

*Comprehensive Plan*

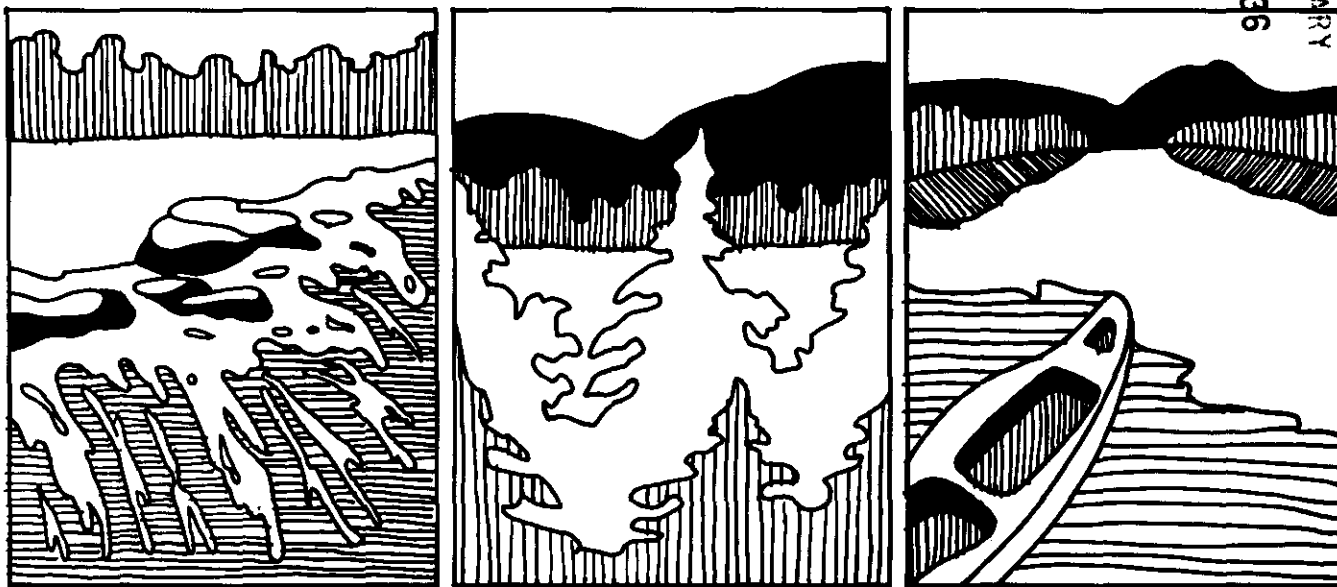
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# WILD, SCENIC & RECREATIONAL RIVERS FOR NEW HAMPSHIRE

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# STATE OF NEW HAMPSHIRE

Hugh J. Gallen, Governor

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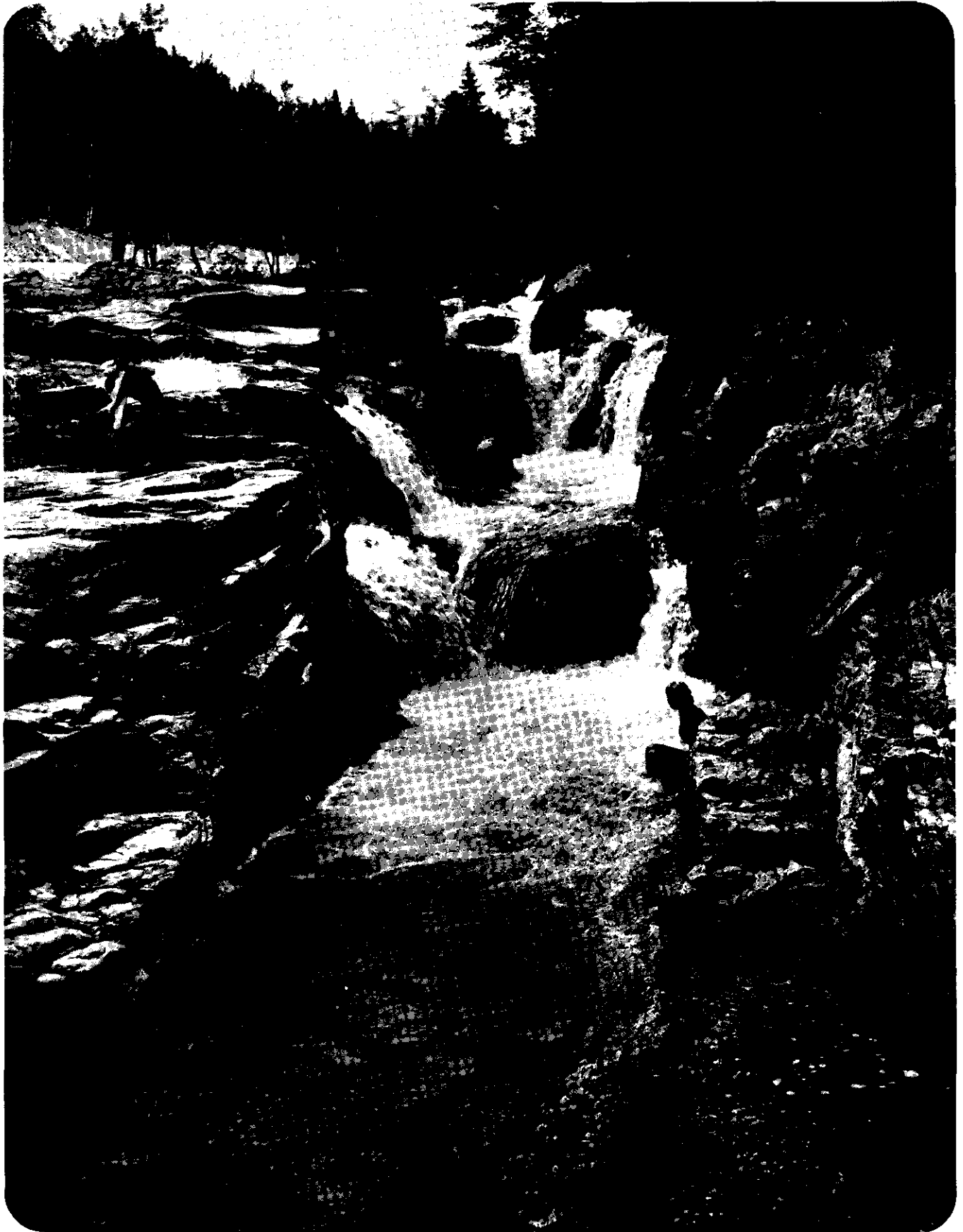
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June 1977

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## FOREWORD

Since Colonial times, rivers have played an important role in our State's development. Early settlers depended upon rivers as a source of food and water, and for transportation. The lower lying river valleys provided sites for homesteads and agriculture. As time passed, villages developed, mills and factories were built, roads and bridges were constructed, and logging operations located along many of our rivers.

Rivers were the lifeblood of New Hampshire's past success. And, they continue to be important for our future growth and the improvement of our quality of life.

From 1970 to 1975, New Hampshire had the eleventh highest percent of population increase out of all the States — a striking 12 percent. This growth rate is expected to continue at least through 1985.

The continued development of the State could occur in a manner which threatens the natural qualities of our rivers. Or, it can be guided so that the natural qualities of the rivers are preserved. Unlike many states, New Hampshire still has many unspoiled rivers and vast, undeveloped lands. This gives us the special opportunity to grow while protecting our valuable river resources.

Many New Hampshire rivers have outstanding natural assets upon which State residents and visitors depend for a wide variety of leisure time experiences. A comprehensive, positive program is necessary to ensure that these wild, scenic, and recreational rivers can continue to be enjoyed by present and future generations.

## A REPORT YOU CAN USE

This report points out the significance of preserving rivers and provides guidelines which interested people in New Hampshire can use to protect and enhance the natural qualities of New Hampshire's wild, scenic, and recreational rivers. Many people can use this report for a variety of purposes—private property owners, corporations, organizations, associations, municipal officials, state agencies, and legislators.

You can make good use of this report if you are interested in:

- getting familiar with the subject of wild, scenic, and recreational rivers;
- finding out which of New Hampshire's more than 80 rivers are potential wild, scenic, or recreational rivers;
- preparing studies and plans to protect and enhance rivers;
- discovering the many techniques available for protecting wild, scenic, and recreational rivers; or
- considering legislation necessary to protect these rivers.

## A GROWING CONCERN

### NATIONWIDE INTEREST

National attention has been called to wild, scenic, and recreational rivers within the last two decades. This interest began during the early 1960's when the U.S. Departments of the Interior and Agriculture developed a national program for protecting truly outstanding free-flowing rivers of the United States. A Federal Wild and Scenic Rivers Act (P. L. 90-542) was passed in 1968, giving the Interior Department and, where National forest lands are involved, the Department of Agriculture, the responsibility for implementing a National Wild and Scenic Rivers Program.

The purpose of the Federal Wild and Scenic Rivers Act is to preserve certain selected rivers and their immediate environs which possess outstanding scenic, recreational, geologic, fish and wildlife, historic and cultural, or other similar values. The Act states that these rivers shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Act identifies three types of river areas which may be eligible for inclusion in the National System; wild, scenic and recreational. In October 1976, 20 rivers were in the National Wild and Scenic Rivers System, and another 50 rivers were designated for study and potential addition to the System.

Over half of the States have established their own wild and scenic river programs. The overall purpose of the state programs is similar to the Federal Act, but many differences occur regarding how rivers are defined and designated, and how river protection programs are carried out. Generally speaking, the intent of most state programs is to provide a means for preserving selected rivers possessing outstanding wild, scenic or recreational qualities.

## NEW HAMPSHIRE'S INTEREST

### **Past Activity**

New Hampshire does not have a wild, scenic, and recreational rivers program. However, the State has recognized the importance of environmental quality by enacting several laws and by enabling cities and towns to adopt local controls. Included are laws regarding wetlands protection, the establishment of historic districts, filling, dredging and excavating in public waters, erosion control near water bodies, scenic roads, the establishment of conservation commissions, timber cutting near public waters and highways, and power plant, oil refinery and transmission siting.

In 1971, the New Hampshire General Court passed a resolution stating in part that "certain rivers . . . possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values. . . that it is the policy of the state that these rivers shall be preserved in a free-flowing condition and . . . protected for the benefit and enjoyment of the present and future generations." A systematic program to implement this policy has not yet been initiated. However, both the 1975 "New Hampshire Outdoor Recreation Plan" and the ongoing "New Hampshire Guide Plan for Water and Related Land Resources" have addressed the need for identifying and protecting outstanding rivers.

Private groups, community organizations, and individuals have continued to express their concern for New Hampshire's river resources. River recreationists, conservation commissions, watershed associations, and others have come forth with suggestions. Some groups have prepared detailed studies and plans for specific rivers they deem to be significant for protection. This kind of concern and willingness to work for vital causes is reflective of the "do-it-yourself" philosophy typical of many New Hampshire citizens.

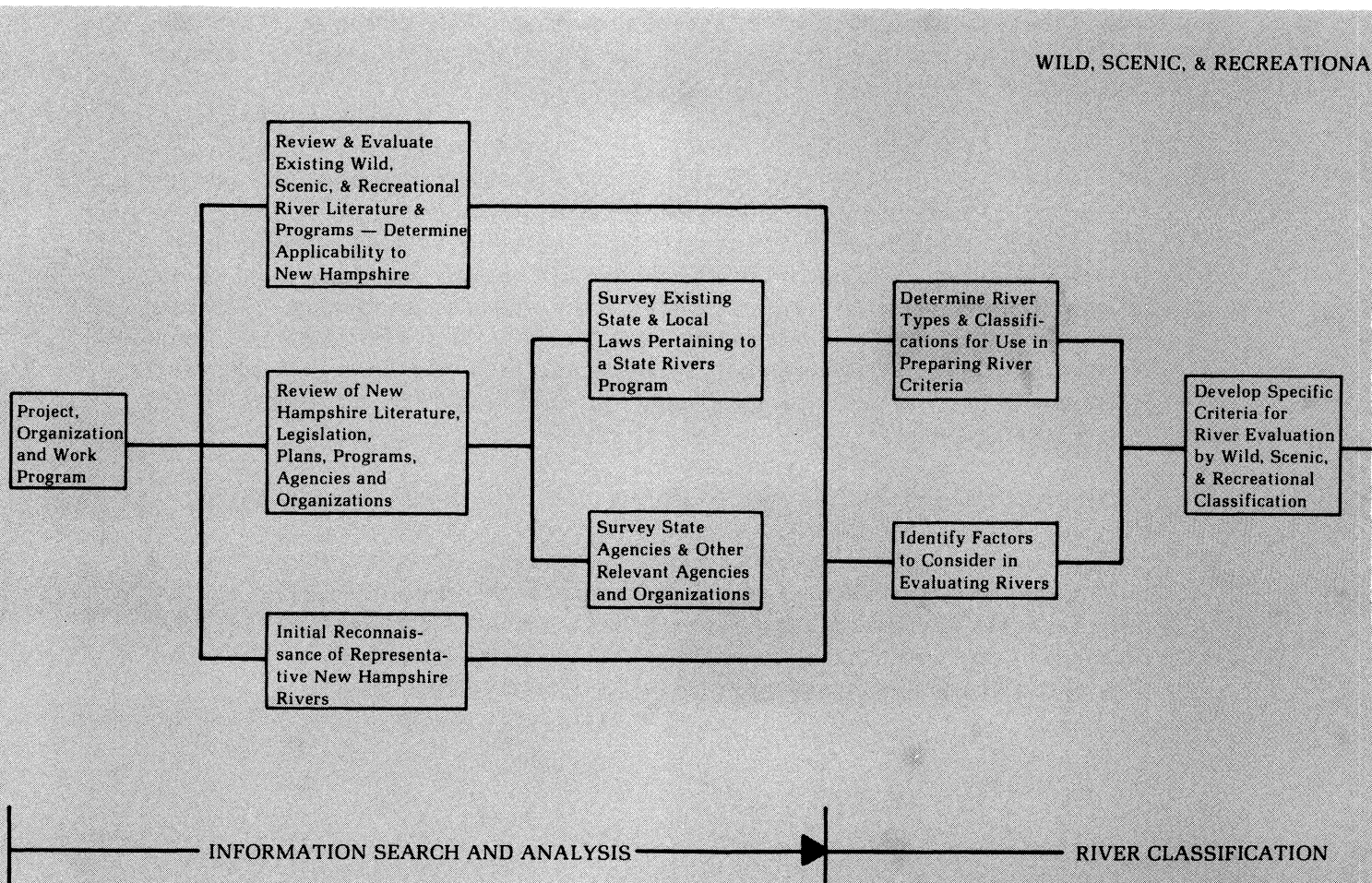
## The Wild, Scenic, and Recreational Rivers Study

The New Hampshire Wild, Scenic, and Recreational Rivers Study is directed toward presenting relevant information and suggesting steps necessary to establish a rivers program. The Study is a part of the Office of Comprehensive Planning's State Outdoor Recreation Planning Program. It was initiated by OCP and prepared with the consulting assistance of Urban Research and Development Corporation.

A Wild and Scenic Rivers Review Committee was formed to bring to the Study day to day insights and practical experiences of many types of agencies and organizations. Members represented the Water Supply and Pollution Control Commission, the House of Representatives, the Central New Hampshire Regional Planning Commission, the Department of Resources and Economic Development, the Fish and Game Department, the Water Resources Board and the Appalachian Mountain Club.

The Study followed a systematic process involving several phases and many specific tasks, all designed to ensure a comprehensive, rational approach to the subject of wild, scenic, and recreational rivers. (See diagram at bottom of page.) This report presents the significant results of the Study.

Considerable emphasis was placed on learning from existing river programs such as the Federal Wild and Scenic Rivers Program and the programs adopted



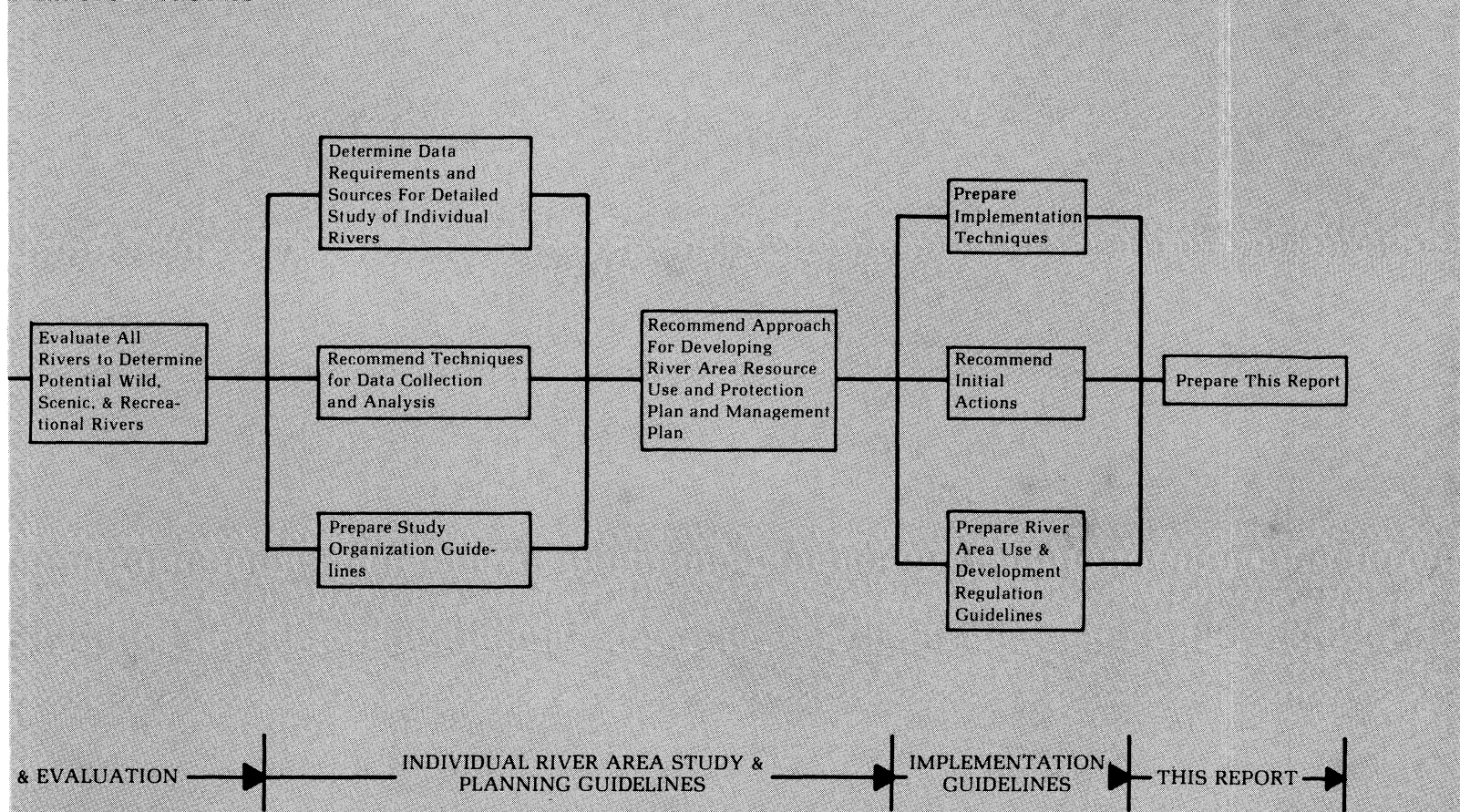


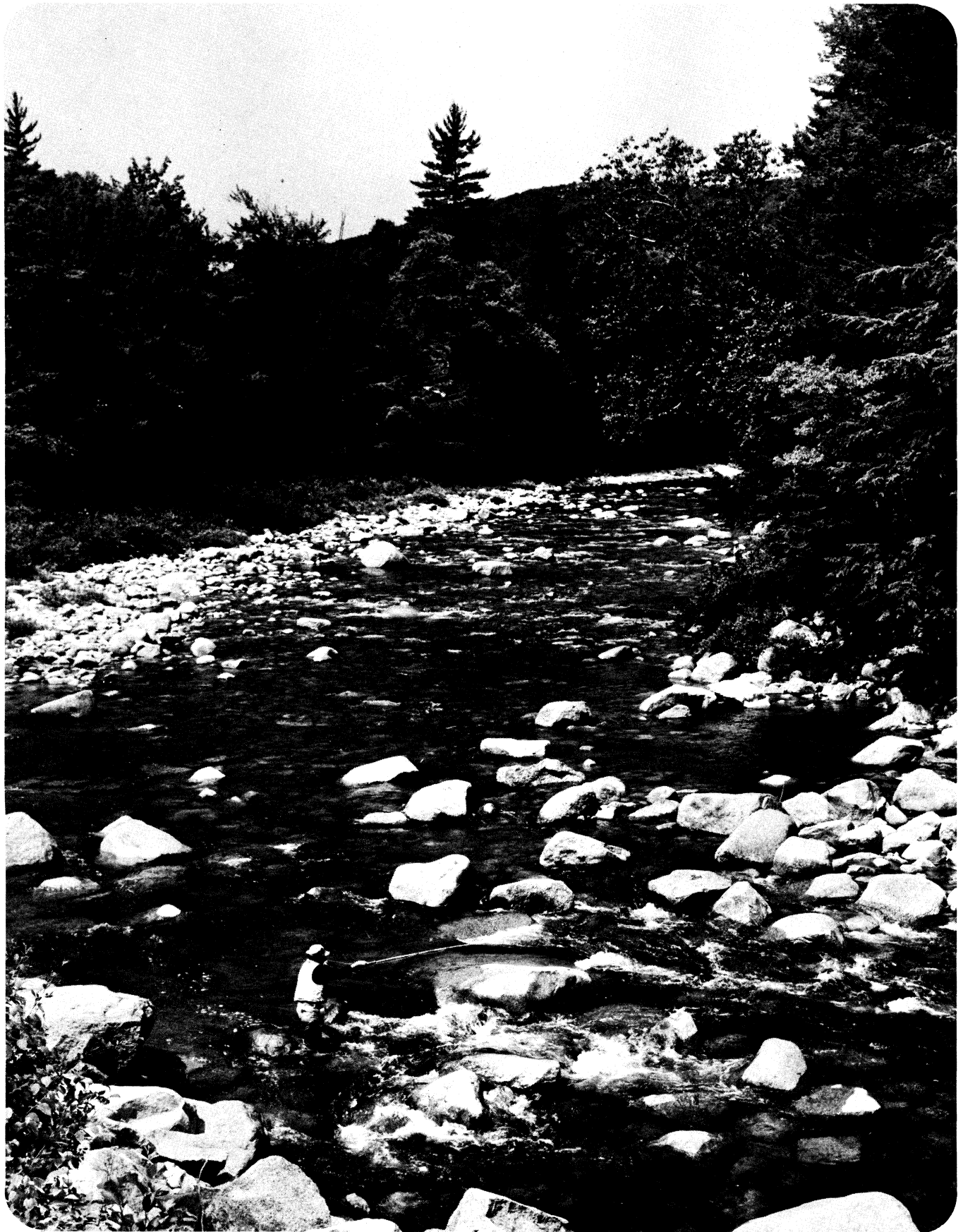
in other States. The Federal Program and twenty-six different state programs were thoroughly reviewed and evaluated to determine their approaches, advantages, and disadvantages.

Present New Hampshire laws, administrative policies and agency organizations were studied to determine their relevance to a wild, scenic, and recreational rivers program for the State. Maps and information pertaining to New Hampshire's rivers were also collected and studied to examine the characteristics, similarities, and differences of the rivers. This information about river features provided a basis for preparing criteria used to define, classify, and evaluate the State's rivers. The evaluation of all rivers then enabled study participants to determine which rivers have wild, scenic or recreational potential.

Other major parts of the Study involved the preparation of guidelines which many people can use to help protect river resources. A step-by-step procedure was developed to assist anyone preparing detailed studies and plans for individual rivers. Data requirements, data sources, and techniques for data collection and mapping were identified. An approach was recommended for preparing a river area resource use and protection plan and a river area management plan. Implementation techniques and river area use and development regulation guidelines were also prepared for possible use by appropriate governmental agencies, organizations, private property owners, and interest groups.

RIVERS STUDY PROCESS





**WILD SCENIC &  
RECREATIONAL  
RIVERS** FOR  
NEW HAMPSHIRE

## THE MEANING OF WILD, SCENIC & RECREATIONAL RIVERS

Three classes of rivers are appropriate for consideration in New Hampshire: wild, scenic, and recreational. A river, or river segment, and its adjacent lands should possess outstanding wild, scenic, recreational, historical, ecological, fish and wildlife, scientific, aesthetic or similar values to be included in a New Hampshire wild, scenic, and recreational river system. The following descriptions point out particular qualities which, in general, each class of river should have in the State.

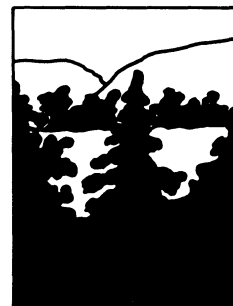
### **Wild Rivers**

Wild rivers are intended to be unspoiled, natural flowing rivers or river segments which have high quality waters, and shorelines which are largely primitive. They should be preserved principally for their natural and pristine qualities. Wild rivers should be natural in appearance with very few, if any, man-made intrusions such as power transmission lines, bridge crossings or other structures. Although the river area should be natural in appearance, forestry and agricultural uses and a few inconspicuous dwellings could exist within the river area. Wild rivers should be accessible only by trails or logging roads, although one or two inconspicuous roads leading to the river area should not necessarily preclude wild river designation. To provide a meaningful wilderness recreational experience, wild rivers should be at least 10 miles long, and have enough water to support canoeing or fishing activities.



### **Scenic Rivers**

Scenic rivers are intended to be unique, natural rivers with outstanding scenery. They should be preserved principally for their aesthetic qualities as perceived either from points on the river or from along the river banks. Scenic rivers can include rivers which have outstanding interpretive, cultural, or physiographic attributes or other characteristics which produce a gratifying visual or educational experience. Scenic rivers should be relatively free of impoundments, have high quality water and be accessible in places by roads. Within the river area, there should be a



predominance of native vegetation. Although scenic river areas should be largely undeveloped, the presence of a settlement or village and an occasional bridge should not preclude scenic river designation. A wide variety of agricultural uses could exist within the corridor. Scenic rivers should be at least five miles long and have enough water to permit the enjoyment of water-related recreational activities.

### **Recreational Rivers**

Recreational rivers are intended to be those rivers or river segments which offer, or have the potential to offer, outstanding recreational opportunities in natural surroundings. They should be protected for their natural qualities which can provide for a wide range of active and passive outdoor recreation activities. Recreational rivers should be readily accessible, have high water quality, and be at least five miles long. They should also have enough water to provide for fishing and canoeing. A recreational river area may have undergone somewhat more development than a wild or scenic river area.



## **THE EVALUATION OF NEW HAMPSHIRE'S RIVERS**

Three major steps led to the evaluation of New Hampshire's rivers and the identification of those rivers which have wild, scenic, and recreational potential in the State: 1) determination of important river area characteristics to consider in evaluating rivers, 2) preparation of a river evaluation system, and 3) evaluation and identification of the rivers. This procedure represents a logical, systematic approach to discovering the important rivers for wild, scenic, and recreational purposes.

## Important River Characteristics

River area characteristics which tend to distinguish a wild river, a scenic river or a recreational river from other rivers were determined. These characteristics were included in a preliminary checklist and grouped into six major categories:

### River and Water Characteristics

1. Quality of the Water
2. Width of the River
3. Depth of the River
4. Length of the River
5. Rate of Water Flow
6. Freeness of Water Flow
7. Extent of Flood-Plain
8. Class of Difficulty for River Boating

### Natural Feature Characteristics

1. Variations of Slope Characteristics in Corridor
2. Presence of Wetland in Corridor
3. Amount of Wooded Area in Corridor
4. Diversity of Vegetation
5. Presence of Rapids or Waterfalls
6. Presence of Endangered Flora
7. Presence of Endangered Fauna
8. Part of a Fish or Wildlife Propagation Area

### Accessibility Characteristics

1. Number of Access Points near river (per mile)
2. Type of Accessibility to River (Trail, Road, Vehicular)
3. Potential For New Access Points
4. Proximity of the Access Point to the River
5. Ease & Frequency of Access into River from Shore

### Man-Made Characteristics

1. Compatibility of Existing Land Uses with River Experience
2. Number of Man-Made Intrusions Encountered (Frequency)
3. Extent of Man-Made Intrusion (Duration)
4. Degree of Development (within corridor, along shore)

### Aesthetic/Interpretive Characteristics

1. Presence & Extent of Unusual Vistas and Outstanding Views
2. Variations in views, Number Visual Surprises
3. Diversity of Flora & Fauna Which Can be Seen
4. Presence of Historic Sites
5. Presence of Unique Land & River Forms

### Recreation Opportunity Characteristics

1. Potential for Boating Opportunities
2. Potential for Fishing Opportunities
3. Potential for Hunting Opportunities
5. Potential for Multiple Non-Intensive Recreation Activities
6. Potential for Adjacent Hiking Trails
7. Potential for Relationship with Scenic Roads

The relative importance of each characteristic was then determined, as related to the previously prepared definitions of a wild, a scenic, and a recreational river. The characteristics were then grouped according to whether they were very important, important, or slightly important in deciding upon a river's potential for identification as a wild, scenic, or recreational river.

## River Evaluation System

The river characteristics checklist was used as a guide for collecting available data and determining their adequacy for evaluating New Hampshire's rivers. The list of important river characteristics was then refined and specific criteria were prepared for use in evaluating each river. The "Initial River Evaluation Work Sheet" on the opposite page lists these criteria. The white boxes on the Work Sheet indicate those criteria which are appropriate for evaluating a river to determine its potential under each of the three river classifications.



## **Evaluation and Identification of Rivers**

Each New Hampshire river was evaluated according to the previously prepared criteria and evaluation system. The available data for each river and the "Initial River Evaluation Work Sheet" shown on Page 11 were used to record whether or not the river met each criterion. When the river met a criterion, an X was placed in the appropriate white space.

When the Work Sheet was completed, the number of X's received by the river were totaled and the totals under each river class were compared to the highest possible totals.

If the river met all of the criteria or all but one of the criteria in a river class, the river was declared to have potential for identification in that class. For example, using the Work Sheet on Page 11, if a river met either 5 or 6 of the criteria for scenic rivers potential (had X's in all or all but one white spaces under the column labeled "Scenic"), the river was deemed to have "scenic" potential. If this same river met only 3 out of 5 criteria under the "wild" column and "recreational" column, it was deemed not to have wild or recreational potential.

In cases where a river met all or all but one of the criteria in more than one class (e.g., both scenic and recreational), the river was placed in the class in which the river met the highest percentage of the total criteria. In similar circumstances where percentages of criteria met were equal, the river was deemed to have the highest potential in the class which revealed the most natural, less developed river area character. For example, if the "scenic" and the "recreational" percentages of the totals were equal, the river was placed in a "scenic" river classification.

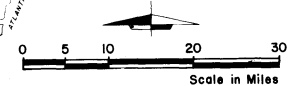
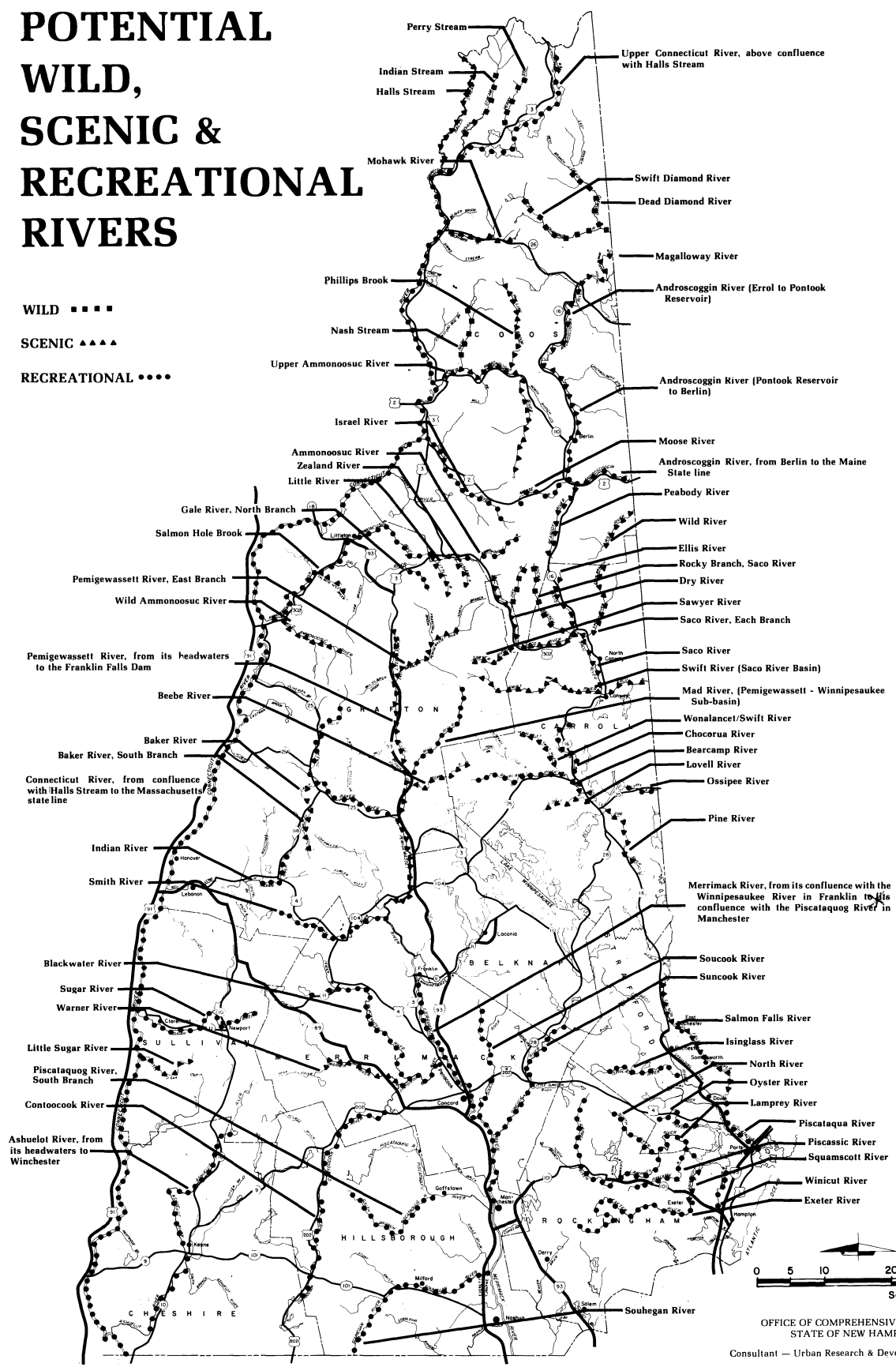
## **POTENTIAL WILD, SCENIC, & RECREATIONAL RIVERS**

The results of the evaluation indicated that sixty-seven rivers have high potential for more detailed study and planning, and for eventually being included in a New Hampshire Wild, Scenic, and Recreational Rivers System. These rivers are listed alphabetically, by class, and shown on the adjacent map.



# POTENTIAL WILD, SCENIC & RECREATIONAL RIVERS

WILD \*\*\*\*\*  
SCENIC \*\*\*\*\*  
RECREATIONAL \*\*\*\*\*



OFFICE OF COMPREHENSIVE PLANNING  
STATE OF NEW HAMPSHIRE  
Consultant - Urban Research & Development Corporation  
JUNE 1977

# TOWARD A RIVERS PROGRAM

## INITIAL ACTIONS

Beginning a program for protecting and enhancing New Hampshire's wild, scenic, and recreational rivers relies on many actions by many different people. Municipal officials, state agencies, non-profit organizations, private corporations and individual property owners can all take initial action toward a rivers program. The New Hampshire Wild, Scenic, and Recreational Rivers Study and this Report, as a part of the Study, represents the first major State action. The Office of Comprehensive Planning has information, reports, and examples from this Study and from other river programs available for use by anyone interested in wild, scenic, and recreational rivers.

Material prepared in the Rivers Study can be useful to municipalities in studying the problems and assets of their river areas, in reviewing their present policies and plans which affect rivers, and in determining the adequacy of their present implementation techniques for river protection. Appendix B, "Implementation Techniques For Achieving River Area Protection," and Appendix C, "River Area Use and Development Regulation Guidelines," can assist in these activities. The materials from this Study can also be useful to State agencies in reviewing and making possible changes to management policies, regulations, plans and projects which could affect potential wild, scenic, and recreational rivers.

Another major step toward a rivers program is the preparation of detailed, individual river studies and plans for potential wild, scenic, and recreational rivers. Detailed river studies and plans could be sponsored by and/or prepared by many types of agencies and organizations. The "Guidelines For Studying and Planning Individual Rivers" in Appendix A offer a sound direction for river studies and plans.

Every possible funding source and technique should be explored by appropriate governmental agencies and private interest groups. Funding for river studies, planning, and plan implementation should be pursued through the Federal Land and Water Conservation Fund and through the Federal, State or local program which can contribute money and technical assistance to the cause of river protection.

## LEGISLATION — THE KEY TO A COORDINATED RIVERS PROGRAM

The initial actions as discussed are important elements of a rivers program, but appropriate State legislation is necessary to give these actions direction and a common focus. A New Hampshire Wild, Scenic, and Recreational Rivers Act would provide an overall policy for preserving certain rivers and would help create a process to establish a State Wild, Scenic, and Recreational Rivers System.

By defining and describing a wild, a scenic and a recreational river, legislation would provide common definitions and general criteria for evaluating the State's rivers. An initial list of rivers which, through this Study, have been noted as potential wild, scenic, or recreational rivers would create a focus for future river studies, plans, and implementation programs by many types of agencies and organizations.

Rivers legislation should include a process for identifying additional rivers for more detailed study, for changing the classification of rivers, and for deleting rivers from the list of identified rivers in the event of changes. A process for officially designating rivers, based upon detailed studies and plans, as a part of the New Hampshire Wild, Scenic, and Recreational Rivers System should also be considered.

Legislation is, without a doubt, the key to a Statewide Wild, Scenic, and Recreational Rivers Program.

## POSSIBLE NATIONAL DESIGNATION

A State Wild, Scenic, and Recreational Rivers System can be the basis for designating one or more State rivers to the National River System, if it is the State's desire. The major advantage of National designation is the assurance that no Federal government action will be taken in conflict with the management plan of the river.

Section 2(a) of the Federal Wild and Scenic Rivers Act ( P.L. 90-542, as amended) establishes procedures for giving Federal Protection to State or locally administered wild, scenic, and recreational river areas. Under certain conditions, the Secretary of the Interior may add a select State or locally administered river area to the National Wild and Scenic Rivers System upon application by the Governor. In order to qualify for inclusion in the National System, a river area must first be designated as a wild, scenic, or recreational river by act of the State Legislature, and have lands wholly and permanently administered in a manner consistent with the Federal Wild and Scenic Rivers Act. The river area must be operated and maintained without expense to the Federal Government.

This Study has produced a reasonably complete and objective system for evaluating whether or not a river exhibits wild, scenic, or recreational river qualities and for assisting in determining the relative importance of these rivers. With minor adjustments, the evaluation system can also be used to determine which potential wild, scenic, and recreational rivers in New Hampshire have the highest potential for meeting National River System criteria. In essence, free-flowing river segments which meet the criteria for inclusion in a State Rivers System and which are at least 25 miles long are worthy of National consideration and further study by the Federal government. It is important to remember that initial National consideration relies basically upon the State's designation of a river as a wild, scenic, or recreational river and upon the Federal Government's subsequent, detailed studies of that river.



## APPENDICES

# **GUIDELINES FOR RIVER AREA PLANNING AND PROTECTION**

## APPENDIX A

### GUIDELINES FOR STUDYING & PLANNING INDIVIDUAL WILD, SCENIC, & RECREATIONAL RIVERS

**PURPOSE & USE**

This approach to studying and planning individual rivers provides a step by step procedure for the preparation of resource use and management plans for each river worthy of wild, scenic or recreational designation. Methods of study, techniques for data collection and analysis, and formats for presenting study and plan results are included.

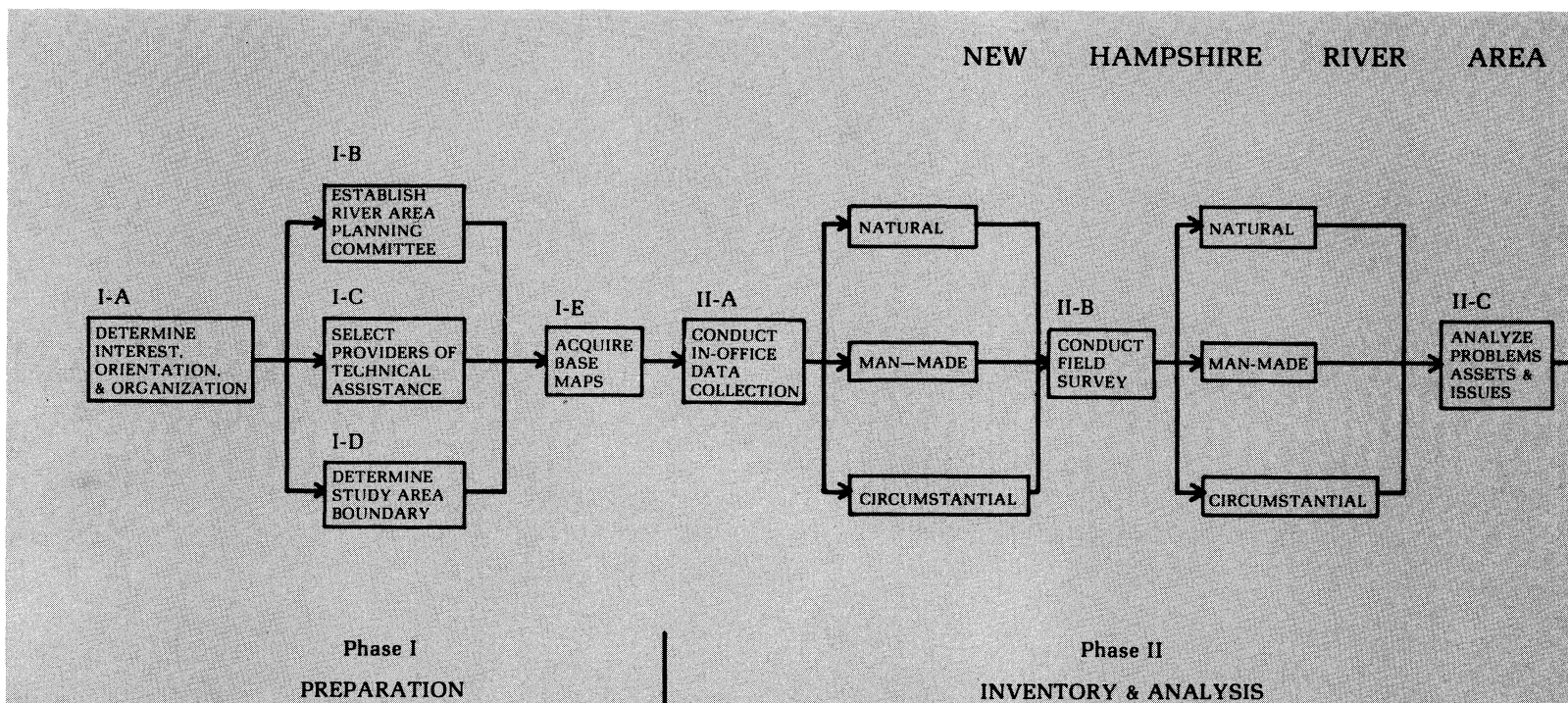
These guidelines are designed for a wide variety of possible users including professional resource planners in governmental agencies, local jurisdictions, and interest groups concerned about effective river resource use and protection. The guidelines offer the following advantages to a wild, scenic and recreational river program:

1. they provide a common process which can be used for all river studies and plans, thus providing convenient and fair opportunities for river comparisons;
2. they serve as a "common framework" within which everyone involved in the study and planning of a particular river can concentrate his efforts;
3. they provide certain assurances that crucial steps such as citizen involvement and goal-setting are not overlooked in the haste to create "a plan"; and
4. they serve as an initial process which can be tested and improved through continued use and practical experience.

The approach recommended here, if properly applied, should result in detailed river studies and plans which will be sufficient for use by the State in officially designating rivers and for implementing river plans and programs. This approach should also provide sufficient scope and detail of information to enable the State to apply to the Federal government for possible inclusion of a New Hampshire river as a National Wild, Scenic and Recreational River.

**OVERALL INVENTORY & PLANNING PROCESS**

A four-phased process for river area study and planning is suggested to assure a systematic and comprehensive approach. (See diagram at bottom of page). This process can be used as an overall guide, with variations based upon individual circumstances. Each task is numbered for ease of finding detailed task descriptions.



**Phase I — Preparation**

This first phase initiates the total process and provides assurances that adequate thought has been given to the proposed effort and that the project organization contains proper representation of river area interests and technical assistance.

**Phase II — Inventory and Analysis**

This is the learning phase of the process — a phase which takes an objective look at the river area and determines the problems, assets and issues involved in preparing an appropriate river area plan.

**Phase III — Planning**

The Planning Phase focuses on alternatives and choices, highlighted by the clear determination of goals. The end product of this phase — a river area resource use and protection plan — expresses the goals in terms of physical recommendations shown on a map.

**Phase IV — Implementation**

This phase can be called the "action phase", for this is where the specific actions required to accomplish the resource use and protection plan are determined. A management program of high priority action is prepared from the river area management plan.

Final portions of Phase IV include a public hearing and the preparation of a final report. Each phase of the suggested river area inventory and planning process is described in the following sections of this report, along with the specific tasks required to complete each phase.

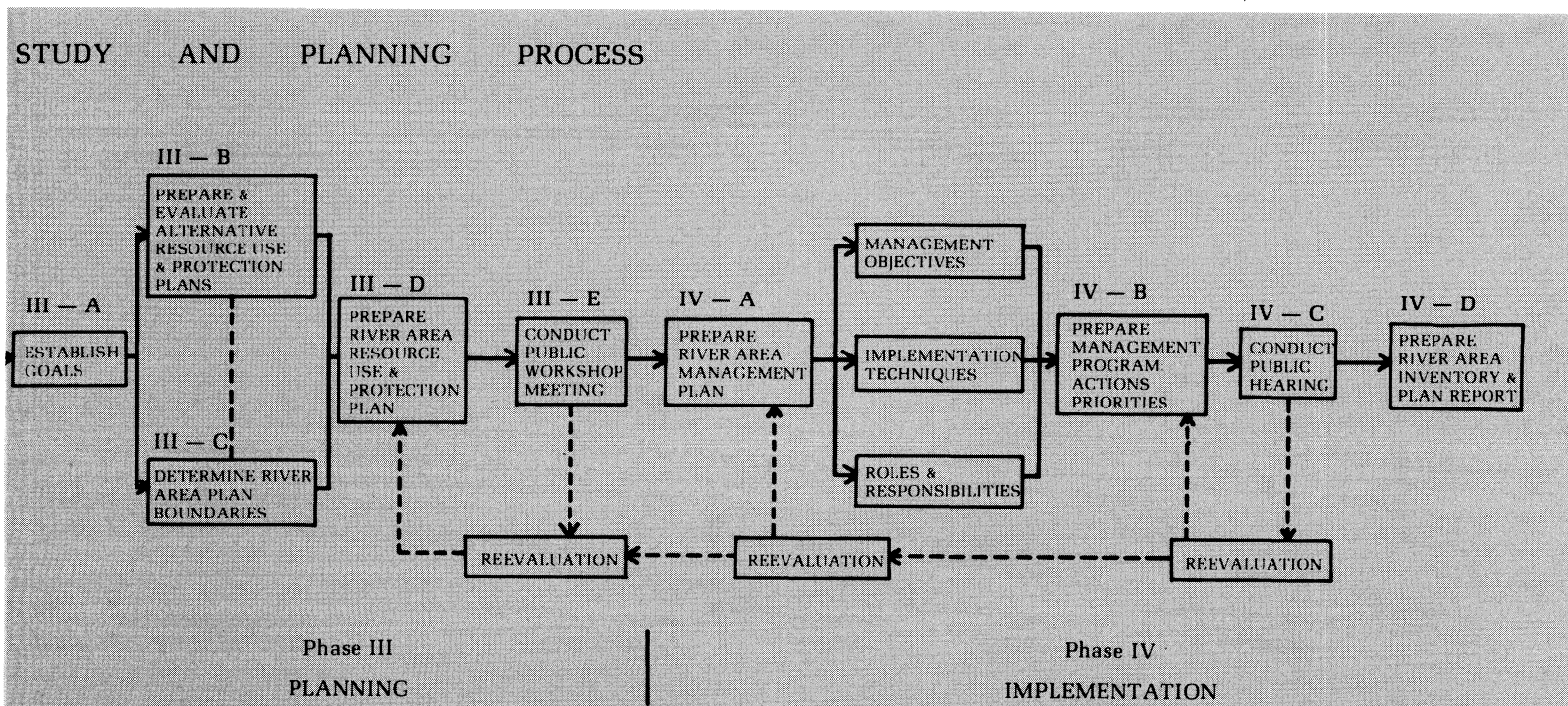
**PHASE I — PREPARATION**

**Task I-A Determine Interest, Orientation, and Organization**

At the outset of a river planning program, it is essential to determine the level of interest and involvement which might be expected. Those initially involved in the study should identify the people and organizations which have emerged in previous activities pertaining to the river and determine those who might be expected to enter the process as river inventory and planning begins. It is important to include those interests and agencies which might eventually be responsible for implementing river protection and use programs.

The regional planning agency can be a primary ingredient in a river area inventory and planning process. This agency's familiarization with the region, knowledge of information sources pertaining to the river, and awareness of past activities and new development prospects can be very beneficial.

It is advisable for those initiating a river study and plan to contact the New Hampshire Office of Comprehensive Planning (OCP). The OCP is familiar with wild, scenic and recreational river study and evaluation, and is familiar with past studies conducted in other states and within the State of New Hampshire. The New Hampshire Office of Comprehensive Planning is an important source of information and direction with regard to technical assistance on this type of study.



### Task I-B Establish River Area Planning Committee

A river area planning committee should be established at the early stage of the program to provide a mechanism for local insights into river area conditions, to guide the preparation of alternative and selected plans, and to provide feedback from various governmental jurisdictions and property owners in the river area throughout the river inventory and planning process. This committee is the key to guiding the process, responding to recommendations, and eventually developing support for a river use and protection plan.

The committee membership should be representative of a variety of local interests in the river study area. Membership representation could include representatives from local planning commissions; regional planning commissions; local conservation commissions; local elected officials; interest groups pertaining to recreation; conservation and water resources; watershed associations; and private property owners adjacent to the river.

The planning committee should not be a "rubber stamp" organization; it should be a working group involved in every major step of the river inventory and planning process.

### Task I-C Select Providers of Technical Assistance

It is important to have a group of local representatives such as the planning committee to provide insights of people most familiar with the particular river corridor. It is equally important to have the proper kind of technical assistance to provide the proper information base and professional guidance necessary for the planning committee to make the soundest possible decisions. Providers of technical assistance should be involved throughout the river study and planning process, but may indeed have a larger role in some tasks than in others. Some main areas of assistance include: 1) data collection both in the office and in the field; 2) determining river area problems and assets; 3) preparing alternative plans for river area resource use and protection to be evaluated by the planning committee; 4) effectively presenting the selected plan; and 5) developing river management and implementation techniques appropriate for the particular river.

There are many possible providers of technical assistance including the technical staffs of regional planning agencies and state planning agencies as well as professional people involved with various interest groups and organizations pertaining to conservation and recreation. Also, there are private consultants which specialize in river area research and planning and have practical experience in this field.

It is important to carefully select the provider of technical assistance whether it be associated with a public agency, a nonprofit organization, or a private firm. The following steps are recommended for use in selecting a provider of technical assistance:

1. determine where and when technical assistance is required by using the suggested river area study and planning process as a guide;
2. list possible providers of technical assistance, based upon their known past experience and reputation;
3. request specific information on past experience from possible providers (from 6 to 10 possible providers would be appropriate);
4. select 2 to 4 possible providers on the basis of information supplied in step 3 above and request a detailed proposal for services including detailed qualifications, scope of work, time schedule, man hours, and fees; and
5. select a provider or a group of providers to supply the necessary technical assistance and determine the best possible working relationship between the provider, the planning committee and other major participants in the river planning process.

(It may be necessary to select one provider of technical assistance who would be responsible for overall technical direction and key work items in the study, along with one or more other providers who may supply specialized expertise in unique aspects of the study.)

### Task I-D Determine Study Area Boundary

United States Geological Survey 15 minute (1" = 5,208') maps are available covering the entire State and make good maps for the river area to be studied. Some areas have 7½ minute (1" = 2000') U.S.G.S. maps. The river study area should include at least the river and the land area ¼ mile from both edges of the river; this is the most common distance now in use for similar river studies. This provides for at least a ½ mile wide river study area. Dashed lines delineating the river study area should be drawn on the map and later placed on the Study Area Base Map. It is important to note that while this ½ mile river corridor will be studied in detail, major influences (such as nearby cities, State parks, etc.) which lie outside this corridor should also be identified later in the study process.

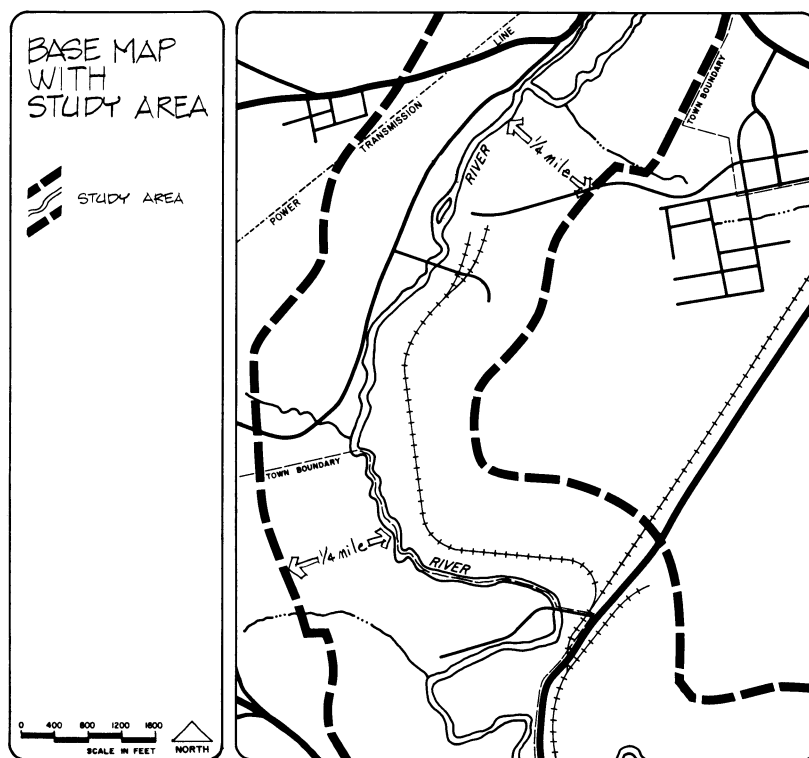


### Task I-E Acquire Base Maps

An appropriate base map showing roads, water bodies, and political boundaries should be acquired or prepared as soon as possible. The State Department of Resources and Economic Development has a complete set of base maps for each town in New Hampshire. The base map should have a scale of at least 1"=1000'; larger map scales (e.g., 1"=800' or 1"=400'), are generally more desirable because they provide for more detailed study and planning. As a general guide, the base map should have a scale between 1"=1000' and 1"=400'.

A suitable base map (or maps which can be used to prepare a base map) may also be available through regional or local planning commissions. The 15 minutes (1" = approximately 1 mile) U.S. Geological Survey (U.S.G.S.) Topographic Maps showing roads, railroads, utility lines, political boundary lines and other useful items are available covering the entire State. These maps can be used to transfer useful information to the town base maps, when enlarged to the town base map scale. Some 7½ minute quadrangles (1" = 2000') are also available for a few areas of the State.

The base map should be on a stable, translucent material such as mylar; this material will provide a durable base map and allow the study group to reproduce paper ozalid prints for mapping and notetaking during the field survey. If the subject river is 19 miles or longer, it is advantageous to create separate base map sheets containing 5-mile stretches of the river.



### PHASE II — INVENTORY AND ANALYSIS

A sound river management plan must be preceded by a detailed inventory and analysis of the river. Two data collection steps are suggested: 1) in-office data collection (Task II-A) and 2) field survey (Task II-B). After the required data are collected, the conditions of the river area are to be analyzed and problems, assets, and issues identified.

As much information as possible should be obtained through in-office source materials. This requires research, phone calls and visits to governmental agencies, but will be much easier than gathering all of the necessary data by field work. After the in-office data are collected, a field survey should be conducted to: 1) fill in data voids; 2) check the validity of and update existing information; 3) obtain needed data which should be acquired through a field observation; and 4) to become familiar with the realities of the river.

The information obtained through the two data steps should be shown on inventory maps or recorded on data sheets.

#### Task II-A Conduct In-Office Data Collection

The following Guidelines for Data Collection and Inventory Mapping are useful for in-office data collection and mapping, and for the preparation of a map for use in doing field data collection.

## GUIDELINES FOR DATA

## DATA REQUIREMENTS

## DATA SOURCES

## I. Natural Feature Characteristics

- |                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. Locations of all water bodies and wetlands.                                        | <ul style="list-style-type: none"> <li>1) U.S.G.S. Topographic quadrangles or Soil Survey Reports can be used to identify rivers, lakes, streams (perennial and intermittent), natural drainage channels, and wetlands.</li> <li>2) Prepare a Water Characteristics Map (from enlarged U.S.G.S. Quadrangles if possible), at the same scale as the Base Map, showing all rivers, lakes, perennial and intermittent streams, natural drainage channels and wetlands (swamps, marshlands, bogs, etc.).</li> </ul>                                                                        |
| B. Locations of flood-prone areas.                                                    | <ul style="list-style-type: none"> <li>1) The New Hampshire Office of Comprehensive Planning (OCP) has flood-prone and flood-hazard maps prepared by the U.S. Army Corps of Engineers.</li> <li>2) Municipalities may have maps of flood boundaries and floodways for flood insurance purposes (i.e., Federal Insurance Administration, HUD).</li> </ul>                                                                                                                                                                                                                               |
| C. Water quality (existing and legal)                                                 | <ul style="list-style-type: none"> <li>1) "1976 National Water Quality Inventory Report to Congress", prepared by the New Hampshire Water Supply and Pollution Control Commission, April 1976; this report includes maps showing 1976 and 1983 Water Quality Classes.</li> </ul>                                                                                                                                                                                                                                                                                                       |
| D. Water flow characteristics.                                                        | <ul style="list-style-type: none"> <li>1) "Surface Water Resources and Feasible Impoundment Sites" (Guide Plan Map #8) scale 1:125,000 (1" equals about 2 miles), prepared by the New Hampshire Office of Comprehensive Planning; this map shows the duration of low flows.</li> </ul>                                                                                                                                                                                                                                                                                                 |
| E. Location, type, function and condition of dam.                                     | <ul style="list-style-type: none"> <li>1) The Water Resources Board, a division of DRED has marked on U.S.G.S. quadrangles the locations of all the dams in New Hampshire. They also have town files which indicate the type, function and condition of the dams.</li> <li>2) "Existing Land Use and Major Water Works" (Guide Plan Map#6), scale 1:125,000 (1" = about 2 miles), prepared by the New Hampshire Office of Comprehensive Planning (OCP). This map identifies the locations of hydroelectric sites, major flood control dams, and major flow regulation dams.</li> </ul> |
| F. River characteristics for boating.                                                 | <ul style="list-style-type: none"> <li>1) The New England A.M.C. Canoeing Guide describes the various classifications (Class A, B, I, II, III, etc.) for river boating.</li> <li>2) Information regarding the suitability of the river for power boating may be available through other sources.</li> </ul>                                                                                                                                                                                                                                                                            |
| G. Locations of potential beach areas capable of supporting small groups of swimmers. | <ul style="list-style-type: none"> <li>1) U.S.G.S. topographic quadrangles can be used to initially identify beach areas along the river.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                   |

COLLECTION & INVENTORY MAPPING

INVENTORY MAPS

### WATER CHARACTERISTICS MAP

**WATER BODIES**

- RIVER
- PERENNIAL STREAM
- INTERMITTENT STREAM

**WATER QUALITY CLASS**

**C/B** CURRENT/ 1983

**BOATING CLASSIFICATION**

**A, B, I, II, III**

**SUITABILITY FOR POWER BOATING**

- EXCELLENT
- GOOD
- POOR

**WATER FLOW**

PERCENT OF YEAR BELOW 0.25 CF5M \*

**ENVIRONMENTALLY SENSITIVE AREAS**

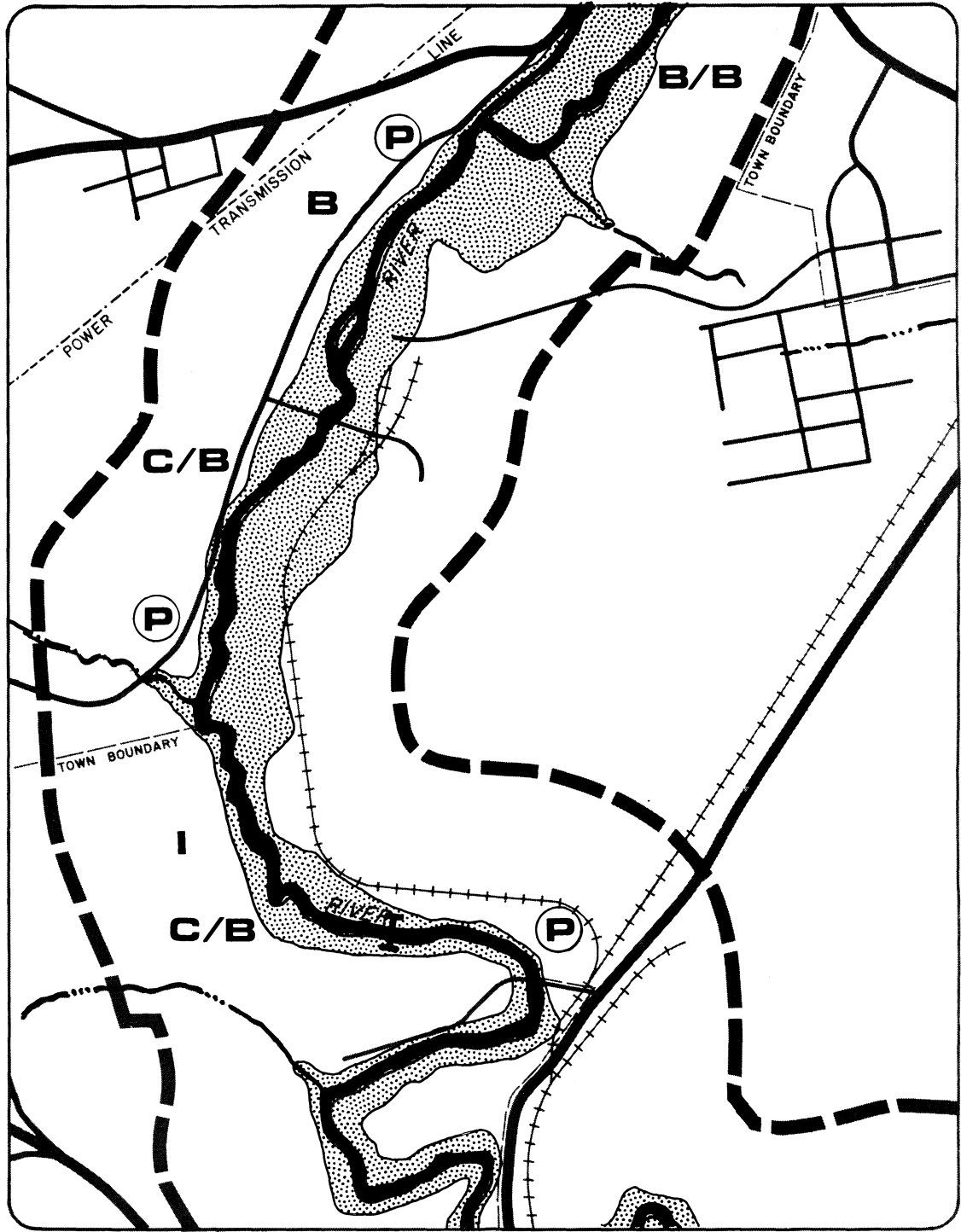
- FLOOD PRONE AREA
- WETLANDS

**WATER STRUCTURES**

- EXISTING DAMS  
NOTE TYPE, FUNCTION & CONDITION

\* cubic feet per square mile of drainage area

0 400 800 1200 1600  
SCALE IN FEET NORTH



## DATA REQUIREMENTS

H. Topographic Characteristics and Steep Slopes.

I. Soil suitability.

J. Existing woodlands.

K. Unique natural areas.

L. Locations of fish and wildlife areas, and types of fish and wildlife found within the corridor.

M. Locations of potentially good access points to and from the river (i.e., river/shore access).

N. Preliminary investigations of possible scenic vistas and visual corridor locations.

## DATA SOURCES

1) 15 or 7½ minute, U.S.G.S. quadrangles, showing topographic contours. Contours should be transferred to a base map from enlarged, U.S.G.S. maps.

2) "The Land Book", prepared by OCP provides information which will be helpful when preparing a slope map; it explains how slope is measured and shows the influence of slope on land use.

1) Soil suitability information can be obtained from the county soil survey reports published by the Soil Conservation Service (SCS). These reports are available from SCS County Offices and contain information regarding soil suitability. "The Land Book", a report prepared by the Office of Comprehensive Planning (April, 1976), discusses the subject of soil suitability as it relates to planning and mapping and lists the County offices where the soil survey information is available.

1) U.S.G.S. topographic quadrangles show wooded areas (in green).

2) The New Hampshire Dept. of Resources and Economic Development (DRED), as well as most of the regional planning agencies, have aerial photographs which can be used to identify wooded areas.

1) "Inventory of Historic, Natural Areas and Publicly Owned Land" (State Map) scale 1:125,000 (1" equals about 2 miles) prepared by the New Hampshire Office of Comprehensive Planning, April 1976; this map identifies natural areas listed by the New England Natural Areas Project.

2) The Society for the Protection of New Hampshire Forests and other sources which identify unique flora or fauna areas should be contacted to identify other important natural areas.

3) The U.S.G.S. topographic quadrangles can be used to identify interesting and unique land and river forms (e.g., oxbow lakes, waterfalls, etc.)

4) "The Land Book" prepared by OCP contains information about identifying and mapping special features such as natural areas.

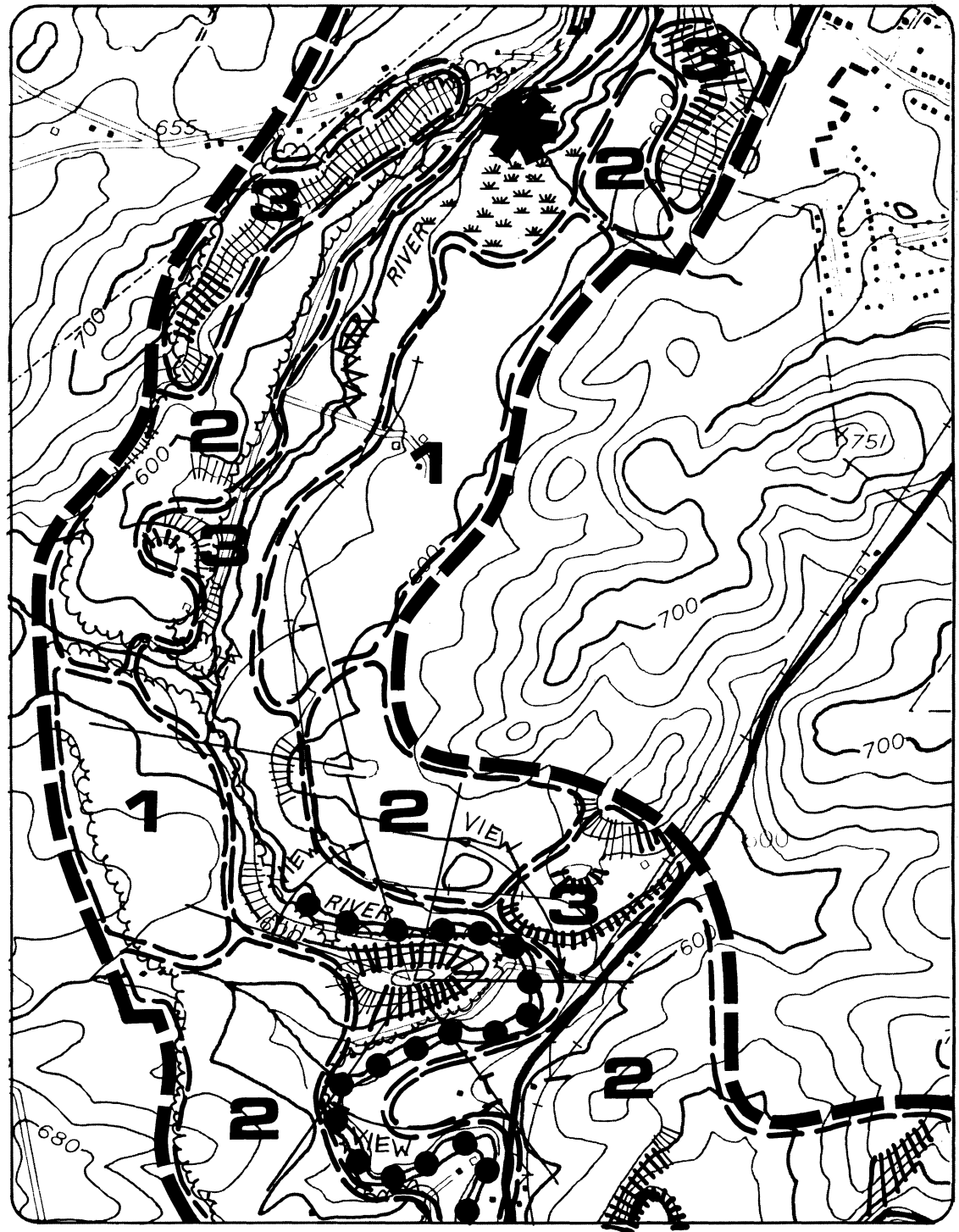
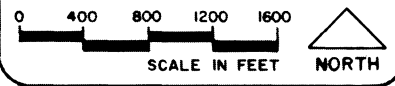
1) The New Hampshire Fish and Game Department has information regarding fish and wildlife types and their abundance.

1) U.S.G.S. Topographic quadrangles can be used to initially determine potentially good access points.

1) U.S.G.S. topographic quadrangles can be used to initially identify possible scenic vistas or corridors.

# NATURAL FEATURES MAP

-  SLOPES GREATER THAN 15 PERCENT
-  SLOPES 8 TO 15 PERCENT
-  WOODLAND
-  SLIGHT SOILS LIMITATIONS
-  MODERATE SOILS LIMITATIONS
-  SEVERE SOILS LIMITATIONS
-  POTENTIAL RIVER-SHORE ACCESS
-  FISH & WILDLIFE AREAS
-  POSSIBLE SCENIC VISTA
-  UNIQUE NATURAL FEATURE



## DATA REQUIREMENTS

## DATA SOURCES

## II. Man-Made Characteristics

## A. Existing land uses within the river.

- 1) Existing land use maps are available through regional or local planning agencies. Most regional planning agencies will also have aerial photos.
- 2) "Existing Land Use Map" (New Hampshire) scale 1:125,000 (1" equals about 2 miles) prepared by the New Hampshire Office of Comprehensive Planning (OCP), April 1976, may be helpful if more detailed information cannot be obtained.
- 3) "Existing Land Use and Water Works" (Guide Plan Map #6) scale 1/125,000 (1" equals about 2 miles), prepared by the New Hampshire Office of Comprehensive Planning (OCP). This map may be helpful if more detailed information is not available.
- 4) Aerial photographs scale 1" = 1,500' are available at Graphic Arts, Department of Resources and Economic Development (DRED); most of the regional planning agencies also have aerial photographs which could be used for land use mapping.
- 5) If detailed land use information is not available, "The Land Book" prepared by OCP shows how to inventory and map existing land uses.

## B. Locations of historic sites and other man-made assets such as covered bridges found within the river corridor.

- 1) "Inventory of Historic, Natural Areas and Publicly Owned Land" (Map), scale 1:125,000 prepared by the Office of Comprehensive Planning (OCP), April 1976. This map shows the locations of accepted and nominated sites listed in the National Register of Historic Places.
- 2) Files identifying historic sites in each town are kept at the Historic Preservation Office, Dept. of Resources and Economic Development (DRED).
- 3) A wide variety of source materials and maps can be used to identify other man-made assets. For example, the 1976 Official Highway Map of New Hampshire (prepared by the National Survey; Chester, Vermont) shows the locations of covered bridges, existing picnic areas, historical markers and other points of interest.

## C. Functional road classifications and traffic volumes.

- 1) The New Hampshire Department of Public Works and Highways and the regional planning agencies should have information regarding functional road classifications and traffic volumes.

## D. Existing and potential new trails (e.g., abandoned railroad rights-of-way).

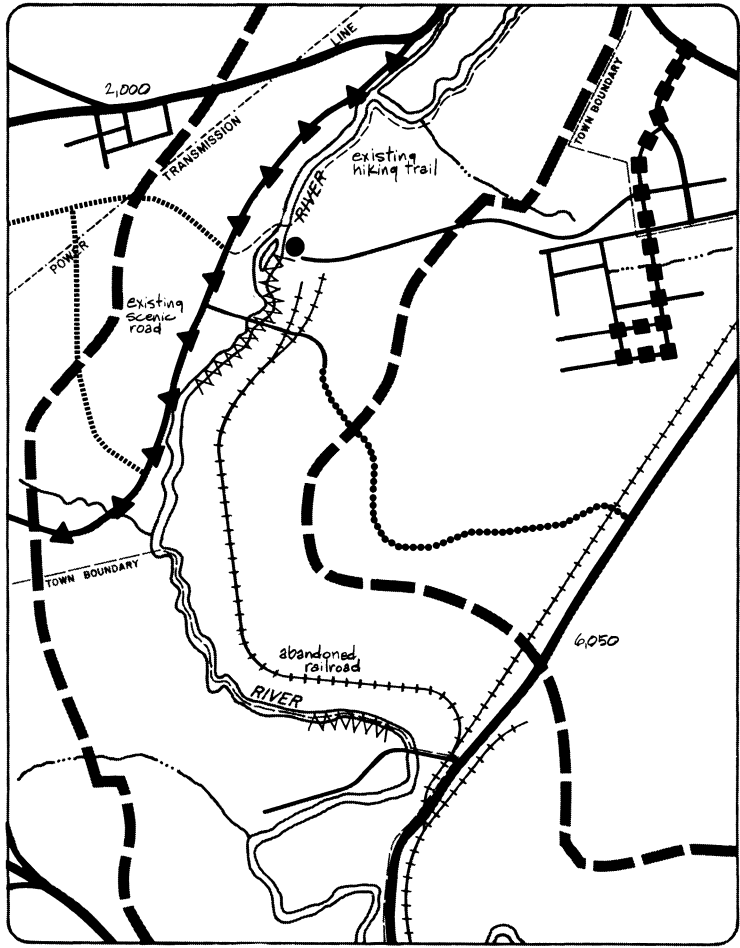
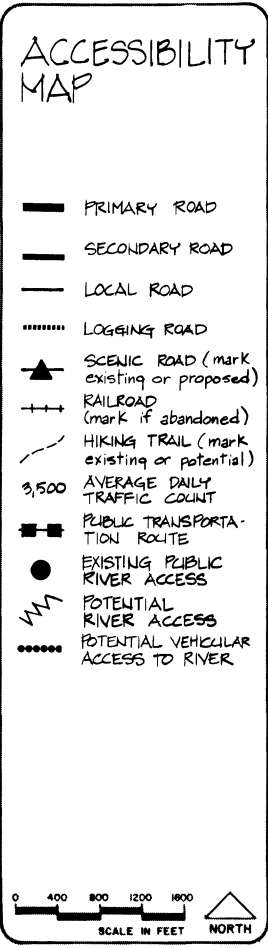
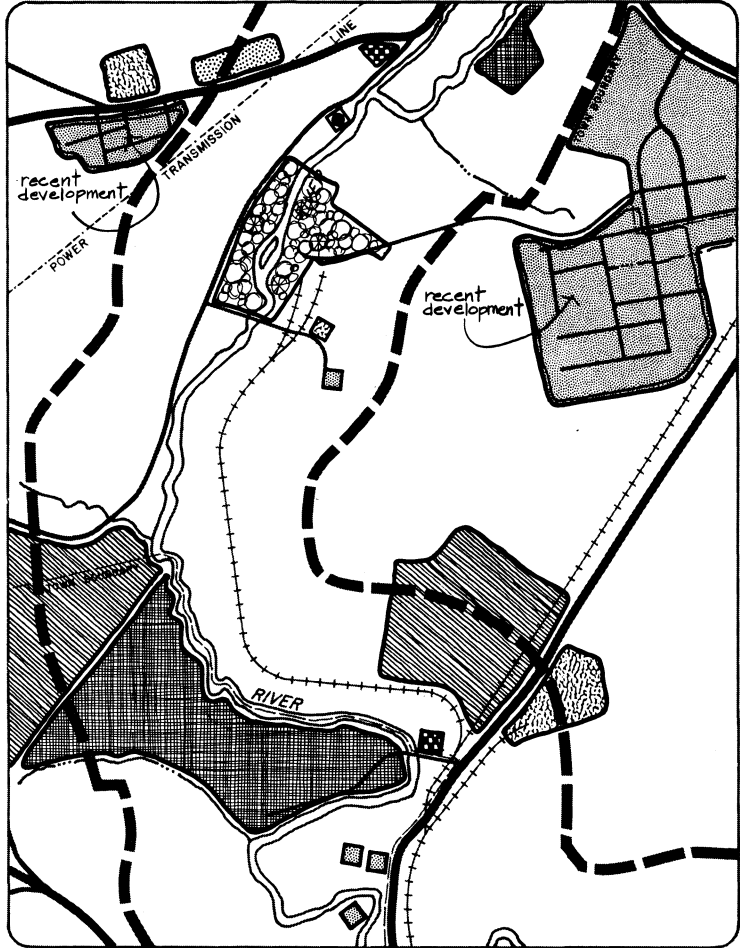
- 1) "New Hampshire Statewide Trails Study" Report to the New Hampshire Office of Comprehensive Planning, prepared by E. Rodgers Rutter, August 1974.
- 2) "White Mountain Guide", prepared by A.M.C., 1969.
- 3) Road Map.

## E. Existing and proposed scenic roads.

- 1) Individual municipalities should have information concerning existing or proposed scenic roads.

## F. Public Transportation routes.

- 1) The New Hampshire Transportation Authority might have information regarding existing and proposed public transportation routes.



## DATA REQUIREMENTS

- G. Locations of public access points to and from the river (i.e., river/shore access).

### III. Circumstantial Characteristics

- A. Land ownership characteristics within the corridor.

- B. Land uses currently proposed within the river corridor.

- C. Land areas being acquired (for public use) through existing land acquisition programs. (record on land ownership map).

- D. Open Space Land Use Controls presently in use other than zoning (e.g. open space easements, tax incentives, etc.).

- E. Development pressure characteristics.

- F. Recreational user characteristics. (record on property ownership map).

## DATA SOURCES

- 1) Local municipalities, recreational agencies and others may have maps and information regarding existing public access points along the shoreline.
- 2) 15 or 7½ minutes U.S.G.S. topographic quadrangles may also identify existing access points.
- 3) Inventory of Outdoor Recreation Facilities — New Hampshire Outdoor Recreation Plan.

- 1) Municipal Tax Offices have property line maps and information regarding property ownership.

- 2) "Inventory of Historic Natural Areas and Publicly Owned Lands" (Map of New Hampshire shows large public land holdings which are 50 acres or more). Scale 1:125,000 (1" equals about 2 miles) prepared by the New Hampshire Office of Comprehensive Planning (OCP), April 1976. This map shows the locations of Federal, State and County publicly owned land and identifies State Parks and Forests, and New Hampshire Fish and Game Lands.

- 1) The New Hampshire Office of Comprehensive Planning has a map identifying those municipalities with adopted land use plans.

- 2) Regional land use plans prepared by Regional Planning Agencies may also be available.

- 1) Local municipalities and State agencies may know of or have information about existing land acquisition programs.

- 2) The State Capital Budget.

- 1) Local municipalities should have this information.

- 1) The following items can be used to help estimate development pressure characteristics:

- a) the location of recent development (plot on Existing Land Use Map).

- b) the use of interim zoning (See Source C, Under Circumstantial Characteristics).

- c) the municipalities experiencing population increases. The New Hampshire Office of Comprehensive Planning has population data showing population percentage changes from 1970 to 1976 for each municipality within the State; OCP also has population projections for Towns and Cities to the year 2000.

- 1) "The New Hampshire Outdoor Recreation Plan" 1975 has an entire Chapter (Chapter V) devoted to Recreational Demand.





- 2) The New Hampshire Department of Resources and Economic Development (DRED) may have recreational user counts or estimates for State Parks along the river.

- 3) Municipalities' information on park use and trends.






### LAND OWNERSHIP MAP

**TYPE OF OWNERSHIP**




-  PUBLIC LAND
-  PRIVATE LARGE LAND HOLDINGS \*
-  OTHER PRIVATE HOLDINGS
-  LAND BEING ACQUIRED FOR PUBLIC USE

**EXISTING RECREATIONAL USE ASSESSMENT**

**CURRENT USE INTENSITY**

-  LOW
-  MEDIUM
-  HIGH

**ANTICIPATED FUTURE USE**

-  INCREASED
-  STABILIZED
-  DECREASED

\* greater than 20 acres

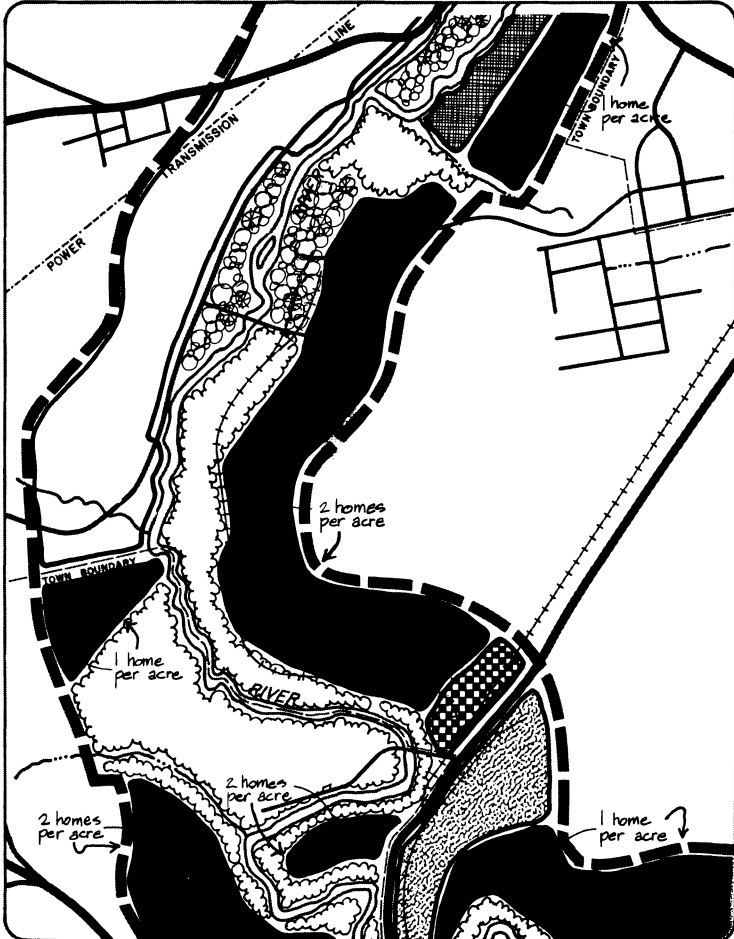
0 400 800 1200 1600  
SCALE IN FEET NORTH



### EXISTING LAND USE PLANS

-  SINGLE FAMILY RESIDENTIAL
-  MULTI-FAMILY RESIDENTIAL
-  COMMERCIAL
-  INDUSTRIAL
-  PUBLIC / SEMI-PUBLIC
-  RECREATION
-  CONSERVATION
-  NO PLAN

0 400 800 1200 1600  
SCALE IN FEET NORTH

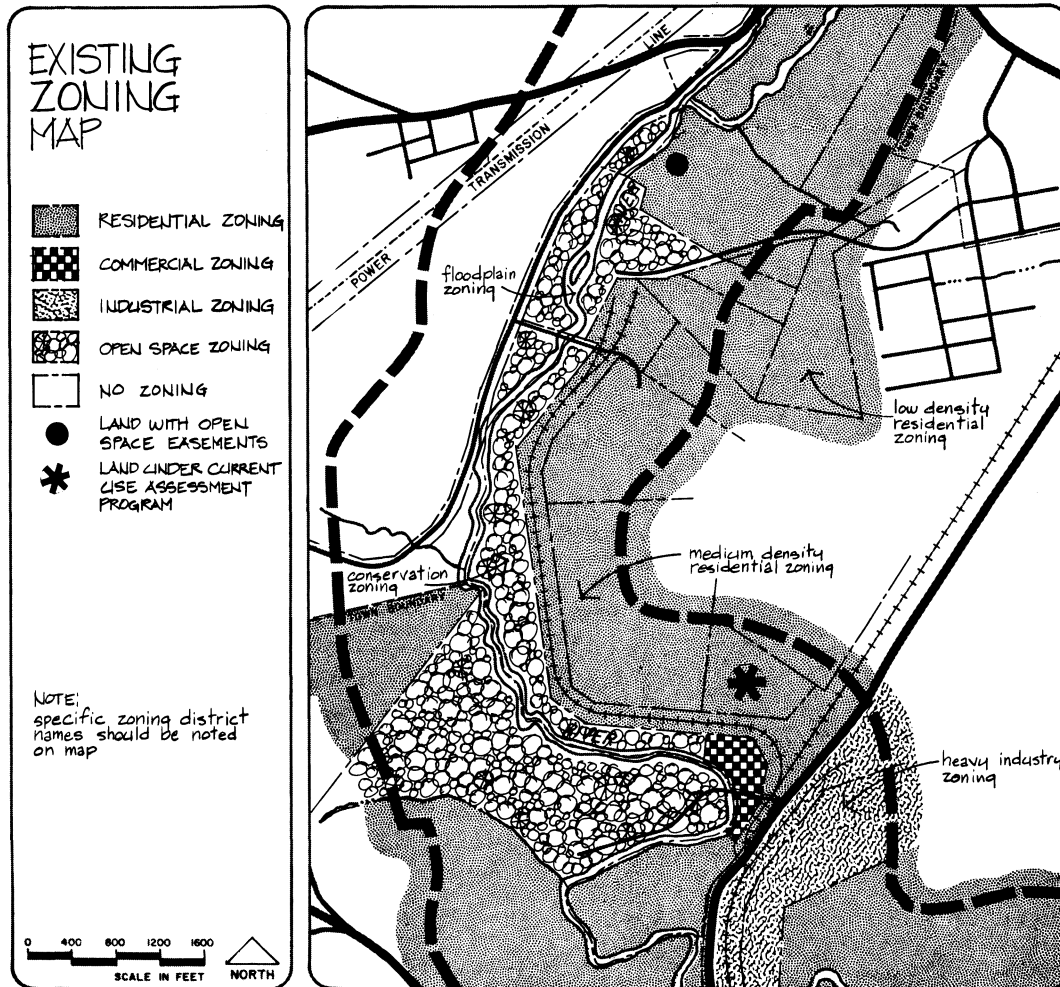


## DATA REQUIREMENTS

G. Zoning District categories within the river corridor.

## DATA SOURCES

- 1) "Local Zoning Ordinance Map" (New Hampshire) Scale 1:125,000 (1" equals about 2 miles), prepared by the Office of Comprehensive Planning (OCP) from local zoning maps compiled in December 1975.
- 2) The individual municipalities can provide up-to-date information regarding the status of their zoning.



## Task II-B Field Survey

Following the in-office data collection, a field survey should be conducted to obtain additional information and to field-check some of the existing data. In many cases, it will be necessary to conduct the field survey in a canoe on the river and on land in the river area.

## Items to Take Along

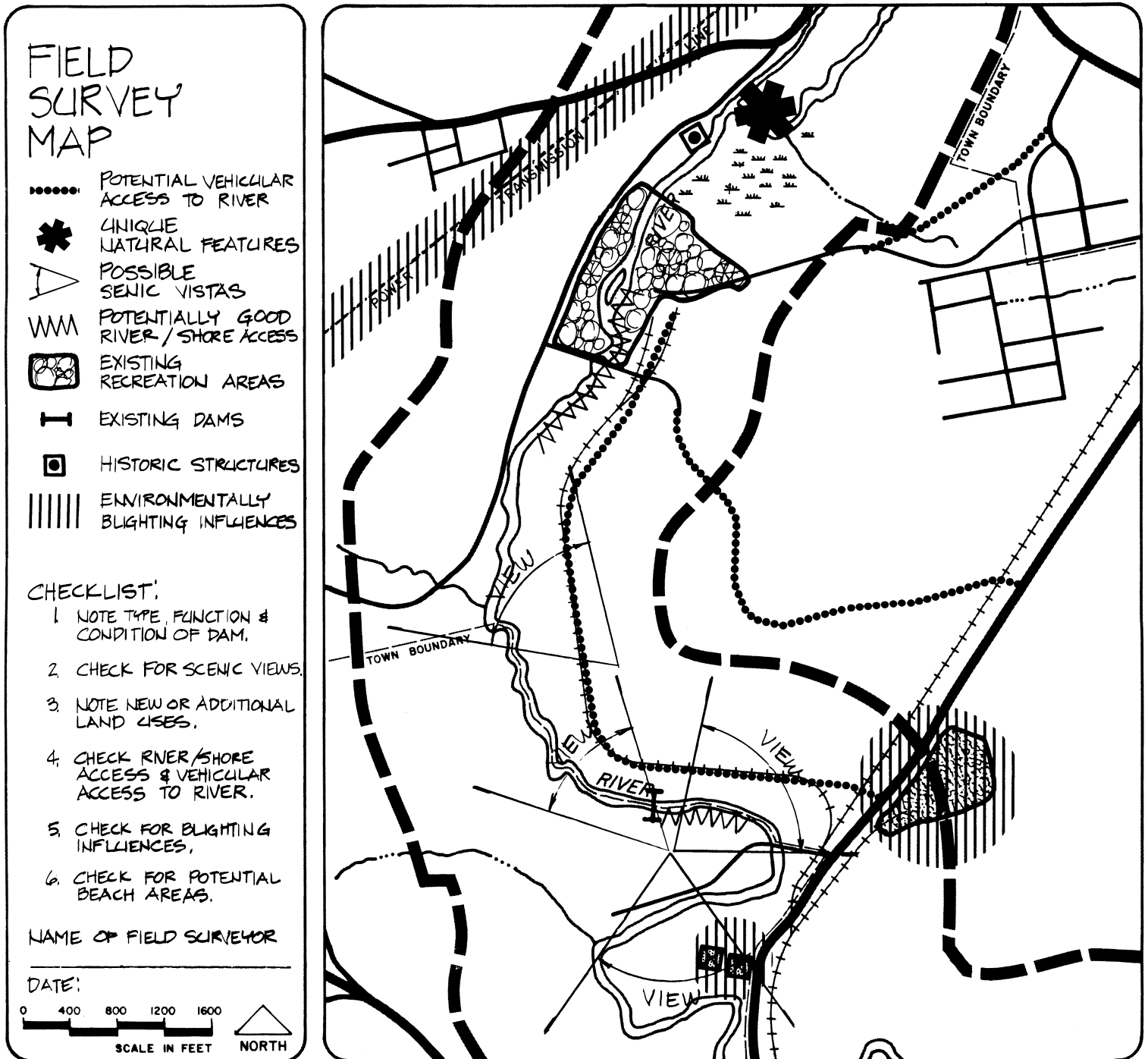
A Field Survey Map should be prepared using an ozalid print of the Base Map (or the land use map) and highlighting items which should be checked or noted in the field. Notetaking directly on the Field Map is recommended wherever possible and the Field Map should contain a checklist of items to look for and evaluate when in the field; items which may not be possible to plot on the map before the field survey. A tape recorder might also be useful for recording the characteristics and impressions of the river. An adequate supply of pencils, tablets and clip boards (preferably legal size, 8½ x 14) should be used. A camera and a plastic bag (to protect the maps and notes from getting wet) should also be taken along.

Method of Survey

Method of Travel — When possible, the major portion of the survey should be conducted while canoeing the river. This might be impossible for some rivers, especially during low flow periods. If the river cannot be canoed, the field data will have to be obtained by vehicle and foot. In any case, the survey team should be prepared to explain its presence to property owners.

Survey Team — The survey team should consist of two to five people, including one staff person knowledgeable in field research. Each person should be well-prepared and know his responsibilities including mapping and notetaking techniques. The team should be familiar with the river and its corridor prior to the field trip. Each person should read the Appalachian Mountain Club's canoeing guide description for the river before the trip. If the survey team is canoeing the river, it should stop at least every two miles to double check notes and discuss findings. Designated stopping points should be planned prior to the field survey.

Following the field survey, new and updated information obtained from the survey should be recorded on the appropriate, previously-prepared inventory maps.



## Task II-C Analyze Problems, Assets and Issues

### Classification

The first step in this analysis should be to determine whether the river being studied is actually a wild, scenic or recreational river, according to its original classification or whether a reclassification of the river is warranted. The definitions of river classes, the initial criteria used for identifying potential rivers, and the inventory maps should be used as a basis for reevaluation. At this point, the river should be declared either a wild river, a scenic river, or a recreational river.

### Analysis Map

An analysis map should then be prepared by using the inventory maps and all field survey information. The main purpose of the analysis map is to summarize, on one map, all river area characteristics which are the most important as compared to the intent of a wild, scenic or recreational river. This means that major problems which will have to be overcome and major assets which should be preserved and enhanced are prime candidates for inclusion on the analysis map. Special features of the river area are also important in the preparation of the map.

If the river area is very long, or exhibits a wide variety of compatible or conflicting features, it may be advantageous to divide the river area into sub-areas for analysis purposes.

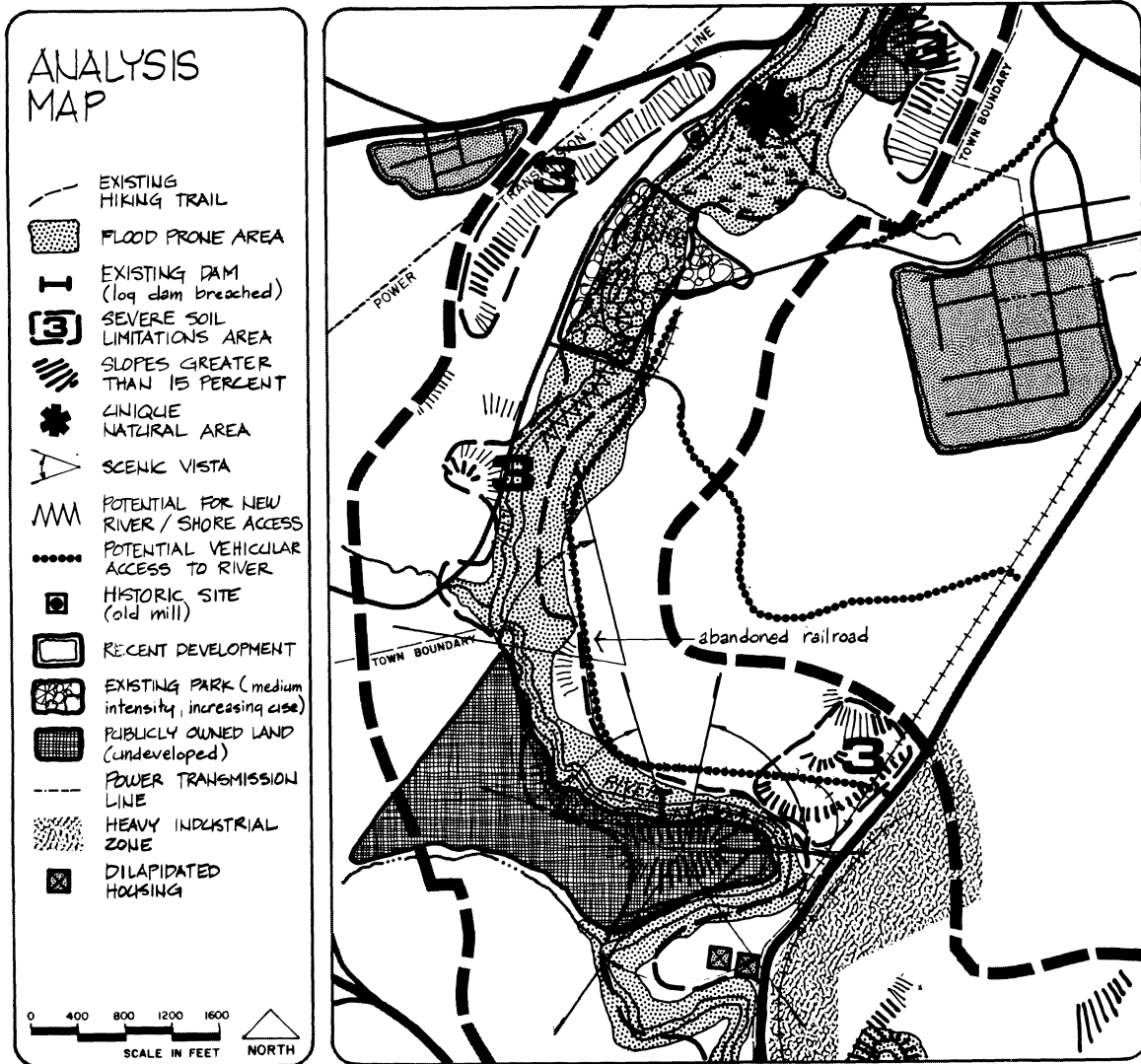
### Problems, Assets, and Issues

Problems, assets, and issues should be identified from the inventory maps and the Analysis Map, and listed according to the format presented in this section of the report. This listing is prepared to help summarize what is known about the river area and to provide a logical basis for determining river area goals in Phase III. The following definitions clarify what is meant by the terms: problem, asset and issue:

- **Problem** — an existing or potential condition or trend which represents adverse influences on the river area as the condition relates to the purpose of a wild, scenic or recreational river; whichever the case may be.
- **Asset** — a natural or man-made feature (e.g., outstanding views, historic sites, etc.) which represents a positive influence on the river area as the feature relates to the purpose of a wild, scenic or recreational river; whichever the case may be.
- **Issue** — a subject or point of debate or difference of opinion where parties usually take affirmative or negative positions; an issue should be stated in the form of a question offering a choice whereby parties can take a position.

The subject categories listed under the first column entitled, "Data Requirements" in the table called "Guidelines For Data Collection and Inventory" (page 24) should be used as an initial basis for listing subject categories on the format table. However, the most important subject categories are likely to come from the subjects included on the Analysis Map.

Whether a river area characteristic is labeled a problem or an asset depends on its relationship to the intent of the river's classification, and on the River Area Planning Committee's views about local circumstances. The same characteristic may be a problem in one case and an asset in another case.



**FORMAT FOR LISTING PROBLEMS, ASSETS AND ISSUES**

NOTE: This list should not be a final listing—it should be a preliminary list for discussion, revision and eventual agreement by the River Area Planning Committee. This is not a complete list; only a few examples are provided here.

SUBJECT CATEGORY	PROBLEMS	ASSETS / OPPORTUNITIES	ISSUES
1. Flood prone and severe soil limitation areas	Several portions of the river area are hazardous for development.	It may be possible to extend existing sewers into some of these areas.	Should the hazardous areas for development remain undeveloped, or should development be allowed under certain use and drainage conditions?
2. Natural features	Natural features such as steep slopes and unique natural areas limit development because of possible adverse impacts and the change of character of the area	Undisturbed natural features offer outstanding opportunities to preserve the natural qualities of the river area.	Should steep slopes and other significant natural features be subject to any development or should they remain completely in their natural state?
3. Existing dam	Further recreational development in this area (if not the right kind) can adversely affect present recreation experiences.	The dam offers a scenic experience because it is visible from many areas. It is also made of logs and is breached in places, thus allowing canoes to pass.	Should the dam remain and be improved as an aesthetic feature or should it be removed or allowed to further deteriorate?
4. Recreational development	The dam impedes the flow of water, collects undesirable floating material and could break and cause logs and debris to float downstream.	The potential exists for expanding recreational activities in the area because of potential new river/shore access points, public land ownership, and existing and potential hiking trails	Should the recreation area remain the same as it is today, should it be expanded, or should additional recreational sites be provided elsewhere in the river area?
5. Accessibility to river area	Access to existing recreation area now requires all traffic destined for site to go through nearby village. The recreation area is increasing in usage.	Several new access points are possible, connecting the primary highway to the recreation area.	Should a new access road be encouraged to improve access and serve the potential increase of recreation area use or should the present situation continue?

### PHASE III — PLANNING

Many different types of approaches can be taken to the planning of a river area. Approaches may vary, depending upon the simplicity or complexity of the problems, the receptivity of the local area to the idea of planning, and the particular philosophies of professionally — trained planners who may be involved. This is one approach which could be taken:

#### Task III-A Establish Goals

One of the most important, but most often neglected, steps in the river planning process is the establishment of goals. Goals provide the foundation for getting the most out of the inventory and analysis phase and for providing the appropriate direction for the planning phase; in essence, goals make the transition between analysis and planning.

A goal can be defined as an ultimate end to be achieved; an ideal to strive for; a long range aim or direction to take. Goals tell us where we want to be going with the river plan and provide the basis for determining how we get there. The river area planning committee should be the responsible body for developing goals, aided by the provider of technical assistance. When preparing goals, it is important to consider the impact on the planning and implementation phases of the process. This will assure that the goals are not too idealistic and impractical to accomplish.

Goals should not be too vague and meaningless; they should be as specific as possible without becoming exact recommendations. The following are examples of goals which are too vague, too specific or just right.

#### TOO VAGUE:

Recreation uses should be encouraged  
in the river area.

#### TOO SPECIFIC:

Two tent camping areas should be  
located in the river area.

#### JUST RIGHT:

Low intensity recreation activities such as  
tent camping, hiking and other similar activities  
should be encouraged in the river area.

The following is a three step procedure for developing goal statements:

1. Refer to the issues listed in Phase II-C and take a "position" (one side or the other) on each issue.
2. List each position, as a direct statement in the table entitled "Format For Listing Positions and Goals". Make a goal statement from each of the position statements listed and insert in column 2 of the format table.
3. Prepare a list of final goal statements from the total list of goals which evolved from position statements.

It will probably be necessary to eliminate duplications from the goal statements in Step 2 and to combine some related goals. This consolidation of goals from a more extensive list provides the opportunity to rethink, reword and give clearer meaning to the goal statements. Also, the opportunity exists for listing additional goals generated from discussion by the planning committee and from other sources in the planning process.

**FORMAT FOR LISTING POSITIONS & GOALS**

(Examples)

**POSITION STATEMENTS**

(derived from  
issues list)

1. Hazardous areas should remain undeveloped.
2. Natural features should remain completely in their natural state.
3. The dam should remain and be improved as an aesthetic feature.
4. The recreation area should be expanded.
5. A new access road should be encouraged.

**GOALS**

(evolved directly from  
position statements)

1. Areas of the river corridor which are flood prone and which exhibit severe soil limitations should not be developed.
2. Steep slopes, unique natural areas and fish and wildlife areas should not be developed and remain in their natural state.
3. The dam should be incorporated into the Plan as a scenic feature and should complement or be complemented by other scenic features.
4. Increasing recreational needs and demands should be satisfied by increasing the size and the scope of activities of the existing recreation area.
5. Access to the recreation area should be improved by creating a new access road to better serve an increasing number of users and to divert recreational traffic from the residential village.

**Task III-B Prepare and Evaluate Alternative Resource Use and Protection Plans**

Stated goals can be accomplished in many ways through planning. For this reason, it is necessary to prepare and evaluate alternative plans for using and protecting river areas. Decisions can then be made on which alternative plans or plan combinations will best meet the desired goals.

It is easy to make the mistake of assuming that you know what the plan should be before preparing and evaluating alternatives. Even if many of the plan recommendations become obvious, there is still great value in considering various alternatives. On the other hand, it is possible to confuse matters by over-emphasizing the preparation and evaluation of alternatives. A deep concentration on alternative plans, however, is often required where difficult issues and choices are involved. It is far better to deal with important issues at the alternative plan stage than to delay this concern until later in the planning process when other decisions have already been made.

Three steps are suggested here for preparing and evaluating alternative plans:

- Step 1 — Alternatives should be prepared and mapped according to the mapping guidelines for the selected plan which are presented in the description of Task III-D. Maps showing alternative plans can be very informal and indeed can be treated as "workshop maps". Informal notes written on the maps are considered very appropriate, and attachments of additional ideas and comments are welcomed.
- Step 2 — The alternative plans should be evaluated in a systematic way, perhaps using the following format for alternative plan evaluation. This form can be used to make final evaluations as to the pros and cons of alternatives as they relate to the stated goals.

ALTERNATIVE PLAN #	PROS	CONS
#1	_____	_____
	_____	_____
	_____	_____
#2	_____	_____
	_____	_____
	_____	_____
#3	_____	_____
	_____	_____
	_____	_____



- Step 3 — Select the alternative plan which should be prepared in Task III-D. At this point in the river planning process, the Committee should decide whether a public meeting should be held to discuss plan alternatives.





# ALTERNATIVE PLAN WORK MAPS

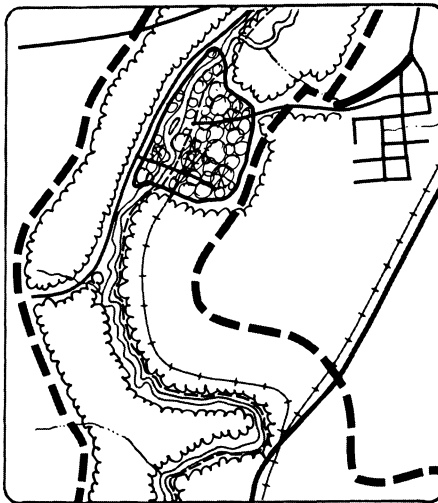
**ALTERNATIVE PLAN # 1**

**LAND USE**

-  CONSERVATION
-  RECREATION








**CIRCULATION**

-  PROPOSED ACCESS ROAD
-  PROPOSED HIKING TRAIL





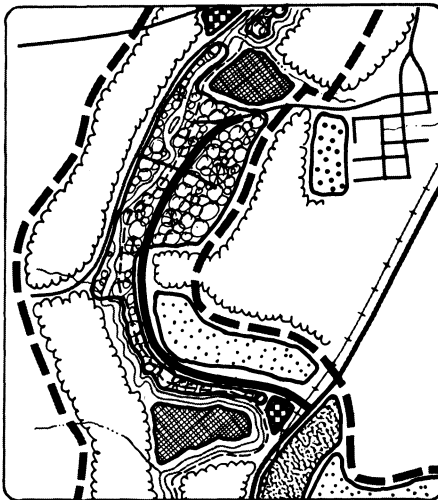
**ALTERNATIVE PLAN # 2**

**LAND USE**

-  CONSERVATION
-  RECREATION
-  LIMITED RECREATION
-  VERY LOW DENSITY RESIDENTIAL
-  HIGHER DENSITY RESIDENTIAL
-  CONVENIENCE COMMERCIAL
-  LIGHT INDUSTRIAL







**CIRCULATION**

-  PROPOSED ACCESS ROAD
-  PROPOSED HIKING TRAIL





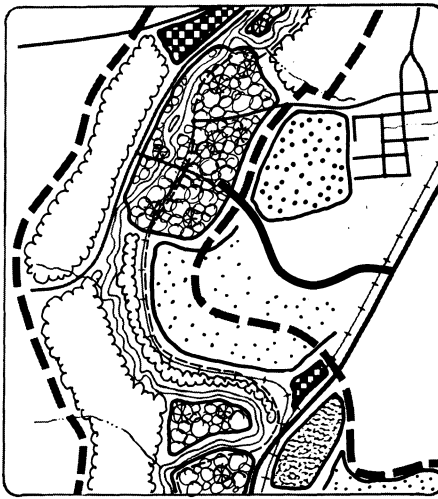
**ALTERNATIVE PLAN # 3**

**LAND USE**

-  CONSERVATION
-  RECREATION
-  LOW DENSITY RESIDENTIAL
-  HIGH DENSITY RESIDENTIAL
-  COMMERCIAL
-  LIGHT INDUSTRIAL

**CIRCULATION**

-  PROPOSED ACCESS ROAD
-  PROPOSED HIKING TRAIL



**NOTE:** The river area shown on this example is illustrative only, and is in no way intended to represent either a wild, scenic, or recreational river.

### Task III-C Determine River Area Plan Boundaries

No clear-cut formulas exist for defining river area boundaries. The definition of such an area is influenced by existing development patterns, land ownership, topography, roads, man-made barriers, and other factors. Goals for alternative resource use and protection plans may also influence the extent of river planning area boundaries. For instance, a plan directed toward increased recreational development of a river area might require a different planning area than a plan directed solely to the preservation of the existing features within the river area.

Although no magic formula exists for delineating river planning area boundaries, the following three guidelines can be used:

1. Examine the base map, the existing land use map, the land ownership map, and the natural features map to find logical river area boundary lines.
2. Remember that the analysis for the river corridor extends approximately  $\frac{1}{4}$  mile from both sides of the river.
3. Establish boundaries which recognize the possible recommendations discussed in the evaluation of alternative plans, and which will allow the goals and recommendations of the selected plan to be achieved.

### Task III-D Prepare River Area Resource Use and Protection Plan

Based on the selected alternative plan from Task III-C, a river area resource use and protection plan should be prepared. This plan is one which indicates what should be accomplished in a physical sense and tends to be a long-range plan. The plan endeavors to put the desired goals into physical terms for accomplishment.

The river area resource use and protection plan is different from the management plan to be developed in Phase IV because it deals with physical recommendations of land use, resource use, man-made influences and other physically-related items. The management plan deals more with how the physical recommendations can be accomplished in a management, organizational, legal and governmental sense.

The following process should be used to prepare the resource use and protection plan:

1. The goal statements should be repeated and revised, if necessary, to arrive at a final set of goals.
2. Prepare the plan using the map and legend example presented on the opposite page. Additions and changes may be necessary in the legend depending upon the specific characteristics and circumstances of the river under study.
3. The plan should then be described in text form. One of the most logical ways to describe the plan is according to subject headings which are used in the legend of the plan map. In each description, the recommendations should be clearly and distinctly outlined, along with a description of the benefits of each of the recommendations to the river area. Unique problems and opportunities can also be described to lend greater significance to the plan recommendations.

The river area resource plan should be prepared in a manner which is visually attractive and very clear to both the technician and the general public. The results of the river plan will be used as a basis for conducting at least one public workshop meeting and for public hearing and presentation purposes at later stages of this process. In the description of the plan, it may be desirable to prepare sketches of various recommendations to illustrate some of the most important end results of the resource plan.

### Task III-E Public Workshop Meeting

The public should be given an opportunity to learn about the river program and to see what has been prepared to date. A public workshop meeting is intended to encourage public exposure and participation in the planning process but not to be conducted in the form of an official public hearing. A public hearing should be held at a later date.

This process recommends that an informal public workshop meeting be held after the planning committee has had the opportunity to consider various alternatives and to develop constructive thoughts about what the plan should be. The timing of this workshop meeting still affords adequate opportunity for the general public to initiate plan re-evaluation and for necessary changes to be made prior to final decisions about the plan and the implementation measures which would be necessary to implement the plan. The Planning Committee should determine the timing and number of public workshop meetings which would be most appropriate for its particular river situation.

# RIVER RESOURCE USE AND PROTECTION PLAN

## CONSERVATION

NATURAL FEATURES OR WILDLIFE PRESERVATION

ENVIRONMENTALLY SENSITIVE AREAS

## RECREATION

WATER-BASED (indicate type by symbols or words)

LAND-BASED (indicate type by symbols or words)

HISTORIC OR INTERPRETIVE SITES

LOCATIONS FOR OUTSTANDING VIEWS

HIKING TRAILS

## NON-RECREATIONAL DEVELOPMENT

LOW INTENSITY DEVELOPMENT

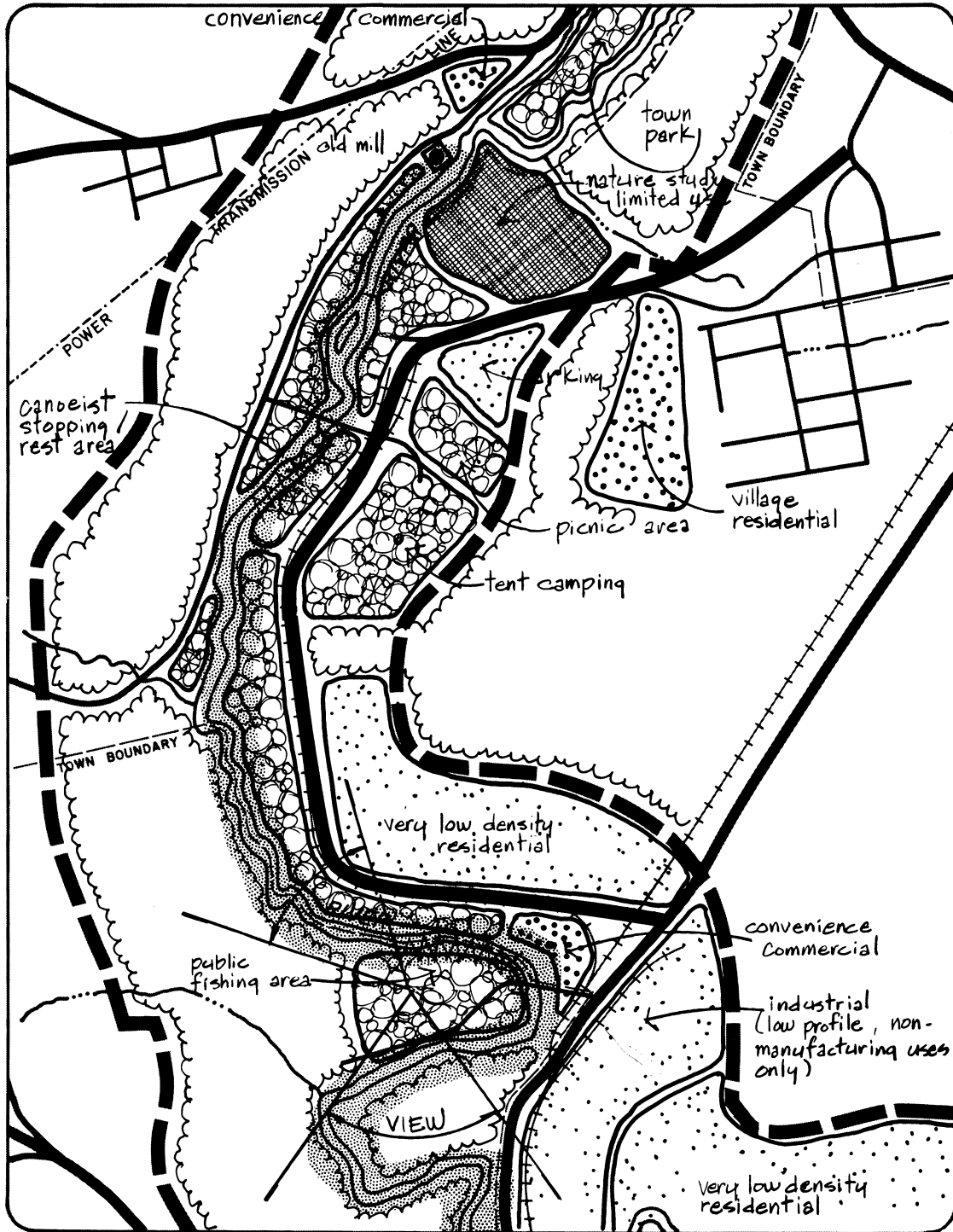
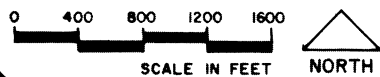
DEVELOPMENT CONCENTRATION

## ACCESS

MAJOR VEHICULAR ACCESS TO RIVER

MAJOR LAND/RIVER ACCESS

NOTE: THIS RIVER AREA IS ILLUSTRATIVE ONLY, AND IS NOT INTENDED TO REPRESENT EITHER A WILD, SCENIC, OR RECREATIONAL RIVER.



The type and location of public workshop meetings may vary with the length of the river, the number of governmental jurisdictions involved and many other factors. The Planning Committee should determine the best method for achieving effective public workshop sessions. The following are several alternatives for determining public workshop meeting locations:

1. hold workshop meeting in each local government jurisdiction in which the river area is located;
2. hold public workshop meeting in county seat of each county in which the river area is located; or
3. hold workshop meeting in a centrally-located place within the river area or as close to the river area as possible.

Of course, one of the most appropriate guidelines for determining workshop location will be proximity to as many people as possible who would be affected by the river area plans so that it would be as convenient as possible for their attendance. Other considerations such as staff, time and budget should be made relative to public workshop meetings.

The workshop meetings can take many different forms. The shortest, most condensed approach consists of a formal presentation of the river area study and plan, followed by a question and answer period. A more extensive approach would involve a full day seminar in which findings and conclusions are presented and discussed in the morning, and goals and recommendations are discussed in the afternoon. This second approach encourages greater public involvement and more detailed, comprehensive discussion.

Another approach which might be desirable involves an "open house", informal workshop day in which interested people can come at their convenience to see and discuss what has been done and to talk directly to the people who have been involved in preparing studies and plans. Maps would be on the walls for reference and detailed information would be available. For example, the workshop could be open on a Saturday from 10:00 a.m. to 5:00 p.m. and two brief formal presentations could be advertised and made, one in the morning and one in the afternoon.

## PHASE IV — IMPLEMENTATION

### Task IV-A Prepare River Area Management Plan

The river area resource use and protection plan prepared in Phase III represents a plan showing physical recommendations. The river area management plan prepared in this Phase is designed to apply organizational, management, legal and other techniques to accomplish the physical plan. In a practical sense, the management plan represents the more specific actions which are required to accomplish the desired goals for the river area.

To facilitate the preparation of a management plan, three major categories should be addressed: 1) management objectives, 2) implementation techniques, and 3) roles and responsibilities. The following are some examples of items to be considered in each of the three management plan categories:

- **Management Objectives** — Management objectives should clearly outline specific objectives to be achieved. Such items as the types of users of the river area under the resource plan, the capacity levels for utilization, the mechanisms for controlling river area use in terms of rules and regulations, the types of facilities which should be developed, policies regarding private commercial river outfitting, and policies regarding public access to the river. These items deal with the practical problems of relationship between the users and the natural resource. Management objectives determine those policies which should be established in allowing river use and in properly managing the river area resource in accordance with the resource protection and use plan.
- **Implementation Techniques** — It is likely that a variety of techniques will be necessary for implementation of the plan. Every possible technique should be initially considered to determine its feasibility for implementing the resource use and protection plan. Zoning recommendations should be made where appropriate for local jurisdictions, tax policies which provide incentives for open space preservation should be explored, and land acquisition and control techniques should be considered as implementation measures. Reference should be made to Appendix B of this report, entitled "Implementation Techniques for Achieving River Area Protection" for examples of various techniques considered appropriate for different river area situations. For additional information, reference can be made to the Department of the Interior's report: "Conservation Tactics" and to Growth Management — Volume I — A Handbook on Land Use Controls for New Hampshire Municipalities and Volume II A Technical Manual for Land Use Controls in New Hampshire. Regardless of the techniques most applicable to a particular river situation, it is important for the management plan to specify, where appropriate, the physical areas where certain techniques should be applied.
- **Roles and Responsibilities** — A management plan would be incomplete without proper identification of the roles and responsibilities required to implement the plan. This portion of the management plan should identify private, federal, state, local and interest group participants who are necessary to implement the management plan. The name and type of agency or organization should be identified, along with the responsibility most appropriate for each to assume in management plan implementation.

Careful attention should be given to the assignment of roles and responsibilities in order to avoid the presumption that certain agencies and organizations will assume such roles and will be legally and organizationally equipped to carry them out. Particular attention should be given to the liabilities involved regarding such concerns as land ownership and public access. Therefore, it is important to discuss the roles and responsibilities considered for assignment to agencies, organizations and individuals with those concerned prior to the official assignment of roles and responsibilities in the management plan. This precaution will avoid possible areas of misunderstanding at a later date when the management plan is considered for approval and implementation.

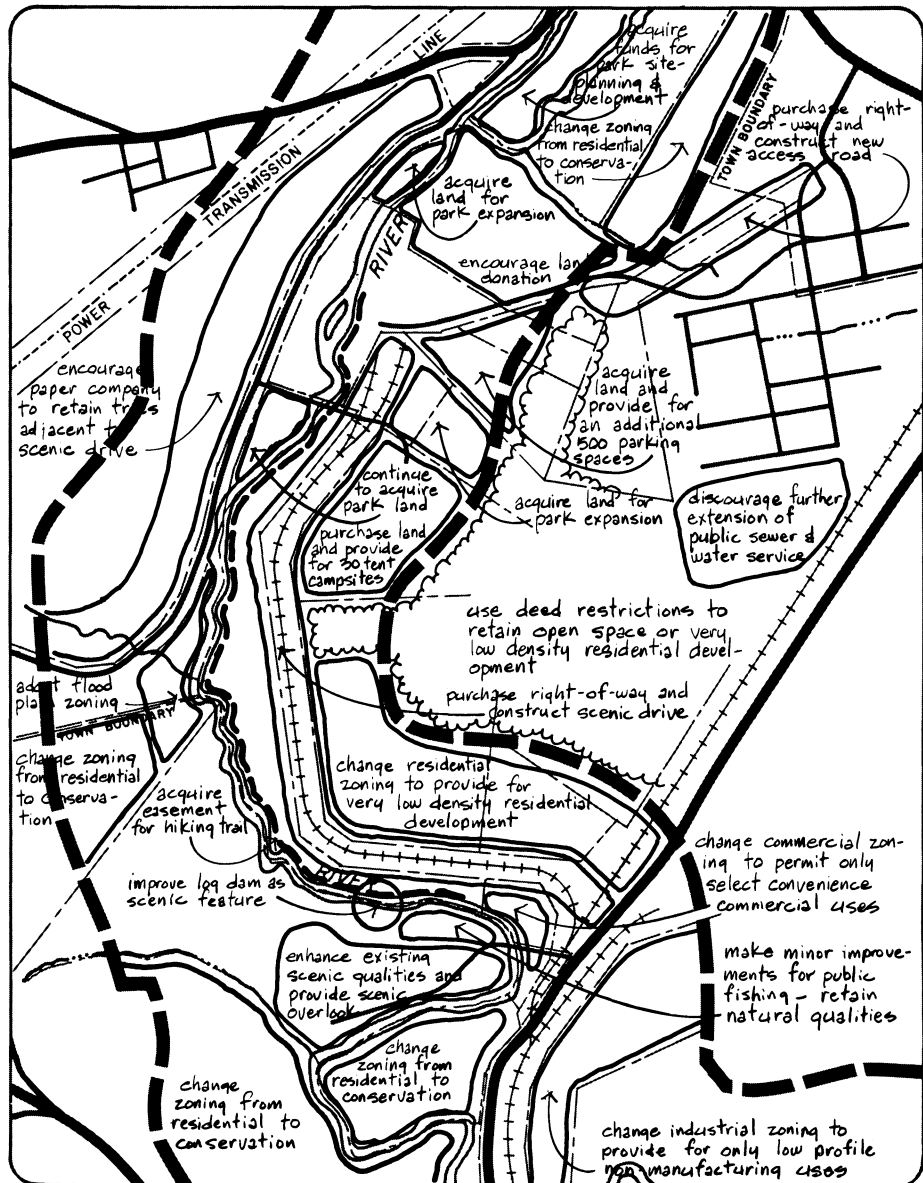
### Task IV-B Prepare Management Program

A management program should be prepared using the material prepared in Task IV-A above. This program should cover a period from two to five years and should contain a list of high priority actions required to achieve the river management plan.

The format presented on the following page could be used effectively as a method of listing high priority program actions and for determining other important information as to how those actions can be achieved. The format includes the listing of actions, the time period within which action would be expected, the responsible agencies and organizations, and the possible sources of financing available or to be pursued. Following the listing of actions and information related to them, each listed action should be described in detail, indicating the exact nature and benefits of the action.

# MANAGEMENT PLAN

SCALE IN FEET    NORTH



### FORMAT FOR LISTING PRIORITY ACTIONS

PROGRAM ACTION	TIME PERIOD	RESPONSIBLE AGENCY(IES)	POSSIBLE SOURCES OF FINANCING
#1			
#2			
#3			
#4			
#5			

The selection of actions should follow several guidelines as follows:

1. the actions should be capable of being achieved in the immediate future without delay;
2. the actions should be ones which will be highly visible to the general public and/or primary river interest groups;
3. the actions should be oriented to overcoming the most severe problems or realizing opportunities which may be lost forever if such actions are not taken immediately;
4. the actions should be selected in a manner which requires the involvement of many responsible agencies, if feasible; and
5. the actions which will generate a high level of immediate financing for management plan implementation should be included.

#### Task IV-C Conduct Public Hearing

An official public hearing should be held to present the river area resource use and protection plan, the river area management plan and the management program to the general public and to solicit testimony regarding the recommendations. The guidelines used to determine the location for a public workshop meeting as indicated in Task III-E can be used as a basis for determining public hearing locations in this task. All state and local legislative requirements for advertising and conducting public hearings of this type should be followed. Official minutes or full transcripts could be kept of the public hearing for future reference and for eventual submission to the State along with the River Plan prior to the State's consideration of the river for official designation.

If not contrary to state or local laws, a public hearing should be held in the county seat(s) involved, or at the location of the appropriate regional planning commission(s).

If the subject river is anticipated for recommendation as part of a statewide wild, scenic and recreational river program, the New Hampshire Office of Comprehensive Planning should be consulted prior to the establishment of public hearing dates and places.

Depending upon the results of the public hearing, the planning committee and other responsible agencies involved may decide to conduct reevaluations of recommendations and to make adjustments to the plans prior to a final decision on the plans and the preparation of a final report.

#### Task IV-D Prepare River Area Inventory and Plan Report

A final report should be prepared to contain the results of all phases of the river study and planning program. The final report might contain two separate sections or may be treated as two separate companion reports. The sections or separate reports could be as follows:

- **Technical Section or Report** — A technical report would contain all appropriate data, findings, and recommendations of the study and planning process. This report would be valuable for detailed reference of those agencies and organizations which will be responsible for plan implementation and for managing the river resource. Detailed maps, data forms and other details generated in this process should be part of the technical reports.
- **Summary Section or Report** — The summary report should contain the key findings and recommendations of the study and planning process. The purpose of this summary report would be to outline the results of the program and to convey to the general public and to those agencies and organizations and decision-makers who have not been an integral part of the planning process, those important findings, conclusions and recommendations which should be considered regarding the subject river. Appropriate photographs, graphic illustrations, and legible maps should be included to clarify the presentation and the text should be written in easy-to-read, understandable terms in order to reach the widest possible audience.





## APPENDIX B

### **IMPLEMENTATION TECHNIQUES FOR ACHIEVING RIVER AREA PROTECTION**

The protection of New Hampshire's wild, scenic, and recreational rivers does not rest with a single technique — it requires a coordinated, effective combination of many techniques, working in harmony toward common goals. Further, various implementation techniques should be used with full recognition that the sanctity of both private property rights and the public's right to enjoy natural river resources should be respected. A proper balance should be achieved.

The following implementation techniques can be used to achieve river area protection. Most of them are appropriate under New Hampshire law. Their effective use is a major key to success.

## LAND, WATER & RECREATION PLANNING

Planning alone is not an effective implementation device. But there is real value in its use as a guideline for decision-making in its factual basis, in its forethought and in its logic. It should precede the application of acquisition, taxation, and regulatory techniques presented in this section.

**Comprehensive Land Use Planning** provides the overall framework for the use, development and protection of land in New Hampshire. Land use policies and plans therefore have great significance for river resource protection. Comprehensive land use planning is a vital function of New Hampshire's municipal governments and their planning and conservation commissions. Overall land use planning guidelines and assistance are provided by regional planning agencies and the State's Office of Comprehensive Planning.

Land use planning is the framework and basic approach for conducting detailed studies and preparing detailed plans for individual wild, scenic and recreational rivers.

**Comprehensive Outdoor Recreation and Open Space Planning** is one of the keys to establishing a wild, scenic and recreational rivers system. The New Hampshire Outdoor Recreation Plan addresses the subject of protecting rivers with outstanding wild, scenic and recreational qualities, in addition to the overall planning of parks and recreation areas to meet present and future public needs. This Plan is a general guide for providing recreation opportunities in New Hampshire and enables the State and its municipalities to qualify for recreation funding and technical assistance administered by the Bureau of Outdoor Recreation, U. S. Department of the Interior. The comprehensive recreation planning function rests with the State Office of Comprehensive Planning while more specific planning of specific park locations, actual development and resource management is carried out by the Department of Resources and Economic Development. Comprehensive recreation and open space planning is also conducted by regional and local planning agencies in their areas of jurisdiction.

**Water Quality Planning** is absolutely necessary for the improvement and protection of our rivers. The Water Supply and Pollution Control Commission in New Hampshire is responsible for areawide waste treatment management planning and plan implementation under Section 208 of the Federal Water Pollution Control Act.

**Fish and Wildlife Protection & Propagation** is sometimes overlooked by the non-sportsman as an essential part of natural resource planning. Techniques of long-range planning for restoration of anadromous fishes and the identification and protection of wildlife habitats are an integral part of implementing actions for wild, scenic and recreational river use and protection. The New Hampshire Fish and Game Department is primarily responsible for preparing and implementing plans and programs of this type.

**River Area Management Planning** represents a plan of specific actions prepared to implement a river area resource use and development plan. Management plans specifically contain management objectives, implementation techniques such as those presented in this section, and the identification of roles and responsibilities for accomplishing river plan recommendations. The "Guidelines for Studying and Planning Individual Rivers" in Appendix A explain the process of arriving at a river area management plan. Such plans for individual rivers are the best tools for river area protection because they coordinate and combine a variety of implementation techniques toward the achievement of well-defined goals and specific recommendations.

## LAND ACQUISITION

**"Fee Simple" land ownership** is outright ownership representing the highest combination of rights a person can hold in land. It is the soundest technique for assuring complete protection and development control; but it is also the most costly. This technique should be applied when strategic land areas are needed for clearly identifiable river preservation and development purposes and in areas which are intended for public recreation use. The following approaches may be used to acquire land in fee simple for conservation or recreation purposes.

**Installment Purchase** is an acquisition in which a purchaser negotiates a per acre price with the owner and agrees to buy a specified number of acres per year. The owner is relieved of real property tax responsibilities, commencing at the time the agreement is made. The owner may choose to remain on his land until all is sold and paid in full. This approach allows property to be purchased under agreement without large initial capital expenditures.

**Long Term Lease with Option to Buy** involves the negotiation of a lease price with the owner and includes conditions for use and eventual purchase of the property. This technique permits initial use control of the property without initial purchase.

**Purchase & Resale** is a technique in which land is purchased by a party desiring to restrict its future use and resold only under conditions or restrictive covenants established by the party reselling the land. After resale, the party which originally purchased the land for the sole purpose of restricting its use is relieved of continuing ownership and maintenance responsibilities. Also, the land is then taxable and offers revenues to public bodies for land purchases in other strategic areas.

For example, this technique enables a property which is an important conservation area along a river to be purchased by a community or conservation group. Covenants are then drafted setting forth those things which subsequent landowners must do, or must refrain from doing, and legally attach it to the deed of the property. Such a covenant might read: "The property shall always remain a natural greenway along the river, free of subdivision and other development." The use of this technique can be precarious because the placing of restrictions on the land by the original purchaser limits the market for resale of the land. It is only effective when the original purchaser can afford to hold the land for a long time or when there is a ready market for the land.

**Land exchange** means trading the ownership or control of land between one owner and another to obtain mutual advantages. This technique offers advantages of mutual benefit, especially in cases where publicly-owned land to be exchanged is outside a river area, but is in a prime location and very accessible for private commercial development. Land exchange is an effective implementation tool in some other states and offers much potential in New Hampshire where large tracts of public and private land exist.

**Donations** of land can be made by private owners or organizations interested in the cause of river protection. Land donations can be encouraged by granting life occupancy and by arranging certain tax advantages to the owner.

When a landowner decides to donate his property to an organization or governmental agency for protection, it is the landowner's prerogative to include restrictions in the deed of transfer. Such restrictions can ensure that the land will be managed and used according to the donor's wishes. A "reverter" clause can be included in the deed, will, or other instrument of transfer to ensure that if the property ceases to be used or managed according to the restrictions, the property ownership reverts back to the former owner or to a third party. Donation of land is a very effective technique which has been applied in New Hampshire and other states. In New Hampshire, donated land has sometimes been used to match Federal grants for recreational development.

**Condemnation** through the right of eminent domain provides governmental jurisdictions with the right to acquire land for a well-defined public purpose. Eminent domain could include full property rights or the acquisition of easements and leases. Condemnation involves the determination of a fair market value for the property and a clear definition of the public purpose for which it is being condemned. This is an approach normally used only if fee simple acquisition is not possible at a fair price and if an owner is reluctant to sell under any circumstances. Governmental jurisdictions in New Hampshire have the right of eminent domain, but this right is rarely exercised and should not be depended upon as a viable river protection technique.

## USE & DEVELOPMENT RIGHTS

The application of techniques which result in "less than fee simple" ownership or interest in the land can be effective in achieving river area protection. These techniques involve certain restrictions on the use of the land or the granting of specified rights to others regarding the use or development of the land.

**Deed Restrictions** on the use and development of land is one of the most effective implementation techniques for conservation. It is the most widely used technique and can be accomplished in many ways; as described under the title of "Purchase and Resale" above, by convincing the owner to restrict the property by deed or by paying the owner to attach desired covenants to his deed, thus binding the present landowner and future purchasers of the land. Perhaps this technique of attaching restrictions to deeds can provide a basis for receiving lower tax assessments under the State's Current Use Assessment Law.

**Easements** involve the purchase of only those rights necessary to regulate the use of the property. This approach allows land along rivers to remain in private ownership, but it can be used only for the purposes specified in the easement agreements, including limitations upon the development of the land. A fair price is determined by the difference between market value of the land unrestricted and the value of the land subject to the restrictions set forth in the easement. The easement technique allows land to remain on the tax rolls and permits continuing use by the present owner. The cost of easement acquisition can be reasonable in some areas but costs in developed and developing areas are normally not feasible. This technique has been used effectively in New Hampshire for conservation purposes, and offers considerable potential for future use.

The easement approach can be effective, but problems can occur when specifying the easement rights in detail, when determining the value of the rights taken, and when realizing that development rights usually do not permit unrestricted public use of the land. The latter is not necessarily a problem in wild and scenic river preservation unless public recreation uses are contemplated on the property. If the purpose is only for maintaining open space and permitting continued scenic views over the property, the easement technique can be very practical.

If an easement permits something to be done on the land, the easement is affirmative. If an easement prohibits the owner of the land from doing something on his property, the easement is negative. Easements may also be appurtenant or in gross. An easement appurtenant is one which benefits an adjoining piece of land (called the dominant estate). An easement in gross, on the other hand, is one granted to a party who is not an owner of adjacent property and is often considered a personal interest because it doesn't benefit any particular piece of land. Conservation easements are generally negative and in gross.

Granting of a conservation easement does not involve transfer of title or ownership to the land; rather it means giving up some of the rights to developing the land. A typical easement may: protect the land from large scale development, specify the maximum number of houses that may be located there, protect certain parts of the property in a "natural state", prohibit the clear-cutting of trees, provide for future activities including construction of trails, alteration of structures, etc., or specify purposes for which the land may be used in future years.

A conservation easement does not automatically allow public access to the land. The owner retains his rights as a private property owner. The owner's right to sell or lease the land at any time is still retained, but sale or lease is subject to the terms of the easement.

**Voluntary agreements** can be made to use privately owned agricultural land, large vacant industrial holdings, large forest areas, private utility easements and land under ownership or administration of government agencies. These agreements are strictly voluntary with permission granted to use the land only in clearly specified ways. Although such agreements can be effective for short-term objectives, they do not provide assurances of long-term use or protection.

**Transfer or Purchase of Development Rights** involves the granting of rights to develop a given property to another landowner. A development right is one of the numerous rights included in land ownership; it is the right that permits the owner to build upon or develop his land. Rights of ownership on land may be separated from other rights and regulated by government or sold by the owner and transferred separately from property title. For example, mineral rights — rights to extract minerals from the land — may be sold by a property owner. Similarly, development rights can be transferred or sold by the owner.

The transfer of development rights keeps the owner of land which the public wants protected from being penalized out of his speculation profits by allowing the owner of developable land to purchase the development rights from the owner of protected land, thus increasing the allowable density on the developing properties. This technique encourages development to be channelled away from specified natural areas which should be protected and to the areas most suited for development. Through this system of transferred development rights, landowners in protected areas are compensated for the economic losses incurred through loss of development potential on their land.

The transfer of development rights technique, although currently being used elsewhere, has not been utilized in New Hampshire. This technique, although possessing great benefits and potential, has enjoyed only limited success and should be cautiously approached.

## TAXATION

Taxation can be used as a tool for protecting and enhancing rivers. The property tax is an important device affecting the nature and timing of land development. However, its present uniformity within specific areas and assessment at market value tend to limit its use for river area open space preservation. Several taxation methods should be considered.

**Tax exemptions** can be authorized for land providing public benefit such as historic places, public service areas, private lands open to public hunting or fishing or other such public uses. This technique can be important to private enterprise with land holdings along river areas. Although the land may not be contemplated for development purposes, it may be needed for other company purposes. Private enterprise could provide public benefits by keeping these lands undeveloped or having them developed in accordance with a river area plan, while enjoying a tax benefit. The tax exemption technique, although used elsewhere, has not been utilized in New Hampshire.

**Preferential Assessment** is an approach under which land presently being taxed because of its use potential is encouraged to be kept in its present use for a longer period of time. Land is assessed at its current open space use value in order to remove tax pressures on owners to sell at a speculative price for profit.

New Hampshire's Current Use Taxation Law is an example of this technique designed to prevent the conversion of open space to more intensive use due to the pressures of property taxation at values incompatible with open space use. This Law allows open space assessments for farm land, forest land, wetland, recreation land, flood plains, wild land, and other land designated by a town or city as open space land for ten or more years. An eleven man current use advisory board within the tax commission determines what land qualifies as open space land and also recommends guidelines for use by local assessing officials in assessing open space land. An owner of land which qualifies as open space land receives a current use assessment if an application is made annually to the local assessing officials. A land use change tax is assessed at ten percent of the ad valorem or fair market value of open space land whenever an owner changes the land to a use which does not qualify for an open space assessment. The tax is payable on April first next following the changed use by the owner of record as of that date.

The Current Use Taxation Law also contains a separate discretionary easement program which exists in relationship to open space assessment. This program enables an owner of land which qualifies for open space assessment or of land which is to be kept in a use consistent with open space purposes to apply to a town or city to grant an easement of all development rights for at least ten years in exchange for a current use assessment for the duration of the easement. If an owner wishes to be released from the discretionary easement, he must show extreme hardship and must pay six or twelve percent of the ad valorem assessment, depending on how long the easement has been held by the town or city, in order to secure a release.

**Tax Foreclosures** involve tax delinquent properties and can be exercised by taxing bodies. This technique should be pursued if properties are in strategic locations for river protection purposes or if land exchange possibilities exist.

## LAND USE & ENVIRONMENTAL REGULATIONS

**Municipal Zoning** is one of the most effective tools for implementing plans for river use and protection. This is one of the most important tools for river area protection in New Hampshire. Zoning regulates the uses of the land, the density of development and the protection of areas in which open space and natural characteristics should be preserved. There are several zoning approaches most appropriate for implementing wild, scenic and recreational river policies and plans:

Cluster Zoning — allows dwelling units to be placed closer together than normally permitted in the district in which they are located, providing the overall density is retained. Open space corridors can therefore be created between clusters of housing. This concept is also very applicable to areas of unique topography where clustering can occur on developable portions of land, leaving natural areas and areas more difficult to develop virtually unobstructed.

Flood Plain Zoning — is particularly significant in the preservation of scenic beauty and natural areas along rivers and streams because it provides for the regulation of development in dangerous areas of flooding, thus applying preventive measures against flood damage. It provides secondary benefits by prohibiting development and creating open space characteristics along river banks.

Other Zoning approaches — may be used to regulate land development so that open spaces and natural areas are preserved. Large-lot zoning, agricultural zoning, historic zoning and conservation district zoning are specific examples that are particularly effective in preserving extensive open areas.

**Municipal Subdivision Regulations** work in concert with zoning in the preservation of open space and other scenic and natural features. These regulations apply to the layout of lots, streets, drainage, utilities, and other facilities for land development. Items of interest pertaining to river preservation include the prevention of sewage emission into streams, the prevention of soil erosion and siltation and the donation of land or funds for recreation as a part of the land subdivision effort.

**Water Quality Regulation** focuses on the protection of rivers from pollution through regulations on new discharges of pollutants into the rivers and streams. The Water Supply and Pollution Control Commission is primarily responsible for regulating municipal and industrial waste disposal as it affects New Hampshire's rivers.

**Water Resources Regulation** is another critical technique for protecting rivers. The New Hampshire Water Resources Board has regulatory powers exercised through the Special Board. The Board regulates excavating, removing, filling and dredging of any bank, flat, streets, drainage, utilities, and other facilities for land development. Items of interest

**Bulk Power & Energy Facilities** are regulated in part by a Site Evaluation Committee of the State which regulates the planning, siting and construction of these facilities in cooperation with the Public Utilities Commission. These regulations can help protect our rivers by avoiding any indiscriminant locating or siting of large generating stations; high voltage transmission lines; facilities used to extract, manufacture or refine sources of energy; and facilities for storing and transporting energy sources.

## **PUBLIC IMPROVEMENT POLICIES**

The location, magnitude and timing of public improvements can be one of the most important considerations in implementing a wild, scenic and recreational rivers program. Public policies with respect to the locations of new dams, the improvement or removal of existing dams, the construction or abandonment of roads providing access to river areas, the extension of public sewer and water services and the location of power lines are only a few of the public improvement decisions which can either respect or destroy the natural characteristics of a river area.

Clear and direct public policies should be established regarding the planning and possible impact of public improvements on wild, scenic and recreational rivers. A capital improvements program is one of the major ways to establish and implement public improvement policies.

## **PUBLIC AWARENESS AND CONCERN**

Fundamentally, pride and public concern are still the most important ingredients for accomplishing a wild, scenic and recreational rivers program; they provide the stimulus for initiating all of the other implementation measures. If the people of New Hampshire do not view their rivers as one of the State's greatest assets, a meaningful river protection program will not become a reality. Many groups have exhibited pride and concern, but it must be a "collective" public concern to be successful.

Making the general public aware of the valuable natural qualities of our rivers is perhaps the most important single step toward preserving something of which New Hampshire's people can be very proud.



## IMPLEMENTATION RESPONSIBILITIES

The various implementation techniques are summarized on the following table, along with the types of implementing agents which might best utilize each technique. Although the possible major responsibilities for applying each technique are shown, all techniques could be applied in many instances and special conditions could make techniques not recommended on the table more relevant than those indicated. This schedule of possible relationships between implementation techniques and responsibilities is intended only as a general guide and should be used cautiously when applying them to specific situations.

Our wild, scenic and recreational rivers can be protected, but it will take a total coordinated effort on the part of all citizens — whether they are officials at all levels of government, businessmen and industrialists, conservationists or just interested citizens expressing a desire for preserving our rivers' natural qualities.

Major Implementation Techniques	Private For Profit Entities	Private Non-Profit Entities	Semi-Public Groups or Associations	Municipal	State	Federal
<b>LAND, WATER &amp; RECREATION PLANNING</b>						
Comprehensive Land Use Planning				X	X (incl. regional)	
Comprehensive Outdoor Recreation and Open Space Planning				X	X (incl. regional)	
Water: quality planning				X	X	X
Fish & wildlife protection and propagation			X	X	X	X
River area management planning		X	X	X	X	X
<b>LAND ACQUISITION</b>						
Installment, lease with option to buy or lease back purchase	X	X	X	X	X	X
Purchase and re-sale		X	X	X		
Land exchange	X	X	X	X	X	X
Donations	X	X	X			
Condemnation				X	X	X
<b>USE &amp; DEVELOPMENT RIGHTS</b>						
Deed restrictions	X	X	X			
Easements		X		X	X	
Voluntary agreements	X	X	X			
Transfer of development rights	X			X		
<b>TAXATION</b>						
Tax exemptions	X			X		
Preferential assessment	X			X		
Tax foreclosures				X		
<b>LAND USE &amp; ENVIRONMENTAL REGULATIONS</b>						
Municipal zoning				X		
Municipal subdivision regulations				X		
Water quality regulations				X	X	X
Water resources regulations				X	X	X
Bulk power & energy facility regulations					X	X
<b>PUBLIC IMPROVEMENT POLICIES</b>						
PUBLIC AWARENESS & CONCERN	X	X	X	X	X	X



## APPENDIX C

### **RIVER AREA USE AND DEVELOPMENT REGULATION GUIDELINES**

A Wild, Scenic and Recreational Rivers Program should give primary emphasis to protecting the natural values which make the river outstanding. However, a rational balance between the preservation of the natural beauty along rivers and the rights and activities of man should be attained. This section provides guidelines for preparing land use and development regulations which may be appropriate for wild, scenic and recreation river areas. These guidelines can be useful in preparing and implementing Resource Use and Protection Plans and Management Plans for individual rivers. They are not intended to be regulations suitable for all situations, but they can be used as a general guide for relevant State agencies in their review of current regulations and by local governments and others interested in protecting river areas through the use of regulatory measures. They may also be useful to private owners in pursuing land acquisition and development rights objectives and by others who may be involved in preparing management plans and policies in river areas.

It should be recognized that river areas to which these regulations might apply can vary in width and configuration according to such characteristics as topography, soil suitability for development, flood plains and existing land development patterns. The boundaries or conditions which depict the areas to be regulated must therefore be properly drawn or described so that the regulatory boundaries are clear.

## **I. WILD RIVER AREA USE & DEVELOPMENT REGULATION GUIDELINES \***

### **A. Permitted Recreational Uses and Activities**

1. Primitive hiking (unimproved trails);
2. Primitive camping (unimproved campsites);
3. Hunting and fishing;
4. Boating (improvements should not be made to encourage power boating);
5. Cross-country skiing;
6. Nature study;
7. Other non-motorized, passive outdoor recreation activities which will not adversely affect the natural river experience.

### **B. Permitted Non-Recreational Uses and Activities**

1. Conservation of land in its natural state;
2. Farmsteads and agricultural uses and structures provided the associated agricultural practice is primarily devoted to the production of alfalfa, clover, and other types of hay;
3. Forestry, with the following conditions:
  - a. Within 100 feet of the river, no trees or other vegetation should be harvested, cut removed, thinned or other wise disturbed.
  - b. Between 100 feet from the river and the outer perimeter of the river area, selective cutting of trees is permitted provided that a continuous tree cover is maintained and uninterrupted by large openings.
  - c. Logging debris which may enter the river or the river area within 100 feet of the river should be removed.
  - d. Logging equipment should not be parked overnight within 100 feet of the river, or abandoned within the river area.
4. Unobstrusive fences, gauging stations and other water management and public land management facilities may be permitted if, because of their siting and construction, they have no significant adverse effect on the natural character of the river area.
5. Essential public utility service lines and structures may be permitted provided they are situated and constructed in a manner which minimizes their visibility from the river and does not adversely affect the ecology.

### **C. Existing Land Uses**

1. Existing land uses which are not listed above in Sections I-A and I-B may be continued, maintained, and replaced on the same foundation or in the same location, but should not be expanded.

### **D. Water Structures**

1. No new dams or other structures which impede the natural flow of water should be allowed.
2. Existing dams and other structures which impede natural flow may continue and be maintained using naturally occurring materials such as wood and stone.
3. Structures for fishery management purposes may be permitted provided they do not materially alter the natural character of the waterway.

\* In all instances requiring measurements from the river, measurements should be from the normal high water mark. The normal high water mark delineates the highest water level which has been maintained for a sufficient period of time to leave evidence upon landscape. In areas where the normal high water mark is not evident, setbacks should be measured from the river bank.

4. Bridges intended for non-vehicular use may be permitted provided they are constructed with naturally occurring materials such as wood and stone.
5. Temporary bridges necessary for forestry operations may be permitted across the river provided they are removed immediately after the forestry operation and they do not have negative environmental impacts on the river area.

E. Access and Circulation

1. New trails for non-motorized recreational uses should be permitted.
2. Non-vehicular public access points along the river should be permitted.
3. No new roads (with the exception of logging roads) or parking lots should be permitted within ½ mile of the river.
4. No new road crossings should be permitted, without the assurance that an existing crossing will be removed.

F. Locational Requirements

1. No new structure should be permitted within the 100-year flood plain and all new structures outside 100-year flood plains should be set back at least 200 feet from the river.
2. No structures should be located on slopes greater than 15 percent or on soils which have been identified as being unsuitable for building sites by the Soil Conservation Service.

G. Dredging, Filling, Mining and Earth Moving

1. No excavation of material from or the filling in of any section of a wild river should be permitted.
2. No mining or other earth extraction should occur within the river area.
3. All agriculture uses, forestry operations and other activities which disturb the soil or vegetation within the river area should take special soil conservation precautions and meet stringent erosion and sediment control standards.
4. Grading and filling in of the natural topography which is accessory to a permitted use should be performed in a manner which minimizes earth-moving, erosion, tree clearing and the destruction of natural amenities.

H. Water Flow and Quality

1. The existing natural water flow volumes of wild rivers should be maintained.
2. The present water quality should be maintained or improved.

I. Signs

1. Signs which are necessary for the assurance of public health and safety; and signs indicating areas that are available, or not available, for recreational use open to the public may be visible from the river.

J. Prohibited Uses

1. All uses and activities not permitted in the above sections should be prohibited.

## II. SCENIC RIVER AREA USE & DEVELOPMENT REGULATION GUIDELINES

### A. Permitted Recreational Uses and Activities

1. Primitive hiking along unimproved trails;
2. Hiking along improved nature or scenic trails;
3. Primitive camping;
4. Tent camping (Low intensity);
5. Boating (Limited horsepower);
6. Boat launching ramps and docks;
7. Snowmobiling;
8. Cross-country skiing;
9. Family picnicking (Low intensity);
10. Improved scenic overlooks;
11. Game preserves;
12. Nature centers;
13. Nature study areas;
14. Hunting and fishing areas;
15. Other non-intensive outdoor recreational activities which do not adversely affect the scenic river experience; and
16. Simple convenience facilities such as fireplaces, public water wells, shelters, and toilets may be provided for recreational users as necessary to provide an enjoyable experience. Such facilities should be designed and located in a manner which is compatible with the natural character of the river area.

### B. Permitted Non-Recreational Uses and Activities

1. Conservation of land in its natural state;
2. Farmsteads, agricultural uses and agricultural structures;
3. Forestry, with the following conditions:
  - a. Within 100 feet of the river, no trees or other vegetation should be harvested, cut, removed, thinned or otherwise disturbed.
  - b. Between 100 feet from the river and the other perimeter of the river area, selective cutting of trees is permitted provided that a continuous tree cover is maintained, uninterrupted by large openings.
  - c. Logging debris which may enter the river or the area within 100 feet of the river should be removed.
  - d. Logging equipment should not be parked overnight within 100 feet of the river or abandoned within the river area.
4. Single family detached dwellings at very low overall densities. The dwellings should be located on the site in a manner which makes them unobtrusive from the river, or vegetative screening should be strategically placed to accomplish this objective.
5. Unobtrusive fences, gauging stations and other water-management and public land management facilities may be permitted, if because of their siting and construction they have no significant adverse effect on the natural scenic character of the river area; and
6. Essential public utility service lines and structures may be permitted provided they are situated and constructed in a manner which minimizes their visibility from the river and does not adversely affect the scenic qualities within the river area.

### C. Existing Land Uses

1. Existing land uses which are not listed above in Section II-A and II-B may be continued, maintained, and replaced on the same foundation or in the same location, but should not be expanded. Existing structures which detract from the natural character of the scenic river area should be screened from the river.

#### D. Water Structures

1. No new dams or other structures which impede the natural flow of water should be allowed.
2. Existing dams and other structures which impede the natural flow may continue and be maintained with naturally occurring materials such as wood and stone.
3. Structures for fishery management purposes may be permitted provided they do not materially alter the natural character of the waterway.
4. Bridges intended for non-vehicular use may be permitted provided they are constructed with naturally occurring materials such as wood and stone.
5. Bridges intended for motorized vehicles may be permitted provided: (1) they are constructed with naturally occurring materials such as wood and stone, and (2) there is no other vehicular bridge crossing within 2 miles.
6. Temporary bridges necessary for forestry operations may be permitted across the river provided they are removed immediately after the forestry operation and they do not have negative environmental impacts on the river area.

#### E. Access and Circulation

1. A new road or an extension of an existing road which provides public access to the river may be permitted, if there are no other public vehicular access points to the river within a distance of 5 miles along the same side of the river.
2. New trails for non-motorized travel should be permitted within the river area as well as non-vehicular public access points along the river.
3. Temporary logging roads should be permitted within the river area.
4. Private roads should be allowed in the river area only if: (1) there is no other vehicular access road to a new or existing land use, and (2) the new road is at least as far away from the river as is the land use to which it is providing access. In all cases, the road should be at least 100 feet from the river.
5. New parking lots should be located at least 1,000 feet from the river.
6. New roads which parallel the river should be no closer than 200 feet from the river.
7. There should be no more than an average of three roads (new or existing) crossing the river for every 10 miles of river length.

#### F. Locational Requirements

1. No new structure should be permitted within the 100-year flood plain and all new structures outside 100-year flood plains should be set back at least 200 feet from the normal high water mark of the river.
2. Cattle yards, pig yards, and other livestock areas should be prohibited within 200 feet of the river.
3. No structures should be located on slopes greater than 15 percent on soils which have been identified as being unsuitable for building sites by the Soil Conservation Service.

#### G. Dredging, Filling, Mining and Earth Moving

1. No excavation of material from or the filling in of any section of a scenic river should be permitted.
2. No mining or other earth extraction should occur within the river area, unless proper assurances are given for restoration of the areas to its original state.
3. All agricultural uses, forestry operations and other activities which disturb the soil or vegetation within the river area should take special soil conservation precautions and meet stringent erosion and sediment control standards.

4. Grading and filling in of the natural topography which is necessary to a permitted use should be performed in a manner which minimizes earth-moving, erosion, tree clearing and the destruction of natural amenities.

H. Water Flow and Quality

1. The existing natural water flow volumes of scenic rivers should be maintained.
2. The present water quality should be maintained or improved.

I. Signs

1. Signs which are necessary for the assurance of public health and safety; and signs indicating areas that are available, or not available, for recreational use open to the public may be visible from the river.

J. Prohibited Uses

1. All uses and activities not permitted in the above sections should be prohibited.

**III. RECREATIONAL RIVER AREA USE & DEVELOPMENT  
REGULATION GUIDELINES**

A. Permitted Recreational Uses and Activities

1. Primitive hiking along unimproved trails;
2. Hiking along improved nature or scenic trails;
3. Primitive camping;
4. Tent and trailer camping;
5. Boating;
6. Boat launching ramps and docks;
7. Swimming;
8. Snowmobiling along designated trails;
9. Cross-country skiing;
10. Family and group picnicking;
11. Improved scenic overlooks;
12. Visitors centers;
13. Game preserves;
14. Nature centers;
15. Nature study;
16. Hunting and fishing;
17. Hunting and fishing cabins or lodges;
18. Other outdoor recreational activities which do not adversely affect the river experience; and
19. Convenience facilities such as fireplaces, public water wells, shelters, toilets and picnic pavillions may be provided for recreational users as necessary to provide an enjoyable experience. Such facilities should be designed and located in a manner which is compatible with the natural character of the river area.

B. Permitted Non-Recreational Uses and Activities

1. Conservation of land in its natural state;
2. Farmsteads, agricultural uses and agricultural structures;
3. Forestry, with the following conditions:
  - a. Within 100 feet of the river, no trees or other vegetation should be harvested, cut, removed, thinned or otherwise disturbed.

- b. Between 100 feet from the river and the outer perimeter of the river area, selective cutting of trees is permitted provided that a continuous tree cover is maintained, uninterrupted by large openings.
  - c. Logging debris which may enter the river or the area within 100 feet of the river should be removed.
  - d. Logging equipment should not be parked overnight within 100 feet of the river or abandoned within the river area.
4. Single family detached dwellings at low overall densities. The dwellings should be located on the site in a manner which makes them unobtrusive from the river, or vegetative screening should be strategically placed to accomplish this objective.
  5. A limited number of commercial uses which offer recreational-related goods and services to the users of the recreational river area may be permitted if situated and constructed in harmony with the natural character of the river area;
  6. Unobtrusive fences, gauging stations and other water management and public land management facilities may be permitted, if because of their siting and construction they have no significant adverse effect on the natural scenic character of the river area; and
  7. Essential public utility service lines and structures may be permitted provided they are situated and constructed in a manner which minimizes their visibility from the river and does not adversely affect the scenic qualities within the river area.

#### C. Existing Land Uses

1. Existing land uses which are not listed above in Sections III-A and III-B may be continued, maintained, and replaced on the same foundation or in the same location, but should not be expanded. Existing structures which detract from the natural character of the river area should be screened from the river.

#### D. Water Structures

1. New dams or other structures which impede the natural flow of water should be allowed only if absolutely necessary and do not result in an average density of over two dams for every five miles of river length.
2. Existing dams and other structures which impede natural flow may continue and be maintained with naturally occurring materials such as wood and stone.
3. Structures for fishery management purposes may be permitted provided they do not materially alter the natural character of the waterway.
4. Bridges intended for non-vehicular use may be permitted, if possible they should be constructed with naturally occurring materials such as wood and stone.
5. Bridges intended for motorized vehicles may be permitted provided there is no other vehicular bridge crossing within 1 mile.
6. Temporary bridges necessary for forestry operations may be permitted across the river provided they are removed immediately after the forestry operation and they do not have negative environmental impacts on the river area.

#### E. Access and Circulation

1. A new road or trail or an extension of an existing road or trail which provides public access to the river may be permitted.
2. New trails for non-motorized travel should be permitted within the river area.

3. Designated snowmobiling trails may be permitted.
4. Temporary logging roads should be permitted within the river area.
5. Private roads should be allowed in the river area only if: (1) there is no other vehicular access road to a new or existing land use, and (2) the new road is at least as far away from the river as is the land use to which it is providing access. In all cases, the road should be at least 100 feet from the river.
6. New parking lots should be located at least 500 feet from the river.
7. New roads which parallel the river should be no closer than 200 feet from the river.

#### F. Locational Requirements

1. No new structure should be permitted within the 100-year flood plain and all new structures outside the 100-year flood plain should be set back at least 200 feet from the normal high water mark of the river.
2. Cattle yards, pig yards, and other livestock areas should be prohibited within 200 feet of the river.
3. No structure should be located on slopes greater than 15 percent or on soils which have been identified as being unsuitable for building sites by the Soil Conservation Service.

#### G. Dredging, Filling, Mining and Earth Moving

1. No excavation of material from or the filling of any section of a recreational river should be permitted.
2. No mining or other earth extraction should occur within the river area unless proper assurances are given for restoration of the area to its original state.
3. All agricultural uses, forestry operations and other activities which disturb the soil or vegetation within the river area should take special soil conservation precautions and meet stringent erosion and sediment control standards.
4. Grading and filling in of the natural topography which is accessory to a permitted use should be performed in a manner which minimizes earthmoving, erosion, tree clearing and the destruction of natural amenities.

#### H. Water Flow and Quality

1. The existing natural water flow volumes of recreational rivers should be maintained.
2. The present water quality should be maintained or improved.

#### I. Signs

1. Signs which are necessary for public health and safety and signs indicating areas that are available, or not available, for public use may be visible from the river.
2. Other signs may be permitted within the river area if they are designed and constructed in harmony with the natural character of the river area.

#### J. Prohibited Uses

1. All uses and activities not permitted in the above sections should be prohibited.



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DRED, Christian Mutual Building, 6 Loudon Road, Concord, New Hampshire.

page 2—Rocky Glen along the Kancamagus Highway, by Douglas Armsden

page 8—Swift River, by Dick Smith

page 18—Saco River, by Dick Smith

page 53—Carter Notch, by Dick Smith