessary for development. This effect is unavoidable and adverse, but it should be noted that materials must be removed if the work is to proceed.

Land use change from agricultural to recreational at the south terminal area may be an adverse effect if the crop acreage is vitally important to the owner's farm operation. However, he retains the option of not selling the land if he needs it.

Visual impact of the disruption during construction at rest stops and terminals may be adverse to certain viewers. This is a temporary effect.

ADVERSE EFFECTS DUE TO OPERATION

Air pollution and resource consumption due to destination use of automobiles is an unavoidable adverse effect. This includes hikers, bicyclists and snowmobilers unless they walk, bicycle or snowmobile to the site. Bicycling and hiking are expected to have no adverse effects.

Snowmobile use will generate adverse effects due to engine emissions, exhaust and air intake noise pollution. In addition, to people who may dislike the sight or sound of snowmobiles, their presence will be an adverse impact.

IV. ALTERNATIVES TO THE PROPOSED ACTION

The alternative of doing nothing with the Ahnapee Trail would mean that no development beyond that which already exists would be done. In its present unimproved form the trail would be useless to bicyclists, and of marginal value to hikers and snowmobilers. Complaints have already been received from people attempting to use the unimproved trail. Public opinion along these lines will likely increase as the popularity of both bicycles and snowmobiles increases, and as more people discover and attempt to use the Ahnapee Trail. The alternative of doing nothing is, therefore, unacceptable.

The alternative of providing a basically undeveloped facility would probably mean not providing any terminal areas or rest stops along the trail and merely providing the prepared trail bed. This would allow people to use the trail, but would not provide organized parking or public comfort facilities. Some measure of comfort should be provided to make trail use pleasant without being over-developed. Therefore, we look to other alternatives.

The alternative of providing a highly developed facility was also considered. This would probably take the form of an asphalt-paved trail surface, food vending at terminals and rest stops, flush toilets, elaborate shelters and overnight camping facilities. A trail of only 15 miles in length, with elaborate facilities as those just described, would be impractical cost-wise and probably not consistent with the goals of the DNR. This alternative has also been discarded.

The final alternative, then, is to adhere to the plan as described in section I of this document. It will provide a useable facility with the essential features to make using the Ahnapee Trail enjoyable while keeping costs to a minimum.

ALTERNATIVE TRAIL CONCEPT: Provide for Cross-country Skiing

This sport is becoming more popular in Wisconsin. Guidelines for developing a cross-country ski trail recommend that one-third of the trail be uphill, one-third downhill and on-third level. The proposed trail route is entirely level. The grade would be suitable, however, not ideal, for cross-country skiing.

If the popularity or feasibility of snowmobiling diminishes in the future due to the scarcity and high cost of petroleum products, the trail could be converted to cross-country skiing use without incurring any additional development costs. Snowmobiling and cross-country skiing should not both be designated on the same trail because of possible safety problems. The aesthetic quality inherent in cross-country skiing would also be severely diminished by the presence of operating snowmobiles.

V. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term uses or impacts on the environment during the development and construction stage of the Ahnapee Trail will be those unavoidable adverse effects discussed in section III of this document. They are; air pollution, dust, noise, visual disturbance, landscape disruption and fuel use. Another short-term effect is the economic gain realized by persons participating in the work. These effects are incidental and necessary to development.

The long-term benefits to be realized by the development of the Ahnapee Trail justify the effects caused by short-term use of the environment. These long-range benefits are several. They include:

- A. Utilization of publicly owned land
- B. Provision for recreation modes which are gaining in popularity
- C. Promotion of healthy outdoor recreation
- D. Security of public ownership of railroad right-of-way should it be needed in the future
- E. Economic gain from trail user patronage of local businesses
- F. Organization of recreation space for safe use and help in easing indiscriminate use of private lands by snowmobiles

VI. IRREVERSIBLE FOR IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED PROJECT IF IT IS IMPLEMENTED

The right-of-way that will contain the 7-foot wide trail is permanently committed to recreational use unless a more important use or an emergency takes precedence. The trail could actually be removed and replaced by a highway or a railroad-type of transportation although these occurrences are unlikely.

Land utilized for terminals and rest stops is permanently committed to recreation unless some serious reason would dictate a change. Materials used in building the trail bed and structures and fixtures are irretrievable, although some salvage may be possible.

Other expended resources include all time, money and human labor used in development and maintenance of the trail. Also included are wear and tear on machinery, fuel consumed in construction machinery and in laborers' transportation to the site.

CONCLUSION

It is recommended that the work necessary for completion of this project be implemented.

This document also serves as an environmental assessment statement for the project. On this basis the plan was approved by the Bureau of Environmental Impact on October 4, 1973.

MASTER PLAN APPROVAL

Charles Stratton
Property

James Strickel
CHIEF, PLANNING AND DEVELOPMENT SECTION

9/23/74
DATE

D. Wejerski
DIRECTOR, BUREAU OF PARKS AND RECREATION

11/19/74
DATE

ADMINISTRATOR, DIVISION OF FORESTRY, WILDLIFE
AND RECREATION

DATE

Stanley J. BeBoer by MARK
DISTRICT DIRECTOR

10-16-74
DATE

Paul J. Reddick
AREA SUPERVISOR

10-9-74
DATE

Harry [Signature]
PROPERTY MANAGER

10-19-74
DATE

Daniel C. Rogers
PREPARED BY

10/29/74
DATE

