



New Jersey Trails Plan

*January
1996*

NJ Department of Environmental Protection
Division of Parks & Forestry
Office of Natural Lands Management



State of New Jersey

OFFICE OF THE GOVERNOR

CN-001

TRENTON NJ 08625-0001

CHRISTINE TODD WHITMAN
Governor

To New Jersey Residents and Visitors:

It is with great pride that I introduce you to the New Jersey Trails Plan. This document updates the Trails Plan of 1982 and takes the Trails System in New Jersey from planning to reality. I endorse this plan as state policy and as a guide for trail management and development in the state.

Since the initial plan, regulations have been adopted establishing procedures to nominate and designate trails to the state system; a comprehensive inventory of trails has been performed; specific trails have been investigated for suitability to the system; additional mileage has been added to trails available to the public; and significantly, the New Jersey Trails Council has been reactivated as a working advisory body on trail-related issues.

I commend the work of staff of the Division of Parks & Forestry and the New Jersey Trails Council in compiling the information and recommendations for trail managers and users. In reviewing the plan, it is evident that there is a variety of activities and landscapes for everyone to enjoy our trails. As we travel along a trail corridor, it is important that we become aware and appreciate the value of preserving the surrounding open space, the areas it connects, as well as the enjoyment of the trail itself.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Christine Todd Whitman".

Christine Todd Whitman
Governor

NEW JERSEY TRAILS PLAN

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***New Jersey Department of Environmental Protection
Division of Parks and Forestry
Office of Natural Lands Management
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Trenton, New Jersey 08625-0404
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EXECUTIVE SUMMARY

Introduction. This plan is a major component of New Jersey's State Trails Program efforts, with the purpose of preserving and expanding trails and trail systems throughout the state by incorporating these as part of a State Trails System, and providing a planning guide for establishing trails. The Trails Program was established with the passage of the New Jersey Trails System Act, and includes staff within the Division of Parks and Forestry, whose major task includes the planning for trails to be incorporated in a State Trails System, and also the New Jersey Trails Council, an advisory board to the Department of Environmental Protection and Department of Transportation. As part of these purposes the plan has four specific goals: 1) provide a vision of what a State Trails System should be in the future; 2) identify trails and trail systems eligible for the State Trails System or routes that can be developed into trails to expand the system in the future; 3) identify new issues affecting trails that have arisen since 1982, and plan for these issues in the use, development and management of trails in the State Trails System; and 4) set goals for implementation of the State Trails Plan.

The legislative mandate for establishing a trails system is incorporated in the New Jersey Trails System Act (N.J.S.A. 13:8-30 et seq.). This act established three classes of trails, scenic, recreation, and connecting. It also stated that abandoned railroad rights-of-way could be studied for inclusion into the system. The other important act concerning New Jersey trails is the act creating the New Jersey Trails Council to study and prepare a plan for a State Trails System.

Based on surveys conducted in 1991, and updated up to 1995, information was collected from public park agencies with over four miles of all trail types, for hiking (including backpacking and nature walking), horseback riding, mountain biking, cross-country skiing, bicycling, snowmobiling, off road vehicles (ORVs) or other motorized trail vehicles, wheelchair or other disabled access, and water/canoeing. Within New Jersey there are over 1,500 miles of marked or mapped trails on federal, state, interstate, and county lands, and waterways suitable for canoeing. Many of these trails are multiple use trails, used by hikers, horseback riders, mountain bikers, and cross-country skiers. Approximately 93% of the land trail mileage is available for hiking, and about 30% of the hiking-only trails are available for cross-country skiing in winter. Although mountain biking is a recent trail use, 435.5 miles of trails are available for its use, close to that for horseback riding (455.5). Most long distance trails, almost 700 miles, are found within New Jersey State Parks and Forests, and most of these are found in northern New Jersey. County parks account for approximately 300 miles of trails, and most of these are available for hiking, with some used for cross-country skiing, horseback riding, mountain biking, and bicycling. Essex, Monmouth, and Morris counties have the greatest amount of mileage for marked trails in the state. Federal lands, such as the Delaware Water Gap National Recreation Area, have approximately 65 miles of trails available.

Eligible Trails for the State Trails System. Trails and trail systems under public ownership or public easement and at least five miles in length were examined for their eligibility to the State Trails System based on their scenic quality, accessibility, length, preference for multiple use, development and maintenance needs and costs, presence of public support, and presence or absence of environmental degradation. Based on the inventory and site inspections, trail systems found eligible include:

- Allaire State Park Trail System: 25 miles of multi-use trails in central New Jersey.
- Appalachian Trail: 73 miles for hiking within the Appalachian Ridge and Valley Province. The trail was designated in the New Jersey Trails System Act.
- Batona Trail: 50 miles for hiking through the Pine Barrens.

- Belleplaine State Forest Trail System: 42 miles of multi-use trails, including motorized trails, in mostly Pine Barrens woods.
- Cattus Island Ocean County Park Trail System: 6 miles of multi-use trails through coastal marshes.
- Cooper River Camden County Park Trail: 9 miles of multi-use trails in a suburban and urban setting of southern New Jersey.
- Delaware and Raritan Canal State Park Trail: 60 miles of multi-use trails on the towpath and abandoned Bel-Del Railroad.
- Estell Manor Atlantic County Park Trail System: 16 miles of multi-use trails within the vicinity of the Great Egg Harbor National Wild and Scenic River.
- Island Beach State Park Trail System: over 13 miles of trails including the beach for horseback riding, a paved bicycle path, and a canoe trail in Barnegat Bay.
- Kittatinny Mountain Trail System: over 140 miles of trails in Worthington State Forest, Delaware Water Gap National Recreation Area, Stokes State Forest, and High Point State Park.
- Lenape Trail of Essex County: 20 miles of multi-use trail completed, connecting several county parks.
- Long Path in Palisades Interstate Park: 11 miles of hiking trail. The trail continues into New York State.
- Morris Area Trail System: over 40 miles of multi-use trails in Lewis Morris County Park and Morristown National Historic Park.
- Parvin State Park Trail System: 16 miles of multi-use trails in southern New Jersey.
- Patriots' Path of Morris County: 20 miles of an existing multi-use trail, with 54 additional miles planned.
- Paulinskill Valley Trail: 27 miles for multi-use on the abandoned New York, Susquehanna and Western Railroad right-of-way.
- Ramapo Mountain System: over 62 miles of multi-use trails in Ringwood State Park, Bergen County's Ramapo Valley Reservation, Mahwah Township Park, and Ramapo Mountain State Forest.
- Shore Trail in Palisades Interstate Park: 11-mile hiking trail.
- Sussex Branch Trail: 20 miles of multi-use trail on the former right-of-way of the Erie Lackawanna Railroad Sussex Branch.

Waterways determined to be eligible include:

- Cedar Creek: 10 miles of Pine Barrens slow waters, mostly within Double Trouble State Park.
- Delaware River: 115 miles of river with some rapids from the New York State line to Trenton. A segment within Delaware Water Gap National Recreation Area is designated to the National Wild and Scenic Rivers System, and a segment south of that to Washington Crossing is being studied for federal designation.

-
- Great Egg Harbor River: 16 miles of Pine Barrens waters from Penny Pot to Lake Lenape. Major sections of the river and several of its tributaries are designated to the National Wild and Scenic Rivers System.
 - Millstone River: 18 miles of slow-moving waters in central New Jersey from Lake Carnegie to its confluence with the Raritan River.
 - Musconetcong River: 31 miles of river with some dams and rapids, from Lubbers Run in Allamuchy State Park to Bloomsbury.
 - Rancocas Creek: 17 miles of slow-moving waters with some dams between Browns Mills and Mount Holly.
 - Wharton Water Trails: Consisting of the Lower Atsion, Batsto, Wading and Oswego Rivers, for approximately 52 miles of canoeable waterways in Wharton State Forest.

Potential Trails Eligible Pending Review. Several other trails and trail systems may qualify for designation in the future. These may include:

- Hartshorne-Huber Woods Parks Trail System in Monmouth County
- Henry Hudson Trail in Monmouth County
- Norvin Green State Forest in Passaic County
- Pequannock Watershed in Morris, Passaic and Sussex Counties
- Wawayanda State Park in Passaic and Sussex Counties
- Wells Mills County Park in Ocean County

Waterways may include:

- Crosswicks Creek
- Flat Brook
- Hackensack River
- Intracoastal Waterway
- Maurice River
- North Branch of the Raritan River
- Passaic River
- Paulins Kill
- Pequest River
- Ramapo River
- South Branch of the Raritan River
- Toms River

Potential Trail Routes for the State Trails System. Potential new trails must consider such factors as proximity to population centers, presence of unique features, geographic representation, costs for acquisition and development, linkage with existing public lands or trails, availability and public acceptance. Potential trail routes include:

- Allaire to Raritan Bay Greenway: 21.5 miles of some abandoned but mostly inactive railroad in Monmouth County.
- Cape May Trail/Pennsylvania-Reading Seashore Line, West Jersey and Southern Railroad: 35 miles from Cape May City, Cape May County, to Maurice River Township, Cumberland County. The route passes through Belleplain State Forest, Cape May County Park, Beaver Swamp Wildlife Management Area, and Peaslee Wildlife Management Area.

- Central Railroad of New Jersey, Southern Branch: 24.5 miles of abandoned/inactive line from Woodmansie in Burlington County to Waterford Township, Camden County. The line passes through Wharton State Forest.
- Central Railroad of New Jersey, Toms River and Barnegat Branch: 17 miles of abandoned railroad from Barnegat, north to South Toms River, all in Ocean County.
- Coastal Heritage Trail: primarily a vehicle touring route from Raritan Bay to Delaware Bay; portions of the route could be used for hiking and biking.
- Cross-Jersey Trail: 100 miles from the Delaware River in Hunterdon County to Newark, Essex County. Parts would incorporate Patriots' Path and the Lenape Trail.
- East Coast Greenway: part of a proposed trail from Boston to Washington and south. Parts would use the Delaware and Raritan Canal State Park and local roads.
- Elizabeth and Trenton Railroad: 23.5 miles of abandoned line from Hamilton Township, Mercer County to East Brunswick Township, Middlesex County. It crosses or is very near several county and local recreation areas.
- Highlands Trail: Over 100 miles of a trail, some parts multi-use, will stretch from the New York State border to the Delaware River. The trail will consist of existing trails in public lands and new trails to be developed on private property.
- Hudson River Waterfront Walkway: 18 miles along the west shore of the Hudson River from the George Washington Bridge south to the Bayonne Bridge. Part of the walkway includes Liberty State Park.
- Lehigh and Hudson River Railroad: 27 miles in Warren and Sussex Counties connecting with the Sussex Branch Trail.
- Lehigh and New England Railroad: 21 miles in Sussex County, intersecting the Paulinskill Valley Trail, the Sussex Branch Trail, the Appalachian Trail and the Wallkill River National Wildlife Refuge.
- Lenape Trail Extension: To connect with the existing 20 miles of multi-use trail, another 15 miles is planned throughout Essex County.
- Meadows Path: A 13-mile multi-use trail in the planning stages of the Hackensack Meadowlands Development Commission.
- Penn Central Railroad, Camden and Burlington County Branch and the Union Transportation Company: This line runs approximately 10 miles from Mount Holly, through Pemberton, to Fort Dix. The route passes through Burlington County's only county park, Smithville Village.
- Penn Central Railroad, Philadelphia and Long Branch Line: 27 miles of abandoned railroad from Pemberton Township, Burlington County to the Garden State Parkway in South Toms River, Ocean County. The route passes through Lebanon State Forest and the New Jersey Natural Lands Trust's Crossley Preserve.
- Pennsylvania-Reading Seashore Line, Bridgeton Secondary: 18 miles from Glassboro in Gloucester County to Bridgeton, Cumberland County.

- Pennsylvania-Reading Seashore Line, Newfield Branch: 23 miles from Egg Harbor Township to Route 54 in Buena Township, Atlantic County.
- Six Mile Run Trail System: Adjacent to the Delaware and Raritan Canal in Somerset County, this 3,000-acre site has the potential to provide approximately 37 miles of multi-use trails. Leased agricultural lands would be excluded from consideration as trails.
- Sourland Mountain Trail System: Within Somerset and Hunterdon counties, a series of short and long multi-use trails.
- Warren Grove Multi-use Trail System: Several miles of sand paths in Burlington and Ocean counties.
- Watchung Trails: Various trail proposals in Somerset and Morris counties, and the Watchung Reservation with 40 miles of multi-use trails, in Union County.
- West Wharton Multi-use Trail System: Area west of Route 206 with numerous sand paths in Wharton State Forest.

New Trail Issues and Needs. Important issues influencing trail development and management include:

- Liability. The Landowners Liability Act provides limited but not total protection for landowners. Volunteers are also concerned about protection for work performed and workers' compensation.
- Management and Enforcement. As long as a trail exists, these considerations will exist also. Both management and enforcement require funding to hire staff. The ridge runner program, as used along the Appalachian Trail, is one partial solution to performing some of the responsibilities during high seasonal use periods.
- Public Use of Private Land. This is influenced by the fear of liability. The Green Acres Tax Exemption and the Open Lands Management Program both provide incentives for use of private lands.
- Recreation and Transportation. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provided new funding sources for trail projects.
- Rights-of-Way. Paper streets and utility rights-of-way are potential trail routes. In some cases road shoulders and "rails-with-trails" may also be appropriate trail routes.
- Urban Trails. Urban trails are being included in greenway planning, in which they link parks and provide habitat for plants and animals.
- User Education. User etiquette is becoming more important as the number of different trail users increases.
- Safety for Trail Users. Self protection measures, such as helmets, are being required for trail users. Park patrolling is becoming more important as a preventive measure to identify hazards, assist legitimate trail users against criminal activities, and provide medical assistance.
- River Trail Access. Ongoing restrictions from private lands continue to be a problem.
- Trail Access for People with Disabilities. Because of the federal Americans with Disabilities Act, new

requirements are being placed on public and private agencies supplying outdoor recreation. Where in the past, only some trails were designed to meet the needs of individuals in wheelchairs, now all trails must be examined for their suitability for all disabled people. Certain standards are suggested for trail design to meet the requirements of the act.

- **Motorized Trail Vehicles.** With the passage of the Symms National Recreational Trails Act in 1991, at least 30% of federal funding from that act must be used for motorized trails. This has put new emphasis on motorized trails and their use in New Jersey. Recommendations are made to have some form of vehicle permit or registration system for trail vehicles and general guidelines for developing trails to provide safe trails with little or no environmental degradation and an ORV park area for supervised riding and educational programs for riders.
- **Off-Road Bicycling/Mountain Bikes.** Mountain biking is the most recent form of trail use. As a new trail activity, mountain biking has created a new set of issues and potential problems concerning safety, user conflicts, and environmental degradation. Guidelines are provided for trail design and educational programs.
- **Multiple Use and Compatibility.** Although multiple trail use is desirable, it is not always appropriate. Existing single use trails may not be suitable for conversion for multiple use. But, if new trails are properly designed, or circumstances allow for existing trails to be converted, multiple use can provide a pleasurable experience for all trail users. Management practices and user standards that can be employed for multi-use trails are included in the plan.
- **Methods of Land Protection for Trails.** Several strategies that can be applied to protect land for trail corridors include fee simple acquisition, easements, covenants, and cooperative agreements.
- **Funding Sources for Trails.** Both new and old sources of funding trail acquisition, development and maintenance should be pursued. At the federal level, the newest sources of funding include ISTEA (Intermodal Surface Transportation Efficiency Act) of 1991, and the Symms National Recreational Trails Act.

Measures to Implement the New Jersey Trails System Act. Included in this plan are:

- **New Jersey Trails System Regulations.** Regulations (rules) are the primary vehicle for implementing the act. The rules are used to determine eligibility for designation to the trails system, procedures for approval or possibly de-designation, purpose and content of a management plan, and procedures for reviewing capital construction projects funded by NJDEP affecting designated trails.
- **Designation of Trails to the State Trails System.** No formal method of designating trails was included in the first plan. Designation procedures are included in the rules for the New Jersey Trails System. Classes of trails are also selected at this time.
- **Management Plans for Designated Trails.** Once a trail or trail system has been designated, the administering agency, in coordination with NJDEP and the New Jersey Trails Council, prepares a management plan to provide a set of management guidelines and techniques that protect and enhance the trail and its surrounding corridor.
- **Sources of Information on Trail Design and Construction.** A sampling of existing information sources on trail design for both single use and multi-use trails are included. Some sources are specific to particular types of trails.

Plan of Action. Activities to be performed to implement this plan are given for one, three, and five years subsequent to adoption.

- Within one year, the state will begin the process of designating eligible trails to the State Trails System and develop a uniform marking system;
- Within three years, develop management plans for half the eligible trails included in this plan; support legislation or amendments to the current law on ATVs and snowmobiles, to register off-road motorcycles; establish a monitoring system for designated trails; provide recommendations on land acquisition for trails including abandoned railroad rights-of-way; develop guidelines for locating motorized trails; and work with federal agencies to reenact the National Recreational Trails Act.
- Within five years, continue development of management plans for trails; examine the 1995 Trails Plan and update as needed; and review plans completed in the first two years for applicability to current conditions.
- Acquisition of routes and abandoned railroad rights-of-way will be ongoing. Also, The Trails Council and the Division of Parks and Forestry will establish an education program to promote the Trails Plan and the State Trails System.

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INTRODUCTION

*Purpose of Plan
New Jersey Legislation for Trails
Summary and Status of the 1982 New Jersey Trails Plan
Existing Trail Systems in New Jersey*

SUMMARY AND STATUS OF THE 1982 NEW JERSEY TRAILS PLAN

The 1982 Trails Plan was undertaken pursuant to P.L. 1975, Chapter 367 to provide a framework for the development of the State Trails System. The Legislature recognized the need for a coordinated system of trails throughout the state in the New Jersey Trails System Act (N.J.S.A. 13:8-30 et seq., P.L. 1974, c. 159). Included in the plan were issues and recommendations relevant to trail needs, uses and management at municipal, county and state levels of government.

The plan was intended to be used by planning agencies in government, and by private organizations and individuals. It was designed as a guide for recreational trail use, acquisition and facility development. To help with practical issues related to trail development and management, a sample of a local trail easement agreement and copies of related laws were appended; sources were listed for further information and for standards and specifications for trail design and construction.

Needs: Summary

The plan included a trail inventory and discussion of user requirements for each of the use categories: foot, water, horse, bicycle, snow and motorized. Each of the trail uses has needs including conditions and facilities specific to that use.

Some of the trail use categories described in the plan include more than one kind of recreational use. For example, typical forms of foot trail use include hiking, backpacking, walking for pleasure, nature walking, jogging and running, and fitness exercise. Water trails along sections of streams or rivers may provide recreation for canoeing, kayaking, rafting and tubing. Snow trails are used for ski touring, snow shoeing and winter hiking. Finally, motorized trails are designed for off-road motor vehicles which include trail motorcycles and snowmobiles.

Needs: Status

The needs of individual types of trail use have not changed since 1982. What has changed is the level of trail design that accommodates more than one compatible use. Trail planners have more knowledge of what uses work compatibly with each other under certain conditions of amount of use in certain areas and trail condition. For example, trails for hiking and horseback riding have height clearance that allows for safe passage and visibility for the horseback rider, and they are wider than foot paths, allowing for hikers or horses to pass each other. The most abundant single-use trail is still a hiking trail, particularly in the mountainous sections of northern New Jersey. Trail use categories not discussed in 1982 are mountain bikes, and for motorized trail users, all terrain vehicles and four-wheel drive vehicles, included as a general class of Off-Road Vehicles (ORVs).

Issues: Summary

The following issues presented in the plan were concerns of trail users and managers.

- **Liability:** Publicizing the New Jersey Landowner Liability Act of 1968 (N.J.S.A. 2A:42A-2 et seq.) limiting the liability of landowners who opened their property to the public for low impact outdoor sports and recreation was recommended in order to encourage the opening of private land for trail use.
- **Public Use of Private Land:** It was noted that the state could help foster public use of private lands by developing a standard agreement for negotiating with landowners, revising municipal land-use laws to include trails planning, and providing tax relief to landowners who allowed public access.

- **Multiple Jurisdictions:** Cooperative agreements, adequate funding from various sources and volunteer time and labor were cited as basic ingredients in maintaining regional trails that cross jurisdictional boundaries.
- **Management and Enforcement:** Personnel and maintenance equipment were noted requirements for managing trails and enforcing regulations. The use of volunteer organizations and individuals was encouraged as an economical and effective way to maintain and monitor trail corridors.
- **User Education:** The discussion of this issue emphasized the need for the development and wide distribution of guidelines to educate trail users as to basic standards of conduct.
- **Multiple Use and Compatibility:** Designation of a corridor for more than one trail activity seems to be an efficient use of a recreational resource, as long as consideration is given to the quality of the trail experience for each user group and the potential of use pre-emption by one group.
- **Motorized Uses:** To resolve the basic conflicts between motorized and non-motorized uses, segregation of the two was discussed. Providing for motorized use areas, vehicle registration, driver education and training programs for snowmobiles and trail motorcycles were proposed to ease conflicts with non-motorized trail users.
- **Recreation and Transportation:** Some recreational trails could also serve as commuter corridors for pedestrians and bicyclists.
- **Handicapped Trail Users:** Wherever possible, modifications to existing recreational trails and facilities were recommended to accommodate the needs of these trail users, as opposed to developing special trails.
- **Urban Trails:** For a trails system to be

accessible to all state residents, major population areas must be incorporated.

- **Rights-of-Way:** Rights-of-way (ROWs), either abandoned or in-use, include corridors of land such as those used by utilities and railroads. They can be used as long trails or links to existing trails, if the land is suitable for a trail, and if the utility company has ownership of the land.
- **Funding:** New Jersey's Green Acres Bond Issues have provided the primary source of funding for open space in the state. However, with public funds diminishing, private foundations and corporations may become more important funding sources.

Issues: Status

The circumstances concerning or solutions to issues such as liability, multiple jurisdictions, management and enforcement, and user education have remained mostly the same. Other issues, such as use of rights-of-way are still relevant but circumstances have changed somewhat. These are referenced in this plan. Others, such as use by the disabled, are still relevant, but have new circumstances and requirements affecting their use. For these, new recommendations are required, and are addressed in more detail in this plan.

Trails Program and System: Summary

In the Trails Plan of 1982, detailed recommendations were made for municipal, county and the state governments to develop, maintain and facilitate access and use of trails. General recommendations for government agencies emphasized the establishment and maintenance of a State Trails System, and the establishment of an advisory board to oversee implementation of the Trails Plan and advise government agencies on all trail matters. Cooperation and coordination among all levels of government and with the private sector were recommended in order to acquire, develop and promote trail use, maintain continuity and



ELIGIBLE TRAILS FOR THE STATE TRAILS SYSTEM

Allaire State Park Trail System
Appalachian Trail
Batona Trail
Belleplain State Forest
Cattus Island Park Trail System
Cooper River Park
Delaware and Raritan Canal State Park
Estell Manor Park Trail System
Island Beach State Park Trail System
Kittatinny Mountain Trail System
Lenape Trail
Long Path
Morris Area Trail System
Parvin State Park Trail System
Patriots' Path
Paulinskill Valley Trail
Ramapo Mountains Trail System
Shore Trail
Sussex Branch Trail
Cedar Creek
Delaware River
Great Egg Harbor River
Millstone River
Musconetcong River
Rancocas Creek
Wharton Water Trails

ELIGIBLE TRAILS FOR THE STATE TRAILS SYSTEM

A primary purpose of this plan is to identify trails and trail systems suitable for inclusion in the State Trails System. Trails may be recommended because they are considered of statewide significance and meet qualifications for being well managed and attaining a high quality trail experience. All trails first must be eligible by being publicly owned or, if on private property, deed restricted for public recreational use, as with an easement. The proposed regulations establish guideline traits on the basis of:

- **Scenic Quality.** The landscape through which the trail passes must be attractive, with either natural or cultural features. A variety of different features, e.g., forests, fields, farms, wetlands, and towns, and a variety of topographic landscapes are more desired than uniform characteristics. Any unique features that might be found along the trail, or the trail's association with an historic event, also add to the scenic quality of a trail.
- **Accessibility.** The public must be able to get to the trail either by non-motorized transportation, auto or public transportation; for auto access, particularly where public transportation does not exist, there must be areas for parking. If there are few access areas for a significant length of trail, then the potential for added access points should exist.
- **Length.** In order to be considered of statewide significance, the trail or trail system should be at least five miles in length. The exceptions to this would be a connector trail between two existing trails in the State Trails System and, in some cases, recreational trails, particularly for motorized use.
- **Multiple Use.** Use by several compatible trail types is more desirable than single purpose use. There can be exceptions, however, depending on the trail. For example, extremely rocky areas of northern New Jersey may only be suitable for hiking, because other uses might be dangerous or environmentally deleterious.
- **Development and Maintenance Costs.** A trail path must be well-developed with an identifiable surface and affordable maintenance costs. Continual need for such items as surfacing and bridging make for high expenses which might not always be made by the administering agency in tight financial times. Development and maintenance costs should also be considered for the potential acquisition of property for trails.
- **Public Support.** The administering agency must agree to designation, and the designation should be supported by user groups and other public and private agencies.
- **Environmental Impact.** The existing trail must not be a cause of environmental degradation. The two main types of degradation caused by trails are erosion on steep slopes and alteration of natural water courses where trails pass over streams or through wetlands. Efforts must be made to either prevent degradation or avoid environmental problems through trail design.

Rivers as trails can be examined with similar criteria, but with the addition of obstructions as a criteria. Obstructions can include dams, rocky areas, and downed trees and logs. The presence of dams can necessitate portaging; therefore, land around the dam must be accessible to the general public and clear to allow canoeists to take out, walk around the dam, and put in downstream. Information on obstructions is also important for the safety of the canoeist, who may be a novice and not experienced with canoeing or boating techniques to avoid accidents and overturning. Rivers are included as trails for both canoeing and motor boating. Just as certain land trails can be used for both non-motorized and motorized trail enthusiasts, so can rivers be used by both, with the river serving as a "vehicle" for recreational use and enjoyment and appreciation of the river and its

surroundings.

The trails, trail systems, and rivers listed below are a sample of trails that meet the above eligibility criteria. They were selected after a review of the trail inventories submitted by federal, state, and county park agencies. The inventories provided the basis for determining multiple use and length. Site inspections of each of the following trails were performed to determine scenic quality, accessibility, and environmental impact. A meeting or telephone interview with a representative of the administering agency provided information on development and maintenance costs, public support, and needs. Although not an eligibility criteria, "Needs" is included with each trail description for directing future funding.

Although there are many more trails that could potentially qualify for designation, the following group of trails is provided as a geographic representation of trails throughout New Jersey, and a broad representation for meeting a variety of trail uses. Examining them by physiographic region from north to south, they include:

APPALACHIAN RIDGE AND VALLEY

- Appalachian Trail
- Kittatinny Mountain Trail System
- Paulinskill Valley Trail
- Sussex Branch Trail
- Delaware River (partial)

HIGHLANDS

- Morris Area Trail System
- Patriots' Path
- Ramapo Mountain Trail System
- Delaware River (partial)
- Musconetcong River

PIEDMONT

- Delaware and Raritan Canal State Park
- Lenape Trail
- Long Path
- Shore Trail
- Delaware River (partial)
- Millstone River

COASTAL PLAIN - PINE BARRENS

- Batona Trail
- Belleplain State Forest
- Estell Manor Park Trail System
- Cedar Creek (non-tidal)
- Great Egg Harbor River (non-tidal)
- Wharton Water Trails

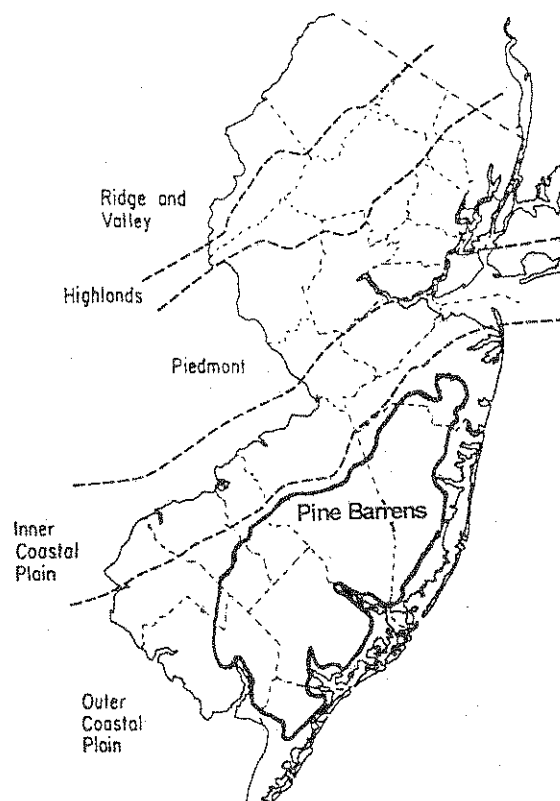
COASTAL PLAIN - COASTAL

- Cattus Island Park Trail System
- Island Beach State Park
- Cedar Creek (tidal)
- Great Egg Harbor River (tidal)

COASTAL PLAIN - NON-PINE BARRENS

- Cooper River Park
- Parvin State Park
- Delaware River (partial)
- Rancocas Creek

FIGURE 2.
Physiographic Regions of New Jersey



ALLAIRE STATE PARK TRAIL SYSTEM

Department of Environmental Protection

The Allaire State Park trail system consists of approximately 25 miles of multi-use trails, running through areas of the 3,000 acre park. The trail system is eligible for inclusion in the State Trails System as a scenic system based on the following criteria:

Scenic Quality: Allaire State Park lies within the Outer Coastal Plain Province. The southern section of the park, below the river, is characterized by an upland mixed oak forest with rhododendron as a dominant shrub understory. As the terrain descends, the surrounding forest changes to a scrub pine-oak forest. This section contains a network of multi-use trails. Hiking trails pass through the floodplains of the Manasquan River and a tributary, the Mingamahone Brook. Vegetation through areas of deciduous hardwood and pine forests and freshwater wetlands is diverse, adding interest to trail corridors. The multi-use trails north of the Manasquan River incorporate an abandoned railroad right-of-way of the Penn Central Railroad, the Freehold and Jamesburg Line. The wide trails in this area are bordered by meadows with surrounding woodlands. In addition to the natural scenic qualities encountered along trails in this system, Allaire Village, a restored 19th century iron works village, provides cultural and historical interest.

Accessibility: Allaire State Park is located on County Route 524 in Howell and Wall Townships. It is accessible from the major highways of I-195 and the Garden State Parkway. Most of the trails have convenient access and parking areas along roads bordering the park or within the park itself. Parking at trailheads include horse trailer parking along Hospital Road and Route 524. Hikers with cars may also find parking within the main section of Allaire adjacent to Allaire Village and near the nature center. There are additional parking areas on Hurley Pond Road and Route 524. There is one canoe access within the park boundaries, located on Route 547 south of the I-195 interchange. Take-out is just above Hospital Road.

Length: The total mileage of the Allaire State Park trail system is approximately 25 miles. This may be broken down as 17 miles of multi-use trails, 4.1 miles of hiking and nature trails, and 3.9 miles of canoe trail that flow through the park.

Multiple Use: Much of the network of trails in the system is multi-use. The old railroad bed, undeveloped roads, and paths are mainly composed of packed dirt or mowed grass, wide enough to accommodate service vehicles, and provide ample opportunities to enjoy hiking, horseback riding, mountain biking and cross-country skiing. The canoe trail within the park boundary is on a section of the Manasquan River where one may make livery arrangements for canoe rental and transport through a local private outfitter, or access the river on Route 547 for a shorter run. Finally, the trails provide access to related activities such as picnicking, fishing and hunting and also historic re-creations of life in the village.

Development and Maintenance Costs: The trail system is already developed and is well used. Boardwalks and clearing are needed for the park's Red Trail, currently closed and not included in the trail system because of the costs involved to make the improvements. Basic maintenance costs for the current trail system are included in the park's budget; maintenance is performed by park personnel. Maintenance costs are also defrayed by assistance from volunteer organizations.

Public Support: Volunteer groups such as Friends of Allaire State Park, the New Jersey Trail Ride Association, and local mountain bike groups are among those that provide periodic cleanups and maintenance work within Allaire. Their support for designation would be requested.

Environmental Impact: The trail system is already in place, therefore no clearing is involved. The densely vegetated trail banks of the hilly terrain in the southern section help to prevent erosion so that

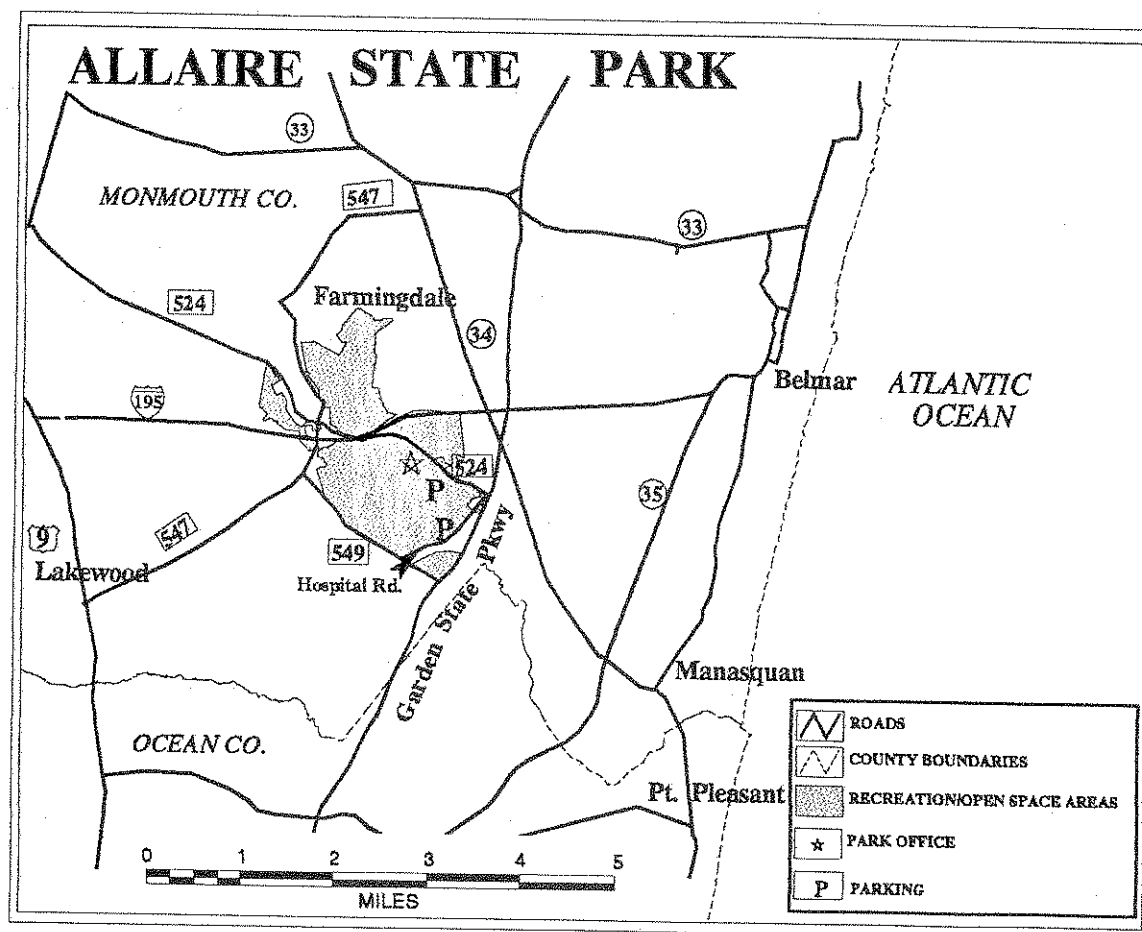
negative environmental impacts are limited on the multi-use trails. By limiting trail use in the floodplains to hiking and nature observation, the natural processes of the rivers are allowed to continue their role in maintaining diversity of the surrounding ecosystems. Problems in sensitive areas, such as the floodplains, occur only when the trails are used for unauthorized activities.

Trail Needs:

- An alternate route needs to be developed where I-195 abruptly interrupts the multi-use trail that runs along the old railroad bed. The feasibility of detouring the trail to follow a path behind the fenced-in abutment under the I-195 overpass on Route 524 (Allaire Road) must be discussed with NJDOT. This would achieve

trail continuity with the section of the trail on the other side of the highway.

- Funding for boardwalk construction and maintenance on the 1.5 mile Red Trail needs to be addressed.
- An interconnection between the two multi-use trail systems at Hospital Road needs to be developed in order to avoid horses fording the Manasquan River at dangerous locations.
- Signage at trailheads indicating routes and uses and trail markers are ongoing needs of this trail system. Funding for the development of trail brochures that would include trail rules and etiquette in addition to trail maps would support park personnel's education efforts in reducing unauthorized trail use.



APPALACHIAN TRAIL
A DESIGNATED NATIONAL SCENIC TRAIL

Department of Environmental Protection
and
The National Park Service

The Appalachian Trail extends for 73 miles from the Delaware Water Gap in the southwest to Hewitt State Forest, adjacent to the border with New York State in the northeast. This is a part of the trail system that extends from Maine to Georgia. The Appalachian Trail is designated as a scenic trail.

Scenic Quality: The Appalachian Trail traverses woodlands and fields within the Appalachian Ridge and Valley Province. From the western boundaries of Wawayanda State Park eastward it is in the Highlands Province. It crosses both mountains and lowlands, to offer a variety of landscapes and vistas to the hiker. Particularly scenic areas include the hemlock ravine in the Dunnfield Creek Natural Area of Worthington State Forest, The National Natural Landmark Sunfish Pond in Worthington State Forest, Sunrise Mountain in Stokes State Forest, Pochuck Mountain and the Wawayanda Escarpment in Wawayanda State Park, and Bearfort Ridge in Abram S. Hewitt State Forest. Within New Jersey, no heavily populated areas are encountered along the path, although in some sections, suburban development surrounds the trail, as in Vernon Township, at Pochuck Creek.

Accessibility: Because trail length is extensive, there are several access and parking areas along its path. Major access points are located at the Delaware Water Gap, Route 206, High Point State Park, local roads crossing the boundary corridor, and Route 94. Parking is located within the state parks and forests, and Delaware Water Gap National Recreation Area.

Length: With approximately 73 miles, there is sufficient length for short and long trail excursions.

Multiple Use: The trail is primarily a hiking trail. The narrow, dirt, sometimes rocky surface is not appropriate for other uses. Cross-country skiing is

considered the only compatible use in some lowland areas.

Development and Maintenance Costs: The Appalachian Trail is administered by the State Park Service and the National Park Service where it enters Delaware Water Gap National Recreation Area. It is maintained by volunteers through a cooperative agreement with the New York-New Jersey Trail Conference. Because the trail already exists, little additional cost will be incurred for its designation. The only future projects involve bridge crossings over the Wallkill River and Pochuck Creek. Until these waterways are bridged, alternate routes adjacent to roads are being used to allow for continuity of the trail.

Public Support: The public has been actively involved in the planning, development, maintenance and management of the trail through the Appalachian Trail Conference and the New York-New Jersey Trail Conference.

Environmental Impact: Because the trail is an existing pathway, no added threats are expected to occur along the trail. The New York-New Jersey Trail Conference has maintained the trail to prevent erosion of the pathway. A study of endangered and threatened plants and animals is anticipated in the future. If any are found along the pathway, efforts will be made to relocate the trail to prevent destruction of the species or their habitat.

Trail Needs: The New York-New Jersey Trail Conference has developed a management plan for the trail. Included within the plan are recommendations for:

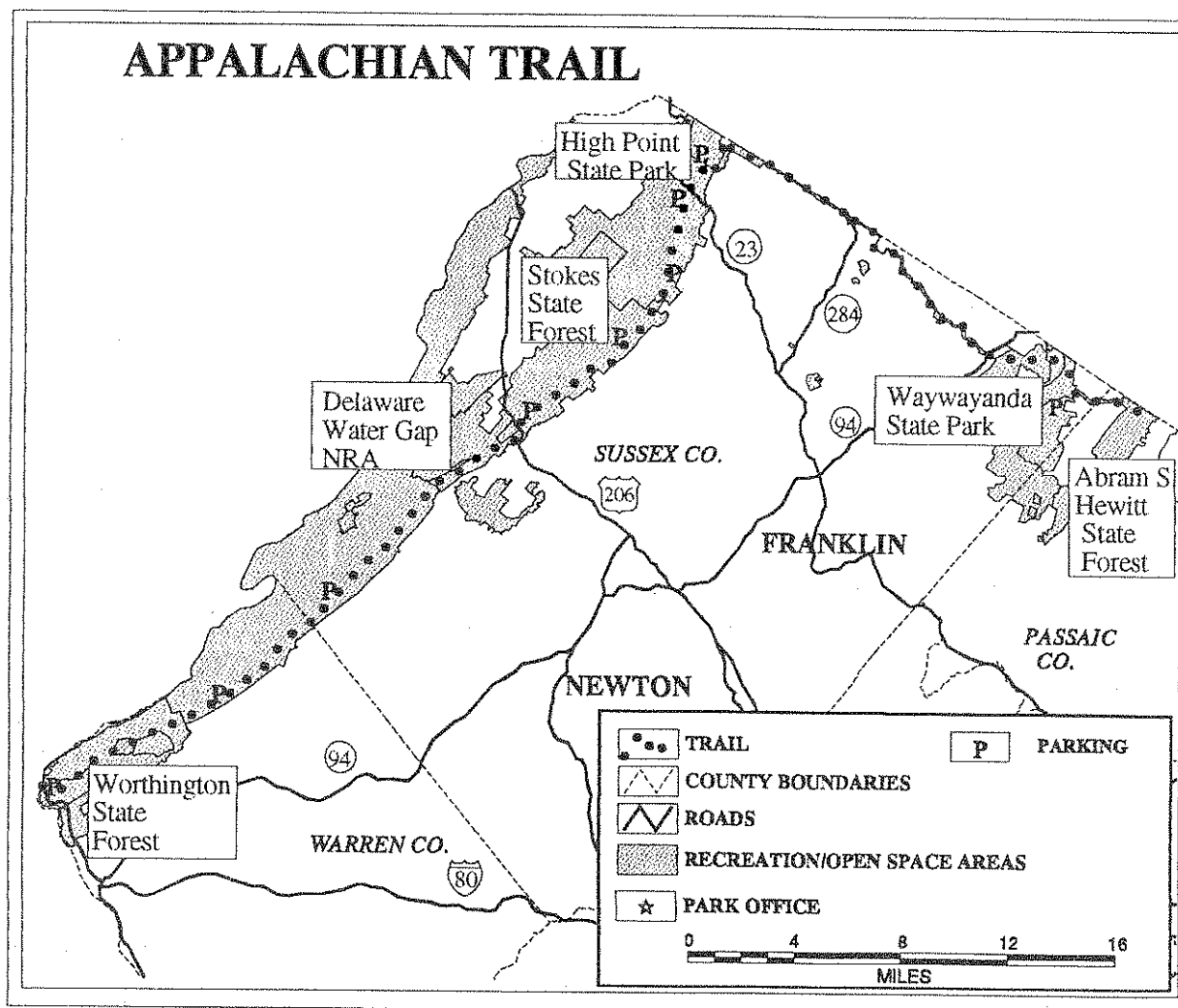
- Acquisition of adjacent properties or conservation easements on the properties in the corridor area to supplement acquisition efforts of the National Park Service. This will

prevent incompatible uses next to the trail, as well as protect viewsheds surrounding the trail. Acquisition of conservation or access easements may also be used as an alternative to fee simple acquisition. Fee simple acquisition and easement acquisition are to take place with funding under ISTEA.

- Development of parking areas in the corridor area.
- Bridges for stream crossings over the Wallkill River and tributary to Wawayanda Creek.
- Signs posted at roads indicating hiker crossings and information signs at shelters and parking areas.
- Barriers to prevent vehicle access from roads and abandoned railroad rights-of-way.

- The section of the trail from Route 80 to Sunfish Pond is one of, if not the most, heavily used sections of the trail. This area will need restoration.

Other: The Appalachian Trail was designated as a National Scenic Trail under the National Trails System Act and a scenic trail under the New Jersey Trails System Act of 1974. Most recently, the U.S. Fish and Wildlife Service purchased land surrounding the trail route for the Wallkill National Wildlife Refuge. The Service should be brought into the partnership relationship as a signatory of the Memorandum of Understanding between the National Park Service, the State of New Jersey, the Appalachian Trail Conference, and the New York-New Jersey Trail Conference.



BATONA TRAIL

Department of Environmental Protection

The Batona Trail is located in Burlington County, beginning at its northern end in Lebanon State Forest, through Wharton State Forest and ending in Bass River State Forest. The trail is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: Recognized as a National Reserve by the United States Congress in 1978 and as an International Biosphere Reserve by the United Nations in 1983, the Pinelands (incorporating the area traditionally called the Pine Barrens) is one of the last remaining relatively unspoiled regions on the Mid-Atlantic coast. The Batona Trail is the only established and maintained long-distance trail within the Pine Barrens region. This wilderness trail traverses a unique and fragile ecosystem that contains numerous rare plant and animal species, including several globally rare plant species. The trail passes through predominantly pine-oak forest but also passes beautiful cedar swamps, numerous streams and ponds, cranberry bogs and blueberry fields, and various historic sites, including Carranza Memorial, Batsto Village, and Martha Furnace. Batsto Village was founded in the eighteenth century, and consists of over 30 historic buildings and structures. Also along the trail is one of the highest points in the Pine Barrens, Apple Pie Hill, at 205 feet.

Accessibility: Access and parking for the Batona Trail include the northern terminus at Onga Hat, the State Forest Office and Pakim Pond, all within Lebanon State Forest; Carranza Memorial, the State Forest Office at Batsto, and Evans Bridge in Wharton State Forest; and Coal Road at the southern terminus in Bass River State Forest. There are also other access points, although not necessarily parking, where the trail intersects various roads.

Length: At 49.5 miles, the Batona Trail is the longest hiking trail in southern New Jersey and the second longest continuous trail in the entire state, exceeded only by the Appalachian Trail.

Multiple Use: Hiking, backpacking and nature observation are the only allowable uses on the dirt and sand Batona Trail within state lands. Camping along the Batona Trail is permitted in designated campsites. Campsites are available in Wharton State Forest at Batona Camp and Lower Forge, in Lebanon State Forest at the family sites or group camping area, and in Bass River State Forest near Lake Absegami.

Development and Maintenance Costs: The development of the trail, which began in 1961, has been undertaken by the volunteer organization, the Batona Hiking Club. With their physical labor and time, costs associated with development and routine maintenance, which they also perform, have been kept to a minimum. Future costs could involve state acquisition of private lands to have the trail under complete state ownership.

Public Support: The State Division of Parks and Forestry and the Batona Hiking Club must cooperatively support the designation of the Batona Trail being incorporated into the State Trails System.

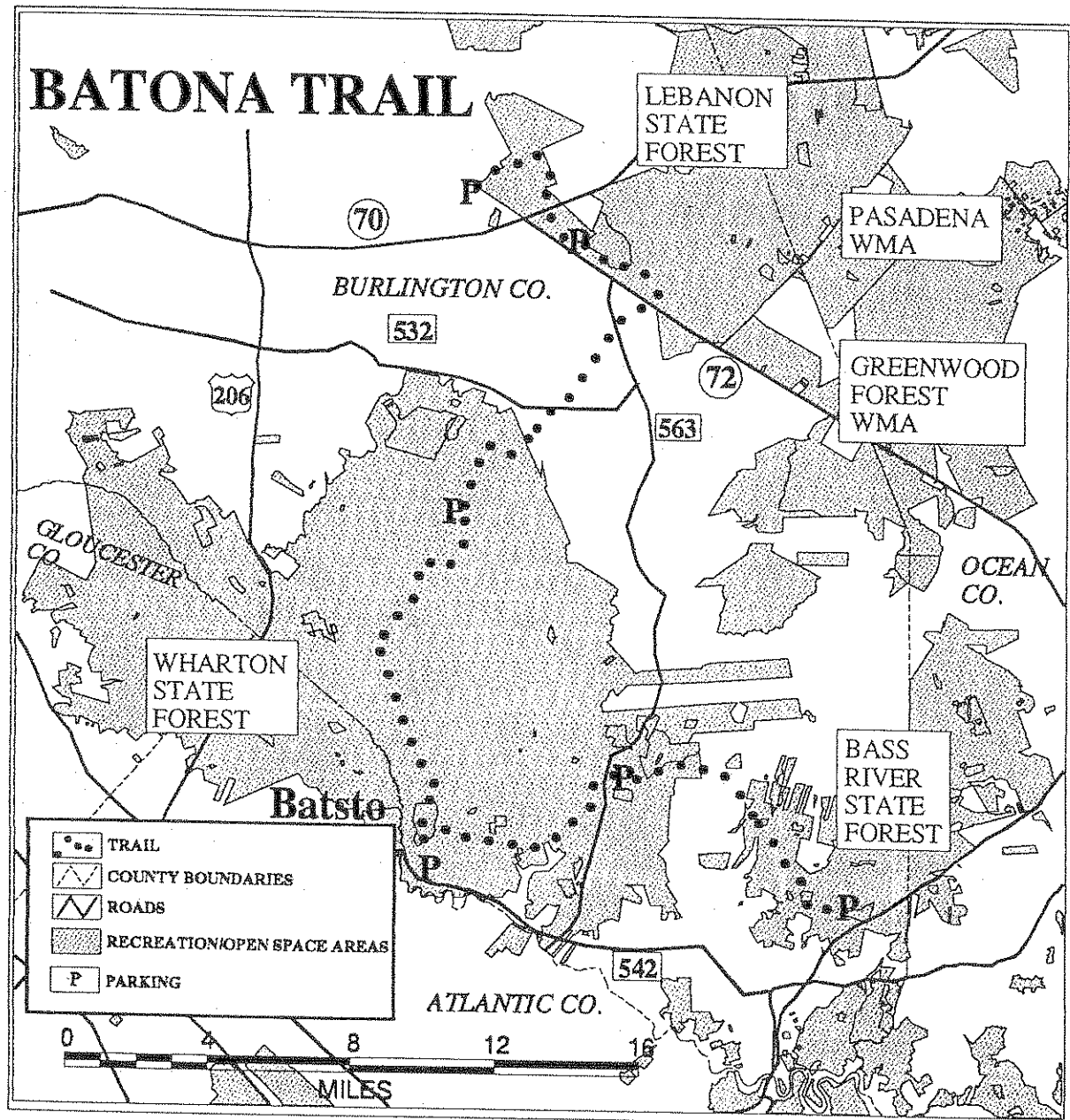
Environmental Impact: Since the Batona Trail is well established, on sandy soil, and allows only hikers, there should be little impact on existing plant, animal, historic, or cultural resources. Any rerouting or trail extensions should continue to be performed with the least amount of disturbance to the surrounding biota and water resources. Also, most of the landscape the trail passes through is fairly flat with little opportunity for erosion problems.

Trail Needs: Because of the continuous volunteer work performed by the Batona Hiking Club, the few trail needs that must be addressed include:

- Acquisition by DEP of approximately four miles of trail between Lebanon and Wharton state forests. The majority of the trail is already under state ownership.

- Approximately twelve wet areas at various locations along the trail need replacement footbridges or boardwalks to be upgraded and

installed, the longest being approximately 15 feet in length. The majority of these areas are between Lebanon and Wharton.



BELLEPLAIN STATE FOREST

Department of Environmental Protection

Located at the southern tip of the Pine Barrens in Cape May and Cumberland counties, Belleplain State Forest is one of the most visited of state landholdings in southern New Jersey. It is located in the outer coastal plain, with its creeks part of the Delaware Bay watershed. Trails in Belleplain State Forest qualify for designation to the State Trails System based on the following:

Scenic Quality: The forest is on the edge of the Pine Barrens, and it traverses a variety of oak-pine and cedar swamp forests. At the same time, it exhibits vegetative transition zones with holly and laurel in mixed oak forests. The extensive trail system allows the visitor to experience these different forest types. Lake Nummy, a recreational focal point of the forest, is a former cranberry bog. Much of Belleplain's infrastructure and several of the buildings were constructed by the Civilian Conservation Corps in the 1930s.

Accessibility: The main entrance to Belleplain State Forest and the trail system is on Belleplain-Woodbine Road (Route 550), approximately two miles west of Woodbine. Other roads, including Weatherby Road (Route 548), Steelmantown Road, East Creek Mill Road (Route 347), and Delsea Drive (Route 47), traverse the forest, providing access to more undeveloped parts.

Length: There are over 40 miles of multiuse trails and sand roads within Belleplain. The East Creek Hiking Trail alone, is over six miles in length. Although Belleplain has many disconnected landholdings, there are two major trail areas. Trails in the Lake Nummy area are all for hiking, and the majority of the 29 miles of multi-use trails and sand roads are in the northern sections of the forest, north of Belleplain Road. The state forest also includes over five miles of an old railroad bed that is now a multi-use trail.

Multiple Use: Belleplain State Forest has an extensive network of mapped old sand roads, used for both motorized and non-motorized trail users. It also has separate hiking trails, including the East

Creek Trail, two nature trails, and a separate fitness trail. The northern multi-use area is available for off-road vehicles, mountain bikes, snowmobiling, horseback riding, cross-country skiing, and hiking. These traverse a variety of woodland covers found within its boundaries. Belleplain also has an extensive camping area, a designated swimming area in Lake Nummy, boating and fishing in Lake Nummy and East Creek Pond, seasonal hunting, and picnicking facilities.

Development and Maintenance Costs: The biggest expense with trails in Belleplain State Forest is maintenance to keep them clear of encroaching vegetation. Some additional costs are also involved in maintaining and/or replacing foot bridges and boardwalks in swampy areas.

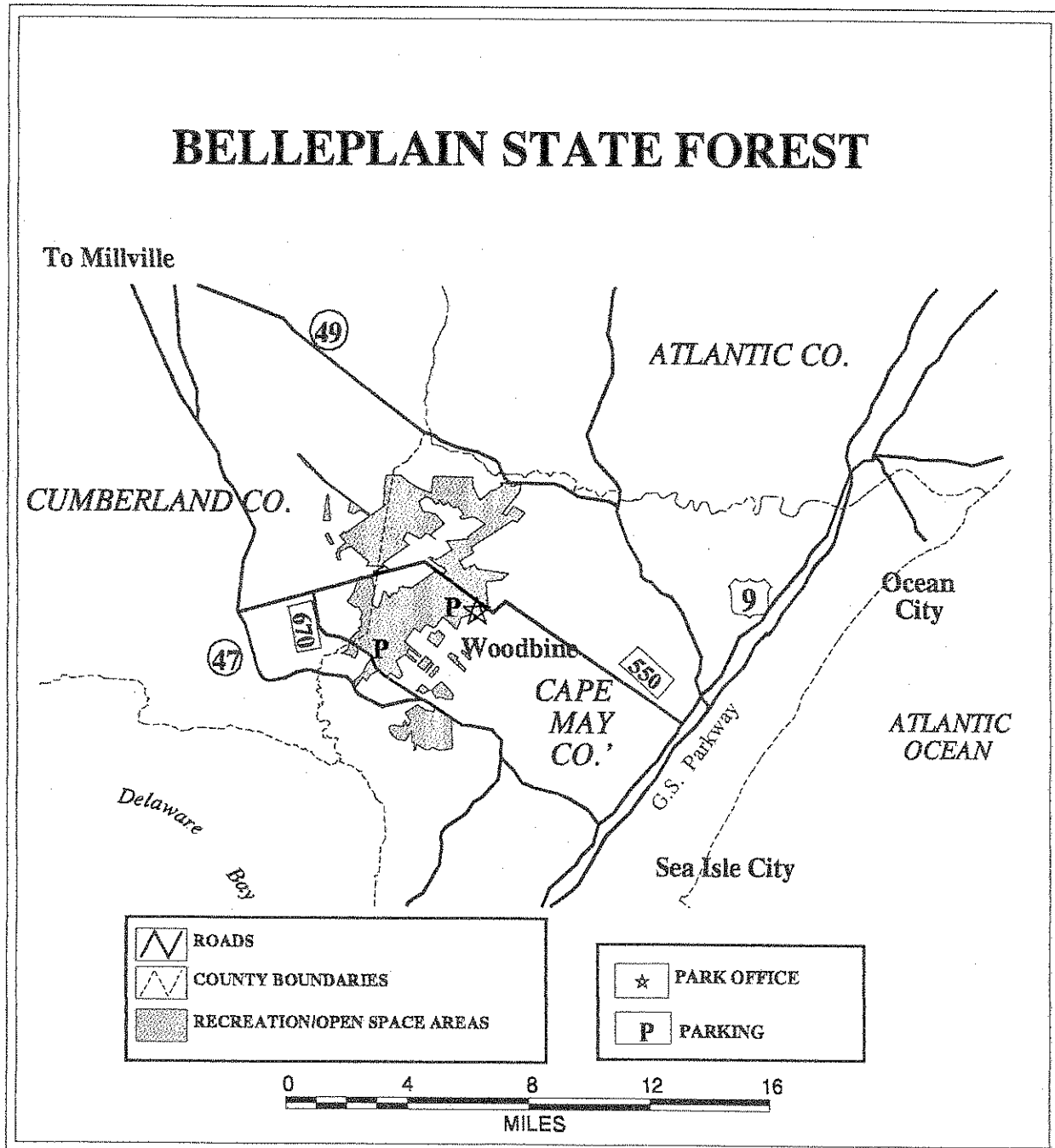
Public Support: There is support by citizens for the trails in Belleplain, based on the volunteer work they perform there. Local scout groups are involved with much of the trail maintenance. In addition, the Tri-County Sportsmen sponsor an annual clean-up along various segments of the trails.

Environmental Impact: Because the trail network uses existing routes, no negative environmental impact is expected to occur with its development or upkeep. Sensitive wetland areas have boardwalks, which need only maintenance and occasional replacement.

Trail Needs: Belleplain State Forest has identified the following needs for its trails:

- Trails need better designation and more comprehensive signage.
- The bridge connecting the two nature trails needs replacement.
- Develop and offer an audio tape for the sight impaired for use on the nature trails.
- Further develop the forest's northern section by converting Old Cape Road into a 4-5 mile historic trail. The Old Cape Road was first a trail used by Leni Lenape Indians and then

- became one of the first stagecoach routes into Cape May County.
- Develop a parking area for equestrian use including pull-through horse trailer parking, hitching rails and mounting blocks.
 - The East Creek Trail is in need of 6-8 boardwalk replacements.
 - Acquisition of abandoned Pennsylvania-Reading Seashore Lines railroad corridor east and south of Belleplain to connect with other public lands.



CATTUS ISLAND PARK TRAIL SYSTEM

Ocean County Department of Parks and Recreation

Cattus Island Park is a peninsula extending out into the bay waters of central Ocean County, north of Toms River. Cattus Island has historic uses that included farming, raising livestock and cutting salt hay. In 1895, the land was bought by John V. A. Cattus, a New York importer who used the island and its buildings for weekend vacations. The park's trail system is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: The Cattus Island trails offer a variety of environments including pine-oak forest, Atlantic white cedar swamps, extensive salt marsh, freshwater bogs, maple gum swamps, holly forest, successional fields, and bay beaches. Salt marshes and wetlands make up 70% of the Cattus tract and host various salt-tolerant plants such as bulrush, salt hay, chairmaker's rush, cord-grass, common reed and marsh mallow. Other native plants of the nearly 300 species in the park include swamp azalea, false heather, sundew, lady slipper, turkey beard, sand myrtle and pyxie. These ecosystems provide ample food and shelter for birds, mammals, fish and a number of smaller creatures that are part of the tidal salt marsh system. The trails and unpaved fire roads throughout the area allow the visitor to experience the variety of ecosystems and afford excellent views over vast marshes, across inlets and out over the bay.

Accessibility: Access and parking for the trails at Cattus Island begin at the Cooper Environmental Center within Cattus Island Park, located off Fischer Boulevard in Dover Township.

Length: There are approximately six miles of marked foot trails and four miles of dirt fire roads used as non-motorized trails within the park. One mile of the marked trails is wheelchair accessible.

Multiple Use: Allowable uses on the fire roads (which act as trails, only wider) include hiking, bicycling and cross-country skiing. The six miles of narrow (maximum four feet wide) trails are restricted to hiking. Other facilities at Cattus Island

include the Cooper Environmental Center which houses displays, exhibits and a library. All of the interpretive and environmental education programs emanate from the Cooper Center. There is also a public and group picnic area with a playground at the park.

Development and Maintenance Costs: Trail development might include a connecting trail through vacant, mostly forested land from Cattus Island Park to Shelter Cove Park (owned by Dover Township), which is just less than one mile south of Cattus Island along Barnegat Bay. Trail maintenance costs are kept to a minimum through the use of Community Service Workers and volunteers.

Public Support: The Ocean County Department of Parks and Recreation will have to give its support for the possible designation of the Cattus Island Trail System prior to it being incorporated into the State Trails System. The Cattus Island County Park Advisory Council will also have input into the county's decision. Other working support for Cattus Island comes from the Cooper Center volunteers and the Junior Naturalists.

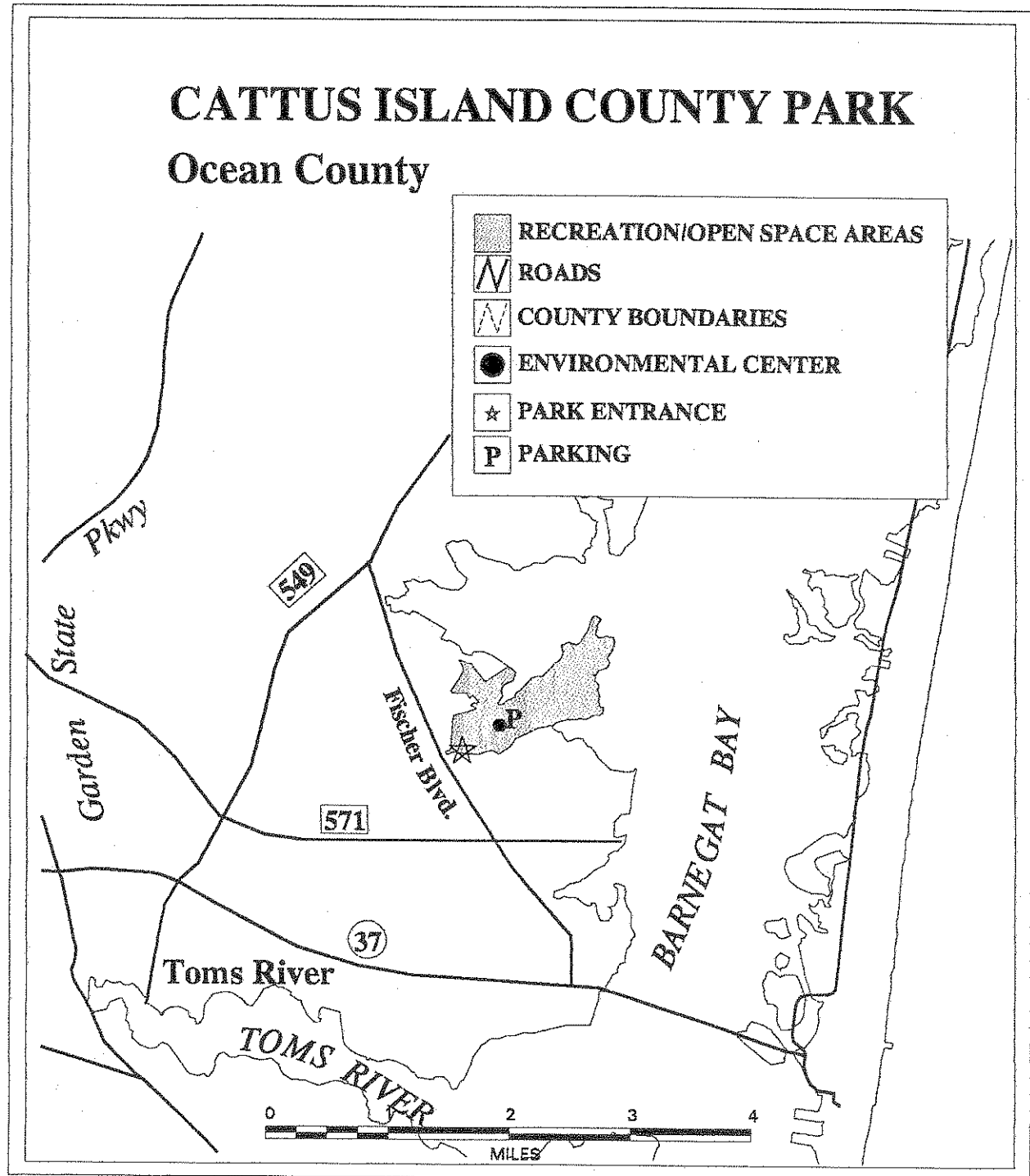
Environmental Impact: Impact on the existing trail system should be minimal because the area is generally flat without much erosion. However, if a connector trail to Shelter Cove is constructed, parts of the trail would have to cross wetlands with boardwalks and/or footbridges being necessary.

Trail Needs: According to Cattus Island Park staff, the following tasks will help improve the trail system at the park:

- Clearing the trails from encroaching vegetation.
- Preparation and printing of new trail guides.
- Removing organic matter, such as wood chips, grass, etc., from the trail surfaces in an attempt to "tick proof" the trails.

CATTUS ISLAND COUNTY PARK

Ocean County



COOPER RIVER PARK

Camden County Park System

Cooper River Park is a greenway park and one of the few large park and trail systems within New Jersey's Inner Coastal Plain. It extends from Pennsauken in the west to Haddonfield in the east, following the course of the Cooper River, a tributary of the Delaware River. It is eligible for the State Trails System based on the following:

Scenic Quality: Cooper River Park encompasses an area of rolling countryside, with woods and fields. Native forests of mixed oak are interspersed with fields and lawns along the river. An asphalt path follows the course of the river either next to the river or on the edge of the park next to North Park Drive, Park Boulevard, and South Park Drive. The park is an oasis of natural beauty in an environment consisting of light industry, suburban and commercial development, and highways. Over the last few years, pollution control efforts in the Cooper River have led to better water quality and increasing numbers of fish and waterfowl using the river as habitat. Sailing and rowing events also take place in the Cooper River.

Accessibility: Parking areas are available off of North Park Drive and South Park Drive. Also, other roads cross the park and trail, providing access to the park for nearby communities.

Length: The path is approximately nine miles in length, making it available for short or half day trips.

Multiple Use: With an asphalt surface, the trail is available for hiking, biking, and cross-country skiing. About seven miles are wheelchair accessible. Also within the park are facilities for picnicking, ballfields, and playgrounds.

Development and Maintenance Costs: The existing trail facility does not require additional expense in order to designate it to the State Trail System. However, maintenance projects needed within the park are discussed below.

Public Support: The Camden County Park System should endorse designation to the State Trails System.

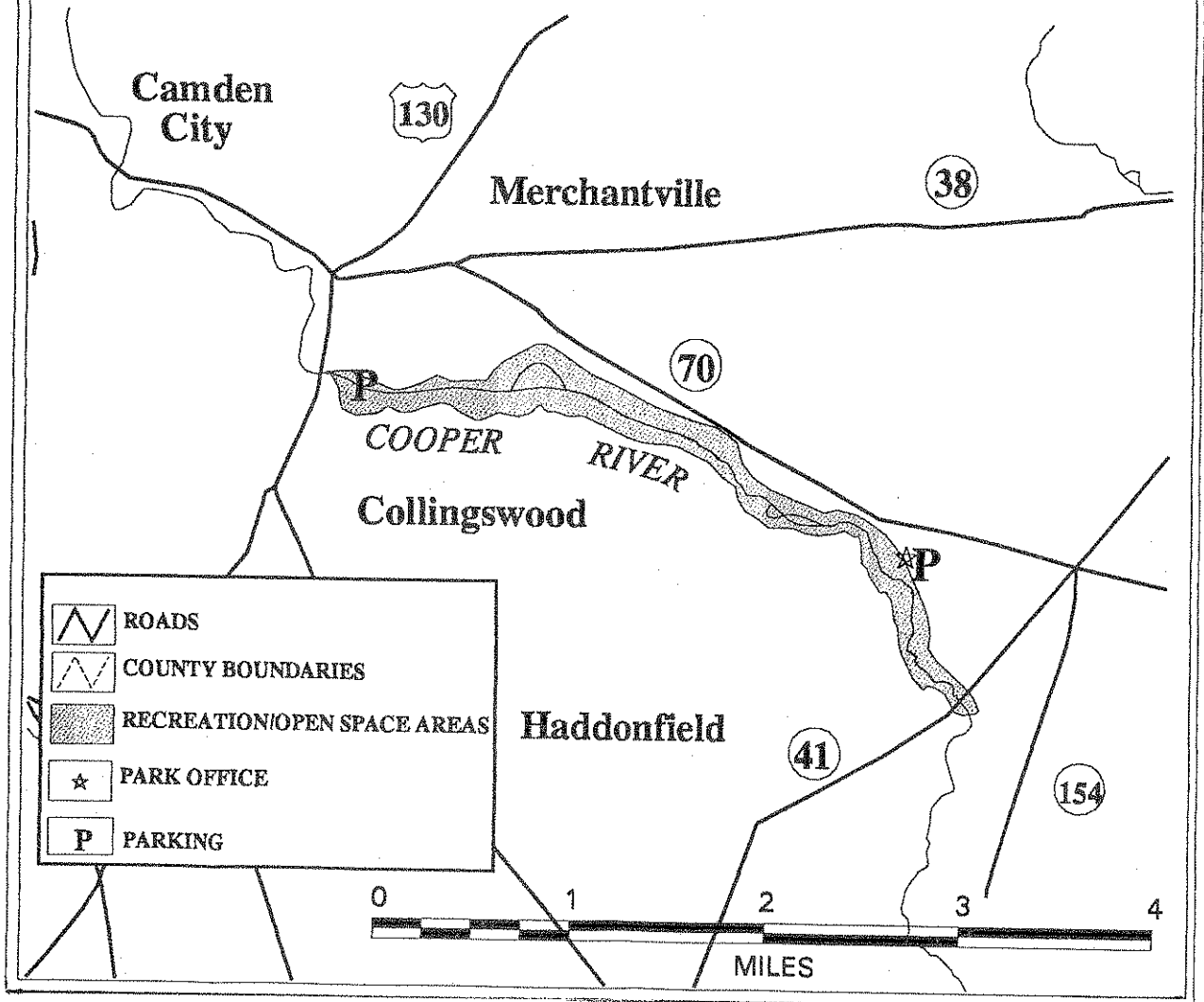
Environmental Impact: Because the trail network is already established, no negative impact is expected to occur with trail development. As indicated below, efforts are being made to control erosion in hillier parts of the park.

Trail Needs: Several projects have been planned by the Camden County Park System:

- Better signage is needed in some areas for indicating trail path or warnings.
- Erosion control is needed in those areas of the park sloping down to the path. The county is experimenting with different erosion control measures along South Park Drive, including vegetative cover, rip-rapping, and sheeting.
- The county owns other parkland west of Route 130, where Cooper River Park currently ends, and long range plans are underway to extend the park to Wiggins Waterfront Park along the Delaware River. The county is working cooperatively with landowners, conservation organizations and private industry to extend the park that would link existing public open space. Bringing Cooper River Park to the Delaware River would extend the park for about another five miles, providing a trail link between the City of Camden and the rest of the county.
- A particularly dangerous part of the trail system is the part that passes under the Penn-Central bridge between Cuthbert Boulevard and Grove Street. Although the trail itself is not narrow, it winds around a sharp curve, the edge of which forms an embankment down to the river, and a mirror has been placed there so that park visitors may see bicycle or foot traffic coming the other way. The county has plans to widen the pathway and is seeking the appropriate permits to do so from the DEP.

COOPER RIVER COUNTY PARK

Camden County



DELAWARE AND RARITAN CANAL STATE PARK A DESIGNATED NATIONAL RECREATION TRAIL

Department of Environmental Protection

Delaware and Raritan Canal State Park, also called "D and R" Canal State Park, is located within four central New Jersey counties - Hunterdon, Mercer, Somerset, and Middlesex. It forms a "Y" with one section extending along the Delaware River from Milford southeast to Trenton; another section from Trenton northeast to New Brunswick, adjacent to first the Millstone River and then the Raritan River; and the final lower portion extending south from Trenton to Bordentown, along the Delaware River. A major portion of the park follows a part of the right-of-way of the Pennsylvania Railroad's Belvidere-Delaware Line, running along the Delaware River from Frenchtown, in Hunterdon County, to Trenton.

Scenic Quality: The park serves as a link between rolling countryside of the Piedmont and Inner Coastal Plain Provinces and urban areas. The western section along the Delaware River begins in the rural areas of Hunterdon County with farms that have been in operation for over 200 years. The feeder canal and Bel-Del line pass through historic towns of Frenchtown, Stockton, Lambertville, and Titusville. The main canal section passes through industrialized sections of Trenton, and continues into suburban sections of Lawrence and Princeton Townships, to enter a pastoral environment as it parallels the Millstone River. Towns along the route include Kingston, Rocky Hill, East Millstone, South Bound Brook and finally, New Brunswick.

Accessibility: Because the park is a narrow long strip, there are numerous access points and parking areas available throughout its length. Several access points are located off of Route 29 and River Road. Along the feeder canal section, parking lots provide access to the park as well as boat access to the Delaware River.

Length: The entire length of the park is about 70 miles. However, 60 miles are available for trail use. With almost 60 miles and numerous access

points, there is enough length for both short and long trail trips.

Multiple Use: The main canal towpath of crushed stone or dirt is available for hiking, bicycling, and about 25 miles for horseback riding. The feeder canal of crushed stone and the Bel-Del line with a surface of cinders, are available for hiking and biking. The canal itself is used throughout its length for canoeing and boating. Cross-country skiing is allowable when the path is snow-covered.

Development and Maintenance Costs: The park is maintained by the State Park Service, under the New Jersey Division of Parks and Forestry. For the purpose of designation as a trail to the State Trails System, little additional work is needed. Specific project needs are addressed in **Trail Needs**.

Public Support: There are several citizens groups that have some interest in the park itself or a portion of it. Also, the Delaware and Raritan Canal Commission regulates land use in the surrounding area for impacts on the canal and its adjacent lands. They would be requested to support designation to the Trails System.

Environmental Impact: Designation of the existing trail will not alter the environmental resources of the trail and its adjacent land corridor. Because the canal is used for water supply, every effort has been made to maintain potable water supply of the river. The path passes near Bulls Island and Washington Crossing natural areas. However, neither of these areas will be affected by designation of the trail to the State Trails System.

Trail Needs: There are numerous projects to maintain and restore the trail and its resources:

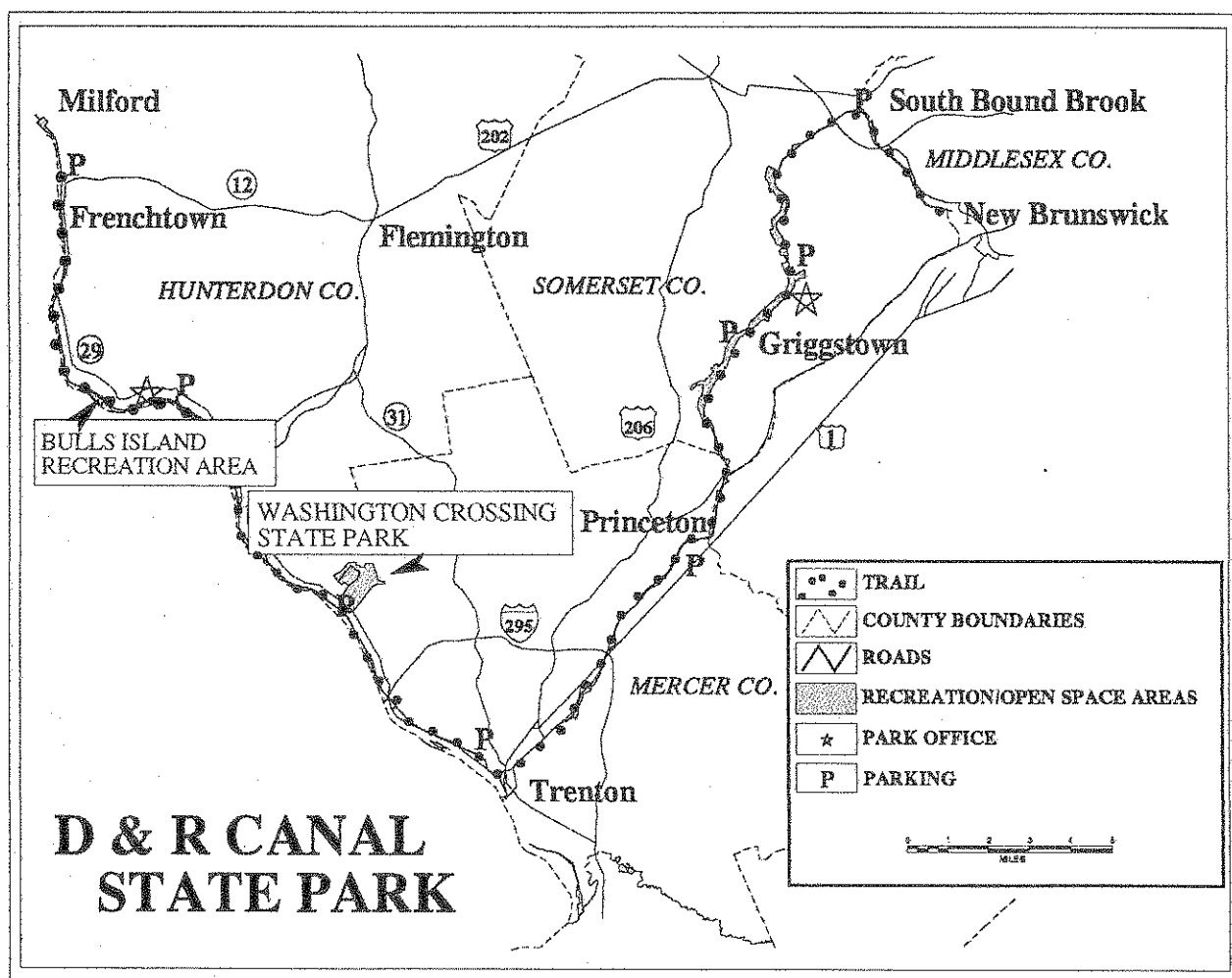
- In order to maintain continuity, a crossing over Route One is needed for bicycle and hiking. The canal itself passes underneath the road, and is barely passable by canoe. Also, there is

a missing section of the canal within Trenton. The original right-of-way was taken by Route One, and property needs to be acquired for the route to maintain continuity from Old Rose Street to Mulberry Street. This would connect the feeder canal part of the park with the main canal section.

- The southerly two mile stretch of the canal park from Trenton to Bordentown has been neglected over the years. Major restoration of this section includes cleaning out the canal and removal of illegal trash within the canal itself and the adjacent land, rewatering of the canal, and rebuilding the towpath.

- In 1994, Delaware and Raritan Canal State Park assumed management of the 3,000 acre Six Mile Run property, adjacent to the park in Somerset County. Consisting of forests, wetlands, and leased agricultural fields, it has the opportunity to provide many additional miles of trails, and a trail plan and management strategy must be developed for the site.

Other: In May, 1992, a 60 mile section of Delaware and Raritan Canal State Park, including the canal, towpath and Bel-Del right-of-way, was designated a National Recreation Trail.



LENAPE TRAIL

Essex County Department of Parks, Recreation and Cultural Affairs

The Lenape Trail is located in Essex County, linking seventeen communities from Roseland to downtown Newark, with several extensions off the main trail. The existing portions of the Lenape Trail are eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: The existing portions of the Lenape Trail link county and municipal parks, historic landmarks and districts, schools and other points of interest throughout Essex County. From the more manicured, urban Branch Brook and Belleville parks, through residential and commercial areas, to the suburban, heavily wooded park areas of South Mountain and Mills Reservations, the trail offers a variety of landscapes. In the west, the trail begins in West Essex County Park, at the Center for Environmental Studies, where it connects with Morris County's Patriots' Path. The route then branches out in several directions using county and municipal parks, abandoned railroad and utility rights-of-way, the Newark Aqueduct, and streets and sidewalks of Newark and suburban areas. The completed portions of the trail traverse nine additional county parks including South Mountain Reservation in West Orange, South Orange and Millburn, Branch Brook Park in Newark, Mills Reservation in Cedar Grove, Becker Park in Roseland, and Brookdale Park in Montclair and Bloomfield. From Cedar Grove on the Passaic County line south to Caldwell, a six-mile biking/hiking trail extension, the West Essex Greenway, is partially completed. This was an abandoned right-of-way, formerly the Caldwell Branch of the Erie-Lackawanna Railway. Municipal parks along the route include Clarks Pond Park, Yanticaw Brook Park, Mountainside Park, O'Connor Park and Military Park in Newark. It also passes Newark's James Street Historic Area. Some other places of interest are Applegate Farm in Montclair, Peckman River Gorge in Cedar Grove, Riker Hill Geology Museum in Roseland and Turtle Back Zoo in South Mountain Reservation.

Accessibility: The trail can be accessed at many locations where it intersects roads and streets. Access and parking are available at many of the local and county park areas the route traverses.

Length: There are approximately 20 miles of existing trail with another 15 miles proposed. The trail's longest continuous stretch is approximately 12 miles from Military Park in Newark to Mills Reservation in Cedar Grove. Another continuous section of trail is six miles of the Lenape Trail through South Mountain Reservation.

Multiple Use: Hiking and pleasure walking are allowed on all 20 miles of trail. Of the existing mileage, 11 miles can be used for cross-country skiing, nine miles for horseback riding and seven miles are suitable for bicycles. There are many other recreational activities at the various parks linked by the Lenape Trail. Mountain bike use may be restricted in some parks and parts of the trail.

Development and Maintenance Costs: Maintenance costs involve those normally associated with regular trail upkeep. Where the trail crosses county or local parks, the trail often uses pathways maintained by that public agency as part of their regular park maintenance.

Public Support: The Sierra Club has taken the most active role in the planning, routing, and maintenance of the Lenape Trail. The Essex County Department of Parks, Recreation and Cultural Affairs must be actively involved in securing easements and/or licenses along sections of the trail in need of continuity. The department must also support designation of the Lenape Trail to the State Trails System.

Environmental Impact: The established portions of the trail should have little impact on existing plant, animal, historic or cultural resources. However, sections of proposed trail that will be developed

should be carefully routed with regard to endangered species habitat, erosion control, etc.

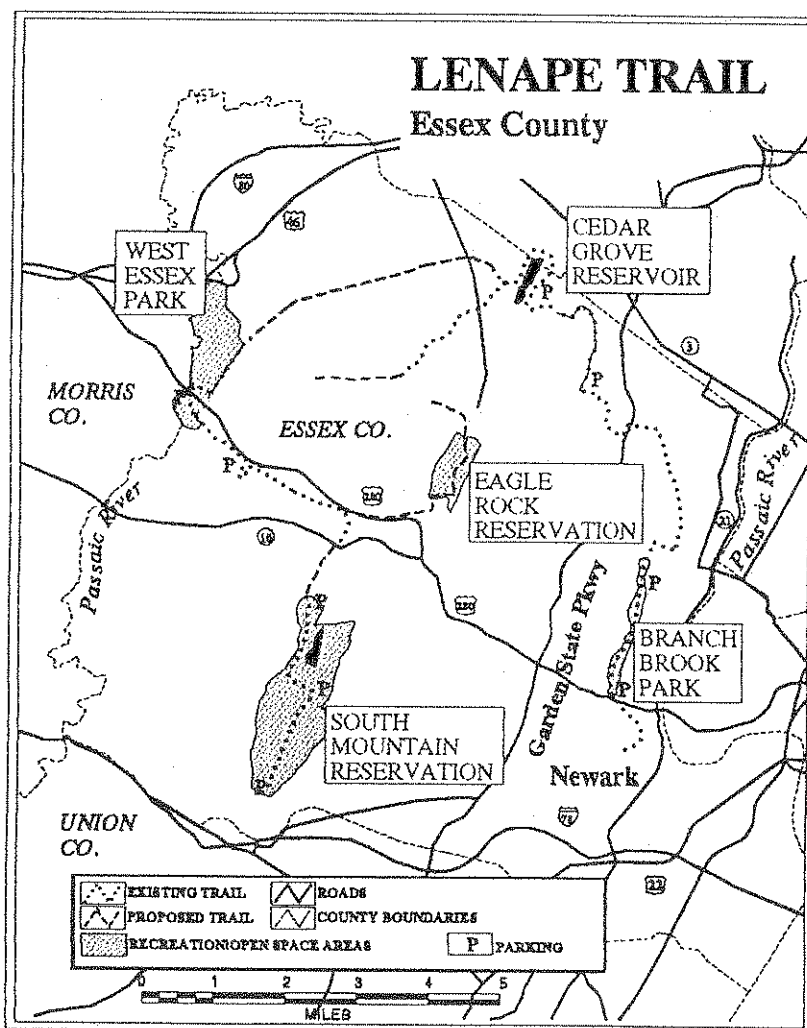
Trail Needs: Gaining increased trail continuity is the most important need for the Lenape Trail, which can be achieved by the following:

- Although a pedestrian underpass was provided with construction of I-280, access is interrupted by relocated Foulerton Brook, where a bridge is needed. Also, along the north side of the right-of-way, the trail needs better delineation, and broken fence posts must be replaced.
- A license or easement is needed from PSE&G to re-route the trail along their right-of-way in a section of Belleville and Nutley. This would decrease the number of street crossings.

- A license or easement along the PSE&G right-of-way between Route 23 in Cedar Grove and Passaic Avenue in West Caldwell is needed. An alternate route may be possible if portions of the Caldwell Branch rail line can be acquired through Caldwell.

Other trail needs include:

- Signs at trailheads, parking areas and sections of directional changes where the trail may be difficult to follow. Bulletin boards with trail maps are needed at trailheads and other key locations along the route.
- Creation of bike lanes could also be considered where the trail is on local streets.



LONG PATH
A DESIGNATED NATIONAL RECREATION TRAIL
Palisades Interstate Park - New Jersey

The Long Path is located on the top of the Palisades along the west shore of the Hudson River, extending from Fort Lee near the George Washington Bridge, north to the New York State line. The trail is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: The Palisades was designated a National Natural Landmark by the U.S. Department of the Interior in 1983 because it represents "the best example of a thick diabase sill in the United States." The cliffs here form an extremely steep escarpment, rising 500 feet straight up from the shore of the Hudson River. The Long Path follows the level cliff top of the Palisades through mostly a mixed oak forest, where five different species of oak (red, white, black, scarlet, and chestnut) dominate the forest canopy. Several locations along the trail afford the hiker tremendous views of the river and New York. Among these viewpoints include Rockefeller Lookout, Clinton Point, Alpine Lookout, Ruckman's Point, and State Line Lookout. Another interesting spot along the trail is a stone lookout memorial of the New Jersey Federation of Women's Clubs, erected in 1919 in memory of the clubs' work in preserving the Palisades. The many vistas are also excellent for watching thousands of migrating hawks each fall. The Long Path traverses many of the large estates that were destroyed during construction of the Palisades Interstate Parkway. A variety of vegetation and historic ruins can be found on these former estates.

Accessibility: Access and parking for the Long Path include year-round parking at Fort Lee Historic Park, Allison Park, Englewood-Bloomers Area, and Alpine Area. There is also seasonal parking at Ross Dock Area, and one hour parking at State Line Lookout. These parking areas can be reached from the Palisades Interstate Parkway, except for Fort Lee Historic Park, which can be reached from River Road in Fort Lee.

Length: The Long Path extends for 11 miles from Fort Lee to the New York State line. The trail however, continues along the New York Palisades for 34 miles, before veering off towards other New York State Parks and open spaces. Running parallel to the Long Path is the Shore Trail, which traverses 11 miles along the shoreline of the Hudson River. Six sets of stone stairs connect the cliffs with the River and make for circular hiking routes.

Multiple Use: Hiking and nature observation are the only allowable uses on the Long Path. This is appropriate given the trail's large amount of foot traffic and the narrow nature of the trail. Other recreational activities at Palisades Interstate Park include picnicking, boating with the use of two marinas, bicycling on designated paved surfaces, fishing, and cross-country skiing on separate trails at the northern end of the park.

Development and Maintenance Costs: The Long Path is a well established dirt path and should require little capital development. Maintenance costs should involve the routine costs associated with regular trail upkeep. The trail is currently being maintained primarily by volunteers.

Public Support: The Palisades Interstate Park Commission will have to give their support for the possible designation of the Long Path prior to its being incorporated into the State Trails System. The Long Path was named a National Recreation Trail in 1971.

Environmental Impact: The established Long Path should have little impact on existing plant, animal, historic, or cultural resources. However, the increasing illegal use of mountain bicycles could impact the trail by increasing erosion, trampling vegetation, and conflicts with other trail users.

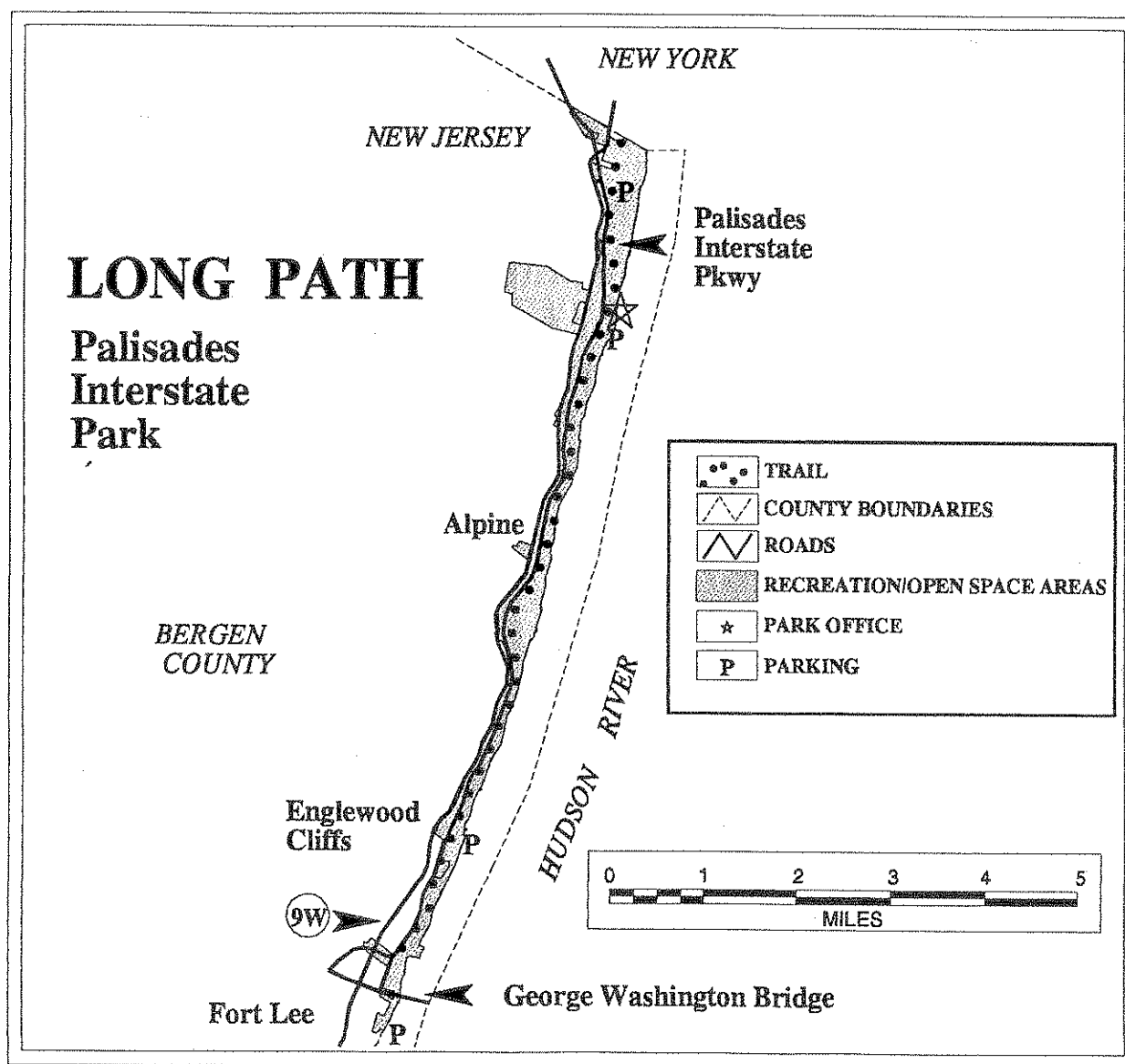
Trail Needs: According to the Palisades Interstate Park Commission, the local youth work programs

have ceased and increased staff time and volunteer help will be necessary to maintain the trail with the following tasks:

- Clearing the trail from encroaching vegetation and clearing scenic trail vistas.
- Repairing treadway damage along the trail.
- Repairing stone stairs that connect the Long Path with the Shore Trail.

- Alternatives should be explored for resolving conflicts with mountain bicyclists.

Other: The Palisades Interstate Parkway parallels the Long Path, very closely in the southern part of the park, causing traffic noise to hikers. North of Park Headquarters, the trail gradually veers away from the Parkway, thereby diminishing vehicle noise.



MORRIS AREA TRAIL SYSTEM

Morris County Park System and National Park Service

This trail system encompasses a network of trails crossing several jurisdictional and county boundaries, including Lewis Morris Park and the Jockey Hollow Section of Morristown National Historic Park (NHP) in Morris County, and the New Jersey Brigade Section of Morristown NHP in Bernardsville, Somerset County. The Patriots' Path, located in Morris County, is considered separately in this plan. The trail network is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: The system of trails traversing this area a few miles southwest of Morristown leads trail users through a variety of natural features, including rugged hills, forest, fields, ponds, lakes, numerous streams and the upper reaches of the Passaic River, scenic vistas, as well as an area rich in historical interpretation. In much of the area, the mature mixed hardwood forest provides a dense canopy with huge tulip and oak trees. This trail area lies in the lower part of the Highlands physiographic region. A branch of The Patriots' Path links Morris County's Lewis Morris Park, Jockey Hollow, Morris Area Girl Scout Council property (there is an easement for Patriots' Path), to its terminus on Hardscrabble Road in the New Jersey Brigade Section of Morristown NHP. In Lewis Morris Park, the Patriots' Path meets the main artery of the Path as it follows the Whippany River through Morris County. There are also several trails besides Patriots' Path that connect Lewis Morris Park with Jockey Hollow. This interconnected system of trails allows the visitor to experience the many recreational opportunities the area offers.

Accessibility: Access and parking are available at several parking lots and trailheads within Lewis Morris Park, Jockey Hollow, and the New Jersey Brigade Area.

Length: There are over 26 miles of trails on some 2,900 acres within this area network of trails; this

is in addition to Patriots' Path. The trail mileage includes the 5.3-mile Grand Loop Trail in Jockey Hollow, 8 miles at Lewis Morris Park, and 13 miles of trail at Morristown National Historic Park.

Multiple Use: Hiking is allowed on all the trails in this area. Of the approximately 26 miles of trail, 22 miles can be used for cross-country skiing, and horseback riding is allowed on 12 miles of trail. Other recreational activities include: picnicking, group camping, swimming at Sunrise Lake, fishing, softball and sledding at Lewis Morris Park; historical and nature interpretation at Morristown NHP.

Development and Maintenance Costs: Maintenance costs are generally incurred for regular trail upkeep. Currently, there is a lack of funding for personnel to properly maintain the trails at Morristown NHP. However, the trails are well established and marked, and should require little or no capital development or major reconstruction. At Lewis Morris Park, there may be some costs associated with signage and/or blazes, which is necessary on many of the trails.

Public Support: The National Park Service and the Morris County Parks Commission must give their support for the possible designation of the Morris Area Trail System prior to its being incorporated into the State Trails System.

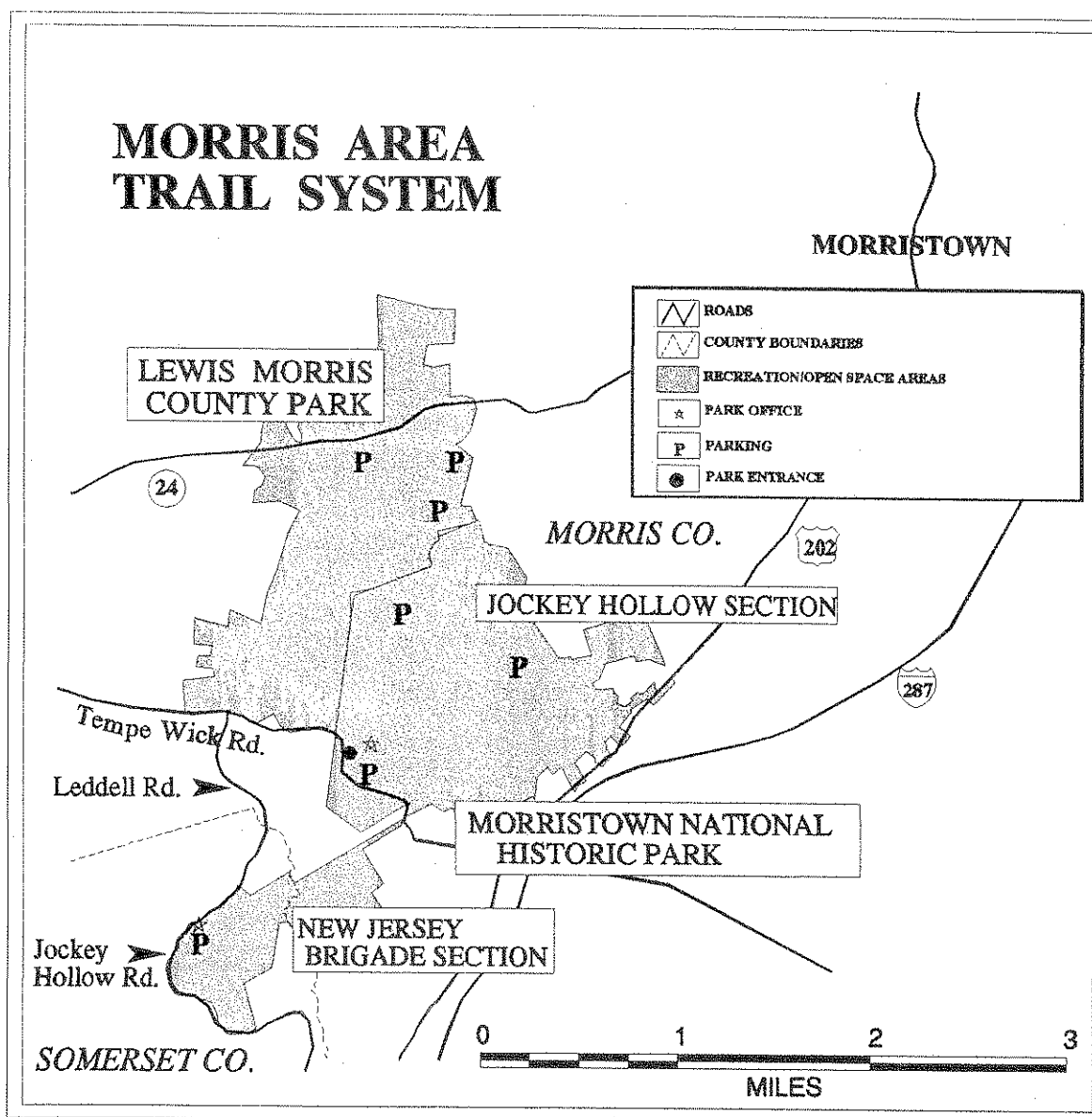
Environmental Impact: The established trail system throughout this area should have little impact on existing plant, animal, historic or cultural resources.

Trail Needs: In order to improve this area's trail network, the following tasks need to be considered:

- In Lewis Morris Park, trail signs and blazes are needed on most trails except Patriots' Path.
- A 3-person crew devoted to trail maintenance is needed at Morristown NHP.

- Consideration should be given to pursuing an easement on trails at New Jersey Audubon's Scherman-Hoffman Sanctuaries (a private non-profit organization that allows public use on this land) that adjoins the New Jersey Brigade Section of Morristown NHP, and has a trail connecting with the Patriots' Path.

Other: This area is rich in history, with Morristown NHP being the site of the Continental Army encampments at Jockey Hollow and the New Jersey Brigade Areas, during the winter of 1779-1780. The historical signs, plaques, reconstructed soldiers' huts and the visitor center provide the trail user with opportunities to appreciate the natural beauty of the area and our nation's history.



PARVIN STATE PARK TRAIL SYSTEM

Department of Environmental Protection

This park is one of the few state landholdings in southern New Jersey not within the Pine Barrens. Parvin State Park, once the site of a grist and sawmill owned by the Parvin Family, lies within the Outer Coastal Plain Province in Salem County. The park trail system qualifies for designation to the State Trails System for the following:

Scenic Quality: Oak forests and lakes dominate the predominantly flat landscape of Parvin State Park. Various trails loop around Parvin Lake, Thundergust Lake, and the borders of the park. Parvin Lake was built from damming Muddy Run, a tributary of the Maurice River, to support the nineteenth century mills. Holly and laurel dominate the understory of the oak forests, and holly sometimes forms a canopy over the trails. Approximately 400 acres of the park is a State Natural Area, designated for its oak-pine forest and swamp hardwood forest communities. Trails are dirt and gravel-based, except the Forest Loop Road, which is asphalt. In general, trails are dry year-round, except for the nature trail and the Long Trail running near Muddy Run. The park also retains a rustic air, as many of the structures were built during the 1930s by the Civilian Conservation Corps (CCC). The cabins built by the CCC are also popular with the public for overnight stays.

Accessibility: Entry is available at the main entrance to the park on Almond Road (County Route 540), and at the entrance to the campground, on Parvin Mill Road.

Length: Trails vary in length from three miles to less than 1/2 mile. They total 16 miles, making for a full day of hiking, if desired.

Multiple Use: The park trail system is available for hiking, horseback riding, and mountain biking; on the paved Forest Loop Road, bicycling, and wheelchairs are allowed. Boating/canoeing is possible on Parvin Lake and Muddy Run.

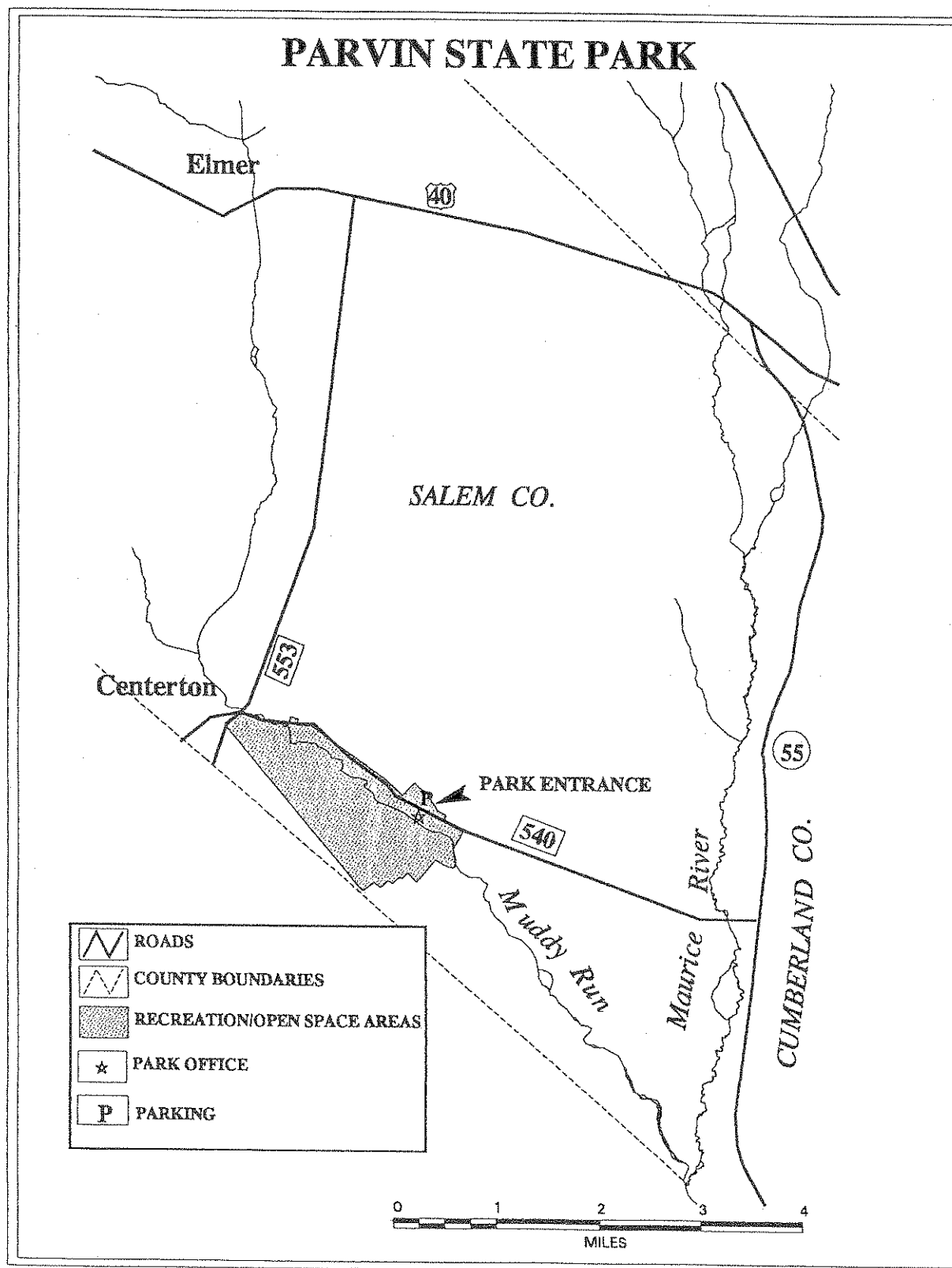
Development and Maintenance Costs: The trail system is currently maintained by park maintenance staff. Because the trails are already in existence and maintained, there is little or no need for additional development expenses.

Public Support: The Parvin Appreciation Committee prepared a trail map of the park, installed trail markers, and in general organizes various projects for maintenance and seasonal activities. They will be requested to support designation of the park to the State Trails System.

Environmental Impact: Because of the overall flatness of the area, there is little or no erosion from the trails. Present trail use has not deteriorated trail conditions.

Trail Needs: The following tasks should be considered to improve the park's trail system:

- Additional signs are needed to specify foot trails and multi-use trails.
- Because of the general flatness of the terrain and availability of an on-site gravel pit to supply trail bedding, some of the trails intersecting the Forest Loop Road can be made accessible for the disabled. For example, parking and bathroom facilities could be installed off of the Almond Road entrance at the area called Second Landing. Additional parking facilities and an accessible trail bordering Thundergust Lake could also be developed.
- Ongoing maintenance of the trails could be supplemented by a volunteer effort on the part of the Parvin Appreciation Committee.
- If the abandoned Bridgeton Secondary Line, only one mile west of the park, is ever developed for a trail, a connector to that line should be considered.



PATRIOTS' PATH ***A DESIGNATED NATIONAL RECREATION TRAIL***

***Morris County Park System and
National Park Service***

Patriots' Path is located almost entirely within municipalities in Morris County, and a small section within Bernardsville, Somerset County. The trail is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: This linear park encounters many different environments as it runs along old railroad beds, past lakes, across fields, through forests and residential areas, and alongside the Whippany River. Although there are many more miles of trail proposed, there is enough existing mileage to benefit large numbers of recreational users. Upon completion, the trail will link existing local, county, state and national parks and historic sites, as well as several schools, community pools and playgrounds. The existing trail already traverses Lurker and Central Parks, Frelinghuysen Arboretum, historic Speedwell Village, Lewis Morris County Park, Jockey Hollow Area and the New Jersey Brigade Hut Sites of Morristown National Historic Park, and India Brook and Ralston Corners Parks. On the eastern end of Patriots' Path, there is a connection with the Lenape Trail in Essex County. In 1980, the United States Department of the Interior designated completed sections of the path as a National Recreation Trail.

Accessibility: Entry points to Patriots' Path include various locations where the trail intersects the many roads it crosses. Access and parking are available at most of the local, county, and national park areas the path traverses.

Length: There are approximately 20 miles of existing trail with another 54 miles proposed. The proposed trail mileage would have the path going through portions of Black River Wildlife Management Area, Mount Paul Memorial Park, Dismal Harmony Brooks Natural Area, Troy Meadows, Hacklebarney State Park, and the Columbia Recreational Trail. An additional 12-30 miles of trail will be available in the planned West

Morris Greenway, which will include portions of the Columbia Trail, Patriots' Path, and abandoned or lightly-used rail lines, leading northward to upper Rockaway Township and connection to the Pequannock Watershed property. The trail's longest continuous stretch is approximately ten miles from Speedwell Village to Ralston Corners Park, with another five miles running into Lewis Morris County Park and the Jockey Hollow Section of Morristown National Historic Park.

Multiple Use: The existing 20 miles allows hiking and cross-country skiing on all 20 miles. Of that, 15 miles can be used for mountain bikes, 10 miles for horseback, and the two miles of paved surface can be utilized by bicycles and the wheelchair disabled. The proposed mileage will also have multiple uses with 30 miles available for mountain bikes, 20 miles for horseback, 20 miles for cross-country skiing, and the entire 54 proposed miles available for hiking.

Development and Maintenance Costs: The majority of development costs are associated with the proposed trail mileage including acquisition, if any, securing easements, and developing the newest portions of the trail as they become part of the Patriots' Path. Maintenance costs involve the costs normally associated with regular trail upkeep. Where the trail crosses public property, the public entity owning that property administers, funds, and maintains that section of trail. However, where Patriots' Path crosses private lands, or a public entity does not want to maintain its section of trail, the Morris County Park Commission enters into an agreement with the landowner to perform ongoing maintenance.

Public Support: With Morris County Park Commission as the lead agency, there has been continued cooperation from local and state governments, as well as the federal government

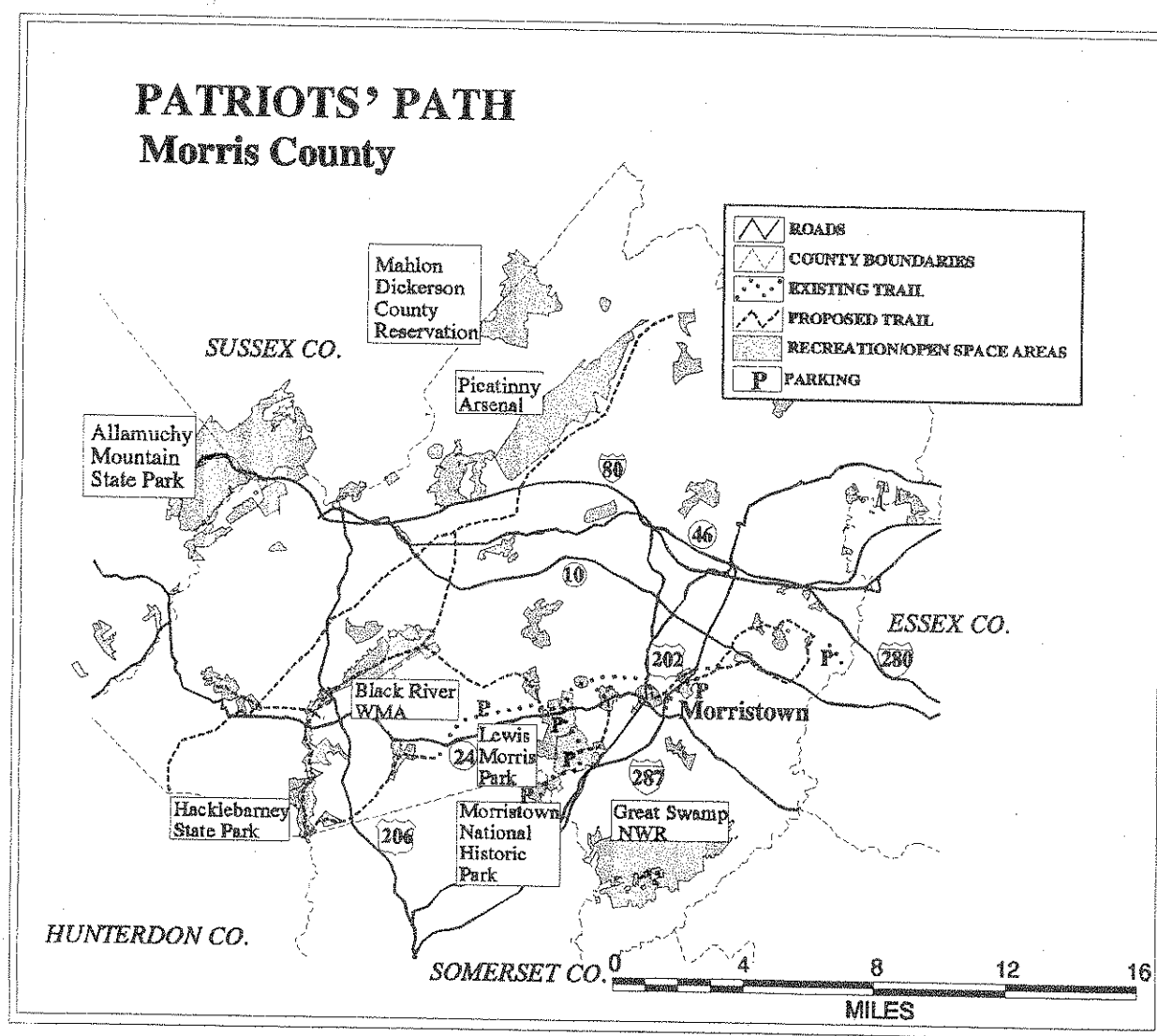
which named Patriots' Path a National Recreation Trail.

Environmental Impact: The established portions of Patriots' Path should have little impact on existing plant, animal, historic or cultural resources. However, sections of the proposed trail that will be developed should be carefully routed with regard to endangered species habitat, erosion control, etc.

Trail Needs: Gaining increased trail continuity is the most important need for the Patriots' Path.

Ways to gain continuity include:

- Entering into agreements or easements with various landowners is the most likely way to achieve continuity.
- The Morris County Park Commission, the lead agency, has approximately 24 specific land acquisitions or easements on which they are currently negotiating.
- A number of footbridges are needed in various places along the trail, including four or five bridges crossing the Whippany River.



PAULINSKILL VALLEY TRAIL KITTATINNY VALLEY STATE PARK

Department of Environmental Protection

The Paulinskill Valley Trail is an abandoned railroad right-of-way of the New York, Susquehanna & Western Railroad and is part of Kittatinny Valley State Park. It passes through Knowlton, Blairstown, Frelinghuysen and Hardwick Townships in Warren County, and the Townships of Fredon, Stillwater, Hampton, Lafayette and Sparta in Sussex County. The trail is eligible for inclusion in the State Trails System as a scenic trail based on the following criteria:

Scenic Quality: The western point of the trail begins in Knowlton, where it follows the shoreline of the Paulins Kill and continues past working farms and lowland deciduous forests. The trail continues under the majestic Hainesburg Viaduct that was once part of the Erie Lackawanna Railroad system. For most of its length, the trail continues through rural landscapes, northern deciduous forests and wetlands. Developed areas along the corridor are only encountered in Blairstown and Route 206 in Hampton. Through Stillwater Township, the trail follows a hillside contour overlooking Paulinskill Lake. As the corridor cuts through bedrock, several small waterfalls cascade on the southern hillside. Light industry is only found at Hyper Humus in Lafayette. One mile after the Route 94 intersection, the trail crosses the Paulins Kill. This is the first of four bridge crossings in a two mile stretch, passing through forests and wetlands along stream corridors. At Warbasse Junction, the Paulinskill Valley Trail intersects the Sussex Branch Trail and then continues to its terminus in Sparta.

Accessibility: The trail crosses U.S. Route 206 and N.J. Route 94, as well as several minor roads. It is within two miles of Newton and within the developed area of Blairstown, major population centers in Sussex and Warren counties. It is adjacent to or near existing public recreational areas at Columbia Lake and Blairstown's Footbridge Park, and intersects the state-owned Sussex Branch Trail.

Length: The trail is approximately 27 miles long from Knowlton to Sparta. In addition, it connects with the 20-mile Sussex Branch Trail allowing for short or long distance trail use.

Multiple Use: With a flat, cinder base, the right-of-way is most suited for a variety of activities such as hiking, horseback riding, cross-country skiing and bicycling. In addition, it can provide access for fishing, canoeing, and individuals in wheelchairs.

Development and Maintenance Costs: With few exceptions, the cinder path is clear and capital construction costs are minimal to make a rewarding trail experience. Capital improvements do include fencing, gates, removal of rubbish, grading near some road intersections, creation of parking areas, decking over existing bridges and posting. Development costs are less for this trail than for creating a new trail, where land would have to be cleared and graded and bridges completely built.

Public Support: Trail and sports groups have been ardent supporters of the trail. Over the past several years, the Paulinskill Valley Trail Committee has been educating the public by leading hikes and sponsoring special events on the trail.

Environmental Impact: Because very little clearing must be performed, and the cinder bedding is firm with little erosion throughout most of the length, detrimental impacts on the environment are averted. Additionally, use of the corridor is restricted to non-motorized activities in order to preserve the character of the trail and its environs. Areas identified by the Natural Heritage Program which support special plant or animal species are not to be developed for trail-related facilities.

Trail Needs: Development needs for the trail include the following:

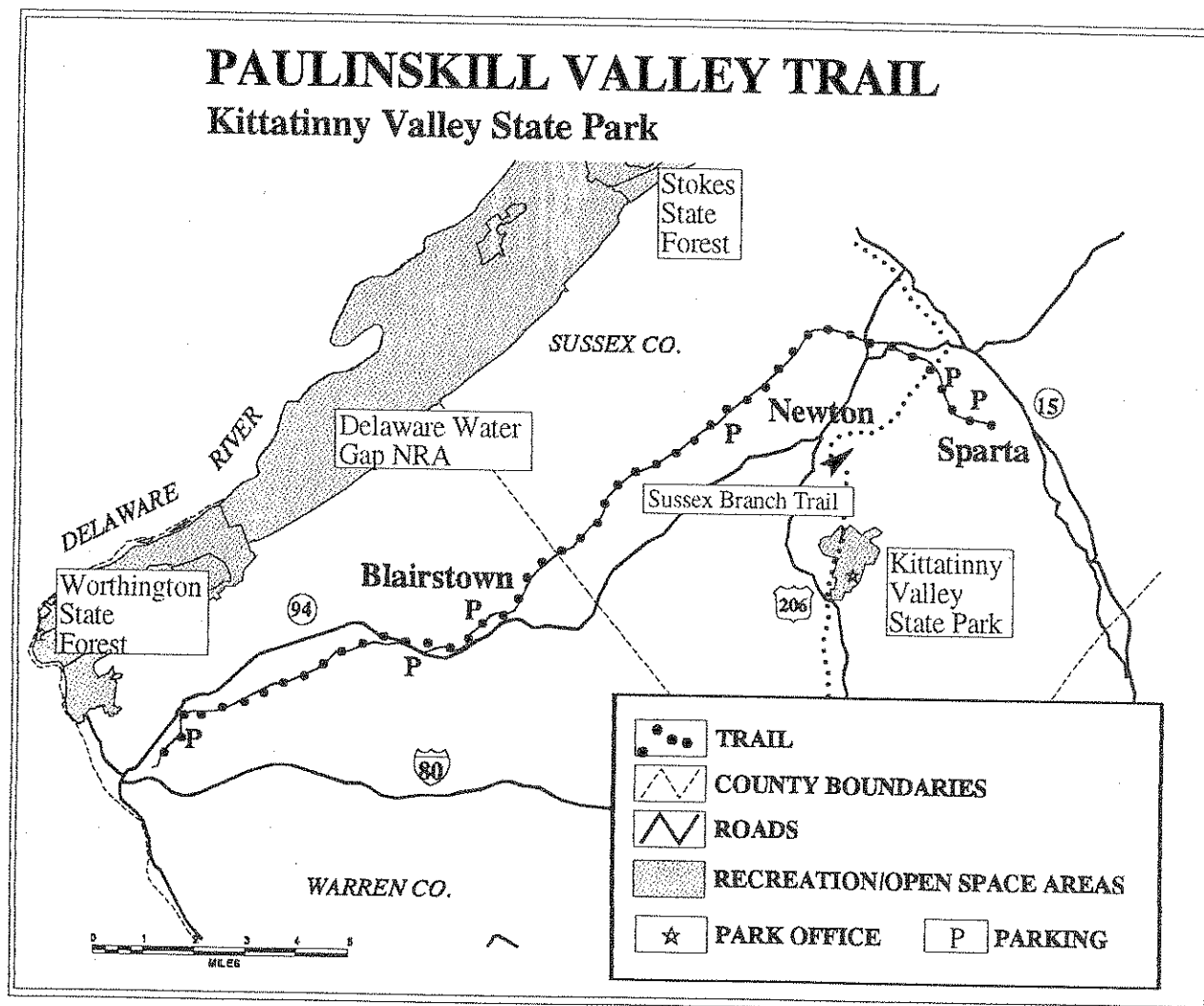
- Establish a public advisory group to work with the State Park Service on management and

maintenance of the right-of-way. The advisory group may include representatives from trail, sports and recreation groups, local and county governments as well as adjacent landowners.

- Complete decking of the bridges along the corridor. Of the ten standing bridges, five have been completed to date.
- Encroachments on the right-of-way must be evaluated separately to determine the appropriate action to be taken with each one.
- Parking facilities will be developed at several locations along the trail. Among the potential areas that will be considered are: Hainesburg Junction at Station Road, Knowlton; Footbridge Park, Blairstown; Spring Valley Road, Marksboro, Hardwick; Warbasse Junction at

Route 633, Lafayette; and Limecrest Road, Lafayette.

- At parking lots, trailheads, and periodic resting spots, mounting blocks and hitching rails should be installed for equestrian users.
- Park signs on allowable uses and prohibited activities must be installed.
- Obstructions and rubbish must also be removed so that trail bed improvements may be made. This is an ongoing task.
- It is recommended that those parcels of open space between the trail and the Paulins Kill be purchased; also parcels to make a connector with Columbia Lake Wildlife Management Area should be purchased, which would continue the trail for another one-half mile.



RAMAPO MOUNTAINS TRAIL SYSTEM

New Jersey Department of Environmental Protection Bergen County Park System

The Ramapo Mountains Trail System encompasses a network of trails crossing state, county, and municipal boundaries in the Highlands Province. These include Ringwood State Park, Bergen County's Ramapo Valley County Reservation, and Ramapo Mountain State Forest. The trail network is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: This extensive trail system traverses the New Jersey Ramapo Mountain Range, from the New York State line in Ringwood Borough, and Mahwah Township southwest to Pompton Lakes. The Ramapo's contain elements of both mixed oak forest on the dry hillsides and ridges, and northern hardwood forest in the valleys and cooler, more shaded slopes. Throughout the area there are numerous ponds, lakes, waterfalls and streams. The extensive amount of protected, contiguous forest in this area is also home to a great diversity of wildlife. Almost 1,500 acres of Ramapo Mountain State Forest is a state-designated natural area, Ramapo Lake Natural Area. The region is interconnected by a vast trail network which affords trail users the opportunity to experience a variety of natural landscapes and scenic vistas. In addition to the abundant natural resources, the Ramapo's have a rich historical heritage that includes the iron industry dating to the Revolutionary War era. One trail, the Cannonball Trail, was once a road used to carry munitions during the American Revolution. Historic sites include Ringwood Manor, former summer home of Ironmaster Abram Hewitt, and Skylands Manor and Botanical Gardens in Ringwood State Park.

Accessibility: Access and parking are available at several parking lots and trailheads within Ringwood State Park, Ramapo Valley County Reservation, and Ramapo Mountain State Forest.

Length: There are over 62 miles of trails on approximately 10,000 acres of land within the Ramapo Mountains Trail System. The trail mileage includes the long-distance Ringwood-Ramapo,

Hoeflerlin Memorial and Cannonball trails that connect Ringwood State Park and Ramapo Mountain State Forest. Ringwood also contains the Cooper Union and Crossover trails, each five miles in length. Ramapo Valley County Reservation has 13.5 miles of marked trails.

Multiple Use: Hiking is allowed on all of the trail mileage in the Ramapo Mountains Trail System. Of the approximately 62 miles of trail, 46 miles can be used for cross-country skiing, and horseback riding is allowed on 27.5 miles of trail. Ringwood State Park has 12 miles of snowmobile trails and 16 miles of mountain bike trails in addition to the above uses. Ramapo Mountain State Forest allows hiking and cross-country skiing on the trail paths, and five miles of woods road-type trails open for mountain biking. Ramapo Valley County Reservation has trail mileage for hiking, cross-country skiing, horseback riding and two miles of trail that have disabled access. Other recreational activities include: swimming, picnicking, boating, fishing, and hunting; fishing at Ramapo Mountain, and fishing and backpack camping in designated areas at Ramapo Valley Reservation.

Development and Maintenance Costs: Trail maintenance at Ringwood and Ramapo Mountain State Forest is performed by volunteers of the New York-New Jersey Trail Conference. They also maintain the trails at Ramapo Valley Reservation together with county park staff. This alleviates most of the regular trail maintenance costs for the public agencies. Most of the trails in the Ramapo's have been established for a number of years and should require little capital development. Bergen County Department of Parks is considering trail development of their recently acquired northern acreage at Ramapo Reservation which would incur development costs.

Public Support: State Park Service and Bergen County Department of Parks will have to give their support for the possible designation of the Ramapo Mountains Trail System to the State Trails System.

The New York-New Jersey Trail Conference has been instrumental in supporting regional trail issues as well as maintaining the trails.

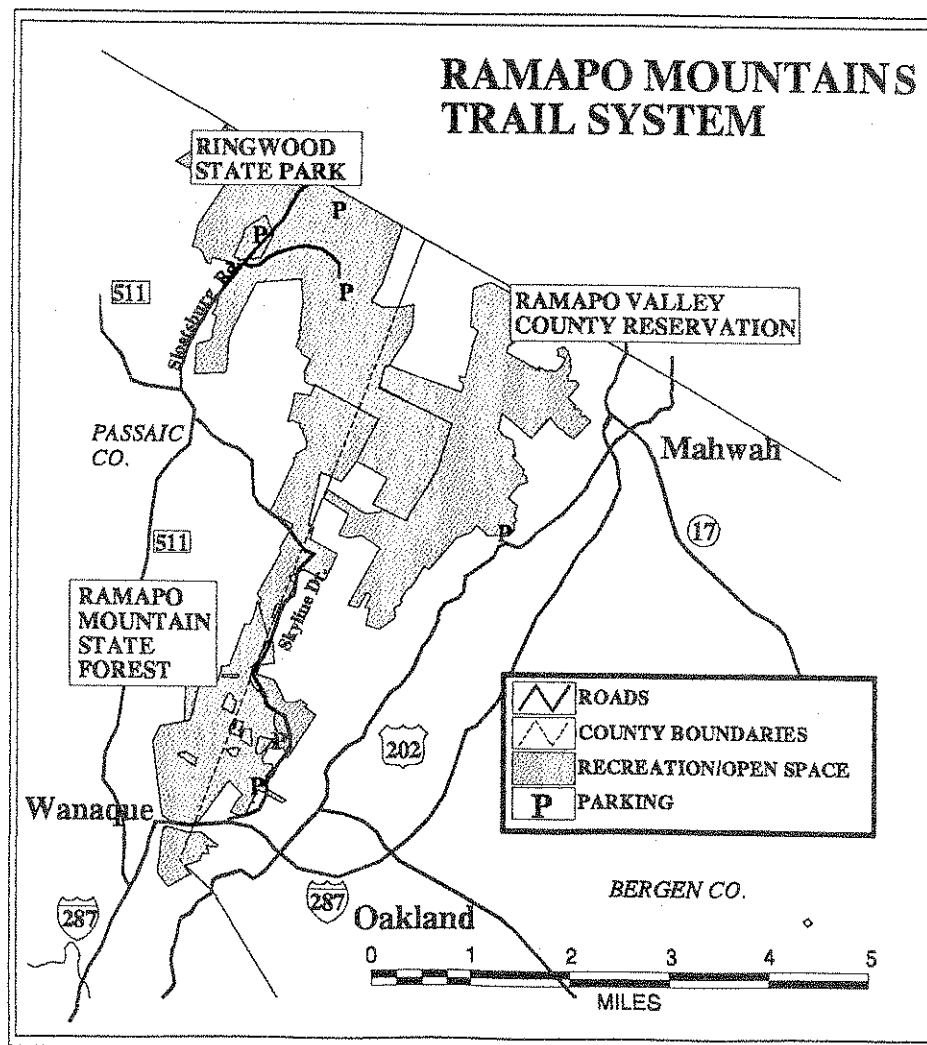
Environmental Impact: The established trails throughout the Ramapo's should have little impact on existing plant, animal, historic or cultural resources. Any new trails that will be developed should be carefully routed with regard to endangered species habitat, erosion control, etc.

Trail Needs: The following needs were identified for the Ramapo Mountains Trail System:

- Improved signage on trails at Ramapo Reservation, including directional signs and a

bulletin board at the main trailhead with a topographic map of the area.

- Re-grading of the northern section of Ridge Trail in Ramapo Reservation.
- Extension of the Halifax Trail to reach Ramapo Reservation and Ringwood State Park.
- A parking area at Ramapo Reservation should be developed for equestrian use. The main parking lot is not appropriate for horse trailers because of the large volume of visitors in cars, especially on weekends.
- Improved trail signage in the southern section of Ramapo Mountain State Forest where trails were rerouted near I-287.
- Signage and/or fencing to prevent motorized access across the pedestrian bridge over I-287.



SHORE TRAIL
A DESIGNATED NATIONAL RECREATION TRAIL
Palisades Interstate Park - New Jersey

The Shore Trail is located along the west shore of the Hudson River, extending from Fort Lee near the George Washington Bridge north to the New York State line. The trail is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: The cliffs of the Palisades are considered "the best example of a thick diabase sill in the United States," and for this reason the Palisades was designated a National Natural Landmark in 1983. The Shore Trail lies at the base and provides fantastic views of these bold, steep cliffs. Most of the Shore Trail runs alongside the west bank of the Hudson River, with picturesque views of the river and New York on the opposite side of the river. The red sandstone at the bottom of the cliffs, and the gray vertical columns of the cliffs provide a scenic contrast along the trail. There is a surprising variety of trees, shrubs and flowering plants, some of them introduced from the former large estates that were part of the Palisades. With a diversity of habitats along the trail, a number of different wildlife species, including the endangered eastern wood rat, can be found at the base of the Palisades. There are also several historic sites along the Shore Trail, including former settlements, Indian camps, and ruins from early park facilities. The Shore Trail is mostly a broad and level path except for a half-mile of trail near the northern end where hikers must traverse large rocks and boulders on the talus bottom of the cliffs.

Accessibility: Access and parking for the Shore Trail include year-round parking at Fort Lee Historic Park, Allison Park, Englewood-Bloomers Area and Alpine Area. There is also seasonal parking at Ross Dock Area and one hour parking at State Line Lookout. These parking areas can be reached from the Palisades Interstate Parkway except for Fort Lee Historic Park which can be reached from River Road in Fort Lee.

Length: The Shore Trail extends for 11 miles from Fort Lee to the New York State line. Running parallel to the Shore Trail is the Long Path, which traverses 11 miles along the top of the cliffs. Six sets of stone stairs connect the cliffs with the Hudson River and make for circular hiking routes.

Multiple Use: Hiking and nature observation are the only allowable uses on the Shore Trail. However, given the trail's vulnerable location at the base of the cliffs and because it crosses several recreation areas, these are the most appropriate uses. Other recreational activities at Palisades Interstate Park include picnicking, boating from two marinas, bicycling on designated paved surfaces, fishing, and cross-country skiing on separate trails at the northern end of the park.

Development and Maintenance Costs: Maintenance costs should involve mostly routine costs associated with trail upkeep. Over the last ten years, many of the development and maintenance costs have been alleviated because of tasks performed by local youth work programs. Sections of the seawall along the Hudson River side of the trail have deteriorated, and to repair or replace those portions will incur expensive development costs.

Public Support: The Palisades Interstate Park Commission will have to give their support for the possible designation of the Shore Trail prior to its being incorporated into the State Trails System. The Shore Trail was named a National Recreation Trail in 1971.

Environmental Impact: The established Shore Trail should have little impact on existing plant, animal, historic or cultural resources. However, the increasing illegal use of mountain bikes on the trail could impact the trail by increasing erosion, trampling vegetation and conflicts with other trail users. Solutions should be developed to alleviate this problem.

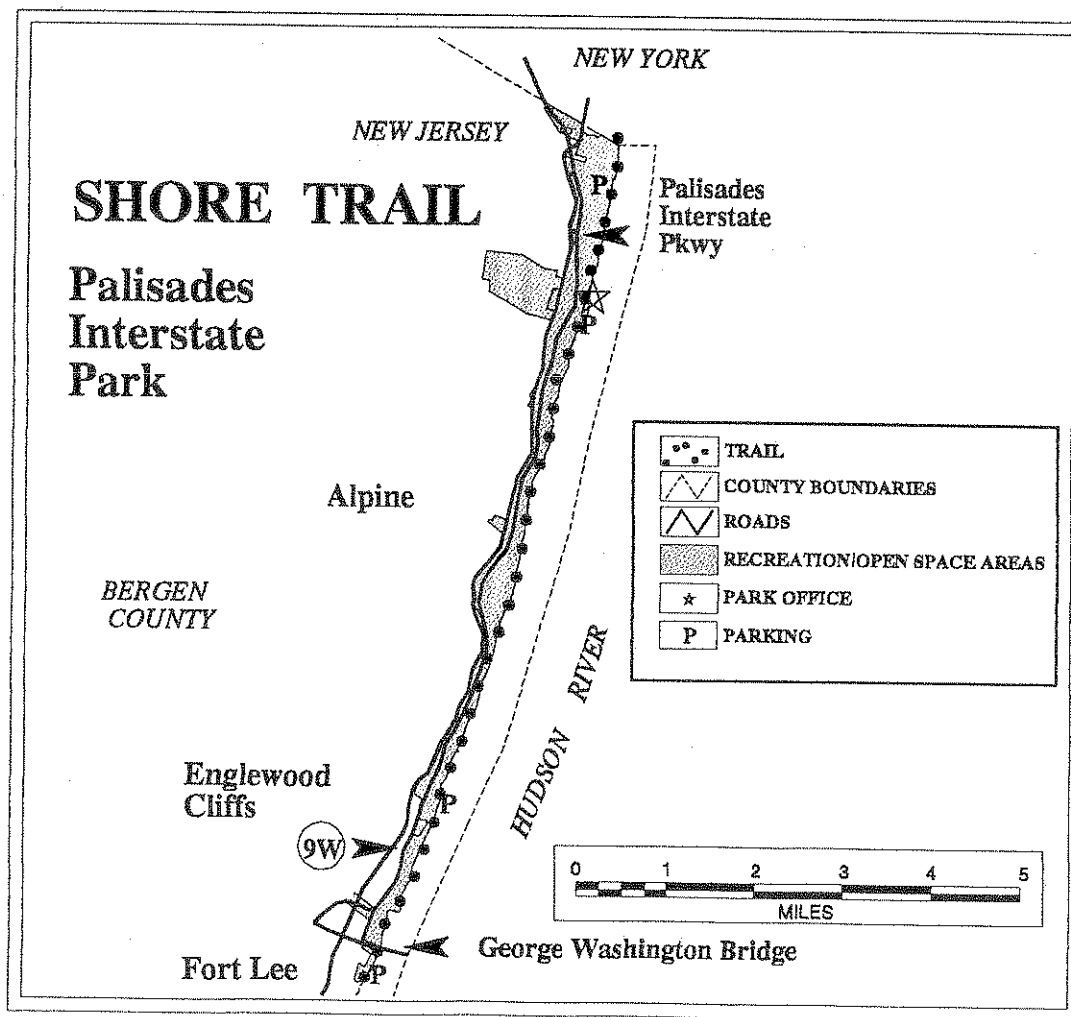
Trail Needs: According to the Palisades Interstate Park Commission, the local youth work programs have ceased and increased staff time and volunteer help will be necessary to maintain the trail with the following tasks:

- Brush clearing along the entire trail.
- New trail signs and blazes are needed.
- Flooded-out sections of the trail need raising.
- Catch basins far above trail need cleaning and repair to prevent erosion on Shore Trail.
- Alternatives should be explored for resolving

conflicts with mountain bicyclists.

- Portions of the seawall along the Hudson River need repair and/or replacement.

Other: Henry Hudson Drive, which parallels the Shore Trail from Fort Lee to the Alpine Area, is open for vehicular traffic from April to October, causing some traffic noise to hikers. The Shore Trail also utilizes short portions of the paved roads at the recreation areas. From the Alpine Area north to the state line, there is no vehicular traffic near the trail.



SUSSEX BRANCH TRAIL
KITTATINNY VALLEY STATE PARK
Department of Environmental Protection

The Sussex Branch Trail is located primarily in Sussex County, with the extreme southern end lying in Morris County, near Netcong and Stanhope. The trail is part of Kittatinny Valley State Park. In Sussex County, it traverses Byram, Andover, Lafayette and Frankford Townships, Andover Borough, and part of the Town of Newton. The trail is eligible for inclusion in the State Trails System based on the following criteria:

Scenic Quality: The former Sussex Branch of the Erie-Lackawanna Railway right-of-way passes through a variety of landscapes in Sussex and Morris Counties, with the majority being rural and forested. The trail also passes swamps, lakes, fields and several small communities. Since the trail's existence is so closely tied to its former use as a railroad, the right-of-way contains significant cultural features including man-made cuts, fills, grading and bridge abutments. In 1994, the New Jersey Division of Parks and Forestry acquired over 900 acres in Andover Township, adjacent to the Sussex Branch Trail. This facility also has a network of trails, which can be accessed from the Sussex Branch Trail. The Kittatinny Valley State Park headquarters are now located at this facility.

Accessibility: The trail is highly accessible from various roads, principally U.S. Route 206, N.J. Routes 94 and 15, and numerous county and local roads. It is located in or near the populated areas of Newton, Andover and Stanhope in Sussex County and Netcong in Morris County. It traverses a portion of Allamuchy State Park, that includes access to Cranberry Lake and nearby Waterloo Village. Existing parking areas include Waterloo Road near the beginning of the trail, several areas at Cranberry Lake, Andover Borough Municipal lot, Route 206 at Andover Junction and Route 663 at Warbasse Junction.

Length: With almost 20 state-owned miles and great accessibility, the trail offers recreational use of various distances. Because there are bridges

missing along the route, and a 1.3 mile section of right-of-way missing in Newton, the trail's longest continuous stretch is currently about six miles.

Multiple Use: With most of the trail having a flat cinder base, all or sections of the right-of-way can be utilized for various trail uses, such as hiking, horseback riding, bicycling, cross-country skiing and dog-sledding. It can also provide access for fishing and individuals in wheelchairs.

Development and Maintenance Costs: No acquisition and settlement costs are necessary, with the possible exception of a bypass around Newton. There will, however, be costs for bridge construction and repair, parking lot development, gates, some trail reconstruction, and ongoing maintenance. Portable sanitary facilities are installed on a seasonal basis at major parking areas.

Public Support: Several clubs have shown their support of the trail by volunteering their time to help clean up trash and clear obstructions. The New Jersey Sled Dog Club has volunteered to clean up the northern section of the trail. New Jersey RailTrails has also expressed its support for trail improvements.

Environmental Impact: Minimal additional clearing is required for the trail. Vegetation will remain except to provide facilities and create scenic vistas. Areas planned for trail-related facilities will not be located in wetlands or at the location of other environmentally sensitive features.

Trail Needs: Some basic trail requirements for development and management include:

- Nine missing bridges need replacement to provide trail continuity. A study is underway to determine the type of bridges needed.
- The state may have to acquire or gain easements on private property around Newton.
- The entire trail should be surveyed with

monuments and encroachments identified.

- The trail bed between Cranberry Lake and Andover Borough needs bank stabilization, compacted fill and pipe and catch basins.
- Other drainage work needing correction is on the section of trail between Jefferson and Cranberry Lakes.

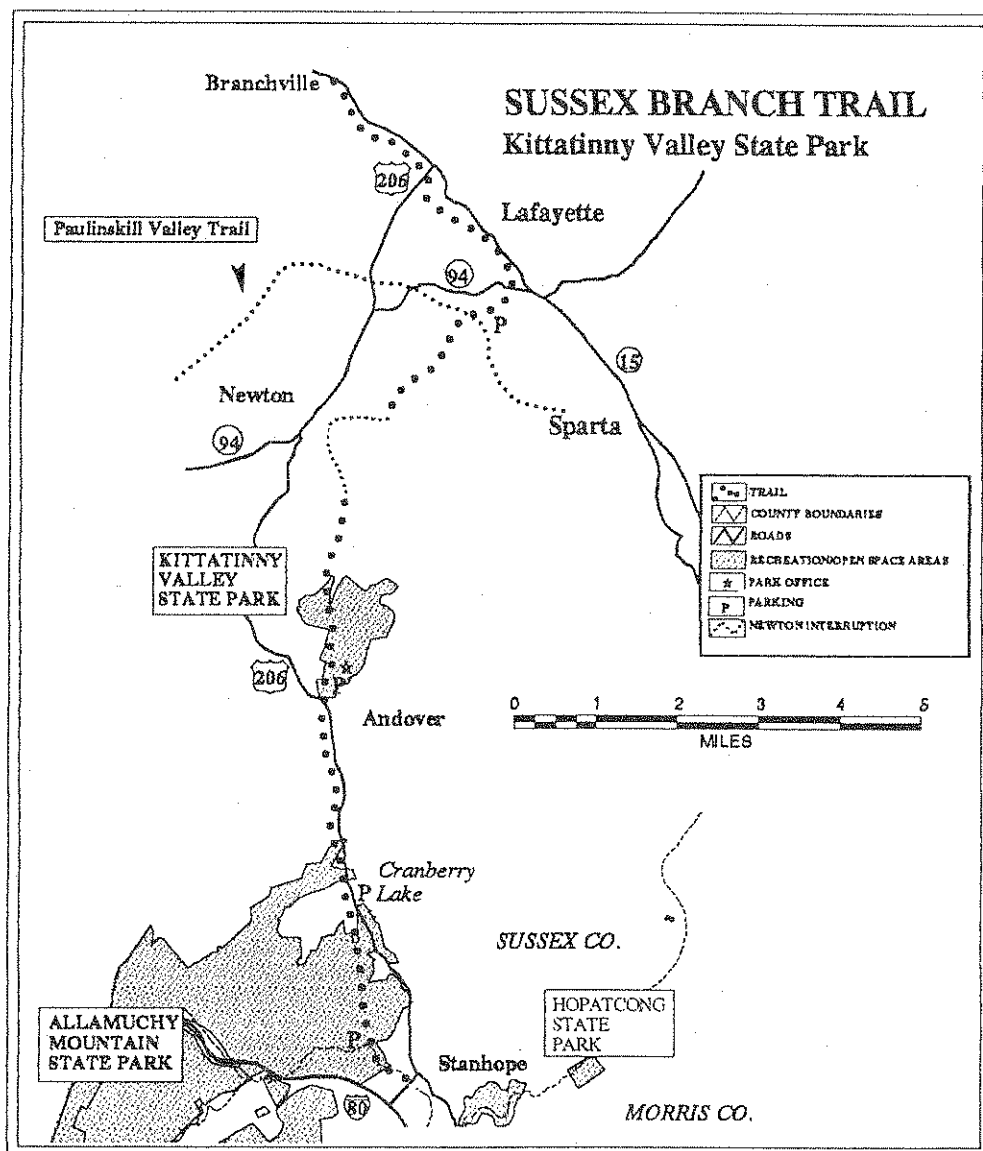
After major development is completed, other trail improvements will include:

- Additional parking areas with pass-through parking for horse trailers and mounting blocks

for equestrians.

- Vegetative screening near adjacent landowners.
- New trail signs.
- Definitive trailheads at each end of the trail.
- Additional gates at all road crossings.
- Sanitary facilities in other areas, as needed.

The New Jersey Department of Transportation, as part of the Federal Aid Highway Program, has agreed to perform design and engineering work for the nine missing bridges, determine solutions to erosion and drainage problems, and design a boardwalk at Cranberry Lake.



CEDAR CREEK

For much of its course, Cedar Creek forms the boundary between Lacey and Berkeley Townships in Ocean County. It is part of the Outer Coastal Plain Physiographic Province. The most canoed section is a 10 mile stretch from Lacey Road to Route 9. However, a more convenient access is at Dover Forge, approximately 2 miles down stream from Lacey Road. Above Lacey Road, there is much overgrowth, making passage difficult. Below Route 9, the creek becomes tidal and is lined on both sides by residential development. Cedar Creek is in the Pine Barrens, and exhibits characteristic vegetation and tea colored water of the region. During periods of high water levels, the current is swift through the generally winding course that finally empties into Barnegat Bay.

Scenic Quality: Because much of the freshwater corridor passes through publicly-owned lands, including Double Trouble State Park, there is little opportunity for development; so the natural and scenic qualities which dominate the canoe experience are protected. From the river channel at Lacey Road, the surrounding vegetation is characterized as an inland red maple swamp that also includes a shrubby understory and other tree species such as black gum, ash and birch. The scenery varies as the corridor weaves through a series of islands supporting white cedar trees, adding to the natural diversity of the area. Abandoned cranberry bogs forming a pond with adjacent marsh areas, stands of white cedar lining the river banks, and sandy areas of pitch pine also dominate the scenic qualities of this creek. The banks of the river vary from dense shrubs, to sand and to grasses supported by marsh. Cultural features of the area include Double Trouble Village which is listed as a National Historic District.

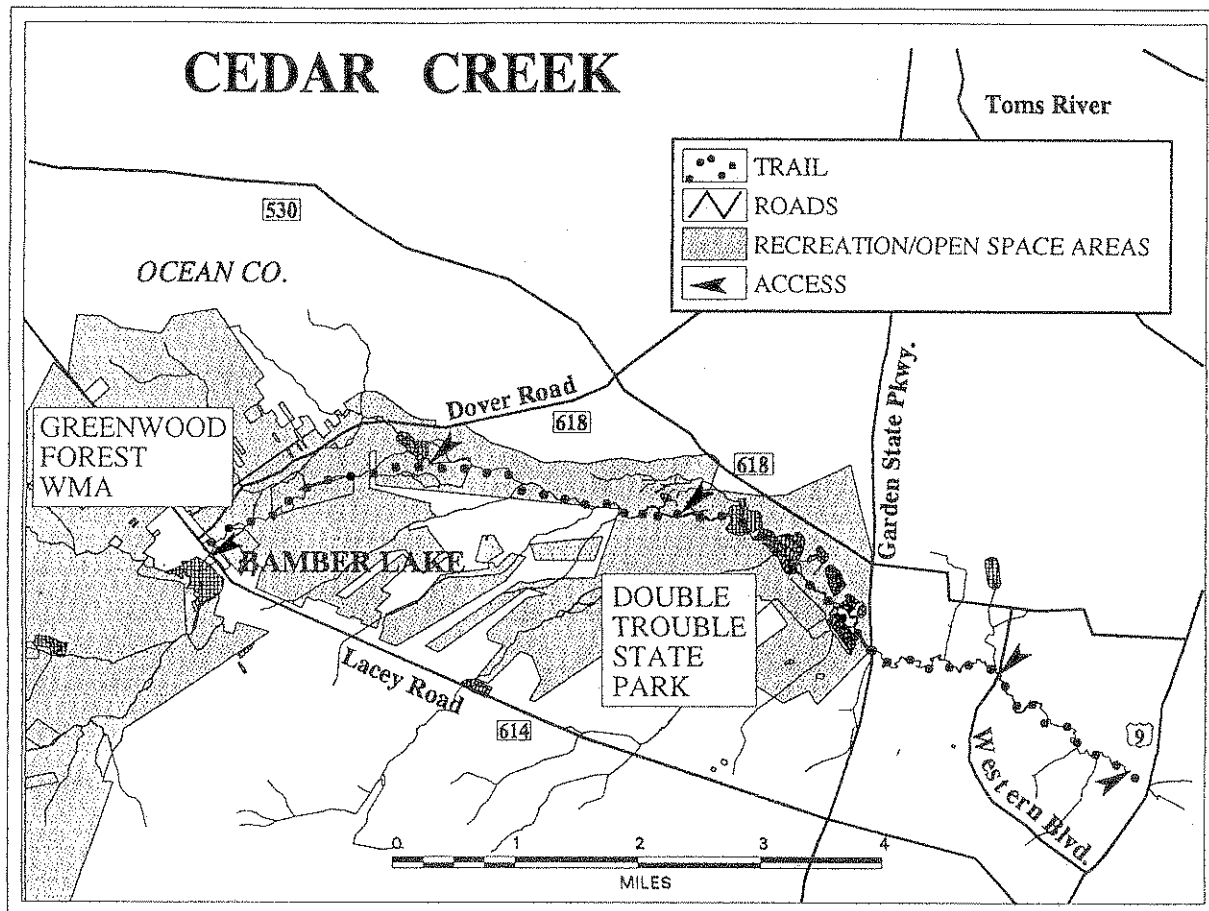
Accessibility: Access and parking may be found at Dover Forge off Dover Road, the Ore Pond Canoe Access point off Pinewald Keswick Road, and Western Boulevard. However, after Western Boulevard public access is limited. There is a private campground past the old railroad trestle

behind the left bank before Route 9, where livery arrangements may be made. There are also other canoe liveries in the area that provide rentals and transport.

Obstructions: After passing the Ore Pond Canoe Access point, portaging is necessary around the dam just after the pond. Caution should be taken in passing through the weir at Route 9. Throughout the journey there are deadfalls and submerged tree stumps, adding to the challenge of the experience. If the water level is high, no liftovers are necessary. During summer months the corridor may be shared with tubers along some sections.

Length: The main stem section of Cedar Creek from Lacey Road to Route 9 is about ten miles long. An eight mile canoe trip from Dover Forge to the old railroad trestle 1/2 mile west of Route 9, may take 5-6 hours including rest stops and portaging.

Needs: Acquisition of land for public access and parking above Dover Forge would allow canoeists to enjoy an additional two-mile extension to their trip. Although there is a municipal beach at Route 9 in Berkeley Township, use of the facilities at William J. Dudley Park is limited to local residents. Canoe take-out is possible by advanced arrangements with the town. However, additional public access and parking need to be secured at the eastern terminus of the run in the vicinity of Route 9. It has also been suggested that an interpretation of the river be developed along the corridor. Numbered sign posts placed periodically along the river trail at natural or cultural areas of interest, could be explained in a corresponding printed guide. The effects of excessive tubing on underwater grasses in vulnerable areas should be identified and monitored so the impact can be assessed and appropriate action determined.



DELAWARE RIVER

The Delaware River forms New Jersey's western border with Pennsylvania. This section of approximately 115 miles consists of the freshwater section from the New Jersey-New York-Pennsylvania border to the city of Trenton. It represents a natural physiographic delineation as well as an administrative one, as the segment starts at the state's borders, in the Ridge and Valley Province, through the Highlands Province, and ends at the geologic fall line, the boundary between the Piedmont above and the Coastal Plain below. The southern border also represents the end of tidal changes in the river. Below Trenton, the river is tidal, and although it is used for recreation, it also receives heavy commercial use.

Scenic Quality: Many consider the Delaware River Valley one of the most scenic areas of the Mid-Atlantic States. It is certainly diverse, with palisades, the Delaware Water Gap cutting through the Kittatinny Mountains, forested islands, gently rolling valleys, power plants, towns, historic villages, and farms. It also serves as a section of a major flyway for migratory birds. In recent years bald eagles have been seen wintering along parts of the river corridor. Black bear and white-tailed deer are among the many mammals present in the forested areas along the river. The water quality of the river has improved tremendously over the last decade, with shad and other varieties of fish now common in its waters. A five-mile stretch of Interstate Route 80, within Delaware Water Gap, borders the river, but that is the only major highway that can be seen from the river, until one reaches Trenton, where State Highway 29 becomes a dual-lane highway.

Accessibility: The amount of access varies throughout the length of the river. Within Delaware Water Gap National Recreation Area, access from either the New Jersey or Pennsylvania side is scattered approximately every eight to ten miles. After that, public access is limited to a few locations, at Belvidere, Phillipsburg, and Frenchtown. South of Frenchtown, where the Delaware and Raritan Feeder Canal begins, there

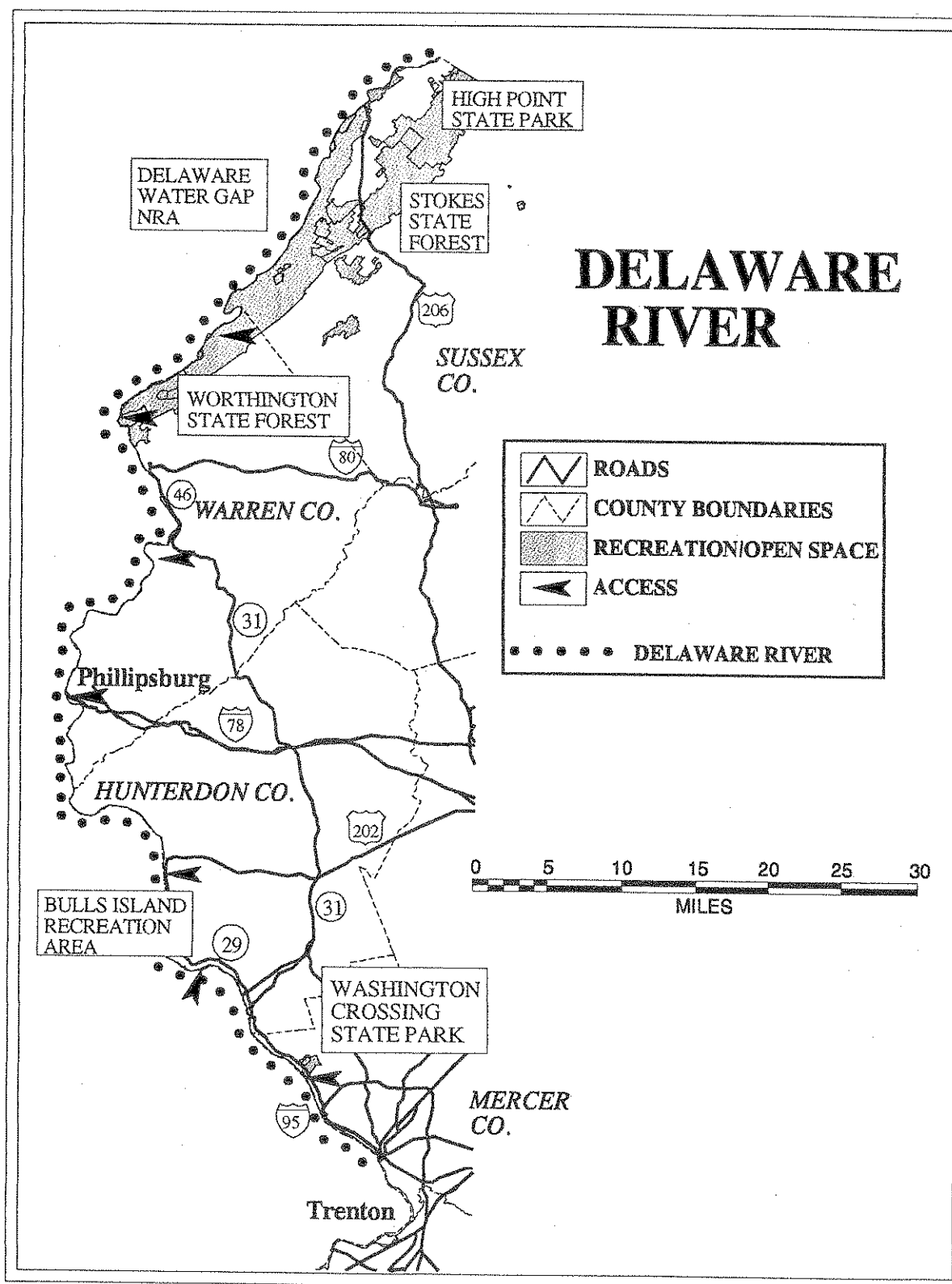
are six access points for about 30 miles.

Obstructions: There are only two obstructions on the entire length of the freshwater Delaware River - a wing dam at the entrance to the Delaware and Raritan Canal at Bulls Island, and another dam at Lambertville. Rapids are encountered at Foul Rift, below Belvidere, and at Scudders Falls, north of the Route 95 crossing.

Length: With 115 miles and several launch sites on both sides of the river, trips of varying length can be made, from one half day to several days. Canoe camping sites are also located along the river within Delaware Water Gap National Recreation Area, at Worthington State Forest's Tocks and Labar Islands, Dildine Island, managed by Jenny Jump State Forest, and also at Bulls Island Recreation Area.

Needs: The National Park Service has plans to upgrade existing and build new canoe access points within Delaware Water Gap National Recreation Area. Below that, public access points for small boats and canoes are needed on the New Jersey side of the river. A new launch was opened in 1994 near Belvidere, but added launches are needed near Riegelsville and Delaware Township, Warren County. Designated canoe camping areas on islands within the river not mentioned above should also be considered.

Other: The segment within Delaware Water Gap National Recreation Area is designated to the National Wild and Scenic Rivers System, and a segment south of that to Washington Crossing is being studied for federal designation. The study will also produce a river management plan, addressing resource protection measures, recreational resource opportunities and needs for controls, especially for jet skis.



MILLSTONE RIVER

The route of the Millstone River is unusual in that it forms an arc following a path from the Coastal Plain into the Piedmont Province. The corridor flows northwesterly from Millstone in Monmouth County, curving north as it borders Middlesex and Mercer counties, and continuing northeast through Somerset County until it empties into the Raritan River at Manville and Franklin, approximately 43 miles from its source. It is characterized by its wide floodplain and gentle curves. Much of the canoeable section parallels the Delaware and Raritan (D&R) Canal. Because it is not directed by a strong current, the canal may be used as a return route. Considering access and parking, the most canoeable part of the Millstone begins at the D&R Canal access at Lake Carnegie in Princeton, and continues for approximately 18 miles to the confluence with the Raritan River in Manville.

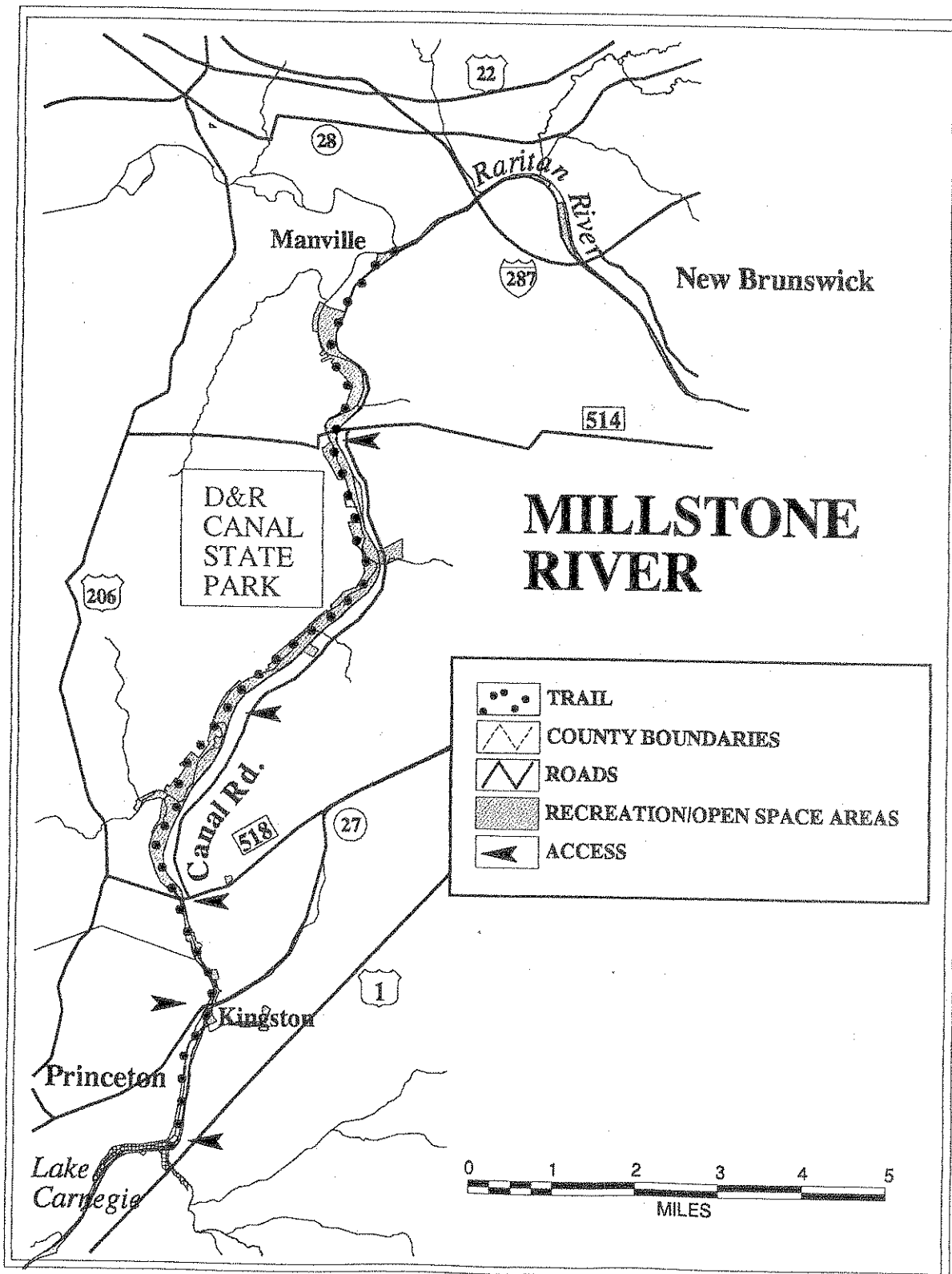
Scenic Quality: Lake Carnegie is bordered by a landscape of homes and the D&R Canal. Continuing past the lake, the characteristic high banks and broad floodplain are evident. For much of its length, the river banks support floodplain forests which have high diversity where a dominant species is difficult to identify. Sycamore, box elder, and river birch are among the trees that may be identified in the drier areas of the floodplain. On the poorly drained areas, trees such as white ash, red maple, and pin oak may be found. Spicebush is the most common shrub found in the understory of the floodplain forest. The general scenery along the river corridor remains natural with periodic villages, farms, houses, and very few areas that are considered unattractive.

Accessibility: There is public access and parking at several areas along the 18 mile stretch of the river that parallels the D&R Canal. For example, access and parking may be found at Lake Carnegie in Princeton, Kingston (Route 27), Rocky Hill (Route 518), Griggstown (Canal Road), and East Millstone (Route 514). In addition, the D&R Canal may be used as a return route, allowing for flexibility when planning a canoe trip.

Obstructions: Below Lake Carnegie in Kingston there are two dams and another one in Manville, all of which must be portaged. There may be some fallen branches and trees for almost two miles past Rocky Hill.

Length: The distance of the Millstone between the D&R aqueduct at Lake Carnegie and the confluence with the Raritan River is approximately 18 miles. To accomplish a round trip using the D&R Canal, two or more day trips would have to be planned, considering that a one way trip from Lake Carnegie to Manville may take up to eight hours. In addition, the current is generally not swift on the Millstone and even less on the D&R, so energy expended in paddling must also be taken into account when planning an excursion.

Needs: Although much of the adjacent land use is regulated under state laws or protected as a state park, the river itself needs to be monitored for debris and tree falls along its course. Because the river for much of its length is in close proximity to the Delaware and Raritan Canal and towpath, any water trail facilities will be developed to compliment the canal and its activities. Also, for the section of the river in Somerset County, the county is in the planning stages of developing a greenway park linking the Raritan River with the Millstone River. A cooperative effort will be made to work with county officials in planning this greenway.



MUSCONETCONG RIVER

The Musconetcong flows approximately 44 miles from Lake Hopatcong to the Delaware River. Along its generally southwesterly route, the river serves as the boundary between Sussex and Morris, Warren and Morris, and Warren and Hunterdon counties. It drains part of the Highlands Province. Although there are frequent dams and weirs which must be portaged, the course may be canoed for most of its length after heavy rainfalls. However, the most viable canoe run is from the confluence of Lubber's Run in Allamuchy State Park to Bloomsbury for a distance of approximately 31 miles. Below Bloomsbury there are at least three or four dams which must be portaged, in addition to two water diversions from the river to canals operated by paper mills. After periods of heavy rains, the current may be swift and canoes can clear the rocky river bed. Between Hackettstown and Bloomsbury, Class II rapids may also be encountered.

Scenic Quality: The landscape varies throughout the trip. Sections of the Musconetcong flow through public lands at Allamuchy Mountain and Stephens state parks, and downstream it passes property of the Hunterdon County Park System. In these protected areas as well as private lands along the route, the natural surroundings include deciduous mixed oak forests, as well as freshwater wetlands in the northern section. The banks are low along some stretches, offering views of the countryside with a backdrop of mountains in the distance. There are also cultural and historic sites along the way, such as Waterloo Village, a restored iron mining and mill town, which is open to the public. Farms and villages dominate the landscape, with residential areas, industries and commercial areas adding to the mix of scenic quality encountered along the river.

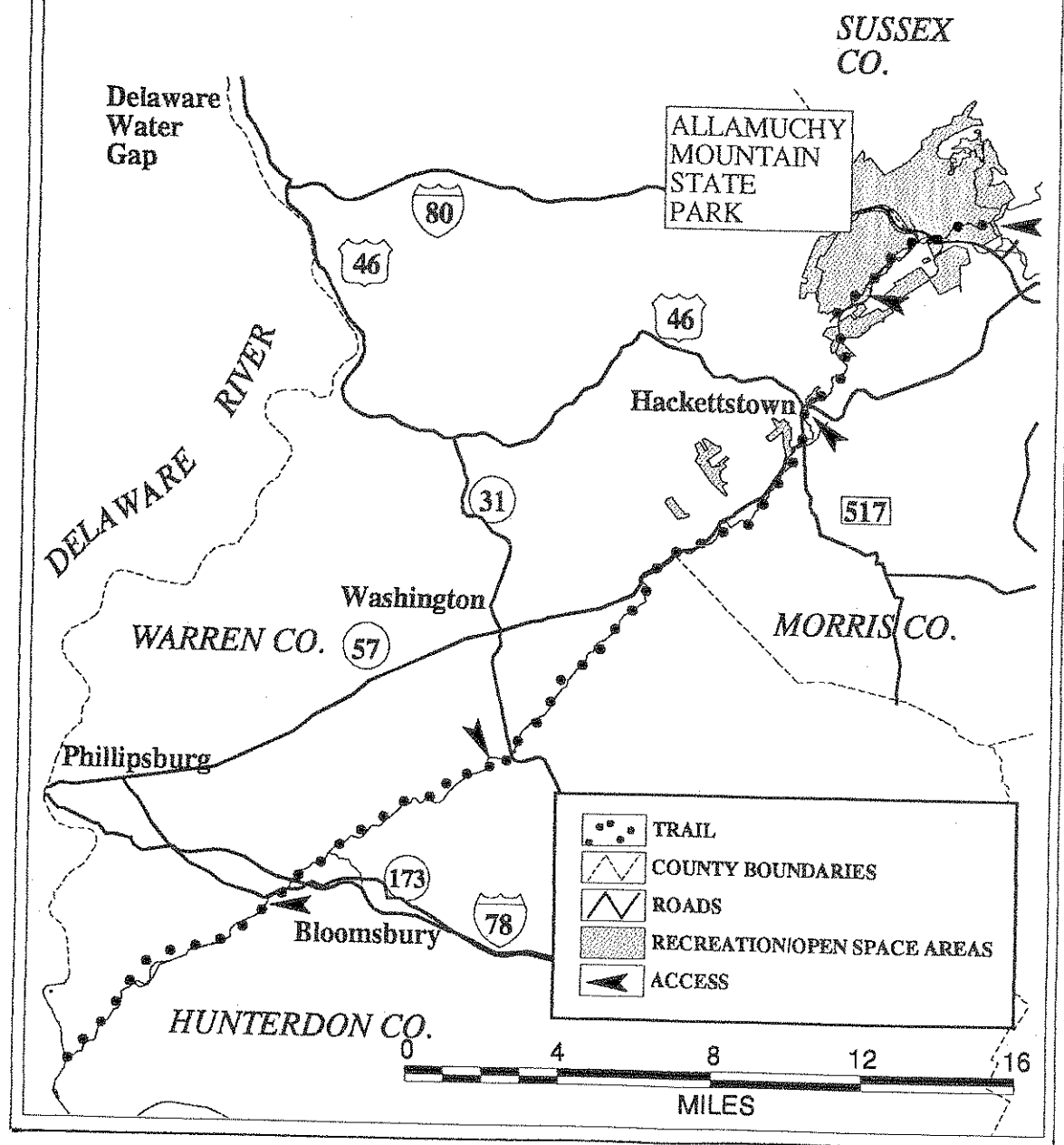
Accessibility: At Saxton Falls in Stephens State Park, public parking and access to the Musconetcong is provided. Other public access areas are limited to local parks, such as those in Hackettstown and Hampton.

Obstructions: There are at least eight weirs or dams between the Lubbers Run confluence and Bloomsbury which must be portaged. Care must be taken with anglers who share the stream during fishing season.

Length: The distance between the Lubbers Run confluence and Bloomsbury is approximately 31 miles. Canoeing the Musconetcong may be divided into two or more smaller excursions. For example, a run between Lubbers Run and Hackettstown may take four hours for this nine mile stretch. For a longer trip, the distance between Hackettstown and Bloomsbury is 21 miles which could take eight or nine hours.

Needs: Through the Green Acres Program, property has been acquired along the Musconetcong that is to be part of a Musconetcong Greenway which would include development of a pedestrian path along the river as well as access for river recreation. Recent acquisitions include property in Franklin, Washington and Allamuchy townships in Warren County; Mount Olive and Washington townships in Morris County; and Lebanon Township in Hunterdon County. Current needs include acquiring easements or title to areas along the river in order to close gaps and have a continuous greenway for protection of the river while accommodating appropriate public access. A canoe camping site along the river should also be considered. With technical assistance from the National Park Service, the Musconetcong Watershed Association is identifying areas of concern in the watershed and developing recommendations. Recreational use of the river is being studied and direction provided to develop appropriate uses. A coordinated effort among state, county and local governments and volunteer groups would need to be organized to implement recommendations from the citizen study.

MUSCONETCONG RIVER



RANCOCAS CREEK

The Rancocas Creek and its tributaries drain the west part of the Coastal Plain Province. It stretches west from its Pine Barrens source in Burlington County, 30 miles to the Delaware River. The Rancocas consists of the North Branch, South Branch, Southwest Branch, Mount Misery Brook and the Greenwood Branch. The most canoed branch of this river is the North Branch between Browns Mills and Mount Holly. Below Mount Holly the river becomes tidal and is used mostly by motor boats.

Scenic Quality: Along its route, the North Branch passes through deciduous oak and beech forests with a dense shrub understory covering high banks, interspersed with pine and cedar stands, freshwater wetlands, scattered houses, towns and some industry. Although the scenery is dominated by stately woodlands and calming freshwater marsh between Browns Mills and Pemberton, the tranquility of the trip is periodically interrupted by low flying aircraft from McGuire Air Force Base, located north of the river corridor. After passing Pemberton, deciduous forest stretches along high banks, past Birmingham Road. Industry and housing are in evidence along the rest of the route from Birmingham Road to Mount Holly. A place of interest is Smithville, a mill town dating back to the early nineteenth century, and listed on the National and State Registers of Historic Places. It is now owned by Burlington County. Smithville is located west of Route 206. After passing Mount Holly, the river has extensive marshlands on both banks with some residential and small town development. Rancocas State Park is on the north side of the creek up to the New Jersey Turnpike. Five miles outside of Mount Holly, the North Branch is joined by the South Branch and continues to be bordered by marsh and tidal flats to the Delaware River.

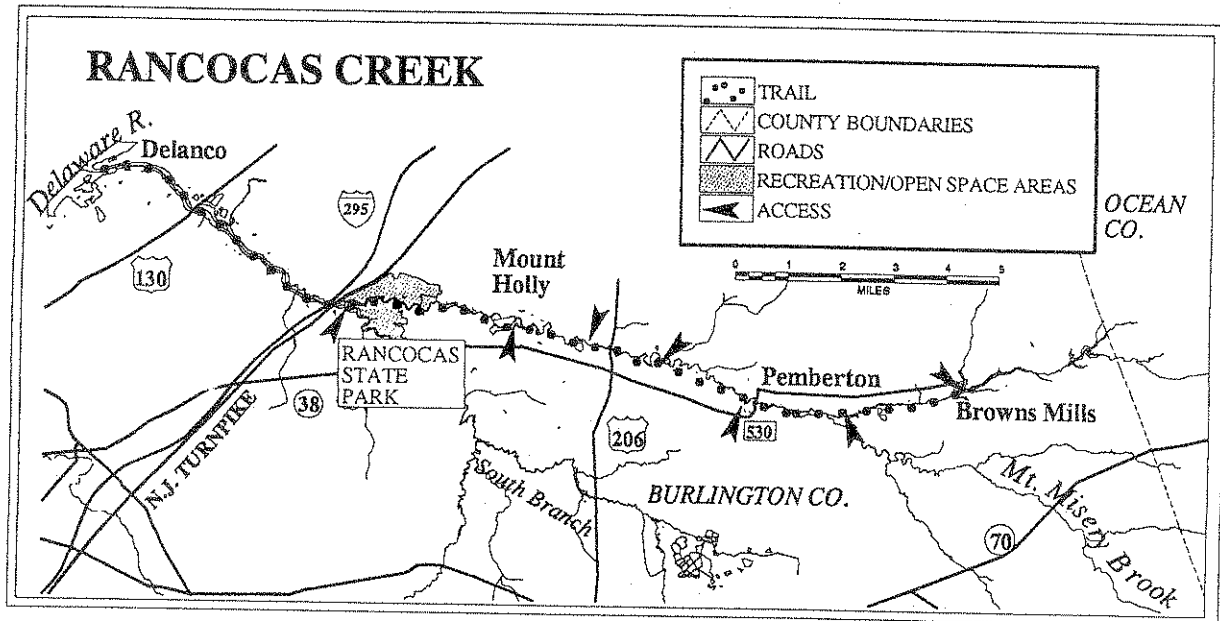
Accessibility: There are few public parking areas for access along the North Branch. There is parking on the south side of Route 530 below the dam in Browns Mills, as well as in Pemberton, Smithville, Mount Holly and along some roads that

cross the corridor, such as Birmingham Road. There are commercial canoe outfitters in the area which may provide transport and access to other areas. For the tidal segment, boat launches are mostly available at private marinas. Rancocas State Park, on the south side of the Rancocas, off of Timberline Drive, has a boat launch suitable for canoes and small boats.

Obstructions: Below the dam in Browns Mills, the corridor is blocked numerous times by fallen trees. Also, the thick vegetation and high banks make numerous canoe lifts necessary through the first two miles, especially if the water level is below three or four feet. The fallen logs also catch a lot of garbage making part of this section particularly unattractive. Portaging is required around dams at New Lisbon, Pemberton, Smithville and Mount Holly. (Note: The portage at New Lisbon poses some difficulty because of the high and very sandy bank).

Length: The distance between Browns Mills and Mount Holly is approximately 17 miles. If the water level is low and the current slow, it may take over three hours from Browns Mills to New Lisbon. In favorable conditions with few carry-overs, the same distance may take no more than two hours, or a total of seven hours through to Mount Holly. Downstream from Mount Holly the tidal section of the river to its confluence with the Delaware River is 12 miles.

Needs: Public parking and access are needed along this corridor, especially in the vicinity of New Lisbon. The nature of the high banks makes it difficult to stop for a break along the route. Therefore, rest areas need to be developed. Finally, a coordinated effort needs to be encouraged and developed among county and local governments, property owners along the Rancocas, and user organizations, such as the Rancocas Conservancy, for upkeep and maintenance of the corridor.



WHARTON WATER TRAILS

The four rivers flowing through Wharton State Forest in Burlington and Atlantic Counties originate in the Pine Barrens of the Outer Coastal Plain. The Lower Atsion segment of the Mullica, the Batsto, the Wading and the Oswego Rivers flow southeast, eventually converge into the Mullica which empties into the Great Bay on the Atlantic coast. The basin of these rivers form the largest watershed in the Pine Barrens. Most of the canoed sections of these rivers are within Wharton State Forest. Below Route 542 the rivers flow into the Mullica, where it is tidal and motorboat use is popular.

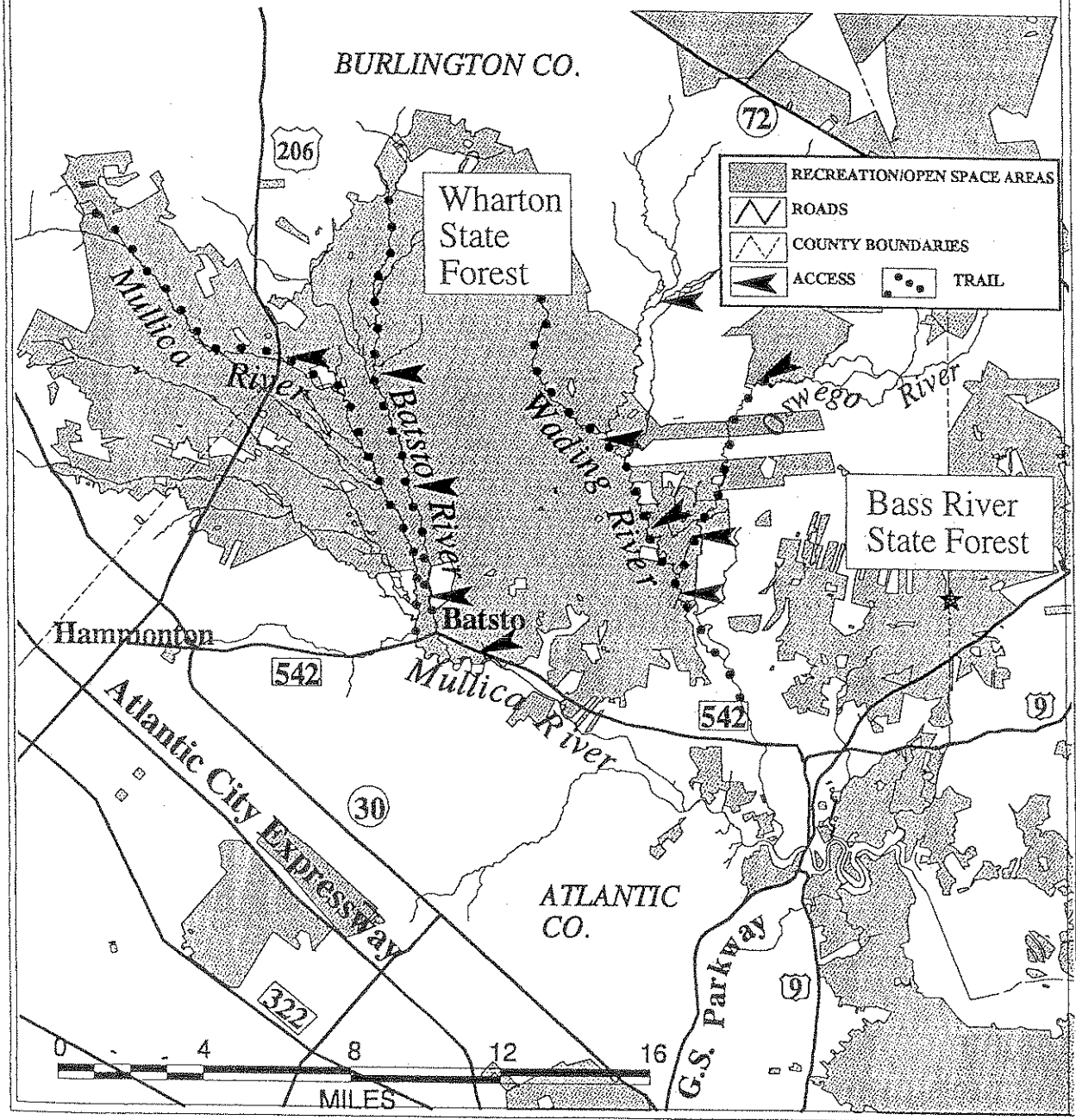
Scenic Quality: The main canoeable routes of the rivers wind through a variety of typical Pine Barrens landscapes. The surrounding natural environment of Wharton State Forest flourishes, free from the pressures of development. The clear waters are tea colored due to the chemistry of the regional soils and vegetation. The corridors are narrow, opening to wide ponds which are the result of prior cranberry farming or recent beaver activity. Red maple swamps, stands of cedar, pines on high sandy banks, dense shrubs of viburnum and blueberry, and grassy marshes are part of the variety of vegetation seen from the water routes. There are sand roads that parallel the rivers in some places, such as along the east shore of the Lower Atsion and the west shore of the Batsto, and a few camp sites on shore such as Godfrey Bridge Campground on the Wading. However, they generally do not intrude on the sense of isolation one encounters in a wilderness area. The meandering easy flowing nature of the rivers allows for uninterrupted appreciation of the scenic variety encountered along these corridors. As the waters wind toward the bay, they become tidal. Wooded areas on shore disappear and salt marsh is the dominant natural ecosystem. The Lower Atsion between Route 206 and the Batsto nature trail footbridge is designated as a wild river segment under the New Jersey Wild and Scenic Rivers Program. The Wading and Oswego are the most canoed corridors. During spring and summer the surrounding scenic qualities may be subdued on these two rivers because of heavy use on weekends.

Accessibility: There are access and parking areas along the rivers in several locations within or near Wharton State Forest. Access to the Lower Atsion is located at Atsion off a sand road on the east side of Route 206, a short distance below the south bank of the river. Parking is available at the take-out off Route 542 at Pleasant Mills. Hampton Furnace and Quaker Bridge, located along packed sand roads off Route 206, provide Batsto River access in addition to a take-out and parking area at Batsto on the west side of the river off Route 542. The most canoed section of the Wading may be accessed at Speedwell, Hawkin Bridge, Evans Bridge and take-out at Beaver Branch below Bodine Field. The Oswego flows into the Wading so take-out may also be below Bodine Field. Access sites along the Oswego include Oswego Lake and Harrisville Road. There are local commercial canoe outfitters that provide canoe rentals and transportation to the main access areas along the river routes. At Crowley Landing on the Mullica River, below Route 542 there is a public canoe and motorboat launch ramp that is part of Wharton State Forest.

Obstructions: In some areas of the Lower Atsion, occasional beaver dams make portaging necessary. Along most of the canoe corridors, deadfalls are little more than an inconvenience when the water level is high. On the Wading between Godfrey Bridge Campground and Evans Bridge, there are the remains of a small dam which may have to be portaged when water levels are low. Generally, the river runs are clear of blow-downs, and well maintained by Wharton State Forest officials with some help from local canoe liveries.

Length: The approximate total canoeable miles of the Wharton River Trails which flow through Wharton State Forest is 52. The distance of the Lower Atsion between Atsion and Pleasant Mills is approximately 14 miles. The Batsto River from Hampton Furnace to Batsto is approximately 11 miles. The Wading River between Speedwell and Beaver Branch is about 15.5 miles. The Oswego River from Oswego Lake to its confluence with the Wading is approximately 7 miles. Finally, the

WHARTON WATER TRAILS



Mullica between Pleasant Mills and Crowley Landing provides approximately 4.5 miles of canoeing.

Needs: Although access and parking areas may be considered primitive, it is the nature of the environment and the quality of the wilderness experience which are priorities, especially along the Lower Atsion and the Batsto. Recommendations include developing and printing brochures with maps showing river access and parking areas, and numbered sections of the river along sand access roads to help rangers locate and respond to emergencies. The brochures could be distributed to the public and local liveries that use the river. Maintenance of sand access roads and crossings such as Hampton and Quaker Bridge roads, is an ongoing and costly effort that could be alleviated with additional funding for materials and personnel. Litter requires ongoing attention. Programs such as "carry-in/carry-out" and volunteer services through Clean Communities grants need to be continued.

There is also a need to relieve the problems of heavy use on the Wading and Oswego Rivers. At times, excess river canoe use on weekends with associated noise, litter and canoe traffic congestion detracts from the natural experience most users come to enjoy. To approach the problem, a study needs to be done to determine the use patterns on all of the rivers in the Wharton system so that an accounting of the numbers of users, peak periods of use and the types and extent of the environmental impact can be accurately assessed. Discussions for solutions to the problem should include all interested parties such as the Division of Parks and Forestry, the Pinelands Commission and local commercial liveries. Based on the study, solutions may be found and implemented. These may include recommendations to alleviate the pressures on the Wading and Oswego by improving access along the Lower Atsion and the Batsto, or development of agreements for designated or restricted access, between the Division of Parks and Forestry and local liveries, so that park service officials may have authority to better monitor and manage river use.

POTENTIAL ELIGIBLE TRAILS PENDING REVIEW

Hartshorne-Huber Woods Parks Trail System

Henry Hudson Trail

Norvin Green State Forest

Pequannock Watershed

Wawayanda State Park

Wells Mills County Park

Crosswicks Creek

Flat Brook

Hackensack River

Intracoastal Waterway

Maurice River

North Branch of the Raritan River

Passaic River

Paulins Kill

Pequest River

Ramapo River

South Branch of the Raritan River

Toms River

POTENTIAL TRAILS ELIGIBLE FOR THE SYSTEM PENDING REVIEW

There are many more miles of existing trails located throughout New Jersey. However, each one of these must be surveyed to determine its eligibility to the State Trails System, before being recommended for designation to the system. Members of the New Jersey Trails Council, trails groups, and individuals have suggested many others that they believe would be eligible. Procedures that would be used to determine eligibility are based on the New Jersey Trails System Regulations, included in Appendix VI.

The following trails and trail systems may in the future be also eligible for designation, pending review:

Hartshorne-Huber Woods Parks Trail System

Hartshorne and Huber Woods Parks are located in extreme northeastern Monmouth County near Sandy Hook. The Monmouth County Park System is in the process of obtaining connecting parcels that would link these two parks with a connector trail. Hartshorne Woods Park has a recently improved 9-mile trail system over 736 acres of hilly, wooded terrain. Huber Woods Park has 6.5 miles of trails over 250 acres that includes an equestrian facility and an Environmental Center. Both parks have multi-use trails that are marked as easy, moderate and challenging and allow for hikers, mountain bicyclists and horseback riders.

Henry Hudson Trail

The proposed Henry Hudson Trail traverses the Bayshore region of Monmouth County along the former Central Railroad of New Jersey right-of-way, and is owned by Monmouth County. The trail begins in Aberdeen Township and runs for approximately 9 miles through Keyport and Union Beach boroughs, Hazlet Township, and Keansburg Borough before ending at the Middletown Township-Atlantic Highlands Borough municipal boundary. The entire trail surface will be paved

making it conducive to bicycle and pedestrian use. It would also have connections with the proposed 13-mile Bayshore Trail (running along the shoreline of Raritan Bay) and the Bayshore Waterfront Park in Middletown, which is already partially completed. The Monmouth County Park System has indicated that before the entire length of the Henry Hudson Trail is useable, encroachments, obstacles, and hazards must be corrected, and several tasks must be completed.

Norvin Green State Forest

Located in the Highlands Province within Passaic County, Norvin Green State Forest has over 20 miles of hiking trails, which are maintained by members of the New York-New Jersey Trail Conference. Trails are also available for cross-country skiing in winter. The state forest consists of over 2,300 acres, of largely rugged mountainous terrain. There are no other recreational facilities available within the forest.

Pequannock Watershed

The Pequannock Watershed is an undeveloped area of approximately 35,000 acres of land which includes five reservoirs. Although the property is located in portions of Morris, Passaic and Sussex counties, the area is owned by the City of Newark for its source of water supply. The city has a recreational permit program through which the public may access the property including over 20 miles of trails for hiking and horseback riding. The area is managed by the Newark Watershed Conservation and Development Corporation.

Wawayanda State Park Trail System

Wawayanda State Park covers almost 10,000 acres along the Passaic and Sussex County boundaries and borders New York State at the northern portion of the New Jersey Highlands.

There are 32 miles of interconnecting trails of varying length within Wawayanda. In addition, a 20 mile section of the Appalachian Trail is administered by this park. Multi-use trail opportunities also exist with 19.5 of the 32 miles of trail available for mountain bike use and 18.5 miles for equestrian use. Wawayanda's trails lead users through a variety of terrain that include lakes, swamp, streams, forest and scenic vistas.

Wells Mills County Park Trail System

Wells Mills County Park is located near Waretown in the southeastern portion of Ocean County, administered by the Ocean County Department of Parks and Recreation. There are approximately 10 miles of trails, including the five mile Penns Hill Trail for hiking, several nature trails and 3.2 miles of mountain bike trails on old woods roads. Penns Hill Trail is currently being extended an additional two miles. Trails are also available for cross-country skiing when there is snow. The 900 acre park contains extensive pine-oak forests interspersed with Atlantic white cedar swamps, freshwater bogs, streams and a lake. Other facilities include a nature center, picnic area, and boater/fisherman access at the lake.

The following waterways may also qualify for designation:

Crosswicks Creek

Passing through Ocean, Monmouth, Mercer and Burlington counties, Crosswicks Creek spans the Inner Coastal Plain for 23 miles, from New Egypt to Bordentown and the Delaware River. Monmouth County has included Crosswicks Creek in its greenway program and Walnford Park, centered around the restoration of an 18th century homestead and milling complex. Before the river ends at the Delaware River, it is tidal through Hamilton Marshes, the most extensive brackish/freshwater marsh complex in the Inner Coastal Plain and habitat for several rare plant and animal species. It is also the southern ending point for the Delaware and Raritan Canal.

Flat Brook

This remote stream parallels the Delaware River as it flows through western Sussex County. The upper reach, Big Flat Brook, is protected in High Point State Park, Stokes State Forest and Flatbrook-Roy Wildlife Management Area. From its steep gradient the landscape becomes flatter as the stream converges with Little Flat Brook increasing the volume of water and slowing the pace of the flow. The course then continues through the Delaware Water Gap National Recreation Area. Depending on the water level, more than 16 miles of the Flat Brook may be considered canoeable from Stokes State Forest to Flatbrookville and the Delaware River.

Hackensack River

The Hackensack River runs from Rockland County, New York to the Newark Bay in New Jersey. The first section in New Jersey where a canoe can be launched begins at the head of tidewater in Oradell, although it is much easier during high tide. This 6-mile section begins with a wooded buffer from the surrounding neighborhoods with occasional patches of marsh. The take out is in Hackensack. The last 16 miles to Newark Bay is considered canoeable but much more developed industrially and significantly less scenic. This section of river is enjoyed by motorboat recreationists more than by canoeists.

Intracoastal Waterway

Stretching from Pt. Pleasant and the Manasquan River in Monmouth County, to the border of New Jersey, Delaware and Pennsylvania, the Intracoastal Waterway includes the bays and coastal waters surrounding New Jersey for recreational boating, sailing, sea kayaking, and commercial fishing and shipping. It follows a path between the barrier islands and the mainland coast of New Jersey, including all of Barnegat Bay, down to Cape May, then turns into Delaware Bay and the Delaware River, up to the dividing line between

Pennsylvania and Delaware, just south of Bridgeport, New Jersey.

Maurice River

With its headwaters in Gloucester County, the Maurice River flows south through Salem and Cumberland counties and empties into the Delaware Bay. Together, the upper and lower Maurice River offers approximately 35 miles for a river trail. The 14 mile upper reach of the Maurice River from Route 690 in Vineland to the Union Lake Dam is characterized by Pine Barrens hardwood swamps with stands of cedars and pines. Much of the area is protected by the Union Lake Wildlife Management Area. Within the lower section from Millville to the Mauricetown Bridge, the river and 3 tributaries are designated in the National Wild and Scenic Rivers System. The 21 mile lower stretch of the Maurice is tidal from Millville to the bay. After passing through Millville, the river landscape contains forest and shrub wetlands, freshwater marshes with wild rice, agricultural lands, small towns, and salt marsh near the bay. Evidence of a history of native and European settlement, oystering, nineteenth century shipbuilding and other commercial activities still remain in evidence along the banks of the river adding a rich cultural backdrop to the river's natural resources.

North Branch of the Raritan River

This tributary of the Raritan flows south from Morris County into Somerset County where eventually it joins the main stem at its confluence with the South Branch. The area through which the North Branch flows is characterized by large estates amid rolling hills and woodlands, small villages and farms. Above Ravine Lake which borders Peapack-Gladstone Borough and Bedminster Township, the stream is described as rocky with a steep gradient. Depending on adequate rainfall, the total runnable sections from Ravine Lake to the confluence with the South Branch is approximately 15 miles. Besides the river itself, the land bordering portions of the river

running through Somerset County are being acquired by the county for a greenway. By acquiring land at the confluence of the North Branch, South Branch and Raritan rivers, the county will establish a general use park with additional land trail opportunities.

Passaic River

Flowing more than 80 miles from its headwaters in Mendham Township, Morris County and passing Somerset, Union, Passaic, Bergen and Essex Counties, the Passaic is the longest river within New Jersey. Canoeing sections from Lord Stirling County Park in Basking Ridge, Somerset County to the confluence with the Pompton River in Lincoln Park, Morris County one encounters natural scenery in areas such as the Great Swamp, Troy Meadows, Great Piece Meadows and public parks, as well as suburban development. After the rivers converge, the Passaic becomes urbanized. The falls at Little Falls, the Great Falls of Paterson, the industrial architecture and bridges are major features of this stretch of the river. Flowing to Newark Bay recreational opportunities and natural scenery are limited by industrial and urban development.

Paulins Kill

The Paulins Kill stretches from central Sussex County through Warren County. Approximately 35 miles are considered canoeable from Lafayette Township in Sussex County to its confluence with the Delaware River. However, the upper half above Stillwater Township may only have sufficient water after a heavy rain. Through country and village landscapes, much of the Paulins Kill runs close to an abandoned railroad right-of-way which has been converted to the Paulinskill Valley Trail, a multi-use trail.

Pequest River

Running through Warren and Sussex Counties, the Pequest River travels for approximately 18

miles from its source near Newton to the Delaware River at Belvidere. The stream goes through mostly rural lands, with farms and forests and few road crossings. The river flow varies from tranquil to white water conditions. During trout season in the spring, the river is heavily used by fishermen.

Ramapo River

The section of the Ramapo River most used as a river trail is almost ten miles between Mahwah and Oakland in Bergen County. This scenic, winding, somewhat remote section of the river parallels the heavily wooded Ramapo Mountains. The river passes Ramapo College, various estates and runs through Ramapo Valley County Reservation. The water is primarily smooth but still contains some riffles. The river is usually canoeable from November to mid-May, except in dry years. There are two weirs along the route that must be portaged.

South Branch of the Raritan River

The South Branch flows from Budd Lake in Morris County through Hunterdon County and along western Somerset County. The sections considered best for canoeing are within a 42 mile segment from Washington Township in Morris County to its confluence with the North Branch into the Raritan River in Somerset County. The area is characterized by a rural countryside with farms, small towns and villages. Whitewater canoeing may be experienced along a 2 1/2 mile stretch running through Ken Lockwood Gorge, a state wildlife management area and state natural area designated for its hemlock ravine community. Continuing south the river slows and widens, and arches toward the northeast to meet the North Branch.

Toms River

From its headwaters near the northern limits of the Pine Barrens in Ocean County, the Toms River eventually empties into Barnegat Bay. The most

canoeed stretch of the river is a 21 mile segment from Don Connor Boulevard (Coventry Road) in Jackson Township, passing the State Forestry Services tree nursery and two local parks, to Toms River in Dover Township. As the river becomes tidal and empties into Barnegat Bay, motor boat and sailing uses become the prominent river activities for approximately 5 miles.



POTENTIAL TRAIL ROUTES FOR THE STATE TRAILS SYSTEM

Allaire to Raritan Bay Greenway
Cape May Trail/Pennsylvania-Reading Seashore Line, West Jersey and Southern Railroad
Central Railroad of New Jersey, Southern Branch
Central Railroad of New Jersey, Toms River and Barnegat Branch
Coastal Heritage Trail
Cross-Jersey Trail
East Coast Greenway
Elizabeth and Trenton Railroad
Highlands Trail
Hudson River Waterfront Walkway
Lehigh and Hudson River Railroad
Lehigh and New England Railroad
Lenape Trail Extension
Meadows Path
Penn Central Railroad, Camden and Burlington County Branch and Union Transportation
Penn Central Railroad, Philadelphia and Long Branch Line
Pennsylvania-Reading Seashore Line, Bridgeton Secondary
Pennsylvania-Reading Seashore Line, Newfield Branch
Six Mile Run Trail System
Sourland Mountain Trail System
Warren Grove Multi-use Trail System
Watchung Trails
West Wharton Multi-use Trail System

POTENTIAL TRAIL ROUTES FOR THE STATE TRAILS SYSTEM

The public demand for trails in New Jersey is based on a number of factors. Population density contributes to a greater proportion of people that desire trails for specific uses. The currently available uses of recreational trails, as well as the absence of certain uses, together with the public demand placed on the resource, all contribute to a desire for additional trails.

There are many ideas of where new trails should be located in New Jersey. Factors considered by public agencies, trail groups and individuals to locate trails frequently include the criteria used to evaluate the trails considered eligible for designation as the regulations in Appendix IV. They also include general planning guidelines:

- Proximity to population centers. Trails are located where the people can most easily use them. Within New Jersey, the 1990 census listed the most populated counties as Bergen, Essex, and Middlesex. The greatest percentage increases from the 1980 census were in Ocean, Hunterdon, and Somerset counties. However, locating long distance trails in populated areas, or in a county such as Hudson, the most densely populated county, is difficult because of the lack of open space and generally higher purchase cost. The most frequently found source of new trails in populated areas is abandoned railroad rights-of-way or river corridors. Opportunities for long-distance trail development still exist in Ocean, Hunterdon, and Somerset Counties, and planning for trails should either precede or keep up with growth.
- Geographic representation. To have a statewide system of trails, representative sections of the state should be included. The mountains in the north, hills in the central Piedmont, coastal areas, the Pine Barrens in southern New Jersey, and the Inner Coastal Plain of central and southern New Jersey with flat lands and hills exhibit their own individualized scenic qualities.
- Presence of unique features. Natural phenomenon or cultural features unique to or representative of the state or region which can be seen from a trail are also considered.
- Cost of acquisition. Cost to acquire land for trails is weighed against other factors. If only a few or a single purchase can be made, this reduces the cost over the purchase of several lots from several individual owners. Also to be considered is the possibility of a donation of land.
- Cost of development and maintenance. The biggest expense of trail building is in bridge construction, particularly with abandoned railroad rights-of-way, where the structures have been removed by the railroad company. Other costs include trail surfacing, drainage work, fencing and gate installation, development of parking areas, etc.
- Linkage with existing public lands. Trails serve as greenways connecting open space nodes. They can also be developed to connect existing trails.
- Availability. Frequently, availability, or the willingness of a property owner to sell the property, is the deciding factor in acquiring land as public open space, and then weighed against the other factors.
- Public acceptance. Citizens from the municipality or region may support trail development. The presence of an organization formed to encourage trail acquisition and development frequently aids in a trail being developed for the public.

In 1992, the National Park Service and the National Parks and Conservation Association published the report *Toward a Regionwide Network of Trails for the Mid-Atlantic States*. For the report, recommendations were sought from trail groups and state and local officials about trails to include for a regional network within these states, including New Jersey. For New Jersey, 30 different

routes were listed, including existing trails, abandoned railroad rights-of-way, and general routes for new trails. Existing trails such as the Appalachian Trail, Batona Trail and Delaware and Raritan Canal State Park were included. Some recommended routes included: an extension of Delaware and Raritan Canal State Park north to the Appalachian Trail at Delaware Water Gap; a trail along the route of the Morris Canal; a connecting trail between the southern end of the Sussex Branch Trail and Patriots' Path; a trail along the Delaware Bay from Salem to Cape May; extensions of the Batona Trail north to the Delaware River and south to Cape May County; an enduro intersecting trail network between Chatsworth and New Gretna in southern Burlington County. Linkage with existing trails, current use, and interest of a citizens group were the principal justifications given for including routes. Many of these suggestions, however, were not researched for particular routes or trail needs, nor were they being actively developed by either a governmental agency or trail group.

The following routes of potential trails include many of the recommendations from the federal report, and abandoned railroad rights-of-way which have been surveyed over the last several years for their trail potential. These surveys examined the ownership, current condition of the pathway, and potential for conversion to a trail. Routes that are not abandoned railroad rights-of-way are those which have been proposed in the past by user groups or public agencies. Their course need not necessarily take a straight line, but can follow river corridors, borders of property lines, road shoulders, or lands within a highway right-of-way. This listing of potential trail routes will be continually changing, as new routes are recommended by the public, studied, routes listed here become trails, or other routes listed here become unfeasible over time.

POTENTIAL TRAIL ROUTES

Allaire to Raritan Bay Greenway

This route is in the planning stages, to be developed by Monmouth County as a multiuse trail and open space area. Planned to be 21.5 miles in length, it would link existing state, county and local parks, and use abandoned and inactive rail lines. The rail line is part of the Conrail network, formerly the Freehold and Jamesburg Railroad and the Central Railroad of New Jersey. At its southern end, it would begin in Allaire State Park, which would also link it with the Edgar Felix Bikeway through Wall Township, continuing northwest through Howell Township and Farmingdale Boro to Freehold Boro. From Freehold, it would turn almost due north through Freehold and Marlboro townships, and Matawan Boro. From there it would turn northeast through Aberdeen, and meet up with the Henry Hudson Trail, which would continue east to Atlantic Highlands near Raritan Bay. The route would pass through the Outer Coastal Plain and the rolling hills of the Inner Coastal Plain, crossing tributaries of the Manasquan River, Swimming River, and Matawan Creek. The greenway would pass through a variety of land use types, from mixed-oak forests, freshwater wetlands, farms, suburban development and towns. Because major sections of the route are inactive, a decision has yet to be made on the status of the line. If the line is to be reactivated, the county may consider a rail-with-trail. If the line is to be abandoned, then the county will pursue use as a trail and greenway.

Cape May Trail/Pennsylvania-Reading Seashore Line, West Jersey and Southern Railroad

A trail spanning the length of the Cape May peninsula would connect public lands from the tip of Cape May to Belleplain State Forest in the north. The West Jersey and Southern Railroad route could be used for all or parts of this trail. This abandoned rail line runs approximately 35 miles from Cape May City through West Cape May Borough, Lower, Middle, Dennis townships,

Woodbine Borough and Dennis Township again, all in Cape May County. The right-of-way crosses into Maurice River Township in Cumberland County and ends at Route 646 in Manumuskin. The right-of-way varies in width up to 60 feet and rails are in place on the southernmost five miles and for the last two miles of the route. Just south of Rio Grande, the right-of-way splits and the other Pennsylvania-Reading Seashore Line continues north to Tuckahoe. Freight service has resumed, and that line is now known as the Shore Fast Line Railroad. From Rio Grande to Woodbine, a distance of 17 miles, Atlantic Electric transmission lines follow the West Jersey and Southern right-of-way. The path passes a municipal park, Cape May County Park, a gravel pit, Beaver Swamp Wildlife Management Area, and the Great Cedar Swamp. North of Woodbine, the route crosses Belleplain State Forest and abuts a small portion of Peaslee Wildlife Management Area.

Conversion of all or parts of the line to a trail, or its shared use as a trail, should be considered because the right-of-way could serve as a non-motorized alternative to Route 9 and the Garden State Parkway to access various points in Cape May County. Another significant reason for using the line as a trail is that the route is in close proximity or traverses various state, county, and local public lands. In addition, there are a number of private campgrounds that provide recreational opportunities in all parts of Cape May County. Because much of the northern portion of the line runs through Belleplain State Forest and is already owned and administered by the state, administration of a trail north of Woodbine would be best served by the Division of Parks and Forestry. Conversion by gaining easements south of Belleplain State Forest could be pursued not only by the state, but also by Cape May County with the cooperation of the municipalities. The Department of Environmental Protection is considering acquisition of the Cape May Point Branch abandoned rail line which connects with this line in West Cape May. There is also a railroad group named "Cape May Seashore Lines"

that is negotiating with New Jersey Transit Corporation to utilize the existing tracks and right-of-way from Cape May City to Rio Grande to run excursions on an historic steam or diesel train. Securing easements rather than acquiring the right-of-way would probably be the best course of action because of the number of different owners, including the considerable amount of right-of-way owned by Atlantic Electric, and the possible use of part of the right-of-way as a tourist railroad.

Central Railroad of New Jersey, Southern Branch

The Southern Branch is an abandoned line running approximately 24.5 miles. It begins at Woodmansie in Woodland Township, continues south through Tabernacle and Shamong townships, all in Burlington County, before entering Waterford Township in Camden County where the line becomes active at Winslow Junction. The tracks and ties are still in place along almost the entire route. The right-of-way varies in width from 50 to 100 feet and the surrounding landscape is generally flat. After passing through Chatsworth in Woodland Township, most of the route is heavily forested on either side of the right-of-way with pine-oak forest, particularly through 14 miles of Wharton State Forest. The right-of-way also crosses ten streams, several fields, a huge cranberry operation, passes Apple Pie Hill, and occasional bogs adjacent to the corridor. Shared use of the line as a trail should be considered because the line is continuous, has good access, and nine of ten stream crossings have bridges intact. Most significantly, the right-of-way is a connector between Lebanon and Wharton state forests, passes near Atsion Recreation Area, crosses two major canoe routes on the Lower Atsion and Batsto Rivers, connects with the Batona Trail, passes very near historic Atsion Village and Carranza Memorial, and is in close proximity to Pasadena, Greenwood Forest, and Winslow wildlife management areas. There are also numerous locations along the route that contain significant habitat for endangered plant and animal species. The line is owned by the New Jersey Department of Transportation, with planned light freight use. Part of the right-of-way could be used as a trail.

Central Railroad of New Jersey, Toms River and Barnegat Branch

This abandoned line runs approximately 17 miles from the town of Barnegat in Barnegat Township and continues north through Ocean, Lacey and Berkeley townships, Beachwood and South Toms River boroughs to Dover Township where the line becomes active at Mule Road and remains active west to Lakehurst. The majority of the right-of-way is 50 feet wide with several stretches being as wide as 100 feet. The tracks and ties have been removed along the entire abandoned portion of the line. Much of the route closely parallels Route 9 until South Toms River, where it then parallels Route 37. From Barnegat to Waretown, the line passes through a wooded area before passing a commercial and light industrial area north of Waretown. After passing the front entrance of the Oyster Creek Nuclear Power Plant, the right-of-way goes through residential areas, passes several parks, the Ocean County Utilities Authority Water Pollution Control Facility, a large sand and gravel operation, and more residential and light industry near Toms River. Although the route runs through a number of residential areas, the homes are usually screened from view because the right-of-way is often lined with trees. All of the bridges remain, although they need decking and railings, except for a short span over the Middle Branch of the Forked River where the pilings and abutments are in place. In Dover Township, the right-of-way goes under the Garden State Parkway and remains intact.

The route passes several municipal parks including the Barnegat Township Youth Recreational Complex, a Lacey Township beach on Lake Barnegat, William Hebrew Park in Lacey Township, Garfinkle Park in Dover Township and a small community park in Berkeley Township. In addition, Cedar Creek is accessible to launch a canoe from the right-of-way.

The line from Barnegat to the Beachwood and South Toms River boroughs municipal boundary, almost 14 miles, is owned by HAG Holding Company, Inc. In South Toms River there are only

two owners, a distance of a little over one-half mile. Dover Township owns the right-of-way for the last 2 1/2 miles in their township.

Significant reasons for converting the line to a trail include its use as a non-motorized alternative to Route 9, the route's proximity to various recreation areas, and its location in population centers, such as Barnegat, Waretown, Toms River and Silver Ridge Park, a retirement community in Berkeley Township. The state should consider acquisition of the line from Barnegat through South Toms River, a distance of approximately 14 miles. Dover Township's portion is already under municipal ownership.

Coastal Heritage Trail

This route is currently being developed by the National Park Service as a "vehicle touring" route. Authorized by Congress in 1988 to "provide for public understanding and enjoyment of sites and resources associated with the coastal area of New Jersey," it explores the natural and cultural centers of the New Jersey coast from the mouth of the Raritan River, along the oceanfront to Cape May, to Deepwater along the Delaware Bay. The Garden State Parkway serves as the inland border along the Atlantic Ocean, and Route 49 is the border for the Delaware Bay section. The concept of the trail is to connect sites which exemplify five major themes: maritime, wildlands, migration and habitats, recreation, and lifeways (prehistoric and historic industries and structures).

What should be included as a part of the Coastal Heritage Trail is a hiking and/or biking route as well. Certain sections of the route can be made accessible, using abandoned railroad rights-of-way or road shoulders. Railroads serviced the needs of the coastal communities during the late nineteenth and first half of the twentieth century, bringing tourists to the shore resorts, or transporting local goods to markets in the New York and Philadelphia areas. As such, the lines are an integral part of the heritage of coastal New Jersey. The Henry Hudson Trail running parallel to Raritan Bay is currently being developed as a bikeway by

the Monmouth County Park System. The old Pennsylvania-Reading Seashore Line from Cape May to Woodbine Junction, and from Woodbine Junction to Manumuskin is wholly incorporated in the trail area. It connects public open space lands and serves as a migration route and habitat for wildlife. Portions of the Central Railroad of New Jersey's Toms River and Barnegat Branch in Ocean County can also be converted to a trail and made a part of the Coastal Heritage Trail. Without an abandoned railroad running east-west in the vicinity of Delaware Bay, either road shoulders or purchase of individual parcels would have to be used for the pedestrian trail. Roads south of Route 49 receive very little traffic and could be used either temporarily or permanently as part of the trail route.

Cross-Jersey Trail

The Cross-Jersey Trail and Greenway is proposed for approximately 100 miles from the Delaware River in Hunterdon County to Newark's Military Park in Essex County. The trail would use existing trails and rights-of-way in state, county or local parks when possible. The trail may traverse a variety of north central New Jersey landscapes including rolling hills, river gorges, floodplains, wet meadows and residential districts. The proposed trail begins at the town of Riegelsville at the bridge crossing the Delaware River into Pennsylvania. This information is derived from a report by Andropogon Associates for the Columbia Gas Transmission Company, since a portion of the proposed trail would follow the company's pipeline right-of-way. The first section would cover over 26 miles in northwestern Hunterdon County. Along this section, the corridor would travel in the Lower Musconetcong Valley, along the abandoned Lehigh Valley Railroad spur adjacent to the Musconetcong Nature Preserve, through farmland using the service road of the active New Jersey Central Railroad line, and form the High Bridge Loop encircling the Borough of High Bridge and connecting Voorhees State Park and Spruce Run Recreation Area.

The former High Bridge railroad line covers the next 15 miles, following the South Branch of the Raritan River through Ken Lockwood Gorge Wildlife Management Area and rural countryside, leading to the community of Bartley in Morris County. This section of trail is owned by Columbia Gas Transmission Company for a pipeline right-of-way. The company will provide a completed trail system on the old railbed after constructing the pipeline and donate title of the land to Hunterdon and Morris counties. However, Columbia Gas is currently in bankruptcy proceedings and trail improvements have been suspended until the situation is resolved.

The next 38 miles of the proposed trail may utilize existing and proposed portions of the Patriots' Path in Morris County. This segment includes a route that parallels the Black River with its extensive marsh, the Mount Freedom Loop connecting Brundage and James Andrews Memorial parks, traverses the Whippany River floodplain, and crosses Troy Meadows, ending at the Essex County Center for Environmental Studies.

Existing and proposed portions of Essex County's Lenape Trail would make up the last 24 miles of the proposed Cross-Jersey Trail. Starting at the Center for Environmental Studies in Roseland to Military Park in downtown Newark, the trail would use approximately eight miles of Public Service Gas and Electric Company transmission line rights-of-way and connect twelve county and municipal parks.

A coordinated effort from local, county and state agencies to acquire or secure easements along the proposed trail corridor will be necessary to ensure the success of a Cross-Jersey Trail and Greenway.

East Coast Greenway

The East Coast Greenway is a proposed off-road trail for bicycling, hiking, wheelchair users, runners and many other non-motorized forms of travel. The trail would link existing or already-planned trails by using various rights-of-way,

including abandoned rail and canal rights-of-way, public parks, and other linear spaces to create a corridor connecting the major cities on the east coast. The first stretch of trail to be completed, by the year 2000, is planned to run from Boston to Washington D.C. Eventually, the goal is to extend the trail from Maine to Florida, connecting with other trails throughout its route. Although mostly off-road, development of bike lanes and sidewalks should be encouraged for segments along local streets.

The New Jersey portion of the trail is planned to begin as the route crosses the Goethals Bridge from New York and continues through Union County utilizing that county's park system. Following the Elizabeth River, the trail would traverse Mattano Park, Elizabeth River Park which includes Ursino Lake, and Galloping Hill Park. The trail would then use an existing corridor that links Black Brook, Lenape and Echo Lake parks and Watchung Reservation. The route has mostly on-road passage from Watchung Reservation through the boroughs of Dunellen and Middlesex in Middlesex County, roughly paralleling Route 22, before reaching the Delaware and Raritan Canal State Park in South Bound Brook, Somerset County. Using the D & R Canal towpath as its main route, the trail would continue until reaching Trenton, where several roadways must be used before crossing the Delaware River via the Calhoun Street Bridge into Pennsylvania. The New Jersey portion of the Greenway covers approximately 54 miles.

As part of the 1992 National Trails Day celebration, the Delaware and Raritan Canal Towpath was designated as the first official link in the East Coast Greenway. In July of that year, an exploratory tour was conducted from Boston to Washington D.C. to help determine the best route, promote the concept, and demonstrate the trail's feasibility. Trail needs include a definitive route which may include easements, separate bike/walk lanes along roadways, a system of signs, brochures/maps and agreements for the responsibilities of maintaining the many trail segments incorporated into a continuous trail.

Elizabeth and Trenton Railroad

This abandoned line runs approximately 23.5 miles from Hamilton Township, Mercer County and continues northeast through West Windsor Township, also in Mercer County, through Plainsboro, South Brunswick and East Brunswick townships in Middlesex County. The right-of-way runs through Milltown Borough before ending in North Brunswick near the Cook College Campus. The majority of the right-of-way is 100 feet wide and is located primarily in the Inner Coastal Plain with the last few miles near Milltown being in the Piedmont Province. The route passes residential and business areas, crosses fields and forested areas, traverses or is near various parks, crosses eight streams and two lakes, and links two college campuses. Public Service Electric and Gas overhead electric transmission lines run almost the entire length of the right-of-way. Public lands the path crosses or lies near include Mercer County Community College and Mercer County Park in Hamilton and West Windsor townships, Plainsboro Township Conservation Center in Plainsboro, and Davidson's Mill County Park, undeveloped Ireland Brook County Park and Pigeon Swamp State Park, all in South Brunswick. In North Brunswick Township, the path crosses the Farrington Lake Open Space and Conservation Area, is adjacent to Eisenhower Park, and reaches a portion of the Cook College Campus of Rutgers University at the northern terminus of the line.

Significant reasons for converting this line to a trail include the route's close proximity to a number of public recreation areas and the chance to link those areas as a greenway, its use as a non-motorized alternative to Route 1 between Trenton and New Brunswick, and the access it could provide to both Mercer County Community College and Cook College of Rutgers University. To make the line continuous, bridges over eight streams would need replacement, and the trail would have to be re-routed on local roads to reach the other side of Route I-295. The right-of-way would have primarily county or local interest, particularly since the majority of public land bordering the route is county or municipally owned. Because there are seven different

municipalities involved, conversion by gaining easements could be pursued by Mercer and Middlesex Counties with the cooperation of the municipalities. Securing easements rather than acquisition would probably be the best course of action since P.S.E.&G. owns almost the entire corridor, including the transmission lines.

Highlands Trail

A trail route of over 100 miles that would be located within the Highlands Physiographic Province from the Hudson River in New York State to the Delaware River, is actively being studied by a committee of the New York-New Jersey Trail Conference, New Jersey Conservation Foundation and various trail and conservation groups and governmental agencies. The study is being guided by the National Park Service under their Rivers and Trails Conservation Assistance Program. The route or routes will rely to a great extent on connecting existing public lands and trails within them. Sections may also use privately-owned lands as well. Some portions of the route may be available for hiking only, others will be multi-use or spurs off of a main route. Committee members developing the route(s) have been meeting with local officials and holding public meetings to provide information about the planning efforts and receive input on route selection. For those portions to be included now on private property, a decision will have to be made as to who or what agency will either acquire those lands or seek a recreational use easement for them.

A portion of the trail has been designated on lands owned by the Newark Watershed Conservation and Development Corporation in Passaic County. Agreements with DEP's divisions of Parks and Forestry, and Fish, Game and Wildlife have also been approved for use of those lands for the trail as well.

Another trail proposal is being developed for a Farny Highlands Trail, coordinated by the Morris Parks and Land Conservancy. It is proposed that the Farny Trail Network will connect with the Highlands Trail, but be concentrated with the

general area of Fanny State Park and northern Morris County. It would be developed as a multiple use trail system.

Hudson River Waterfront Walkway

The Hudson River Waterfront Walkway is planned to extend 18 miles along the west shore of the Hudson River from the George Washington Bridge in Fort Lee to the Bayonne Bridge in Bayonne, with access paths from neighborhoods and roadways where appropriate. Other municipalities the walkway will traverse along its north to south route include Edgewater in Bergen County and North Bergen, Guttenberg, West New York, Weehawken, Hoboken and Jersey City in Hudson County. This linear park would offer spectacular views of the Manhattan skyline and will link some of Hudson County's historic railroad terminals. The walkway will improve access to the 1,100 acre Liberty State Park in Jersey City and the Palisades Interstate Park beginning in Fort Lee, and municipal parks. In addition, the walkway would benefit community revitalization and provide natural resource protection. The project is designed to open the waterfront to residents and visitors after nearly a century of railroad, shipping and industrial use.

Large areas of the waterfront have been targeted for redevelopment as mixed use, residential, commercial, office and recreational development. The walkway is being integrated into development plans that must be approved through Hudson River Waterfront Development Permits that are issued from the Environmental Regulation element of the Department of Environmental Protection. There are approximately four miles of completed walkway, with over one mile of the distance being in Liberty State Park and its promenade along the seawall on the Hudson River. Other completed sections include 1,000 feet of indoor walkway at the Harborside Financial Center and 500 feet at Grundy Park, both in Jersey City, 2,815 feet at Lincoln Harbor in Weehawken, 500 feet at the Hoboken Terminal, 1,160 feet at Palisades Hospital in North Bergen, 660 feet at a commercial plaza in Edgewater and 5,000 feet at

Kill Van Kull Park in Bayonne. Most of the completed sections have parking associated with the completed waterfront projects. In addition to the completed sections, there are approximately three miles of interim walkway waiting to be completed. There is also a total of 1.25 miles of pier access available with piers in West New York, Weehawken and Jersey City. Another eleven separate development projects have approved state development permits, but are not yet built. These approved projects, including residential, retail and office space and marinas and hotels, will add almost three more miles of walkway. Other proposed segments will utilize roads, easements, Green Acres funding or are in the pre-application stage for permits. Two non-profit organizations, the Hudson River Waterfront Conservancy and the Trust for Public Land, are working with the DEP to help the Hudson River Waterfront Walkway be completed.

Lehigh and Hudson River Railroad

This abandoned rail line runs approximately 27 miles in Warren and Sussex counties from just south of the Town of Belvidere in White Township through Belvidere Town, Liberty, Independence, and Allamuchy townships in Warren County and continuing into Sussex County through Green and Andover townships, Andover Borough, and back into Andover Township where the line becomes active at Mulford Station. The majority of the right-of-way has railroad ties partially intact, however, there are areas where the rails and ties have been completely removed. All twelve of the bridges crossing the Pequest River, Popahandusing Brook and several roads are intact and appear to be in good condition. The right-of-way is located within the Ridge and Valley Physiographic Province and runs along the Pequest River Valley for most of its length. Much of the route is relatively flat, although there is hilly terrain in the Pequest gorge, near the village of Allamuchy and to the north in Sussex County.

The route is almost entirely rural, passing through only several small towns including Belvidere and Buttzville and passing near the

Borough of Andover. There are a number of scenic natural features along the L&HR abandonment including the line paralleling the Pequest River, the rich farmland at Great Meadows, the marshes near Allamuchy and the numerous lakes and swamps the route passes in the Andover area. Recreational areas accessed by the L&HR include Delaware River Access Site in Belvidere, Pequest Wildlife Management Area which includes the Pequest Trout Hatchery and Natural Resource Education Center, two municipal parks and the twenty-mile long state-owned Sussex Branch Trail. The route is also very near Jenny Jump State Forest and Allamuchy Mountain State Park. Other points of interest are historic buildings in Belvidere and the communities of Allamuchy, Andover, Tranquility and Great Meadows, and Kittatinny Valley State Park, which it crosses.

Converting this line to a trail would be significant because the entire right-of-way and all bridges are still intact, has good access, and connects to public lands including the Sussex Branch Trail which intersects the Paulinskill Valley Trail. This would form a loop of rail-trails which would greatly increase trail use opportunities. In addition, there are only seven property owners, with the majority of the right-of-way owned by one private holding corporation. The route would have statewide interest because of connections with other long-distance trails and other state-owned properties. A combination of fee acquisition and easements could be pursued by the state as the best course of action.

Lehigh and New England Railroad

This abandoned line runs approximately 21 miles in Sussex County from Swartwood Station in Hampton Township through Frankford, Wantage and Vernon townships before reaching the New York State line. The right-of-way is located within the Ridge and Valley Physiographic Province with the portion below Sussex Borough having gently rolling topography and the northern portion being very flat as it traverses the Wallkill Valley. The route is almost entirely rural, passing numerous farms and forest with only the Borough of Sussex

being a population center. Most of the bridges are intact and appear to be in good condition, although rails and ties remain. In most cases, the bridges cross streams less than five feet in width, including Papakating Creek, the Paulins Kill, and their tributaries. There is, however, a major interruption where a bridge is missing over the Wallkill River. The majority of the right-of-way contains a buried pipeline for Elizabethtown Gas Company, which also owns much of the corridor.

Significant reasons for converting this line to a trail include the line's intersection with the state-owned Sussex Branch Trail and the Paulinskill Valley Trail. This would form a loop of rail-trails that would greatly increase trail use opportunities. Conversion to a trail would also allow users to access the newly created Wallkill River National Wildlife Refuge and the Appalachian Trail, where a short segment of the right-of-way is used for the Appalachian Trail near the New York State line. The right-of-way would have statewide interest because of connections with the other long-distance trails. A combination of fee acquisition and easements could be pursued by the state as the best course of action.

Lenape Trail Extension

The Lenape Trail links county and municipal parks, historic landmarks and districts, schools and other points of interest in communities throughout Essex County. There are approximately 20 miles of existing trail with another 15 miles proposed. The completed trail will run from the West Essex County Park's Center for Environmental Studies where it connects with Morris County's Patriots' Path, to Military Park in downtown Newark. The Lenape Trail will also be the eastern terminus for the proposed Cross-Jersey Trail that will begin at the Delaware River and end in Newark. The main route has several branches that are either completed or partially completed. Proposed sections of the Lenape Trail would link together existing sections of trail and complete the trail branches that connect to the main route. Most of the proposed trail sections would use utility rights-

of-way or other private land. Easements on private land and either licenses or easements on the rights-of-way will have to be negotiated. The single most important need is to fill in the gaps necessary for trail continuity. The largest such gap is 5-6 miles of PSE&G right-of-way from West Caldwell to Cedar Grove. Several bridges also need to be constructed along this route. Other sections needed for continuity include access through an industrial park connecting Community Park and the PSE&G right-of-way in Cedar Grove, securing an easement on property around the Newark-owned Cedar Grove Reservoir, an easement through private land to South Mountain Reservation, access through a Crystal Lake development to connect to Eagle Rock Reservation and Verona Park, and completion of the West Essex Greenway from Cedar Grove to Grover Cleveland Park. With county and community support, the completed Lenape Trail will become an asset to Essex County citizens as well as citizens throughout the state.

Meadows Path

This trail proposal is one of the few in the state to be located in an urban area, albeit in the open space areas of the Hackensack Meadowlands. The proposal is being developed by the Hackensack Meadowlands Development Commission as a 13 to 21 mile multi-use trail for hiking, mountain biking, and cross-country skiing. The path will pass through a cross-section of the Meadowlands open space areas, including extensive freshwater and brackish marshlands, landfills restored into parks, wooded uplands, and native grassland meadows. The marshlands in particular are renowned for the abundance of waterfowl found there. The trail will mostly parallel the western bank of the Hackensack River from Losen Slote Creek Park in Little Ferry in the north, through Richard W. DeKorte Park in Lyndhurst, and continuing south to the Kearny Freshwater Marsh and what is now a landfill undergoing closure with improvements underway for developing trails and landscaping. The trail alignment is based on existing dikes, service roads, and railways, including those of the Transcontinental Gas Corporation, the New Jersey

Turnpike Authority, New Jersey Transit, and Public Service Electric and Gas Company. Plans also include the establishment of a 3.5 mile spur trail off of the main path in Lyndhurst, which would connect the Bellemead Corporate Park and its commuter bus routes to the rest of Meadows Path. Continuing south, the trail will follow the route of the former Harrison/Kingsland rail line, ending at the West Hudson Park in Kearny.

Currently in place are 1 1/2 miles of wheelchair-accessible trails and boardwalks within DeKorte Park and a 2 1/2 mile loop trail connecting the park with the adjacent Meadowlands Corporate Center.

Penn Central Railroad, Camden & Burlington County Branch and Union Transportation Company

This abandoned line runs approximately ten miles in Burlington County from Mount Holly through Easthampton, Southampton, and Pemberton Townships before reaching inactive tracks within Fort Dix Military Reservation in New Hanover Township. The tracks and ties have been removed along all but 50 feet of the entire route. The right-of-way varies in width from 66-100 feet and the surrounding landscape is generally flat. From Mount Holly to Pemberton, the route passes through forested areas, a residential area, crosses Rancocas Creek, runs a short distance along a fiber-optic cable line, and traverses the southern end of Smithville County Park and Historic District, connecting to the park's trail system. The Smithville complex includes an historic village which is on the state and National Register of Historic Places. The route north of Pemberton crosses cultivated fields, passes several schools, and runs through hardwood forest for the last 1.5 miles.

Converting this line to a trail has merit because the line is continuous, has good access along the route and, most significantly, connects Mount Holly and Pemberton, with access to Smithville County Park between the two communities. The right-of-way could also serve as a bike route from Pemberton to the high school and elementary school near Fort Dix. The right-of-way serving as

a trail from Mount Holly to Fort Dix would have primarily county or local interest. Because there are five different municipalities involved, conversion to a trail by acquisition or gaining easements would probably be best pursued by Burlington County with the cooperation of the municipalities. Burlington County already owns approximately 1.3 miles of right-of-way through the county-owned Smithville complex.

Penn Central Railroad, Philadelphia and Long Branch

This abandoned line (also referred to as Pennsylvania and Atlantic Railroad) runs approximately 27 miles from Pemberton Township and Pemberton Borough in Burlington County through Manchester and Berkeley townships in Ocean County before ending at the Garden State Parkway in South Toms River Borough. The route is located in the Outer Coastal Plain and the surrounding landscape is generally flat, with pine barrens forest being the predominant vegetation. In addition to the line traversing forested areas, it also crosses streams, several blueberry fields, and passes swamps, ponds and old cranberry bogs. The right-of-way also runs near or through the communities of Pemberton, New Lisbon, Browns Mills, Whiting, and South Toms River. Jersey Central Power and Light electric transmission lines parallel the railroad right-of-way along much of the route. The majority of right-of-way is also owned by J.C.P. & L.

Conversion of the line to a trail would be significant because the line is mostly continuous, has good access, only one bridge would have to be built, and would link various communities as the only west-east trail of this length traversing south-central New Jersey. In addition, the route connects Lebanon State Forest, 125 acres of Green Acres tax-exempt open space at Keswick Grove and the 378 acre Crossley Preserve owned by the New Jersey Natural Lands Trust. Less than 1/4 mile south of the right-of-way lies the 465 acre Hovnanian Sanctuary which is owned by the New Jersey Audubon Society. There are also numerous locations along the right-of-way that contain

suitable habitat for endangered animal and plant species. Because the route could have statewide interest, and approximately 3 miles traverse Lebanon State Forest, conversion of the right-of-way to a trail by acquisition or gaining easements would be best pursued by the Department of Environmental Protection with administration by the Division of Parks and Forestry.

Pennsylvania-Reading Seashore Line, Bridgeton Secondary

The Bridgeton Secondary runs for 18 miles between Glassboro in Gloucester County and Bridgeton in Cumberland County. Within Gloucester County it runs through Glassboro and Elk Township; within Salem County, through Upper Pittsgrove Township, Elmer Boro, and Pittsgrove Township; and in Cumberland County, through Upper Deerfield Township and Bridgeton. The line is located in the Outer Coastal Plain with flat to slightly rolling topography throughout the entire length. Oak-pine forests, orchards, agricultural fields, and villages predominate the landscape, with only some residential development and light industry nearby in Glassboro and in Bridgeton. In fact, the line passes through what is probably the most extensive orchard area of New Jersey, in southern Gloucester and northern Salem Counties. Besides Glassboro and Bridgeton, the only community of any size that the line passes through is Elmer, with a population of 1,570. A major break in continuity occurs at the intersection with Route 55, about two miles south of Glassboro.

Because several roads cross any portion of the right-of-way, access is possible for both short or long trips. The bedding throughout the entire length is a cinder base and in good condition. Although the only public land that the right-of-way passes directly next to is a municipal park in Elmer, other recreational lands are nearby, including the Glassboro Wildlife Management Area, Parvin State Park (one mile to the east), and a private campground at Garrison Lake in Elk Township. Consolidated Rail Corporation (Conrail), which abandoned the line in 1984, is the largest single landowner with 11.6 miles of the line. Elmer Boro

and Elk Township own sections of the line within their respective municipalities. Private individuals own the remaining sections.

Legislation had been introduced in the New Jersey Assembly to include the Bridgeton Secondary Line in a rail-banking bill, funded from the New Jersey Bridge Rehabilitation and Improvement and Railroad Right-of-Way Preservation Fund Act. However, the line was later dropped from consideration because of the expected expense of crossing Route 55.

Even with a major interruption at the Route 55 crossing, conversion of the right-of-way to a trail is recommended. The line offers sufficient length in either direction of Route 55. Surrounding landuse is diverse, and access and parking are possible at several locations. Unless a bridge were requested to be built over Route 55, no other bridges would have to be built, therefore keeping development costs down. Some clearing would have to occur as part of normal maintenance. A trail would be available for non-motorized uses, including hiking, horseback riding (except in Glassboro), and mountain biking.

The Department of Environmental Protection has stated that it will not acquire the line. However, the counties or municipalities could acquire their sections for a trail.

Pennsylvania-Reading Seashore Line, Newfield Branch

The Newfield Branch of the PRSL originally started in Atlantic City in the east and ran to Newfield, in eastern Gloucester County. From there another line went north to Camden. Now, the abandonment runs from Route 40/322 in Egg Harbor Township to Newfield, a distance of about 27 miles. Although the abandonment extended to Newfield, adjacent property owners in Buena Boro and Newfield have incorporated the line into their own lots, sometimes erecting buildings on the former right-of-way. For this reason, the western terminus recommended is Route 54, allowing for a route of about 23 miles. The rails and ties are still

in place in the eastern section for about 3 1/2 miles. Some of the route is overgrown, but for the most part, the line has a cinder-based path. High tension electric lines use the right-of-way for approximately three miles, east of Mays Landing. The route passes through Pine Barrens forests of pine-oak, oak-pine, hardwood swamp forests and occasionally, white cedar swamps. Some suburban residential developments are found along the path in the eastern end, and in Hamilton Township, near Mays Landing, which is roughly the mid-point of the route. In the western part of Hamilton Township it passes through the small community of Mizpah, and in Buena Vista Township, the community of Landisville, where it is crossed by an active Conrail Line running north from Vineland. Within Mays Landing, the county seat, the right-of-way is incorporated into a small park, across from the northernmost stretch of the tidal Great Egg Harbor River. There are also two municipal parks the route connects, as well as a preserve of the New Jersey Natural Lands Trust near Mare's Run, and a private camp ground in Buena Vista Township. A bridge crossing the Great Egg Harbor River is still standing, and is used for fishing. Particularly scenic areas include the crossing of the Great Egg Harbor River, where the bridge crosses just downstream of the Lake Lenape dam, and the crossing of Mare Run, a tributary of the Great Egg Harbor River. At this location, the route is bordered on one side by white cedar swamps and on the other, abandoned ponds of what was once a sand and gravel mine.

The Atlantic County Utility Authority has acquired a great deal of mileage in the eastern section for a sewerage line, although the line above ground is intended to be used for a bicycle path. The county is also in the process of acquiring the rest of the line to continue the bicycle path.

Six Mile Run Trail System

The Six Mile Run Trail System is a potential trail network located on approximately 3,000 acres adjacent to Delaware and Raritan Canal State Park, and west of Route 27 in Franklin Township, Somerset County. The area is within the Six Mile

Run Reservoir site, administered by the Division of Parks and Forestry and assigned to D & R Canal State Park. Six Mile Run is a tributary of the Millstone River. Extensive vistas of rolling agricultural land interspersed with woodland make up the landscape, although residential development is planned for much of the surrounding area. With many farmsteads remaining from the early 1800s, much of the Six Mile Run area is on the State and National Register of Historic Places.

A proposed trail system would exist within a 20-foot wide corridor adjacent to lands currently or recently under agricultural tillage. A mowed grass surface trail system is anticipated to be over 37 miles long with numerous loops of varying lengths. With a 20-foot wide corridor, the trail would be multiple use and available for horseback riders, hikers, cyclists and cross-country skiers. A trail system at Six Mile Run should help relieve overcrowding at D & R Canal State Park and Somerset County facilities.

The site was originally purchased by the State of New Jersey in the 1960s and 1970s for the construction of a water supply reservoir and associated recreation. Until the Water Supply Authority decides if there is a need for a reservoir in this area, the Six Mile Run Reservoir site has been assigned to D & R Canal State Park for administration. The trail system would be excluded from leased agricultural lands, and any trail planning efforts would include farmers leasing those lands. A non-profit organization, Friends of Six Mile Run, is leading the way in support of developing a trail system.

Sourland Mountain Trail System

This trail system stretches over the Sourland Mountains in three counties. The Sourland Mountain Preserve is located on over 1,670 acres in Hillsborough and Montgomery townships in Somerset County. The preserve is part of the biologically and historically diverse Sourland Mountains, which lie within the Piedmont physiographic region. In June, 1995, the Somerset County Park Commission dedicated three trail

loops totalling four miles as part of the Sourland Trail System. The preserve will eventually contain over ten miles of easy, moderate and rugged trails when the trail system is fully developed. There are also plans for developing trails for the disabled. The Sourland Mountains extend into southern Hunterdon and northern Mercer Counties to the Delaware River where there are other possible trail connections in those portions of the Sourlands.

Many citizens in this region are working towards establishing a greenbelt that would connect existing protected properties including the N.J. Natural Lands Trust Highfields Easement (part of the former estate of Charles Lindbergh), Hunterdon and Mercer County landholdings, and the Agnes DeWitt Girl Scout Camp. The local group leading the way in this endeavor is the Sourland Regional Citizens Planning Council. The preserve also has trail linkage possibilities to the Raritan, Millstone and Delaware River corridors, as well as the Delaware and Raritan Canal State Park.

Warren Grove Multi-use Trail System

The Warren Grove Multi-use Trail System is a potential trail network consisting of many miles of existing sand "roads" through the New Jersey Pine Barrens. The trail system includes flatlands typical of the Pine Barrens, but also has many pine-covered hills, which would make it one of the more diverse trail systems in the Pine Barrens. The routes are primarily in southwestern Ocean County and southeastern Burlington County in the general vicinity of the town of Warren Grove. Potential trails may traverse sections of Penn State Forest and Warren Grove Recreation Area. The routes would consist of a series of short and long-distance loops, many of which are currently used for enduro motorcycle events. Because of the remoteness of the area and the thick sand base of existing pathways, these trails could allow multi-use activities including horseback riding, mountain biking, and motorized trail use. Hiking would also be a use, although with the soft-sand conditions, the routes may not be as appealing to hikers as the other trail uses. Although the paths exist already, much of the land is in private ownership and trail

use is neither allowed nor denied, there is no system of marked paths giving directions, parking is haphazard and not designed for trailers, and no maintenance takes place. Acquisition and designation as trails would improve conditions in this region.

Watchung Trails

Different trail proposals centering on the Watchung Mountains are in various stages of development. In some cases the general proposed routes overlap, in other cases they extend out in different directions. But for the most part, they connect Great Swamp National Wildlife Refuge on the west in Somerset County and end in the east in the vicinity of Union County's Watchung Reservation.

The Second Watchung Trail, proposed by the Somerset County Planning Department, would traverse Second Watchung Mountain in Somerset County. The route would begin in Pluckemin in Bedminster Township, run through Bridgewater and Bernards townships before ending in either Warren Township or Watchung Borough, a distance of eight to ten miles. If the trail were to extend into Watchung and reach the Union County line, there is a possibility for connections to the existing Watchung Reservation, a Union County park. The proposed trail would be primarily a hiking trail because of severe use limitations, such as steep grades, roads, etc. Some of the trail mileage could include horseback riding as another use. Some easements have been secured through dedicated funding from property taxes in Somerset County. The county is also working with municipal officials to establish a trail connecting the First and Second Watchung Ranges.

The New York-New Jersey Trail Conference has proposed a "Watchung Trail" which would run to the north and west of the Second Watchung Trail. This hiking trail would originate at Patriots' Path, west of Morristown and part of the Morris Area Trail System, and pass through several public open space lands, including Morristown National Historic Park, Morris County's Loantaka Park, and

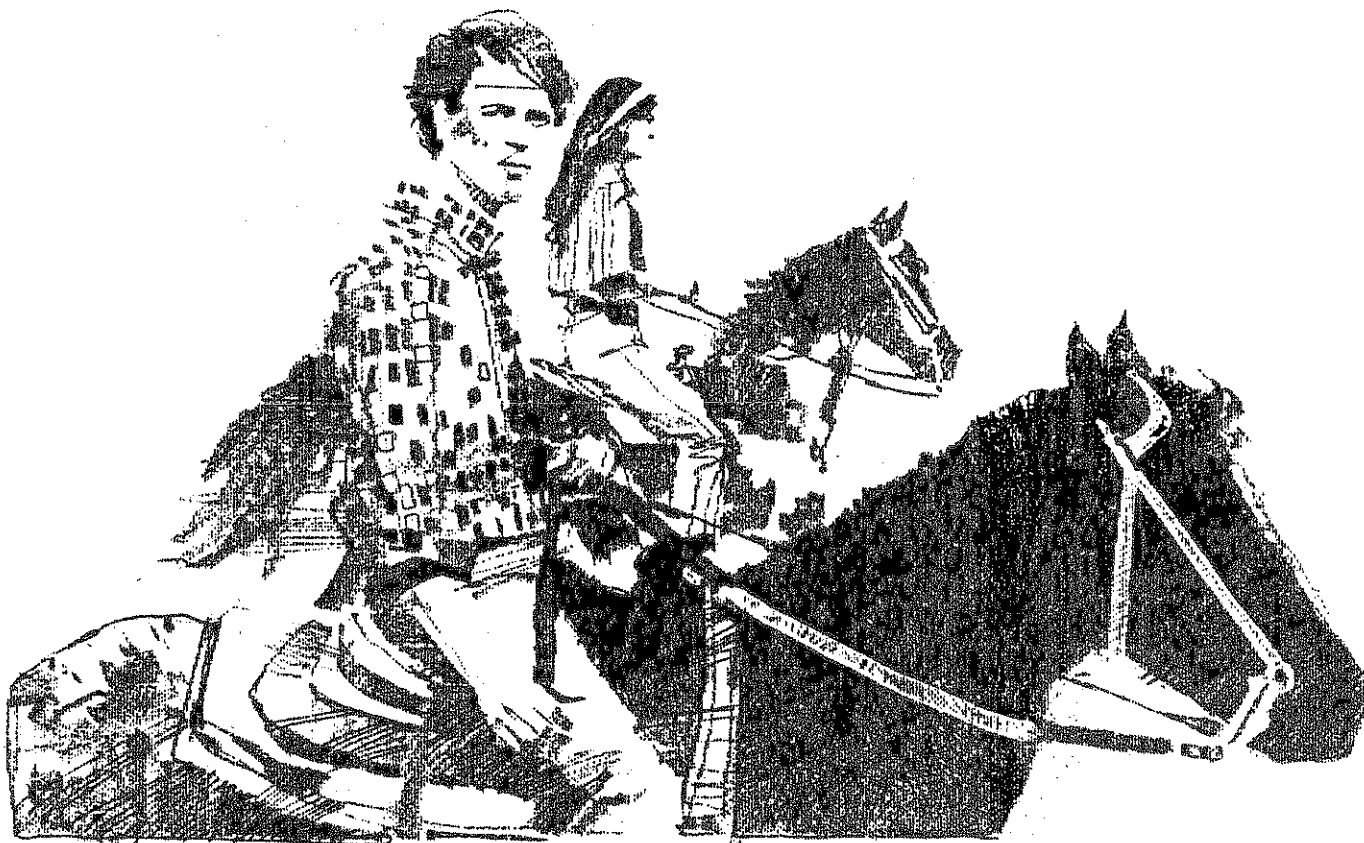
Union County's Watchung Reservation and Rahway River Parkway. The total length would be approximately 27 miles, of which 19 would be on existing park lands. The path would cross cut all three of the Watchung ridges. It could potentially connect with the Lenape Trail in Essex County, using streets to access the Trail in South Mountain Reservation.

The Watchung Reservation trail system has the potential to be designated to the State Trails System. It has 26 miles of bridle trails within the park, and an equestrian center with a stable for boarding horses, trailer parking area, and several outdoor rings. The park also has an historic village and an additional 40 miles of trails for hiking. Some hiking trails are extremely eroded on hillsides and wet in lowland areas. Officials attribute this problem to increased use by mountain bikers, and secondarily to horseback riders detouring off of the bridle paths. Park officials are trying to work with bicycle and hiking clubs to do some restoration work on the trails. If measures are taken to resolve the environmental problems, the trail system would be eligible for designation to the State Trails System.

West Wharton Multi-use Trail System

The West Wharton Multi-use Trail System is a potential trail network located in the western portion of Wharton State Forest, west of Route 206. A number of miles of existing sand "roads" traverse this lesser used area of Wharton. Bisecting this area is the Southern Branch of the Central Railroad of New Jersey, which is another potential trail route identified in this plan, and continues northeast through Wharton into Lebanon State Forest. Sand routes in West Wharton intersect with the rail corridor at various points. These existing pathways could form a network of routes that allow for multi-use activities including horseback riding, mountain biking, hiking and motorized trail use. The area is used for enduro motorcycle events by special permit. A marked trail system in this area would be the only other long distance trail system in the Wharton State Forest area, other than the Batona Trail, which is only available for hiking. Although

the area can be used now for trail activities, no paths are marked or maintained as trails, and developing them as trail routes would require posting with directional signs, parking areas, and maintenance.



CURRENT TRAIL ISSUES AND NEEDS

Liability
Management and Enforcement
Public Use of Private Land
Multiple Jurisdictions
Recreation and Transportation
Rights-of-Way
Urban Trails
User Education
Safety for Trail Users
River Trail Access
Trail Access for People with Disabilities
Motorized Trails
Off-Road Bicycling/Mountain Bikes
Multiple Use and Compatibility
Methods of Land Protection for Trails
Funding Sources for Trails

CURRENT TRAIL ISSUES AND NEEDS

Since the 1980s, when the previous trails plan was developed, economic conditions, user recreational trail preferences and regulatory requirements have changed the needs for trail development. Some issues discussed in the 1982 plan have changed significantly and are discussed in more detail in this plan. Other issues are basically the same, but with minimal changes in circumstances affecting their management and development. These are:

Liability

The New Jersey Landowner's Liability Act (N.J.S.A. 2A:42 A-2 et seq.) was enacted in 1968, yet, despite its 26 year existence, few landowners know of its existence, or use the fear of being held liable as a reason to object to public recreational facilities on or near their property. Under that statute, liability is limited for the landowners, except "which would otherwise exist for willful or malicious failure to guard, or to warn against, a dangerous condition, use, structure or activity." Many property owners, both public and private have stopped allowing some recreational activities to occur on their lands because of rising insurance costs and the liability issue. However, in efforts to stem the tide of increased suits, some states have passed legislation removing the burden of liability for certain "inherently dangerous" activities, such as horseback riding. Besides immunity for landowners, volunteers on public lands have become concerned about their protection for work they perform, such as trail or bridge construction and repair, worker's compensation to cover injury treatment for work performed, and protection of club members from suits and payment of attorney fees.

Management and Enforcement

As long as a trail exists, these considerations will exist also. Trail management includes several factors, including trail construction, placing signs

with information or instructions, locating ancillary facilities such as parking lots, trailheads, and restrooms, inspection for condition, and deciding on when to expand, relocate, or close a trail. Management also includes maintenance, in grooming trails so that they do not become overgrown, making repairs to bridges or bedding, or controlling erosion and drainage to keep a trail open or to prevent damage to the adjacent lands. Enforcement activities center on the presence of personnel to insure the safety of the users and adjacent lands, and also prevent vandalism, and to prevent illegal uses that are either unlawful or detrimental to the trail and legitimate users. Both management and enforcement require funding to hire staff who will establish a guaranteed presence on the trail at all reasonable times of the day. The Issue section "Funding Sources for Trails" includes additional considerations about management and enforcement.

One potential partial solution to the problem of both maintenance and enforcement is the establishment of a ridgerunner program. A ridgerunner program has been instituted along the Appalachian Trail, including New Jersey's section, in a cooperative effort of the State Park Service, Appalachian Trail Conference and the New York-New Jersey Trail Conference. The ridgerunner is trained by the ATC, employed by the state, and managed by NY-NJ Trail Conference. Runners provide assistance and education on allowable and illegal activities to hikers, and provide light trail maintenance. The program could be employed elsewhere for trails.

Public Use of Private Land

Providing access to private land and the fear of liability of landowners have been addressed by state programs which provide incentives to private property owners to open their lands to the public. The Green Acres Tax Exemption Program provides a renewable three-year limited term of property tax exemption to non-profit organizations making their

land available for public use. The New Jersey Open Lands Management Program can provide grants to private property owners to develop the land for specific recreational activities. Incentives for private landowners should be investigated so that they would be more willing to open up their land to the public. Purchase or donation of easements by a land trust or governmental agency are a means of sharing or shifting the liability if a lawsuit arises.

Multiple Jurisdictions

Regional trails crossing jurisdictional boundaries, such as Patriots' Path passing through county and federal lands, are frequently subject to different regulations under those jurisdictions. Some of the trail systems included in this plan cross jurisdictions, and designation to the trails system would help to ensure a certain standard of continuity of use and facilities. With the advent of regional trails being planned which rely on existing trails for some of their length, a new type of jurisdictional issue will arise. Because these trails, e.g., the Highlands Trail, are still in the planning stages, planning coordination will be important to ensure the integrity of the existing trails and their management as well as serve a need in the regional trail network.

Recreation and Transportation

Transportation is being cited more by trail planners as a purpose for creating trails, since the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), which provided a new funding source for trails. Where trail planning and development was primarily the responsibility of recreational planners, that is now changing, as transportation planners see trails as non-motorized corridors between population centers and points of interest, such as shopping centers, businesses and recreation areas. One part of ISTEA included the Congestion Mitigation and Air Quality Program, which was established to help states attain the National Ambient Air Quality Standards under the U.S. Clean Air Act Amendments of 1990. As non-

motorized corridors, trails will be planned and studied further for their ability to help reduce air pollution by reducing dependency on the automobile. This will be accomplished by incorporating a long-range plan for bicycle transportation and pedestrian walkways into the long-range transportation plan for each state. Other provisions of ISTEA affecting trails included the requirement of a state bicycle and pedestrian coordinator, for promoting and developing increased use of non-motorized modes of transportation; and the Scenic Byways Program, which provides funds to construct facilities along designated highways for use of pedestrians and bicyclists. Route 29, next to the Delaware River and Delaware and Raritan Canal, is the first designated Scenic Highway in New Jersey.

Rights-of-Way

Use of rights-of-way may be changing over the next few years. With decreased development in the 1990's, many "paper streets" planned for developments that never occurred, or for portions of state highways that are not planned to be completed, exist as public thoroughfares. Many of these rights-of-way are used by motorized trail vehicles. They serve as potential sources of trails and can link with existing trails. However, some utility rights-of-way are being viewed more cautiously for trails than in 1982. Where overhead transmission lines were once considered for potential trail routing, some citizens have voiced their concern for using them because of electromagnetic fields (EMF). The effects of EMF on trail users is not known, and future research may provide more information on their suitability as trail routes.

What also should be considered for trails in the future is rails-with-trails and shared use of highway rights-of-way. Individual circumstances, including the amount of train traffic, availability of adjacent land to the tracks for a trail, need for any barrier between the tracks and trail, and agreement with the railroad company, will determine the feasibility of using active rail lines for trails. Highways are frequent routes for recreational biking, and can be used as connectors between recreational trails.

Wide road shoulders are best for this purpose to provide safety for the user.

Urban Trails

Urban trails are still needed for the 1990s, but they are assuming a more encompassing role for open space protection as part of greenway planning. In a greenway, a trail or waterway provides the connecting link between parks and provides habitat for plants and animals with its adjacent open space. In some cases, the greenway is planned first and a land trail is designed later to fit into the purpose of the greenway. With river-based greenways, access points for boating or canoeing are added after the greenway is established. Fee simple title or easements are generally purchased from landowners in a corridor, for example, of 200 feet in width in each side, to form a greenway. For existing trails, adjacent parcels of land are protected in some manner to provide scenic buffers for the trail, rare and endangered species protection, or non-specific open space protection. Urban trails are also being created from abandoned railroad rights-of-way that formerly serviced businesses and industries no longer in existence.

User Education

How the many and varied users of a trail conduct themselves is important in providing for a high quality trail experience. Users must be reminded that they should be courteous of others using the trail, provide for their own safety, and not irritate adjacent private landowners by trespassing onto or vandalizing their property, or making requests to use the telephone or bathrooms. This applies to all trail enthusiasts, not just those on multi-use trails. With a variety of users on our trails, each of the other type of trail user should know something about the others. A prime example is how cyclists and hikers should approach horses on the trail. New Jersey horse trail clubs can follow the example of their counterparts in Colorado, who give demonstrations or workshops to other trail user groups on horse

psychology and behavior, so the others know how to react when confronting a horse on a trail. Other education tools include listing the "rules of the trail" in brochures and on signs at trailheads and parking areas. Yield signs showing how types of trail users yield to each other can be posted. Each time a bicycle is rented, the store should provide the rules to each renter. Equipment manufacturers can produce videos that provide examples of how to use and share the trail.

As we approach the twenty-first century, new issues and circumstances will arise which may demand more in-depth analysis and solutions recommended than can be provided at this time. Two added issues which will warrant more investigation in the future are:

Safety for Trail Users

Our society is becoming more safety conscious, with the legislated requirement for children to wear helmets when bicycling, horseback riding helmets now designed for head protection and not just appearances, and requirements that canoeists wear life jackets/personal flotation devices. Faster methods of communication to access emergency services are possible with cellular telephones. Trail design to accommodate more use, both by a single use type and multiple use, is more aware of safer surfaces, lines of sight, passing widths and removal of obstacles. Trail users are warned not to stray from maintained paths, to prevent users from contracting Lyme's Disease from deer ticks in high grass areas. On public trails, park patrolling is becoming more important as a preventive measure to identify hazardous conditions, to assist legitimate trail users against criminal activities and to provide emergency medical assistance and communications for users. Each one of these subsets of safety could become more important in the future and require additional protection measures.

River Trail Access

Access to river corridors from private and public lands is an ongoing issue. Ongoing restrictions exist and continue to be a problem, especially along river trails where more access points are needed for put-in, take-out, resting, portaging and parking. In addition, long expanses of river banks are privately-owned throughout the state. Some landowners are reluctant to permit access because of fears of trespassing and potential vandalism, liability, as well as management and maintenance concerns. Another issue concerns that of river passage and the legality of blocking river use, as with fencing across a stream, for private interests. The relationship of landowners' and boaters' rights and needs will require further investigation.

TRAIL ACCESS FOR PEOPLE WITH DISABILITIES

The Americans with Disabilities Act (ADA) of 1990 (PL 101-336) extends civil rights protection against discrimination to individuals with disabilities. The purpose of the law is to eliminate discrimination against people with disabilities and to overcome physical barriers that prevent individuals from accessing programs, activities and services which are available to the general public. The ADA is divided into sections, or titles, that apply to private sector employment, state and local government services and programs, private and public mass transportation facilities, and telecommunications. The provisions of the ADA affect all activities and services, while other laws only apply anti-discrimination requirements to federal agencies and contractors who receive federal funding.

The focus of Title II of the ADA is to secure for people with disabilities, access to programs, activities and services of state and local governments and all other public entities. This includes trails and other recreational facilities. Although a public agency is not required to take action that would alter the nature of the service or program, other means must be effective in achieving equal treatment and providing opportunities in the most integrated setting appropriate.

In conformance with the ADA, a priority in developing the State Trails System is to provide opportunities to people of varying abilities to participate in outdoor activities that are available on trails. To accomplish this, efforts are being made in the planning process to accommodate disabled individuals, older adults and families with young children. Those who may be considered disabled include people with permanent or temporary mobility, visual, hearing or developmental limitations as well as those with internal disabilities, such as cardiac or respiratory conditions. In state parks and recreation areas, barrier free facilities for disabled persons are in place. Such facilities include parking areas, trail surfaces and grading to accommodate wheelchairs,

rest areas, lavatory facilities, water fountains, benches and picnic tables.

However, not all trails begin or end close to state park and recreation facilities, nor are all trails suited for all users. For long distance trails, modifications may be made to sections of the trail depending on the topography and the type of natural environment through which the trail passes. For example, sections of abandoned railroad rights-of-way that are being converted to trails may be designed and developed to accommodate a wide cross section of users including those with disabilities. The relatively straight, flat surfaces with packed bedding material pass through diverse landscapes, and therefore make these corridors conducive to a variety of trail uses and users. However, wilderness trails with steep, rough terrain in northern New Jersey or even heavy sand in the Pine Barrens, by their nature may not be suitable for all trail users and may not be appropriate to convert for special needs.

Although specific criteria directly addressing trails have not been finalized, the Uniform Federal Accessibility Standards (UFAS) (41 CFR 101-19.6) can be used as a basis for trail accessibility. The standards are the results of research conducted to determine the specifications needed to make travel routes accessible to a majority of disabled people. The draft Design Guide for Accessible Outdoor Recreation, developed by the U.S. departments of Agriculture and Interior, provides specific guidance in developing accessible trails. For example, to be accessible a trail must meet basic standards which address appropriate passing space, rest areas, width, surface, signage, slopes, edging, headroom and information points. Although the emphasis is on access for mobility limitations, there are criteria to address the needs of the visually and other impaired as well. This may be in the form of large print material, raised characters and color contrast on signs, among others. The Design Guide also recommends that at trailheads, level of difficulty information be provided for the trail user. This information may include the trail length, distance

between rest areas, safety features, width, slope and type of trail bed. Rating each trail by degree of difficulty or physical challenge needed to negotiate the corridor, would allow each individual to determine which trails would be suited to his or her abilities.

General and specific information regarding trail use and related activities that are available to individuals with disabilities needs to be developed and disseminated if efforts in implementing the ADA are to be effective. Descriptive brochures can specify the physical, topographic, natural and cultural features of the trail. Trained trail managers, staff and volunteers can serve as interpreters and important sources of public information, responding to special needs of users with various disabilities.

In developing a trail system for all users it is important to consider a distribution of trails throughout the state for travel convenience, accessible trail routes, and also the trail environment - topography and natural and cultural attractions for enjoyment of the trail experience. Trails with varying degrees of physical challenges, dispersed throughout the different geographic regions of the state, would provide choices of trail experiences to most users.

MOTORIZED TRAILS

The needs of motorized off-road vehicle (ORV) users have long been overlooked in New Jersey. Off-road vehicles (also referred to as off-highway vehicles or OHVs) are motorized vehicles intended for use off paved roads. ORVs included in this report are snowmobiles, all-terrain vehicles and off-road motorcycles. Other ORVs include four-wheel drive vehicles and dune buggies. An all-terrain vehicle (ATV) is a motorized vehicle designed to travel over any terrain and having from three to six low-pressure rubber tires. There are currently limited signed public ORV routes for all-terrain vehicles (ATVs) and off-road motorcycles on public recreational land. There are, however, mapped snowmobile routes in several state parks and forests including Ringwood, High Point, and Wawayanda state parks and Stokes and Lebanon state forests. Some snowmobile trails in Ringwood and Stokes are also marked. Many miles of woods roads are also available, although not marked, through state parks and forests, particularly in the Pine Barrens, for licensed motorcycles. There are also a number of sanctioned one-day enduro races on state park property where a special-use permit is given to the organization holding the event. Much of the off-road vehicle use is on private lands where it is condoned, tolerated or illegal.

Providing trails for motorized vehicles has been a controversial issue in New Jersey. In the past, motorized vehicles have been responsible for creating severe erosion problems in forests and wetlands, decimating vegetation and leaving deep scars on hillsides. Conflicts can also arise with other trail users, including equestrians and hikers, being overtaken or passed by vehicles. Many other trail users find the noise from vehicles offensive. Without a maintenance program performed by either volunteers or the staff of the park's managing agency, these conditions only worsen. National programs such as the **Tread Lightly** Program, initiated by the U.S. Forest Service, are trying to correct these problems. The five principles are: Travel only on designated routes; respect the rights of others; educate yourself; avoid streams, meadows, wildlife, etc.; and drive responsibly.

In November 1991, legislation was enacted (N.J.S.A. 39:3C-1 et seq.) that requires snowmobiles and all-terrain vehicles to be registered by the state's Division of Motor Vehicles when the vehicle is operated or permitted to be operated on or across a public highway or on public lands or waters in New Jersey. Currently, there is no registration or licensing procedure available for strictly off-road motorcycles although "dual purpose" motorcycles can be registered with the Division of Motor Vehicles and have a license plate if they are considered "street legal." A licensing mechanism similar to the ATV/snowmobile legislation has been discussed with user groups for off-road motorcycles not allowed on public roads. As in the all-terrain vehicle legislation, any new legislation for off-road motorcycles should provide for a portion of the registration fee being used for vehicle safety education and training courses. Another portion of the proceeds from fees could be used to help fund facilities and hire staff to maintain any future designated motorized routes. An alternative to registration is a Division of Parks and Forestry recreational use permitting system similar to that established for four-wheel drive vehicles using Island Beach State Park or the Division of Fish, Game and Wildlife's permit system for horseback riding on selected Wildlife Management Areas. Under Island Beach State Park's system, called Mobile Sportfishing permits, users must pay a fee for a seasonal or three-day permit and adhere to restrictions, which include seasonal access to certain areas of the beach and a limit on the number of vehicles per day. On Wildlife Management Areas, horseback riders must pay an annual fee, and have personal liability insurance; they are also limited to selected parts of the wildlife management area in which they may ride.

The National Recreational Trails Act (NRTA) of 1991 (Symms Fund) established a program for allocating funds to all the states for recreational trails and trail-related projects. At least 30% of funds received annually by a state must be reserved for uses relating to motorized recreation. With the

re-formation of the New Jersey Trails Council, including a representative from the motorized trail community, and input from the public and private sectors, there will be recommendations for the best use of the available NRTA funds. Because, however, funds have only been appropriated for one year, the full impact on motorized trail use as a result of the act cannot be determined.

The needs of off-road vehicle users are not unlike those of other trail users. The most important need is the designation of ORV routes that are open to the public. With that comes good signage, maps and adequate trailhead facilities. These facilities should include parking that will accommodate vehicles and trailers that may haul the ORVs, sanitary facilities, signs, unloading ramps, trash receptacles, a bulletin board with a map and rules for the particular area and, if possible, a source of potable water. A campground and/or picnic area along a route or near the trailhead is another attractive facility for motorized recreationists. Facilities for snowmobile routes should also include winterized restrooms and shelters with windbreaks. Because of how quickly ORVs cover ground, an adequate amount of mileage (at least ten miles) with multiple loops is desirable as part of an ORV route.

Any off-road motorized route should try to satisfy the user, minimize conflicts with other trail users, be developed and managed in a cost effective manner, and prevent environmental degradation to the greatest extent possible. Not all ORV routes have to be the same width, length or have the same surface. In fact, a variety of routes with different degrees of difficulty is desirable. However, while a rough or uneven surface may be challenging for an off-road motorcycle or ATV, it could be dangerous for a snowmobile on the same terrain. As smooth a trail surface as possible is desirable for snowmobiles. For user safety and the prevention of environmental degradation, state parks and forests have guidelines requiring at least 3 inches of snow for forest roads to be usable for snowmobiles, and fields should have at least 8 inches of snow. During extended periods of snow cover, snowmobile routes may have to be groomed if use is heavy. On any designated route, critical

plant and wildlife habitats must be avoided. Steep sustained grades (over 15% sustained incline) must also be avoided to prevent erosion. Other design criteria include trail width and height clearance, trail routing considerations, adequate drainage and, if necessary, methods for crossing streams and wet areas. An ORV route can be as narrow as two feet on more difficult motorcycle trails, but to accommodate the wider ATVs and snowmobiles, a width of at least four feet is necessary. A minimum clearing height is at least seven feet to allow clearance for riders of off-road motorcycles. The trail route should follow contours and avoid sharp angular turns; in hilly areas, it should follow the crest of the hill and when that is not possible, angle across the natural slope versus perpendicular hill-climbing. Proper drainage is also essential for good ORV routes. Allowing for natural drainage and avoiding boggy and wet areas are the best means to alleviate problems. However, if drainage is a problem, water bars, drain dips and culverts with collector ditches might be solutions. When ORV routes must cross wet areas, bridges, puncheons, turnpike or corduroy construction may be effective methods to protect the underlying soils and vegetation. Seasonal closures at times of high soil sensitivity may also be necessary.

Potential public off-road vehicle routes already exist in New Jersey, but they must be identified and designated. Consideration should be given to existing forest roads, unmarked trails, and firebreaks. An example of this is in Belleplain State Forest where almost 30 miles of various routes are being made available for licensed motorized recreationists. If all off-road vehicles become registered and routes in different areas of the state are designated and made public, the sport will become better regulated, with hopefully less enforcement problems, and its users and the entire trail community will benefit.

A possible solution to illegal ORV use of trails is the establishment of ORV "parks" or courses. These parks would provide a confined, monitored space, which could take some of the stress off of trails and trespassing onto private property. In confined areas, such as abandoned gravel pits, tracks or routes can be established where users

could experience varied terrain and tread conditions. Programs can be developed for teaching safe riding techniques and courtesy. If accidents do occur, emergency aid would not have to travel long distances to inaccessible locations in order to reach and treat accident victims. At the same time, many motorcycle users or other ORV users would use these areas and would not have to use trails as the only available location for their sport. The Egg Harbor Township Police Athletic League is developing such a program for children and teenagers within the township. Having just begun in 1994, the program is still in its infancy, and it will be watched closely as it develops over time.

Volunteer safety patrols, similar to those established by the U.S. Forest Service, can also be used to help control illegal use. Patrol members undergo a training course and CPR certification. As the patrols ride on ORV's, they can better track and not lose illegal users, since they can go to the same places and use the same routes. They can also assist other trail users who might require directions or emergency medical care. The program can also be established in a manner similar to that of the ridgerunner program for hikers, which uses paid seasonal workers.

FIGURE 3.



OFF-ROAD BICYCLING/MOUNTAIN BIKES

Mountain bikes are the most recent addition to trail use. Also called fat tire or all-terrain bikes (ATB), these non-motorized bicycles have appeared to surge onto hiking and horseback riding trails. From California, where the bike originated, to Maine, there are over 11 million mountain bikers, as reported in 1989 by the Bicycle Institute of America. Unlike the street or racing bike, a mountain bike can traverse varied terrain, water, and a variety of trail surfaces. But with it has come new demands and problems on and for trails. To some enthusiasts it provides the opportunity to cover open space at a pace faster than hiking, opening up more opportunities for enjoyment of the outdoors. To others, it presents a challenge with elements of risk in covering dangerous territory.

As a new trail activity, mountain biking has created a new set of problems concerning safety, user conflicts, and environmental degradation. If using existing trails, conflicts and problems can arise with current trail users, hikers or equestrians, concerning basic trail etiquette: speeding, getting too close to other users, and because the bikes cannot be heard, creating the "startle factor," in which a mountain biker suddenly encounters an unsuspecting trail user. This can be a great problem when encountering horses, who could do damage to themselves, their riders, and the cyclist. Increased use of trails by mountain bikes can create furrows or channels in which water can travel downhill, thus causing soil erosion over time. Erosion can be especially severe on trails traversing steep slopes without gradual inclines. Skidding and poorly executed braking when stopping can also increase erosion. Any extensive trail use will cause erosion, but certain precautions can be taken to lessen the damage caused by bikes.

How a trail is designed can either increase problems or prevent them from happening at all. In designing new trails or modifying existing trails to be used by mountain bikes, clearing of standing or protruding vegetation should be a minimum of three feet, with a path of at least one foot. Care

must be taken to remove any obstacle approaching existing curves. Curves should be gradual and form a wide arc to prevent sharp turns, in order to provide a greater field of vision for both the cyclist seeing others on the trail, and the other users seeing the bike. Mountain bike trails should be located on lands suitable for mountain bikes and constructed to prevent water runoff and erosion. If this is not possible, then switchbacks should be employed to lessen the angle of descent. Fencing or crib walls should also be erected on switchbacks to prevent crosscutting between portions of the same trail. Crossing of wetlands, as well as erodible stream banks, should be avoided at all times, unless bridged or boardwalked. Abandoned railroad rights-of-way provide safe riding conditions because of their gradual turns and lack of steep slopes.

Besides changes to the trail, a program to educate mountain bikers can help prevent conflicts with other users and maintain environmental quality. For example, park rangers can distribute brochures, and cooperative programs between bicycle shops, mountain bike clubs, and schools can be developed, emphasizing environmentally sound riding techniques, safety, and etiquette. However, not all riders pick up brochures, let alone read and remember them. For this reason, the most important source of information on what can and cannot be done on trails is signage at the trailhead and along the trail. Trail signs should be erected specifying where mountain bikes are allowed and advising riders at certain critical locations to reduce speed, go slow and avoid skidding. Other signs may ask cyclists to "portage" by walking or carrying their bikes in certain dangerous or steep areas. In parks with a combination of hiking trails and multiuse trails, signs or barriers should be erected to prevent the cyclist from entering onto the hiking trail. If excluding mountain bikers from certain trails is not desirable, then a compromise may be worked out on loop trails which can be marked and signed as "one way only" trails. Making trails one way can help avoid high speeds and skidding on dangerous

slopes, and on multiple use trails, prevent confrontations and accidents with other trail users. Trail mileage should also be posted on one way trails so that users can estimate time to complete a trail.

The International Mountain Bike Association (IMBA) has been working to educate cyclists on their responsibilities for safe and shared use of trails. They provide "rules of the trail" to cyclists:

- 1) Ride on open trails only.
- 2) Leave no trace, with no evidence of passing on the trail and no littering.
- 3) Control your bike and obey any speed regulations.
- 4) Always yield the trail by slowing or even stopping when approaching other users.
- 5) Never spook animals, using special care and following directions from horseback riders.
- 6) Plan ahead, and know your equipment, abilities, and area in which you are riding.

Just as courses or parks are suggested for motorized trail vehicles, they also can apply to mountain bikes. Most cyclists do not have the opportunity under ideal or good conditions, to learn what they can experience with a mountain bike before going out on a trail. And although cyclists will eventually go out on trails, proper instruction and training beforehand can help prevent accidents on the trail, either to the cyclists or to other trail users. These parks or courses could be developed in existing parks which allow mountain biking, or conducted, like for ORVs, in areas such as abandoned quarries or gravel pits. Training sessions could be sponsored by the park, a mountain bike club, or bicycle shop.

MULTIPLE USE AND COMPATIBILITY

Multiple use, also referred to as multi-use or multiuse, refers to using one trail for many trail types of uses. It is employed more and more to provide trails for all types of trail users. Trails are being designed or routes selected which provide the safest conditions for various users. The idea of "multiple use" in regard to trail facilities has been around for many years. As a way to get more use from limited resources it has wide appeal. If a trail can be constructed that serves more than one user group, it will be less expensive than creating two or three separate trails for the different activities. One trail will use less material and take less land area. It will also require fewer personnel to maintain and patrol than several separate trails. Wherever multiple use trails are being planned, the land manager and users should work together in selecting those trails.

Issues

There are, however, four important issues which must be taken into account in considering multiple use, and indeed in all trails planning. These issues, quality of experience, use pre-emption, user safety, and natural resource protection, are closely related.

The quality of a trail experience is used here to mean how well the experience satisfies all the users' needs and expectations. For many trail users, a primary need and expectation is to enjoy their chosen activity in natural or scenic urban surroundings. Another "quality" factor is the density of use on a trail. The primary quality factor for other uses may be degree of challenge, nature of trail surface, facilities available, etc. Conflicts in speed differences and amount of noise also influence the quality experience.

Use pre-emption occurs when one use of a trail becomes so dominant that it lowers the quality of the trail experience for another use enough to drive the second use elsewhere. If every trail use had an equal quality-lowering effect on every other trail use, this would not be too bad, since the most popular use would automatically "acquire" the trail.

Unfortunately this is not the case - no two use-groups have equal effects on each other, and the motorized/non-motorized conflicts are especially one-sided. Reports from user-groups indicate that the use pre-emption problem is wide-spread. Whenever multiple use of a trail area is considered, careful thought should be given to the quality of the trail experience for each group, and the possibility of use pre-emption.

Unsafe conditions, caused either by other trail users or by trail factors, keep visitors from achieving a quality trail experience. Threats to user safety include collisions and near misses, reckless and irresponsible behavior, lack of preparation, trail conditions, poor trail design, and crime.

Protecting or maintaining natural resources is often regarded as a high priority among trail users, and when destruction of natural resources on or adjacent to a multi-use trail occurs, user types point the finger at the other user type for its cause. Resource damage on trails is influenced by the soil characteristics, slope, type of ecosystem, trail design and construction, level of maintenance, amount of use, season of the year, and user techniques.

Types of Multiple Use

Many trail activities may be compatible with bicycle use provided only that use levels are not so high that one activity crowds out the other. Walking, jogging, and running are generally the most compatible uses with other uses at all seasons of the year. In winter when trails are snow covered, ski-touring, snow-shoeing, and snowmobiling can easily be accommodated. In general, snowmobiles should be separated from cross-country skiers when both occur at the same time. Many surfaces suitable for bicycles can also be used for wheelchairs. Paved bike paths are becoming popular with in-line skaters.

On a shared hard trail surface, horseback riding is not compatible with bicycling as paved

parts are not desirable for horses, and cyclists tend to ride faster on the paved surface, thus creating the potential for increased accidents. Horseback riding may be compatible with bicycling, hiking, and jogging on a cinder surface. If a trail corridor is wide enough to accommodate more than one trail surface, the horses and other users can share the same right-of-way without conflict. However, horses may not be compatible with mountain bikes on narrow twisted trails with no sight lines. Because there is no noise from the mountain bike, a cyclist may unintentionally spook a horse, which could cause a horse to run off or throw the rider.

High speed vs. low speed user conflicts most often involve trail motorcycles, mountain bikes, and snowmobiles, but may also arise where fast moving bicyclists ride up behind walkers and joggers on a paved trail. Many compatibility problems stem from use of motorized recreational vehicles on non-motorized trails or in areas where noise creates a disturbance for other recreationists and for nearby residents and businesses. Conversely, walkers in pairs or groups who take up the full width of bike-paths, horsetrails, or woods roads present hazards to mounted and motorized trail users who need to pass them. These kinds of conflicts often occur because of a lack of sufficient single use trails to meet the demand and because of inconsiderate behavior due to users' lack of knowledge of trail etiquette.

Some of New Jersey's river trails also have conflicts between different types of users. Canoes, sculls, sailboats, and tubes as the non-motorized types of river use, and motorboats, motorboats with water skiers, and jet skis, the motorized types, frequently share the same waterbody. Again the conflicts of high speed vs. low speed and amount of noise produced from the motorboat or jet ski are the issues. If people are fishing in a river, it can possibly lead to further conflicts in using a river. In some rivers, the conflict is not with different types of craft, but in the quantity and experience of the many users. The Pine Barrens' rivers receive many canoeists during the spring and summer months, making some of the rivers akin to highways. Many people canoeing have little or no experience canoeing. The type and quantity of use can cause damage to the waterbody and its adjacent lands. High speeding boats produce

wakes which can cause erosion along the shoreline. Large numbers of boats and canoes traveling in shallow waters (which can frequently be found on weekends in the Pine Barrens) will skim the bottom of the stream, destroying any bottom vegetation; they can also stir up river bottom sand and dirt, which can kill aquatic species. Educating users in proper techniques and operation of the craft, as well as employing common courtesy and respect for the other user, will solve many conflict problems on waterways. In other cases, only patrol and enforcement will work.

Ways to Minimize Conflicts

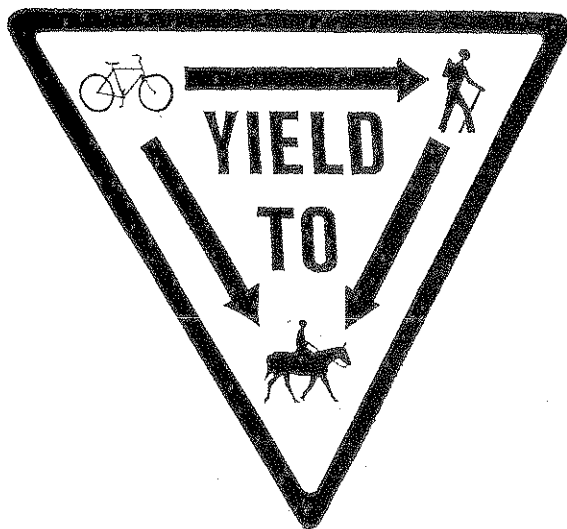
Despite these problems, multiple use can be enjoyable and contribute to a high quality trail experience for all types of users on a single trail under proper circumstances. Land managers and users should work together in planning for cooperative use of the land by different trail types. If there is a fairly equal distribution of uses over a long length of trail, the perceived impact of user preemption is lessened. The trail should be wide enough to adequately allow faster users, such as cyclists, pass slower users, such as hikers. Sharp turns and blind turns should be eliminated so that the faster users can anticipate slower movers ahead of them and be able to safely move around them; also users in opposite directions will not be startled or run into other users. This can occur on single use trails as well, not just multiple use trails. To slow down excessive speeding, some design features can be used, including placement of speed bumps, varying the surface grading, which may not be applicable for trails to be used for the wheelchair disabled, and installing bollards or pass-throughs next to gates at road crossings to discourage speeding across roads, which could also cause accidents. On hills, trails should be designed to follow the contour of elevation with as little vertical rise as possible. This will not only reduce erosion but also help prevent downhill speeding, and lessen accidents with other trail users.

Posting signs for proper use of multiple use of trails and trail etiquette is one of the first steps in promoting mutual satisfaction, a high quality trail experience, and user safety. To prevent excessive

speeding that can be harmful on single use as well as multiple use trails, signs can be posted to slow down. Some trail jurisdictions across the country have posted signs with speed limits. However, they are only good if everyone has a speedometer, which most people do not have, and limits are enforced. Also, trail yielding signs should be posted, in which cyclists yield to hikers, and both yield to horses. If people take their dogs with them, dogs should be leashed. Passing should always be on the left, just as on highways. In known congested areas, bicyclists may be required to walk their bikes and riders their horses. Although these are common sense solutions, they are frequently not used or forgotten. Therefore they bear repeating.

FIGURE 4.

Yield Sign for Multiple Use Trails.



Management standards can also be used in combination with any of the above user standards and design techniques. Land managers might consider closing trails or trail sections during sensitive seasons, e.g. times of heavy rainfall or wildlife nesting seasons. In this case, users should be directed to use other trails, appropriate for their use. A volunteer trail patrol can be initiated, which would be able to warn abusers or potential abusers. Less popular access points could be encouraged, for example by closing off parking areas to certain types of users, which would in effect, establish different trailheads. Designating

certain parking areas for horsetrailers and other parking areas for mountain bikers and/or hikers will lessen the likelihood of everyone meeting or starting at the same time and place. This would have the effect of staggering the amount of use on different segments of a trail, and reducing wear and tear at trailheads. Managers can alternate the time of use (by time of day, days, weeks) for certain types of use. This can be particularly effective when trails are snow-covered, in having the snowmobiles allowed on trails in the morning, and cross-country skiing in the afternoon. In some cases, bicycle bell give-aways can be instituted. This would be effective on trails with cyclists and hikers, but not necessarily for trails allowing horses, as many horses may become alarmed by the sound of a bell, which is unfamiliar to them. In this case, bikers should speak out their position and intent to pass. This is the recommended approach by the International Mountain Bike Association. In fact, any trail user overtaking and passing another should announce their passing on the left side of the other.

Education of trail etiquette and passing procedures can help resolve many problems. Brochures with this information can be placed at horse tack, bike and sporting goods stores, park offices, schools and libraries. Many user organizations print these types of brochures, or if not available, the printing expenses can be covered by a club. In some cases, horse club members gave clinics to mountain bicyclists on the do's and don'ts of safe trailsharing techniques. Such outreach efforts not only helps to reduce accidents and conflicts, it lessens the "we versus them" mentality between different types of users.

Abandoned railroad rights-of-way are by their original design well-suited to multiple use. The paths remaining after the rails and ties have been removed, can provide a suitable width for passing. Turns are gradual curves, which allow for good viewing of what is ahead and what is approaching from the opposite direction. Any encroaching vegetation must be removed for safe passage. Because they are on a relatively level plane, they are not as subject to erosion as trails on any amount of slope. In New Jersey, many of the lines have a compacted cinder base, providing good footing for horses and hikers, and an adequate

surface for street bicycles and cross or hybrid bicycles. In situations where a paved path is desired on a line, the rights-of-way are frequently 66 feet in width, allowing for two paths, which can be separated by fencing or vegetation.

Converting single-use trails for multiple use must only be done after careful consideration of the factors of amount of use, surface conditions and topography, potential for erosion, and safety of the users. Often, the single-use trail would have to be greatly changed to adequately provide an enjoyable experience for all trail user types.

Provision of equal opportunities for all kinds of trail users, especially near population concentrations, will go a long way toward solving compatibility problems. More local trails of all kinds also ease the pressure on trail facilities in the more remote areas and ensure that at least some of the state's parks and forests will continue to provide natural surroundings where people can enjoy the peace, beauty, and solitude that so many trail users are seeking.

A recent review of the literature on multiple use was completed for the Federal Highway Administration and the National Recreational Trails Advisory Committee in 1994. That publication, **Conflicts on Multiple-Use Trails: Synthesis of the Literature and State of the Practice**, was compiled because of a national concern over multiple use of trails.

METHODS OF LAND PROTECTION FOR TRAILS

There are several strategies that can be applied to protecting land for trail corridors. Depending on the specifics of each situation, the most frequently used methods include fee simple acquisition, easements, and agreements.

Fee Simple Acquisition

Acquisition of land can be achieved through purchase or donation. This is an effective method of securing land for trail purposes by government and non-profit organizations such as land trusts because of the long term nature of the protection. However, purchasing land can be expensive and prohibitive in tight fiscal times.

Direct donations to a land managing agency may solve problems of costs associated with purchasing property for trails. In addition to a direct gift of land to a qualified agency, donations can also be achieved by a bequest through a will. The will may include a provision for a life estate in which a donor chooses to maintain use and benefit of the land throughout the lifetime of the family. Whatever the method of donation, there may be tax benefits for the donor in the form of an income tax deduction, or estate or property tax relief.

In conjunction with property transfer, a land owner may elect to place restrictions in the deed for specific purposes. In effect, the owner is placing conditions on future property use to follow the title no matter who owns the land. Enforcing the restrictions may be difficult if the transfer is not to a land managing agency or if a third party is not involved in the monitoring. The market value of a piece of property and tax advantages when selling or donating land may be affected by deed restrictions.

Acquisition of land by a trail managing agency is a way to assure that the land is protected for long term trail use. However, ongoing management and maintenance expenses must be a well planned consideration with any acquisition

option. In this regard, support from user groups for purchase and maintenance should be considered in the decision process to acquire land.

Easements

Corridors and adjacent areas of open space that remain in private ownership may also be protected for trail use through easements. An easement is created by an agreement in which a landowner restricts certain land uses and another party who accepts and holds the easement, enforces its terms. This method applies to a variety of situations and allows a landowner to protect land while still retaining ownership. If the land on which there is an easement is sold, the restriction would pass to the new landowner, thereby ensuring ongoing protection. Granting an easement can be accomplished by sale or donation.

A conservation easement may protect land for its natural resources or open space values which include public recreation. Like acquisition, it is another long term device in securing lands for trails. Granting a conservation easement may have income, property and estate tax benefits. Estate and property taxes may be reduced because development restrictions could decrease the assessed value of the property. In addition, an easement donation to a government or non-profit organization may qualify for an income tax deduction. Conservation easements have been utilized by the state for sections of properties along the Appalachian Trail. An organization which holds an easement is responsible for monitoring and enforcing its provisions. Since an easement follows the transfer of property with the title, it becomes more likely that the terms of the easement can be overlooked the further in time the property passes from the original grantor. An ongoing relationship with the property owner and regular monitoring can help prevent violations and subsequent costly enforcement actions.

In the New Jersey statutes, an easement is the

same as a conservation restriction which includes a right, covenant or condition in a deed (N.J.S.A. 13:8B-1 et seq., P.L. 1979, c. 378). It may be acquired and enforced by the New Jersey Department of Environmental Protection (NJDEP), a local government entity or by a non-profit land trust/conservancy. The holder of the conservation restriction is also entitled to inspect the land to assure compliance with the provisions of the easement. A listing of land trusts active in New Jersey is included in Appendix 4.

Agreements

A formal agreement may be used for trail management. It is a cooperative contract between at least two parties in which one agrees to manage or perform services on the property of another. An agreement is used to plan, manage and protect trails that cross political boundaries. For example, a Memorandum of Agreement has been signed by the National Park Service, New Jersey Department of Environmental Protection, New Jersey Department of Transportation, New York/New Jersey Trail Conference and the Appalachian Trail Conference, whereby the state has agreed to manage the section of the Appalachian Trail which passes through New Jersey. This type of agreement fosters coordination and cooperation among user groups and government agencies so that limited financial resources can be used efficiently.

FUNDING SOURCES FOR TRAILS

Once a public agency has decided on developing a new trail, the need then arises for funding the planning of the route, acquisition of land for the trail, development of the path and its facilities and landscaping, maintenance to assure a high quality of trail surface and user safety, and patrolling to protect trail users and prevent illegal uses and abuse of surrounding properties. Maintenance of existing trails has become a major problem throughout the state for all public trails, due to increased use of trails by the public, and simultaneously, decreased numbers of staff to perform the maintenance required. In the past, funding came largely from state or local appropriations for parks, and trails were just one segment of the park. As appropriations continue to dwindle, other sources must be sought out and creative new sources explored. Various funding sources can be combined to enhance the trail opportunities. In some cases this is required when matching funds are obtained from grant programs. Some federal and state programs may not offer funding directly, but may provide a justification for funding from another agency. For example, designation of a trail as a national recreation trail can be used as a justification for receiving federal funding from the Land and Water Conservation Fund.

Federal Government Sources

The primary federal source of trails funding used by states has been, in the past, the Land and Water Conservation Fund. This fund is administered at the federal level by the National Park Service, with a yearly appropriation determined by Congress. The program is administered at the state level by the Green Acres Administration. A requirement for receiving Land and Water Funding is the preparation of a State Comprehensive Outdoor Recreation Plan. To qualify for funding a project must meet the state's overall plan. New Jersey has used these funds to acquire land for the Appalachian Trail in Sussex County, Hunterdon County used funds for

acquiring land for its South Branch Linear Park, and Morris County used these funds to acquire land for Patriots' Path. However, the amount of this funding source has been decreased recently by Congress and the President.

In December 1991, Congress passed and the President signed into law the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). This act set precedents in providing transportation funding for trails that did not necessarily have to be part of a transportation network. Provisions for bicycle and pedestrian planning, and enhancement funding have the most impact on trails. Transportation enhancements include bicycle and pedestrian facilities and the protection of abandoned railroad rights-of-way as trails. It has funded trail projects that have identifiable starting and ending points, which have a transportation and not strictly recreational use. This could be a major source of funding for the acquisition and development of lines in New Jersey. Funds are available on an 80% basis, with states to provide the other 20%. ISTEA is administered by the Federal Highway Administration, through the New Jersey Department of Transportation.

The Symms National Recreation Trails Trust Fund established funding for both motorized and non-motorized trails from the gas tax on off-road motor vehicles. This is the first federal act to establish a funding source exclusively for trails and that is available for acquisition, development and maintenance. To qualify for funding, states must, within three years of the date of enactment, establish an advisory committee and initiate a separate trust fund from state taxes on gasoline for off-road vehicles. Funding was only awarded to states for the 1993 fiscal year, the only year out of the five years the act was in effect. With only \$7.5 million appropriated nationwide, New Jersey's share was approximately \$124,000. Projects were recommended by the New Jersey Trails Council, the advisory committee to the DEP on trails. Other parts of the act address trail issues as well.

The National Park Service provides technical assistance for planning and management of trails through its Rivers and Trails Conservation Assistance Program. Staff or funds can be used by state agencies, local agencies, and private groups to develop plans for a trail route, its development and management, public workshops, and public information such as brochures and maps. Application is made to the regional office, which for New Jersey is located in Boston, Massachusetts.

Other federal programs can be used to provide funds for trail planning, acquisition, or development, however, they too are subject to annual appropriations. They include: Community Development Block Grants, Entitlement Program - U.S. Department of Housing and Urban Development; Economic Development, Grants for Public Works and Development - U.S. Department of Commerce, Economic Development Administration; and Urban Park and Recreation Recovery (UPARR) Program - U.S. Department of Interior, National Park Service.

For local governments, federal funding for trails can come from Community Development Block Grants, administered by the Department of Housing and Urban Development. Proceeds from block grants may be used to establish parks and neighborhood centers, of which trails are eligible funding items.

Special legislation approved by Congress has been used for the Pinelands National Reserve to acquire lands for a wide variety of uses, from natural resource protection to passive recreation. Section 502 of the National Parks and Recreation Act of 1978 authorized over \$20 million for land acquisition in the Pinelands National Reserve. Most of the land acquired with these funds does not have marked trails, such as in Wharton State Forest; however, hiking and other trail uses are permitted.

State Government Sources

New Jersey's Green Acres Program has been a mainstay in funding open space preservation since

1961. Through several bond funds, approved by voter referendums, the Green Acres Program has funded a wide variety of outdoor recreational projects, including trails. Funds have been used at the state, county and municipal level for acquisition and development. Green Acres funds are being used to acquire connector parcels for the Batona Trail in Burlington County. These acquisitions will put all of the trail on public land. Green Acres funding along with federal funding was used to acquire the Bel Del Railroad Right-of-Way next to the Delaware and Raritan Canal State Park in Hunterdon and Mercer counties.

General revenue funds approved by the state legislature have been the primary source of funding for trail and trail facility planning, development and maintenance on state lands. The funding to pay the cost of supplies for building bridges, parking lots, information boards, equipment used throughout a park to construct facilities, and labor costs for the State Park Service has come directly from appropriations approved in annual budgets. Because these funds are approved annually, the amount of funding available changes from year to year. In recent years, there have been no capital monies available for trail maintenance or other park improvements. At the same time, maintenance staffs have decreased. Consequently, much funding for parks has been used to repair or upgrade other facilities, particularly those involving health and sanitation, and trail development and maintenance have not been performed as often as needed. Therefore, this source of funding can only be relied upon for emergencies or for the purchase of supplies and equipment.

The New Jersey Youth Corps, administered by the New Jersey Department of Education, provides work crews at a reduced cost for community service projects. Corps members work in crews of five to ten members on trail-related projects such as landscaping, trail construction, and public park beautification.

Another limited source of state funding for trails on private property is the Open Lands Management Program. This program provides funding for passive recreational facilities, including

hiking, horseback riding, picnicking, nature observation and primitive camping, among others. Funding can be used to link a trail on private property with a larger network of trails on public land. The program is administered by the Division of Parks and Forestry and is funded by an annual appropriation.

Local Funding Sources

A county board of freeholders can approve appropriations for trail use. Morris County has expended its own funds, either alone or in combination with state and federal grants in purchasing land for and developing Patriots' Path. Some counties have also developed their own taxing mechanism for funding the acquisition and/or development of open space. For example, Atlantic County has recently begun a property tax surcharge in which the funds are used for open space acquisition. Other counties using open space taxes to purchase land include Morris, Monmouth, Somerset, and most recently, Gloucester.

Other Sources of Funding

User fees can also be used to fund trails. Fees can be targeted to specific areas or trails or they can be assessed to specific user groups. Wisconsin offers trail passes for either one day or one year. In New Jersey, the Division of Fish, Game and Wildlife charges an annual fee to horseback riders wishing to ride on designated trails or within unmarked trail areas in selected wildlife management areas throughout the state. Fees can be used to offset the costs of facility development and trail maintenance. In New Jersey, fees assessed for trail use, particularly for corridors not located within a larger park, may not always be appropriate because of the great number of road crossings and access points. Fees have been most successful along rural and regional trails, rather than trails used by local residents. The advantage to fees is that the people who use trails are the ones who pay for their maintenance. Private concessionaires can also maintain trails for a

specific purpose. For example, groomed cross-country ski trails with either natural or man-made snow can be maintained throughout the winter months using the fees charged for their use.

Another alternative for trail funding used for other recreational activities is an equipment and supply tax. This could, for example, be a surcharge on the purchase of hiking boots, bicycles, or canoe rentals.

Private donations of land, equipment and labor have always occurred, but solicitations to the general public and corporations have increased with less public funding available. Volunteers of clubs, organizations and businesses have been major contributors as volunteers for cleanups along trails and rivers, and for trail maintenance and construction. The most active groups working on trails within New Jersey have been the New York-New Jersey Trail Conference, which develops, monitors and maintains trails in northern New Jersey and the Batona Hiking Club, which has assumed management and maintenance responsibilities for the Batona Trail in the Pine Barrens of southern New Jersey. Cooperative efforts with nonprofit organizations can be used where nonprofits can match public funding with foundation grants that are not available to public agencies.

Although no formal "Adopt-a-Trail" currently exists within the state parks, programs have recently been initiated in Monmouth and Morris Counties. Trails can benefit from an adopt-a-trail program with clubs, organizations and businesses providing maintenance, development, interpretation of the resources found along a pathway, and in some cases emergency response for injured trail users. The State Park Service can expand its Volunteer in Parks (VIP) Program to trails as well. Through this program, individuals apply to the State Park Service to conduct various tasks. Functions can include interpretation, public information, maintenance, gardening, crafts, and camp host program. For trails, interpretation of natural and cultural features, developing public information, and maintenance of a trail surface can be applied under the program. With proper

supervision, community service workers can sometimes be used for trail development. Some states have also used the National Guard to do construction projects.



***MEASURES TO IMPLEMENT
THE NEW JERSEY TRAILS SYSTEM ACT***

*Designation of Trails to the State Trails System
New Jersey Trails System Regulations
Management Plans for Designated Trails
Sources of Information on Trail Design and Construction*

DESIGNATION OF TRAILS TO THE STATE TRAILS SYSTEM

The New Jersey Trails System Act provided the legislative mandate to establish a State Trails System, and included the Appalachian Trail as the first trail in the system. The Trails System Rules include the process for designating trails and trail systems to a State Trails System and the standardized criteria to determine which trails are eligible. In addition to characteristics of the trail itself, the land on which the trail is located must be in some form of public ownership. This can include land within an existing park, land acquired specifically for a trail, or private land for which a scenic easement or conservation restriction is held by the public agency. To be eligible for designation to the State Trails System, a written cooperative agreement between the public agency and the Department of Environmental Protection must be signed. Briefly, the procedures include the following:

- 1) Any agency or individual may submit to the NJDEP a proposal for designation of a trail. That proposal includes the evaluation of the criteria for determining eligibility of the trail, a justification of proposed uses upon designation, and a map for locating the trail.

- 2) The Division of Parks and Forestry, with the New Jersey Trails Council, reviews the documentation and makes a recommendation to the commissioner to either designate or not to designate the trail. Trail classifications are also recommended at this time.

- 3) The commissioner reviews all documentation and either proposes designation as an amendment to the rules, requests that the division reconsider its recommendation and resubmit it, or rejects designation.

- 4) As part of the rule amendment process, the proposed amendments are published in the New Jersey Register. Public comments are solicited for the proposed rule amendment and subsequent trail designation.

- 5) If proposed rule amendments are received favorably, negative comments are determined to not outweigh the significance of other designation criteria, or no comments received, the commissioner may approve the rule amendment, and the trails become officially designated to the system.

Once a trail is designated, the managing agency will be requested to post state trail system signs at trailheads or juncture points. Any existing trail markers can remain. The trail or trail system should be maintained in a manner for which it was designated. The New Jersey Trails Program and Trails Council will work with managing agencies to resolve problems which may occur affecting the trails.

If for some reason a designation must be repealed, e.g., due to misuse or environmental deterioration, the division makes a site inspection of the trail and determines if mitigation is possible. If mitigation is not possible, the division, with the advice of the Trails Council, makes a recommendation for repeal to the commissioner. If the commissioner agrees with the recommendation, then trail repeal is proposed as an amendment to the Trails System Rules.

Requirements for submitting an application for designating a trail or trail system are included in Appendix 5.

NEW JERSEY TRAILS SYSTEM REGULATIONS

The New Jersey Trails System Act (N.J.S.A. 13:8-30 et seq., P.L. 1974, c. 159) gives authority to the commissioner of NJDEP to "adopt and promulgate pursuant to law, rules and regulations governing the use, protection, management, development and administration of the trails system ...". Also in the statute, the Legislature declares that the policy of the state is to provide the means to establish a statewide system of trails. The purpose of the policy is to provide for outdoor recreation needs, to promote access to, travel within, and enjoyment of the outdoor and remote areas throughout the state. In keeping with the policy, the rules have been adopted to implement the provisions of the statute by establishing standards, procedures and practices necessary to maintain the trails system (Appendix 6).

The burdens associated with dense population and rapid development have caused an acute strain on our natural, cultural and recreational resources. The need to provide easily accessible outdoor recreational opportunities available to the state's residents and visitors while protecting open space has become critical. These circumstances have made implementation of these rules timely and necessary.

The criteria and guidelines for determining eligibility for designation to the trails system are established in the rules. The rules also detail the requirements for each of the three classes of trails listed in the act: scenic, recreation and connecting. The methods and responsibilities for consistent management and maintenance are defined. In addition, the New Jersey Trails Council is formally established to advise the department on matters concerning trail designation and management of the system.

To be designated to the trails system, the department, with advice from the council, will review proposals submitted by federal, state and local governments, private organizations and citizens. Upon a favorable review of the proposal, a recommendation with a classification will be

submitted to the commissioner for final designation through the regulatory process.

The rule also provides for an assessment to be performed for any capital construction project funded by the department that would affect a designated trail. Based on the assessment, the commissioner of NJDEP would have the authority to disapprove use of a trail for a project if the project permanently affects the trail right-of-way and no satisfactory remediation or mitigation is possible.

MANAGEMENT PLANS FOR DESIGNATED TRAILS

Upon designation to the State Trails System, the administering agency, in coordination with the Department of Environmental Protection and the New Jersey Trails Council, will prepare a management plan for the specific trail or specific trail system. A management plan for a designated trail is necessary in order to provide the administering agency with a set of management guidelines and techniques that protect and enhance the trail and its surrounding corridor. The management plan identifies the major tasks to be accomplished for a particular trail based on the designation classification, goals, and objectives for preserving the trail.

The management plan includes the following components:

- If necessary, mitigation measures to be applied to correct degradation of a trail.
- Identification of significant natural or cultural resources within or next to trail corridor which must be protected. This must also include needed protection measures.
- Funding sources and existing and potential use of volunteers for development and maintenance.
- Acquisition or easement needs, if necessary, to gain trail continuity, add buffer protection, or improve access.
- Public interaction and education needs, including the role of volunteers and a method for publicizing the trail through brochures, maps, etc.

Introduction

- Trail's location and history.
- Classification and use.
- Goals and objectives for management.
- Justification for designation (if not included in separate document designating the trail).

Appendix

- Summary of the trail environment describing what is encountered along the trail.
- Maps indicating trail route, parking areas, connecting trails, etc. to correspond with the written plan.

Requirements for Management and Development

- Identification of the agencies or groups responsible for overall administration, development, maintenance, emergency response, and enforcement.
- Identification of trail boundaries and any existing or potential encroachments on trails.
- Identification of any trail interruptions or obstructions that prohibit continuity. These can include trail segments not under ownership or without an easement, missing bridges over roads or streams, or gates, fences, and debris that may obstruct access.
- Development necessary to either maintain or enhance the existing condition of the trail surface, access, signage, parking and other ancillary facilities.

SOURCES OF INFORMATION ON TRAIL DESIGN AND CONSTRUCTION

Requests are frequently made of the State Trails Program to provide information or guidance on trail design and construction. Knowing how to design and construct trails and install informative signs contributes to trails that provide a high quality and safe experience for users, last a relatively long time, and are assets to their surrounding environments and adjacent properties.

There are numerous sources of information available already from the federal government, non-profit organizations and trail clubs. The following listing includes some commonly available publications which address both general and specialized trail planning, design and/or construction. It is not all-inclusive, but does provide a good starting point for learning about techniques and practices used today.

The following sources are listed alphabetically by title and not subject matter:

Bicycle Compatible Roadways and Bikeways: Planning and Design Guidelines. 1995. RBA Group for the New Jersey Department of Transportation, CN-600, Trenton, New Jersey 08625-0600. This study includes design treatments for bicycle compatible roadways, factors to consider when designating bikeways on highways, and design guidelines for bicycle facilities.

Conflicts on Multiple-Use Trails: Synthesis of the Literature and State of the Practice. 1994. 68 pages. Roger L. Moore, North Carolina State University, sponsored by Federal Highway Administration, Intermodal Division (HEP-50), 400 Seventh St. SW, Washington, DC 20590. As previously stated, this work compiles the literature on solutions to multiple use conflicts, including management and design techniques.

Directory of Technical Assistance Materials for Trails Development and Maintenance. 1990. 43 pages. American Hiking Society, P.O. Box 20160, Washington, D.C., 20041.

This is a bibliography of sources for planning and constructing trails for hiking and many other types of uses. It also provides sources of information on

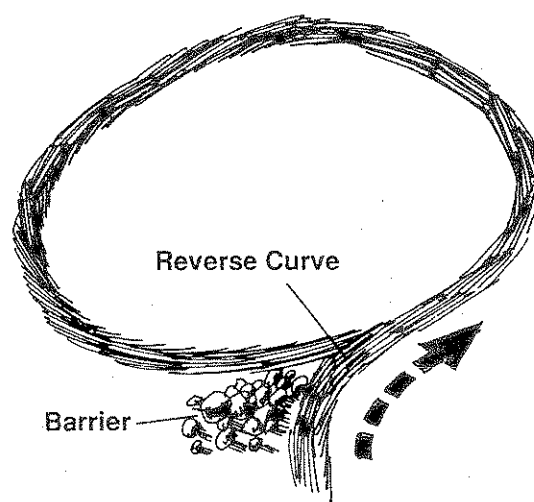
administration and management, fund raising, volunteering, and visual aids.

Mountain Bike Trails: Techniques for Design, Construction and Maintenance. (no date given). Michael McCoy and Mary Alice Stoner, Bikecentennial, P.O. Box 8308, Missoula, Montana, 59807.

This publication contains design guidelines for mountain bike trails that can be located on a variety of terrains and surfaces.

FIGURE 5.

Mountain Bike Trails: Illustration of reverse curve trail design encouraging one-way traffic to the right.



Off-Highway Motorcycle and ATV Trails; Guidelines for Design, Construction, Maintenance and User Satisfaction. 1994. American Motorcycle Association, P.O. Box 6114, Westerville, Ohio, 43081.

A general guide for motorized trail construction over a variety of terrains. Also includes guidance on trail designs and techniques that do not work.

Recommendations for Accessibility Guidelines: Recreational Facilities and Outdoor Developed Areas. 1994. U.S. Architectural and Transportation Barriers Compliance Board, U.S. Government Printing Office, Washington, D.C.

Although this guide covers all types of outdoor

recreational facilities accessible for the disabled, there is information on trail design in chapter 6, "Developed Outdoor Recreation Facilities."

Signs, Trails, and Wayside Exhibits. (no date given). Suzanne Trapp, Michael Gross and Ron Zimmerman, College of Natural Resources, UWSP, Stevens Point, Wisconsin, 54481.

A guide for designing interpretive trails, with information on types of interpretive signage, design, exhibits and materials to use; also includes information on trail layout and design.

Trails for the Twenty-First Century, Planning, Design, and Management Manual for Multi-Use Trails. 1993. Edited by Karen-Lee Ryan, Rails-to-Trails Conservancy, 1400 16th Street, NW, Washington, D.C., 20036.

This provides many guidelines for planning a multi-use trail, surfacing for different uses, bridges, types of signs, parking area design, and trail furniture, among other design features. It also offers suggestions for trail management and marketing.

Trail Maintenance Manual. 1984. New York-New Jersey Trail Conference, 232 Madison Avenue, # 908, New York, New York, 10016.

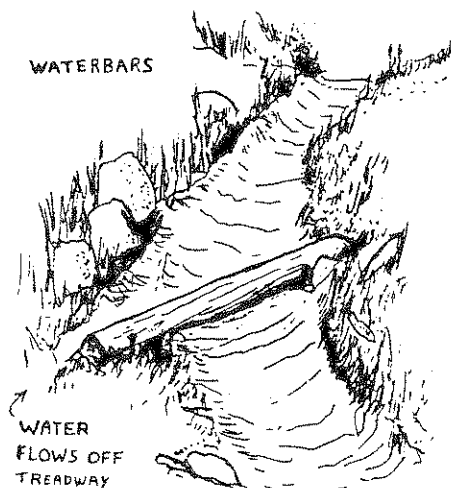
A pocket-sized manual for individuals doing hiking trail construction. It includes useful information on such items as equipment needs, clearing standards, types and methods of blazing, and erosion control.

Trails Management Handbook. 1987. U.S. Forest Service, Washington D.C.

An all-purpose reference document for all types of trails and uses, from hiking to snowmobile. Chapters include information of earthwork, drainage, surfacing, and materials, among other types of construction information.

FIGURE 6.

Trail Maintenance Manual: Illustration on using water bars for water runoff on hillside trails.



PLAN OF ACTION

ACTIONS TO BE TAKEN BASED ON THE PLAN

Making any plan useful is sometimes the most difficult part of the planning process. Recommendations must be transformed into specific actions, and specific individuals, groups, or agencies must take responsibility for performing those activities. Implementation at the state level is completely dependent upon at least one full-time staff person assigned responsibility for statewide trail planning, coordination with various public agencies and trail interests, and acting as liaison to the New Jersey Trails Council.

The following schedule lists actions to be taken to implement the trails system and address issues within a five year period. Many activities to be performed are on-going, occurring at various times throughout the five-year implementation period. For example, acquisition efforts, monitoring of designated trails, and coordination with the New Jersey Trails Council will continue as long as staff is present to perform these activities. These actions are not listed within a specific time-frame.

Unless noted otherwise, all recommendations are to be performed at the state level.

Within One Year of Adoption of the Plan:

- Begin the process of designating eligible trails to the State Trails System. This is the responsibility of the Division of Parks and Forestry. However, requests for designation from individuals, groups or other governmental agencies can be made at any time and reviewed and recommended by the New Jersey Trails Council. Develop one plan for adoption to the system.
- Develop a uniform marking system for trails in the State Trails System. This will be a logo to be displayed at trailheads, parking areas, and major trail and road intersections.

Within Three Years of Adoption of the Plan:

- Develop management plans for half of the trails or trail systems included in this plan for designation, in addition to those already completed. Plans are completed for the Appalachian, Sussex Branch, and Paulinskill Valley Trails. As part of the planning process, determine the suitability of each trail for disabled access and include facilities for the disabled in the recommendations.
- Establish a monitoring system that will ensure an inspection of a designated trail at least every other year.
- Provide recommendations on acquisition of land for trails, and incorporate into government acquisition programs.
- Develop guidelines with the assistance of trail clubs for locating motorized trails while maintaining environmental integrity and safety.
- Work with federal agencies to re-enact legislation similar to the National Recreational Trails Act for continued federal funding of trails and trail facilities.
- If funding is available, conduct a needs assessment of trails and trail users.

Within Five Years of Adoption of the Plan:

- Continue development of management plans for designated trails to the system.
- Examine the 1995 Trails Plan and update as needed, using monitoring data on existing designated trails and determining new issues.
- Review management plans completed in the first two years for current applicability.

Ongoing:

- Acquire abandoned railroad rights-of-way and other routes for trails. In those cases where acquisition is not feasible, acquire easements on property for use as trails. If lines are also recommended for railbanking by the Department of Transportation, develop shared use plan and cooperative management agreements. The Division of Parks and Forestry will cooperate with other agencies to pursue acquisition of significant routes for trails when appropriate.
- The Division of Parks and Forestry and the New Jersey Trails Council will establish an education program to inform the general public about the plan and the State Trails System.

APPENDICES

*State Trails System
New Jersey Trails Council
Administrative Order No. 19
Land Trusts in New Jersey
Application Requirements for Designation
State Trails System Rules
New Jersey Trails Council, 1995*

APPENDIX I.

**Chapter 159
P.L. 1974
STATE TRAILS SYSTEM**

13:8-30. Short title

This act shall be known and may be cited as the "New Jersey Trails System Act."

13:8-31. Legislative findings and declaration

- a. The Legislature hereby finds that in order to provide for the ever-increasing outdoor recreation needs of an expanding population, and in order to promote public access to, travel within, and enjoyment and appreciation of the outdoor, natural and remote areas of this State trails should be established both in natural and scenic areas of New Jersey, and in and near the urban areas of this State.
- b. The Legislature, therefore, declares that it is the policy of this State to provide the means for attaining these objectives by instituting a Statewide system of recreation and scenic trails, by designating the Appalachian trail as the initial component of that system, and by prescribing the methods by which, and standards according to which, additional components may be added to the system.

13:8-32. Definitions

As used in this act, unless the context clearly indicates otherwise:

- a. "Department" means the Department of Environmental Protection.
- b. "Commissioner" means the Commissioner of Environmental Protection.
- c. "Scenic easement" means a perpetual easement in land which (1) is held for the benefit of the public (2) is specifically enforceable by its holder or beneficiary, and (3) limits or obligates the holder of the servient estate, his heirs, and assigns with respect to their use and management of activities conducted thereon, the object of such limitations and obligations being the maintenance or enhancement of the natural beauty of the land in question or of areas affected by it.
- d. "Scenic trail" means an extended trail so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the significant scenic, historic, natural or cultural qualities of the areas through which such trails may pass.

13:8-33. Classes of trails

The State trails system shall be composed of the following classes of trails:

- a. State scenic trails, which will be extended trails so located as to provide maximum potential for the appreciation of natural areas and for the conservation and enjoyment of the significant

scenic, historic, natural, ecological, geological, or cultural qualities of the areas through which such trails may pass. Each of these trails will be limited exclusively to foot use, except that use by horses or nonmotorized bicycles may also be permitted on segments of scenic trails where deemed appropriate by the department.

- b. State recreation trails, which will provide a variety of outdoor recreation uses in or reasonably accessible to urban areas.
- c. Connecting or side trails, which will provide additional points of public access to State scenic or recreation trails or which will provide connections between such trails. They shall be of the nature of the trails they serve.

13:8-34. Establishment of system; uniform markers; coordination with national trail system

- a. The department is hereby authorized, empowered, and directed to establish a State trails system of recreation trails, scenic trails and connecting or side trails in the State composed of (1) the Appalachian trail, and (2) such other trails that are established or designated from time to time by the department under the provisions of this act.
- b. The department, in consultation with appropriate Federal, State, and local governmental agencies and public and private organizations, shall establish a uniform marker for the trails system, and shall coordinate the trails system with the National trails system established under applicable provisions of Federal law.

13:8-35. Establishment and designation; recreation and scenic trails; Appalachian trail; connecting or side trails

- a. The department may establish and designate recreation and scenic trails over lands administered by it.
- b. There is hereby established as the initial scenic trail the Appalachian trail, which shall be administered primarily as footpath by the department, provided however, that nothing herein contained shall be construed as amending, repealing or superseding the provisions of P.L. 1973, c. 54 (C. 13:8-29), except as specifically provided herein.
- c. Connecting or side trails within park, forest, and other recreation areas or natural areas may be established, designated and marked as components of a recreation or scenic trail.

13:8-36. Selection of routes and rights-of-way; criteria

- a. The selected route shall be compatible with the preservation or enhancement of the environment it traverses, and the boundaries of the right-of-way shall be established in such a manner that they protect the scenic values of the trail.
- b. In selecting rights-of-way, the department shall give full consideration to minimizing the adverse effects upon the adjacent landowner or user and his

operation. Development and management of each segment of the trails system shall be designed to harmonize with and complement any established multiple-use plans for that specific area in order to insure continued maximum benefits from the land.

13:8-37. Use of state lands, acquisition of lands or interests in land

The department may use for trail purposes lands owned by the State, with the concurrence of the head of the administering agency, and may acquire lands or interests in land by scenic easements, written cooperative agreement, eminent domain, donation, purchase with donated or appropriated funds, or exchange. Acquisition of land or interest shall be accomplished with all possible speed.

13:8-38. Noninterference with nature and purposes by use of trail; maintenance of natural and scenic qualities

Within the external boundaries of the right-of-way, the natural vegetation shall be kept undisturbed except for any clearing required for construction of the trail, occasional vistas, or trail-use facilities. The department shall make every effort to avoid any use of the right-of-way that is incompatible with the purposes for which the trails system shall be designed to harmonize with and complement any established multiple use plans for that specific area in order to insure continual maximum benefits from the land. Other uses along the trail which will not substantially interfere with the nature and purposes of the trail may be permitted by the department.

State scenic trails shall be managed in such a way as to maintain their natural and scenic quality.

13:8-39. Development and maintenance of trails; written cooperative agreements

- a. The department shall provide for the development and maintenance of trails established under this act and shall cooperate with and encourage other State agencies to operate, develop and maintain portions of such trails which are located in areas administered by such agencies.
- b. When deemed to be in the public interest, the department may enter into written cooperative agreements with local governments, landowners, private organizations or individuals to operate, develop and maintain any portion of a recreation or scenic trail.

13:8-40. Studies of designation of additional trails

The department shall make studies for the purpose of determining the feasibility and desirability of designating additional trails as recreation or scenic trails.

13:8-41. Review of formal declarations of railroad right-of-way abandonments for inclusion in system

The department shall review all formal declarations of railroad right-of-way abandonments by the Interstate Commerce Commission or other Federal agencies, for possible inclusion into the State trail system.

13:8-42. Rules and regulation

The commissioner may adopt and promulgate pursuant to law, rules and regulations governing the use, protection, management, development and administration of the trails system and such other rules and regulations as he deems necessary to effectuate the purposes of this act.

13:8-43. Violations; penalties

Any person violating any provision of this act or any rule or regulation promulgated thereunder shall be liable to a penalty of not more than \$50.00 to be collected in a summary proceeding pursuant to the Penalty Enforcement Law (N.J.S.A. 2A:58-1 et seq.)

13:8-44. Funds available for acquisition of lands or interests therein

The commissioner may use any sum hereafter appropriated by any act from the proceeds of the sale of bonds under the New Jersey Green Acres Land Acquisition Act of 1971, c. 419 (C. 13:8A-19 et seq.), and such other sums as may be appropriated for like purposes for the acquisition of lands or interests therein for the purpose of this act.

APPENDIX 2.

**Chapter 367
LAWS OF 1975
NEW JERSEY TRAILS COUNCIL**

An Act authorizing the New Jersey Trails Council created by the Department of Environmental Protection to undertake a study and prepare a plan for a coordinated system of trails throughout the State of New Jersey.

Be it enacted by the Senate and General Assembly of the State of New Jersey:

1. The New Jersey Trails Council is hereby authorized, in cooperation with the Department of Environmental Protection, to undertake a study and devise a plan for a coordinated system of trails throughout the State of New Jersey.

2. It shall be the duty of the New Jersey Trails Council to serve as a lay advisory board to the New Jersey Department of Environmental Protection and the Department of Transportation in coordinating the activities of the study and plan to be undertaken.

The Council shall:

a. Be ever cognizant of the environment and shall strive to have such a system of trails planned and developed in such a way so that, the local environments will not be harmed but rather enhanced by the proposed system of trails; and

b. Endeavor to encourage cooperation between various governmental agencies at the Federal, State, County and municipal levels so that, the proposed trails system may be a reality and properly coordinated to realize the intent for a system of trails.

3. The council shall be entitled to call to its assistance and retain consultants in various disciplines to study the desirability and feasibility of establishing a system of trails in the State of New Jersey, including the location as well as the type of trails, and give consideration to all types of trails that may be utilized throughout the State for recreational, as well as transportation activities.

4. The New Jersey Trails Council shall report its findings and recommendations to the Commissioner of Environmental Protection one year from the effective date of this act.

This act shall take effect immediately.

APPENDIX 3.

ADMINISTRATIVE ORDER NO. 19

Whereas, the New Jersey Trails Council was established by P.L. 1975, Chapter 367, to act as a lay advisory board to the Department of Environmental Protection and the Department of Transportation in coordinating the development of a plan for a system of trails throughout the State; and

WHEREAS, the Department of Environmental Protection and Energy is currently revising the State Trails Plan adopted in 1982 and requires the guidance of such a council in the development and implementation of the revised State Trails Plan;

I, Scott A. Weiner, Commissioner of the Department of Environmental Protection and Energy, pursuant to the authority of N.J.S.A. 13:8-30 et seq. and P.L. 1975, Chapter 367, do hereby order and direct the reformation of the New Jersey Trails Council which shall continue to serve as an advisory board in the Department of Environmental Protection and Energy in the development and implementation of a State Trails System (N.J.S.A. 13:8-30 et. seq.). The New Jersey Trails Council (Council) shall perform its duties in accordance with this administrative order.

The functions of the Council shall include the following:

1. To encourage the cooperation among government agencies at the Federal, State, county and municipal levels and provide recommendations to the Department on the development of the State Trails Plan.
2. To provide a forum for the public to discuss issues related to the State Trails System and the State Trails Plan.
3. To evaluate land owned by the Department and recommend to the Commissioner of the Department of Environmental Protection and Energy the designation, development and maintenance of scenic, recreation and connecting trails to the State Trails System.
4. To evaluate all potential state government offerings proposed for trail development and provide recommendations for the Department.
5. To periodically revise the State Trails Plan and recommend additions, deletions and modifications.

The Council shall be composed of eleven (11) members representing trail user groups, interest groups (those representing a broad range of interests as opposed to trail user group representatives who represent and promote specific trail uses) and State government agencies. Members of the Council representing trail user groups and interest groups shall be appointed by the Commissioner of the Department and shall serve for a period of three (3) years from the date of their appointment and until their successors are duly appointed. Members of the Council representing State government agencies shall serve at the appointment by the commissioner of the respective agency.

Five (5) members of the Council shall represent trail user groups which may include but not be limited to hiking, canoe, bicycle, horse, snowmobile and ski-touring organizations.

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Three (3) members of the Council shall consist of state government representatives, one representative from the Department of Transportation, appointed by the Commissioner of the Department of Transportation, and two representatives from the Department of Environmental Protection and Energy one of whom shall be from either the Division of Parks and Forestry or the Office of Green Acres, to be appointed by the Commissioner of the Department of Environmental Protection and Energy.

This Order shall take effect immediately.

October 23, 1992

Scott A. Weiner, Commissioner
New Jersey Department of
Environmental Protection and Energy

APPENDIX 4.

LAND TRUSTS IN NEW JERSEY

Cumberland County Land Trust
10 N. Chestnut
Maple Shade, NJ 08052

Delaware & Raritan Greenway
621 Alexander Road
Princeton, NJ 08540

Greater Newark Conservancy
303 Washington Street
5th Floor
Newark, NJ 07102

Harding Land Trust
P.O. Box 205
Green Village, NJ 07935

Hope Land Trust
P.O. Box 458
Hope, NJ 07844

Hudson R. Waterfront Conservancy
P.O. Box 274
Jersey City, NJ 07303

Hunterdon Co. Green Heritage
RD 1, Rt. 31
Lebanon, NJ 08833

Hunterdon Heritage Conservancy
43 Lilac Dr.
Flemington, NJ 08822

Lake Gerard Land Trust
16 Fawn Ridge Drive
Millington, NJ 07946

Lawrence Township Conservation Foundation
44 Titus Avenue
Lawrenceville, NJ 08648

Monmouth Conservation Foundation
P.O. Box 191
Middletown, NJ 07748

Morris Parks & Land Conservancy
P.O. Box 1295
Morristown, NJ 07962-1295

Natural Lands Trust
1031 Palmers Mill Rd.
Media, PA 19063

New Jersey Conservation Foundation
300 Mendham Road
Morristown, NJ 07960

New Jersey Audubon Society
790 Ewing Avenue
P.O. Box 125
Franklin Lakes, NJ 07417

New Jersey Natural Lands Trust
CN 404
Trenton, NJ 08625

North Camden Land Trust
543 State St.
Camden, NJ 08102

Old Pine Hill Farm Land Trust
340 Pine Avenue
Deptford, NJ 08096

Princeton Land Trust
12 Winfield Place
Princeton, NJ 08540

Rancocas Conservancy
P.O. Box 4109
Mount Holly, NJ 08060

Ridge & Valley Conservancy
R.D. 3, Box 212
Blairstown, NJ 07825

Schiff Natural Lands Trust
Pleasant Valley Road
Mendham, NJ 07945

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South Jersey Land Trust
217 Lake Avenue
Pitman, NJ 08071

Stony Brook-Millstone Watershed Association
RD 2, Box 263-A
Titus Mill Road
Pennington, NJ 08534

The Nature Conservancy - NJ
200 Pottersville Road
Chester, NJ 07930

Trust for Public Land - NJ
55 Maple Avenue
Morristown, NJ 07960

Upper Raritan Watershed Association
Box 273
Gladstone, NJ 07934

Washington Township Land Trust
40 E. Valley Brook Road
Long Valley, NJ 07953

Wildlife Preserves
154 E. Clinton Ave.
Tenafly, NJ 07670

National Trusts without New Jersey Offices

American Farmland Trust
Northeastern Office
1 Short St., Herrick Mill
Northampton, MA 01060

Land Trust Alliance
1319 F Street, NW
Suite 501
Washington, D.C. 20004-1106
(a clearinghouse for information on land trusts
and trust issues)

Trust for Appalachian Trail Lands
Appalachian Trail Conference
P.O. Box 807
Harpers Ferry, WV 25425

APPENDIX 5.**APPLICATION REQUIREMENTS FOR DESIGNATION
TO THE STATE TRAILS SYSTEM**

Submittals for designation of trails or trail systems can be made by trail managing agencies, park friends groups, private organizations and clubs, and individuals.

The following information is to be included in the application. All references to trail also refer to trail systems:

1. Name of trail.
2. Municipality and county in which the trail is located. Include all the municipalities or counties, if applicable.
3. A short written narrative description of the trail area and trail right-of-way, including a description of the length, surrounding lands, physical condition of the trail and surroundings (composition and dimensions of the pathway, forest cover type, waterways and wetlands either crossed or found nearby, and unique natural features, historic features or events associated with the trail or nearby area), and need for land acquisition and/or development for the trail.
4. Include a copy of a U.S.G.S. 7.5 minute quadrangle map of the trail, marked to show its location, or the location of the trail system. If available, include a park map showing the named trail. If the application is for a trail system, all the trails must be on the map.
5. A statement of how the proposed trail qualifies for designation by being owned through fee simple title or held under a conservation restriction or scenic easement with a guarantee of trail access by a unit of government or charitable conservancy. Also include the mailing address of the parks or responsible agencies for the trail.
6. A written evaluation of whether the trail should be designated as a scenic trail, recreation trail or connecting trail, based on the descriptions in the regulations at 7:5D-4.
7. A written statement of how the proposed trail is suitable for designation under the following:
 - a. Scenic quality. Based on the description in #5 above, include a justification of its scenic quality. Any "unscenic" features should be noted as well, such as operating landfills or sand and gravel mines.
 - b. Accessibility. The trail must have an access point or points that can be easily reached by the public, either with adequate parking areas or entrances close to public transportation. Include the names of specific streets or roads serving as access points. If a connector trail, include the names of the two trails the connector trail links.
 - c. Length. The trail must be at least five miles in length, unless it is a connector trail to existing trails in the State Trails System, and therefore can be less than five miles in length. Trail systems can consist of interconnected trails which individually are less than five miles in length, but together, total five miles. Include the exact length of the trail in miles and portions of miles. If certain sections of the trail are designated for different uses, include the amount of mileage and location of changes for those uses here.

d. Multiple use. List the types of uses for which the trail is currently available. If the trail is a single use trail, explain why that is the best use of the trail and/or the surrounding area. Also, in this section state whether signs are posted indicating the types of uses permitted.

e. Development and Maintenance Costs. Explain how the trail is maintained, e.g. by park staff and/or volunteers, and types of costs entailed in ongoing maintenance and development projects needed. A detailed breakdown of costs is not necessary.

f. Public Support: Include letters from the managing public agency allowing designation, and also include any letters of support from trail-interest or volunteer groups.

g. Environmental Impact: There must be little if any negative impact from the trail and its use. Describe the condition of the trail surface, noting any erosion, areas of washout, wet areas or water crossings, etc. Explain how the trail surface and surrounding lands do not impact rare plants or animals, or how the trail might actually enhance the surrounding area.

8. A listing and justification of any proposed uses for the trail upon designation. This may be different than current uses listed under item 7d.
9. Include any letters of endorsement from public officials and agencies, and private citizens and organizations, as applicable, indicating support of the proposed trail designation.
10. Include at least six (6) photographs or color slides of the trail. These must show access and/or parking areas, general scenery or landscapes found along the trail, condition of the trail bed, people using the trail (not park officials in uniforms) and other facilities available along the trail, such as benches, picnic tables or rest rooms.

Applications for designation should be returned to:

Office of Natural Lands Management
Division of Parks and Forestry
CN-404
Trenton, New Jersey 08625-0404
609-984-1339

After an application for designation is received, the State Trails Program will inspect the trail, and report its findings and recommendation to the New Jersey Trails Council. The council will make a recommendation to the Commissioner of the Department of Environmental Protection, who will accept or reject a designation proposal. His or her decision will be sent to the applicant and, if the applicant is an organization or individual, the managing agency.

APPENDIX 6.**Chapter 5D
STATE TRAILS SYSTEM RULES****SUBCHAPTER 1. GENERAL PROVISIONS****7:5D-1.1 Purpose and scope**

This chapter constitutes the rules of the Department concerning the implementation of the New Jersey Trails System Act, N.J.S.A. 13:8-30 et seq. This chapter establishes standards, procedures and practices for designating and maintaining trails as part of the State Trails System, in order to provide for the ever-increasing outdoor recreation needs of an expanding population and to promote public access to, travel within, and enjoyment and appreciation of the outdoor, natural and remote areas of the State. Designation of trails to the System is intended to help preserve the natural, recreational, ecological, geological, historic and cultural qualities of trails and the areas through which they pass; to increase open space and recreational opportunities; and to enhance the quality of life in New Jersey for all State residents and visitors.

7:5D-1.2 Construction

This chapter shall be liberally construed to permit the Department to effectuate the purposes of the New Jersey Trails System Act, N.J.S.A. 13:8-30 et seq.

7:5D-1.3 Severability

If any subchapter, section, subsection, provision, clause or portion of this chapter, or the application thereof to any person, is adjudged unconstitutional or invalid by a court of competent jurisdiction, such judgement shall be confined in its operation to the subchapter, section, subsection, provision, clause, portion or application directly involved in the controversy in which such judgment is rendered and shall not affect or impair the validity of the remainder of this chapter or the application thereof to other persons.

7:5D-1.4 Definitions

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise:

"Act" means the New Jersey Trails System Act, N.J.S.A. 13:8-30 et seq.

"ADA" means the Americans with Disabilities Act, 42 U.S.C. 12101 et seq.

"Administering agency" means (1) any agency of the Department that is assigned responsibility for managing a particular parcel of land, or (2) any Federal agency, State department, local unit or charitable conservancy that establishes a land management policy for a particular parcel of land included in a designated State trail.

"Charitable conservancy" means a corporation or trust whose purposes include the acquisition and preservation of land or water areas, or of a particular land or water area, or either thereof, in a natural, scenic or open condition, no part of the net earnings of which inures to the benefit of any private shareholder or individual, and which has received tax exemption under section 501(c)3 of the Internal Revenue Code.

"Commissioner" means the Commissioner of the Department or his or her designated representative.

"Conservation restriction" means an interest in land less than fee simple absolute, stated in the form of a right, restriction, easement, covenant, or condition, in any deed, will or other instrument, other than a lease, executed by or on behalf of the owner of the land, appropriate to retaining land or water areas predominating in their natural, scenic or open or wooded condition, or for conservation of soil or wildlife, or for outdoor recreation or park use, or as suitable habitat for fish or wildlife, executive for the purpose listed at N.J.S.A. 13:8B-2(b).

"Council" means the New Jersey Trails Council.

"Department" means the New Jersey Department of Environmental Protection, its successors and assigns.

"Division" means the Division of Parks and Forestry in the Department.

"Local unit" means a municipality, county or other political subdivision of the State or agency thereof.

"New Jersey Trails Council" means the advisory board established by the Department and authorized by L. 1975 c.367, to undertake a study and prepare a plan for a coordinated system of trails throughout the State, and continued by the Department for the purpose of providing public input into the administration of the State Trails System.

"Scenic easement" means a perpetual easement in land which (1) is held for the benefit of the public, (2) is specifically enforceable by its holder or beneficiary, and (3) limits or obligates the holder of the servient estate and his or her heirs and assigns with respect to their use and management of activities conducted thereon, the object of such limitations and obligations being the maintenance or enhancement of the natural beauty of the land in question or of areas affected by it.

"State Trails System" or "System" means the statewide system of individual trails or group of trails authorized by the Act and designated pursuant to this chapter.

"Trail facility" means any area, structure or equipment that functions to provide a service to the trail user, including, but not limited to, parking lots, picnic areas and rest rooms.

"Trail right-of-way" means a road, path, or water body and adjacent land, under the jurisdiction of an administering agency and designated for public trail access pursuant to this chapter.

"Trails Plan" means the plan for a coordinated system of trails throughout the State authorized by L. 1975, c.367, as updated.

SUBCHAPTER 2. NEW JERSEY TRAILS COUNCIL

7:5D-2.1 New Jersey Trails Council

(a) The New Jersey Trails Council shall advise the Department on the designation of trails to the State Trails System and the management of the State Trails System.

(b) The Council shall consist of representatives from trail user groups, outdoor recreation and conservation organizations, and State governmental agencies. Members of the Council representing trail user groups and outdoor recreation and conservation organizations shall be appointed by the Commissioner and shall serve for a period of three years from the date of appointment and until their successors are duly appointed. Members of the Council representing State governmental agencies shall serve as ex-officio members, and shall be appointed by the Commissioner of their respective departments.

(c) The Council shall:

1. Provide a forum for the public to discuss issues related to the designation and management of the State Trails System or the contents of the Trails Plan;

2. Advise the Department on the establishment, development, and maintenance of scenic, recreation and connecting trails on lands owned by the Department;

3. Advise the Department on the trail development potential of proposed State acquisitions;

4. Review proposals for trail designation submitted by Federal or State agencies, local units, private organizations or persons and advise the Department on such proposals;

5. Periodically evaluate the Trails Plan and advise the Department on additions, deletions, and modifications;

6. Review trail proposals and funding allocations consistent with any Federal requirements for trail acquisition and management, and advise the Department on the results of its review; and

7. Encourage the development of trails throughout the State and provide information to the State and the public on trails issues of Statewide interest.

SUBCHAPTER 3. LAND ACQUISITION FOR TRAILS

7:5D-3.1 Land acquisition for trails

(a) The Department, with the advice of the Council, may acquire interest in land for trails purposes in fee simple, or by conservation restriction or scenic easement, through purchase, donation or exchange.

(b) The Department shall review for trails acquisition potential all formal declarations of railroad right-of-way abandonments by the Interstate Commerce Commission or other Federal agencies.

SUBCHAPTER 4. CLASSES OF TRAILS**7:5D-4.1 Classes of trails**

(a) The State Trails System is composed of the following classes of trails:

1. Scenic trails;
2. Recreation trails; and
3. Connecting trails.

7:5D-4.2 Scenic trails

(a) Scenic trails are designated to the State Trails System to provide the public with the opportunity for the appreciation of natural and cultural areas, and to facilitate the conservation and enjoyment of significant scenic, historic, natural, ecological, geological or cultural areas through which such trails pass.

(b) The Department shall specify the uses of scenic trails upon their designation to the State Trails System. Such uses shall be limited to non-motorized recreational uses. The Department may allow segments of scenic trails to be used for hiking, canoeing, horseback riding, bicycling, and/or ski touring, as appropriate.

(c) Scenic trails must be five miles or longer in length, but a scenic trail may consist of segments or components of a group of trails totalling five miles or more.

7:5D-4.3 Recreation trails

(a) Recreation trails are designated to the State Trails System to provide the public with the opportunity for a variety of outdoor recreational uses.

(b) The Department shall specify the uses of recreational trails upon their designation to the State Trails System. Such uses may include hiking, canoeing, horseback riding, bicycling, ski touring, snowmobiling, motorcycling, use of off-road vehicles (ORV's), or cultural or historical touring.

7:5D-4.4 Connecting trails

Connecting trails are designated to the State Trails System to provide additional points of public access to scenic or recreation trails or to provide connections between such trails, including connections between points of interest on such trails.

SUBCHAPTER 5. DESIGNATION OF TRAILS TO THE STATE TRAILS SYSTEM**7:5D-5.1 Qualifications for designation**

(a) To qualify for designation to the State Trails System, a trail must satisfy one of the following qualifications:

1. The trail right-of-way is owned through fee simple title or held under a conservation restriction or scenic easement by the State and administered by the Department;
2. The trail right-of-way is owned through fee simple title or held under a conservation restriction or scenic easement by a local unit or a charitable conservancy, and access to and use of the trail right-of-way is guaranteed through legal instrument dedicating the trail right-of-way for trail purposes duly filed with the appropriate county clerk; or
3. The trail right-of-way is owned by the Federal government or State agency other than the Department and there is a written cooperative agreement between the owner agency and the Department designating land or water areas for trail purposes.

7:5D-5.2 Criteria for designation

(a) A proposal to designate a trail to the System prepared pursuant to N.J.A.C. 7:5D-5.3(a) shall be based on the following criteria:

1. Scenic Quality: Trail designation proposals shall take into account the presence of high quality or rare natural features, vistas, historical or cultural features or other points of interest that can be sighted or visited along the trail;

2. Accessibility: Trail designation proposals shall take into account the availability of access points for vehicles, trailers or disabled trail users along or adjacent to the trail right-of-way. Water trail rights-of-way must have public access at both ends of the trail and at areas where portage is required;

3. Length: Trails shall be a minimum of five miles in length to be eligible for consideration as scenic trails, but this criterion may be satisfied by segments or components of a group of trails totalling five miles or more. Recreation or connecting trails are not subject to a length criterion;

4. Multiple use: Trails which are managed in a safe and environmentally protective manner to accommodate more than one type of trail use are preferred for designation to those which can support only a single use.

5. Development and Maintenance Costs: Trails which require little capital development or reconstruction of areas critical to the designated purpose of the trail are preferred to those which require extensive time and cost to develop and maintain;

6. Public Support: Trail designation proposals shall take into account public input and recommendations from counties, municipalities, private citizens' groups or other persons indicating endorsement of or opposition to the trail designation; and

7. Environmental Impact: Trails which require extensive development causing erosion or destruction of plant, animal, historic or cultural resources shall not be included in the State Trails System unless no alternative routes are available.

7:5D-5.3 Trail designation procedure

(a) Any Federal or State agency, local unit, private organization or person may submit to the Department a proposal for the designation of a trail to the System. The trail designation proposal shall be submitted to the Department at the following address: State Trails System, Office of Natural Lands Management, Department of Environmental Protection, CN 404, Trenton, New Jersey 08625-0404. The trail designation proposal shall consist of the following:

1. A written narrative description of the trail area and trail right-of-way, including a description of the length, surrounding land use, physical condition, and need for land acquisition and/or development for the proposed trail, and a description of public support of or opposition to the proposed trail;

2. A United State Geological Survey 7.5 minute quadrangle map marked to show the location of the proposed trail;

3. A written evaluation of whether the proposed trail should be designated as a scenic trail, recreation trail or connecting trail as set forth at N.J.A.C. 7:5D-4;

4. A written statement of how the proposed trail qualifies for designation under the criteria set forth at N.J.A.C. 7:5D-5.1;

5. A written analysis of how the proposed trail is suitable for designation under the criteria set forth at N.J.A.C. 7:5D-5.2; and

6. A listing and justification of proposed uses for the trail upon designation.

(b) The Department encourages persons proposing the designation of a trail to the System to obtain letters of endorsement from public officials and agencies, and private citizens and organizations, as applicable, indicating support for the proposed trail designation.

(c) The Division, with the advice of the Council, shall evaluate each trail designation proposal according to the criteria at N.J.A.C. 7:5D-5.1 and 5.2. The Division shall prepare a recommendation for the Commissioner's review evaluating the proposed trail's suitability for designation and recommending that the Commissioner approve or disapprove the proposed trail designation.

(d) The Commissioner shall review all trail designation recommendations submitted by the Division and shall take one of the following actions on each proposal:

1. Propose the trail designation and designated uses of the trail as an amendment to N.J.A.C. 7:5D-8.1;
2. Request that the Division reconsider its recommendation and resubmit the proposal for the Commissioner's review, if appropriate; or
3. Reject the proposed trail designation.

7:5D-5.4 Repeal of trail designation

(a) If at any time after the designation of a trail to the System the Department determines that the trail is not meeting its designated uses and/or management objectives and that mitigation measures are not available to bring the trail into conformance with its designated uses and/or management objectives, the Department may propose to repeal the designation of the trail to the System.

(b) The procedure for repealing the designation of a trail to the System is as follows:

1. If the Division makes a preliminary determination that the designation of a trail to the System should be repealed, it shall conduct a site evaluation of the trail to determine the extent of the trail deterioration, change of use, or unsuitability;
2. Upon completion of the site evaluation, the Division shall submit the site evaluation to the administering agency for a determination of whether mitigation measures are available to bring the trail into conformance with the designated uses and/or management objectives;
3. The Division, with the advice of the Council, shall review the administering agency's determination under (b)2 above, and, if appropriate, shall recommend repeal of the trail designation to the Commissioner;
4. The Commissioner shall review all trail designation repeal recommendations submitted by the Division and shall take one of the following actions on each proposal:
 - i. Propose the trail repeal as an amendment to N.J.A.C. 7:5D-8.1;
 - ii. Request that the Division reconsider its recommendation and resubmit the proposal for the Commissioner's review, if appropriate; or
 - iii. Reject the proposed repeal of the trail designation.

SUBCHAPTER 6. TRAILS MANAGEMENT

7:5D-6.1 Trails management

(a) Except as provided under (g) below and under N.J.A.C. 7:5D-7.1(g), all uses of a trail right-of-way that are inconsistent with the uses specified by the Department upon designation of the trail to the System are prohibited without approval by the Department.

(b) Upon designation of a trail to the System, the administering agency, in coordination with the Department and with the advice of the Council, shall prepare a management plan for the trail right-of-way.

(c) Management objectives to be addressed through preparation of a trail management plan include:

1. Management of scenic trails primarily to protect and enhance their natural and scenic qualities;
2. Protection of the natural vegetation of trail rights-of-way. Clearing of vegetation shall be permitted for public safety, trail construction, creation of occasional vistas, construction or maintenance of trail use facilities or other natural resource management that does not adversely affect the trail right-of-way or its designated uses and/or management objectives;
3. Development of multiple compatible trail uses which allow convenient exits and entrances. Special consideration shall be given to identifying trail segments and access points appropriate for the needs of disabled trail users and conducting planning to meet any applicable guidelines and/or requirements under the ADA;
4. Full consideration of and coordination with adjacent landowners and their operations in order to minimize potential adverse effects on these owners from trail use;
5. Identification of pre-existing trail uses that are inconsistent with the nature of the trail and its designated uses and/or management objectives, and evaluation of techniques to mitigate their impact;
6. Description of erosion control measures, if necessary, taking into account the designated uses of the trail and preservation of the natural environment; and

7. Identification of parking or other ancillary facilities necessary to support the classification and uses of the trail.

(d) The administering agency shall be responsible for the initial development and continued maintenance of a designated trail. The management techniques employed by the administering agency shall be compatible with the trail classification and the purposes for which the trail was designated. The administering agency may allow uses of the trail other than the designated uses only with the prior approval of the Department.

(e) In developing a trails management plan, the administering agency shall solicit the advice of the local unit(s) with jurisdiction over the area(s) through which the trail passes.

(f) The administering agency is encouraged to solicit advice on trail design and management, and assistance for routine trail maintenance, from volunteers and user groups.

(g) The administering agency shall cooperate to the fullest extent possible with the owner of the trail right-of-way in complying with the requirements of the ADA, as applicable.

(h) Emergency vehicles and authorized maintenance vehicles shall be permitted access to designated trails for emergency and management purposes.

(i) The Department shall provide administering agencies with standardized trail head signs for posting.

1. The administering agency shall place and maintain signs at trail entrances, exits, and other strategic points to indicate that a trail is a component of the System.

(j) The Department will inspect each designated trail at least every two years, with the cooperation and assistance of the administering agency. If the Department determines that the trail is not meeting one or more of its designated uses and/or management objectives, it may authorize the administering agency to undertake mitigation measures, including temporary prohibition of one or more trail uses. If the Department determines that mitigation measures are not available to bring the trail into conformance with its designated uses and/or management objectives, it may recommend repeal of the trail designation in accordance with the procedure at N.J.A.C. 7:5D-5.4.

SUBCHAPTER 7. DEPARTMENT-FUNDED CONSTRUCTION PROJECTS AFFECTING DESIGNATED TRAILS

7:5D-7.1 Review of Department-funded construction projects affecting designated trails

(a) The Department shall assess all proposed construction projects partially or wholly funded by the Department that temporarily or permanently cross, directly border upon, or interrupt use of a designated trail right-of-way or its facilities to determine the project's potential impact on the trail, trail users, associated facilities and adjacent property owners.

(b) It is the Department's policy to incorporate, through a memorandum of understanding if appropriate, an informal analysis of the impact of a proposed project on designated trails into its review of non-Department-funded construction projects under its other regulatory programs. The Department may require permittees to take measures to mitigate the impact of proposed projects on designated trails if such measures are consistent with the statutory and regulatory authority governing the permit program.

(c) The Department's review under (a) or (b) above shall assess the following:

1. The location and nature of the proposed project, including the length of time the project is expected to be under construction;

2. The potential impacts of the proposed project on the trail, including, but not limited to, soil erosion, sediment deposition, degradation of water quality, flooding, safety and health hazards, destruction or degradation of natural, historic or cultural resources, or disruption of scenic values; and

3. Proposed or potential methods for mitigating or remediating the proposed project's impacts on the trail.

(d) The Division, with the advice of the Council, shall review a proposed Department-funded construction project within 90 days of receipt of the project plans from the Department's funding program and shall provide a recommendation on the proposed project to the Commissioner.

(e) The Commissioner shall review the recommendation of the Division made under (d) above and shall take one of the following actions on the recommendation:

1. If the Commissioner determines that the proposed Department-funded construction project will temporarily interfere with the trail right-of-way, the Commissioner may require, as a condition of Department funding, mitigation measures to maintain or relocate the trail and its facilities in a manner consistent with the designated classification of the trail during the period of construction or permanently thereafter; or

2. If the Commissioner determines that the proposed Department-funded construction project will permanently interfere with the trail right-of-way or its uses, thereby rendering the trail unsuitable for its designated purposes, and that no satisfactory remediation or mitigation is possible, the Commissioner may disapprove use of the trail for the proposed project. Remediation for permanent interference with the trail right-of-way may include relocation of the trail right-of-way in a manner consistent with N.J.A.C. 7:5D-5.1 and 5.2.

(f) Emergency measures to protect public health, safety and welfare may be undertaken in the trail right-of-way without prior review by the Department. However, persons or organizations undertaking such measures must notify the Division in writing within 24 hours of commencing such measures.

SUBCHAPTER 8. STATE TRAILS SYSTEM

7:5D-8.1 State Trails System

(a) The following trails are designated as components of the State Trails System:

1. (Reserved)

7:5D-8.2 Public Information

Interested persons may obtain information on the State Trails System by contacting:

Office of Natural Lands Management
Department of Environmental Protection
CN 404
Trenton, New Jersey 08625-0404
(609) 984-1339

APPENDIX 7.

NEW JERSEY TRAILS COUNCIL, 1995

William Foelsch
Griggstown Causeway
Princeton, NJ 08540

N.J. Recreation & Park Association

Fern Goodhart
c/o New Jersey Trails Council
Office of Natural Lands Management
CN-404
Trenton, NJ 08625

N.J. Bicycle Advisory Council

Robert Newton
232 Madison Ave., #908
New York, NY 10016

New York-New Jersey Trail Conference

Christian Nielsen
11 Overlook Drive
Long Valley, NJ 07853

Mohawk Canoe Club

Lindsay Pirie
16 Warwick Avenue
Harvey Cedars, NJ 08008

East Coast Enduro Association

Wendy Preble
c/o T.T.A.
P.O. Box 173
Oldwick, NJ 08858

Tewksbury Trail Association

Brian Schmult
P.O. Box 23
Pluckemin, NJ 07978

New Jersey RailTrails

Wally Tunison
c/o The Bicycle Hub
455 Route 520
Marlboro, NJ 07746

N.J. Cycling Conservation Club

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TABLE 1
MAPPED OR MARKED TRAILS IN NEW JERSEY
1985

TRAIL OR SYSTEM NAME	COUNTY	OWNER TYPE	TOTAL MILES	DAY HIKE	MTN BIKE	HORSE BACK	X-CTY SKI	BICYCLE	ORV/ MOTOR	DISABLED ACCESS	SNOW- MOBILE	CANOE	BOAT
Abram S. Hewitt State Forest	Passaic	State	7.0	7.0									
Allaire State Park	Monmouth	State	26.5	21.5	17.0	17.0	21.5					5.0	
Allamuchy Mtn. State Park-Deer Park Section	Warren	State	14.5	14.5	14.5	14.5	3.5						
Allamuchy Mtn. State Park-North Section	Sussex, Warren	State	13.0	13.0	13.0	13.0	13.0						
Appalachian Trail - Delaware Water Gap NRA	Warren, Sussex	Federal	16.0	16.0									
Appalachian Trail - High Point State Park	Sussex	State	18.0	18.0									
Appalachian Trail - Stokes State Forest	Sussex	State	12.5	12.5									
Appalachian Trail - Wawayanda State Forest	Sussex, Passaic	State	20.0	20.0									
Appalachian Trail - Worthington State Forest	Warren	State	8.0	8.0									
Assunpink Wildlife Management Area	Monmouth	State	10.0	10.0	10.0	10.0	10.0						
Batona Trail - Bass River State Forest	Burlington	State	5.0	5.0									
Batona Trail - Lebanon State Forest	Burlington	State	9.5	9.5			9.5						
Batona Trail - Wharton State Forest	Burlington	State	25.5	25.5			25.5						
Belleplain State Forest	Cape May	State	35.0	35.0	34.0	32.0	34.0	1.0	24.0	1.0	24.0		
Belleplain State Forest - East Creek Trail	Cape May	State	6.5	6.5			6.5			0.5		4.0	2.0
Cape May Point State Park	Cape May	State	4.0	4.0						1.0			
Cattus Island Park	Ocean	County	10.0	10.0	4.0		10.0	4.0				10.0	
Cedar Creek	Ocean		12.0										
Cheesapeake State Park	Middlesex	State	7.5	5.0	2.5								
Cooper River Park	Camden	County	9.0	9.0	9.0		9.0	7.0		7.0		4.0	
Crosswicks Creek	multiple		17.0									17.0	
Delaware Water Gap NRA - Millbrook Area	Warren	Federal	12.0	12.0						2.0			
Delaware and Raritan Canal State Park	multiple	State	70.0	70.0	70.0	25.0	70.0	70.0		70.0		60.0	
Delaware River	multiple		115.5									115.5	
Eagle Rock Reservation	Essex	County	10.0	10.0		6.5							
Environmental Ed. Center, Lord Stirling Park	Somerset	County	8.5	8.5			5.0			.5			
Estell Manor Park	Atlantic	County	16.0	16.0	14.0	8.0	12.0	2.0		3.0			
Garret Mountain Reservation/Rifle Camp Park	Passaic	County	6.5	6.5	6.5	6.5	6.5	6.5					
Great Egg Harbor River	multiple		46.0									31.0	15.0
Great Swamp National Wildlife Refuge	Morris	Federal	8.5	8.5			7.5			.5			
Hacklebarney State Park	Morris	State	5.5	5.5			3.5						
Hartshorne Woods Park	Monmouth	County	5.5	5.5	5.5	5.5							
High Point State Park	Sussex	State	32.5	19.5	14.0	14.0	19.0				25.5		
Holmdel Park	Monmouth	County	8.0	8.0									
Huber Woods Park	Monmouth	County	6.5	6.5	6.0	6.0							
Island Beach State Park	Ocean	State	4.0	4.0	3.5			3.5					
Island Beach State Park - Beach Trail	Ocean	State	6.0	6.0		6.0			6.0				
Jenny Jump State Forest	Warren	State	5.0	5.0									
Kittatinny Valley State Park - Paulinskill Trail	Sussex, Warren	State	27.0	27.0	27.0	27.0	27.0						
Kittatinny Valley St. Park - Sussex Branch Trail	Sussex, Morris	State	21.0	21.0	13.0	13.0	21.0	5.0					
Lebanon State Forest	Burlington	State	4.0	4.0	3.5	3.5	3.5						
Lebanon State Forest - Mount Misery Trail	Burlington	State	3.5	3.5	3.5		3.5						

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Lenape Trail	Essex	County	20.0	20.0		9.0	11.0	7.0					
Lenape Trail - South Mountain Reservation	Essex	County	6.5	6.5			6.5						
Lewis Morris Park	Morris	County	11.0	8.0		3.0	8.0						
Loantake Brook Reservation	Morris	County	9.0	5.5	5.0	4.0		5.0		5.0			
Long Pond Ironworks State Park	Passaic	State	7.5	7.5			4.0						
Lord Stirling Stable Riding Trails	Somerset	County	6.0			6.0							
Mahlon Dickerson Reservation	Morris	County	8.0	8.0		7.5	2.0						
Manasquan Reservoir Recreation Area	Monmouth	County	5.0	5.0	5.0	5.0							
Manasquan River	Monmouth	County	5.5										5.5
Maurice River	Cumberland		24.0									6.5	17.5
Mercer County Park	Mercer	County	5.0	5.0				5.0		5.0			
Millstone River	multiple		18.0									18.0	
Monmouth Battlefield State Park	Monmouth	State	27.0	27.0	22.0	10.0	20.0	2.0		1.0			
Morristown Nat'l H.P. - Grand Loop Trail	Morris	Federal	5.0	5.0		5.0	5.0						
Morristown National Historic Park	Morris, Somerset	Federal	13.0	13.0		7.0	12.0						
Mullica River Mainstem	Atlantic, Burlngtn		17.5										17.5
Musconetcong River	multiple		31.0										
North Branch Raritan River	Somerset		14.5										
Norvin Green S.F. - Wyanokie Crest Trail	Passaic	State	5.0	5.0			5.0					31.0	
Norvin Green S.F. - Hewitt-Butler Trail	Passaic	State	5.5	5.5								14.5	
Norvin Green S.F. - Wyanokie Circular Trail	Passaic	State	4.0	4.0			4.0						
Norvin Green State Forest	Passaic	State	8.5	8.5			8.0						
Palisades Interstate Park	Bergen	Interstate	7.0	7.0			7.0						
Palisades Interstate Park - Long Path	Bergen	Interstate	11.0	11.0			11.0						
Palisades Interstate Park - Shore Trail	Bergen	Interstate	11.0	11.0			11.0						
Parvin State Park	Salem	State	12.5	11.5	8.5			3.0		3.0		1.0	
Parvin State Park - Long Trail	Salem	State	5.0	5.0	4.5								
Patriots' Path	Morris	multiple	20.0	20.0	15.0	10.0	20.0	2.0		2.0			
Patriots' Path - Morristown NHP	Morris	Federal	8.0	8.0		8.0	8.0						
Pequanock Watershed	Morris, Passaic	Municipal	23.0	23.0		20.0							
Ramapo Mountain State Forest	Bergen	State	14.0	14.0	5.0		14.0						
Ramapo Mtn. St. Forest - Cannonball Trail	Bergen	State	6.0	6.0			6.0						
Ramapo Mtn. St. Forest - Hoerlein Trail	Bergen	State	6.0	6.0			6.0						
Ramapo Valley Reservation	Bergen	County	13.5	13.5		11.5	13.5			2.0			
Rancocas Creek - North Branch	Burlington		29.0										
Ringwood State Park	Passaic, Bergen	State	17.5	17.5	5.0	5.0	6.5				5.0	17.0	12.0
Ringwood State Park - Cooper Union Trail	Passaic	State	5.0	5.0			5.0						
Ringwood State Park - Crossover Trail	Passaic	State	5.0	5.0	2.0	2.0					2.0		
Round Valley Recreation Area	Hunterdon	State	10.0	10.0	9.0	6.0							
Sandy Hood Unit, Gateway Natl. Rec. Area	Monmouth	Federal	4.0	4.0									
Shark River Park	Monmouth	County	7.0	7.0	7.0	7.0							
South Branch Raritan River	Somrst, Huntrdn		14.0										
South Branch Reservation	Hunterdon	County	12.0	3.0	3.0		3.0					14.0	
South Mountain Reservation	Essex	County	33.5	33.5		20.5	20.5					12.0	
Stokes State Forest	Sussex	State	35.5	35.5	31.0	31.0	2.5				15.0		
Swartswood State Park	Sussex	State	5.0	5.0	1.5	3.0	5.0	1.5					

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Tatum Park	Monmouth	County	4.0	4.0	4.0	4.0							
Toms River	Ocean		28.0										
Turkey Swamp Park	Monmouth	County	4.0	4.0	4.0	4.0						22.5	5.5
Upper Passaic River	multiple		51.5										
Voorhees State Park	Hunterdon	State	5.0	5.0	1.0							51.5	
Washington Crossing State Park	Mercer	State	14.0	14.0	3.0	2.0							
Washington Reservation - Bridle Trail	Union	County	26.0	26.0		26.0	1.0						
Washington Reservation - Sierra Trail	Union	County	11.0	11.0		6.0	1.0						
Waywanda State Park	Sussex	State	32.0	32.0	19.5	18.5	2.0						
Wells Mills Park	Ocean	County	10.0	10.0	3.0		10.0						
Wharton State Forest - Batsto River	Burlington	State	6.0									6.0	
Wharton State Forest - Lower Atsion River	Burlington/Atlantic	State	14.0									14.0	
Wharton State Forest - Oswego River	Burlington	State	7.5									7.5	
Wharton State Forest - Wading River	Burlington	State	15.0									15.0	
Worthington State Forest	Warren	State	26.5	26.5									
			1534.0	1025.0	435.5	455.5	560.0	124.5	30.0	103.5	71.5	477	75

All mileage is indicated to the half mile

