

New Hampshire
**STATEWIDE TRAILS
STUDY**

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**NEW HAMPSHIRE
STATEWIDE TRAILS STUDY**

Report to the
New Hampshire Office of Comprehensive Planning
by
E. Rogers Rutter

Concord, New Hampshire
August, 1974

August 30, 1974

Miss Mary Louise Hancock
Director of Community Planning
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Dear Miss Hancock:

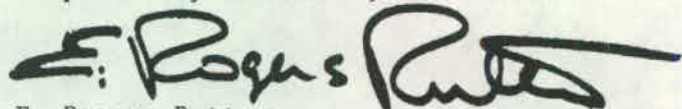
Transmitted herewith is the NEW HAMPSHIRE STATEWIDE TRAILS STUDY accomplished for your Office under a grant between the State of New Hampshire and the New England Regional Commission. This report contains the findings and recommendations of a year-long study of the potential for a Statewide Trails System for New Hampshire.

The work has been guided by a Statewide Trails Study Advisory Committee representing those public agencies and private trail-using organizations having responsibility for various elements of the Statewide Trail System. Throughout the entire course of the study, this Committee has contributed a wealth and depth of knowledge and experience to the research, findings, and recommendations. I am especially indebted to you and to George Hamilton, Director of Parks for the State of New Hampshire, for your initial interest in developing a public trails system, and your continued support and encouragement during the course of the study.

This report will be a valuable resource document and guide for implementation of the New Hampshire Statewide Trails System Statute, enacted into law by the 1973 New Hampshire General Court. The Advisory Committee has recommended that the study be updated within two years, so that administration of New Hampshire's public recreational trails system will reflect changing land use patterns and public needs. It is also recommended that the next Trails Study focus additional attention on clarification of the rights and privileges of the private land owner as well as the urgent need to provide increasing public trail opportunities.

The opportunity to work on this report has proved to be the most professionally challenging and personally gratifying of my ten years association with you and the others associated with the study. I look forward to continuing participation in future work directed to practical planning and effective administration of New Hampshire's natural resources in the broadest public interest.

Respectfully submitted,



E. Rogers Rutter
Statewide Trails Study

ERR:am

Sanbornton
New Hampshire

ACKNOWLEDGMENTS

Many others made important contributions to the Trails Study. Ed Friend of Pelham, N.H., Chairman, New England Trail Riders Association (NETRA) and other NETRA members did a great deal of work mapping trail bike routes. Raymond Gerbi (Recreation Services, D.R.E.D.) helped with the work on railroad abandonments. Richard Tapply (Recreation Services, D.R.E.D.) and recreation leaders in seven New Hampshire communities assisted in the distribution of the Bike Riders Survey. Sargent Goodhue, Brian Simm, Arthur Morill, and Tom Miner (Forest Resources, D.R.E.D.) compiled the basic data on State Forest trails. Henry Laramie made the initial assessment of lands managed by the Fish and Game Department on which trails might be developed.

Rudolph Mattesich of the Ski Touring Council supplied information on ski touring activities and trails. Robert Proudman, AMC Trails Supervisor, provided unpublished data on foot trails use, and helped with the trails survey. Ronald King and Malcolm Taylor (Society for the Protection of New Hampshire Forests) and Joseph Quinn (Recreation Services, D.R.E.D.) assisted in the drafting and distribution of the Community Trails Survey.

Ken Norcott of the N.H. Timberland Owners represented the Association on several occasions, and assisted in the distribution of the survey to their membership. Forrest Angwin, Executive Director, N.H. Snowmobile Association, coordinated the survey of the local snowmobile clubs throughout the State.

In the Office of Comprehensive Planning, Ronald Poltak and William Hoffman (Community Planning) contributed to the work on horseback trails and the Community Trails Survey respectively. Rita Quinn worked with diligence and perseverance on the arduous task of organizing and compiling the inventory data and typing the manuscript of the Study report.

Robert Gillmore, State Representative from Manchester, drafted the bill on bicycle routes and worked tirelessly for its passage. Representatives Noreen Winkley and Annie Mae Schwaner introduced the original trails system bill, which was finally passed as the Statewide Trails System Act.

The present and future users of trails in New Hampshire owe much to these dedicated people.

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CHAPTER I

SUMMARY OF RECOMMENDATIONS

The NEW HAMPSHIRE STATEWIDE TRAILS STUDY is the result of a year-long study of the potential for a Statewide Public Recreational Trails System. The Study work has been guided by a twenty-member Trails Advisory Committee representing public agencies and private trail-using organizations. Following is a summary of recommendations for the establishment, funding, and administration of a statewide trails system. The rationale for these recommendations is developed in the following chapters.

This document, in conjunction with state enabling legislation, provides background information, recommended objectives, and procedures for implementing a statewide trails system. General priorities for trails acquisition and development are included, based on present needs and trail possibilities.

RECOMMENDATION 1 - A STATEWIDE TRAIL SYSTEM. The State of New Hampshire should proceed with the acquisition and development of a system of trails for hiking, horseback riding, bicycling, ski touring, off-highway recreational vehicles, and other appropriate uses. The system shall include the New Hampshire section of the Appalachian Trail in a manner consistent with the National Trails System Act (P.L. 90-453), New Hampshire's Appalachian Scenic Trail Act (Chapter 216-D, Revised Statutes Annotated). Other trails in the system should be developed according to the provisions of New Hampshire's Statewide Trails System Act (Chapter 593, Laws of 1973), and the Snowmobile and ATV Act (Chapter 560, Laws of 1973), other relevant State and Federal legislation, and the findings and recommendations of this report.

RECOMMENDATION 2 - TRAILS PLANNING. Elements of the Statewide Trail System should be designated, acquired, developed, and maintained in accordance with a plan for each area which will minimize environmental impact and conflicting trail uses. Such plans should be in accord with the recreational and other land use plans of the State and its political subdivisions.

RECOMMENDATION 3 - TRAILS DEVELOPMENT. Initial priority for a trails system should be the establishment and/or improvement of trails on public lands now under State jurisdiction. These lands include, without being limited to, State parks, State forests, Federal lands cooperatively managed by the State, and fish and wildlife lands where feasible.

RECOMMENDATION 4 - TRAILS ACQUISITION. Second priority for a trails system should be the establishment of trails corridors linking land units now in public ownership. Such interests as may be required to establish and protect trail corridors should be negotiated and acquired. Trail corridors may include rights-of-way with buffer areas where necessary or appropriate. Such acquisition may be by fee, lease, easement, cooperative agreement, or as otherwise provided for in State and Federal statutes.

RECOMMENDATION 5 - TRAILS MANAGEMENT. The Department of Resources and Economic Development -DRED- has primary responsibility for developing and administering the Trail System. To assure optimum utilization of public lands administered by other State agencies (e.g., the Water Resources Board and the Fish and Game Department) procedures for coordination on trails management should be developed and implemented through existing interagency mechanisms. The **Cooperative Management Program** for administering lands held by the Department of Resources and Economic Development and Fish and Game should be utilized by these two major natural resource agencies, and the Council on Resources and Development should be utilized when other agencies may be affected.

RECOMMENDATION 6 - ENVIRONMENTAL IMPACT. Plans developed by DRED for acquisition and development of trail corridors should include a study of the environmental impact upon land use, wildlife, vegetation, soil, water, air, historical and archeological sites, and the health, safety, and welfare of the general public. The public should be afforded the opportunity to review such plans and guidelines for trail corridor management through adequate public notice and informational hearings.

RECOMMENDATION 7 - TRAIL DESIGNATION. For the protection of the environment and the individual trail user, management of the Statewide Trail System should provide for classification of the natural resource base and designation of particular trails for particular uses in accordance with such a classification. Seasonal restrictions on trail use should be imposed in such locations and at such times as may be necessary to minimize environmental damage and user conflict. Designation of the trail(s) should be clearly indicated by maps, brochures, and trail signs indicating the uses that are provided for.

RECOMMENDATION 8 - TRAIL-USING ORGANIZATIONS. The development and management of public trails by private trail-using organizations should be encouraged and supported. The State should, where practicable, enter into agreements with private organizations for development and/or maintenance of parts of the Trail System. The Trails Advisory Committee provided for in State legislation should develop and maintain a repository of trails information for use by public agencies, local governments, and trail-user organizations. Trails legislation, trails maps, construction standards, and agency requirements for cooperative agreements would all be helpful to interested trail users. The Advisory Committee should also

investigate possible multiple use of particular trails, and submit their recommendations to the Commissioner of DRED.

RECOMMENDATION 9 - SUPPORTING SERVICES AND FACILITIES. Master planning for the trail system should recognize the need for providing adequate trail-user services and facilities. Such supporting services as lodging, dining, supplies, and mechanical services should be provided by the private sector wherever possible, designed and placed so that they are in harmony with the character and purpose of the trails which they serve.

RECOMMENDATION 10 - LOCAL GOVERNMENTS. The State should encourage and financially assist the acquisition and development of local public recreational trails. Such land use controls as flood plain zoning and open space may be effectively utilized to provide additional local trail opportunities. At local option, a city or town may link its trail(s) with the Statewide Trail System through appropriate cooperative agreements.

RECOMMENDATION 11 - CANOE TRAILS. It is recommended that the State study the possibility of identifying and designating a **Canoe Trail System** under the aegis of the National Wild and Scenic Rivers Act and related Federal and State legislation and resource management programs.

RECOMMENDATION 12 - FEDERAL LANDS. In order to increase opportunities for public use of federal lands and flood control reservoirs, the State should modify present cooperative management agreements to expand trails development and management. Such agreements should consider not only the long-range plans for multiple use of the flood control areas, but also the impact on the nearby local communities.

RECOMMENDATION 13 - TRAILS FUNDING. Special consideration should be given to establishing procedures for funding the Trails System which will take optimum advantage of all available funding sources. State appropriations for trails acquisition and development should be continuously available for matching with federal grants-in-aid. Legislative authorization for the Statewide Trails System should include specific provision for planning the system and its various elements, environmental assessment, acquisition, development, and management. The possibility of establishing a trail user permit system should be studied, with permit fees for trail use where registration fees are not required.

RECOMMENDATION 14 - REGIONAL TRAILS COORDINATION. It is recommended that the chairmen of the State Trails Advisory Councils of states contiguous to New Hampshire be invited to coordinate their respective trails program with New Hampshire's Statewide Trails Advisory Committee. Establishment of a New England Regional Trails Council and formal affiliation with the National Trails Council appear to be logical courses of action for the New Hampshire Advisory Committee to pursue.

CHAPTER II
PERSPECTIVE AND STUDY APPROACH
PERSPECTIVE

On February 8, 1965, the late President Lyndon B. Johnson, in his Natural Beauty Message to Congress, stated in part:

"The forgotten outdoorsmen of today are those who like to walk, hike, ride horseback, or bicycle. For them we must have trails as well as highways. Nor should motor vehicles be permitted to tyrannize the more leisurely human traffic . . .

"As with so much of our quest for beauty and quality, each community has opportunities for action. We can and should have an abundance of trails for walking, cycling and horseback riding, in and close to our cities. In our back country we need to copy the great Appalachian Trail in all parts of America, and to make full use of rights-of-way and other public paths."

A national survey to determine the recreational needs of the people was conducted that year. This survey showed that, of the top 16 activities that people spend their leisure time enjoying, about half need trails to fulfill their needs. The survey further indicated that activities utilizing trails would experience an average participation growth of approximately 150% by the year 2000, with some to experience increases of over 200 per cent.

Congress endorsed the concept of a nationwide system of trails through the enactment of the National Trails System Act (Public Law 90-543). The Act provides for two major types of national trails, recreation and scenic. Recreation trails, in or near urban areas, may be established by the Secretaries of Agriculture and Interior. National Scenic Trails are authorized and designated only by Act of Congress. The National Trails System Act designated the Appalachian Trail from Maine to Georgia and the Pacific Coast Trail from Canada to Mexico as National Scenic Trails, and authorized study of fourteen others (see Figure II-1).

The Appalachian Trail, the Nation's "first" scenic trail, extends some 2,000 miles from Mount Katahdin, Maine, to Springer Mountain, Georgia. The history of the Trail may be traced back to 1876, when the Appalachian Mountain Club operated trails in New Hampshire. Other early trails were the Dartmouth Outing Club trail system in New Hampshire, the Long Trail in Vermont, and the trail system in New York's Palisades Interstate Park.

The concept of a continuous trail along the eastern seaboard was set forth in 1921 by Benton Mackay, a forester who saw the need for a trail that would be really accessible to the people living in eastern metropolitan centers. In 1922, the first mile of the Appalachian Trail was cut and marked in Palisades Interstate Park. New Hampshire was the first state to have a completed trail system along the Appalachian Trail route (see Figure II-2), blazed and marked by the Appalachian Mountain Club and Dartmouth Outing Club in 1932. The Trail was completed in 1937 by private groups working with Forest Service and other public agencies. The Appalachian Trail Conference, a federation of volunteer groups, organizations, and individuals, was established in 1925 to unify and coordinate efforts on a project which has resulted in the longest continuous marked recreation pathway in the world.

Under the National Trails System Act, the Secretary of the Interior has delegated administrative responsibility for the Appalachian National Scenic Trail to the National Park Service. Most of the Trail in New Hampshire is maintained by the two organizations who originally blazed and marked it. The Dartmouth Outing Club maintains about 50 miles of trail between the Vermont border and Kinsman Notch, and the Appalachian Mountain Club maintains most of the 100 miles from Mount Moosilauke to the Maine border. The U.S. Forest Service maintains 17 miles in the White Mountain National Forest, an 11.5 stretch from Mount Clinton to Madison Spring Hut, and 5.5 miles from Mount Moriah to New Hampshire Route 2 in Shelburne.

Recognizing the need for more knowledge about the State's portion of the Appalachian Trail, the New Hampshire Office of State Planning conducted a study in preparation for participation in the National Trails System Act by protection of the Appalachian Trail right-of-way within the State. The report of this study, completed in 1971, delineated the Appalachian Trail route within New Hampshire, identified public and private ownership along the Trail right-of-way, and recommended legislation for protection of the Trail.

The Trail is located on both public and private lands. About 101 miles is in public ownership, almost entirely on National Forest, State Forest, and State Park lands. About 50 miles is in some 50 private ownerships, with Dartmouth College, Brown Company, and International Paper Company having the largest ownership. In its present location, some 120 miles of the Trail is footpath, 16 miles is over woods roads, 12 miles is over public roads, with the remaining three miles over railroad beds, power line rights-of-way, and ski trails.

As a result of the 1971 Appalachian Trail Study Report, the 1971 Legislature passed the New Hampshire **Appalachian Scenic Trail Act** (Chapter 216-D, Revised Statutes Annotated). This Act declared that preservation of the New Hampshire portion of the Appalachian Scenic Trail in its natural character was State policy and gave the Department of Resources and Economic Development management responsibility for the Trail. The Act further cited that:

"...The Appalachian Trail shall be held, developed and administered under this chapter primarily as a footpath and the natural scenic beauty thereof shall be preserved insofar as is practicable, provided however that the commissioner may permit other uses of the trail and land acquired hereunder, by the owner of adjoining land or others, in such a manner and at such seasons as will not substantially interfere with the primary use of the trail."

Consistent with the policy established by the National Trails System Act, motorized use of the trail is not allowed.

In spite of this landmark state legislation, New Hampshire has no formal statewide trail system. A small State of approximately 9,300 square miles, with federal ownership encompassing 12.3% of the State's land area (most of this within the White Mountain National Forest), State government owns about 2% of the land. The State's network of foot-trails is extensive: on the White Mountain National Forest alone, there are more than 1,000 miles of trails with over 50 shelters, eight high huts, and the headquarters of the Appalachian Mountain Club. In the State Park system there are nearly 100 miles of foot trails, and there are over 100 miles of trails on State Forest lands. There are an estimated 800 miles of trails used regularly by hikers.

There are not, however, extensive trail networks for other uses. There are several hundred miles of snowmobile trails made available by the Forest Service, the State Park System, and municipalities. Logging roads and old town roads are also used, but are not officially incorporated into a formal trail system. Trails designated for bridle paths, motor bike trails, bicycle paths and the like are few in number, but are in greatly increasing demand.

With the increased demand for all types of trails, there is need to formalize an approach to the administration of foot-trails and other trails through the establishment of a statewide trails system. Multiple use of many trails continues to mount. The question of what kind of back country facilities should be provided is being re-examined. Protection of trail right-of-way over private lands is increasingly pertinent. These and other factors underscored the need for a comprehensive study pointing to legislative endorsement and support for a network of recreational and scenic trails which would comprise a statewide trails system.

Trail activity is an inexpensive form of recreation available to all, with comparatively low development and maintenance costs. A comprehensive trail system can be used to encourage the preservation of needed open space and, more importantly, assure an opportunity for man to identify with the land and his natural heritage. The burgeoning land use conflicts which presently impact practically every community in New Hampshire suggest, however, that the State must take immediate decisive action to develop a comprehensive trail planning and management strategy so that present opportunities for a trail network for many types of users are not overlooked or neglected, and thereby lost forever.

STUDY OBJECTIVES

With these needs in mind, George Hamilton (Director of State Parks) and Mary Louise Hancock (former Director of the Office of State Planning) submitted a proposal to the New England Regional Commission requesting financial support of a comprehensive study of the potential for a statewide recreational trail system. Funded in 1972 with a \$20,000 grant, the four major objectives of the study were to:

- Inventory existing publicly-recognized trails by length, location, and use;
- Develop estimates of current and future trails needs;
- Analyze trails development potentials; and
- Prepare recommendations for a statewide public recreational trails system.

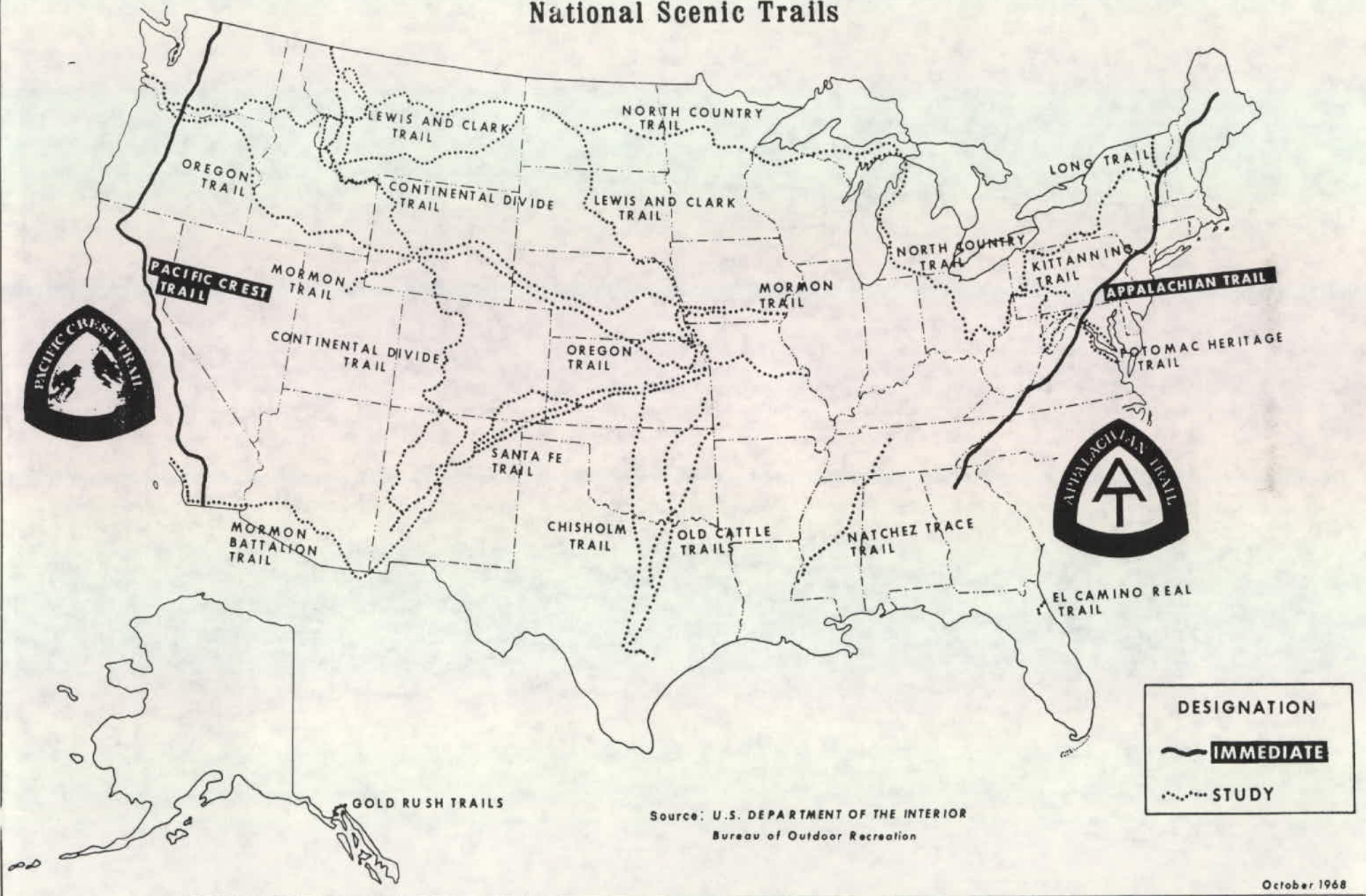
STUDY METHODS

In coordination with the Division of Parks (Department of Resources and Economic Development), the Office of State Planning (Office of the Governor) initiated the year-long New Hampshire Statewide Trails Study in September 1972. A consultant with ten years experience in natural resources planning and program management with the State Planning Office was employed to assist in the study effort. An *ad hoc* Statewide Trails Advisory Committee was selected to assist the Planning Office and the consultant in coordinating the work of the many public agencies and private organizations involved.

Study efforts focused on extensive research on existing and potential trails throughout the State. Sources of information included published and unpublished data from numerous public agencies and

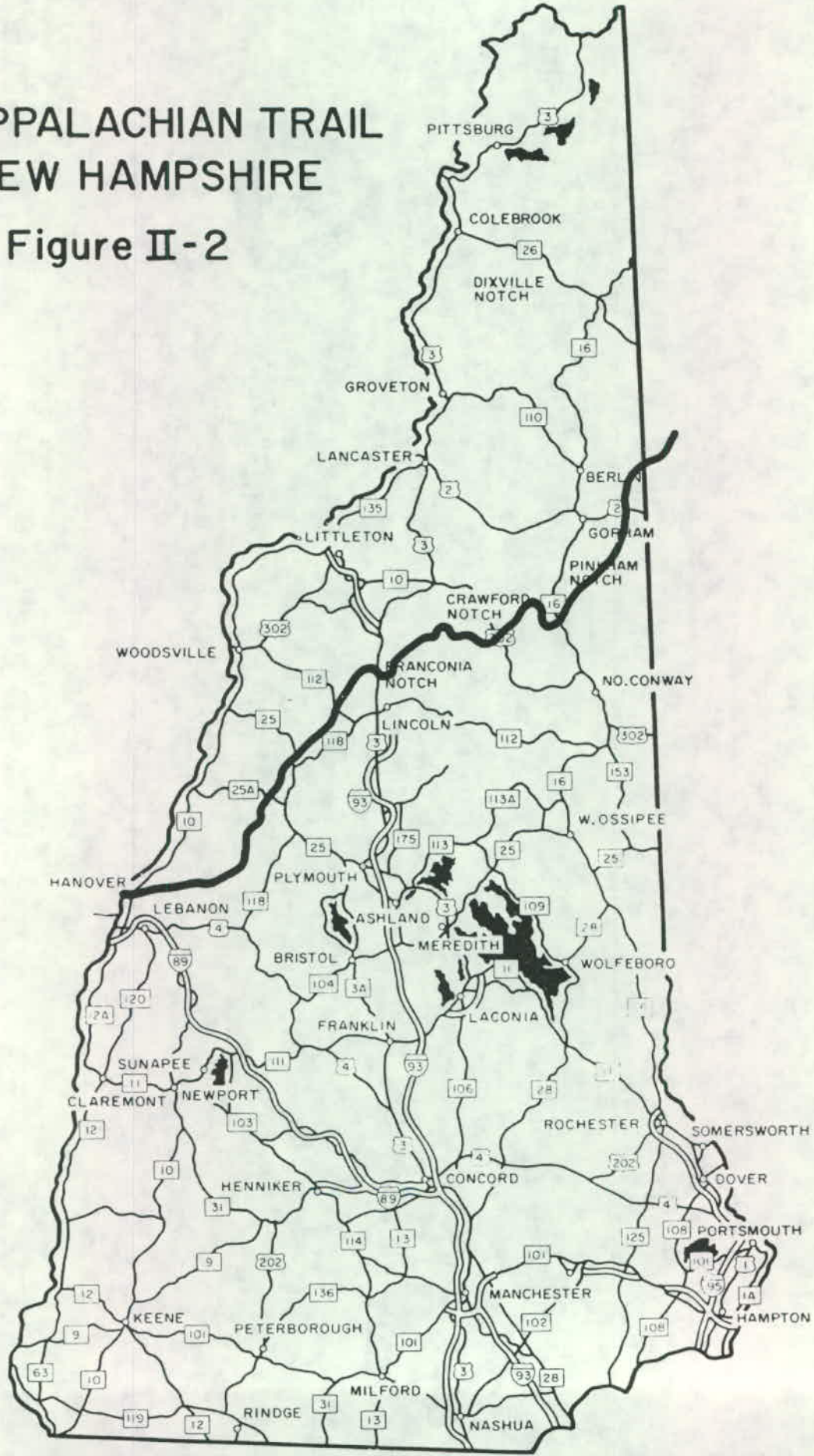
FIGURE II-I. NATIONWIDE SYSTEM OF TRAILS

National Scenic Trails



THE APPALACHIAN TRAIL IN NEW HAMPSHIRE

Figure II-2



private trail-user groups. Monthly Advisory Committee meetings, and personal interviews and group discussions with representatives of the organizations involved contributed to a better understanding of the many aspects of trail development, management, and use. Participation in the Second National Trails Symposium in Colorado afforded an opportunity to discuss problems and opportunities with both trail managers and users from other parts of the United States.

Because of the scarcity of information on the needs and requirements of the various trail-user groups, a **Trail Needs Survey** was conducted in the Spring of 1973. This survey sought information on current trail use, and identification of user needs, preferences, and priorities (see Appendix C). The surveys were distributed to trail users with the cooperation of organization representatives on the Advisory Committee.

As any trail has to go through a town somewhere, local governments were surveyed regarding their own trails planning and use. The Community Trail Needs Survey, sent on request to interested municipalities through the New Hampshire Association of Conservation Commissions, sought information on local trails planning, management, and regulation. Municipal government representatives were also asked to comment on local trail possibilities, provision of trail user services, and possibilities for a cooperative local-state trail system.

ADVISORY COMMITTEE

The overriding objective of the Statewide Trails Study was the development of recommendations for implementing a Statewide recreational trails system. In order to develop these recommendations with full recognition of the complex array of trail use and management criteria, representatives of affected public agencies and private trail user organizations were asked to serve on an *ad hoc* Trails Advisory Committee. Throughout the entire course of the Study, this twenty-member Committee contributed a wealth and depth of knowledge and experience to the research, findings and recommendations.

The Office of State Planning and the consultant are responsible for the final version of the Study report. The Advisory Committee, however, served as a very important forum for the exchange of ideas, opinions, and priorities which provided the basis for many of the report's recommendations.

CHAPTER III
RECREATIONAL TRAILS IN NEW HAMPSHIRE
TRAILS INVENTORY

An inventory of various recreational trails throughout New Hampshire was compiled from existing published and unpublished sources. Inventory information was obtained from public agencies and private trail-user groups. The inventory reflects four general types of management arrangements. The first type includes trails on public lands maintained by a public agency. For example, some 17 miles of the Appalachian Trail and 600 miles of hiking and other trails on the White Mountain National Forest are maintained by the Forest Service. The second type includes public trails on public lands which are maintained by private organizations. The Dartmouth Outing Club and the Appalachian Mountain Club, for example, maintain most of the Appalachian Trail through the White Mountain National Forest.

The third general type of trail management is that in which a private organization maintains trails on their own lands, or lands of others, generally for public use. The Society for the Protection of New Hampshire Forests maintains trails which are generally open for public use on Mount Monadnock. The fourth type of trail, and perhaps the most extensive throughout the State, includes those used by a variety of trail-user groups under very informal user and maintenance agreements. An example of this type is the New England Trail Riders trail system in New Hampshire. Members have mapped an estimated 1200 miles of trail-bike trails in the State, based on a wide variety of existing public roads, trails, and rights-of-way over private lands. Other examples are horseback and snowmobile trail systems.

1. **Estimates of Trail Use Mileage.**

Estimates of the total trail mileage in New Hampshire for 1972-1973 are summarized by trail use in Table III-1. It should be noted that many trails are co-existent - i.e., ski touring trails are often mapped along routes used as foot trails during the summer. Likewise, many snowmobile trail routes follow portions of seasonal town roads used for trail-biking in the summer. It is estimated that the 7,200 trail use miles summarized in Table III-1 probably represent about 3,000 miles or less of actual miles of trails on the ground.

TABLE III-1 ESTIMATES OF TRAIL MILEAGE BY TRAIL USE, NEW HAMPSHIRE,
1973

Trail Use	Estimated Mileage
Equestrian	1,200
Hiking	2,050
Ski Touring	900
Snowmobiling	1,850
Trailbiking	1,200
Total Trail-Use Miles.....	7,200

The equestrian trails were estimated from maps and other information supplied by the member clubs of the New Hampshire Horse and Trail Association. Equestrian trails are routed over a combination of public roads, discontinued town roads, abandoned railroad beds, and rights-of-way through private property. Most of these trails have been mapped for club trail ride use.

The hiking trail estimates were compiled from information printed in the Appalachian Mountain Club's 1972 **White Mountain Guide**. Additional estimates were derived from field data supplied by staff foresters of the Department of Resources and Economic Development and the White Mountain National Forest. The greatest mileage of hiking trails is over public lands, State and Federal, and over half of these trails have been mapped by the AMC and the Forest Service. Estimates of hiking trail mileage in New Hampshire are summarized in Table III-2 following.

TABLE III-2 HIKING TRAIL MILEAGES IN NEW HAMPSHIRE, 1972

Maintained by	Estimated Mileage
U.S. Forest Service, White Mountain National Forest	678
State of New Hampshire, Department of Resources and Economic Development	200
Private Organizations (AMC, DOC, etc.)	828
Miscellaneous Informal	340
Total Hiking Trail Mileage	2,046

The estimates of the ski touring trails were derived from information published by the Appalachian Mountain Club, the Ski Touring Council, and Eastern Mountain Sports. These estimates were supplemented by original field data, courtesy of Medora Bass, Eastern Mountain Sports. Ski touring trails are primarily routed over summer hiking trails and seasonal roads. There is also considerable mileage which has been developed on private land ownerships. The majority of these trails have been mapped by the AMC, WMNT, Eastern Mountain Sports, and ski touring centers and organizations. It should be noted that there are many more miles of trails used by ski tourers, and others, which are used but have not been formally mapped.

The snowmobile trail mileage was estimated from information supplied by snowmobile area operators contacted by telephone during the winter of 1972-1973. These data were supplemented with estimates of trails utilized by local snowmobile clubs throughout the State. Due to mobility and snow cover, snowmobile trails are routed over everything from seasonal town roads to private land ownerships, and very few of these trails have been formally mapped.

The trailbike mileage is a conservative estimate of the trail routes mapped by New Hampshire members of the New England Trail Riders Association. Trailbikers utilize trails routed over a combination of public roads (state, local, and discontinued), logging roads, abandoned railroad beds, and private rights-of-way. A set of base maps of NETRA's New Hampshire trail system is available for loan from Edward Friend of Pelham, NETRA's State Trails Chairman.

2. Bicycle Routes.

For the most part, bicycle "trails" in New Hampshire are routed over the public highway system. Some of the larger communities have established designated bike routes, with such designation limited to the standard bike route sign. A recent publication by the Office of Community Recreation, "Bicycling in New Hampshire," lists and maps four bicycle trips, ranging in length from 135 to 505 miles, for trips of from four days to two weeks. The Granite State Wheelmen Bicycle Club has mapped a number of shorter routes used for local club rides. Some of the best routing is over portions of the State primary system which have been "by-passed" by sections of the interstate system.

TRAILS LAND USE

1. **Federal Lands.** The White Mountain National Forest is the largest federal land holding in New Hampshire. In 1972, according to the Forest Service, there were about 1,130 miles of trails in the Forest. Of these, some 620 miles are maintained by the Forest Service, at a cost of \$100,000 in 1972. The majority of the remaining 500 miles are maintained under cooperative trail management arrangements with 15 *bona fide* trail user groups. Under such arrangements, a trail user group maintains sections of trails, but does not have exclusive use of the trail. The Appalachian Mountain Club maintains the greatest trail mileage of any private organization in the Forest. The most recent AMC **Guide** notes some 100 trails for a total of 350 miles, maintained at a cost of about \$42,000 in 1972.

Ski touring is another trail use now being formalized on Forest land through cooperative agreements. The Jackson Ski Touring Foundation has a 75-mile trail system marked out around Jackson, New Hampshire, most of it lying on Forest land. The Waterville Valley Athletic Improvement Association has a trail system around the Waterville Valley ski complex. The Forest Service also has a cooperative agreement with the Bethlehem/Twin Mountain snowmobile group for trails in the Gale River area. At least one commercial riding stable advertises rides on Forest trails, although not under any detailed formal agreement.

There are 220 trail heads to the various trails from public or Forest Service roads. Varying degrees of automobile parking facilities are provided at 60 of the trail heads. Some trails are reached through private lands, over informal rights-of-way which have been used by the public for years.

Of all public land holdings in New Hampshire, the White Mountain National Forest is perhaps the most heavily used. The major use of the trails system is for hiking and ski touring, with motorized use increasing rapidly. There has been an estimated increase in trail use of 236,100 to 376,500 visitor days from 1968 to 1971, with some trails serving over 300 hikers a day. Snowmobile use was estimated at 444,000 visitor days in 1971, twice the use estimated for 1968. The Forest Service has recommended closing, rerouting, or "hardening" with native materials some of the major foot trails, and has prepared draft guidelines for limiting vehicular use to designated trails only.

Much of the federal land associated with Corps of Engineers flood control structures is managed cooperatively with Parks and Resources (Forestry) divisions of D.R.E.D. The 6,200-acre Hopkinton-Everett Reservoir west of Concord has some 13 miles of trails available for hiking, horseback riding, and snowmobiling. The Franklin Falls Reservoir, with 2,000-plus acres just north of Franklin, has 9.3 miles of trail for all uses except four-wheel drive. The Blackwater Reservoir northwest of Concord has 8.3 miles of trails and a popular canoe trail along the Blackwater River.

Federal lands held by the Department of Defense in New Hampshire do not, at present, offer any trail opportunities, because of limitations on public use. The Air Force Tracking Station at New Boston has some 2,800 acres of land under federal ownership, which offer potential for future public outdoor recreational use if the facility is phased out of operation.

2. **State Lands.** As of 1973, the State of New Hampshire holds nearly 100,000 acres of land in over 200 tracts administered as public parks, State forests, fish and game management areas, and in conjunction with watershed management. Of these holdings, some 98,500 acres in 180 tracts have existing or potential trails.

The Department of Resources and Economic Development administers over 85,100 acres of State lands in 91 tracts cooperatively through the Division of Parks and Resources (Forestry) with 218 miles of identified trails on them, used for a variety of purposes. In the State Park System, some 60 miles of trails have been designated for snowmobiling at Bear Brook, Pawtuckaway, White Lake, and Pisgah Wilderness State Parks. Other trail uses are provided for under public land management policies established by the Parks and Forestry Divisions.

Of the 100+ miles of trails on State Forests, practically all are now being utilized to some extent by both motorized and non-motorized trail users. For example, Fox Forest in Hillsboro has 20 miles of trails managed for many trail uses. In most State Forests, trail bikes and four-wheel drives are restricted from some of the trails because of potential damage due to steep grades and soil conditions. The use of trails on several State forests is somewhat limited, however, due to access over private land.

The Fish and Game Department owns 7,905 acres of land acquired for various uses relating to fish and wildlife management. Although the Department does not have a trails program as such, officials have indicated that there are some 7,800 acres in 68 tracts on which trails for foot travel and limited vehicular use might be developed in the larger wildlife management and marsh areas. Vehicular trails, if developed, would be limited to snowmobile use in designated areas only.

The Water Resources Board owns a number of tracts of land around the dams managed by that agency. The largest of these are in Clarksville/Pittsburgh (4,864 acres) and Dummer (1,043 acres). There are five additional tracts of more than 50 acres each in Dublin, Canaan, New Ipswich, Warren, and Wentworth. It is possible that public trails could be developed on some of these larger land holdings. There also may be situations where smaller Water Resources Board parcels could be used as access points or trail heads for hiking or canoe trails.

The acreage and trail mileage of selected public land holdings in New Hampshire are summarized in Table III-3, and located on Figure III-1. Inventories of these lands and existing trails are detailed on Appendix B.

TABLE III-3. SUMMARY OF SELECTED STATE AND FEDERAL LANDS, NEW HAMPSHIRE, 1973.

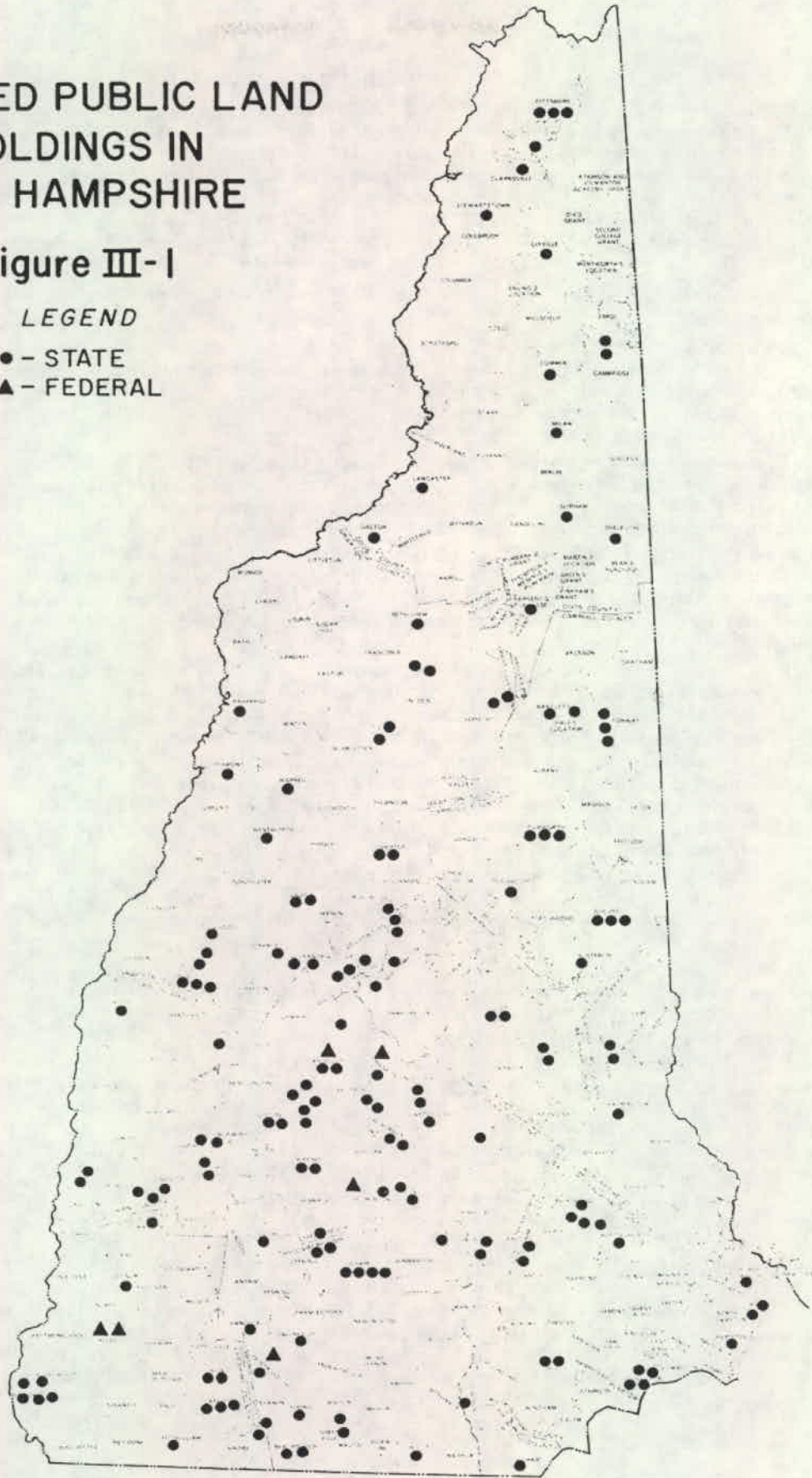
	Areas with Existing or Potential Trails		
	No. of Tracts	Acres	Trail Mileage
STATE LANDS			
State Parks and Forests	91	85,120	218
Fish and Game	68	7,830	(unidentified)
Water Resources Board	20	5,550	(unidentified)
Sub-Total,			
No. of Tracts	179		
Acreage		98,500	
Identified Trail Mileage			218
FEDERAL LANDS			
Flood Control Reservoirs			
State-Administered (part)	3	13,918	30.6
Federally-Administered	3	2,890	(unidentified)
National Forest	1	679,100	1,130
Sub-Total, Federal Lands			
Number of Tracts	7		
Acreage		695,908	
Identified Trail Mileage			1,160.6

SELECTED PUBLIC LAND HOLDINGS IN NEW HAMPSHIRE

Figure III-1

LEGEND

- - STATE
- ▲ - FEDERAL



CHAPTER IV

THE TRAIL USER SURVEY

Precise data on the use of thousands of miles of formal and informal trails throughout New Hampshire is hard to obtain without employing costly measuring techniques (i.e., mechanical trail counters and on-site surveys). As the primary objective of this study was to determine the feasibility of a statewide trails system, various trail users were surveyed through their respective organizations. The users were asked to comment on trail activities, trail jurisdiction, length and frequency of trip, trail routing, and facilities, and potential trails. They were also asked to comment on the future of a public multiple use trail system. The results of this survey are summarized in this chapter according to the survey responses by the major trail-user groups, and generalized presentations of trail systems now in use are portrayed on the accompanying maps.

MOTORIZED TRAIL USE

Snowmobiling

Snowmobiling is by far the most popular motorized use of trails in New Hampshire. In contrast to hikers, very few snowmobilers indicated other trail activities, either summer or winter. At least half of all snowmobile trail use is over private land, with no fees charged for trail use. Some trails were reported as crossing nearly 100 private ownerships, but nearly half of the respondents did not know precisely how many private land ownerships were involved.

On trip length and frequency, the most popular trip is one of 15 to 30 miles, taken several times a week, often in the evening after work. Weekly all-day trips ranged from 30 to 100 miles in length. The preferred routing is a trail to some particular place, out on one trail and back on another. Many indicated that a trail should start close to a city or town, and go through rural areas and forests.

Practically all respondents noted the need for vehicle parking at the trail head. In general, snowmobilers don't require machine services on the trail, but access routes to services available within the community are desirable. Most respondents noted the importance of rest and comfort facilities on the trail, and many noted the desirability of warming huts and picnic/cooking facilities. There is also a need for emergency phones.

Seasonal and discontinued town roads, utility rights-of-way, abandoned logging roads and railroad beds, and natural terrain all offer excellent trail opportunities. There is some concern for removal of large protruding obstacles (stumps, stones, etc.) and for bridges over deep streams. Many noted the need for trail grooming, which is generally beyond the means of local clubs, because of high equipment costs.

On multiple use, many respondents indicated that snowmobile trails could be used for trail biking during the summer months. ATVs were mentioned occasionally as incompatible with winter use of snowmobile trails, because of the ruts made by the wheels if the trail surface is not packed. Ski touring and snowshoeing were also noted as incompatible winter trail use, not so much from the snowmobiler's point of view, but from the pedestrian's trail needs.

Snowmobilers are about equally in favor and opposed to trails designation and trail user permits. Permit fees are favored if on a local club basis, with revenue applied to local trail development and maintenance. These are by far the most important priorities for most respondents.

Trailbiking

Trailbiking is the predominant motorized summer trails activity in New Hampshire. According to industry spokesmen, more than 4,300 off-road motorcycles were sold in the State last year, almost double the 1970 sales of 2,700. Mini-bike sales have increased proportionately if not even more. Generally, trailbikers use motorcycles registered for highway use.

A great deal of trail riding is done individually and with small groups, with the average rider taking a 50-mile trip about one afternoon a week, and a one-day trip over 100 miles once or twice a month. Organized club rides, involving ten riders or more, may cover from 200 to 350 miles over a weekend. Trail routing is generally over a combination of discontinued town roads, utility rights-of-way, old railroad beds, and logging roads, linked together where necessary by gravel and hard top roads and highways.

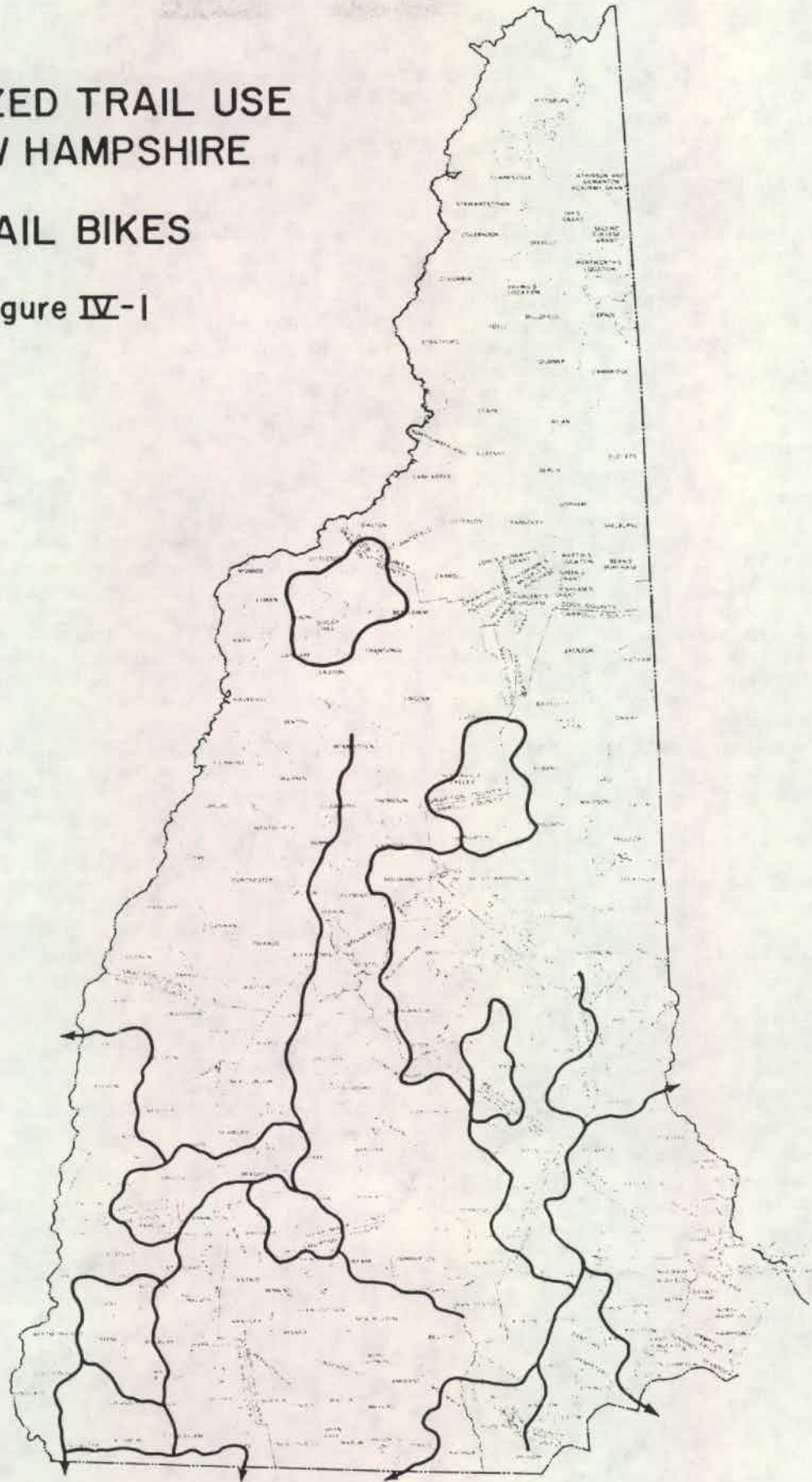
Individual as well as many organized rides usually start in urban areas, and head out into the country. On longer trips away from home, bikes are carried to the trail area in trucks or on trailers. Parking for those support vehicles at the trail head was the most often cited need. Very few services are required on the trail itself, as riders usually rely on either nearby towns or their friends and families for food and fuel. Unlike snowmobiles, most trail motorcycles are "street legal," and can leave the trail for required services.

Trailbiking is generally compatible with most other off-road vehicles activity, and there don't appear to be many conflicts among motorized trail users. The most likely trail use conflict is between trailbikers and horseback riders, who often utilize the same trails. Danger of accident is high when bikes come upon horses unexpectedly. According to spokesmen for both groups, however, problems would be practically non-existent if each type of rider observed a few simple "rules of the road," as noted later in the report.

MOTORIZED TRAIL USE IN NEW HAMPSHIRE

TRAIL BIKES

Figure IV-1



The various State Trails Committees of the New England Trail Riders Association have been working on a six-state trail system, which involves over 1,200 miles of trails in New Hampshire. NETRA spokesmen have said that their most important trail need is assurance that various trails will remain open for biking. Official designation of motorcycle trails and development of a standardized sign system to show permitted and restricted uses would help both trailbikes and other trail users to know what to expect. NETRA has developed a trailbike logo and a sign system for trail routing over private land, which could be modified for trails through public lands as well.

Other trailbiker priorities concern the use of public lands. An equitable, workable policy for trails use on State parks and forests is needed. In many cases, State lands can serve as links in the motorcycle trail system, and provision for specially-designated "stop-over" areas would be helpful. Clarification of the legal status of "discontinued," "abandoned," "primitive," and "old range" roads would minimize disputes over the use of these rights-of-way by trailbikers and other trail users.

The majority of NETRA respondents are in favor of motorcycle trails designation and the establishment of an off-highway user permit system for trailbikes and mini-bikes. Revenue from user permit fees should be dedicated for trails purposes, and environmental education ranked high on the list of rider priorities for the use of funds from user fees.

NON-MOTORIZED TRAIL USE

Sled Dog Trails

Sled dog running is another important New Hampshire trail activity. National publicity centers on the annual sled dog races in Laconia sponsored by the Lakes Region Sled Dog Club. The Laconia "World Championship" race draws teams from both the United States and Canada. The trail for the race course, used only on race weekend, is negotiated for and maintained by members of the Laconia club.

According to club representatives, there are about 500 sled dog drivers in New Hampshire. These drivers presently use a variety of trails up and down the State, with use varying according to snow cover. The average training run is five miles for the smaller teams, and fifteen miles for larger teams of more than five dogs. In general, drivers require fairly level terrain, provided by unplowed roads, such as Draper Corporation's Beebe River road to Sandwich Notch, roads in Sandwich and Evans Notches, the Cog Railway access road, the Tripoli Road in Waterville Valley, and the Glenncliff road trail in Warren. The Lakes Region club pays the Corps of Engineers \$10 a year for the use of an abandoned road in the Franklin Falls Reservoir.

Presently, sled dog running is permitted every day at Bear Brook State Park, in co-existence with snowmobiling, along the 3-mile road to the public campground. For reasons of safety, a limit of four sledding parties is allowed at one time. Improved parking facilities are planned for the near future.

As the best sled dog trails are often the best snowmobile trails, some conflicts in trail use were reported. For example, the trails in Bear Brook State Park used for running dogs become dangerous for teams and drivers when overcrowded by peak weekend snowmobile use. At Franklin Falls, snowmobilers and sled dog drivers both use the abandoned road leased to the dog club and the parking lot plowed by club members, with some reports of conflicting use during peak weekend periods.

The Laconia and the New England Sled Dog clubs have looked into the purchase of land for a trail, but have found costs prohibitive. The New England Club is now studying the possibility of buying or leasing some land near a potential training area, on which they could maintain parking and club house facilities. Club spokesmen do not feel, however, that they could get heavily involved in trails construction, but would assume responsibility for trail maintenance.

Sled dog enthusiasts recommend that about five trails averaging 15 miles in length should be designated to fill the needs of the 500 sled dog drivers in the State. The trails should be marked with a standardized trail marker, which should be publicized for the information of other trail users. Maps, informational literature and "informational" (rather than "prohibitive") signing are also recommended. Clubs are willing to maintain their trails, if not mugged and rutted by snowmobiles. Trail head parking for 12-15 vehicles is felt adequate for average sled dog trail use.

Hiking

Information on hiking trail preferences and priorities was drawn from surveys returned by AMC and DOC members. Nearly 75 percent of the respondents listed one or more additional trail activities, with cross-country skiing and snowshoeing often listed for winter trail use. Nearly one-third of the hikers are also canoeists and some noted the difference between hiking and canoeing trail needs. Hikers utilize trails over both public and private lands, and the only particular landowner permission noted was when a trail head is located on private land.

Hikers appear to be avid enthusiasts for their preferred sport, practically all respondents reporting a half-day trip of 3-7 miles and a one-day trip of 10-15 miles at least once a week. Two-day trips of 15-25 miles

are taken by about half of those surveyed, one-third noted three-day trips of 25-45 miles and a few reported annual week-long trips of 50-120 miles. The most popular routing is out to some particular place on one trail, and back on another, through rural, forest, and wilderness areas. Most hikers thought that the trail should start in this environment, preferably on public lands. The need for proximity to public transportation and public campgrounds was noted by many.

The typical respondent preferred to hike alone or with family and friends. Parking at the trail head was noted as necessary by practically all hikers, with provision for comfort and picnic facilities. Along the trail, camping sites and/or facilities appear to be the hiker's major need. The potential for seasonal and discontinued town roads as hiking trails was rated only fair to good. Abandoned railroad beds and logging roads were rated good to excellent, and natural terrain received the highest rating for pedestrian hiking trails.

Regarding multiple use, most hikers felt that winter pedestrian trail uses (e.g. snowshoeing, cross-country) are compatible. A few hikers thought horseback riding was a compatible hiking trail use, while others saw a potential conflict. The greatest conflicting trail use noted (80 percent of responses) was motorized vehicles in general, with some reference to snowmobiles in particular.

On trails development, practically all were in favor of designating separate trails, or sections of a trail, for specific uses. Responses were balanced slightly in favor of a trail use permit system. On establishing a fee in conjunction with a permit system, hikers were about equally favorable and opposed, although even those opposed listed their priorities for using funds from a trail user's fee system. Trails acquisition and maintenance were first and second respectively, followed by trails development third, trail marking fourth, and trail maps fifth. The use of trail user fees for environmental education was ranked sixth. Trails patrols received a low priority rating.

Comments on future trail development ranged widely. There was a general concern for establishing a "multiple-use" trails system, as many thought that motorized and non-motorized trail users were simply not compatible on the same trail. Major reasons given were the conflict between the noise of the motorized user vs. the quiet of the pedestrian, and motorized speed vs. the slower pedestrian pace posing a safety problem.

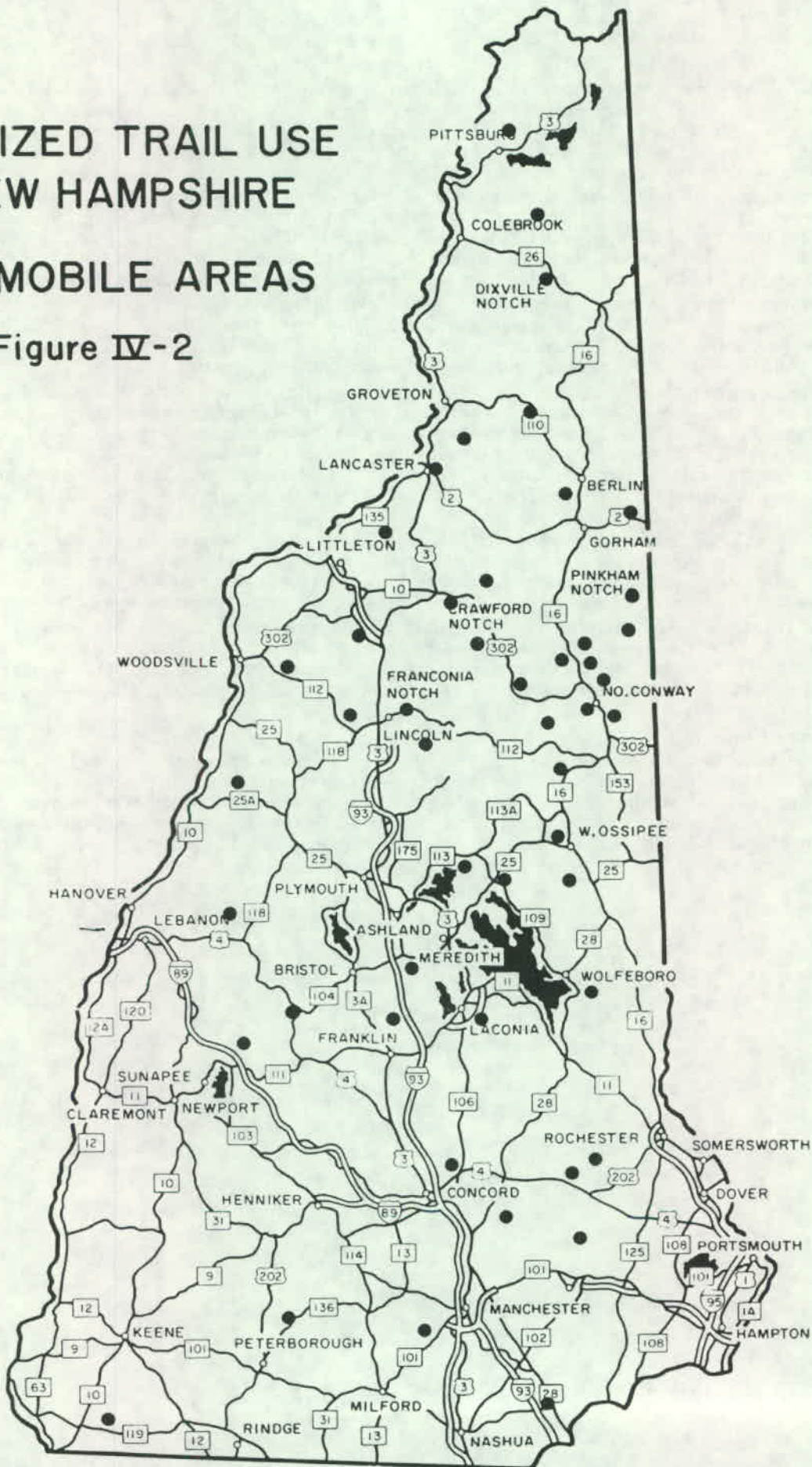
Several suggested that interstate median strips could be used as motorized trails and provide such users with long-distance trails, although this is neither legally possible nor practically workable. There was some concern for local jurisdiction, and the importance of the role of trail-user organizations. On permits, comments ranged from "no fees for State residents" to the recommendation that users should pass a test to obtain a trail user permit.

Cross-Country Skiing

Information on this dramatically increasing use of New Hampshire trails was obtained from surveys returned by both cross-country skiers and operators of cross-country skiing areas. In general, cross-country enthusiasts utilize summer hiking trails, seasonal town roads and some abandoned railroad beds. Some organizations have developed trails on private lands, with some financial reimbursement (usually a donation) for the use of the land. Trails on the White Mountain National Forest have been developed through cooperative management agreements with the using organization.

MOTORIZED TRAIL USE IN NEW HAMPSHIRE SNOWMOBILE AREAS

Figure IV-2



The length of trip varies with the degree of cross-country skiing ability. For example, a two-mile half-day and four-mile all-day trip is ample for the novice skier; the intermediate skier will cover two to five miles in half a day, and four to ten miles in a day, and the advanced skier will exceed these distances. The preferred routing is a loop or circular trail, going out to a particular place or spot, and returning on another trail. Most routes return to the place of beginning, unless arrangements are made for pick-up at another point. Some respondents indicated that ski trails should start close to a city or town, thus providing direct access for urban residents.

Skiers indicated little need for facilities and services on the trail itself, except for warming huts on the longer trails, with a telephone for emergency purposes. Provision for vehicular parking and public rest facilities were cited as needed trail head facilities, and some thought that rest facilities should be provided on the trail, possibly in conjunction with the warming huts. Discontinued town roads, abandoned railroad beds, and old logging roads were rated good to excellent as potential trails.

Regarding trail user conflicts, cross-country skiers generally felt that motorized trail-use in general and snowmobile use in particular was not compatible with their sport. Although some respondents indicated use of trails packed by snowmobiles, the majority of skiers favored designating separate trails or sections of trail for specific users, a trail user permit system, and a fee for the permit. Priorities for the use of funds from such fees ranged from trails acquisition to environmental education, with no particularly outstanding priority.

Commenting on the future of a public trail system, skiers pointed out that cross-country ski trails require less snow than motorized vehicles and can go through more fragile environmental areas, providing that such trails are limited to non-motorized use (except for occasional compaction of a trail after deep new snow). Separation of motorized and non-motorized winter trail use was the most outstanding trail management requirement.

Horse-back Riding

Information on horseback riding trail use and needs was obtained from members of the New Hampshire Horse and Trail Association (NHHTA) through survey responses and meetings with members of the Association's Trail Committee. Horseback riders utilize a variety of trails, including town roads, abandoned railroad beds, and some private rights-of-way. To date, trails in the State Park System have not been opened for horseback riding, but representatives of Parks and the NHHTA are now discussing the possibility of designated horseback trails in selected parks. NHHTA has been asked by George T. Hamilton, Parks Director, to assist his Division in laying out equestrian trails in the new Pisgah State Park southwest of Keene. NHHTA representatives feel, however, that they should place priority on development of equestrian trails in parks which are located in areas with higher concentrations of horse riders, with attention focused on such parks as Bear Brook and Pawtuckaway. It was noted that the original master plan for Pawtuckaway State Park (circa 1957) had included bridle paths which have never been developed.

The most popular trail ride is a half-day trip of 10 to 20 miles, taken on an average of twice a week during spring, summer and fall. One-day trips of 20 to 25 miles are taken once a week on the average, usually on weekends. Two-day rides of up to 40 miles are taken less frequently, usually only once or twice a year. Three-day rides covering 100 miles or more are usually annual sponsored events. An example is the "Cross-State Trail Ride" from Connecticut through a corner of Rhode Island, up through Massachusetts and across southeastern New Hampshire into southern Maine.

On trails routing, riders' preference is in a loop trail going out on one route and back by another, returning to the point of beginning. The majority of respondents indicated a preference for trails starting and going through rural areas. Most riders travel with family, friends, or with a club.

On trail services and facilities, riders indicated a need for two types of facilities, preferably on public lands, stop-over areas and parking facilities. The NHHTA urges that more equestrian trails be developed on the State Park and State Forest systems. Such trails development should include parking and rest facilities to accommodate the horsemen and their horses, vans, and trailers. Fresh water and facilities for cooking fires should be available at these sites.

Spokesmen for the NHHTA recommend that many of these facilities could be planned, developed, and maintained through cooperative agreements with the State. Trails and stopover areas are priority needs now, but future plans should consider construction of shelters for both horses and riders. The possibility of manure becoming a nuisance was considered, but the horsemen feel that manure would not be a major problem as it dries up and gets trampled into the ground. If excess accumulations become a nuisance to other trail users, the riders agree to clean up problem areas if needed.

On multiple use, many horseback trails are routed over the same trails used by trailbikes, but conflicts in trail use appear to be relatively limited. It is felt that good public relations, knowing what to expect on the trails, and adherence to simple "rules of the trail" will keep conflicts to a minimum. The most basic rule of

the trail, which should be known by both horsemen and trail bikers, concerns meeting and passing. Both groups recommend the following general procedure:

When trailbikes and horse riders approach from opposite directions, the trailbiker should stop his engine, and wait for the horse rider to pass. The horse rider should proceed past the trailbike with caution. After the horse is well past, the trailbiker may then start up his engine, and proceed on.

When a trailbiker overtakes a horse rider going along the trail in the same direction, the trailbiker should stop his engine, and proceed to push his machine past the horse. The horse rider should stop his horse, dismounting if necessary, and let the trailbike pass by. After the trailbike is well past the horse, the operator may start his engine, and proceed down the trail.

Abandoned railroad beds and discontinued town roads are important parts of many horse riding trails. Abandoned railroad beds comprise up to 50 percent of the trail routes used in some areas. Initial state priority should be directed to keeping proposed abandonments in public ownership for trails use. The next priority should be the clarification and establishment (by eminent domain if necessary) of public rights-of-way over earlier abandonments. Discontinued town roads are another important link in horse riding trail systems, and are also important to many other trail users. Many of these roads may be readily identified on USGS sheets used for trail routing. The greatest problem is the legal status of these roads - are they still public rights-of-way?

In many instances, horseback trails are routed over private land by permission of the landowner. The typical case is for a landowner to give oral permission to an individual or group to cross his land over a designated route. There is usually no charge for this land use. NHHTA considers this an important component of their trail system, and has expressed concern over "multiple use" of these private rights-of-way. In many instances, a landowner grants permission to a particular group for a specific use. If the trail is used for other purposes, the right-of-way may be closed. To minimize this possibility, it is recommended that such trails use be negotiated informally at the local level between landowners and user groups as much as possible.

There is some concern about horseback trails which have to cross limited access or interstate highways, especially on long rides. In most cases, rides can be routed along roads which either cross over or pass under limited access highways. In some instances, however, there may be need for state police cooperation at strategic crossings. Local "Sheriff's Posses" could also be very helpful.

On trails development there may be opportunity to utilize highway trust funds for bridle paths along highway rights-of-way. Such paths, fenced off to prevent horses from getting onto the highway, have been constructed in some states to link a trail which may have been bisected by highway construction. It was also suggested that possibly engineer units of either the National Guard or Army Reserve might be interested in helping with bridge construction or repair. Such assistance, if available, would probably be limited to public multiple use trails, rather than informal club trails.

Representatives of local trail clubs of NHHTA are mapping their trails systems on USGS sheets. When completed, these maps will be invaluable as references for present and future trails planning. NHHTA has generously offered the loan of a master set of these maps for use by the State in developing a Statewide Trails program.

Bicycle Riding

Information on the needs and priorities of bicycle riders was obtained from a **Bike Riders Survey**, initiated by the Granite State Wheelmen. Seven thousand copies of the survey were distributed through public schools (grades 5-9) in seven communities throughout the State. Over 2,000 surveys were returned to the Office of Community Recreation (DRED), and the results were compiled and edited by the bicycle club. A facsimile of the **Bike Riders Survey** appears in Appendix E.

Those responding to the survey reported an average of four bicycles per family, with wide distribution of rider ages. Bicycling around town and around the neighborhood were the kinds of trip most frequently taken by bicycle. Regarding items which should be considered in a bike trail system, nearly all respondents cited marked routes as a high priority. Some 95 percent indicated that they would ride their bicycles more if some sort of route system was established.

Traffic was reported as the most important problem encountered when bike riding and dogs were the second most important problem. About three-quarters of those responding to the survey thought that bicycle safety courses should be taught in school. Approximately half of the student cyclists indicated they would like to organize and run their own bicycle clubs, and many parents said they would support such activities. In general, bicycle riders prefer paved surfaces and fairly gentle grades.

CHAPTER V

POTENTIAL TRAILS

In addition to the many opportunities for trails development which exist on public lands, there are several other potential trails and trail-links available to the State. If properly developed and managed, abandoned railroad rights-of-way, discontinued town roads, and utility rights-of-way are potential parts of a local, regional, or Statewide trail system. Also, less-heavily traveled sections of State primary and secondary highways may be designated as official State bicycle routes. These various trail potentials are reviewed below, and the chapter concludes with a discussion of local trails development.

RAILROAD RIGHTS-OF-WAY

There is a tremendous potential for the use of abandoned railroad rights-of-way as links in a trail system. The average width of most sections is four rods (66 feet) and the abandoned lines lend themselves to a wide variety of trail uses, even if these uses are not compatible for all trail uses. For example, bicycling and horseback riding require a different type of surface for summer use, but hikers might use either type. Old railroad lines are adaptable as links in a trailbike system, but such use may be incompatible with horseback riders using the same trail at the same time, unless properly designated and signed.

Generally, rail grades are flat, with grades rarely exceeding three percent. Rails and, in most cases, crossties are removed upon abandonment, leaving a strip of land approximately 15 feet wide, with ample overhead clearance. As an abandonment "ages," the forces of nature and man combine to change its condition. Especially in rural areas, old grades rapidly become overgrown with trees and brush, although their general route remains relatively clear. In developing suburbs, housing developments, new construction, and shopping centers encroach on abandoned rights-of-way. Highways and power lines may cut across the grades in many areas.

To the trail user, the missing bridge is the single largest problem in following old railroad grades. On secondary lines, wooden bridges and trestles tend to burn, wash out, or collapse from decay once abandonment leaves them untended. While steel bridges last longer, they may have been removed for scrap at the time of abandonment. Any remaining bridges may be hazardous to cross if rails, ties, and flooring have been removed. The trail user may often find easy running along an old grade interrupted by a scramble down one side of a ravine, across the river in it, and up the other side to regain the right-of-way.

In past winters, snowmobilers have been the most frequent users of railroad lines, both abandoned and operational. Recently, cross-country skiing (or ski touring) has been growing very fast in popularity, and railroad beds may be used for this sport. There are obvious incompatibilities which must be resolved between these two user groups, by designation, signing, and mapping.

Title to Abandonments

The basic problem with purchase of abandoned railroad rights-of-way is that of obtaining clear title. Laws concerning railroad charters in New Hampshire go back to the Railroad Act of 1844. This Act provided for public incorporation of railroads, the laying out of rights-of-way, State exercise of the right of eminent domain, paying for the land with money received from the railroad, and leasing of the land to the railroad. Leases were issued by the Governor for terms of not less than 100 nor more than 200 years. At the end of this period, the rights under the terms of those original leases is supposed to revert to the State. Upon reversion, the State could either renew the lease, or "... make to said corporation due compensation therefor."

A series of amendments to that original act have complicated the issue considerably. Some of the original 100-year leases granted in the 1840's presumably ran out in the 1940's. A legal opinion written in 1948 concerning such an expired 100-year lease noted that any lease issued by the State to a railroad would run until the expired term, regardless of subsequent amendments to the 1844 law. At expiration, such a lease would be renewed, under then-existing law at the time of the renewal. Subsequent legal opinion noted that a lease from the State could not be converted until the railroad involved obtains formal permission to abandon.

Should the extremely complex legal problems concerning the status of the various 100-year leases eventually be resolved, it would appear that the State should not let one single mile of railroad line go by default. It is essential that New Hampshire's railroad laws be revised to reflect the needs of today. One approach regarding State priority for the acquisition of abandoned rights-of-way is that taken in Wisconsin. In that State, the Conservation Commission has the first claim to abandoned railroad rights-of-way, and a chance to match the final bid on the land.

Recent Abandonments

The New Hampshire Public Utilities Commission map "Railroad Lines 1968" indicates lines operational as of that date. Since then, the Boston and Maine has been granted permission by the Interstate Commerce Commission to abandon the following sections. (See Figure V-1):

- From Mount Whittier in Ossipee to Intervale in North Conway. (the Conway Branch, so-called);
- From Keene through Westmoreland and Walpole (the Cheshire Branch, so-called);
- From Jaffrey to Peterborough;
- The line running from Winchendon, Massachusetts through Fitzwilliam, Troy, and Marlboro to Keene; and
- The line from Sanbornville (Wakefield) to Wolfboro.

In 1971, the B & M petitioned to abandon the line from Concord through Laconia up to Lincoln. The court ruled in favor of the State, however, and the abandonment has not been allowed.

The Cheshire Branch On the Cheshire Branch, the B & M started to tear up the track in the fall of 1972. Through the Governor's Office, the State requested that the B & M cease and desist such action, but the railroad refused to comply, asking for a meeting with State representatives in late December. The State went to court and on December 12, 1972, the Courts handed down a general order restraining the B & M from removing any rails or tracks on lines on which abandonment proceedings had been held.

The Conway Branch On the Conway Branch, B & M advertised for bids for their right, title, and interest in the 18.75 mile abandoned section between Mt. Whittier (in Ossipee) and Intervale (in North Conway), with bids scheduled to be opened on December 15, 1972. Earlier that week, the Town of Madison obtained an order from the U.S. District Court restraining the B & M from accepting any bids on the portion of the line in Madison. Under the Interstate Commerce Commission abandonment ruling, the B & M was permitted to divest itself of the tracks provided that resale to some governmental body was accomplished within 60 days.

At the bid openings in Billerica, Massachusetts, on December 15, 1972, 18 bids were submitted, ranging from a low bid of \$225 for the entire section to a high bid of \$90 000 for all the section lying within the town of Conway. A document concerning the State's interest in the line was delivered to the B & M at the opening of the bids on December 15, 1972, notifying the Railroad that the Department of Resources and Economic Development:

- Had received authority to exercise eminent domain rights in acquiring the abandoned line;
- Would make a formal offer to the Railroad, after securing descriptions and appraisals; and
- Would move through Carroll County Superior Court to acquire the property by eminent domain, if agreement could not be reached on the basis of the State's offer.

In this action, the Department would be acting for the State of New Hampshire, Carroll County, and the towns through which the line passes, or any combination of those political subdivisions.

The Bureau of Outdoor Recreation, U.S. Department of the Interior, has granted the State, Carroll County, and the Towns of Madison, Conway, Albany, Tamworth, and Ossipee approval for 50 percent matching Land and Water Conservation Fund grants toward the purchase of any or all of the Conway Branch "... in recognition of the urgency of acquiring this property." Essentially, federal matching funds would be available to the State or the political subdivisions noted for acquisition of the line for outdoor recreational purposes.

The following week, Carroll Reed and William Levy, under the corporate name of North Conway Depot Company (one of the highest bidders on December 15) filed suit in U.S. District Court to enjoin the B & M from selling 8.5 miles of the line between Conway and Intervale. Similar to the Court action filed by the Town of Madison, North Conway Depot sought to compel the B & M to negotiate with them on the sale of the line. North Conway Depot previously purchased the former depot in North Conway, for which a railroad museum and excursion railway service is planned. The firm contends that their offer to purchase constitutes continuing use of the tracks as referenced in the ICC order, and that the facility would be of great economic benefit to the Mt. Washington Valley area.

In their advertisement, the B & M offered for bid their "right, title, and interest" in the land and trackage advertised. Upon further investigation, it was found that the railroad could not give clear title and a fee simple deed to all parcels on the line. The Great Falls and Conway Railroad, chartered in 1844, received Governor and Council authority to lay out the line in 1849. Presumably, the awarding of damages associated with this right-of-way and the lease from the State did not include negotiated purchase for all parcels on the line. At present, the status of North Conway Depot's and the State's claims are still in litigation.

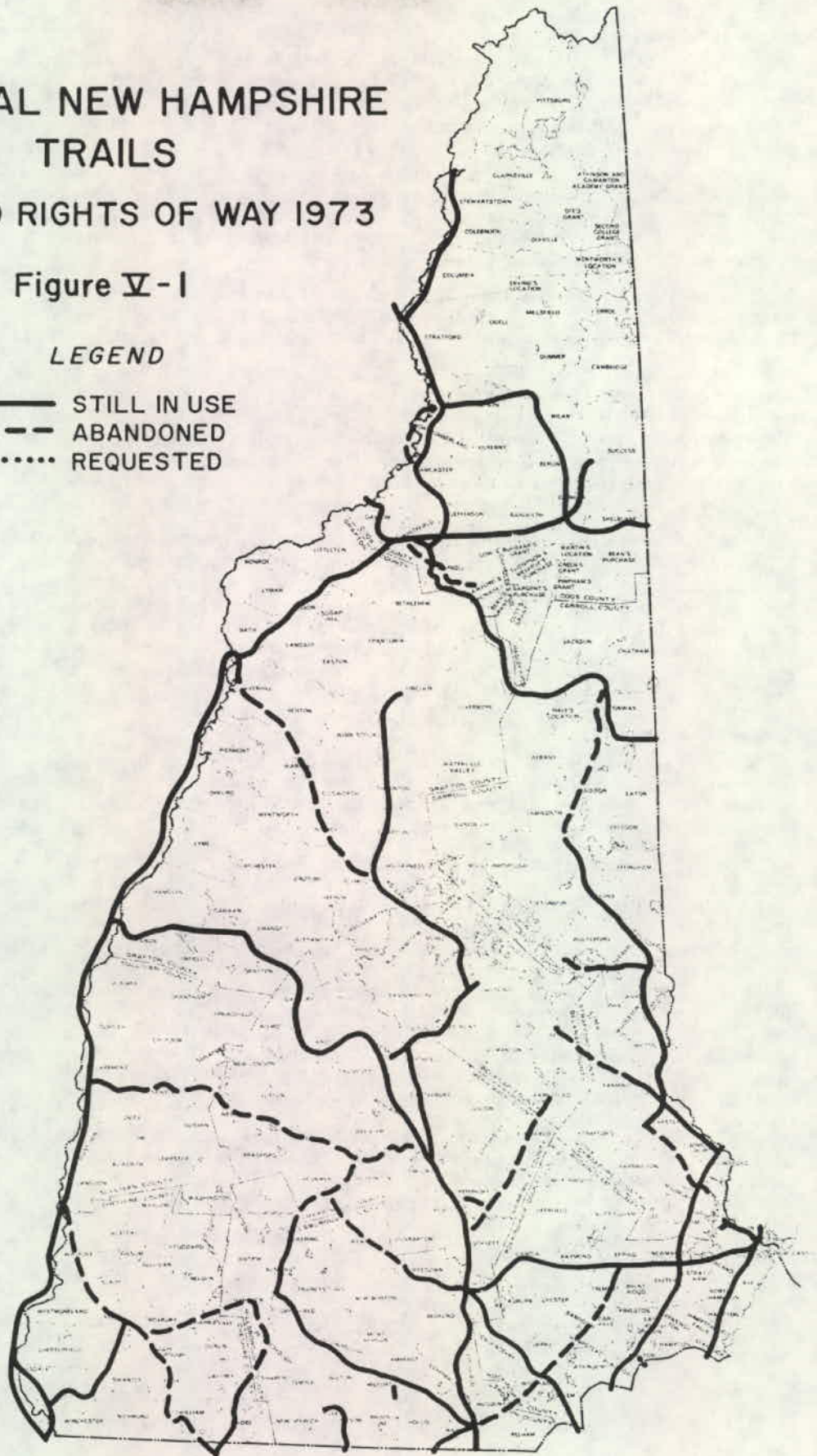
The Wolfboro Branch Further south in Wolfboro, the B & M has sold 11.1 miles of track between that town and Sanbornville (Wakefield) to a local firm known as the Wolfboro Railroad Company. According to the owner of the firm, the Company will haul freight "on call" over the line, making connection on the B & M line at Sanbornville. A gasoline switcher engine will be used for freight and plans are to use a steam locomotive for the tourists in the summer. A recent notice distributed by the Mystic Valley Railway Society advertised an excursion train ride from Boston to Lake Winnepesaukee with a "... ride on New England's newest steam shortline, the Wolfboro Central ..."

POTENTIAL NEW HAMPSHIRE TRAILS RAILROAD RIGHTS OF WAY 1973

Figure V-1

LEGEND

- STILL IN USE
- - - ABANDONED
- REQUESTED



Proposals for Railroad Use

A recent report prepared for the Rail Passenger Office of the New England Governor's Conference makes several recommendations for the revival and development of Boston and Maine rail lines in New Hampshire. The recommendations were prepared to respond to the situations presented to the States of New Hampshire and Massachusetts in the Reorganization Plan of the B & M Trustees, and are primarily concerned with freight and passenger service.

In the southwestern part of the State the report recommends that the Cheshire, Ashuelot, and Peterborough branches be purchased by the State and leased as one line to an operator. In the Mt. Washington Valley, it is recommended that the Conway Branch be purchased by the State and leased for a variety of purposes. In the central part of the State, the report recommends that the State purchase the line from Concord to Lincoln for lease to another operator.

Recent Developments Governor and Council action of May 23, 1973, approved the continued employment of Counsel to represent the State in their transactions with the Boston and Maine debtor corporation. The Public Utilities Commission is still negotiating with the B & M trustees for various sections of line.

In case of lines already abandoned, such as the Conway Branch, the State should obtain title through whatever legal means may be available. After the line is master-planned, those portions of the line not suitable for public use could be leased to private firms, providing such use involved retaining right-of-way intact. Other portions of the track could be leased or sold to political subdivisions for public purposes only. All transactions, however, should contain certain reverter clauses to protect the State's interest in the line for transportation, recreation, or other purposes in the future. Similar action would be taken on those lines for which the railroads will probably seek abandonment.

It would appear necessary, then, that each section of abandoned railroad which the State claims be master-planned to assure maximum use with minimum conflict between user groups. Each roadbed should be "Trail Zoned" for the various uses to be served. In addition to such designation, provision will have to be made for trail maintenance, access (including parking), linkage to other parts of a system, and multiple-use management. If the State prepares now, the railroad rights-of-way, abandoned or about to be, can be put into public trust for recreational and other public purposes. Then should future circumstances require the rights-of-way for other purposes (i.e. freight and passenger rail service, or pipeline or cable rights-of-way, the lines will not have been lost.

Earlier Abandonments

There are several old railroad rights-of-way abandoned 20 to 30 years ago which should be noted because of their potential for links in a trail system. Many sections of their lines have been sold off and are now used for a variety of purposes. There is the possibility, however, that trail easements would be obtained over the abandoned beds where they met trail user needs.

Plymouth-North Haverhill This line, the former Boston and Maine route between Boston and Quebec, was abandoned in 1954. The route leaves the existing B & M branch to Lincoln at the Baker River Bridge North of Plymouth, and runs up the river valley to the height of land in Oliverian Notch near Glencliff. From here it descends to the current end of active trackage at North Haverhill (Blackmount Station), a distance of about 36 miles from Lincoln. Route 25 crosses and recrosses the grade for its entire length.

Concord-Newport The Concord to Newport line is a former branch of the B & M about 42 miles in length. Existing for a few years as an independent railroad, the line from Concord to Contoocook was abandoned in 1960 after a bridge washout. The remainder of the line from Contoocook to Newport was abandoned in 1965. Construction of I-89 between Contoocook and Warner has interrupted the grade at some points. The height of land is at Newbury Cut, just east of Newbury. According to those who have trailed the bed, the route includes wooden trestles whose condition may be dubious, and should be checked.

Goffstown-Henniker This line, formerly the North Weave Branch, ran some 17 miles from Goffstown to Henniker Junction, where it connected with the Contoocook-Hillsboro line. The line was abandoned in the 1930's, and development on the Hopkinton-Everett Flood Control Reservoir has obliterated many sections of the grade.

Contoocook-Hillsboro This section of line, abandoned at various times from 1938 to 1965, has been flooded out by the Hopkinton-Everett Flood Control Area from Henniker to Contoocook. Of the 15 miles of line from Hillsboro to Contoocook, only five survived to 1965 when the Claremont & Concord railway ripped up its track.

Wing Road-Base Station Abandoned in the mid-1930s, this line is still traceable on the maps and on the ground. It was the B & M entry to the Mount Washington area traffic, and at one time extended all the way to the base station of the Mount Washington Cog Railway. Sections of the grade parallel US 302 and are now used for telephone lines.

Hooksett-Center Barnstead Although the Suncook Valley Railroad (a former B & M branch line) has been abandoned only since the mid-1950s, the reconstruction of NH 28 since 1960, up the Suncook River Valley, has cut up the old grade. In some locations, structures have been built on the old bed.

Keene-Peterborough The old Keene Branch, running some 31 miles to Peterborough, was abandoned in 1936 after March floods that year. The line starts at South Keene on NH 101 and runs up the Otter Brook valley. This long detour, to gain altitude for the uphill climb to Harrisville, was New England's version of the famous "Horse Shoe Curve" in Pennsylvania. The line continues through Marlboro, Harrisville, and Hancock near Davis Brook. Continuation of the line from Peterborough to Jaffrey has been proposed for abandonment by the B & M.

Hudson-Fremont This former B & M line originally ran from Nashua through Windham, Derry Hampstead, and Sandown to Fremont, but has been abandoned since the 1930s. The line from Nashua to Windham is pretty well obliterated, but sections of the line from Windham to Fremont are now used for trailbike and horseback riding. Some accesses to the abandonment have been posted, and some sections have been fenced off. There is a bridge out just east of Sandown, but a paved road allows one to pick up the railroad bed again just east of the old bridge location.

Records at the Highway Right-of-Way section in Concord indicate that the State obtained a highway easement for the entire line from the B & M and a number of individual owners as a result of the Highway Commissioner's Return of Highway Layout dated October 14, 1941. The Court subsequently awarded damages to the B & M and other landowners for the highway easement over the land. The land itself still belongs to the B & M and the original owners. A portion of the easement has been used for highway purposes, but the State still holds the easement on a number of parcels. Records of all parcels on the line are on file in Concord at the Highway Department.

According to Highway Department staff, any prospective purchaser of parcels on this line still under State jurisdiction must obtain a deed from the State for the easement and a deed from the B & M for the land. Under present interpretation of the highway statutes, the Highway Department cannot transfer a highway easement to an easement for other public purposes.

Presently, local groups in the towns of Windham, Derry, and Hampstead have expressed an interest in protecting segments of this line for recreational trails. The line goes through one of the most heavily populated and fastest growing areas in the State, and it is used as both a main trail and a connecting link to other local trails.

ELECTRIC TRANSMISSION RIGHTS-OF-WAY

Electric transmission line rights-of-way are extensively used on an informal basis by many trail enthusiasts throughout the State. Accordingly, requests for information on the multiple use of these corridors were sent to the Public Service Company of New Hampshire and the New England Power Company. The New England Electric System has adopted a policy on overhead transmission lines which states that "... Joint use of transmission line rights-of-way by neighboring property owners and local communities shall be allowed within limits of public safety and reasonable requirements of the Company." A company spokesman states that prime considerations in the multiple use of rights-of-way are protection of:

- Transmission equipment;
- The Company from liability; and
- Property from any physical damage that might arise.

According to New England Power, preferred uses of rights-of-way are for pastures, crops, and nurseries. Community use of the rights-of-way in urban areas is recognized and licensed use for playfields, school grounds, hiking, picnicking, and bridle trails is specifically provided for in New England Power's policy statement. Commenting on trail use, a spokesman has noted that "... snowmobiling has been considered one of the most dangerous recreation sports, and trailbiking one of the most damaging. Encouragement of these types of uses are not compatible with hiking, horseback riding and bicycling, which are, for the most part, welcomed on Company lands." As of 1971, New England Power had no stated policy on use of its lands by snowmobiles and trailbikes, and the matter is presumably still being reviewed.

New England Power points out that only a small percentage of the Company's rights-of-way are owned in fee. Most of their transmission lines are constructed on easements and, therefore, use by others would in

most cases require access over private property subject to the permission of the landowner. Although their transmission rights-of-way appear to be ideal for many recreational trail uses, the biggest problem is that of non-continuous land ownership.

Public Service Company of New Hampshire is in a similar position. Their rights-of-way fall into two categories, ownership and easement. PSC presently owns in fee some 75 miles of rights-of-way associated with their existing 345 KV transmission system. When purchased by PSC, the original owners retained the rights to use the property for agricultural purposes and to cross and recross. In the purchase negotiations, PSC indicated that the acquisitions were solely for the purpose of constructing and maintaining facilities to provide electrical service. Therefore, the Company does not feel they can encourage other uses without the knowledge and consent of the original (or present) owners and the abutters who might be affected.

PSC's present policy is to acquire new rights-of-way under easement. In the case of transmission lines constructed under such rights, the Company does not feel it has the legal right to grant permission to others to use the property. Even if other uses are granted by the landowner, PSC easements allow them to limit uses when the reliability of the line might be jeopardized. In each case, judgments would involve such considerations as heights of facilities, probability of damage to Company structures, and public safety.

Another consideration in granting permission for other land uses, either owned or under easement, is the question of liability of PSC in the case of accidents or injuries to the public. PSC has indicated that they would be willing to discuss further trail possibilities with the State.

Western Mass Electric (a Northeast Utilities Company) is developing a very imaginative outdoor recreation complex in conjunction with their Northfield Mountain pumped storage project. On the Connecticut River just over the State line in Massachusetts, the project will include a trail system fanning out from a tour and trail center beside the reservoir on Northfield Mountain. When covered with snow, the trails will be separately designated (on a supervised basis) for snowshoeing, cross-country skiing, and snowmobiling. When snow-free, the trails will be separated for hiking, nature study, and horseback riding.

According to John Frado, Supervisor of Recreation Facilities for Western Massachusetts, the utility is working with the Commonwealth of Massachusetts on connecting the Northfield Mountain trails with a larger trail complex being planned for nearby State forests and parks. The possibility of further connections to New Hampshire State facilities have been discussed with the Division of Parks, but no formal planning has been initiated to date.

Northeastern Utilities has developed a policy whereby if a trail-using group obtains permission from the landowners for use of right-of-way for a trail, they will allow that trail use under normal circumstances. The utility will, when possible, conduct their right-of-way maintenance program on these sections to facilitate better use of the corridor for trail purposes. This approach appears valid, and should be encouraged in New Hampshire.

BICYCLE TRAILS

The development of trail systems for bicycle riders has received increased national attention in the last several years. In 1971, Oregon passed a bill which provides that one percent of state highway revenue must be used for bicycle trail and path construction by the state, counties and cities. Washington passed a similar bill with a ½ of one percent allocation. Similar bills are now pending in California, Colorado, Iowa, Illinois, Massachusetts, and Ohio. New York has passed legislation authorizing construction of bike and foot trails in conjunction with state and federally-funded projects. In Maryland, counties and municipalities may use "reasonable amounts" of local highway user revenues for the establishment and maintenance of footpaths and bicycle trails in new construction projects.

Short of national designation or State-funded construction, there are many things which can be done at the State level to get a bicycle trail system started. For example, Ohio has officially signed seven bike routes along byways of the State, from 15 to 87 miles in length. In California, the Division of Highways has prepared a series of six maps of northern counties. These maps outline acceptable roads on which to bicycle, and show all existing bikeways and bike routes. The States of Washington and Virginia have closed sections of their highway system except for the exclusive use of bicyclists at certain times, mostly on Sundays.

State Programs

In New Hampshire, Richard "Wink" Tapply's Office of Community Recreation Services has helped establish municipal bike paths, and has developed an informational program for bicyclists. A recent publication "Bicycling in New Hampshire" includes maps and itineraries for four trips, ranging in length from 135 miles to 505 miles, for trips of from four days to two weeks. Some of the best routing in New Hampshire is over portions of the State primary system which have been "by-passed" by construction of the interstate highway system. There are, however, no officially designated bike routes in the State, except those designated at the local level. The 1973 New Hampshire General Court enacted Chapter 569, Laws of 1973, concerning the designation, signing, and mapping of bicycle trails. The statute provides for a cooperative ac-

tivity of the Departments of Public Works and Highways and Resources and Economic Development. The Office of Community Recreation (Department of Resources and Economic Development) is authorized to designate "highway bicycle trails" in consultation with other state and local groups.

After designation has been approved by the two departments involved, DRED will prepare and print maps and other literature describing the bicycle trails. The Highway Department is responsible for the design, location, and erection of suitable signs to mark the trails. The sum of \$3,000 has been appropriated for accomplishing the purposes of this act. Preliminary recommendations for the first officially designated bicycle routes are presented in Figure V-2.

The official designation and marking of a statewide bicycle route system will serve two purposes. First, it would benefit the biker by providing a uniform system of route markings over designated roads. Of equal importance, the route markings will alert motorists to the fact that certain roads have been designated as bike routes.

In general, commuting cyclists favor direct routes into town, and tend to be less concerned about automobile traffic. Recreational cyclists, on the other hand, are more interested in the surroundings of a bike path, and generally prefer to ride away from cars and trucks. In most instances, bicyclists prefer a paved surface, and routing which takes them through points of community, historic, or scenic interest. With these requirements, it appears that New Hampshire's existing road system offers the best possible beginning for a statewide bicycle trail system.

The routes proposed by the Granite State Wheelmen for designation under New Hampshire's Bicycle Route legislation are basically local routes, designed to provide a scenic and interesting one-day ride. The Office of Community Recreation routes were laid out to meet the need for circular tours of several days in length. Ultimately, the highway bicycle route system must consider designated routes which cross the State in several places and those which go north and south, to meet the needs of those bicycling through New Hampshire from and to other states.

From information gathered by the N.H. Bike Riders Survey, bicycling around town is the most frequent kind of trip made, and traffic was reported as the major problem. Like the rest of the nation, then, the State's outstanding need appears to be for commuter routes in urban areas. Development of an urban system will involve acquisition of some additional rights-of-way, grade crossings, traffic controls, lane marking and curbing, and maintenance. Such facilities will cost money, but both motorists and cyclists will benefit from a functional urban bicycle routing system which provides safe routes in conjunction with roads and separate pathways just for bicycles where at all possible.

Supporters of New Hampshire's 1973 bicycle route enabling legislation recognized that the construction of separate bike paths would be a costly proposition and concentrated their efforts on the designation and signing of official bike routes along public highways. The cyclist now has better riding under the new law, as he will have safe riding.

The next step to explore is the possibility of a network of bike lanes marked off from automobile lanes by a painted stripe. A 2-3 foot strip of the breakdown lane could be paved along the more popular bike routes. Such lanes could be built within existing highway rights-of-way, with 70 percent matching funds from the Department of Transportation. There is some concern, however, that bicycle routes along highways, marked off only by signs or white lines, do little more than lull both cyclists and motorists into a false sense of security. Proponents of the designated lane or the shoulder argue that this system is relatively inexpensive to construct, however, and would provide the bike rider with excellent bicycling opportunities.

The third priority for bicycle path construction is the paving of certain segments of abandoned railroad beds which either serve urban areas or offer exceptional opportunities for scenic bike trails. It is not clear whether federal transportation funds would be available for this phase of the program, however.

Federal Bicycle Programs

At the federal level, the Departments of Interior and Transportation made a joint announcement in 1971 that the two agencies would work together to promote bicycling. Interior will work on the recreational aspects of bicycling and Transportation will concentrate on bicycles as commuter transportation.

Through the Federal Highway Administration, the Department of Transportation may provide states with funds for the construction and improvement of roads in the federal-aid highway system. These funds may be used for constructing bicycle paths when they are built in conjunction with a federal-aid highway project. The money for trails has been available on the same basis as the basic highway matching fund grant - 90 percent Federal/10 percent State for the interstate system, and 50/50 for all other federal-aid projects - when the trails are built with the highways. Requests for such funding have to be initiated by a State's highway department, which is also responsible for the design and construction of the project.

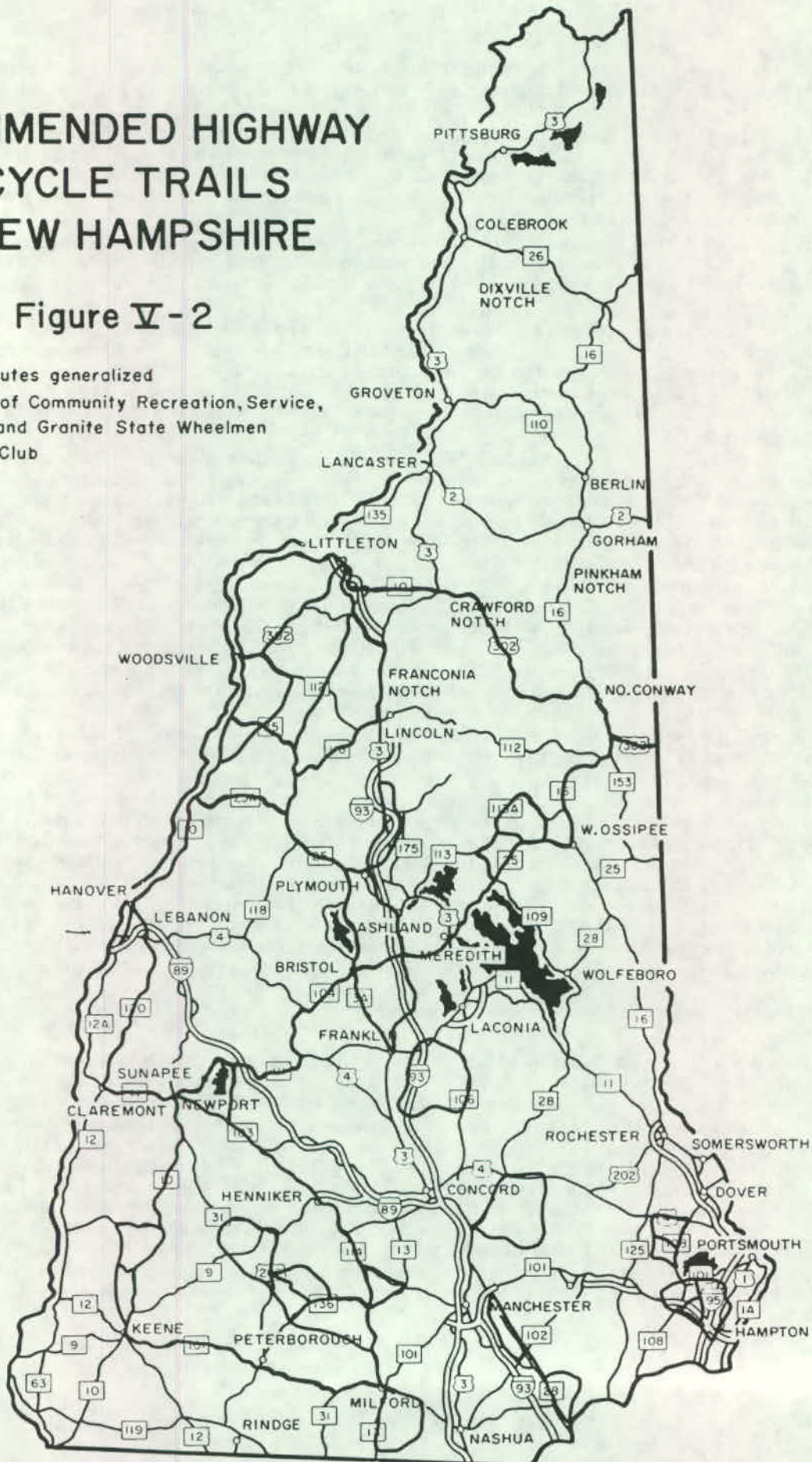
In August 1973 it was reported by the Senate-House Public Works Conference Committee (of which New Hampshire's Congressman James Cleveland is a member) that Section I of the Highway Act of 1973

RECOMMENDED HIGHWAY BICYCLE TRAILS IN NEW HAMPSHIRE

Figure V-2

Note: Local routes generalized

Source: Office of Community Recreation, Service,
D.R.E.D and Granite State Wheelmen
Bicycle Club



authorizes appropriations not to exceed \$40 million annually from the Highway Trust Fund for the construction of bicycle paths and pedestrian walkways in conjunction with federally-funded highway projects. There is a \$2 million obligational limit for such projects by any State in any fiscal year. A separate but companion measure, the Highway Safety Act of 1973 (Section II of the Highway Act) provides for additional highway safety programs which include driver education programs and research to insure greater safety for bicyclists using public roads. Another subsection provides for a nationwide pedestrian and bicycle safety study.

MOTORIZED TRAILS

At the present time, New Hampshire State agencies do not have a consistent policy for regulating and managing off-highway recreational vehicle operation on public lands. For example, no trail bikes are allowed in State Parks, they are not prohibited from most forests, and one State forest is used by permit one day a year. Practically no land area will be completed free from some environmental impact by OHRV use. The objectives of OHRV land use policies and regulations should be to keep environmental damage to manageable proportions, minimize conflict with other trail-using individuals and groups, while providing opportunities for this important recreational land use.

Under favorable circumstances, OHRV trail use is an accepted recreation activity. Unmanaged use, however, can be detrimental to the natural environment and disruptive to other users of public lands. Consistent with the land management area designations discussed in Chapter VI, the State is developing an inventory of those public lands on which OHRV use could be provided without unmanageable impact on the natural environment. Then, certain areas should be designated as having potential for OHRV use, with consideration for both the natural terrain and other trail users.

Trailbike Trails

Regarding motorcycle or trailbike trails, the New England Trail Riders Association has already mapped many, if not all, of the trails presently used by their membership. Further planning of a trail system for motorcycle use will involve designation of certain existing trails, and rerouting of others where needed. One of the primary objectives of a trail system is to confine the environmental impact to manageable proportions and tolerable levels on lands which have topography and terrain suitable to trail vehicles. New areas and facilities for OHRV use should not be opened until planning for their use has been done by land managers and trail users together.

The noise made by an OHRV, whether trailbike in summer or snowmobile in winter, is that factor which causes the pedestrian or equestrian trail user the greatest concern. For the horseback rider, noise is not only an aesthetic problem, it is dangerous. To minimize the noise problem, OHRV trails should generally be routed away from populated areas and non-motorized trails as much as possible. Further, the State should work with responsible OHRV trail-users and manufacturers to decrease noise limits as much as possible.

Minibikes pose a separate problem, as they cannot be legally operated on public roads, conflict with other trail uses, and are used extensively in suburban areas where no provision has been made for them. Minibikes are also often taken on camper trucks to areas where there are no trails designed for them. There are at least three practical steps which could be taken to reduce the problem posed by minibikes.

First, those public lands with designated areas and trails for minibikes should be well marked on both official State maps and by signs with trail markings on location. Areas in which minibike operation is prohibited should also be clearly mapped, marked, and signed. Second, the State should enforce the requirement for minibike registration, especially on designated public lands. Third, the State should cooperate with and assist local governments, motorcycle dealers, and club representatives to establish areas for controlled minibike operation. As the majority of minibike operators are youngsters, and most of their riding is done close to home, minibike "parks" would provide a public service to both riders and their neighbors.

Snowmobile Trails

Snowmobiling is the major winter OHRV trail use in New Hampshire. A Legislative Interim Committee conducted a number of hearings on off-highway recreational vehicles during 1972, which resulted in rather comprehensive legislation dealing with their registration and use. The bill, however, dealt with trails designation on public lands in only a very general manner, but the issue of snowmobile operation on private land has not yet been resolved to the satisfaction of all concerned.

Regardless of the language in either the OHRV bill or the trails bill, the three major natural resource agencies in the State have authority under existing legislation to designate areas and trails for snowmobile use. After careful assessment, the public land areas open to snowmobiles should be clearly mapped, marked, and signed. Contacts with local snowmobile clubs should be strengthened, and self-policing by those groups should be encouraged.

The issue of snowmobile operation on private land is harder to resolve. At the public hearing on the OHRV bill (HB 10), considerable testimony was presented urging that landowner permission be required for all OHRV operation on land of another, regardless of snow cover.* The final version of the bill did not, however, consider this aspect of using the land of another without permission.

The present version of the State legislation essentially leaves the problem of land-owner permission to local governments and enforcement officials. In their application for permission to cross a public road, the Highway Department requires that the applicant "... obtain and furnish written permission from adjacent landowners authorizing the use of their property for a trail system." At least one town has passed an ordinance requiring land-owner permission for OHRV operation, but there are very few town line markers on local snowmobile trails. The inconsistencies in present law and management procedures should be corrected in future legislative sessions, based on more experience with administration and enforcement of present statutes.

Snowmobile Trail Study

During the Fall of 1972, the Department of Resources and Economic Development sponsored a small study on the concept for a State-Sponsored Trail System. During the course of the study, Product Safety Labs of Nashua interviewed 37 "community leaders" and 20 "landowners" throughout the State. Lack of funds restricted the number of interviews conducted during the study, but initial response was encouraging to snowmobilers. From analysis of the interviews conducted the consultant concludes that "... a State sponsored extended snowmobile trail system for New Hampshire is highly desirable and economically feasible."

Three separate trail networks are recommended, one each in the southeast, southwest, and north country. The southeast network would go through Allenstown, Deerfield, Northwood, Strafford, Barnstead, Pittsfield, and Epsom back to Allenstown. The southwest network would go from Swanzey up to Washington, west to Walpole, and back to Swanzey. The northern loop would run from Randolph through Berlin and Milan and up to the Dixville Notch area, then back down through Odell and Stark.

The scale of the map provided with the report is inadequate for determining any more than the approximate location of the proposed trail networks. The report states, however, that "... present snowmobile trails in these regions, as well as abandoned railroad rights-of-way, logging roads, power line rights-of-way, unplowed roads, etc., which could be used for the extended trail system, were mapped and catalogued for this project.

The estimated mileages and costs of these three loops were as follows:

	North	East	West	Total
Construction (initial)	\$27,000	\$36,000	\$35,000	\$98,000
Maintenance (annual)	\$29,000	\$27,000	\$21,000	\$72,000

These costs do not include any estimates of either land acquisition or easements. The report states "... it has been fairly well accepted that the purchase of land will not be necessary. Easements and land leases will probably have to be negotiated on an individual basis for a 5-15 year period. No feel for the amounts of money involved could be ascertained." It should be noted that elsewhere the report suggests that "... the State would bear most if not all of the major expenses involved in the extended trails. These expenses include: a. Land easements, leases, fees and other considerations to landowners. ..."

The Summary of the report states that

"The revenue to the State of New Hampshire obtained from snowmobile registration fees and gasoline tax for the 1972-1973 season is estimated at \$630,000. There would be many other economic and social benefits derived by the State of New Hampshire and its residents. The major disadvantages of a trail system appear possible in the environmental and ecological areas. However, scientific studies and well planned, strategically located trail networks may disprove and/or dispel many of these."

Arguments for snowmobile trails, as for other types of trails, center on the advantages of planned, controlled winter land use. The report suggests that implementation of an extended snowmobile trail system would also improve enforcement of snowmobiling statutes, as snowmobilers would be drawn to the trail from other areas, thus reducing conflicts with other trail users and land owners. The report also notes that New Hampshire landowners have, for the most part, maintained a liberal attitude toward the use of private and public lands. But with the formalization of the public using both private and public lands through a State-sponsored trail system, the landowner may ultimately want financial compensation or some other consideration for public use of his land.

*By majority vote, the New Hampshire Statewide Trails Advisory Committee has gone on record in favor of requiring such permission.

The report presents several arguments in support of the "closed-loop" snowmobile trail. From a land use point of view, the loop system would supposedly require less total designated land area to accommodate the trail users, thus requiring that less land be leased or purchased. Following this same argument, fewer private landowner permissions are required, and less supporting facilities are needed (e.g. access routes, parking facilities). Further, the "loop" trail would be localized to a certain extent, thus improving the likelihood of local club and community involvement. Perhaps the most compelling argument for the loop trail is that which notes that the loops could be strategically located to attract both residents and visitors in accordance with landowner and community sentiments.

In conclusion, it is recommended that any snowmobile trail, loop or linear, be subjected to a careful analysis of its impact on both the natural and human environments, along the lines suggested in the chapter on **Management Guidelines**.

CANOE TRAILS

Canoeing and kayaking have become increasingly popular recreational uses of New Hampshire's waterbodies, both as activities themselves and in conjunction with other outdoor sports, such as fishing and camping. Canoeing, therefore, must be recognized as having a direct impact on recreational land use and "canoe trails" should be considered an important element in recreational trail planning. There is a need to plan for public access points and other facilities to serve the canoeing public, such as designated camping areas and provision for portaging dams along rivers which pass through some of the larger towns throughout the State.

Practically all of the canoeable waters in New Hampshire have been described and mapped by the Appalachian Mountain Club. The White Mountains Regional Association has published a general guide to summer canoeing and kayaking in the White Mountains, and the State of Vermont has published a booklet describing canoeing possibilities on the Connecticut River, 237 miles of which flows from the Canadian border to the Massachusetts state line, the western bank being the State boundary between New Hampshire and Vermont. At present writing, however, the State of New Hampshire has no program which is directly concerned with the waters and their adjacent lands which in combination may serve as the basis for canoe trails.

In 1968, Congress passed the Wild and Scenic Rivers Act (PL 90-542) which provides for the designation of wild, scenic, or recreational rivers as part of a National Wild and Scenic Rivers System. Under the Act, a State legislature may designate streams, which upon application by the Governor, may be considered for inclusion in the National System. In a somewhat belated response to this statute, the 1971 New Hampshire Legislature passed a resolution calling upon the State Council of Resources and Development to develop criteria for such streams and prepare an inventory of the streams flowing in or through New Hampshire which should be considered for designation under the National Wild and Scenic Rivers Act. This State enabling legislation could, then, serve as the framework through which canoe trails could be identified and designated. Other State programs, such as Road to Public Waters and Stream Bank Protection, could then be coordinated to provide for a comprehensive approach to public use of streams and their shorelines. State and Federal pollution abatement programs improve the potential for outdoor recreational use of many New Hampshire watercourses, and the State must prepare now for the management of these resources for the public benefit.

COMMERCIAL TRAILS

The development of trails as a part of a commercial enterprise is an important recreational land use in New Hampshire. The most significant growth has occurred in winter trail use for snowmobiling and cross-country ski touring. During the winter of 1972-73, a number of these areas were contacted by phone or survey to gain information on this type of operation.

Snowmobile Areas

All of the commercial snowmobile areas listed in the most current Eastern Snowmobile map were contacted by phone during February 1973. Of the 22 areas listed, 16 responded, and 14 of these reported some form of snowmobile operation. Trail distance ranged from a low of six miles of trails all on the owner's property to hundreds of miles on property of others, private and public. The following summary data give an indication of the diversity of snowmobile trail combinations.

Trail grooming is accomplished by a variety of techniques, from drags behind snowmobiles to professional snow grooming equipment hauled behind track-type vehicles. Some operators were uncertain as to their exact trail mileage, and no operator reported having to pay for use of other private land, although most obtained permission from the landowner. These commercial areas are usually conducted in conjunction with lodging accommodations, with a parking fee charged by some to help offset trail grooming expenses as proper grooming equipment requires a rather high level of capital investment.

As snowmobiling increases, there will also be an increase in both the scale and number of commercial snowmobile areas. This type of activity should be encouraged, with careful advance planning to assure compatibility with contiguous land uses and trail systems. Golf courses are naturals for adaptation to winter trails areas, for either snowmobiling or cross-country skiing. In the former case, a private golf course may take on a snowmobile dealership, which, when operated as part of the total winter business, helps keep the enterprise going. This is often beneficial for local employees, but may cause some land use problems at the local level, if not carefully controlled.

Ski Touring Centers

During the 1972-1973 winter season, there were over 20 winter recreation enterprises offering special ski-touring programs other than just equipment sales or rentals. In the majority of cases, trails have been developed on land of the owner, and possibly one or more abutting properties. Some of these have been developed as additional offerings for established down-hill ski areas, but several new areas have been developed solely for cross-country use.

At least two areas have developed extensive trail networks in the White Mountain National Forest. Waterville Valley uses summer hiking trails and logging roads, as does the Jackson Ski Touring Foundation. The only development has been the establishment of connecting links of short length. At Pinkham Notch, the PMC uses a combination of existing trails and some newly cleared roads.

The greatest single advantage to ski touring on a privately-developed area is being able to use the trail with a minimum of conflict with snowmobiles. As the popularity of both these sports increases, the need for private ski-touring areas will also increase to meet the demand for ski-touring in general and uninterrupted trail use in particular. It is very important that future trail systems be carefully planned to minimize the disruption of established ski-touring trails. The landowner permission requirement for snowmobile travel on land of another, unless resolved to the satisfaction of all concerned, is critical to the success of private ski touring centers.

LOCAL TRAILS DEVELOPMENT

Until very recently, the trail was not considered a priority public recreation need. There are, however, many opportunities for trails development at the local level which must be pursued by local groups. Trails may be incorporated into a wide watershed protection, flood plain zoning, and the like. To assure that local and regional master plans consider trail needs and opportunities, a community may wish to establish a local trails committee or council. This may be done through town meeting action, as has been done in Sanborn-ton, or through the combined efforts of concerned citizens.

Local Trails Committee

The primary objective of a local trails committee or council, formal or informal, should be to protect actual or potential trails within the community, and to promote the establishment of trails for the future good of all residents and other citizens. A Trails Committee should be made up of representatives from local governing bodies and trail user groups. Membership from the Board of Selectmen or City Council, Planning Board, Conservation Commission, Recreation Departments, and special interest bodies (such as Historic District Commissions) will be helpful in gaining "official" understanding and recognition of trail needs. On the trail users side the Committee should have representatives from clubs or organizations who use trails of some type to fulfill their recreational needs.

The first work for a local Trails Committee is to review the community's master plan and official map. After existing trails (either formal or informal) have been inventoried and identified, the community's land resources should be studied to determine where future trails may be designated and eventually developed. From this work, a trails master plan may be developed for incorporation into the town master plan.

Local Land Use Programs

There are many local land use programs which offer trails development possibilities. A trails committee should look at the local highway system to determine what discontinued roads might be formally dedicated as trails. Scenic Roads may also be effectively used as part of a trails program. Future road construction plans should avoid obstructing trails, and local subdivision regulations should require that a subdivider provide for trails along with local requirements for open space, resource protection, and the like. A trails corridor may be utilized to provide an attractive buffer between residential and agricultural areas or zones. If a community contains or abuts public lands in State or federal ownership, efforts should be made to achieve designation and dedication and protection of public use areas for trails.

In some communities, the use of minibikes, particularly by those too young to operate motor vehicles on public roads, is causing considerable concern. Examples of local action around the State are indicative of public reaction to the expanding problem. In Hanover, minibikes have been banned from public school property. In Keene, the city was told that it was not obligated to provide local opportunities for minibike operation, but that it should seek to accommodate their needs in a suitable location in the public domain.

The registration and operation of off-highway recreational vehicles, including minibikes is described in Chapter 269-C, N.H. Revised Statutes Annotated (as inserted by Chapter 560, Laws of 1973). This legislation requires that all OHRVs, including minibikes as defined in the law, shall be registered if operated on other than land owned or leased by the OHRV owner. Further, the law stipulates that no person under 16 may register an OHRV. Persons between 16 and 18 may register an OHRV only with written permission from a parent or guardian. A license is not required for operating a duly registered OHRV, providing it is not driven across or along a public road. Children under 12 cannot operate an OHRV unless: (1) on land owned by parent or guardian; (2) land-owner permission has been granted; or (3) accompanied by a person 18 or over.

Because of the dramatic increase in the sale and use of minibikes, communities faced with problems caused by youthful operators should look for positive solutions. Lands under public ownership or control should be reviewed to determine appropriate places for designation as OHRV areas. For minibike operators, the land should not be ecologically fragile or have high conservation value. Abandoned sand and gravel pit areas acquired for sand fill, or for some industrial development, or dumps which have been closed and back-filled could provide opportunities for children to ride their minibikes without undue disruption to the rest of the community.

There are many other programs which, if imaginatively used, may contribute to a local trails program. Land use controls, such as flood plain zoning, stream-bank protection, and wetlands protection offer chances for trails which should not be overlooked. Also a community's capital improvements budget for schools, roads, and recreation areas may, with minor modifications, provide major trail opportunities. A local trails program has a higher probability of success if it is developed as an integral part of the community's long range planning and budgeting process for acquiring and protecting open space and greenbelts.

Local Ordinances

In many communities, motorized use of trails and private land appears to be a problem. The two most commonly-recorded complaints are noise pollution and unauthorized use of private land. In the interest of the health and welfare of its citizens, a town may want to consider an approach to regulation through curfews or restrictions on use. Several towns have curfews limiting OHRV operation late at night, and at least one town has an ordinance requiring that all OHRV operators on lands of others must have the express permission of the landowner.

It should be noted that the enforcement of local ordinances which go beyond the provisions of State law is the responsibility of the local level of government. If a municipality is considering the passage of such ordinances, it must also consider their enforcement.

In many cases, local trail-using clubs are more than willing to cooperate with local police and landowners in the development and use of a Trail System. If a club has a strong local constituency, there will be very few problems. Most problems are caused by either the occasional selfish acts of particular individuals, or non-resident trail users who are unfamiliar with local ordinances. In the case of the non-resident trail users, every effort should be made to work with those commercial establishments who provide services for the occasional non-resident user, to assure that trail users know the local trails and any restrictions on their use.

Discontinued Town Roads

Many old town roads are extensively used as trails for many purposes. Mapped as "unimproved" or "primitive," these roads may be known locally as "discontinued," or "closed subject to gates and bars," or the "old range road." Occasionally there are conflicts between those who live at the ends of these roads and those who may want to use the roads for trails. The following is a general guide on how to locate old roads and how to determine their legal status as a public right-of-way.

Mapping. Town roads which have been discontinued for one reason or another are usually not shown on the service station type of road map or on modern highway maps of the town. When occasionally shown, they may be indicated on the map by the Road Feature "Primitive Road."

Discontinued town roads may usually be identified on United States Geological Survey (USGS) topographic maps. On these maps they are indicated by the Road Classification "Unimproved Dirt." In some cases, they may be marked on the map as an "Old Range Road."

Aerial Photos. Soil Conservation Service soil survey maps overlaid on aerial photography (now completed for five New Hampshire counties) are also useful for locating old town roads. On these SCS maps, a discontinued or abandoned town road may be indicated as a "poor motor" road or a "trail" (see Works and Structures under Conventional Signs).

Road Maintenance. The road features on maps noted above are indications of the last-known extent of road maintenance. Records of the status of all town roads in the State are kept by the Highway Depart-

ment, based on information supplied by local officials and periodic field inspection by State Highway personnel. The maintenance status of a road does not, however, necessarily describe its legal status, as explained below.

Discontinued Status. A town road may be discontinued in one of several ways. If a road is not maintained in suitable condition for travel for five years or more, it may revert to "primitive" or "discontinued" status. At the local level, a road may be formally discontinued by local town meeting act. Such closing may be "subject to gates and bars" and posting by signs releases the town from liability.

In other instances, a town may vote to abandon a road thereby giving up its right-of-way. In this case, title to the land in the road right-of-way reverts to the abutters.

Legal Status. There are many instances in which an abutter thinks he has sole use of an old road bed because it has not been maintained for a number of years. Conversely, a trail user may think that he has a public right to use the right-of-way because it is shown on a map somewhere. The only sure way to determine the legal status of a specific "discontinued" road is to research the town records.

There are cases in which the official records of a closing may be lost or destroyed. Under such circumstances, the right to use the road right-of-way by the abutter or the public may have to be determined in the courts.

POTENTIAL TRAIL CORRIDORS

Trails corridors are the most important links in a Statewide trail system for New Hampshire. Trail corridors are needed to provide public trail rights-of-way between major urban areas and outlying public recreational lands, and between major public land holdings managed as part of the Statewide trail system. The more important potential trail corridors identified during the course of this Study are described below and schematically located on the State map in Figure V-3.

The one trail corridor already in the preliminary planning stages would link Sunapee, Pillsbury, and Monadnock State Parks. This trail has been initially laid out for foot travel - hiking in the summer with possibilities for ski touring in the winter. The corridor would have to be widened in some locations and alternate routes provided to accommodate motorized trail use. The balance of the trail corridors recommended should be planned, designed, and managed to provide for optimum utilization of a rather limited land resource. In some cases, the portions of a trail corridor will have to serve foot travelers and motorized trail users, while side trails may be designated for specific uses.

The following trail corridors are cited as potential links in New Hampshire's Statewide Trail System. The intent of these recommendations is to indicate only the general location of the trails and the areas they would serve. Specific details on access and trail right-of-way location must be investigated as part of the trail planning and management process described in Chapter VI.

Urban Corridors

New Hampshire's Merrimack Valley population centers are served by two major State Parks - Bear Brook and Pawtuckaway, and two federal flood control reservoirs - Blackwater and Hopkinton-Everett. The 1000-acre Musquash Swamp area in Litchfield was one of the recommendations studied as the possible site of a State park to honor Alan B. Shepard of Derry. The urban corridors listed in Table V-1 are recommended guides to the general location of public trail rights-of-way which are potential links in the Statewide trail system.

TABLE V-1. URBAN TRAIL CORRIDOR POTENTIALS FOR NEW HAMPSHIRE

General Corridor Location	Potential
Concord-Hopkinton	To connect urban Concord with Hopkinton-Everett Reservoir; possible connector to Mast Yard State Forest in Hopkinton.
Concord-Allenstown	To link urban Concord with Bear Brook State Park; possible connectors to Concord City recreational area proposed for Concord Heights and Hoit Road Marsh (F&G).
Manchester-Allenstown	To link urban Manchester with Bear Brook State Park.
Manchester-Nashua	To link urban Manchester and Nashua.
Portsmouth-Nottingham	To link Portsmouth area to Pawtuckaway State Park; possible connector to Woodman State Forest in Deerfield and Northwood.
Keene-Chesterfield	To link Keene area with Pisgah State Park in Chesterfield; possible connector to Wantastiquet State Forest in Chesterfield and Hinsdale.
Keene	Links to Surry Mountain and Otter Brook Federal Control areas.

State Park Corridors

The trail corridors listed in Table V-2 would serve to link State Parks and State Forests together as integral parts of the Statewide Trail System. The parks and forests could serve as the location for major trail heads and trail user services. When planned and managed together, the State land holdings and their connecting corridors would serve as both a trail system and a continuous park system.

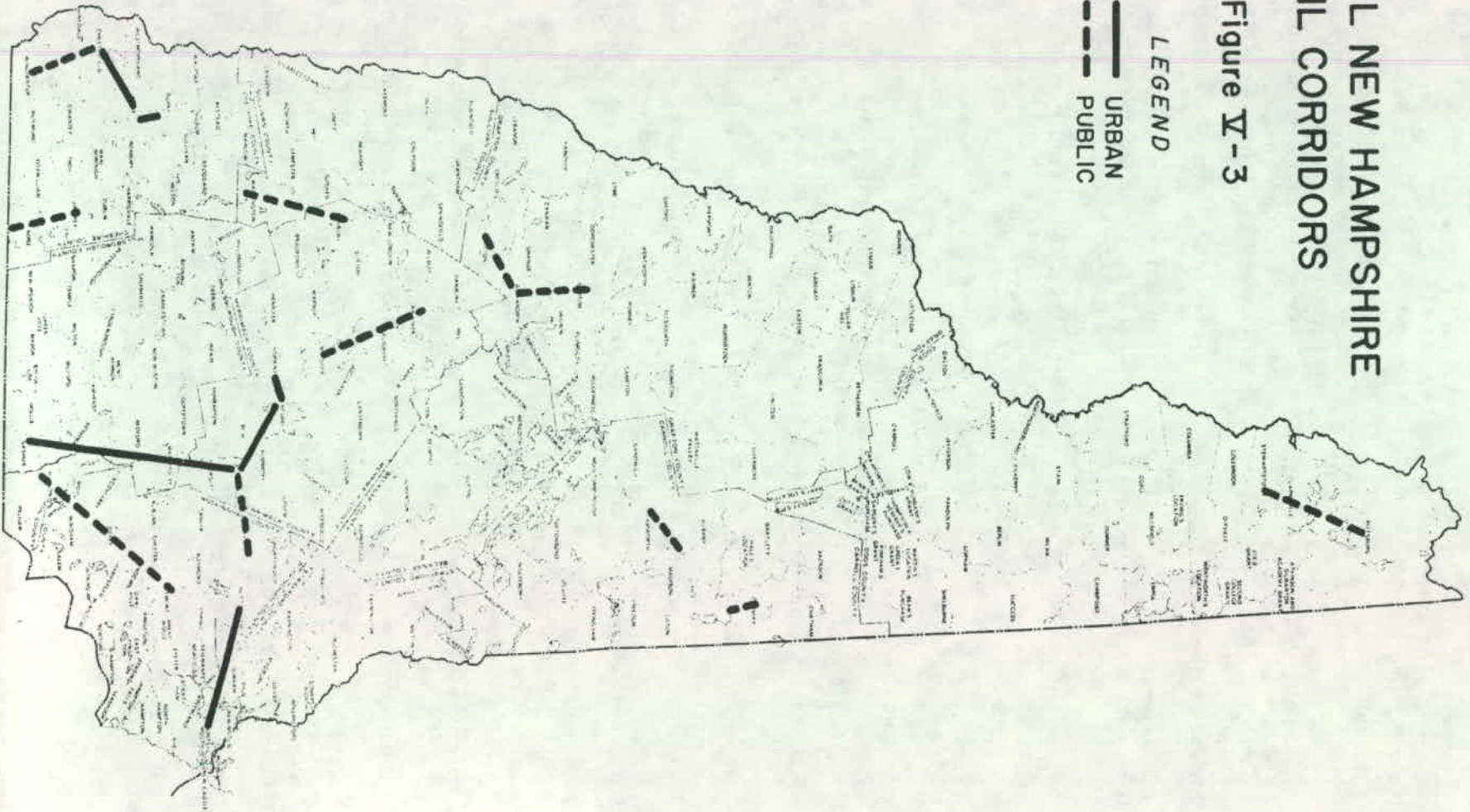
TABLE V-2. POTENTIAL STATE PARK TRAIL CORRIDORS FOR NEW HAMPSHIRE.

General Corridor Location	Public Lands to be Connected
Allenstown-Deerfield	Bear Brook and Pawtuckaway State Parks; possible link to Woodman State Forest in Deerfield and Northwood.
Newbury-Washington-Jaffrey-Rindge	Sunapee, Pillsbury, and Mt. Monadnock State Parks and Annett State Forest; possible connector to Casalis State Forest and McDowell flood control area in Peterborough.
Alexandria-Grafton-Groton	Cardigan Mountain, Province Road, Welton Falls, and Gile State Forests; possible connector to Mascoma State Forest in Canaan.
Pittsburg-Stewartstown	Connecticut Lakes, Coleman State Forest; possible connector to Dixville Notch State Park.
Tamworth	Hemenway State Forest, White Lake State Park; possible connector to Ossipee Lake State Park.
Conway	Conway Common Lands and Saco River B&M right-of-way.
Hudson-Derry-Fremont	State Trail Park along railroad right-of-way; connector to Ballard Mill State Forest.
Chesterfield-Winchester	Pisgah State Park, Wantastiquet State Forest; possible connector to Mt. Grace and Erving State Forests in Massachusetts, with further connector to Northfield Mountain trail system.
Webster-Salisbury-Andover	Blackwater Flood Control Reservoir and Kearsage.

POTENTIAL NEW HAMPSHIRE TRAIL CORRIDORS

Figure V-3

LEGEND
—— URBAN
- - - PUBLIC



CHAPTER VI
RECREATIONAL TRAILS MANAGEMENT
BACKGROUND

The State of New Hampshire owns some 100,000 acres of land administered by the Department of Resources and Economic Development, the Fish and Game Department, and the Water Resources Board. Of this land ownership, about 98,200 acres in some 160 parcels dispersed throughout the State are the key elements in the development of a statewide public outdoor recreational land use system. The designation, development, and management of a statewide trail system is an important key to increased public enjoyment of New Hampshire's natural resources.

Historically, New Hampshire's outdoor recreation planning for the use of public lands has focused on State Parks acquisition and development. Until the early 1960's, the State relied practically entirely on legislative appropriations and gifts of land and money from private organizations, such as the Society for the Protection of New Hampshire Forests. In 1961, the Legislature authorized a \$10 million bond issue, \$9 million of which was designated for development of the State Park System. With enactment of the Land and Water Conservation Fund Act in 1965, the states were able to take advantage of 50 percent matching funds for planning, acquiring and developing outdoor recreational resources.

Since New Hampshire's qualification for participation in the Land and Water Conservation Fund administered by the BOR (Bureau of Outdoor Recreation, U.S. Department of the Interior), the State has acquired 14,000 acres at a cost of \$1,773,925.00 and has spent \$3,305,680.00 on planning and development of eight State Park projects. It is interesting to note that some \$2,121,000 of the State's development funds have been expended on the two major State revenue producing ski areas - Cannon and Sunapee. At the local level, \$624,375 has been spent to acquire 787 acres in thirteen communities, and \$2,267,950 has been approved for eighteen local outdoor recreation projects.

As dramatic as those figures may appear, the 1972 **New Hampshire Outdoor Recreation Plan** indicates a need for 43,800 acres to fulfill year-round resident requirements, and this need is projected to grow to 76,500 acres by 1990. When non-resident requirements are considered, it is estimated that some 91,800 acres of recreational land are needed to serve residents and visitors in the 1970's, and 152,000 acres will be needed by 1990. Not all of the State's present public land holdings are geographically located for, or naturally suited to, a diversity of outdoor recreation needs. There is, however, great potential for developing many present public land holdings as the land base for an extensive outdoor recreation trail system. There are already networks of trails on many of these tracts, and the acreage, location, and terrain of many State lands lend themselves to a number of different trail uses. Such lands could provide sites for trail development, trail heads and stopovers serving trails to and through other areas, access to transportation and service areas, and the like.

NATIONAL FOREST MANAGEMENT

The selected use of State lands as parts of a trail system is a recommended public land management approach. At the federal level, for example, the recent draft guide to managing the National Forests in New England recommends that the National Forests be delineated into four "management areas," i.e., general, high density, dispersed, and solitude. Each of these management areas is then related to the six major uses of the forest resource - water, recreation, timber, wildlife, mining, and transportation. Although all six of these potential uses must be considered in relationship to one another, two categories of use, recreation, and transportation, are mentioned here because of their relationship to trail development and use.

Three levels of "recreation experience" are described to allocate forest resources to recreational purposes. Level #1 involves a high degree of basic skills, achievement, and opportunity for isolation with minimum controls. Level #2 involves some feeling of achievement, few controls in evidence, and some opportunity to socialize with others. Level #3 involves only moderate skills, a sense of security through controls and regimentation, and ample opportunity to socialize with others. Each of these experience levels is then related to the four forest management areas.

Typically, Management Area I - General contains the most productive timber sites managed for the production of high quality timber and to enhance diverse wildlife populations. The area would provide for normally dispersed recreation experiences often in close association with other forest uses. Logging roads would be constructed as required, and "off-road vehicle" use would be provided on designated roads and trails. This area, which would include major transportation routes and small auto access campgrounds as well as trails and shelters, would be most suitable for recreation experience Level 2.

Management Area II - High Density would emphasize opportunities for concentrated or high density recreational experiences. Timber harvesting would be adjusted for compatibility with recreation seasons and aesthetic values. Indigenous wildlife would be managed to emphasize nonconsumptive uses, such as photography and bird watching. Facilities normally accessible by auto traffic for moderate to high user ex-

perience would be provided in concentrated locations emphasizing experience Level #3. Limited "off-road vehicle" use would be provided on designated trails.

Dispersed recreation opportunities offering a near-natural visitor experience would be provided in Management Area III - Dispersed, with emphasis on experience Level #2. A low degree of user convenience would be provided in rustic facilities. Timber harvesting would be adjusted to accommodate recreation seasons. Specified roads and trails may be designated for motorized use, and designated trails may be provided for limited ORV use.

Opportunities for a natural recreation experience with a high degree of solitude, level #1, would be emphasized in Management Area IV - Solitude. Selection criteria should include large blocks of undisturbed land to provide solitude. Minimum facilities would be provided emphasizing low density dispersed opportunities accommodated by foot travel, and experienced users in groups of less than 10 would be encouraged. No roads would be permitted, no motorized land transportation would be allowed, and trails would be provided for foot travel. A permit system would probably be needed for use of wilderness areas.

STATE LAND MANAGEMENT

The federal public land management approach outlined above provides a valid general framework for consideration as a joint approach by the State's natural resource agencies. Allocation of land areas to various management areas could provide the general framework through which more specific procedures and policies for a trails system could be developed. For example, lands managed primarily for small group foot travel and solitude would not include trails for any motorized use. On the other hand, lands emphasizing concentrated recreation opportunities could include roads for motorized use and trails designated for OHRV use. Two management tools already being developed by the State natural resource agencies - a Cooperative Management Program and a Forest Management Guide - should provide the basis for this approach.

Cooperative Management Program

A Cooperative Management Program for lands administered by the State natural resources is being developed by D.R.E.D. and Fish and Game. According to D.R.E.D., the Program is administered by a three-man policy-making Executive Committee composed of the Directors of Parks and Resources (Forestry) within D.R.E.D. and Fish and Game. A seven-man working committee of agency staff is responsible for program review, development of recommendations, and implementation and evaluation of land management practices.

Adopted in May 1972, the Program seeks to "identify, apply, and evaluate those land-use policies, plans, and practices which appear to offer the best opportunities for combining resource conservation or improvement with public use and enjoyment of that resource." The term multiple use is defined as "... the management of a property's natural resources so that they are utilized in the combination which best meets the present and future needs of the public, without impairment to the environment, and not necessarily the combination of uses which may provide the greatest dollar return." Further "Public use of the lands (administered) under this program shall be regulated in such manner as will assure conformity with all restrictions imposed by the application of federal funds to the acquisition, development, and management of said lands."

Forest Management Guide

In April 1971, D.R.E.D.'s Resources (Forestry) Division approved a **Forest Management Guide** for inventory and management work in State forests. As of early 1973, some 2,600 acres of forest land had been classified according to six general area definitions. In each resource area, the title use is to be the dominant use, but other uses may be permitted under situations and limitations which do not retract from the area's dominant use. Following is a description of the six management areas.

Scenic Areas. Scenic areas are those in which esthetic considerations come first. These areas are primarily adjacent to public travel routes such as roads, trails and navigable streams. Mountain tops and upper slopes are also included because they are visible from greater distances. These areas will be managed for the preservation and improvement of their esthetic qualities. In most instances the road side and trail side strips will be left undisturbed. However, limited timber cutting which will improve the esthetic qualities will be permitted, for example: (a) removal of dead or diseased trees, (b) single tree or group selected cutting which will give variety to the scene by creating irregular margins and giving more variety in plant size and species, and (c) small clear cuts to open vistas.

Water Resource Areas. Water resource areas consist of strips along the shores of streams, ponds and marshes which vary in width with the size of the water body and the slope and soil type on the area. These areas will be managed to preserve and/or improve water quality by (a) providing shade to keep water temperatures low, (b) protecting stream banks from erosion, (c) providing a buffer zone for retention of soil sediments which might otherwise enter the stream, and (d) providing unobstructed access to water bodies for fishermen and hikers.

Natural Reserve Areas. Natural reserve areas are those which contain (a) unique geological features and/or (b) unique plant and animal communities which will not change their composition in a relatively short time in the natural course of events. The only projects permitted in these areas will be construction of basic access facilities such as trails, foot bridges and signs to guide and minimize human impact on the area.

Wildlife Area. Wildlife areas are those which include key sources of wildlife food and cover. This will include water areas for waterfowl and aquatic animals. Management practices in wildlife areas will be designed to maintain or establish preferred food and/or cover plants. This objective may be accomplished by (a) modification of timber sale marking practices such as favoring mast and den trees, (b) dispersal of sale areas and adjustment of sale schedules to provide the desired resources at the optimum place and time, and (c) non-commercial projects specifically designed to improve wildlife habitat. The management objective in these areas will be the maintenance of a variety of wildlife at optimum levels of population. Access to State forests for hunting and fishing will not be restricted except in times of unusual fire danger.

Historical Areas. Historical areas are those which contain man made features such as old buildings, cemeteries, mines and roads of archeological or historical interest. These areas will be managed to preserve the historical features. Basic access will be provided as in the natural areas. Clearing may be required to prevent deterioration of the site. Signs identifying the features may be erected.

Timber Management Areas. Timber management areas will consist of all lands not included in the above categories. Timber management areas will be managed for a sustained yield of timber products. Silvicultural practices applicable to a given standard will be used, but the system will be modified if its application will result in serious impairment of other resources. Marking practices will favor mixed stands. Slash logging will be required on timber sales in order to reduce fire hazard and improve scenic quality. Logging operations will be conducted in a manner which will protect all resources. Areas with steep slopes and thin soils not suited to a sustained yield of timber crops will not be logged. Timber stand improvement work will be restricted to the better sites. Approved biodegradable herbicides may be used in target type application to selected stems in the timber management areas.

It would appear that D.R.E.D.'s Cooperative Management Program with Fish and Game provides ample basis for a joint approach to trails development on lands held by the two agencies. Eventually, the Water Resources Board should also be involved, when tracts held by the agency are brought into the trail system. It would also appear that D.R.E.D.'s **Forest Management Guide** provides a framework for trails development on State-held lands.

STATE TRAILS PROGRAM

It is important that development of a statewide trails program on public lands be consistent with both the management goals established for the entire system and for each individual land unit. After a management program has been initiated according to the broad management goals established, a trails development program can then be fitted to provide maximum user opportunities consistent with the land base. In brief, a trails system should be part of, and fit into, the management plan for both the total public land system (State parks and forests) and the individual land unit (a particular park or forest). Some basic guidelines for developing a recreational trails program are considered below.

Relationship to Management Levels

The trails program for each land unit should be directly related to the management levels established for that unit. For example, those areas (either an entire unit or within a unit) designated as Natural Reserves might accommodate foot trails only. Access roads for motorized use and OHRV trails in other areas should be carefully planned to minimize environmental damage. The relationship between the trails program and public land management planning should be as consistent as possible for all units in the system. Such consistency would help the management process by minimizing exceptions, and would increase user enjoyment, as the user would then know what to expect.

Relationship to User Groups

To the maximum extent possible, the planning and development of new trails, and the further development of existing trails, should be done in close coordination with trail user groups. User involvement in trail planning, development, maintenance, and self-regulation encourages user responsibility. It has been suggested that official State involvement be limited as much as possible to: (1) setting of basic standards and criteria related to land management levels and the environment, rather than user satisfaction; (2) inspection with final approval based on the land management and environmental criteria; and (3) periodic review by State officials and user group representatives.

When a trail is developed and maintained by a user group, that group should have priority for use of the trail. User conflicts may be minimized at the management level by accommodation of only those trail uses which fit into the management guidelines for the area involved. Conflicts at the user level may be minimized by cooperative agreements between user groups. There may be, for example, opportunities for summer

trailbiking on trails developed for winter use by snowmobilers. If such seasonal multiple use is contemplated, it should be planned beforehand by the user groups involved, and cooperative arrangements worked out for both trails development and maintenance.

Multiple Use of Trails

In many instances, there will be opportunities for use of a trail, or portions of a trail, by more than one user group during the same time of year. These uses may be grouped into three general categories - access, co-existence, and overlap. These categories are described below, and schematically illustrated in Figure VI-1 following.

Access. Proper access to a trail, or trail network, is to many the most important element of a trail system. Ideally, access at the trail head should include vehicular parking, adequate for autos with trailers (for horse trailers and snowmobile trailers), a comfort station, and facilities for waste disposal. In many instances, access facilities could be developed on land now already in public ownership. Because of the development costs, such facilities should be designated for use by all potential trail user groups.

Co-Existence. For larger trail networks, the major access trails should be designed for use by more than one group. For example, the first section of trail from a trail head into a given area may have to accommodate OHRVs, horses and pedestrians. These should be marked accordingly, so that the trail user will know what to expect.

Overlap. Again in larger trail networks (such as in major State parks or forests) the terrain and trail design may require that certain segments of trail overlap. For example, an OHRV trail may overlap a pedestrian trail for a certain distance to cross a ravine or circle a swampy area. Such situations should also be clearly marked, again so that the trail user will know what to expect.

It is expected that the New Hampshire portion of the Appalachian Trail is the only trail for which pedestrian use will be the sole designation. Accordingly, multiple use criteria and designation will not have to be considered for this trail.

STATE RESPONSIBILITY

A statewide public recreational trails system should be primarily a responsibility of New Hampshire State government. The White Mountain National Forest trail system is considered as a separate trails management unit, but with realization of the potential for cooperative management of linking trails. Trails developed and managed by local levels of government may, under some circumstances, be brought into the State system under cooperative management agreements. Similarly, trails developed by private user groups may be brought into the local or State system.

State-level responsibility for a trail system is critical for the following: (1) land acquisition; (2) public land use planning; (3) trails designation; (4) trails management; and (5) funding.

Land Acquisition

Because of the substantial acreage now in State public ownership, initial State priority should be directed to two types of acquisition - access (or trail heads), and trail corridors.

Access. There are public land units in New Hampshire to which access is limited due to ownership or previous land use patterns. Where changing the land use (e.g. moving a road) cannot provide access, consideration should be given to acquiring that land which is required for an adequate trail head.

For such acquisitions, priority should be given to purchases which have the greatest potential for increased public use and benefit. For example, ten acres costing \$20,000 providing better access to 600 acres of public lands might have a higher expected public benefit than two acres at \$5,000 for access to 50 acres.

In some cases, access to public lands may be improved by obtaining rights-of-way through abutting land owners. In some instances, however, abutting land owners may be agreeable to granting rights-of-way for only one or two specific trail uses. Conditional rights-of-way may be adequate in many cases, however, and should be examined as alternatives to outright acquisition where possible.

Trails Corridors. The second priority for State acquisition or easement is for trails corridors. A State Trail Corridor is defined as a trail route identified for specific uses which will: (1) connect urban centers for public trail systems or designation points; (2) provide a significant opportunity for particular trail use; or (3) establish a much needed trail in an outstanding recreational and/or scenic area.

Corridors would serve a dual purpose - a corridor is a trail in itself, and it also serves as a link between more extensive trail systems on public lands. An example of this type of land use is the trail being developed between Sunapee and Pillsbury State Parks. Another possibility is a trail corridor between Carigan Mountain (5,000 acres) and Province Road (1,000 acres) State Forest.

Public Land Use Planning

Generalized public land use planning is the second area of state-level responsibility. For many State

parcs, trails planning has already been considered as part of the long-range plan for park development. An example of this is the bridle path network which was included in the original master plan for Pawtuckaway State Park. As State Parks are generally planned for various levels of recreational land use, planning for the layout and development of park trail systems should be relatively simple.

Trails planning on State forests may require more effort, as many trails on these lands are vestiges of previous land uses. In many cases, old logging roads and fire and maintenance roads may be used as the basis for a formal trail system on State forest lands. Many of these roads are now being used informally by various trail-using groups.

Trails planning on Fish and Game lands will have to give careful consideration to the various fish and wildlife habitats for which the land was originally acquired. Department officials have indicated that foot trails and limited OHRV trails could be developed on more than 60 tracts of land originally acquired for wildlife management purposes.

State-level trails planning should be based on a well thought-out policy and public land-use management approach. Starting with optimum public use of the basic land resource, trails planning should consider minimizing environmental impact and user conflicts. Both general trail routing and detailed trail design should consider the needs of various trail-using groups. Information from the **Trail Needs Survey** will be helpful in gaining a general working knowledge of some of the factors to be considered. In addition, the trails planning process should include direct participation by trail using organizations.

Every consideration must be given to sound ecological practices when planning a trail. Such factors as soil compaction, soil erosion, and potential damage to fragile ecosystems must be recognized. The many possible trail layouts through a given area must be recognized, giving consideration to the physical characteristics of the land - area (size), watercourses, terrain, slope, vegetation, existing roads or trails, and the like.

As it is impossible to determine the most suitable trail routing over a given piece of land without study, a preliminary survey of any new trail proposed by a user group should be taken with State personnel to determine the best routing. The actual trail should be laid out only under the guidance of experienced State personnel or trail user representatives.

STATE TRAILS LEGISLATION

Statewide Trails System

As a result of 1973 Legislative action, three new State statutes specifically provide for various aspects of trails development, management, and use. Chapter 593, the New Hampshire Statewide Trails System Act, gives DRED the authority to protect and develop a statewide trail system. The trails are to be primarily recreational, and may include use for off-highway recreational vehicles (OHRV's). Trails may be zoned (or designated) if found necessary, and mechanized use may be restricted if found disruptive to other State trails purposes. Private landowners granting permission for trail rights-of-way are protected from liability for trail use. The final version of the original bill was amended to include provision for a New Hampshire Statewide Trail System Advisory Committee to be appointed by the Commissioner of the Department of Resources and Economic Development.

D.R.E.D., then, will have responsibility for laying out trails on both public and private lands. The statute specifically provides, however, that no land condemned or taken by eminent domain after September 4, 1973 (the effective date of the new law) shall be included in the trail system, except for abandoned railroad beds.

Bicycle Routes

Chapter 569, Laws of 1973, provides for designation of certain highways as bicycle trails and appropriates \$3,000 to DRED for designation and mapping. Under the statute, the Director of Community Recreation is authorized to designate certain class I, II, III, and IV highways as bicycle trails. Such designation is subject to the final approval of the Commissioners of both DRED and DPW & H.

The Office of Community Recreation is also responsible for the preparation of maps and other literature describing the bicycle trails. The Highway Department is responsible for the location, erection and maintenance of standard signs to mark the designated routes. The \$3,000 appropriation may be utilized for the maps and literature, and the costs of signing the routes will come from the Highway Fund.

OHRV Statute

Chapter 560 is a lengthy, detailed statute relating to the registration and operation of OHRVs - Off-Highway Recreational Vehicles. The law establishes a Bureau of Off-Highway Recreational Vehicles in DRED, with responsibility for:

- Coordination between DRED, Fish and Game, and the Safety Department on administration of the law;

- Administration of funds available for trails acquisition, development, and maintenance;
 - Coordination of efforts to obtain easements and rights-of-way, and establish trails and trails facilities; and
 - Initiation, or participation in, a continuing study of the environmental effects of OHRV operation.
- The estimated revenue from OHRV fees is allocated to three State agencies as follows:

	FY 74	FY 75
DRED-OHRV Bureau		
Office	\$ 80,462	\$ 81,817
Equipment	41,990	29,931
Trails Development	61,776	102,074
Total for DRED	\$184,228	\$213,822
Fish and Game Department - enforcement	190,064	190,064
Safety - administration	73,924	43,924

STATEWIDE IMPLICATIONS

Under this and previous State enabling legislation, the Department of Resources and Economic Development is obviously the lead agency with respect to trails acquisition and development. The Statewide Trails Act authorizes DRED to use "... any funds which may become available to carry out the provisions of this chapter . . ." including BOR grants-in-aid and other Federal funds. This Act does not, however, appropriate any State funds for trail purposes. The implication is that State funds appropriated in the OHRV Act and in the Capital Budget may be used as match for federal matching funds. DRED, then, is faced with a major responsibility for developing a statewide trail system under legislation which is rather general in some areas and extremely prohibitive in others.

As noted previously, management levels and land use criteria should be established before designating public land areas for specific trail uses. This designation may apply to existing trails, or to areas available for future trails development. Close cooperation with local governments as well as trail user groups is important to the designation process. For example, it is discouraging to a local government to have to absorb the outside pressures of trail use (e.g., traffic, parking, trash, and the like) without some help in advance planning and financing. It is also discouraging for one trail user group to find themselves being restricted from an area they customarily use because of overuse by another group.

Total management of a trails system has two major critical elements - the public land managers and the trail users. To assure the best trail system on lands administered by DRED and other State agencies, interagency coordination could be affected through the cooperative management program for lands administered by the State natural resources agencies, now being developed as an administrative technique by DRED and Fish and Game. From the trail users side, the Statewide Trail System Advisory Committee will play an important role in assuring that the trail users needs are equitably considered in the management process.

FUNDING

Land and Water Conservation Fund

The major source of funds for trails development on public lands and the acquisition and development of trails corridors is the Land and Water Conservation Fund (L&WCF) administered by the Bureau of Outdoor Recreation (BOR), U.S. Department of the Interior. The National Trails System Act stipulates that

"The Secretary of the Interior is directed to encourage States to consider, in their comprehensive statewide outdoor recreation plans and proposals for financial assistance for State and local projects submitted pursuant to the Land and Water Conservation Fund Act, needs and opportunities for establishing park, forest, and other recreation trails on lands owned or administered by States, and recreation trails on lands in or near urban areas. He is further directed, in accordance with the authority contained in the Act of May 28, 1963 (77 Stat. 49), to encourage States, political subdivisions, and private interests, including nonprofit organizations, to establish such trails."

L&WCF grants are available to state agencies and local governments on a 50 percent matching basis. The grants may be used for acquiring and developing lands and waters for public outdoor recreation purposes. State and local matching funds may be in the form of appropriations, or gifts of land or cash. The cost of acquiring public outdoor recreation areas will be matched upon the "fair market value" as determined by appraisal, or the actual cost, whichever is less. The acquisition of land and water, or interests therein, may be accomplished through purchase, eminent domain, gift, loan, easements, or other means.

Through Fiscal 1972, the State of New Hampshire and its political subdivisions utilized almost \$4 million from the L&WC Fund, for a total approved project cost of nearly \$8 million. The 1972 State allocation was \$2,404,650, and the 1973 State allocation was \$1,715,000, for a total of \$4,119,650. Of this amount, only some \$400,000 has been committed or requested, leaving a balance of some \$3.7 million from 1972 and 1973 allocations available for expenditure with State and local matching funds. It would appear that New Hampshire has ample opportunity for obtaining L&WC Fund grants for trails acquisition and development providing the State and/or its subdivisions appropriate or otherwise secure the 50 percent matching funds required.

As noted earlier in this chapter, the 1973 Legislature has appropriated \$400,000 to the Department of Resources and Economic Development for the 1974-75 biennium for: coordination of the Statewide Trails System program; administration of funds available for trails acquisition, development, and maintenance; purchase of trail grooming equipment; and land acquisition, easements, options, and bridges. The \$163,850 biennial appropriation for the latter category - essentially trails acquisition and development - is specifically footnoted as follows:

"This appropriation shall not lapse and shall be matched with any other available federal BOR funds and shall not be transferred or used for any other purpose."

Trail equipment expenditures (\$71,921 for the biennium) may not be eligible for federal matching funds. It is possible, however, that some portion of the \$80,000 annual appropriation for DRED's OHRV Bureau (coordination, administration, and environmental studies, etc.) may be utilized as contributed services toward matching funds for more detailed trail planning as suggested in this and previous chapters. Such Statewide trail planning should be conducted as part of New Hampshire's comprehensive outdoor recreation planning process, for which L&WC Fund matching grants are available.

Appalachian Trail

The Appalachian Trail was designated as a "National Scenic Trail" upon passage of the **National Trails System Act** in 1968. This federal statute encouraged the States to protect their respective segments of the Trail not under federal jurisdiction through acquisition and/or agreements with government agencies and private landowners. The Act further stipulated that if the States failed to accomplish this within two years after notice of Trail right-of-way selection, the federal government may take the action necessary to protect the Trail.

Distinct from the Trails funds appropriated in the OHRV Statute, the Department of Resources and Economic Development included \$40,000 in their Capital Expenditures budget request to the 1973 Legislature for trails acquisition, easements, and options, "... including the Appalachian Trail." This State appropriation would have been available for an additional \$40,000 from the L&WCF, but the House/Senate Conference Committee deleted the request from the budget, which was passed by both the House and Senate, but vetoed by the Governor.

Railroad Rights-of-Way

In recognition of the need to protect the public interest in railroad rights-of-way in New Hampshire, the 1973 Department of Resources and Economic Development Capital Budget included a request of \$1,000,000 for the purchase of railroad rights-of-way with or without trackage and improvements. In previous action, the Bureau of Outdoor Recreation had approved the use of L&WCF 50 percent matching grants for the acquisition of abandoned railroad beds by governmental agencies for outdoor recreation purposes. Some sections of the Boston and Maine abandonments in New Hampshire have a high potential for trails, and a portion of the one million dollars could have been used for securing trail rights-of-way. This request was also lost however, with the veto of the State's Capital Budget.

Bicycle Trails

The Federal Highway Act of 1973 provides for appropriations from the Highway Trust Fund for the construction of both bikeways and pedestrian walkways in conjunction with the federally-funded highway projects. The Act provides for 70 percent federal matching funds for highway projects, which may now include bike trails with certain limitations as described in Section V.

Local Trails

Although the major part of the Statewide Trail System will probably be developed on public lands, local governments should be encouraged to initiate and/or expand local trail systems for public use. As with the State, most local trail development has been coincidental to other activities. The State, however, will have specific revenues for trails purposes, and considerable acreage for trails development. There is need, then, to expand local trails activities in conjunction with other community programs. Such use of these monies is not possible under existing State law. Such funds could then be used by the community as their 50 percent matching share of L&WCF trails projects.

PERSPECTIVE

From the findings of this study, there appear to be ample opportunities for the development of both State and local recreational trails under applicable State and federal legislation and local land use regulations. Further, it appears that there are sufficient federal grant programs that could provide the financial base for a comprehensive Statewide Trail System. The major restriction appears to be the lack of State appropriations and local matching funds.

Now that the Congress has recognized the need for broadening the scope and intent of federal highway assistance programs to include bike trails, the New Hampshire Legislature should consider the serious, specific, and continuous funding of a Statewide Trails System. New Hampshire has the land resources, the federal government has the financial resources and many public bodies and private groups at the State and local level have expressed serious interest in trails as both an important public land use and a recreational opportunity. At the present time, the State has enabling legislation adequate to initiate a Statewide Trail System, and this New Hampshire TRAILS STUDY REPORT may be used as a guide to developing the System. But the concentrated efforts of trail users and concerned public officials at all levels will be needed to gain the public support - i.e., political support - needed to secure the funding necessary for the Statewide Trail System proposed in this report.

APPENDIX A

**TRAILS
LEGISLATION**

APPENDIX A-1.

NEW HAMPSHIRE APPALACHIAN TRAILS STATUTE

Chapter 216-D, Revised Statutes Annotated (as inserted by Chapter 279, N.H. Laws of 1971).

AN ACT TO PROTECT THE APPALACHIAN NATIONAL SCENIC
TRAIL WITHIN THE STATE OF NEW HAMPSHIRE

"216-D:1 Declaration of Policy. It is declared to be the policy of the state of New Hampshire that the New Hampshire portion of the Appalachian National Scenic Trail be preserved in its natural character as proposed by Public Law 90-543, October 2, 1968.

"216-D:2 Appalachian Trail. The commissioner of the department of resources and economic development may acquire by purchase, gift, eminent domain or otherwise such land, including rights of way and easements for the purpose of protecting or enhancing scenic beauty, as he may deem necessary to establish, protect and develop a trail across the state between the Connecticut river and the Maine state line to be known as the Appalachian Trail, and he may provide shelters and other facilities thereon, provided however that the power of eminent domain shall not be utilized to acquire more than twenty-five acres in any mile of trail. Any department or agency of the state, or any political subdivision, district or authority may transfer to the department land or rights in land for said purposes on such terms and conditions as may be agreed upon, or may enter into an agreement with the commissioner providing for the establishment and protection of said trail. The Appalachian Trail shall be held, developed and administered under this chapter primarily as a footpath and the natural scenic beauty thereof shall be preserved insofar as is practicable, provided however that the commissioner may permit other uses of the trail and land acquired hereunder, by the owner of adjoining land or others, in such a manner and at such seasons as will not substantially interfere with the primary use of the trail. Nothing in this section shall be construed to limit the right of the public to pass over existing public roads which may be or become part of the trail, nor prevent the department from performing such work as is necessary for the purpose of forest fire prevention and control, insect pest and disease control and the removal of damage caused by natural disaster.

"216-D:3 Powers of Commissioner. The commissioner may grant temporary or permanent rights of way across lands acquired under this chapter under such terms and conditions as he may deem advisable. The commissioner may enter into cooperative agreements with agencies of the federal government or with private organizations to provide for the maintenance of the trail. No person who has granted a right of way for said trail across his land, or his successor in title, shall be liable to any user of the trail for injuries suffered on said portion of the trail unless the same are caused by his willful or wanton misconduct.

"216-D:4 Use of Funds. The department of resources and economic development is hereby authorized to use any funds which may become available to carry out this chapter. Any available funds from the United States land and water conservation fund or other federal assistance programs may also be used to accomplish this purpose.

"279:2 Effective Date. This act shall take effect sixty days after its passage.

"Approved June 23, 1971.

"Effective Date August 22, 1971."

APPENDIX A-2

NEW HAMPSHIRE TRAILS LEGISLATURE, 1973 REGULAR SESSION

CHAPTER 593 Relative to A State-wide Trail System

593:1 New Chapter. Amend RSA by inserting after chapter 216-E the following new chapter:

Chapter 216-F

216-F:1 Acquiring A Statewide Trail System.

I. The commissioner of the department of resources and economic development may acquire by purchase, gift or devise any land, including but not limited to abandoned railroad and other public utility rights of way, private property, and easements over private property for the purpose of protecting or developing a statewide trail system.

II. Any expenditure for buildings or shelters along any of the acquired trail system, exceeding the sum of five hundred dollars, shall be only expended on state owned lands following the normal budgetary procedures for any capital improvement.

III. Any department or agency of the state, or any political subdivision, district or authority may transfer to the department, land or rights in land for said purposes on such terms and conditions as may be agreed upon, or may enter into an agreement with the commissioner providing for the establishment and protection of said trail system. Provided, however, that no land except abandoned railroad beds, acquired

after the effective date of this chapter by the state or any agency or political subdivision thereof through the exercise of the powers of condemnation or eminent domain shall be included in such trail system.

216-F:2 Use of Statewide Trail System.

I. The trails within the system shall be held, developed, and administered under this chapter primarily as recreational trails for hiking, nature walks, bird watching, horseback riding, bicycling, ski touring, snowshoeing and off highway recreational vehicles and the natural scenic beauty thereof shall be preserved insofar as is practical; provided, however, that the commissioner may permit uses of trails and land acquired hereunder, by the owner of adjoining land or others, in such a manner and at such seasons as will not substantially interfere with the primary use of the trails.

II. Nothing in this section shall be construed to limit the right of the public to pass over existing public roads which may be or become part of the trail system, deny any owner access to his land, or prevent the department from performing such work as is necessary for the purpose of forest fire prevention and control, insect pest and disease control and the removal of damage caused by any natural acts.

III. The commissioner is authorized to zone and restrict use of any section of the trails after consultation with the director of the division of parks, the director of the division of resources development, the director of the department of fish and game, and such other local and state officials as he shall determine, who may be able to assist him in determining appropriate public uses for such trails. A restriction on the use of any type of a mechanized means of transportation on portions of the trail shall be imposed by the commissioner where, in his opinion, it would be most disruptive for the other stated principal trail uses.

216-F:3 Powers of Commissioner.

Upon recommendation of the commissioner, the governor and council may grant temporary or permanent rights of way across lands acquired under this chapter under such terms and conditions as may be advisable. The commissioner may enter into cooperative agreements with agencies of the federal government or with private organizations to provide for the maintenance of the trail system. No person who has granted a right of way for a trail across his land, or his successor in title, shall be liable to any user of the trail for injuries suffered on said portion of the trail unless the same are caused by the wilful or wanton misconduct of the grantor or such successor in title, as the case may be.

216-F:4 Use of Funds.

The department of resources and economic development is hereby authorized to use any funds which may become available to carry out the provisions of this chapter. Any available funds from the United States land and water conservation fund or other federal assistance programs may also be used to accomplish the provisions of this chapter.

216-F:5 Advisory Committee.

The commissioner shall appoint a New Hampshire statewide trail system advisory committee, whose members shall equally represent the different trail interests involved and the general public, for the purposes of advising him on matters related to the New Hampshire statewide trail system.

593:2 Effective Date. This act shall take effect sixty days after its passage.

APPROVED July 6, 1973

EFFECTIVE DATE September 4, 1973

APPENDIX A-3.

NEW HAMPSHIRE BICYCLE TRAILS LEGISLATION

Chapter 569. New Hampshire Laws of 1973

An Act to designate certain highways as bicycle trails and making an appropriation therefore.

569:1 Bicycle Trails. Amend RSA 12-B by inserting after section 3 the following new sections:

12-B:4 Highway Bicycle Trails. The director of community recreation is authorized to designate with the approval of the commissioner of public works and highways and the commissioner of resources and economic development certain Class I, II, III, and IV highways as appropriate bicycle trails. He shall consult with the commissioner of public works and highways or his designate and with such other state and local groups as he deems appropriate in designating such highway bicycle trails.

12-B:5 Trail Map. The director of community recreation shall prepare and print a map and other literature which will describe the bicycle trails designated pursuant to the provisions of RSA 12-B:4 and will provide other information of use to bicyclers.

569:2 Highway Department. Amend RSA 231 by inserting after section 8-a the following new section:

231:9 Bicycle Highways. The department of public works and highways shall design, locate, and erect

suitable signs to mark the bicycle trails established pursuant to the provisions of RSA 12-B:4 along Class I, II, III, and IV highways so designated as bicycle trails.

569:3 Appropriation. The sum of three thousand dollars is hereby appropriated for the biennium ending June 30, 1975 to carry out the purposes of this act. The director of community recreation of the department of resources and economic development with the approval of the commissioner of resources and economic development shall direct the expenditure of the sum hereby appropriated. The governor is authorized to draw his warrant for said sum out of any money in the treasury not otherwise appropriated.

569:4 Effective Date. This act shall take effect July 1, 1973.

APPROVED: July 5, 1973

EFFECTIVE DATE: July 1, 1973

APPENDIX A-4.

NEW HAMPSHIRE OFF-HIGHWAY RECREATIONAL VEHICLE - OHRV - STATUTE.

Selected Excerpts from Chapter 269-C, New Hampshire Revised Statutes Annotated (as inserted by Chapter 560, New Hampshire Laws of 1973, Regular Session).

DEFINITIONS

"**Off-Highway Recreational Vehicle**' means any mechanically propelled vehicle used for pleasure or recreational purposes running on rubber tires, belts, cleats, tracks, skis or cushion of air and dependent on the ground or surface for travel, or other unimproved terrain whether covered by ice or snow or not, where the operator sits in or on the vehicle. All legally registered motorized vehicles when used for off-highway recreational purposes shall fall within the meaning of this definition. For purposes of this chapter 'off-highway recreational vehicle' shall be abbreviated as OHRV."

"**Public Way**' means any public highway, street, sidewalk, avenue, alley, park or parkway, or any way that is funded by state, city, town, county, or the federal government, or laid out by statute, or any parking lots open for use by the public or vehicular traffic, or any frozen surface of a public body of water."

"**Public Water**' means any public body of water as defined by RSA 271:20 and RSA 271:21 which has been frozen over and is sufficient to hold any person or vehicle, whatsoever. Such public waters shall be deemed a public way and any violation shall be treated as if it took place on land."

"**Mini-cycle**' or 'motor driven cycle' means every motorcycle which meets any of the following criteria: (a) the wheel rim is less than a ten-inch wheel rim size (measure rim only, not tire); (b) the wheel base is less than forty-inches (to be measured from center of hub to center of hub); (c) the engine is less than forty-five cubic centimeters; (d) the seat is less than twenty-five inches high (height to be measured from the ground to the lowest point on the top of the seat cushion without a rider)."

"**Snow traveling vehicle**' means any vehicle propelled by mechanical power that is designed to travel over ice or snow supported in part by skis, belts or cleats, or low pressure tires."

"**Trail-cycle**' means any motor driven two or three wheel vehicle on which there is a saddle or seat for the operator and/or passenger and the motor of which is over five horsepower and the distance between axles or hubs is in excess of forty-five inches and the wheels of which are over fourteen inches in diameter, but excluding the motorcycle that is registered and has passed inspection for highway use."

OHRV BUREAU

"269-C:2 Bureau, Off-Highway Recreational Vehicles. There shall be established in the department of resources and economic development a bureau of off-highway recreational vehicles.

"269-C:3 Bureau Responsibilities.

"I. The bureau shall have the responsibility to provide coordination between the department of resources and economic development, the fish and game department, and the department of safety, with respect to matters pertaining to OHRVs.

"II. In addition, this bureau shall administer the funds provided the department of resources and economic development for the OHRV program; act as liaison between landowners and OHRV users; work with organized clubs in the support of the OHRV sport; supervise the production of publications produced by the department of resources and economic development relating to regulations and information on trails; maintain up-to-date information and data relative to new OHRV machinery, equipment, national standards and safety; and assist where required in any training programs that may be established.

"III. The bureau shall be further responsible for coordinating efforts in obtaining easements and rights of ways; and in establishing trails and trail facilities; and any other similarly related tasks that may be required as a responsibility of the department of resources and economic development in relation to OHRVs.

"IV. The bureau shall also have the responsibility to make or participate in a continuing study of the effect that OHRV operation has on the environment. If other state agencies are involved in an overall study of this nature, the bureau shall cooperate with such agencies, and maintain a record of all findings that pertain to OHRVs."

OHRV OPERATION

"269-C:6 Operation of all OHRVs.

"I. It is unlawful to operate any OHRV during the period from one-half hour after sunset to one-half hour before sunrise without displaying at least one lighted headlight and one lighted taillight.

"II. No person shall operate an OHRV, other than a snow traveling vehicle, upon any portion of the right of way of any public way except as hereinafter provided.

"III. It is unlawful to operate any OHRV except at a reasonable and prudent speed for the existing conditions.

"IV. It is unlawful to operate any OHRV so as to endanger any person or damage any property.

"V. When meeting, the operators of OHRVs shall reasonably turn to the right and reduce speed to avoid collision.

"VI. No person shall operate an OHRV within the limits of any railroad right-of-way where the rails are still intact or upon any airport runway or landing field, cemeteries, except in an emergency pursuant to the provisions of RSA 269-C:7, V."

"269-C:24

"VII. Any person operating an OHRV shall yield the right of way to any person on foot, skis, snowshoes or other mode of travel on foot, providing, however, that persons traveling on foot do not unreasonably obstruct or delay OHRVs on the trail.

"VIII. No person shall operate an OHRV within fifty feet of any occupied dwelling except for purposes of ingress or egress from same. Any city or town may alter the distance specified in this paragraph by municipal by-law or ordinance.

"IX. The operation of an OHRV is limited to a height of four thousand feet above sea level, except where there are existing roads and trails as designated by the bureau of OHRV.

"X. No person shall operate an OHRV in any manner so as to harass animals pursuant to the provisions of the definition 'of take or taking' in RSA 207:1."

POLITICAL SUBDIVISIONS

"269-C:12 Regulations of Political Subdivisions. With by-laws or ordinances any town or city may regulate the operation of OHRVs within its limits, providing they do not conflict with provisions of this chapter."

OHRV LAND USE

"269-C:16 Registration.

"I. Registration of an OHRV does not constitute a license to operate said vehicle on private land. Any person operating an OHRV upon the land of another shall stop and identify himself upon the request of the landowner or his duly authorized representative and, if requested, shall promptly remove said OHRV from the premises. Any OHRV operating on land of another, without snow cover, shall have permission of the landowner."

RECIPROCITY

"269-C:22 Reciprocity. An OHRV, owned by a person resident in Vermont, Maine or Quebec, shall be deemed to be properly registered for the purposes of this chapter if it is registered in accordance with the laws of the state or province in which its owner resides, but only to the extent that a reciprocal exemption or privilege is granted under the laws of that state for OHRVs registered in this state. For the purpose of this section, the commissioner shall determine the extent of the privilege of operation granted by Vermont, Maine and Quebec and his determination shall be final."

STATE LANDS

"269-C:26 State Parks and Forests. All trails under the jurisdiction of the department of resources and economic development so far as possible and consistent with their primary functions, shall be made available for use by OHRVs subject to the fees, rules, and regulations as established by the directors of the division of parks and the division of resources with the approval of the commissioner of resources and economic development."

DUTY OF CARE

"212:34

"I. An owner, lessee or occupant of premises owes no duty of care to keep such premises safe for entry or use by others for hunting, fishing, trapping, camping, water sports, winter sports or OHRVs as defined in RSA 269-C, hiking, or sightseeing, or to give any warning of hazardous conditions, uses of, structures, or activities on such premises to persons entering for such purposes, except as provided in paragraph III hereof.

"II. An owner, lessee or occupant of premises who gives permission to another to hunt, fish, trap, camp, hike, use OHRVs as defined in RSA 269-C, or sightsee upon such premises, or use said premises for water sports, or winter sports does not thereby: (a) extend any assurance that the premises are safe for such purpose, or (b) constitute the person to whom permission has been granted the legal status of an invitee to whom a duty of care is owed, or (c) assumes responsibility for or incur liability for an injury to person or property caused by an act of such person to whom permission has been granted except as provided in paragraph III hereof.

"III. This section does not limit the liability which otherwise exists; (a) for wilful or malicious failure to guard or warn against a dangerous condition, use, structure or activity; or (b) for injury suffered in any case where permission to hunt, fish, trap, camp, hike, use for water sports, winter sports or use of OHRVs as defined in RSA 269-C, or sightsee was granted for a consideration other than the consideration, if any, paid to said landowner by the state; or (c) the injury caused by acts of persons to whom permission to hunt, fish, trap, camp, hike, use for water sports, winter sports or use of OHRVs as defined in RSA 269-C, or sightsee was granted to third persons as to whom the person granting permission, or the owner, lessee or occupant of the premises, owed a duty to keep the premises safe or to warn of danger."

POSTING OF PRIVATE LAND

"572:15-b Penalty, Off Highway Recreational Vehicles. An owner may post all or any portion of his land against use by an OHRV as defined in RSA 269-C:1, VI. Such posting shall be as provided in section 16, except that such notices shall read 'SNOW TRAVELING VEHICLES PROHIBITED' or may have in lieu of these 'words' an appropriate sign with the designated symbol of sufficient size to be readable at a distance of fifty feet indicating that use of this land is prohibited for the purposes so specified. Whoever without right enters such land that has been so posted shall be guilty of a misdemeanor and if convicted, shall be fined not more than fifty dollars. Provided, however, that failure of an owner to post his land as provided in this section shall not be construed as granting any license to users of OHRVs to enter said premises, nor shall said failure be construed as implying any duty of care to the user of an OHRV by the owner."

APPENDIX A-5.

NEW HAMPSHIRE SCENIC RIVERS LEGISLATION

Excerpts from Chapter 470, Laws of 1971.

"JOINT RESOLUTION DIRECTING A STUDY FOR THE FEASIBILITY OF ESTABLISHING A STATE PARK NAMED FOR ALAN B. SHEPARD AND DIRECTING AN INVESTIGATION AND INVENTORY OF THE STATE'S SCENIC RIVER.

"WHEREAS, certain rivers of New Hampshire which with their immediate environments possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, therefore, be it resolved that the general court of the state of New Hampshire declares that it is the policy of the state that these rivers shall be preserved in a free flowing condition and that they and their immediate environments shall be protected for the benefit and enjoyment of the present and future generations, now therefore be it

"RESOLVED BY THE SENATE AND HOUSE OF REPRESENTATIVES IN GENERAL COURT
CONVENED:

"THAT in recognition thereof the council of resources and development shall develop criteria for such rivers and conduct an inventory of such rivers, and shall submit the same, together with drafts of recommended legislation, to the next regular or special session of the general court, but in no case shall they be submitted later than January 15, 1973."

APPENDIX B

**TRAIL
INVENTORIES**

APPENDIX B-1.
TRAILS IN NEW HAMPSHIRE STATE PARKS

AREA/Park	Location	Acreage	Total Trail Miles	Hiking	Snow-mobiling	Restrictions
SOUTHEASTERN						
Bear Brook	Candia, Allenstown Deerfield, Hooksett	9,317	20.0	20.0	20.0	No horseback riding or trail biking on State park without special permit.
Belknap Mtn.	Gilford	545	0.5	0.5		
Mt. Major	Alton	60	1.2	1.2		
Odiorne Point Pawtuckaway	Rye Deerfield, Nottingham	137 5,501	3.4 12.0	3.4 2.0	10.0	
SOUTHWESTERN						
Chesterfield Gorge	Chesterfield	15	0.5	0.5		
Kearsarge Mtn.	Andover, Salisbury Warner, Wilmot	3,543	1.0	1.0		
Monadnock	Jaffrey	699	2.0	2.0		
Pillsbury Pisgah	Goshen, Washington Hinsdale, Chester- field, Winchester	3,702 13,000	2.0 27.0	2.0 27.0	27.0	
Pothole/Bear's Den	Gilsum	95	0.5	0.5		
Sunapee	Newbury, Goshen	2,174	1.0	1.0		
NORTHERN AREA						
Crawford Notch	Hart's Location	5,950	8.2	8.2		
Franconia Notch	Franconia, Lincoln	6,440	20.5	20.5		
Cardigan Mtn.	Alexandria, Orange	5,525	10.1	10.1		
Mt. Washington	Sargent's Purchase	52	1.7	1.7		
Wellington	Bristol, Alexandria	183	1.0	1.0		
Welton Falls	Alexandria	223	1.2	1.2		
White Lake	Tamworth	603	4.3	1.8	2.5	
TOTALS		57,764	118.1	105.6	59.5	

Miles of Trail by
Trail Use

APPENDIX B-2. NEW HAMPSHIRE TRAILS INVENTORY - STATE LANDS: TRAILS ON STATE FORESTS

Miles of Trail Available by Type of Trail Use

SOUTHEASTERN AREA

Tract	Location	Acres	Total	Hike	Bike	Horse Back	Ski Tour	Snow Shoe	Snow Mobile	Trail Bike	Jeep	Management Restriction
Allen Forest	Concord	25	.4	.4	-	.4	.4	.4	.4	.4	-	-
Alton Bay	Alton	216	1.1	1.1	-	1.1	1.1	1.1	1.1	1.1	-	-
Ballard Mill	Derry	85	.4	.4	-	.4	.4	.4	.4	.4	.4	-
Blue Job	Farmington	174	1.0	1.0	-	1.0	.9	1.0	.9	.9	-	X
Hannah Dustin Joseph D.	Boscawen	1	.2	.2	-	-	-	.2	-	-	-	X
Eaton	E. Kingston	36	.4	.4	-	-	.4	.4	.4	.4	-	X
Ellacoya	Gilford	89	.3	.3	-	.3	.3	.3	.3	-	-	X
Federal Hill	Milford	3	.6	.6	-	-	-	.6	-	-	-	X
Woods-in- Chandler	Hopkinton	3	.1	.1	-	.1	.1	.1	.1	.1	-	-
Hodgman	Amherst	18	.4	.4	-	.4	.4	.4	.4	.4	-	-
Jeremy Hill	Pelham	63	.2	.2	-	.2	.2	.2	.2	.2	-	-
Litchfield	Litchfield	291	1.2	1.2	-	1.2	1.2	1.2	1.2	1.2	-	-
Mast Yard	Concord	542	5.0	5.0	-	5.0	5.0	5.0	5.0	5.0	-	-
Meadow Pond	Gilmanton	42	.5	.5	-	.5	.5	.5	.5	.5	-	-
Merrimack River	Boscawen	151	.6	.6	-	.6	.6	.6	-	-	-	X
State Nursery	Boscawen	287	1.6	1.6	-	1.2	1.6	1.6	1.0	1.0	-	X
C. H. Page	Gilmanton	78	.2	.2	-	.2	.2	.2	.2	-	-	X
Powwow River	South Hampton	48	.3	.3	-	.3	.3	.3	.3	-	-	X
Rock Rimmon	Kingston	47	.1	.1	-	.1	.1	.1	.1	.1	-	-
Shaker	Canterbury	236	1.0	1.0	-	1.0	1.0	1.0	1.0	-	-	X
Silver Lake	Hollis	80	.3	.3	-	.3	.3	.3	.3	.3	-	-
Vienna Smith	Nottingham	50	.3	.3	-	.3	.3	.3	.3	.3	-	-
Suncook River	Loudon	50	.7	.7	-	.7	.7	.7	.7	-	-	X
Walker Forest	Concord	47	.2	.2	-	.2	.2	.2	.2	.2	-	-
Warner Hill	Derry	2	.1	.1	.1	.1	.1	.1	.1	.1	-	-
TOTALS		2,664	17.2	17.2	.1	16.0	16.4	17.2	14.2	12.7	.4	

From field data compiled by District Foresters, N. H. Department of Resources and Economic Development, 1973.

APPENDIX B-2. NEW HAMPSHIRE TRAILS INVENTORY - STATE LANDS: TRAILS ON STATE FORESTS (continued)

SOUTHWESTERN AREA

Miles of Trail Available by Type of Trail Use

Tract	Location	Acres	Total	Hike	Horse		Ski	Snow	Snow	Trail	Jeep	Management Restriction
					Bike	Back	Tour	Shoe	Mobile	Bike		
Binney Pond	New Ipswich	77	.5	.5	-	-	.5	.5	.5	-	-	X
Carrol	Warner	29	.8	.8	-	.8	.8	.8	.8	.8	-	-
Federal Hill	Milford	3	.3	.3	-	.3	.3	.3	.3	.3	-	X
Pitcher Mtn.	Stoddard	5	.2	.2	-	-	.2	.2	.2	-	-	X
Bradford Pines	Bradford	5	.2	.2	-	.2	.2	.2	.2	-	-	X
Craney Hill	Henniker	24	.6	.6	-	.6	.6	.6	.6	.2	-	X
Grant	Fitzwilliam	8	.3	.3	-	.3	.3	.3	.3	.3	.3	-
Hyland Hill	Westmoreland	20	1.2	1.2	-	1.2	1.2	1.2	1.2	1.2	-	X
Leighton	Dublin	75	.4	.4	-	.4	.4	.4	.4	.4	.4	-
Marshall	New Ipswich	20	.5	.5	-	.5	.5	.5	.5	.5	.5	-
Fox Forest	Hillsboro	1,445	19.9	19.9	6.7	6.7	19.9	19.9	6.7	6.7	6.7	X
Curtiss Dog-wood	Lyndeboro	14	.5	.5	-	-	.5	.5	-	-	-	X
Annett	Rindge	1,346	7.2	7.2	-	4.5	7.2	7.2	4.5	4.5	3.8	X
Annie Duncan	Plainfield	113	1.2	1.2	-	1.2	1.2	1.2	1.2	1.2	1.2	-
Casalis	Peterborough	230	1.4	1.4	-	1.4	1.4	1.4	1.4	1.4	1.4	-
Connecticut River	Charlestown	216	1.2	1.2	-	1.2	1.2	1.2	1.2	1.2	.7	-
Dodge Brook	Lempster	222	.6	.6	-	.6	.6	.6	.6	.6	.6	-
Honey Brook	Acworth	975	2.2	2.2	-	2.2	2.2	2.2	2.2	2.2	2.2	-
Hubbard Hill	Charlestown	749										
Raggard Mtn.	Andover	76	.8	.8	-	.8	.8	.8	.8	.8	-	X
Russell Abbot	Mason	808	1.4	1.4	-	1.4	1.4	1.4	1.4	1.4	-	-
Max Isreal	Washington		3.5	3.5	-	2.8	3.5	3.5	3.5	3.5	2.8	X
Wantastiquet	Chesterfield	907	4.5	4.5	-	1.8	3.3	4.5	3.3	-	-	X
Miller	Peterborough	83	1.0	1.0	1.0	-	1.0	1.0	1.0	1.0	1.0	X
Otter Brook	Keene	2	1.0	1.0	1.0	-	1.0	1.0	1.0	1.0	1.0	-
Vincent	Deering	636	2.5	2.5	-	2.0	2.5	2.5	2.5	2.0	2.0	X
TOTALS		8,088	54.9	54.9	8.7	35.8	53.7	54.9	37.3	32.2	24.6	

From field data compiled by District Foresters, N.H. Department of Resources and Economic Development, 1973.

APPENDIX B-2. NEW HAMPSHIRE TRAILS INVENTORY - STATE LANDS: TRAILS ON STATE FORESTS (continued)

NORTHERN AREA		Miles of Trail Available by Type of Trail Use										
Tract	Location	Acres	Total	Hike	Bike	Horse Back	Ski Tour	Snow Shoe	Snow Mobile	Trail Bike	Jeep	Management Restriction
Black Mtn.	Haverhill	729	3.0	3.0	1.0	3.0	3.0	3.0	3.0	1.0	-	-
Echo Lake	Conway	151	2.6	2.6	1.0	2.0	2.0	2.6	2.0	1.0	-	-
Coleman	Stewartstown	1,685	2.5	2.5	-	2.5	2.5	2.5	2.5	-	-	-
Conway Common Lands	Conway	930	.7	.7	.3	.3	.3	.7	.7	.3	-	-
Governor Wentworth Farm	Wolfeboro	96	.6	.5	.5	.5	.5	.5	.5	.5	-	-
Wentworth Forest Lake	Dalton	420	1.7	1.7	-	1.7	1.7	1.7	1.7	1.7	-	-
Fay	Lincoln	211	.9	.9	.9	-	.9	.9	.9	-	-	-
Hemenway	Tamworth	1,958	3.9	3.9	3.3	3.5	3.3	3.9	3.5	3.5	-	-
Mascoma	Canaan	232	.8	.8	-	.8	.8	.8	.8	.8	-	-
Milan Hill	Milan	127	.8	.8	.8	.8	.8	.8	.8	.8	-	-
Moose Brook	Gorham	755	2.3	2.3	-	2.3	2.3	2.3	2.3	2.3	-	-
Merrimack	Bartlett	515	1.1	1.0	-	-	-	1.0	-	-	-	-
Province Road	Groton	1,026	.3	.3	-	-	-	.3	.3	-	-	-
Weeks	Lancaster	447	1.8	1.8	1.3	.5	1.3	1.3	1.3	1.3	-	-
Fellows	Ashland	140	.8	.8	.8	.8	.8	.8	.8	.8	-	-
Strawberry Hill	Bethlehem	60	.3	.3	.3	.3	.3	.3	.3	.3	-	-
Sky Pond	New Hampton	119	.3	.3	.3	.3	.3	.3	.3	.3	-	-
Sculptured Rocks	Groton	269	.7	.7	.7	.7	.7	.7	.7	.7	-	-
Wade Hill	Hill	416	2.0	2.0	-	2.0	2.0	2.0	2.0	2.0	-	-
Gile Forest*	Grantham	6,500										
TOTALS		16,603	27.3	27.1	15.6	22.0	23.5	26.4	23.9	16.5		

From field data compiled by District Foresters, N.H. Department of Resources and Economic Development, 1973.

*Legislation for purchase of Gile Forest passed July 1973, no trail details available.

APPENDIX TABLE B-3.
LAND MANAGEMENT RESTRICTIONS, SELECTED STATE LAND HOLDINGS, 1973.

LOCATION	TRACT	ACRES	TRAIL	RESTRICTION
SOUTHEASTERN AREA				
Boscawen/ Salisbury	Forest nursery	287	Trail around pond	Fishing and Picnicking
Boscawen	Hannah Dustin Historical Site	1	Access path	Pedestrians only
Boscawen	Merrimack River Forest	151	Woods road	No snowmobiles or trailbikes
Canterbury	Shaker Forest	236	Woods road	No trailbikes
Farmington	Blue Job Forest	174	Fire tower trail	No snowmobiles or trailbikes
Gilford	Ellacoya State Park	89	Woods road	No trailbikes
Gilmanton	C. H. Page Forest	78	Woods road	No trailbikes
Loudon	Suncook River Forest	50	Woods road	No trailbikes
South Hampton	Powwow River Forest	48	Woods road	No trailbikes
SOUTHWESTERN AREA				
Acworth Andover	Honey Brook Raggard Mountain	975 76	Gumb Compt. Rd. Old logging road	No 4-wheel drive vehicles
Bradford	Bradford Pines	5	Forest trail	No wheeled vhcls.
Charlestown	Connecticut River	216	Lamb Road Cannon Road	No wheeled vhcls.
Charlestown	Hubbard Hill State Forest	749	Old trails	
Chesterfield	Wantastiquet	907	Mountain Road Old Mountain Road OxBow loop	No wheeled vehicles - all three trails
Deering	Vincent	636	Old town roads Plantation trails	No 4-wheel drive vehicles
Dublin Fitzwilliam Henniker	Leighton Grant Craney Hill Forest and Tower	75 8 23.5	Woods road Old town road Woods road Tower trail	No wheeled vhcls.
Hillsboro	Fox Forest	1,445	Hurricane Road Mud Pond Road Valley Road Spring Road Ridge trail White cross trail Mud Pond trail Connecting trails Harvey Road Other log road Center road Concord End Road Whitney Road Gould Pond Road Bog Road Bible Hill Road	No 4-wheel drives No wheeled vhcls. No wheeled vhcls. No wheeled vhcls. No wheeled vhcls. No 4-wheel drives
Keene	Otter Brook	2.4	Park roads	See Parks Div.

Lempster	Dodge Brook	222	Gee Road	
Lyndeboro	Curtiss Dogwood	14	Dogwood trail	No vehicles of any type
Mason	Russell Abbot	808	Starch Factory Rd.	
Milford	Federal Hill Lookout Tower	2.9	Tower trail	Pedestrians only
New Ipswich	Binney Pond	77	Wapack trail	No wheeled vhcls.
New Ipswich	Marshal	20	Country Club road	
Peterborough	Casalis	230	Old log road	
Peterborough	Miller Park	83	Summit Road	No busses
Plainfield	Annie Duncan	113	Old town roads	
Rindge	Annett	1,346	Old town road Dewey Beach Road Hubbard Pond Road Other old trails	No wheeled vhcls. No wheeled vhcls.
Stoddard	Pitcher Mountain	5	Tower trail	
Warner	Carrol	29	Woods road	
Washington	Max Isreal		Old town road Ring Road	
Westmoreland	Hyland Hill	20	Tower trail	No wheeled vhcls.
NORTHERN AREA				
Ashland	Scribner Fellows State Forest	140	Access road	None
Bethlehem	Strawberry Hill State Forest	60	Reservoir Road	None
Canaan	Mascoma State Forest	232	Old logging roads	Access to both ends on private land; unfit for bikes
Conway	Conway Common Lands State Park	930	Blue Cap Trail Old logging road	Begins on St. land soft travel only None; access blocked by sand
Dalton	Forest Lake State Park	420	Dalton Mountain Trail	Unfit for bikes
Gorham	Moose Brook State Park	755	Old C.C.C. roads	Unfit for bikes
Groton	Province Road State Forest	1,026	Golden Keene Mine Road	No bridge; access on private land
Groton	Sculptured Rocks Wayside Area	269	North Groton Road	Bridge unsafe for vehicles
Haverhill	Black Mountain - Cathedral & White Horse Ledge	729	Echo Lake Trail Cathedral Ledge White Horse Ledge	Too soft & wet for bikes None
Hill	Wade Forest	416	Amsden Road	Pedestrians only Unfit for bikes; both ends on private land
Lancaster	Weeks State Park	447	Old Carriage Road Access Road	Unfit for bikes None
Milan	Milan Hill State Park	127	Tower & Camp roads	None
New Hampton	Sky Pond Forest	119	Sky Pond Road	None
Stewartstown	Coleman State Forest	1,685	Snowmachine trail Radio Tower Road	Too wet & soft for bikes; both ends on private land Bikes would damage

Tamworth	Hemenway State Forest	1,958	Swift River logging roads	None
			Great Hill Tower	None
			Orchard Road	None
			Clark Road	No biking/skiing
			Saunders Road	None
			Lunt Ledge Road	Pedestrians only
Wolfeboro	Governor Wentworth Farm	96	Big Tree Trail	Pedestrians only
			Old road system	None

SOURCE: Division of Parks, Department of Resources and Economic Development

APPENDIX B-4.

NEW HAMPSHIRE TRAILS INVENTORY - FEDERAL LANDS: FLOOD CONTROL RESERVOIRS

State-Administered (Part)	Location	Total Acres	Miles of	
			Access Roads	Trails
Blackwater	Andover	3,432	11.0	8.3
Franklin Falls	Franklin	3,144	18.0	9.3
Hopkinton-Everett	Hopkinton	7,342	34.0	13.0
Sub-Total, State-Administered		13,918	63.0	30.6
Federally-Administered				
Surry Mountain	Keene	1,423	2.5	Unidentified
Otter Brook	Keene	373	2.3	Unidentified
Edward McDowell	Peterborough	1,094	1.5	Unidentified
Sub-Total, Corps of Engineers		2,890	6.3	n/a
Total Acreage		16,808		
Total Miles of Access Roads			69.3	
Identified Trail Mileage				30.6

APPENDIX C

**TRAIL NEEDS
SURVEY**

State of New Hampshire Office of State Planning

STATE HOUSE ANNEX, CONCORD, N.H. 03301

April 1973

NEW HAMPSHIRE STATEWIDE TRAILS STUDY

TRAIL NEEDS SURVEY

The New Hampshire Office of State Planning, in cooperation with the Division of Parks, other public agencies and private organizations, is conducting a feasibility study of a statewide multiple-use recreational trails system. A major objective of the study is to find out what each trail-using group considers important for their particular use of a trail system.

So that your recreational trails requirements may be considered within our study, would you please take the time to carefully respond to the various questions in terms of the activities and interests of your trail using club or organization. Please indicate any additional comments you may have in the spaces provided.

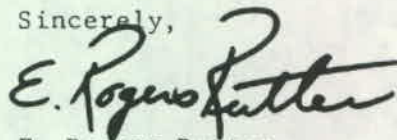
PLEASE RETURN COMPLETED FORMS TO:

Statewide Trails Study
Office of State Planning
State House Annex
Concord, New Hampshire 03301

by MONDAY, MAY 28, 1973 so that your response may be included in our analysis of trail needs.

Thank you.

Sincerely,



E. Rogers Rutter
Statewide Trails Study

ERR:rlq
enclosure

NEW HAMPSHIRE STATEWIDE TRAILS STUDY

TRAIL NEEDS SURVEY - MAY 1973

I. TRAIL ACTIVITY: From the following list of trail activities, please indicate which one is most important to you and/or your group.

Motorized

Non-Motorized

All-terrain vehicles _____
 Dune or trail buggies _____
 Four Wheel Drives _____
 Trail bikes _____
 Snowmobiles _____
 Other (Specify) _____
 Mini-bikes _____

Bicycle riding _____
 Hiking _____
 Horse-back riding _____
 Ski touring _____
 Snowshoeing _____
 Other (Specify) _____
 Canoeing _____

II. TRAIL JURISDICTION: a. For your most important trail activity, please rank the following in order of most frequent use.

Trail on private land _____ Combination of _____
 Trail on public land _____ Don't Know _____

b. If a private trail is used most often, or is part of your trail, approximately how many individuals own land over which the trail goes? _____
 Don't know _____. Do you have to pay for the use of any of this land?
 Yes _____ No _____. If yes, how much do you pay? \$ _____ per _____.

c. If a public trail or trail through public land, what level(s) of government have jurisdiction over the trail? Town _____, County _____, State _____, Don't know _____.

Is permission to use the trail required? Yes _____ No _____

If required, is this permission granted annually _____, or for each occasion _____?

From what agency do you get this permission? _____

Do you have to pay for this trail use? Yes _____ No _____

If yes, how much do you pay? \$ _____ per _____

d. Comments on trails jurisdiction in general:

III. TRIP LENGTH AND FREQUENCY: Indicate the average distance traveled and about how often you take the following trips:

- a. Half-day: Trip of _____ miles _____ times per _____.
- b. All-day: Trip of _____ miles _____ times per _____.
- c. Two-day: Trip of _____ miles _____ times per _____.
- d. Three-day: Trip of _____ miles _____ times per _____.
- e. 4-7 days: Trip of _____ miles _____ times per _____.
- f. A week +: Trip of _____ miles _____ times per _____.

IV. TRAIL ROUTING. When using a trail, which do you prefer?

- a. To go out and back on the same trail _____ or out on one and back on another _____?
- b. A trail out to some particular place _____ or a trail which takes you back where you started _____?

c. The trail should start (indicate your preference):

- | | |
|-----------------------------|--------------------------------|
| 1) within city/town _____ | 5) in public park/forest _____ |
| 2) close to city/town _____ | 6) other (specify) _____ |
| 3) in rural area _____ | _____ |
| 4) in forested area _____ | _____ |

d. The trail should go through (indicate your preference):

- | | |
|------------------------------|--------------------------|
| 1) City/Town _____ | 6) Wilderness _____ |
| 2) Towns & rural areas _____ | 7) Other (specify) _____ |
| 3) Rural areas only _____ | _____ |
| 4) Rural & forests _____ | 8) Combination of _____ |
| 5) Forested only _____ | _____ |

e. For the following, please check those items which are important for your use of a trail.

1. The trail should be close to:

- Home _____
- Public Transportation _____
- Public lodging _____
- Public camping _____
- Public dining _____
- Mechanical services _____
- Need other services _____
- (specify) _____
- _____
- _____
- _____
- _____
- _____

2. The following is preferred:

- Travel alone _____
- Travel with family _____
- Travel with friends _____
- Travel with club _____
- Meeting other people _____
- Avoiding other people _____
- Well-maintained trails _____
- "Wild" trails _____
- Open Space _____
- Wilderness _____
- Other (specify) _____
- _____
- _____

f. Comments on trail routing:

V. GENERAL DESIGN REQUIREMENTS: In general,

- a. What type of trail surface is best? _____
- b. What is the best trail width? _____
- c. What is the maximum grade (or slope)? _____
- d. Please comment on other trail design requirements which are important.

VI. TRAIL FACILITIES: Indicate which types of facilities are important.

a. At the trail head.

b. On the trail.

On paved road _____
 Parking available _____
 Rest facilities _____
 Picnic facilities _____
 Camping facilities _____
 Lodging facilities _____
 Mechanical services _____
 Other (specify) _____

Rest facilities _____
 Picnic facilities _____
 Camping facilities _____
 Comfort facilities _____
 Mechanical services _____
 Lodging facilities _____
 Other (specify) _____

c. Comments on trail facilities.

VII. POTENTIAL TRAILS: For each of the following possible parts of a multiple-use recreational trail system, rate excellent, good, fair or poor according to their suitability for your trail use.

State highways _____
 Town roads, paved _____
 Town roads, gravel _____
 Town roads, seasonal _____
 Town roads, discontinued _____
 Utility rights of way _____

Abandoned railroad beds _____
 Abandoned logging roads _____
 Ski slopes _____
 Natural terrain _____
 Other (specify) _____

Comments on potential trails:

VIII. MULTIPLE USE. Referring to your most important use of a trail:

a. What other trail activities are compatible with this use?

b. What other trail activities conflict with this use?

c. Comments on multiple use of trails.

IX. TRAILS DEVELOPMENT. a. Are you in favor of designating separate trails, or sections of a trail, for specific users? Yes _____ No _____

Comments on trails designation:

b. Are you in favor of a "trail user permit" system? Yes _____ No _____

Comments on user permits:

c. Are you in favor of establishing a fee for this permit? Yes _____ No _____

Comments on user fees:

d. If a trails user fee system were established, rank the following uses of funds in your order of priority.

Trails acquisition	_____	Trail maps	_____
Trails development	_____	Trail descriptions	_____
Trails maintenance	_____	Environmental education	_____
Trail markings	_____	Other (specify)	_____
Trail patrols	_____	_____	_____

Comments on use of funds:

- X. THE FUTURE. Please comment on any aspect of the future development of a public multiple-use recreational trail system which you feel should be considered.

Trail User Group or Organization

Date

PLEASE RETURN TO: Statewide Trails Study, Office of State Planning, State House Annex, Concord, New Hampshire 03301.

BY MONDAY, MAY 28, 1973!

APPENDIX D

**POTENTIAL
TRAILS**

APPENDIX D-1

TRAILS POTENTIAL ON SELECTED LAND HOLDINGS,
NEW HAMPSHIRE FISH & GAME DEPARTMENT, 1973¹

DISTRICT/Town	ACREAGE	TRAIL POTENTIAL
SOUTHEASTERN		
Boscawen	115.00	Foot Trail
Concord	85.25	Light Vehicle*
New Durham	72.00	Foot Trail
New Durham	59.00	Foot Trail
Newton	108.10	Foot Trail
Newton	83.00	Foot Trail
Newton	71.00	Foot Trail
Newton	50.00	Foot Trail
SOUTHWESTERN		
Andover	912.00	Light Vehicle
Hancock	222.00	Foot Trail
Springfield	100.00	Light Vehicle
Sutton	128.00	Light Vehicle
Weare	50.00	Light Vehicle
Weare	167.50	Light Vehicle
Weare	55.00	Light Vehicle
NORTHERN		
Ashland	500.00	Foot Trail
Enfield	300.00	Light Vehicle
Enfield	103.00	Light Vehicle
Enfield	103.50	Light Vehicle
Pittsburg	206.00	Light Vehicle
Pittsburg	750.00	Light Vehicle

*Light Vehicle usually refers to snow machines.

¹) Trail Potential as determined by Game Research and Management, N.H. Fish and Game Department, May 1973.

APPENDIX D-2

TRAILS POTENTIAL ON SELECTED LAND HOLDINGS,
NEW HAMPSHIRE WATER RESOURCES BOARD, 1973

LOCATION	WATERSHED	ACREAGE
Belmont/Tilton	Winnepesaukee	21
Dublin	Ashuelot	147
Dummer	Androscoggin	1,043
Canaan/Enfield	Mascoma	85
Kingston	Great Pond	24
New Ipswich	Souhegan	61
Strafford	Bow Lake	32
Wakefield	Ossipee	29
Warren	Baker	79
Wentworth	Baker	200
Pittsburg/Clarksville	Connecticut Lakes	4,864
Sub-Total, Water Resources Board management		6,585
Cooperative management with Soil Conservation Service Small Watershed Projects - 9 Tracts		678
Trails Potential		
Total tracts	20	
Total acreage		7,263

APPENDIX D-3

POTENTIAL HIGHWAY BICYCLE ROUTES, NEW HAMPSHIRE, 1973

The highway bicycle routes listed below have been prepared for designation under New Hampshire's new bicycle route legislation. The twenty-seven routes, totaling 726 miles along public roads, have been recommended by the Granite State Wheelmen Bicycle Club. The actual distance on the road totals 654 miles, due to some overlapping routes.

#	Starting Point	Communities	Numbers	Mileage
1.	Goffstown	Goffstown, Mount Vernon, Francestown, New Boston	13 136	34
2.	Goffstown	Goffstown, New Boston, North Weare	13 77	30
3.	Greenfield	Greenfield, Francestown, New Boston, Mount Vernon	136 13	30
4.	Greenfield	Greenfield, Francestown, New Boston	31, 202 137, 123	16
5.	Greenfield	Greenfield, Francestown, Bennington, Hancock	136, 47 202, 137	20
6.	Greenfield	Greenfield, Bennington, Antrim, S. Stoddard	31, 202 9, 123	30
7.	Kingston	Kingston, Exeter	111, 108, 107-A	16
8.	Kingston	Kingston, Exeter, Seabrook	111, 88, 1 107, 107-A	27
9.	Kingston	Kingston, Exeter	111, 108, 150 107, 107-A	22
10.	Londonderry	Londonderry, Windham	102, 128, 111 111-A	25
11.	Plymouth	Plymouth, W. Plymouth Bristol, New Hampton, Ashland	3, 25, 3-A 104, 3-B	34
12.	Plymouth	Plymouth, West Thornton	175, 3	28
13.	Keene	Keene, Gilsum	12-A, 10	20
14.	Keene	Keene, Alstead	12-A, 10	34
15.	Manchester (Goffs Falls)	Manchester (Goffs Falls) Litchfield	3-A, 102 128, 28	25
16.	Woodsville	Woodsville, Orford	10	42
17.	Orford	Orford, Wentworth, Warren, Piermont	25-A, 25 25-C, 10	38
18.	Orford —	Orford, Hanover	10	36
19.	Littleton	Littleton, Woodsville	135, 302	48
20.	Franklin	Franklin, Bristol, New Hampton, Gaza (Sanbornton)	3-A, 104 3-B, 127	33
21.	Tilton	Tilton, Belmont, Canterbury	3, 140 106, 3-F	32
22.	Moultonborough	Moultonborough, Center Sandwich, No. Sandwich, Whittier (Ossipee)	109, 113 113-A, 25	35
23.	Moultonborough	Moultonborough, Center Sandwich	109, 113 25	18
24.	Durham	Durham, Lee	108, 87, 125 155, 155-A	24
25.	Durham	Durham, Newmarket	108, 152, 155 155-A	16
26.	Milford	Milford, Brookline, Hollis	13, 130, 122 101-A	20
27.	Bear Brook State Park	Bear Brook State Park, Epsom, South Deerfield	28, 4, 107	26

APPENDIX D-4 POTENTIAL CANOE TRAILS IN NEW HAMPSHIRE

WATERSHED/Stream/(Area)	LOCATION	APPROXIMATE MILES ON STREAM
ANDROSCOGGIN RIVER (Northern Area)	Umbagog (Errol) to Berlin	35
	Berlin to Maine line	13
PISCATAQUA (Southeastern Area)		
Salmon Falls River	Great East Lake - Wakefield to Piscataqua at Dover	25
Piscataqua River	Dover through Great Bay to Atlantic Ocean	11
Cocheco River	Farmington to Dover	25
Isinglass River	Strafford to Dover	16
Bellamy River	Madbury to Dover	10
Oyster River	Lee to Durham	7
Lamprey River	Deerfield to Newmarket	39
Piscassic River	Epping to Newmarket	13
North River	Nottingham to Lee	8
Exeter (Squamscott) River	Sandown to Newfields-Greenland	40
Winnicut River	Hampton	7
CONNECTICUT (Northern and Southwestern Area)		
Connecticut	West Stewartstown to Mass. line at Mass. line at Hinsdale, N.H. - Northfield, Mass.	237
Ashuelot	Ashuelot Pond (Washington) to Hinsdale	52
Ashuelot, South Branch	Troy to Swanzey	9
Otter Brook	Stoddard to Keene	9
Cold River	Acworth to Walpole	12
Little Sugar River	Unity to Charlestown	12
Sugar River	Sunapee to W. Claremont	25
Sugar River, S. Branch	Goshen to Newport	6
Mascoma River	Canaan to West Lebanon	19
Ammonoosuc River	Bretton Woods to Woodsville	47
Gale River	Franconia	3
Johns River	Whitefield	6
Israel River	Jefferson to Lancaster	12
Upper Ammonoosuc River	Milan to Groveton	30
Nash Stream	Stratford	10
Phillips Brook	Stark	8
South Pond & Brook	Stark	3
Mohawk River	Colebrook	8
Halls Stream	Pittsburg	33
Indian Stream	Pittsburg	15
Perry Stream	Pittsburg	6
MERRIMACK (In all three areas)		
Merrimack River	Franklin to Mass. line at Lowell	78
Powwow River	Kingston to Mass. line at Amesbury	10
Little River	Plaistow to Mass. line at Haverhill	3

APPENDIX D-5

ESTIMATED COMMERCIALY-OPERATED SNOWMOBILE TRAIL MILEAGE,
NEW HAMPSHIRE, 1973

Estimated Trail Mileage on					Trail Grooming	Operator Payment Trail Use
Area #	Owner's	Private	Public	Total		
1.	10	-	15	25	No	No
3.	20	90	-	-	Yes	Permission
4.	-	Unknown	-	Unknown	Some	-
5.	22	-	-	22	Yes	-
6.	22	Yes	Yes	Unknown	Yes	No
7.	25	-	-	25	Yes	-
8.	-	-	-	100	Yes	Permission
9.	6	-	-	6	Yes	N/A
11.	25	-	-	25	Yes	N/A
12.	-	-	-	100	Yes	Permission
13.	-	-	-	300+	Some	-
15.	20	-	-	20	Yes	N/A
16.	15	-	-	15	Yes	N/A

APPENDIX D-6

SKI TOURING TRAILS IN NEW HAMPSHIRE, 1972-1973

LOCATION	MILES	COMMENTS
NORTHERN AREA		
North Conway/Bartlett	4	Red Ridge and Moat Mt. Trails
North Conway/Cranmore	5.5+	Trails developed at Cranmore Mt. Ski Area
Lancaster/Berlin	7.5	Garland Brook-York Pond Trail
Dixville	4+	Trail system part of Wilderness Ski Area
Acworth	30.0	Network of old roads within township
Benton/Moosilauke	9.6	Uses parts of hiking trails to mountain top; part of AMC and DOC trail systems.
Grantham	10.0	Through about 1000 acres of land; snowmobiles prohibited from some of trails.
Livermore	6.0	Within WMNF; Greely Ponds Trail, Kancamagus Highway to Waterville Valley; not used by snowmobiles; part of AMC System.
Hart's Location	6.0	Within WMNF; uses part of Carrigan Notch Trail, part of AMC system.
	5.0	Within WMNF; uses part of Sawyer Pond Trail; part of AMC system.
Lincoln	-	Within WMNF; uses part of old logging railroad beds within the Pemigewasset Wilderness.
Woodstock	8	Over Tripoli and Russell Pond roads.
Jackson	3.8	Two trails in WMNF (being connected to Jackson Ski Touring Trail System).
	75	Trails system established on private and WMNF lands by Jackson Ski Touring Foundation.
Twin Mountain	8	Trail to Zealand Notch; within WMNF (uses 3.5 miles of Forest Service road); used by snowmobiles.

Spicket River	Hampstead to Mass. line at Methuen	10
Beaver Brook	Derry to Mass. line at Pelham-Lowell	20
Salmon Brook	Mass. line at Groton to Nashua	8
Nashua River	Hollis to Nashua	17
Nissitissit River	Brookline to Hollis	4
Souhegan River	Greenville to Merrimack	28
Stone Brook	Lyndeboro to Wilton	3
Cohas Brook	Auburn to Goffs Fall (Manchester)	10
Piscataquog River	Goffstown to Manchester	9
Piscataquog River, North Branch	Weare to Goffstown	14
Piscataquog River, South Branch	Francestown to Goffstown	15
Suncook River	Gilmanton to Allenstown	29
Suncook River	Loudon to Allenstown	23
Turkey River	Concord	2
Contoocook River	Jaffrey to Penacook	64
Contoocook River, North Branch	Hillsboro	1½
Nubanusit Brook	Harrisville to Peterborough	6
Beards Brook	Hillsboro	2½
Warner River	Bradford to Hopkinton	21
Blackwater River	Wilmot to Hopkinton	29
Winnepesaukee River	Lake Winnepesaukee to Franklin	21
Pemigewasset River	Franconia to Franklin	72
Smith River	Grafton to Bristol	22
Newfound River	Bristol	3
Fowler River	Alexandria	2
Cockermouth River	Dorchester to Hebron	3
Squam River	Holderness	5
Baker River	Warren to Plymouth	28
Mad River	Waterville Valley to Campton	10
Pemigewasset, E. Branch	Lincoln	6
SACO (Northern Area)		
Saco River	Crawford Notch to Maine State line at Conway	39
Ossipee River	Freedom-Effingham	11
Lovell River	Ossipee	1
Pine River	Wakefield to Ossipee	16
Beech River	Ossipee	8
Silver River	Madison to Ossipee	7
Bearcamp River	Sandwich to Ossipee	16
Chocorua River	Tamworth to Ossipee	6
Swift River	Albany to Conway	17
Ellis River	Jackson to Bartlett	4½
COASTAL RIVERS (Southeastern Area)		
Blackwater River	Seabrook to Hampton Marshes	13
Browns River	Seabrook to Hampton Marshes	3
Hampton River	Hampton Falls to Hampton Marshes	7
Hampton Falls River	Hampton Falls to Hampton Marshes	5
Nilus Brook-Tide Mill Creek	Hampton to Hampton Marshes	4
Little River	Hampton	3

Crawford Notch	24	Unplowed town roads.
	6	Cog Railroad right-of-way.
	12	Jefferson Notch Road; used by snowmobiles.
	1.4	Mount Willard Trail.
Franconia Notch	4	Liberty and Flume Mts., from Flume.
	5	Loop from Lafayette Campground, used by cross-country racers; snowmobiles excluded.
	5.1	Through State Park and WMNF; parking lot at Echo Lake
	10+	Trails system being developed by Franconia Inn.
Pinkham Notch	1.0	Blanchard Loop, from AMC's Pinkham Notch parking lot; marked.
	2.5	Thompson Falls to Glen House.
	1.2	Lost Pond Trail, south of Pinkham Notch Camp, marked.
	1.2	Pinkham Notch Ski Trail, north of Pinkham Notch Camp; marked.
	1.6	Old Jackson Road, near AMC's Pinkham Notch Camp at lower end of Tuckerman Ravine, used as ski route from AMC Camp.
	2.5	Power line route, Wildcat to Glen House.
	3.8	Nineteen mile Brook Trail to Center Notch.
Tuckerman Ravine	-	Sherburne Ski Trail (WMNF) and Tuckerman Ravine Trail go from AMC Pinkham Notch Camp to Tuckerman Ravine.
Gulf of Slides	2.5	Gulf of Slides Ski Trail (WMNF) from AMC Pinkham Notch Camp to Gulf.
Dixville Notch	2	Jeep road from top of chair lift to Dixville Peak; used by snowmobiles.
Gorham	3.8	Dolly Copp Road to Pine Mt.
Sandwich	12.0	Trail over old logging railroad bed; WMNF
Albany/Mt. Chocorua	15.0	Over WMNF and AMC hiking trails.
Albany/Kancamagus	2.5	Trail to Church Ponds, WMNF.
Waterville Valley	30	Seven trails in and around Waterville Valley area, WMNF.
Lincoln/Kancamagus	13	Owl's Head area, Pemigewasset Wilderness, WMNF.
	17	Wilderness Trail to Carrigan Notch, WMNF.
	13	Hancock Notch - Cedar Brook, WMNF.
	12	Hancock Notch - Sawyer River, WMNF.
Carroll/Crawford Notch	14	Zealand Notch Area, WMNF; (no snowmobiles beyond Notch).
Plymouth/Temple Mtn.	3.0	Ski touring loop on Tenney Mountain, reached by chair lift.
Alexandria/Cardigan Mtn.	15.0	Skiing and hiking trails, part of AMC system; motorized vehicles prohibited.
SOUTHWEST		
New Ipswich	10+	Trails developed by Windblown; connect to Wapack Trail.
Henniker	-	Several miles of trails being developed from center of town.
Wolfeboro	-	Trail system being developed by local interests; some marked.

Hollis	-	Trail developed by Nissitissit River Land Trust.
Mont Vernon	5.2	To Purgatory Falls.
Fracestown	4.0+	Trail network; part of Crotched Mt. Ski area; snowmobiles.
Lyndeboro	6.0+	Seasonal road over col between Winn and Rose Mountains; snowmobiles.
Peterborough	2.1	Wapack Trail, Ashburnham, Mass. to Greenfield, N.H., part of AMC System.
	9.0	Two sections of Wapack Trail maintained by Temple Mt. Ski Area; no snowmobiling.
	4.0	Old Mt. Road, maintained by Temple Mt. Ski Area, snowmobiling.
SOUTHWEST		
Jaffrey	6.0	Trails on lower slopes of Mt. Monadnock; S.P.N.H.F.
Westmoreland	2.0	Old road and trail to Hyland Hill Lookout Tower, snowmobiles.
Bradford	2+	Trails System at Norway House.

SOUTHEAST

Deerfield/Pawtuckaway	7.5	Seasonal road to Pawtuckaway Boulders, snowmobiling.
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ABANDONED RAILROAD RIGHTS-OF-WAY

Plymouth-N. Haverhill	36 approximately
Concord-Newport	42
Goffstown-Henniker	17
Contoocook-Hillsboro	15
Whitefield-Mt. Washington	-
Hooksett-Ctr. Barnstead	-
Keene-Peterborough	31
Windham-Fremont	-

SOURCE: Appalachian Mountain Club, Ski Touring Council, and Eastern Mountain Sports.

3/73

APPENDIX E

**BIKE RIDERS
SURVEY**

APPENDIX E

BIKE RIDERS SURVEY

New Hampshire Trails Study Committee
Office of Community Recreation Service
Granite State Wheelmen Bicycle Club

To better serve the growing needs of a rapidly increasing number of Granite State bicycle riders, the New Hampshire Trails Study Committee, the Office of Community Recreation Service, and the Granite State Wheelmen Bicycle Club are studying the need for better bicycle facilities in the State. As part of this study, we are conducting a survey of bicycle riders to find out how many people are interested in a BIKE TRAIL SYSTEM in New Hampshire.

YOUR FAMILY CAN HELP! We need to hear from as many bike riders as possible - adults and young people, commuters and sports riders, experienced riders, and those "thinking about it." To help us get the information we need please, take this survey home with you, and answer the questions carefully with your whole family. Then, return the survey to your school, so that all of your family's ideas may be included in our study. Be sure to answer as many questions as you can, even if you don't now have bikes.

1. How many bicycles does your family own?
2. How old are the bicycle riders in your family?
3. Please list the start and finish of the five most important bicycle trips your family or individual members of your family take in a week.

From: _____	To: _____	Miles: _____
From: _____	To: _____	Miles: _____
From: _____	To: _____	Miles: _____
From: _____	To: _____	Miles: _____
From: _____	To: _____	Miles: _____

4. Using 100% as a total, what percent of your family's bicycle riding is done on the days of:

Sunday: %	Wednesday: %	Friday: %
Monday: %	Thursday: %	Saturday: %
Tuesday: %		

5. How does your family make the following trips: (by car, bus, bike, or walking)

- | | |
|------------------------------------|----------------------------------|
| a. To work | f. Around the neighborhood |
| b. To school | g. Downtown. |
| c. Shopping | h. Out in the country |
| d. Visit friends | i. Just ride around |
| e. Ride with a group or club | |

6. Of the trips listed in number 5 above, which kind of trip is most frequently made by bike?
second most frequent? third most frequent?

7. If a comprehensive BIKE TRAIL SYSTEM were developed for New Hampshire, which of the following items do you think should be considered? Please check.

- a. Marked routes through towns.
- b. Marked routes over country roads.
- c. Separated routes along existing roads.
- d. Special routes through state parks and forests.
- e. Rest areas.
- f. Overnight lodging.
- g. Camping facilities.
- h. Parking facilities.
- i. What other items are important to your family?

8. Of the items you checked in number 7 above, please list the three which are most important to you. First
, Second , Third
9. If the items you listed in number 8 above were available to your family,
a. Would you use your bike more? Yes No
- b. Would you start using a bike, if you don't now? Yes No
10. What are the three most important problems that you encounter when you are bike riding?
a. First
b. Second
c. Third
11. Do you think a bicycle safety course should be taught in the school system or in another appropriate agency?
Yes No
12. **Students** - Would you like to organize and run your own bicycle club?
Yes No
13. **Parents** - Are you in favor of students organizing and running their own bicycle clubs? Yes No
Yes No
Would you help?
- What would you do?

Thank you for your help to us.

Roger R. Charest, Granite State Wheelmen
Richard A. Tapply, Community Recreation Service
E. Rogers Rutter, New Hampshire Trails Study