

VERMONT LAKES AND PONDS:

A PILOT RECREATION PLANNING PROCESS

Daniel T. Malone

Graduate Student, Natural Resource Planning Program, School of Natural Resources, University of Vermont, Burlington, VT 05405

John J. Lindsay

Associate Professor, Natural Resources Planning Program, School of Natural Resources, University of Vermont, Burlington, VT 05405

This report analyzes a pilot planning study conducted on two Vermont ponds by University of Vermont outdoor recreation planning students. It discusses the planning process used for these ponds and offers ways in which a statewide lake and pond planning process could be implemented.

Introduction

Vermont is known as the Green Mountain state. It has a unique combination of mountains, valleys, farmlands, forests, lakes, and ponds. These natural resources have made Vermont a popular attraction for residents and visitors alike. Population growth and economic development have caused a growing concern for many of these resources. Can Vermont allow growth and development to occur and still adequately protect its natural environment?

Land use change occurring around many of Vermont's waterbodies has resulted in the official concern of the Vermont State Legislature and other officials (VSA 1985). Vermont has approximately 600 lakes and ponds over 5 acres. These waterbodies, their shorelines, and watersheds are used for several purposes. Recreation, commercial, and potable water supply, sewage treatment, and fish and wildlife management areas compete for space and resources. The demands placed on Vermont's lakes and ponds will undoubtedly increase in the future. For both economic and environmental quality reasons, the state cannot allow the quality of its lakes and ponds to decline.

The 1988 Vermont Recreation Plan and the Lakes and Ponds Task Group Report identified six issues related to lake and pond management. Water quality, aesthetics, boating, public access, remote ponds, and fish and wildlife resources were identified as problems. Improved public access can create boating and other recreation conflicts. Lakeshore development can impact scenic values, water quality, and fish and wildlife. Trying to protect the quality of Vermont's lakes and ponds and manage their various uses is a complex task, but warranting concerted effort.

In an attempt to protect these resources, the Vermont Legislature has directed the Vermont Agency of Natural Resources to prepare a lake and pond management plan for each of the 288 waterbodies in the state over 20 acres. The Agency has begun to collect information on these waterbodies and formulate management strategies for their protection. The first step in the process is the development of a lake and pond planning method. This process identifies problems, resources

and alternative solutions that can be used to manage these diverse areas effectively over the long term.

Pilot Planning Study

The State Department of Forests, Parks and Recreation decided to utilize the efforts of an upper division outdoor recreation planning class taught in the University of Vermont's School of Natural Resources to develop techniques that could be used in a statewide lake and pond planning effort.

Study Areas

Colchester Pond and Indian Brook Reservoir, Chittenden County, Vermont are, man-made waterbodies that were originally developed as water supply reservoirs, were selected for the study. They are located in adjacent watersheds 10 miles from Burlington, Vermont. Both areas are experiencing growth pressures because of their proximity to the Burlington urban area. They have a variety of land uses including villages, suburban development, and rural residential, agricultural and forested lands.

Organizing the Planning Teams

The natural resource students were divided into two planning teams, one assigned to each waterbody. They had the task of preparing an Environmental Assessment and a General Management Plan, to include alternatives for the protection and recreation use of each waterbody. The students selected planning coordinators and the course instructor and graduate student served as advisors.

Schedule of Planning Tasks

The planning process was divided into the following ten major steps:

1. Familiarization with the project sites. Meetings with state and local agency representatives.
2. Organization of the planning teams. Identification of data sources and development of cartographical information.
3. Development of an environmental assessment which involved obtaining natural, cultural, and socioeconomic information.
4. Identifying jurisdictions, applicable rules and regulations, law enforcement issues, land use regulations and responsible public agencies.
5. Collecting information on recreation use.
6. Administering a public opinion survey.
7. Analyzing all information and issues.
8. Developing a set of alternatives.
9. Selecting the preferred alternative.
10. Preparing and presenting the final plan.

Study Area Characteristics

The two watersheds contain just over 2,000 acres. There is minimal development along the shorelines of each pond. The Colchester Pond shoreline and watershed is privately owned by seven different property owners. Indian Brook Reservoir shoreline is entirely in public ownership. The Town of Essex purchased a 574 acre parcel surrounding the shoreline in 1986 from a private developer for \$435,000. Both watersheds are predominantly forested and contain large residential lots, agricultural and private forest lands. The existing forest cover is a typical mix of northern hardwoods and coniferous species for this region of Vermont. Indian Brook Reservoir is used for public recreation. Public access to Colchester Pond is restricted because of the private lands surrounding the shoreline. From a regional planning perspective, these watersheds are the remaining large open space areas in the Towns of Colchester and Essex.

The Winooski Valley Park District is currently negotiating with private landowners in an attempt to obtain land for public use. A network of informal trails is found throughout both watersheds. They are used for hiking, running, mountain biking, cross country skiing, and for fishing and hunting access.

What was Accomplished

The Pilot Study resulted in the preparation of an Environmental Assessment and a General Management Plan for both the Colchester Pond and the Indian Brook Reservoir. The student planning teams collected information on these areas that did not previously exist. They developed reasonable alternatives for each watershed and selected a preferred alternative that they determined would best protect the natural resources in the area.

The environmental assessment phase of the pilot study was perhaps the strongest and most useful part of the project. Much information on the natural and cultural resources in each watershed was collected, analyzed and presented as new information.

The public survey effort was limited due to time constraints. The students did conduct a phone survey of area residents and obtained some valuable information. They also conducted interviews with key town and state officials which helped to identify issues considered in the planning and management recommendations.

The students presented a range of alternatives for each watershed ranging from no action to various levels of recreation management and development. These alternatives were preliminary and would be more intensely developed after public meetings and input into their objectives. The planning teams' preferred alternative represented reasonable management solutions based on the results of the environmental assessment process. The option of developing a plan for managing both watersheds as one management unit was discussed.

A Regional Alternative

Colchester Pond and Indian Brook Reservoir watersheds can easily be thought of as one management unit. Both shorelines are undeveloped and their combined watersheds are just over 2,000 acres. There are 30 private property owners involved. Most of the parcels are relatively large and are zoned for either conservation or agricultural use. The Indian Brook watershed is approximately 95% forested and Colchester Pond is about 65% forested. The Town of Essex owns 574 acres in the Indian Brook watershed, including the entire shoreline of the reservoir. The shoreline of Colchester Pond is entirely private. The Winooski Valley Park District is currently seeking easement and ownership rights to provide public access to the water. It seems logical that it may be prudent to develop a single management plan for both watersheds. This plan could allow for quality recreation suitable for the local environments and protect them from overuse. In addition, property rights of the private landowners could be carefully protected.

A combination of easements, development restrictions, land swaps and land acquisition techniques holds potential, but is time consuming and complex. The information presented in this Planning Study can be a useful guideline. A set of regional park development alternatives could be formulated after consultation with the state, towns, private landowners, and Winooski Valley Park District.

The combined watersheds of Colchester Pond and Indian Brook Reservoir offer unique opportunities for significant open space

protection and outdoor recreation in a primarily urban region. As the Champlain Valley area continues to grow, these areas will become increasingly valuable as natural recreation areas.

Developing a Lake and Pond Planning Model

The secondary purpose of this study was to recommend ways in which a Statewide Lake and Pond Planning Process could be implemented and Colchester Pond and Indian Brook Reservoir serve as appropriate case studies.

Because of the diversity of types and location of lakes and ponds in Vermont, it is difficult to develop a planning process that will fit all situations. The case study ponds were relatively small and undeveloped. They are man-made reservoirs and are currently used for only limited amounts of recreation. Many other Vermont lakes and ponds are larger, have heavily developed shorelines, and a variety of conflicting recreational uses. They pose greater planning and management challenges.

Still other lakes and ponds are even more remote and have a wilderness or primitive characteristic to them. These areas are increasingly rare and the plans and management actions that are carried out on them will, in many cases, have irreversible impacts.

Common Elements of a Lake and Pond Planning Process

While each lake and pond area is unique, there are common elements in a planning process which could be utilized on all lakes and ponds. A list of these elements is given below:

1. Designation of the Planning Team
2. Appointment of an Advisory Body
3. Development of Planning Goals and Objectives
4. Planning Process Organization and Schedule
5. Environmental Assessment and Resource Based Inventory
6. Public Involvement Procedures and Guidelines
7. Development of Management Alternatives
8. Selection of the Preferred Alternative
9. Plan Implementation
10. Plan Evaluation

The elements listed above are not unique to Lake and Pond Planning. They are usually found in any local land use plan. Lakes and ponds, however, are unique resources. They combine land and water resources that are used for private and public recreation, water supplies, and wildlife habitat. There may be a very diverse group of interested publics. The two most important elements may be the environmental assessment and the public involvement procedures.

The Environmental Assessment

This part of a lake and pond planning process must find, collect, organize, analyze, and present a variety of information in a format that can be easily understood. This includes information on geology, soils, climate, topography, forest and plant species, water quality indicators, and wildlife species and their habitats. It also includes land use data, demographic and socioeconomic information, and recreation use statistics.

Although a general outline of the basic types of environmental assessment information can be developed, the availability and usefulness of the information will vary. The information should be accurate and up-to-date, relevant, and useful. Without good information, any planning process will be inadequate. It is critical that the lake planning process collect and utilize the best information available from a variety of sources to make certain that planners and the public have the resources to

develop viable alternatives for planning, management, and protection of these resources.

The Public Involvement Process

After the environmental assessment phase, implementing a comprehensive public involvement process may be the most difficult, time consuming and costly part of the lake planning process. Over the last decade, public involvement has evolved from a purely information function toward an interactive function. Planners must be comfortable with the process and help create a sense of openness and trust in the process on the part of the public.

The decisions that affect public resources must be presented and discussed in a public forum. Developing public review and involvement procedures as part of a lake and pond planning process will help ensure that all segments of society have an opportunity to participate and that all views on how to protect and manage these resources will be heard.

Recommendations for Implementing a Vermont Lake and Pond Planning Process

Listed below are the twelve recommendations developed as part of this report. Some of these have already been implemented. They represent the opinions of the authors and can serve as one point in which to further develop a workable Vermont lake and pond planning process.

1. Designate a State Lake and Pond Planning Unit within the Vermont Agency of Natural Resources. This unit would be responsible for:
 - a. collecting information on lake and pond resources from a variety of areas and sources,
 - b. developing a statewide classification system for lakes and ponds that will be appropriate for implementing a lake planning process,
 - c. working with local governments and other agencies and organizations to identify local and state lake and pond planning issues,
 - d. coordinating the statewide lake and pond planning effort and acting as mediator if disputes over jurisdiction or other issues arise,
 - e. developing a set of guidelines for obtaining environmental assessment information necessary for conducting lake and pond planning studies,
 - f. developing slide and videotape programs and brochures useful in explaining the current situation on lakes and ponds and the importance of the planning process, and
 - g. developing a list of key contact agencies, organizations and persons that should be involved in the process or who can supply information on lake and pond issues and resources.
2. Define three types of planning boundaries that can be used in preparing lake and pond management plans:
 - a. Watershed Boundary - using topographic maps.
 - b. Lakeshore Impact Area - can be defined for each lake as appropriate.
 - c. Overall Planning Area - would include a designated zone outside the watershed area that has a potential impact on lake resources. This would have to be determined for each lake and pond area. Roads, town lines, or other features could be used as appropriate.
3. Utilize regional planning techniques and greenline park concepts engaged in lake planning projects. This would

promote the idea of lakes and ponds as being regional resources and examine ways to designate regional open space areas and greenway recreation corridors.

4. Appoint a statewide lake and pond advisory committee. This committee would be comprised of 20-30 members who would assist the State Lake and Pond Planning Unit in promoting and implementing the lake and pond planning process. Each member should have a particular area of expertise and should be able to act as a liaison to a specific agency or organization to obtain information for the State Lake and Pond Planning Unit, or local planning team as requested.
5. Develop a set of guidelines for lake and pond planning projects which could be used by federal and state agencies, local governments, and other organizations which may be engaged in lake and pond planning studies.
6. Make developing management plans for wilderness type lakes and ponds a high priority. Wilderness ponds should be identified and should have established management and protection plans and regulations enacted to protect their resources as quickly as possible. Wilderness resource values can be very easily altered by even small intrusions and unplanned developments.
7. The State Agency of Natural Resources should work with other organizations, such as colleges and environmental and sportsman's groups, and lake associations, to conduct periodic surveys on statewide and local lake and pond issues and problems.
8. Some guidelines for the lead agency in lake and pond planning efforts should be established.
9. The State Agency of Natural Resources should report on the status of lake and pond resources on a regular basis.
10. Public involvement in the lake and pond planning process should be a high priority and guidelines for implementing public involvement should be established.
11. The Public Trust concept, as it relates to lakes and ponds in Vermont, should be further clarified. This will be a major issue to consider in the lake and pond planning and management process.
12. In the effort to protect Vermont's "inland" lakes and ponds, Lake Champlain and Lake Memphremagog must not be overlooked. The complexities of land use, recreation, pollution, environmental impact, and overlapping political and governmental jurisdictions make these large lake areas a major challenge. The value of these lakes is immeasurable to two countries, three states, the northeast region, and many local towns and counties. These resources cannot be allowed to become international sewage systems for regional growth and development. The importance of the Lake Champlain Basin is evident internationally, since it has recently been designated a World Biosphere Reserve.

Summary

Vermont has been a national leader in implementing environmental laws and planning programs. Acts 250 and 200 are examples of this leadership. They were not processes that were easily enacted or implemented, yet they are attempts to look ahead, anticipate changes, and plan for the future.

Vermonters have indicated that they want to protect their way of life, their towns, their history, and their environment.

The lake and pond planning process is just getting underway in Vermont. The implementation of a viable lake planning and management process will be the result of public involvement, up-to-date information, leadership, and cooperation between various levels of government, interest groups and individual citizens that are concerned with the future management and protection of lakes and ponds in Vermont. The lake and pond planning process will be a real test of the regional planning process and Act 200, the statewide planning program.

Aldo Leopold advocated the idea of a "land ethic." Vermont is attempting to develop a lake and pond ethic by trying to implement a process to plan and manage these resources widely over the long term. Because of the number and diversity of the lakes and ponds in Vermont, it is an awesome task. The people of Vermont should be commended for their effort and will be rewarded when these resources are used widely and preserved for the future.

Recreation is but one use of lake and pond resources. Managing recreation use in and around land and water areas and also attempting to protect natural resources is a very complex task. Attempts are made to strike a balance between use and protection. There are rarely easy answers and almost always an abundance of controversy. The idea of Visitor Impact Management is emerging with some new ideas and concepts.

We can say over and over that lakes and ponds are pristine, fragile, and irreplaceable, but that idea is one that is hard to grasp. We become numb to these descriptions and adjectives. It is a simple fact that lakes and ponds cannot be produced on demand like cars and clothes and houses. What we have now is all that we are going to get. Natural resource managers have the responsibility of making the decisions on how to best manage these resources. If they are to be protected for the future, a lake and pond planning process must be implemented.

Literature Cited

State of Vermont. 1985. Vermont State Statutes Annotated, Chap. 10, Sec. 1424. Use of Public Waters. June 1985.

State of Vermont. 1988. Lakes and Ponds Task Group Report. 1988 Vermont Recreation Plan. Recreation Division, Agency of Natural Resources, Waterbury, Vt. 42p.