

Connecticut River

Recreation Management Plan

Riverwide Overview - 2009





Fishing above First Connecticut Lake.
Pittsburg, N.H.

The Connecticut River Management Plan: Recreation Overview was developed by the Connecticut River Joint Commissions, advised by their five bi-state local river subcommittees.

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Cover image: A summer afternoon on the Connecticut River, looking downstream from Stratford, N.H. and Maidstone, Vt.

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I. Preface

The Connecticut River Management Plan ~ A New Recreation Chapter

The **Connecticut River Recreation Management Plan** represents an updated and expanded discussion of recreation-related issues raised in the 1997 *Connecticut River Corridor Management Plan*. The 1997 plan, created by the Connecticut River Joint Commissions (CRJC) in cooperation with their five local subcommittees, fulfills the requirements of RSA 483, the New Hampshire Rivers Management and Protection Act.

Focusing on recreation issues of river-wide significance in New Hampshire and Vermont, this overview is based upon discussions by the Connecticut River Joint Commissions (CRJC) and its five local river management advisory subcommittees for the Headwaters, Riverbend, Upper Valley, Mount Ascutney, and Wantastiquet regions. Each region created its own distinct plan, yet many of the same themes emerge and are reflected in CRJC's overview of the issues and opportunities that are important throughout the Connecticut River valley.

The Commissions consulted a wide range of studies and findings for this document, including the most recently completed Comprehensive Statewide Outdoor Recreation Plans for New Hampshire and Vermont. It is our hope that this Recreation Management Plan will be of use to the two states as they approach the next five-year update of their plans.

The membership of the New Hampshire and Vermont Connecticut River Commissions is broadly diverse. Thus this Riverwide Overview expresses a broad consensus throughout the Connecticut River valley about important outdoor recreation resources and opportunities, as well as the issues that will need to be addressed if the valley is to continue to provide high quality recreation experiences.

CRJC sent a draft of this riverwide recreation plan to over 150 reviewers, requesting their comments. We appreciate the thoughtful assistance of these reviewers, who represent four federal agencies, nine state agencies, seven regional planning commissions, town leaders, a long list of private recreation, tourism, and conservation organizations, and our local river subcommittee members.

The 1997 Connecticut River Corridor Management Plan, based upon regional plans created by our five local river subcommittees, devoted five of its 45 pages to recreation and tourism-related issues. It recognized that recreation and heritage tourism are important economic opportunities that flow from the river. Significant progress has been made in a number of areas, particularly in providing new public access to the river for car-top boats, creating a boater education program in New Hampshire, and gathering community participation in and recognition for the Connecticut River Byway as a river-friendly economic development initiative. A review of this progress is presented in Appendix B.

The Connecticut River Joint Commissions

The New Hampshire Legislature created the Connecticut River Valley Resource Commission in 1987 to preserve and protect the resources of the valley, to guide growth and development here, and to cooperate with Vermont for the benefit of the valley. The Vermont Legislature established the Connecticut River Watershed Advisory Commission the following year. The two commissions banded together as the Connecticut River Joint Commissions in 1989, and also achieved the status of a non-profit organization. The legislatures directed the commissions to work throughout the watershed in the two states, comprising approximately one third of the land area of New Hampshire and two-fifths of Vermont. The Connecticut River Joint Commissions are advisory and have no regulatory powers, preferring instead to advocate and ensure public involvement in decisions that affect the river and its valley. CRJC's mission is to safeguard the natural and cultural resources and working landscapes that are the essence of our valley. We do this by anticipating and addressing the forces of change and by inspiring and advancing partnerships throughout the two-state watershed.

The 30 volunteer river commissioners, 15 appointed by each state, are citizens who live and work in the valley and are committed to its future. CRJC believes that the most effective action takes place when all the players come to the same table to achieve consensus. Members represent the interests of business, agriculture, forestry, conservation, hydropower, recreation, and regional planning agencies on both sides of the river. A list of river commissioners who participated in the development of this ***Recreation Management Plan: Riverwide Overview*** appears in Appendix A. The Commissions hold joint meetings throughout the year, and are supported by four staff: the executive director, conservation director, communications director, and office manager. The Commissions are headquartered in Charlestown, N.H.

CRJC sought local participation in 1992 by establishing five local subcommittees of citizens nominated by the select boards and city councils of the 53 riverfront towns. These citizens, as directed by RSA 483, represent local government, local business, agriculture, recreation, conservation, and riverfront landowners, making the subcommittees truly reflective of their regions, representing many perspectives and towns from both sides of the river.

Acknowledgments

Commissioners thank the many people who attended meetings and commented on drafts of this Plan.

We also thank the CRJC staff: Sharon Francis, executive director; Rebecca Brown, communications director, Barbara Harris, office manager; and special thanks goes to Adair Mulligan, conservation director, for her work in compiling the Plan.

Appreciation also goes to MajaDesign, Inc. for design of this publication.

II. Introduction

Public recreation and enjoyment of the outdoors has been part of the culture of the Connecticut River valley since before the founding of the Republic. From John Ledyard's 1773 canoe trip downstream from Dartmouth College to the establishment of hunting and fishing camps and erection of the grand hotels in the next century, the valley has always welcomed visitors seeking solitude, inspiration, and the challenge provided by one of the nation's great rivers and the vast forests and mountains that embrace it.

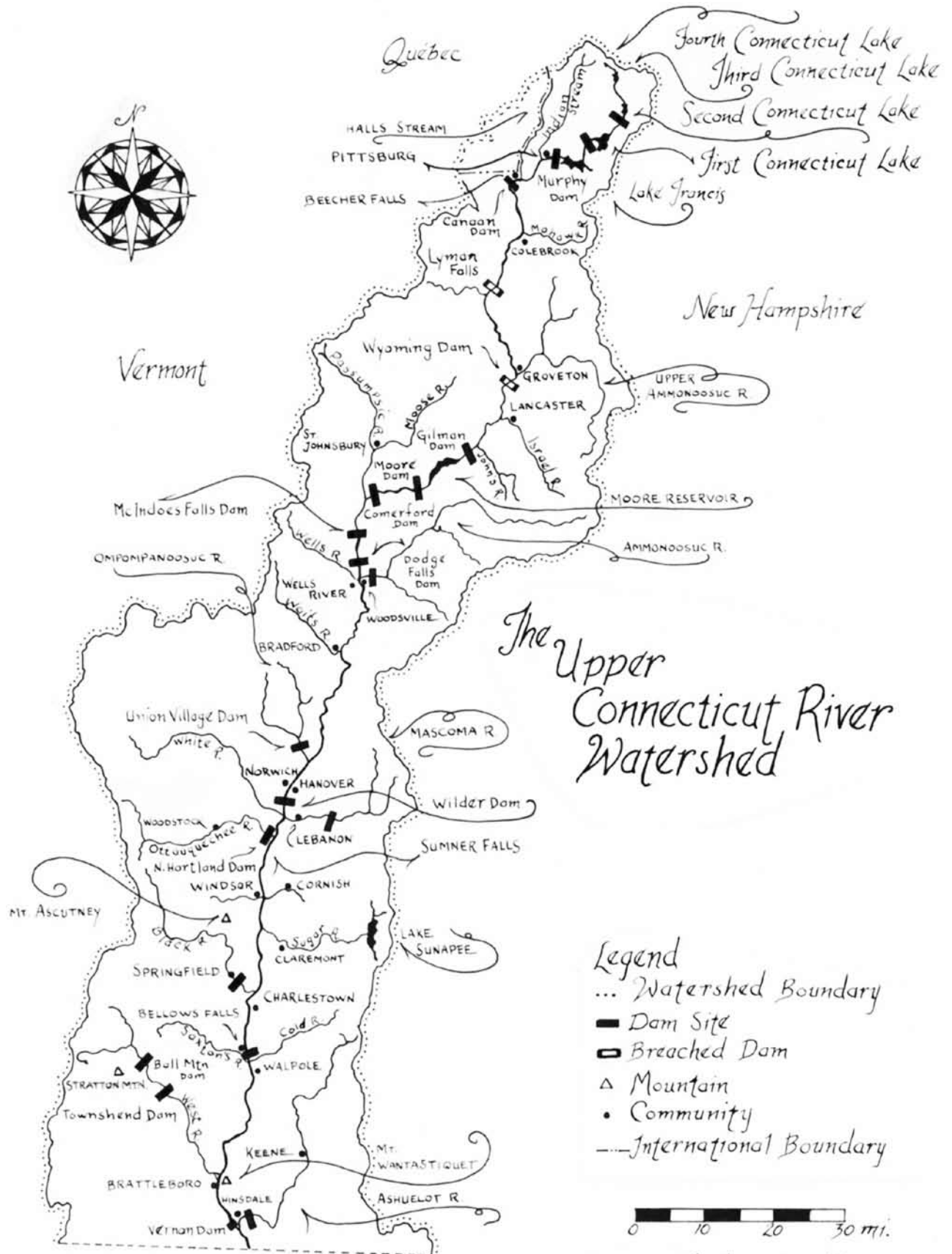
Today, the significance of the region for public recreation is growing. The valley is recognized along with other recreational jewels of the two states, including the White Mountains and Lakes regions of New Hampshire and Vermont's Green Mountains and Lake Champlain. With the designation of the Connecticut River Byway as a National Scenic Byway in 2005, as well as the conservation of thousands of acres for public recreation in New Hampshire's North Country and the Northeast Kingdom of Vermont, we can only expect greater public use of the river and the valley.

Increasing public recreational use brings both opportunities and challenges. The greatest challenge is a familiar one across the nation. As the population grows and more people live as well as recreate in more remote places, how do we encourage greater use and still maintain the qualities that make our valley unique and attractive in the first place? How do we encourage more businesses that cater to the outdoor recreation market, and protect the often fragile environment of the river? How do we manage the increasing use by the public of private lands, and balance competing public uses of our public lands?

The ***Connecticut River Recreation Management Plan: Riverwide Overview*** begins by summarizing the growing economic importance of public recreation in New Hampshire and Vermont, and the implications of increasing public use of private land. It then outlines opportunities, issues, and recommendations for both land-based and water-based recreation. This plan recognizes that many solutions require the collaboration of a broad range of people and organizations both public and private. Therefore, recommended actions are addressed to those who can help make them happen, from Congress to statewide recreational organizations, from local communities to clubs and individuals.

A. Recreation is a Vital and Growing Part of the States' Economies

The wealth of opportunities for outdoor recreation has long been a centerpiece of tourism and marketing strategies in Vermont and New Hampshire. It is also a prime factor in the quality of life for residents in both states. While there are very few data that specifically reflect the economic value of recreation within the Connecticut River valley, several studies quantify participation in and the economic impact of recreation in the two states.



A 2007 study in New Hampshire¹ found that about \$379 million in total sales is generated by those who fish, boat, or swim in New Hampshire fresh waters, or about 26 percent of all summer spending in the state. Fishing, boating and swimming have about the same economic impact as snowmobiling, downhill skiing, cross-country skiing, and ice fishing combined. Other findings include:

- ***Recreation is growing fastest in New England.*** Participation in bird watching, backpacking, primitive camping, developed camping, off-road driving, bicycling, motor boating, and sailing all increased more in Vermont, New Hampshire, Massachusetts, and New York between 1995 and 2003 than elsewhere in the U.S.² Outdoor recreation visitors to Vermont spend nearly a third more than the average visitor during their visit.³
- ***Residents of the two states do more outdoors.*** Vermont and New Hampshire residents participate in more outdoor recreation activities than residents in neighboring states. Among the most popular are kayaking and canoeing (37 percent Vt., 30 percent N.H.); hiking (44 percent/47 percent); cross-country skiing (26 percent/17 percent); snowshoeing (16 percent/10 percent), and overnight backpacking (9 percent/13 percent).⁴ Both states also draw significant numbers to ski areas, largely located at the watershed's margins.
- ***Water-based recreation tops \$1 billion in New Hampshire.*** Boating, fishing, and swimming in New Hampshire's rivers, streams, lakes, and ponds contribute up to \$1.2 billion (2003 dollars) to the state's economy each year, attracting visitors, generating spending, creating jobs, increasing household income, and boosting tax revenue.⁵
- ***Water recreation pays in Vermont.*** Water-based recreation in Vermont is at least a \$109 million business, generating \$5.5 million in tax revenues (2004 dollars). Over half of households surveyed participate in recreation activities along Vermont rivers. Ninety-two percent of outdoor recreation business respondents reported that continual improvement in clean water is important to their business.⁶
- ***Outdoor enthusiasts spend time and money on recreation involving wildlife.*** Americans spent \$122.3 billion on fishing, hunting, and especially wildlife watching in 2006, equal to one percent of the Gross Domestic Product. In that year, 61 percent of Vermonters and 51 percent of Granite State residents participated in wildlife-associated recreation. While national trends suggest that participation in hunting and fishing is dropping, people are increasingly engaged in observing, feeding, and photographing wildlife.⁷
- ***Outdoor recreation visitors to the Connecticut River Valley spend more.*** On average, people who come to the Connecticut River valley spend more per person per day (\$102 in 2000 dollars) than similar visitors to the New England region as a whole (\$96) or to the state of New Hampshire (\$89). They spent an estimated \$1.04 million in the valley in 2000.⁸

We cite these reports to give a snapshot of the overall economic importance of recreation in the two states.

B. Priority Concerns

Given the importance of outdoor recreation to the quality of life for residents, the appeal for visitors, and the states' economies, as well as the effect of public recreation on public and private natural resources, CRJC identifies the following as the most pressing needs in the Connecticut River valley:

1. The loss of private land traditionally available for public use.

CRJC regards the loss of private land for public use - whether through posting or development - as a strong concern. Outdoor recreation opportunities are among the watershed's greatest assets. Many of the recommendations included in this plan are based on repairing damage to the tradition of public use, as well as protecting and expanding opportunities for public use in the future.

2. Funding for land conservation to benefit public recreation and tourism.

The Connecticut River valley is poised both for population growth and for expansion of recreation and tourism. The opportunity to conserve undeveloped land to keep it available for public enjoyment will never be better, but this requires a commitment by the states and communities.

3. Responsible management of riverfront land.

Vermont is the only New England state that does not protect its shore lands, and there is no oversight for dock construction on the western shore of the Connecticut River. Adequate riparian buffers are essential for protecting water quality, stable riverbanks, and scenic views. Erosion degrades water quality, affecting fish and other wildlife, leads to property losses, and is costly to landowners.

4. Reduction of conflicts associated with motorized recreation.

Wakes from powerboats contribute to bank erosion on many parts of the Connecticut River. New Hampshire's outdated definitions of "ski craft" and "personal watercraft" allow jet skis on many miles of the river where they are likely to cause erosion, interfere with fishing and other craft, and disturb wildlife. Damage to land and wildlife habitat from irresponsible use of ATVs is also a concern.

5. Reduction of mercury levels and other toxins in fish.

The Connecticut River and its tributaries offer legendary fishing, but mercury and other toxins are poisoning these waters, threatening the economic value of this traditional pastime just as it threatens human health.



III. River-based Recreation

The discussion that follows identifies issues, opportunities, and general recommendations for a number of recreation topics. A list of key recommendations follows.

A. Swimming

Of all types of water-based recreation, swimming may be most identified with clean water. Many Connecticut River valley dwellers well recall not only a river that ran a different color every day, carrying a loathsome burden of solids, industrial dyes, and poisons, but also their mothers' warning to stay away from the water entirely, let alone swim in it. To the great credit of the communities and industries who later invested in water pollution control, and especially of the policy-makers who insisted on this investment in the face of opposition, the Connecticut River is, for the most part, safe for swimming for the first time in well over a century. Residents and visitors can once again enjoy a refreshing dip in New England's greatest river, and businesses can reap the rewards of welcoming visitors to a clean waterway.

This great improvement in water quality is an important quality to protect. Interviews with users of public boat ramps in the tourism regions that include the Connecticut River valley of New Hampshire (Great North Woods, White Mountains, Dartmouth-Sunapee, and Monadnock regions), found that up to 85 percent of anglers, boaters and swimmers say they would decrease their intended visits to the region if water clarity and purity declined.¹

In answer to a call for help from CRJC, the N.H. Department of Environmental Services (NH DES) and the U.S. Environmental Protection Agency (EPA) set out in the summer of 2004 to assess the river's safety for swimming. Previous information had been spotty and inadequate. They found that, with a few exceptions, bacteria contamination on the days of sampling was non-existent or well below acceptable levels. Results for this investigation are posted at www.crjc.org/swimming.htm.

Fortunately, residents of many parts of the watershed have stepped forward to help gather knowledge about water conditions. Citizens interested in the Ashuelot, Cold, Ammonoosuc, and Israel rivers in New Hampshire, and the West, Williams, and Saxton's rivers, Blood Brook, and the Ompompanoosuc, Waits, Wells, and Stevens rivers have started water quality monitoring programs. They have benefited from the support of state agencies and, in many cases, grants from CRJC and guidance from regional planning commissions and county conservation districts.

The entire Connecticut River should be safe for swimming. The threat to public health posed by combined sewer overflows (CSOs) should be eliminated, and sources of bacteria found in the northern reach of the river should be addressed. Strong efforts toward identifying sources of contamination and monitoring water quality on a regular basis will help focus these efforts.

Issue: Two Areas are Still Unsafe for Swimming

Because of bacteria contamination, two significant regions of the river remain listed as unsafe for swimming, including some of the most busy and beloved canoeing and swimming water on the river. These regions are:

- The 50-mile stretch from Indian Stream in Pittsburg, N.H. to the Upper Ammonoosuc River confluence near Groveton, N.H. was found in 2004 to be polluted by bacteria from unknown sources. This stretch includes a designated Natural Segment, seven miles from the mouth of Wheeler Stream in Brunswick, Vt. to the Stratford-Maidstone Bridge.
- The 14-mile stretch from the mouth of the White River to Blow-Me-Down Brook in the Cornish, N.H./Windsor, Vt. area. This section includes Sumner Falls, a magnet for whitewater kayakers who routinely immerse themselves in the river. While bacterial contamination was not evident here in 2004, combined sewer overflows in Lebanon, N.H. still have the ability to send untreated sewage into the Connecticut River during storms, rendering the water unsafe.



The Connecticut River is once again safe for swimming – in most places. Wilder, Vt.

More effort is needed to keep human and animal waste out of waterways where possible. Aging wastewater treatment plants and inadvertent operator mistakes have occasionally resulted in releases of pathogens into waters that are frequented by swimmers. Upgrading of these plants is expensive, and in recent years, the federal government has been cutting back on funding to assist communities with this budget-busting necessity. In 2006 one village in northern New Hampshire attempted to eliminate direct discharges to a Connecticut River tributary by installing a village septic system, but voters said no to the financial commitment.

Animal sources of pathogens are both urban and rural in nature: pet droppings on municipal streets delivered by stormwater runoff, livestock wandering into waterways, and wildlife such as beaver and moose. Several communities, led by Lancaster, N.H., are installing pet waste gathering stations in public parks. While contamination by native wildlife is impossible to control, contamination by livestock is not. A single cow produces approximately 5.4 billion fecal coliforms a day, and two cows allowed unrestricted access to a stream for 24 hours can contaminate as much water as the city of Keene, N.H., uses in one day. Currently, the states of Vermont and New Hampshire do not require farmers to keep livestock from entering streams, although a number of federal programs provide grants for fencing and alternative water sources.

Opportunities & Recommendations

- **Eliminate combined sewer overflows.** Eliminating CSOs from wastewater treatment collection systems as quickly as possible will go far in protecting the public using the river. Communities still need the help of the federal government with this cost and also with the heavy burden of wastewater treatment plant upgrades. This is not a time for EPA to relax its

requirements for communities to remediate combined sewer overflows, as has been proposed.

- **Ensure prompt public notification of plant malfunctions.** The public needs to know immediately if there is a malfunction causing a polluting discharge at a wastewater treatment plant, especially during the summer recreation season. Operators can work with state health officials to warn the public in a timely way.
- **Eliminate illegal septic discharges.** Every effort should be made on the local, state, and federal level to assist economically challenged communities in ending pollution by straight pipe discharges.
- **Support water quality monitoring.** There is currently no on-going water quality monitoring of the Connecticut River or of most of its tributaries. The Connecticut River Watershed Council is an appropriate organization to lead a volunteer water quality monitoring program on the river, with the guidance of NH DES, to keep data current and to further explore potential sources of contamination. Both states should provide financial support for monitoring efforts on the tributaries.
- **Protect and enhance riparian buffers.** Buffers are the river's natural hedge against water pollution and erosion. Riparian landowners interested in protecting the quality and recreation value of waters passing through their property will want to retain and enhance riparian buffers.
- **Keep livestock out of waterways.** Farmers should consider taking advantage of USDA programs to help with the cost of fencing livestock out of waterways and providing alternative water sources. Vermont's Conservation Reserve Enhancement Program is able to pay up to 100 percent of these costs and the costs of planting and setting aside riparian buffers.
- **Reduce stormwater pollution from pet waste.** Town officials and park managers can encourage the public to pick up after their pets, and consider following the example of Lancaster, installing collection bag stations in a local riverside park.

B. Boating

The Connecticut River offers a broader range of boating opportunities than any other water body in the region. These range from the thrill of whitewater kayaking at Sumner Falls, to a quiet paddle through river setbacks, to power boating on the impoundments behind the dams. Of the 271 miles of the river in New Hampshire and Vermont, almost exactly half is free flowing, and half is impounded.

Boat traffic of all types on the river has increased significantly in recent years, particularly canoes and kayaks. Results of a 2004 survey of New Hampshire residents correspond well with observations in the Connecticut River valley. The survey suggested that protecting high-quality freshwater recreational opportunities, overall scenic beauty, variety in activities, and water quality will help safeguard the economic value of these waters.¹ The same survey found that non-motorized activities are the most popular among those using New Hampshire's

lakes and rivers, with 68 percent using non-motorized craft, and 48 percent using powered watercraft (some use both).

A 2002 survey of Vermont residents² indicated that canoeing/kayaking was one of the top two outdoor recreation activities for 10 percent of Vermonters throughout the state during the boating season, while 6.4 percent listed motor boating. Three percent of Vermonters, or 19,000, use jet skis each year.³

Canoeing has always been a fine way to enjoy the river up close, and kayaking has now become just as popular. Kayaking activity increased 322 percent in Vermont, New Hampshire, Massachusetts, and New York between 1995 and 2003.³ Vermonters in particular enjoy river-based recreation. They have ranked first in the nation for participation in kayak touring or whitewater kayaking, with 10 percent involved in each, and second in the nation with 30 percent participating in canoeing.⁴ Vermont has more whitewater boaters per capita than any other state.⁵

In several regions, people of all ages are enjoying the exercise and exhilaration of rowing and sculling on the wide flat water of the impoundments. Organized adult and high school crew teams practice and compete on the river in the Hanover area, the Putney area hosts the Green Mountain Head race, and an annual Black Fly Regatta is held at the Comerford Dam.

The natural beauty of the river corridor, the rising numbers of paddlers seeking an extended river experience, and the willingness of landowners to share their conserved riverfront property with the public, prompted the Upper Valley Land Trust to create a string of primitive canoe campsites in 1992, with support from CRJC. Sleeping next to a living river is a way to know it like no other. The Connecticut River Water Trail has since become much appreciated, and the idea has spread both upstream and down. Experience has proven the value of designated sites in carefully selected locations accessible only from the river, to help focus recreational use in places that can be monitored and reduce the use of places where campers are not welcome.



Canoeing has always been a great way to see the river. *McIndoe Falls, Vt.*

1. Boat Wakes, Erosion, Enforcement, and Safety

With increasing use comes increasing need for enforcement and safety services. The Connecticut River is not a long, narrow lake. Even where it is impounded, its banks respond very differently from those of the relatively stable shoreline of a lake. The section of the Connecticut River most easily traveled by motorboats flows through the old sediments of a series of glacial lakebeds, making for soft shores that are vulnerable to a heavy wake, especially if they are unprotected by riparian vegetation. Acres of prime agricultural land are lost each year to erosion, which has also washed away important riverside archeological sites. The causes of erosion on the Connecticut River are complicated and varied. Some, such as natural scour, abrasion by ice, and wind-driven waves, are nearly impossible to control. Some human causes are also difficult to influence in the short term, such as water level fluctuations created by peaking power generation at hydro dams operating under 40-year federal licenses.

Others human causes, such as boat wakes, can be reduced immediately by attentive boaters and good law enforcement.

Riverfront landowners report that boat wakes are causing bank erosion that threatens both their property and the quality of the water. This problem is most pronounced in the 130-mile stretch of river from Woodsville, N.H. to the Massachusetts line, but occurs upstream as well. Compounding this problem is that some boaters are either unaware of the existing boat speed law, or are able to ignore it because it is irregularly and inadequately enforced. New Hampshire's RSA 270 states that boats must travel at headway speed (6 mph) within 150 feet of shore, islands, other boats, swimmers, rafts, or floats. Throughout much of its length, the river is narrower than 300 feet, and the headway speed law applies.

Some boats are prone to throw a larger wake than others. Those with deep V-shaped hulls can inflict perceptible damage on a riverbank when traveling at low speed, yet create very little wake when planing at high speed. Slowly cruising pontoon boats produce practically no wake at all. Small motorboats pose little threat to riverbanks under some conditions, but can still cause erosion where the river is narrow.

Responding to the need for boater education about erosion, speed, and trespassing, CRJC published a free pamphlet indicating public boat access points and depicting river width and allowable speed. New Hampshire started a long-overdue boater education program. Yet, there is no substitute for direct enforcement, particularly when lack of it has public safety as well as environmental and economic consequences. The N.H. Marine Patrol has had difficulty finding and training officers and citizen assistants, partly due to lack of funds.



An Upper Valley River Subcommittee member savors a view of the river. Orford, N.H.

The Connecticut River is also a powerful force of nature. Accidents happen in placid, impounded waters, just as they do in rough spots such as rapids and the remains of breached dams. Ice thickness varies greatly and can shift quickly, and in the impoundments, water levels continue to fluctuate under the ice. Being prepared for emergency water rescue at all seasons, particularly on the challenging waters of a river as large as the Connecticut, is essential. Some riverfront towns, such as Hartford, Vt., and Lebanon and Hanover, N.H. on the Wilder impoundment, share a rescue boat for emergencies. Volunteers in other towns train together for rescues under the ice. Yet, some towns are still without water rescue equipment and the training to use it.

Opportunities & Recommendations

- **Increase Marine Patrol enforcement.** Adequate funding is needed to allow the N.H. Department of Safety Services' Marine Patrol to make the job of patrol officer more attractive,

and thereby increase enforcement of existing boating speed laws on the Connecticut River to help improve safety for both boaters and riverbanks.

- **Face the need for sufficient revenue.** General fund support from state legislatures is the most equitable way to pay for enforcement that benefits all river users. Further revenue enhancing programs, such as volunteer contributions similar to those sought by state agencies to support their non-game wildlife programs, could also help defray the costs of enforcement and river access.
- **Marinas and event organizers must alert participants.** Marinas and fishing tournament organizers should inform customers and participants of boating laws in effect on the river and the effect of boat wakes on erosion.
- **Limit powerboat use on narrow sections.** Limit boating in sections of the river that are consistently too narrow for travel over headway speed, such as above the Lancaster/Lunenburg Bridge.
- **Be prepared for water rescues.** Emergency water rescue equipment, and the training to use it, is essential for towns along the Connecticut River and its major tributaries. Communities should know what their neighbors can offer for mutual aid, including those across the river.

2. Public River Access

Opportunities for the public to enjoy boating on the Connecticut River have expanded in the last few years with improved portage trails and projects to provide public alternatives to trespassing on private land. At this writing, there are 86 public launch sites on the Connecticut River. New or improved access has opened in Canaan, Bloomfield, Stratford, Guildhall, Lunenburg, Woodsville, Lyme, and Hartford, and is planned for Orford. While it is not necessary for every town to have its own public access, there are several towns, including Ryegate, Westminster, and Westmoreland, where river access is desired and would reduce public pressure on private land.

Sufficient access for large trailered boats has existed on the river for many years. CRJC believes that it is not necessary to invite further traffic that has such strong potential to create wakes that erode soft riverbanks, require resources for speed enforcement, carry invasive species, and consume non-renewable fuel.

Non-motorized boating, however, is on the rise in both states, and this type of activity generally has less impact on the river, except where paddlers are tempted to trespass or create erosion by trying to launch over steep banks in inappropriate places. A 2004 survey for the New Hampshire Lakes Association found that non-motorized activities are the most popular, especially among frequent users of lakes, rivers, and ponds¹.



Boat access at Bedell Bridge State Park.
Haverhill, N.H.

Since paddle craft cannot travel as far or as fast as power boats, day trippers can benefit from the greater number of route alternatives that would come with new public access for car-top boats. There is still room for expansion of such access in several parts of the river, especially inside the mouths of tributaries. However, given the limited number of primitive canoe campsites and the growing popularity of canoe camping on the Connecticut River, adding too many launch sites could overwhelm the existing campsite system.

Opportunities & Recommendations

- **Expand public river access for car-top boats.** The states of Vermont and New Hampshire can assist towns in establishing a limited number of small access sites for car-top boats. When bridges are repaired or replaced, acceptance of federal funds carries the obligation to provide river access. Thus states gain an important opportunity to provide modest public access for car-top boats and fishermen.
- **Establish and use best practices for building new sites.** Access sites are best located on low, stable banks, offer limited parking, and should carry signs designed for a rural setting that informs users of river dangers, potential for bank erosion, and boater responsibility.
- **Improve communication between agencies.** Vermont and New Hampshire should develop a permit exchange agreement across their shared waters similar to that which already exists across Lake Champlain between Vermont and New York. River-related projects on one side of the river can affect the other side, or require services provided by the other state. There is currently no mechanism for the N.H. Marine Patrol to participate in decisions by Vermont or New Hampshire agencies that directly affect this agency's responsibilities for boating law enforcement.
- **Avoid expanding powerboat use.** Boat ramps serving powerboats should not be added or expanded, particularly without consultation with the N.H. Marine Patrol.

3. Jet Skis

The Connecticut River is not well suited to ski craft and personal watercraft, commonly called jet skis. Floating debris poses a safety hazard, and these craft can venture into river setbacks and other shallow areas that provide important resting and feeding habitat for waterfowl.

Fifty-two percent of river users surveyed in a 2003 study of Connecticut River recreation identified jet skiing as an inappropriate or unsuitable activity for the river¹. They cited noise, speed, and a lack of courtesy from the operators as primary reasons for concern. The second and third least acceptable activities, according to survey respondents, were waterskiing (24 percent) and motor boating (19 percent). Respondents cited the narrowness of the river channel in the study area (Wantastiquet region), safety issues for swimmers, and disturbance of non-motorized boats and fishing lines by water skiers and motorboats. Vermonters surveyed in 1997 by the National Wildlife Federation mentioned motorboats and personal watercraft most often as activities that interfere with people's recreation.²

The rules for personal watercraft are confusing because the definition of the craft is outdated in New Hampshire. A “ski craft” is a kind of personal watercraft currently defined in New Hampshire as any motorized vessel that is less than 13 feet in length, is capable of exceeding 20 miles per hour, and has the capacity to carry no more than two persons. The three- and four-person personal watercraft are nearly the same size and are similar to ski craft in engine design, maneuverability, propulsion system, shallow draft, acceleration and speed.

The current law allows ski craft to operate above headway speed (6 mph, or the slowest speed a craft can be operated and maintain steerage way) only when 300 feet from shore, or where the river is more than 600 feet wide. This means that ski craft can enjoy parts of the impoundments behind the hydroelectric dams at Vernon, Bellows Falls, Wilder, Comerford, and Moore. Because personal watercraft are currently defined as boats, they may travel as close as 150 feet from shore and therefore may travel over headway speed on any portion of the river that is over 300 feet wide. Inconsistencies in this definition have resulted in confusion about which laws apply to which craft, making enforcement difficult and raising questions among owners about where they may travel with their jet craft.

New Hampshire’s definition of these craft needs to be updated to eliminate the subtle differences between them, and to retain the requirement for 300 feet from shore for travel over headway speed. Changing the law to allow ski craft to travel where boats may go would permit these craft on all areas of the river that are between 300 feet and 600 feet wide, opening over 100 more miles of the Connecticut River to ski craft. Many of these miles are located in areas already experiencing riverbank erosion.

The jet ski industry is well represented in state capitals. Increasing numbers of people are pursuing motorized recreation, and may not be aware of the adverse effects of these craft on riverbanks or on the enjoyment of the river by those who seek a quiet experience.

Opportunities & Recommendations

- **Update the legal definition of personal watercraft.** Legislation to update New Hampshire’s definition of personal watercraft is long overdue, to keep up with design developments in the craft. This will simplify enforcement and protect waterfowl and sensitive riverbanks. The 300-foot distance from shore should remain as a requirement for travel over headway speed for all jet-powered small craft.
- **Enforce the law.** The N.H. Marine Patrol needs adequate funding and personnel to enforce boating laws that apply to personal watercraft.
- **Marinas should educate jet ski customers.** Marinas renting jet skis should advise their customers where they may legally use the craft.
- **Adopt new technology and maintain engines.** Jet ski owners should consider taking advantage of the more efficient engines on newer models, and maintain them carefully to help avoid water pollution problems.

4. Docks

Private docks can affect water quality, as riverbanks are cleared of their natural buffer and erosive boat wakes come close to shore. Docks also affect the scenic quality of the river, particularly where shore land owners have cleared trees and shrubs for a view of the river that in turn opens a view of shore land development to river users.

The number of docks has been increasing along the banks of the Connecticut River, and is essentially unregulated on the Vermont shore. New Hampshire jurisdiction extends to the low water mark on the Vermont side, and in some places the state line has been inundated by the construction of dams. While New Hampshire has a dock policy in effect that limits dock dimensions, placement, numbers, and anchoring on the New Hampshire side, Vermont's policy does not apply to its side of the Connecticut River because it only regulates docks that extend over Vermont lakes, ponds, and impounded waters. Therefore, Vermont's dock rules apply only where the state line is inundated, such as at Comerford Reservoir. Both states have been reluctant to apply their dock rules to the rest of the Vermont shoreline, leaving 250 miles vulnerable to uncontrolled development, except where blocked by shorefront rail lines.

Although impounded in many areas, the Connecticut River is not a lake, and docks must be built and managed to withstand regular water level fluctuations as well as the occasional high flows and heavy current. High water sometimes carries them away to become a hazard to boaters and a nuisance at dams.

New Hampshire limits docks on rivers to seasonal structures. While New Hampshire's dock rules are clear, they were not designed with thought to the development of large waterfront parcels. The Connecticut River may be unique in the state as a large, navigable river with shoreline still owned in parcels large enough to include a mile or more of frontage. The state's rules are oriented toward much smaller pieces of waterfront, and, at this writing, would permit more than a hundred boat slips on the average sized riverfront farm. Currently, one dock is allowed for each 75 feet of frontage and may be clustered, such as for a marina.

Opportunities & Recommendations

- **Vermont needs a dock policy for the Connecticut River.** The Vermont Department of Environmental Conservation can work with the New Hampshire Department of Environmental Services to develop a permitting policy for docks on the Vermont side of the river, and communicate this policy effectively to town officials, landowners, and those selling riverfront real estate. In the absence of state oversight, Vermont towns will want to consider adopting controls on dock construction.
- **Revise New Hampshire dock rules to address large riverfront parcels.** It is important for New Hampshire to revise its dock rules to ensure that multiple docks and boat slips cannot be developed on parcels with extensive river frontage to an extent that threatens the integrity of the riverbank or invites more traffic than the river can bear.

- **Evaluate new dock proposals.** Towns or agencies considering establishing a public dock should confine these facilities to day use, and match the type of facility with the character of the river accessible from the area. Docks or launches designed for large powerboats are not appropriate for narrow or shallow parts of the river. Screening parking from the water with an ample riparian buffer benefits both water quality and aesthetics. The N.H. Marine Patrol should be consulted during the planning stages for facilities on both sides of the river, to be certain that the facilities will not create a demand for enforcement that is beyond the capacity of the state to provide.

- **Towns take a role.** As they do with other state permitting procedures, towns should help inform their citizens about dock permit requirements, and, in New Hampshire, be certain that permits they issue for these and other shore land projects do not conflict with the Comprehensive Shoreland Protection Act.

- **Encourage responsibility for docks.** Setting up a system for marking private docks with the identity of their owners, such as for fishing shanties, will allow the owner to be notified if a dock breaks loose.

- **Provide a model dock ordinance.** Regional planning commissions could help create guidance for towns wishing to take better control of dock construction. At this writing, only one New Hampshire Connecticut River front town and five Vermont towns address dock construction in their zoning. Dock ordinances should also address marinas.



Better control over docks and other shoreland development is needed all along the river.

5. Marinas, Outfitters, and Boater Services

The Connecticut River has caught the attention and affection of all kinds of boaters, both resident and visiting, those who enjoy a quiet paddle, and those who look forward to a weekend cruising in a power boat. While the river itself is the centerpiece of tourism promotion efforts like the Connecticut River Byway, there is a limit to the amount of traffic the river can support, and this limit varies with the width, depth, and nature of the river as it moves from source to sea.

Marinas can place particularly heavy demands upon a waterway, with the transfer and storage of fuels close to the water, the agitation of propellers, the concentration of many vessels, interference with the riparian buffer, stormwater drainage down access ramps, dedication of riverfront land to parking lots, and potential for delivery of invasive species.

As word of the river's appeal spreads, more people will seek not only to visit the Connecticut, but to keep their boats moored here. Launching fees now in place at Lake Sunapee and elsewhere also drive boaters toward the river. The productive and valuable farmland that in many places underwrites the river's beautiful scenery should not be threatened by the boat wakes of river users beckoned by the view.

For years, outfitters and guides have helped residents and visitors experience the beauty and thrill of the Connecticut, whether through paddling, touring, or fishing. In recent years, several new outfitters have opened for business in the region, focusing on low-impact enjoyment of the river. While such activity has less potential to create fuel spills, boat wake erosion, or introduce invasive species, it can still put pressure on river amenities such as the system of primitive canoe campsites and car-top launches, and deliver more people to ecologically sensitive areas of the river, such as island habitat for endangered beetles and rare plants.

Opportunities & Recommendations

- **Avoid new on-river marinas.** Marine dealer services can be provided in an off-river setting, allowing boaters to have their boats outfitted, serviced, and stored without threat to water quality or erosion-prone shores.
- **Plan parking for water-dependent facilities.** Setting parking for water-dependent facilities well back from the river, screening it with a sturdy riparian buffer, and incorporating principles of low-impact design will help prevent erosion and pollution from runoff and protect the scenic nature of the river shore.
- **Investigate the river's carrying capacity.** There are currently no data available on how much recreational use, and of what kind, the river can sustain. A study that considers the river's varying width, suitability for different uses, and the impacts of each kind of use to riverbanks and riverfront landowners would be useful.
- **Outfitters can help educate river users.** Outfitters can help keep the quality of the river experience high for their clients and neighbors by offering to help maintain primitive canoe campsites and car-top boat launches used by their clients. Communicating well with their peers will help disperse pressure on the campsites and launches. Outfitters' guests will want to know about stewardship of campsites and sensitive areas of the river, such as the importance of not walking upon the upstream ends of cobble islands to avoid disturbing endangered species.

C. Invasive Species

Issue: Invasives and Recreation Are Related

The threat of invasive species has become a reality on the Connecticut River, and citizens are responding with concern. Invasive species commonly hitchhike on boat trailers, propellers, and in bilge water or bait buckets. They can interfere with recreation and aquatic habitat, and cause unsightly floating mats, to say nothing of threats to riverside industry. The Connecticut River, popular with traveling boaters for fishing tournaments, is especially vulnerable to contamination from outside sources.

The 1997 edition of this Plan reported a single infestation of milfoil at Hoyt's Landing in Springfield, Vt., discovered by a member of CRJC's Mount Ascutney Region River Subcommittee. At of this writing, milfoil now infests many areas of the river from Springfield

south to Retreat Meadows in Brattleboro, and an infestation from Lake Morey has spread into the river in the Fairlee and Lyme areas of the Upper Valley. Water chestnut has been discovered in the North Springfield reservoir, and the U.S. Army Corps of Engineers is working to eradicate it before it reaches the Black River and the Connecticut. Zebra mussels have not yet appeared in the Connecticut River, although its water chemistry is suitable, and the river is an easy target for boats coming from infested Lake Champlain. Newly discovered in the White River watershed is the rusty crayfish, an aggressive invasive animal sometimes sold as fishing bait.

Perhaps the most devastating threat to the Connecticut River, its tributaries, and their fisheries is *Didymosphenia geminata* (Didymo, or “rock snot”), an invasive freshwater diatom (microscopic algae). It was discovered by a fishing guide on the northern Connecticut River in the designated natural segment at Bloomfield and on the White River in Bethel in 2007. Biologists later confirmed finding Didymo from the confluence of Perry Stream in Pittsburg to Guildhall, and also in the Mohawk River. This is the first known occurrence of this diatom in the entire eastern U.S. Biologists believe that Didymo was introduced here on contaminated fishing gear, especially felt-soled waders, and that it could also be spread by other recreational equipment such as bait buckets, diving gear, water shoes, canoes, kayaks, and life jackets.

New Hampshire residents surveyed in 2004 identified invasive plants as the most serious problem facing the state’s fresh waters, and suggested that if invasive plants become worse, it would likely affect the economic value derived from freshwater recreational activities. ¹ The state might look to Maine, which has had success preventing new infestations with a strong transport law combined with an active volunteer program of courtesy boat checks.

Perhaps the most devastating threat to the Connecticut River, its tributaries, and their fisheries is Didymo, or “rock snot,” an invasive freshwater diatom.

Opportunities & Recommendations

- **Include boat checks at organized boating events.** Boat and trailer checks are essential before boats launch at organized fishing tournaments and other boating events. In areas where the river is infested, similar checks when boats leave the river will prevent transfer of invasives to other water bodies. Marine Patrol officers supervising fishing derbies can inspect boats and trailers for hitchhiking invasives and help educate river users.
- **Establish boat wash stations.** Boat wash stations and volunteer courtesy boat checks will be a valuable addition to any public boat launch or marina. The New Hampshire Lakes Association should set up a Lake Host program, with the help of TransCanada and the N.H. Department of Environmental Services, to check for invasive species at heavily used boat launches on holiday weekends, especially at the Connecticut Lakes.
- **Clean gear carefully.** Anglers and other recreational users must carefully clean their gear

after visiting the Connecticut and White rivers and report sightings of invasive aquatic species to state agencies. Local outfitters, lodge owners, and guides should educate their customers about Didymo and other invasives, and encourage them to clean their gear.

- **Post educational signs at access sites.** Managers of boat launch sites will want to ensure that their sites have effective posted signs about invasive species and preventing their spread.
- **Public education is needed.** Conservation commissions can help by checking town properties and boat launch areas for the presence of invasive species, and educating citizens in their communities about how to recognize and remove them from their own properties.

D. River Camping

Issue: Consistent Management of Camping

Camping on the Connecticut River currently offers the benefits of near solitude by the water, the chance to observe waterfowl and other wildlife, enjoy silence, find good fishing, and have a high quality recreation experience without overcrowding and without creating antagonism between visiting river users and landowners.

There is a limit, however, to the number of campsites and campers the largely privately owned river shore can accommodate. Pressure is increasing at campsites on the Connecticut River. Since the North Country is a special destination for canoe trippers, CRJC assisted with the Vermont River Conservancy's protection of the area now known as Lyman Falls State Park, where several more campsites are now open. Local organizers and the Northern Forest Canoe Trail have organized two more public campsites on private land, and the town of Columbia has set up a fourth. Other than these four campsites in the river's northernmost reach and two commercial campgrounds, there is a 60-mile stretch where no shelter is available, including the long paddle down Moore Reservoir.

Unmanaged camping can lead to soil and water contamination and trespassing resulting on crop damage, riverbank erosion, and degradation of the riparian buffer. Too much camping pressure can lead to abuse of the land and an unsatisfactory experience for river travelers and host landowners. Campsites intended for temporary stays can also be threatened by campers who have more permanent intentions.

The National Park Service's Rivers and Trails Conservation Assistance Program has prepared campsite stewardship guidelines, based on the extensive experience of the Upper Valley Land Trust. An informal group working on the northern part of the river has used these to draft a protocol for campsite establishment aimed at avoiding conflicts with wildlife crossings, archeological sites, farm operations, and other valuable resources that could be disturbed by campers.

Despite these efforts and the campsites' success, there is currently no coordinated management of the Connecticut River Water Trail. The Upper Valley Land Trust manages only those sites on lands it has conserved in the 20 riverfront towns it serves. Many sites

are maintained by volunteers, such as town conservation commissions or scout groups, and TransCanada Hydro Northeast owns and maintains several more. As the paddling season approaches each year, a variety of organizations, including CRJC, are bombarded with calls from would-be river trippers seeking information about the would-be water trail.

Effective coordination is needed to create and maintain relations with landowners, select appropriate campsite locations, and maintain and monitor existing campsites, using common standards and practices. A process is needed for addressing unauthorized campsites and access. A central clearinghouse is needed to handle inquiries about the river and the campsites from those who wish to experience the Connecticut River in this way. Decisions need to be made about the best way to provide information to users and protect the campsites' appeal without promoting the water trail beyond its capacity.

Opportunities & Recommendations

- **The Connecticut River Water Trail needs organizing.** An effective coordinator is needed for the Connecticut River Water Trail, with the aid of local volunteers, land trusts, conservation commissions, the Northern Forest Canoe Trail, and other interested local and regional groups. The Connecticut River Watershed Council, with its membership dispersed throughout the length of the river valley, is a logical party to oversee this trail. The successful approach pioneered by the Upper Valley Land Trust provides an excellent model. A management system may include reservations or other means of ensuring sustainable campsite usage.
- **Avoid over-promotion.** Trail coordinators and the Connecticut River Byway Council can help protect the Water Trail from overuse by avoiding wide promotion.
- **Investigate the river's carrying capacity.** There are currently no data available on how much riverfront camping use the river can sustain. Research should be done to assess this.
- **Add primitive campsites.** Depending on the results of research on riverfront camping carrying capacity, more primitive camping opportunities may be established particularly in the North Country. Consultation with state wildlife and historic resource agencies can help ensure that siting will not interfere with known wildlife crossings or archeological features.
- **Coordinate where possible.** Outfitters can play a role in maintaining and improving the system their clients enjoy. Good communication among outfitters, guides, and livery services can help avoid delivering more campers to the sites than the sites can accommodate, and leave room for the general public.
- **Create a Moore Reservoir campsite.** The 2001 license for Fifteen Mile Falls calls for development of at least one campsite on Moore Reservoir. This effort by TransCanada Hydro Northeast will be much appreciated by those facing the difficult paddle down this long stretch of river.
- **Volunteer help is needed from river users.** Colleges, universities, and other organizations that sponsor Connecticut River canoe camping trips for their students can make financial

contributions or offer a day of volunteer service for campsite maintenance. Paddlers can volunteer to help with campsite maintenance and find ways to thank the private landowners hosting them.

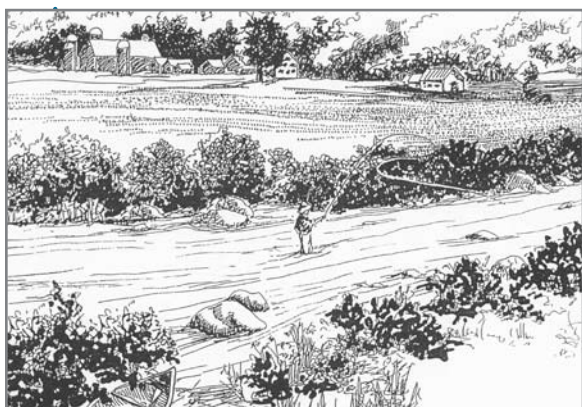
- **Obey campsite access rules.** It is essential for campsite users to respect the limitation to river access only, and not attempt to cross private land to reach a campsite. Campsite users must practice the “leave no trace” ethic.
- **Design campgrounds carefully.** If further campgrounds are developed near the river, they should be designed to minimize foot traffic and erosion on the riverbank, provide adequate sanitary and washing facilities to prevent water quality problems, and maintain or restore a deep, forested riparian buffer to protect the river from runoff from compacted campsites and retain scenic appeal. Well-dispersed campsites with minimal infrastructure are more compatible with the spirit of the river environment.

E. Sport Fishing

Fish lure their hunters nearly year-round on the Connecticut River, where tournament fishermen fan out on the impoundments and solitary anglers cast spring and summer, later to wait anxiously through the fall and early winter until the ice is strong enough to support their bob houses. The tributaries and the northern river offer fine angling for cold-water fish such as rainbow, brown, and the native brook trout, and the mainstem impoundments shelter warm water species such as perch, pickerel, bass, and walleye.

Issue: Fish Consumption is Hazardous

The fish that were once such an important food source for Connecticut River valley dwellers and such an attraction to anglers today are no longer safe to eat. Contamination by mercury is pervasive in our river system and other poisons lurk in the depths as well. Mercury, a naturally occurring metal, has become a dangerous toxin in the hands of humans. In the northeastern U.S., nearly half (47 percent) comes from human-made sources within the region, 30 percent from human-made sources outside the region, and 23 percent from natural sources.¹ Wisely, both New Hampshire and Vermont have taken strong steps toward mercury reduction within their states, and are considering further measures.



Whether mercury is released into the atmosphere by Midwestern power plants legally burning coal or by household trash burning illegally in a backyard barrel, it eventually falls to earth and washes into lakes and rivers. Bacteria in the sediments then convert it to methyl mercury, a more toxic form that moves into the food chain, where it concentrates each time a smaller fish is eaten by a larger one. While lake sediments in Vermont and New Hampshire show declining levels of

mercury since 1980, mercury is still accumulating at a rate two to five times faster than before 1850.²

Nearly half of New Hampshire residents surveyed in 2004 ranked mercury as a “serious” or “very serious” problem facing the state’s waters, and nearly a quarter of those surveyed said they would stop using New Hampshire waters altogether if mercury levels get worse.³

The 1997 *Connecticut River Corridor Management Plan* called for a study of fish tissue toxins, sparked by the concerns of an angler in Springfield, Vt. All four Connecticut River states, supported by EPA and the New England Interstate Water Pollution Control Commission, responded with a study in 2000 that may have been the first such river-wide study undertaken in the U.S.⁴ The agencies’ cooperative approach was a very welcome response to the Plan, and a strong show of respect for the concerns of the people who live along the Connecticut River.



A family enjoys fishing the river.
Monroe, N.H.

Results of this 2000 study, entitled *Connecticut River Fish Tissue Contaminant Study: Ecological and Human Health Screening*, were released in 2006. They confirm that mercury is a dangerous presence in the tissues of Connecticut River fish, particularly in the reach from Canaan Dam to Moore Dam. Total mercury concentrations in all three species of fish studied were significantly higher upstream than downstream, although the design of the study did not permit results to be tied to specific geographic locations on the river. As part of the certification of Fifteen Mile Falls under Section 401 of the Clean Water Act, the operators will carry out fish tissue mercury testing at five-year intervals.

Mercury levels prompted the states to issue fish consumption guidelines, including much stricter cautions for the Fifteen Mile Falls region of the Upper Connecticut River. Other recent studies⁵ have associated water level manipulations in reservoirs and reservoir creation with increases in fish mercury concentrations, and identified the Fifteen Mile Falls region and similarly managed parts of the upper Androscoggin and Kennebec River watersheds as mercury hot spots.

Mercury is not just an environmental issue – it is an economic issue for the tourism economy and others on the receiving end of the emissions that deliver this heavy metal. In a 2007 study of the economic impact of the potential decline in New Hampshire water quality, more than two-thirds (69 percent) of respondents to a survey indicated that they would decrease the number of visits they make to a river, stream, lake, or pond if they perceived a change in water clarity and purity. The study included as factors in “water clarity and purity” mercury, milfoil or other invasives, and algae. Perceived declines in water clarity and purity would result in about \$51 million of lost sales, \$18 million in lost income and more than 800 lost jobs statewide.⁶

Decades of pollution, continuing even after consequences were clear, have dealt a mortal blow to that ancient relationship between people, river, and fish. Such an otherwise healthy food source, and such a joyous source of recreation, should not be poisonous to eat.

Opportunities & Recommendations

- **Enact tougher federal emissions laws.** Congress must act to reduce the total amount of mercury entering the environment from human sources such as coal-burning power plants, and not simply allow one polluter to shift the ability to release mercury to another with no net reduction.
- **Ensure fish toxin study is complete.** The N.H. Fish and Game Department should consider whether sample sizes from the northernmost river are adequate to draw reasonable conclusions, and seek further information with funding from EPA. Native brook trout, rather than perch or bass, are the most appropriate target for sampling in this region.
- **Share state strategies.** Sharing ideas for achieving meaningful reduction of locally produced mercury will help the states to design effective and consistent mercury-related legislation. New Hampshire should follow Vermont's example in regulating outdoor furnaces, which could be sources of mercury. States should enforce their ban on barrel burning of trash.
- **Support proper hazardous waste disposal.** The states can aggressively support hazardous waste collection services and citizen education, and encourage the efforts of organizations like Hospitals for a Healthy Environment.



Power boating is enjoyed on areas of the river wide enough to absorb wakes without eroding shorelines.

IV. Land-based Recreation

People in the Connecticut River valley have a well-deserved reputation for getting outdoors and having a good time in a stunningly beautiful and varied environment. The most popular recreational activities in New Hampshire are walking, watching wildlife, and hiking.¹ In warm-weather months, Vermonters prefer hiking, and in the winter, downhill skiing, followed by cross-country skiing and snowshoeing. A higher percentage of Vermont's residents enjoy watching wildlife than any other state in the country.²

Northern New England has a long and honored tradition of public use of private land, whether for hunting or hiking. Concern for the loss of access for public recreation recently led both states to bold moves to defend this tradition when major tracts of private timberland came up for sale. In 1997, the state of Vermont and the U.S. Fish and Wildlife Service's Conte Refuge purchased 48,000 forested acres in the Nulhegan River and Paul Stream basins and at West Mountain, and with a public access easement conserved another 84,000 acres purchased by Essex Timber. Six years later, New Hampshire invested in the largest land protection project in its history, protecting 171,500 acres at the headwaters of the Connecticut River.

These landmark conservation successes have protected the public's right to continue to use those fairly remote and beautiful lands. Just as valuable for conserving are places many people find right around the corner - where they go for a walk, play ball, or cross-country ski. Significantly, half of public recreation in New Hampshire, for example, occurs within 10 miles of home.³

Intensifying recreation activity on a shrinking land base means that both those who own the land and those who come to enjoy it must invest in assuring its sustainable future. A growing number of people participate in the Connecticut River Watershed Council's annual Source to the Sea river clean up. This effort is echoed by the Black River Watershed Action Team's River Sweep, the Ashuelot River Local Advisory Committee's efforts, and the Mascoma River clean up organized for many years by the Rotary Clubs in the greater Lebanon area. This kind of volunteer effort by a relative few improves the river recreation experience for all, as the years of thoughtless river dumping are slowly undone by people who are giving a lot of thought to the rivers they love.

Trails don't stay sound and safe without work. The Upper Valley Trails Alliance has set a strong example of stewardship by hosting workshops on trail building and maintenance skills. The Upper Valley Land Trust, the Northwoods Stewardship Center, and others in the valley work hard to pass the message of good stewardship to those whose lands they have helped conserve, and those who will come to enjoy those lands.

In 2006, 14 percent of Vermonters and 12 percent of New Hampshire residents went fishing, 11 percent of Vermonters and 5 percent of New Hampshire residents went hunting, and 55 percent of Vermonters and 46 percent of Granite Staters spent time watching, feeding, and/or photographing wildlife. Vermont ranks second highest in the nation (after Maine) in the percentage of the population that spends time watching wildlife, and New Hampshire fourth highest.⁴

The public's enthusiasm for watching wildlife has led to creation of the Connecticut River Birding Trail in the New Hampshire and Vermont portion of the valley. The Birding Trail is a prime example of how to interpret the Connecticut River Byway's natural heritage features for visitors and residents in ways that will respect the resource and protect it from overuse. Similarly, the Valley Quest concept, developed by Vital Communities in the Upper Valley, has expanded in the last 10 years to engage hundreds of students, teachers, and community members in creating treasure hunt trails that illuminate the history of their towns' special places.⁵

A. Room for Public Recreation

Recent years have seen the public shut out from recreation on thousands of acres by the posting against trespass of private land, barring public recreational use such as hunting and walking. In the five Vermont counties that border the Connecticut River, the number of posted acres has jumped over 1200 percent, from 5,772 acres in 1991 to 69,531 acres in 2004.¹



The Upper Valley Land Trust is among several land conservation organizations working to protect land for public recreation. *Lyme, N.H.*

Public health is a topic of increasingly grave concern, as sedentary habits and obesity overtake larger segments of the population. Convenient opportunities for healthy, outdoor exercise are essential, but they require plenty of room. This land base for recreation is an essential part of the "green infrastructure" that supports public health and quality of life, whether it is a mountain range of many square miles or a narrow neighborhood path linking home and school.

New Hampshire is the fastest-growing state east of the Mississippi River, after Florida. Many are drawn to the region for the quality of life it offers, including its wealth of recreation opportunities. Business owners, freed by telecommunications advances, consider lifestyle just as important as economic conditions in deciding where to locate their businesses. New Hampshire's well known recreational opportunities are increasingly noted as key in business location decisions.²

More people means more pressure on recreation land. While most parts of the Connecticut River valley are not growing as quickly as the opposite sides of either state, the demand for

recreation space and amenities is indeed expanding, particularly in New Hampshire. The Lebanon area ranked as the fourth-fastest growing area in the whole country, with population growth of 12.7 percent.³ Population projections are much more moderate for Vermont, ranging from 0.7 percent for the next five years in Windsor County to 2.2 percent in Caledonia County.⁴

Then there is the simple issue of the view, being clearly in the eye of the beholder. Henry David Thoreau stated in no uncertain terms that the town of Brattleboro would “be convicted of a folly” should its dramatic backdrop across the Connecticut River, Wantastiquet Mountain, ever “be laid bare.”⁵ His 21st century successors appear to concur: a 2004 survey of New Hampshire residents found that declines in the natural views and scenery around freshwater bodies may pose a threat to the economic value of these waters. Those surveyed cited the overall beauty of an area as the second most important reason to visit them, yet 58 percent say that the natural views and scenery around these waters have deteriorated due to residential and commercial development, and the same percentage said that they would decrease their visits if the scenery declined due to more development.⁶

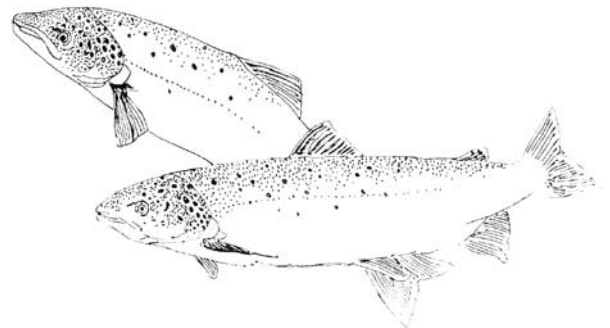
As posting of land continues, space for public recreation shrinks. Hunters who have used private land for years may be more aware than anyone of this threat to their long-valued tradition. Major public investment to maintain access is essential now, in the face of spiraling real estate costs and development. Towns are passing bonds for conservation funds in record amounts and numbers, and the two states should assist these efforts by fully funding their own conservation programs.

Both states have developed current use tax programs that permit larger parcels of open, undeveloped land to be assessed at a lower rate than they would as developable lots. Landowners who decide to develop such lands pay a land use change tax. In New Hampshire, this tax is paid to the town. However, many New Hampshire towns have not taken advantage of this opportunity to fund local conservation projects. As of this writing, of the 93 New Hampshire towns in the Connecticut River watershed, only 38 have voted to allocate some or all of the land use change tax to a town conservation fund, with the amount varies from 100 percent to as little as 5 percent. A number of other towns dedicate a high percentage but impose caps, some as low as \$2,500 per year.⁷ Towns with conservation funds have been able to assist local projects directly, and have used the funds to leverage other contributions.

While Vermont towns do not have the option of keeping the land use change fees, they can establish local conservation funds that can accept bequests or town appropriations. Of the 114 towns in the Connecticut River watershed, only 17 have done so.⁸

Opportunities & Recommendations

- **Support the Land and Water Conservation Fund.** This fund, which has provided many public parks and recreation lands over the last 30 years, deserves stable and greater funding levels from Congress. Funds for recreation improvements through the Federal Highway Administration



are also important in creating local trails and ways to move from place to place without dependence on the automobile.

- **Use new opportunities for funding.** With the Connecticut River Byway's designation as a National Scenic Byway, communities may apply for federal Scenic Byway funding, conserving their scenic, natural, and historic resources.
- **Fully fund LCHIP.** New Hampshire should continue providing a sustained funding source for its Land and Community Heritage Investment Program. This well-conceived program, whose enactment received stronger support in the legislature than any bill in recent memory, deserves the budget to do the job it was created to do. The rate of population growth in New Hampshire brings an even greater urgency. Under a competitive grant system, the program has awarded \$24.5 million in grants, benefiting 94 communities and protecting more than 250,000 acres between 2000 and 2008. Every \$1 invested in LCHIP leverages nearly \$6 in cash or in-kind services.
- **Provide stable funding for Vermont's Housing and Conservation Board.** The board requires adequate funding to continue its excellent work. Vermont's Conservation Reserve Enhancement Program also helps to keep land open for hunting and other recreation, and deserves a long-term funding commitment.
- **Create local conservation funds.** New Hampshire towns can vote to take full advantage of the land use change tax to conserve land for recreation. Vermont towns can establish local conservation funds.
- **Support private conservation.** Land conservation organizations deserve strong support in their work to assist landowners in protecting their land and, where appropriate, opening it for public recreation.

B. Stewardship of Private Land

Public use of private land is a privilege. Private landowners in our region have a long and generous tradition of sharing their land with others who want to hike, hunt, fish, snowmobile, and ski, with the tacit understanding that the visitor would respect the property as if it were his or her own. However, there are those whose concept of private property rights does not always square with the traditions of the valley. Hay crops are trampled, gates are left open, and litter is left behind. Some farmers who open their doors to the public, such as at orchards offering pick-your-own fruit, are losing patience with visitors who treat the property like an amusement park or waste dump. As more visitors come to sample the rich rural experience and outdoor opportunities offered by the Connecticut River Byway, it becomes even more imperative that they do not leave discouragement and posted land behind them.

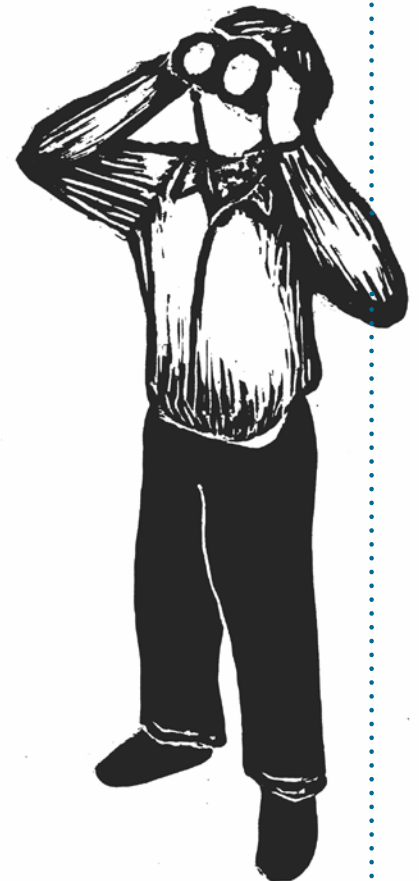
Among the largest private stewards of land along the river are hydropower companies, and their activities greatly influence public recreation. Federal dam licenses apply to operations affecting approximately one half of the Connecticut River in New Hampshire and Vermont,

and at seven flood control facilities on its tributaries. Public boat ramps, canoe campsites, portage trails, picnic areas, trails, and parks are among the land-based amenities provided by dam owners. The primary dam-related water-based amenities are water levels that permit power boating on the nine artificial impoundments, license-required minimum flows to the reaches below the dams for fishery habitat and recreation, and whitewater releases for kayaking and canoeing below the West River's flood control dams.

The Settlement Agreement that formed the basis for the 2001 federal license of the major hydro development at Fifteen Mile Falls calls for further stewardship in this region, including conservation of thousands of acres surrounding the scenic reservoirs; public access for hunting, trapping and fishing; provision for through-paddlers; improved bank angler access; and development of more hiking trails. The renewed license for Canaan Dam, owned by Public Service Company of New Hampshire, will likely lead to a safer portage around this dam. As other dams come up for relicensing, new opportunities for stewardship will arise through similar kinds of recreation and land management plans

Opportunities & Recommendations

- **Find creative ways to acknowledge landowners.** Conservation commissions and recreation groups can work with the state parks and recreation agencies to identify ways to acknowledge private landowners who allow their land to be used for public recreation, and to involve them in recreation planning.
- **Public volunteering.** Conservation commissions and recreation groups can enlist their members in trail maintenance and clean-up activities. Such events can become enjoyable social experiences and lead to individual acts of stewardship that multiply through time and space. Those who enjoy all that the river valley has to offer should take time to give back. Adopt a campsite. Clear a trail. Build a water bar. Pick up trash. Thank the landowner who welcomes the public, and lend a hand.
- **Public education.** The Connecticut River Byway Council can assist Byway waypoint centers and their staff in educating visitors to the area through hospitality training. Event organizers can educate their participants about responsible recreation, including principles of "leave no trace," whether it involves boating laws or trail closures.
- **Stewardship by dam owners.** TransCanada and Public Service Company of New Hampshire should implement all provisions of the recreation and management plans that accompany their federal facility licenses.



C. Trails

Trails are an important part of the path to health and fitness, as well as a much-appreciated addition to quality of life. However, not all parts of the valley are equally endowed. In the North Country, the many visitors arriving at the Lancaster Welcome Center seeking directions to trails presently have few options, unless they leave the valley and go to the

White Mountains. Nearly complete, the 162-mile Cohos Trail from Hart's Location in the White Mountains to the Canadian border in the Connecticut Lakes region is a notable achievement. The New Hampshire Heritage Trail, conceived years ago, has yet to be completed in the North Country.



The Connecticut River valley is laced with hiking trails that invite healthy outdoor recreation. *Thetford, Vt.*

Since extended poor snow cover can cut deeply into snowmobile-related business, as it did in 2005-6, regions such as the North Country that rely heavily on this trade might consider trying to attract visitors for winter sports that do not depend on consistent snow cover, such as winter hiking and ice climbing.

Further south, the Upper Valley Trails Alliance has created a network among trail users and maintainers, hosts Upper Valley Trails Day, and publishes a guide to area trails.

Trails that are nearby, convenient, and appealing offer a healthy prescription for addressing the alarming increase in public obesity, as noted by both states as they developed their Statewide Outdoor Recreation Plans. The Upper Valley Trails Alliance's innovative Trails for Life program, a partnership between the Trails Alliance and

Dartmouth Hitchcock Medical Center (DHMC), includes a prescription walking program. Clinicians at DHMC are trained to write prescriptions to sedentary patients for a set amount of physical activity. Posters, brochures, trail guides and pedometers provided by the Trail Alliance are available in hospital exam rooms to further motivate inactive patients, and medical students have volunteered to serve as "coaches," offering support and leading easy hikes. However, the program is presently limited in geographic scope.

There is a clear need for low-impact, non-motorized recreation options close to home, to encourage healthy physical activity, to spur interest in exploring the outdoors, and to spare taxpayers the cost of the looming public health problem of obesity. Surveys by the National Association of Realtors and National Association of Home Builders show that the availability of nearby walking, jogging, or biking trails outranked all but one other amenity among recent home buyers, indicating that trails help sell houses.¹

It is equally important that trails are not loved to death. The region's most famous trail, the historic Appalachian Trail, largely crosses land protected to ensure its future and is

well-managed by a local office of the Appalachian Trail Conservancy that delegates trail maintenance to local trail “adopters.” Other local trails, however, often do not benefit from the same level of attention, and may not be able to sustain the kind of use that could come with wide publicity. These may be trails for which there is not enough volunteer labor for maintenance, trails on sensitive soils or in areas known to be habitat for rare plants or animals, or trails on private land without formal public access agreements. Trails built with little view to the effects of runoff and erosion can become threats to water quality and degrade the high-value headwater stream habitat that they often cross. Some uses don’t make for sustainable trails, such as mountain biking or horseback riding on steep, soft paths.

Enthusiasm for trails among valley residents is strong year-round, as hiking boots are traded for snowshoes and cross-country skis when snow cover arrives. However, trails are best left alone in spring to recover from snowmelt and frost, yet hikers too frequently disregard this aspect of trail etiquette, pounding the trails to mush before they have had a chance to dry out. This is a particular problem at higher elevations, or where trails are subject not just to hiking boots but also to the knobby tires of mountain bikes and the wider, heavier loads of horses and their riders.

Opportunities & Recommendations

- **Expand Trails for Life program.** Hospitals and clinics throughout the valley, including those already associated with Dartmouth Hitchcock Medical Center, can bring the award-winning Trails for Life program to their communities and its benefits to their patients.
- **Expand opportunity for local trails.** Local conservation commissions and recreation groups can work together to create trails in town forests, neighborhoods, along downtown waterfronts, to view points, and other destinations. The trails with the greatest public health benefit are those designed for muscle-powered travel.
- **Connect trails for an expanded regional system.** There is potential for a trail that could traverse the entire Connecticut River watershed using existing networks, including the Cohos Trail, the White Mountain National Forest trail system, the Appalachian Trail, the Cardigan Mountain trail system, the Northern Rail Trail from Lebanon, the Sunapee-Ragged-Kearsarge Greenway, the Monadnock-Sunapee Greenway, the Metacomet trail system, and some of Connecticut’s Blue Trails. Land conservation efforts underway in the Cardigan-to-Quabbin region may offer additional opportunities. Such a trans-watershed trail system would offer an alternative to the Appalachian Trail and showcase the entire length of the Connecticut River valley from near Long Island Sound to the Canadian border.
- **Use trails on public land for education.** Public investment in large timberlands of Vermont’s Northeast Kingdom and New Hampshire’s Connecticut Lakes Headwaters have protected public recreation access to thousands of acres, and offer hundreds of opportunities for trails of all kinds: trails to interpret forest management, forest history, wildlife and their habitat needs, historic waterways, and vanished settlements. While there is a public recreation plan in place for the 26,000-acre Nulhegan Basin Division of the Conte Refuge, and a visitor contact station in Brunswick, Vt., there is as yet no public recreation plan in place for the Conte

Refuge's 5,100 acre property at Pondicherry in Jefferson and Whitefield, N.H., although public use is allowed and there are provisions for wildlife-dependent recreation. A visitor services plan will be developed for this property after the U.S. Fish & Wildlife Service completes its Comprehensive Conservation Plan.

- **Use proper trail construction methods.** Both states now have a permitting system for trail construction to help avoid water quality problems. Grant awards for trail-building projects should be based on use of good trail construction practices. Effective communication with trail builders will ensure that permit conditions are met. Conservation commissions can help ensure that local trails are built with proper permits in place.
- **Educate trail users about erosion.** The Green Mountain Club of Vermont has published useful guidelines for protecting trails in early spring. Hikers, horseback riders, mountain bikers, and trail maintainers can guarantee the future of their favorite trails by adhering to these guidelines. If necessary, trail maintainers should close abused trails until they dry out. Trailheads with good signs rarely have trouble with erosion. Trailhead signs should indicate what uses are permitted, and carry notices about trail conditions.
- **Publish trail guides.** Trail guides are a natural venue for helping hikers learn about the history of land through which they are hiking, hiker responsibility and safety, and how to care for the trail. A number of grant programs are available to help with the cost of publishing.

D. Bicycling

Bicycle touring, mountain biking, and even bicycle commuting have gained in the Connecticut River valley in the last few years. Motorists share the road with bicycles more often, including on roads that have little room for both. The motorists do not always give way, forcing bicyclists off the pavement and creating a safety hazard.



Bicycling is popular in the river valley, both on former rail beds and on the region's many scenic roadways.
North Haverhill, N.H.

New Hampshire's published bicycle route maps sometimes put bicycles on dangerous roads that have sharp, blind curves and little or no shoulder or bike lane. Vermont bicycle touring companies bring their clients on roads that may be scenic but do not always accommodate them safely. Yet, widening in order to add bicycle lanes can destroy the appeal of a scenic road, and often prompts dangerously higher traffic speed, requires expensive land acquisition, and can even result in snow disposal quandaries. It is the policy of both states' transportation departments to consider bicycle and pedestrian needs when roads are reconstructed. Where good bicycle routes exist, they don't always take advantage of cross-river route connections on bridges.

Mountain biking has become a popular adventure sport that draws residents and visitors out onto scenic old town roads with surfaces that generally hold

up well to this type of use (designated Class IV in Vermont and Class VI in New Hampshire). However, some eager mountain bikers venture down farm lanes where they may disturb livestock, and ride on steep foot trails and into streams, where their bikes' knobby tires can cause erosion and sedimentation.

The Kingdom Trails Association in East Burke, Vt., was formed in 1994 to encourage ecologically sensitive recreational use of the Northeast Kingdom and to promote the natural beauty of the region. It has become a leading destination in the Northeast for mountain biking and cross-country skiing, and has established a model for trail development on private lands, rider responsibility, and mutually beneficial association with area lodging, attractions, eateries, and other local businesses.

Opportunities & Recommendations

- **Consider bicycle safety and scenic value when rebuilding roads.** The scenic character of rural roads must be considered when bicycle shoulders are proposed during road reconstruction. A narrow shoulder might be added to accommodate bicycles on designated Byway routes where room exists. In other places, separate bicycle paths might solve the problem. Good public discussion is needed before decisions are made.
- **Share the road.** State transportation agencies can help educate motorists to share the road with bicyclists, using public service announcements as part of a wider campaign.
- **Develop cross-river tours.** Regional planning commissions can help recreation groups develop bicycle tour routes.
- **Educate mountain bikers.** Conservation commissions, bike shops, and recreation groups can help inform residents about responsible off-road riding.

**Inactive parts
of the rail
line network
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E. Rail Line Recreation

A century ago, the Connecticut River and its tributary valleys echoed with the sounds of locomotives following the waterways as they moved freight and passengers. While the need for effective rail transportation has not disappeared, inactive parts of the rail network are a largely unexplored opportunity for recreation and tourism.

In Vermont, a trail following the former Wells River-Montpelier rail line from Wells River to Groton State Forest offers good mountain biking and hiking. Those in New Hampshire include the Ammonoosuc Recreational Trail from Woodsville to Littleton (19 miles), the Fort Hill Trail in Hinsdale (9 miles), the Sugar River Trail from Claremont to Newport (9 miles), and the Northern Rail Trail extending 25 miles from Lebanon to points southeast, with another 34 miles under development. While most are billed as open for bicycling and mountain biking,

in many cases the surface is unsuitable for either, and on some, motorized traffic on the lines makes it unsafe for those who prefer to walk or ski. The ability of a water corridor to carry sound argues against inviting snowmobiles and ATVs to travel on riverside rail beds.

In some parts of the valley, most recently in Stratford and Columbia, N.H., rusting rail cars stored near the river blight views, interfere with the movement of wildlife, and may pose a danger to children. There is concern that while the cars are said to be stored in anticipation of repair, they may be stored in the area indefinitely, to the frustration of local communities and abutting landowners.

Opportunities & Recommendations

- **Expand riverside rail tours.** Many opportunities exist for scenic riverside excursion rail tours that visit the historic villages and restored depots that once bustled with train traffic. A model is the White River Flyer, an excursion run from White River Junction to the Montshire Museum in Norwich, along a particularly beautiful section of the Connecticut River.
- **Convert unused rails to public trails.** Converted to trails for walking, bicycling, snowshoeing, and cross country skiing, inactive rail lines can provide healthy and pleasant outdoor recreation on easy grades, easily accessible to in-town residents and visitors. Rail trails often offer excellent wildlife and bird watching in addition to great river views. The historic in-town routes of most rail lines make them suitable, when the lines become inactive, as walking or bicycling trails for people to travel from home to work or school. The Rails-to-Trails Conservancy offers an experienced resource for communities wishing to take advantage of these scenic, gently graded corridors.
- **Towns work together.** Towns linked by inactive rail lines can consider working together to open these routes for foot traffic, to encourage village residents, especially older people, to discover a healthy outdoor place to walk.
- **Improve trail conditions.** State transportation agencies can make converted rail trails more suitable for non-motorized recreation by improving the surface.
- **Rail lines should deliver a river view, not blight.** Those managing rail car storage should ensure that rail cars stored near the river are indeed scheduled for imminent repair and moved on a timely basis, and not stored there indefinitely. The cars should be stored out of view, in small groups that will not hinder wildlife movement, and secured so that children cannot enter them.

F. A New Generation of Recreational Trails

The Connecticut River valley has become a focus for trails that reward the traveler on more levels than ever before. Nevertheless, these efforts are not universal or coordinated throughout the valley, and they have not always caught the attention of the general recreating public or of local officials and educators who could help promote them.

The Connecticut River Birding Trail, now in place from the warbler paradise at Fourth Connecticut Lake to the waterfowl-rich waters of Herrick's Cove in Rockingham and on to Massachusetts, leads the explorer to 131 different wildlife-viewing sites in the Vermont and New Hampshire portion of the valley. A series of three attractive maps provide illustrated information about the birds and other wildlife that may be observed at carefully selected places, and reminds travelers about trail etiquette. A source-to-the-sea Connecticut River Birding Trail is a natural fit for this well-known bird migration corridor that links habitats from coastal salt marshes to high elevation spruce-fir forests, and the trail concept is a natural fit for the watershed-wide Silvio O. Conte National Fish and Wildlife Refuge. Unfortunately, the under-funded and under-staffed refuge has been unable to provide the leadership needed to see this ingenious concept to completion.

The Valley Quest concept creates an innovative and engaging link between healthy recreation and local heritage. Vital Communities of the Upper Valley has developed this program, and at this writing, created 164 individual quests, from ancient hidden cemeteries to secrets of a downtown square. Winner of the 2005 New England Environmental Association Program of the Year Award, this excellent classroom/trail teaching tool has expanded beyond the Upper Valley to southern New Hampshire, and is beginning to be used in the north.

Natural heritage sites remain a purposeful mystery to many in the valley. The states' natural heritage programs are understandably reluctant to publish information about places where rare, threatened, or endangered species still survive, but people are also naturally curious about these rare forms and interested in observing them. Recognizing this, the New Hampshire Natural Heritage Inventory Program has published a small collection of "Visiting New Hampshire's Biodiversity" guides to sites where rare plants or habitats can be observed without threatening them. However, few of these sites are in the third of the state that includes the Connecticut River valley.

Opportunities & Recommendations

- **Provide Scenic Byway support for the Connecticut River Birding Trail.** Scenic Byway funds could be sought to help protect especially significant sites on the birding trail. Connecticut River Byway waypoint centers should offer copies of birding trail maps to resident and visiting wildlife enthusiasts.
- **Publish natural heritage guides.** The N.H. Natural Heritage Inventory Program can consider publishing a biodiversity guide for the Connecticut River valley.
- **Expand use of Quests.** Schools in the North Country and Northeast Kingdom can incorporate Valley Quest activities into their classroom curriculum. Managers of museums, parks, and conservation areas, such as the Conte Refuge's Nulhegan Basin Division, can take advantage of Questing as a compelling interpretive tool for visitors. Connecticut River Byway waypoint centers and town libraries will want to offer copies of the Questing guides for their areas. Conservation commissions and schools throughout the valley can help residents and visitors enjoy the discovery of local natural and cultural history by creating Quests in their communities.

G. Major Recreational Developments

The Connecticut River valley's appeal for recreation and tourism is rooted in its clear and ever-present authenticity. While throughout the U.S. the traveler may find history theme parks, amusements with electronically controlled waterfalls and fiberglass boulders, or "adventure" parks, the valley offers an attraction built by Nature: New England's grandest river. Here the visitor may enjoy real 18th- and 19th-century villages arranged around town commons, the Appalachian Trail and hundreds of other footpaths, and rushing river rapids and cascades. Yet, this authenticity is vulnerable to the kinds generic commercial entertainment found in other parts of the country if local planning boards are unable to find a way to tell developers to look elsewhere.

New Hampshire's Comprehensive Shoreland Protection Act, while recently strengthened and improved, is not sufficient to deter this sort of inappropriate development, and there is no protection for shoreland in Vermont, other than what some towns might have on their books. One has only to look at the major water park on an otherwise scenic, undeveloped stretch of the Androscoggin River in Maine to see what could arrive on the Connecticut's shore without adequate measures to protect it.

Major recreational developments can bring glare, noise, traffic, parking woes, and runoff problems. Water parks detract from the real thing, by providing a simulation. There is currently an auto racetrack close to the river in Groveton, two more near the Ashuelot River in Winchester, and a dirt bike race track in the Cold River watershed. Sound carries too easily across the water, subjecting neighbors in both states to unwanted noise, and degrading the experience of being on the river itself. Runoff from dirt tracks raises water quality concerns.

Opportunities & Recommendations

- **Keep attractions authentic.** Chambers of commerce and Byway waypoint center leaders can help Connecticut River Byway communities emphasize the economic benefits of focusing on the region's authentic attractions – those rooted in its natural and cultural history.
- **Engage town planning.** Towns should strongly discourage high impact recreational facilities near the river, such as water slides, theme parks, racetracks, and other noise-producing recreation. Polluting sporting events and establishments are not appropriate near waterways.
- **Ensure appropriate siting for facilities.** Set parking for water-dependent facilities well back from the river and screen it with a heavy vegetative buffer to help prevent erosion and pollution from parking lot runoff and protect the scenic value of the river shore. In New Hampshire, local permits issued for shoreland projects must not conflict with the Shoreland Protection Act.

H. Motors and Recreation

One person's idea of fun can feel like unpleasant work to another. What some consider recreation may spell annoyance or detrimental environmental impact to others. Perhaps nowhere are different perspectives on "fun" versus "annoyance" or "impact" heard more regularly than in debates about motorized recreation. Perhaps it's because those eager to get out on the trails are sharing shrinking space as their numbers rise, bringing muscle-powered and motorized users into closer contact than in past years. The table at right shows the wide array of outdoor activities enjoyed by Granite Stater; Vermont residents enjoy a similarly broad list.

Can all these users share the same trail? Even assuming that all these users are responsible, leaving no trace, obeying the rules, and being courteous to landowners and others they meet, this might be too much to hope. The simple fact is that much of the pleasure, for those who enjoy moving through the woods under their own power, is immersing themselves in the forest in its natural state. It's the sound of wind in the trees; a glimpse of wildlife; the scent of balsam; the sense of peace and escape from traffic. Those who prefer machines in the mix find the riding more fun if they don't need to dodge slower-moving skiers or hikers, and accept the whirl of the engines and the smell of exhaust as a part of the experience.

Activity	Household Participation
Wildlife observation	85%
Driving for pleasure	84%
Sight-seeing	84%
Jogging/running/walking	79%
Day hiking	73%
Stream/lake swimming	71%
Picnicking	68%
Photography	64%
Ocean swimming	58%
Bicycling	55%
Outdoor pool swimming	54%
Freshwater fishing	50%
Nature study	47%
Canoeing/kayaking/rowing	45%
Motor-boating	43%
Playing on playgrounds	40%
Tennis/volleyball/golf	37%
Baseball/basketball/soccer	36%
Downhill skiing	35%
Camping in National Forest	33%
Camping at state parks	31%
Cross-country skiing	31%
Backpacking	29%
Camping at private campground	28%
Mountain biking	27%
Large game hunting	25%
Off-road vehicle driving	21%
Snowshoeing	20%
Snowmobiling	19%
ATV riding	17%
Bird hunting	17%
Water skiing	17%
Horseback riding	15%
Sailing	14%
Sea kayaking	4%

New Hampshire household participation in various motorized and non-motorized activities. 1997 N.H. Outdoor Recreation Needs Assessment, reported in the N.H. Statewide Comprehensive Outdoor Recreation Plan, 2003-2007

A number of surveys have recently explored public opinion on this sensitive issue, and consistently conclude that more Vermont and New Hampshire residents are oriented toward non-motorized recreation than motorized recreation. In New Hampshire, more of those surveyed during preparation of the 2003-2007 Statewide Comprehensive Outdoor Recreation Plan were interested in funding for non-motorized recreation than for motorized, and more for protection of land, water quality, and rare species than for recreation development.¹ A 2002 study found that 70 percent of Vermonters and 72 percent of New Hampshire residents surveyed said that it is very important to ensure there is access to areas where there are no motorized vehicles or logging in the forests of northern New England. Sixty-four percent of New Hampshire residents and 68 percent of Vermonters said access to the forests of northern New England is very important for hiking, but only 21 percent and 28 percent, respectively, felt such access was very important for snowmobiling.²

With regard to designating more areas for non-motorized wilderness-like recreation, 68.5 percent of Vermonters agreed or strongly agreed.³ A 1992 survey by the Vermont Agency of Natural Resources found that 91.6 percent of Vermonters felt it was important to provide opportunities for non-motorized recreation, and 63.6 percent felt it was not important for the state to provide opportunities for riding motorized recreation vehicles.⁴ Ten years later, 67.3 percent of Vermonters said there should be designated areas for ATVs on public land.

Part of the problem seems to be centered on noise and concern for air quality. Unfortunately, sound and exhaust odors carry, and for many people, it's difficult to feel they've gotten away from it all when the whine of an engine in the next valley cuts through the silence, or they're left coughing in the wake of a string of machines.

Since engine sound can carry far through the forest, simply building separate but contiguous trail networks for motorized and non-motorized recreation may prevent physical collisions between the two user groups, but cannot provide the sought-after experience for the non-motorized group.

<p>The Outdoor Industry Foundation studied 21 human-powered activities in 2003, and found that Vermont and New Hampshire residents participate in more of these outdoor recreation activities than residents of neighboring states, especially kayaking, canoeing, hiking, and backpacking.</p> <p>- <i>Outdoor Recreation Participation and Spending Study; a State-by-State Perspective. Outdoor Industry Foundation. June, 2003.</i></p>	Activity	per capita percent population				
		Vermont	New Hampshire	Maine	Massachusetts	New York
	Hiking	46.7	44.2	33.3	29.5	31.3
	Canoeing	30	37.2	11.1	14.3	12.3
	Cross-country skiing	16.7	25.6	8.9	17.8	11.8
	Backpacking	13.3	9.3	0.9	5.4	8.6
	Snowshoeing	10	16.3	2.2	4.8	4.2
	Camping	8.8	5.6	5.4	13.3	3.8
	Kayak touring	10	9.3	6.7	8.8	3.2
	Sit-on-top kayaking	6.7	16.3	2.2	4.1	2.7
	Whitewater kayaking	10	4.7	0.1	2.7	1.5
	All Activities	770	76.7	62.2	61.2	67.2

While the recreating public seems in general to be more interested in non-motorized recreation, trail-building activities and public policy seem to be more focused on motorized recreation, at least in New Hampshire. This may be related to the state's funding formula, which relies on registration fees from motorized recreational vehicles to fund the N.H. Bureau of Trails. Registration fees for motorboats and off-highway recreational vehicles (OHRVs) currently pay for trail and river access development, maintenance, and enforcement. Non-motorized users have been able to enjoy these benefits without paying more for them, although they often create less demand for services than motorized users.

Opportunities & Recommendations

- **End revenue reliance on OHRVs.** New Hampshire should reconsider its reliance upon OHRV registration fees to fund its Bureau of Trails, and consider other sources of revenue, including voluntary contributions such as those for the state's non-game and endangered wildlife programs. Appropriations from the state General Fund are the most equitable way to ensure safety and benefits for all.
- **Recognize public interest in non-motorized use.** State parks and recreation agencies will serve the public best if their activities and priorities better reflect the public's predominant interest in non-motorized recreation. Trail builders and designers will serve the public best if they recognize that trails intended for motorized use must be completely and thoroughly separated from trails for non-motorized use, in order to buffer vehicle noise and attend to the variety of recreation needs.
- **Promote trail etiquette.** Much progress has been made in reducing winter trail conflicts where trails are shared, such as by snowmobilers, cross-country skiers, and snowshoers, largely due to the efforts of snowmobile clubs, and continued energetic efforts to promote such trail etiquette by both groups can greatly improve the trail experience for all.
- **Adopt new technology and maintain equipment.** Snowmobile owners should consider taking advantage of the more efficient engines on newer models, and maintain them carefully to help avoid air pollution problems.



Snowshoers, skiers and snowmobilers now share the trail in many places, but it's not always ideal.

I. Snowmobiling

Vermont's snowmobile trail system has grown from 2,700 miles in 1993 to over 6,000 miles in 2008. The economic impact of snowmobiling in Vermont has grown to \$550 million annually.¹ During 1993-2008, membership in the Vermont Association of Snow Travelers (VAST) grew from 18,000 to 35,000. In New Hampshire, the total impact of snowmobiler spending on New Hampshire's economy (direct, indirect and induced impacts) was nearly \$1.2 billion during 2002-2003.²

All of this activity translates into a lot of fun out on the trails, and a lot of traffic hauling wide trailers, especially on the relatively few and often narrow roads that serve the many miles of popular trails in the northern parts of both states. Residents report steady streams of fast-moving trailer-pulling vehicles, and fatal accidents involving trailer/pedestrian collisions.

State studies indicating greatly increased snowmobile traffic are confirmed by residents living near the trails. They mention occasional excessive speed, lack of adequate enforcement, and, at times, lack of respect for the landowners who open their land for trails. If snowmobiling is to double every 10-20 years as the Vermont Agency of Natural Resources projects, (3) this will become a concern unless local clubs and the statewide organizations maintain good control over trail use.

While snowmobile travel over snow-covered trails rarely causes an erosion or water quality problem, trails are not always snow-covered when a visiting snow traveler wants them to be and is ready to ride. Instances of snowmobiles ignoring trail closures and fences are frustrating for the local clubs who work hard to maintain both the trails and relations with their landowners, and damaging to the trail itself. In years of little snow, snowmobiles going over thin cover and across unfrozen streams can make cross-country skiing on those trails virtually impossible.

Snowmobile trails often cross waterways, and have potential to affect streams and the life in them year-round, not just during the winter. State permits are needed for trail-building activities, but the trail projects are not always built according to permit conditions, and are rarely inspected by the agencies responsible for them. There have been cases where trails have been built across private land, sometimes without the knowledge or permission of the landowner.

Opportunities & Recommendations

- **Support snowmobile clubs' peer education efforts.** The statewide snowmobile organizations have earned wide respect for responsible policies that curb those who place themselves and others in danger by reckless riding. These include aggressive rider education courses and effective peer control. Enforcement of riding rules is increasing and penalties are being publicized, which can only lead to safer trails and more attentive riders. Local clubs deserve support in following these policies.
- **Protect nearby streams.** Trail builders and state natural resource agencies can communicate more effectively to ensure that trails and bridges are built and maintained according to their permits, to protect water quality and trout habitat in streams crossed by snowmobile trails, and to keep trails out of wetlands and other sensitive areas.
- **Build trails only with landowner permission.** Northern New England is well known for its long tradition of respect for private property. This respect must extend to those whose land may lie in the path of a trail on somebody else's drawing board. Surveys and boundary line markings are useful in helping to keep trail builders on the proper piece of ground, but there is still no substitute for good communication.

- **Alert riders if trails are unusable.** Trails must be closed when snow cover wears too thin, and the message needs to reach those who want to ride. The state recreation agencies and statewide snowmobile organizations can work together to devise a system for alerting snowmobile riders before they attempt to travel to an area where trails are closed, similar to posting of weight limits for roads during mud season.

J. All-Terrain Vehicles and Off-Road Bikes

Within the world of motorized recreation, perhaps no other issue has raised as much debate as the sudden recent increase in all-terrain vehicles, or ATVs. For some years, farm and forestland owners have found these vehicles a convenient way to get around their land, but the problems begin when uninvited riders arrive on land that does not belong to them. Unlike snowmobiles, which travel on frozen ground over a snow-covered surface during a time of year when wildlife is generally least active, all-terrain vehicles are exactly that – designed to travel on all kinds of terrain, and at times when soil is soft, vegetation vulnerable, and wildlife is in the way. Manufacturers’ marketing too often features riders and their machines covered in mud – mud that probably didn’t come from land the rider owns. ATV riders have been blamed for considerable damage to land, habitat, and water quality. Even landowners who are willing to allow snowmobiles on their land are often unwilling to extend the same privilege to ATVs.

The sport of snowmobiling went through an evolution which led to the formation of state and local clubs that developed an effective means of self-policing, peer education, and respect for the rules of the trail. Unfortunately, the ATV community is not yet as well organized, and rogue riders have managed to give the sport a bad name. While some ATV clubs, such as those in the Haverhill area, are very effective in training and enforcement among their members, this is not yet consistently true throughout the region. Some riders are unaware of boundaries they should respect, and how to operate their machines in a way that is safe for them and for the land. Among the difficult lessons learned in the last decade is that some ATV riders do not always stay on the trails provided for them, leading to unwanted problems for abutting landowners.

In the absence of effective self-policing by ATV clubs, such as exists in the snowmobile community, state and local enforcement capabilities are being over-taxed. The agencies charged with policing ATV use are not adequately funded to do the job, and it falls to local authorities, who must bear the cost of enforcement and emergency services when someone is hurt. Some towns experiencing problems with ATVs do not have their own police, and must rely upon neighboring towns. Riders can be elusive and difficult to identify, and for those few who are actually caught, penalties are insignificant.



Education may help riders understand that some lands, such as wetlands and riverbanks, may suffer from ATV use.

Erosion from improper ATV use is not only a habitat and water quality concern, but could become a public safety issue on a large scale. The managers of the river's major dams have reported that ATVs have left deep gullies in the earthen ramparts of Murphy Dam at Lake Francis and Moore Dam, among others. These gullies must be repeatedly repaired so that they do not lead to weakening of the dam, which could have disastrous consequences for those living downstream. ATVs are not permitted on TransCanada company lands or at Murphy Dam at Lake Francis for this reason, yet disregard of this policy has forced the company to hire security staff.

The state of New Hampshire allows ATV trails on some public lands, and has established 20 miles of such trails in the Connecticut River watershed in Pisgah State Forest, in addition to converted rail trails. Vermont currently does not allow ATVs on public lands, but is considering a connector across public lands to two separate trail systems. What voice will be given to the towns in which these routes lie is an important question. On ATV trails proposed on New Hampshire state lands, the state will give due consideration to local ordinances, but is not required to comply with them. ATVs are not permitted on most conserved lands, nor on land owned by TransCanada.

Unfortunately, ATVs can easily dominate other uses. Engine noise precludes quiet recreation and can disturb wildlife. Engine emissions affect air quality. One of the region's most pristine natural areas, the Connecticut Lakes Headwaters Forest in Pittsburg, has always been closed to ATV use by the succession of timber companies that owned the land. Timber companies routinely prohibit ATVs here and elsewhere out of concern for erosion, vegetation damage, forest fire potential, and liability. While 146,000 acres of the Headwaters Forest are still owned by a timber company, public recreational use here is determined by a new recreation plan that will be updated every five years. Traditional non-motorized use of the forest, such as hunting, fishing, wildlife watching, and hiking, has economic value to area businesses, and could be negatively affected by the addition of ATVs.

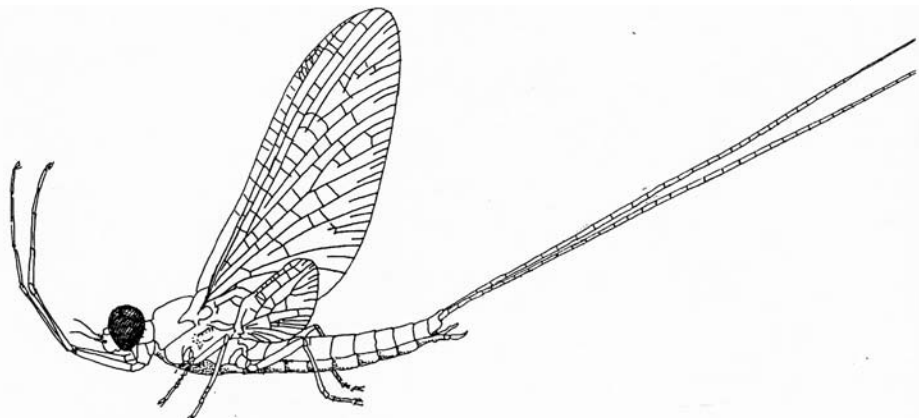
While ATVs are a new and not a traditional means of recreation, it is clear that they are here to stay, and the best path is to manage this use wisely, minimizing negative effects upon private landowners and the public trust.

Opportunities & Recommendations

- **Provide better state enforcement.** State agencies charged with managing this kind of recreation need the capacity to deal with the enforcement responsibility that comes with it, and not pass the burden on to towns. Reapportioning more of ATV registration fees to enforcement and monitoring, education, and mitigation, and less to grants for building new trails, will help achieve a better balance.
- **Raise fees and create a restitution fund.** Raising registration fees for out-of-state vehicles and for penalties is a reasonable way to increase dollars for enforcement and create a landowner restitution fund for damage by ATVs to private land.
- **More effective penalties.** Effective penalties can include vehicle confiscation or impoundment, a retraining program similar to that of the state snowmobile organizations, and

service to rebuild damaged areas.

- **Local land use controls should guide.** New ATV trails on private land should be subject to local land use controls, similar to ski areas, and away from sensitive habitat. If ATV trails are to be developed on public land, this should occur on lands specifically acquired for that purpose, with the consent of the towns where the trail lands would be located. Towns deserve a say when the state proposes a substantial change in the use of state lands within their borders.
- **Stronger ATV clubs.** ATV clubs need help to ensure adequate enforcement and effective trail maintenance. The Vermont Association of Snow Travelers provides an excellent model for ATV clubs.
- **Standards for trail builders.** Educating ATV trail builders will help them better locate trails and cross streams without causing water quality impacts.
- **Emissions controls.** Emission control standards are needed for these vehicles.
- **Avoid expanding Pisgah ATV trails.** Further expansion of the 20 miles of ATV trails in New Hampshire's Pisgah State Park is not advisable, especially since enforcement on the existing trail system is inadequate, and this area has been identified by The Nature Conservancy as unusually biologically rich and sensitive.
- **Continue the freedom from ATVs in Headwaters Forest.** Introducing ATVs into the Connecticut Lakes Headwaters Forest does not fit the spirit of the extraordinary effort made by New Hampshire to conserve this land. Previous owners of this timberland did not allow ATVs. The State of New Hampshire's new Jericho Lake State Park in nearby Berlin includes an extensive ATV trail system that will serve this interest. A recreational impact study to look at the economic benefits and drawbacks of each potential form of recreation in this area would be useful.
- **Anticipate bigger machines.** State agencies concerned with recreational vehicles will want to be prepared for advances in the recreation industry, and plan to address the special impacts of six-wheeled ATVs and tracked vehicles.



V. Heritage Tourism

A study of outdoor recreation visitors to the Connecticut River valley showed that numbers increased 11.3 percent from 1999 to 2000, at a time when such visits were steady or decreased elsewhere in New England.¹ Outdoor recreation visitors spent an estimated \$1.04 million in 2000, an increase of 7.5 percent from the previous year. The Connecticut River valley represented 10 percent of outdoor recreation travel to the New England region in 2000, 78 percent to the New Hampshire part of the valley and 22 percent to the Vermont side.



A popular waterfall on the Connecticut River Byway.
Colebrook, N.H.

The valley attracts predominantly local travelers from less than 150 miles away, and also visitors from Massachusetts, Connecticut, and New York, in addition to those from Vermont and New Hampshire. Visitors' top choices of activities were hike/bike (40 percent), entertainment and dining (37 percent each), sightseeing and visiting national and state parks (33 percent each), shopping (32 percent), and snow skiing (22 percent).

The Connecticut River Byway, designated a National Scenic Byway in 2005, is full of potential as a river-friendly economic development tool and route to a safe future for those things held dear by Connecticut River valley people. The Byway includes over 500 miles of state roads bordering the Connecticut River in both Vermont and New Hampshire.

Based on superb scenic qualities and widespread public support, the two states officially adopted the Connecticut River Byway roads into their scenic byway systems in 1994 and 1998. In 2000, a Byway Council formed, under the sponsorship of the Connecticut River Joint Commissions, to balance the promotion, preservation, enjoyment and

stewardship of the Connecticut River valley. Its firm hope is that the Byway can help valley residents better appreciate places they may have taken for granted, while also realizing local economic benefits from visitors bringing in outside dollars to the region.

In 2005, after seeking public opinion throughout the valley, the states and the Byway Council nominated the Connecticut River Byway for designation as a national scenic byway, and the Federal Highway Administration awarded this designation, creating Vermont's first national byway, and New Hampshire's third.

The Byway strengthens the long-standing bond between the twin states, focusing on heritage tourism and the authentic New England experience - historic villages, mountain views, working farms, home grown crops and crafts, and outdoor pastimes like fishing, boating, wildlife observation, and hiking. And there's nothing like a Sunday drive along the Connecticut River.

Also rooted in the concept of heritage tourism is the Northern Forest Canoe Trail, an east-west water-based trail that links communities within the Northern Forest region of New York, Vermont, New Hampshire, and Maine. A trail in a conventional sense, although with some impressive portages and upstream paddling, the Canoe Trail is more a vessel for conveying the heritage of the Northern Forest. Both routes offer a tangible means of connecting residents and visitors with the places and people of the region.

A. Sustainable Tourism

Inviting visitors to the valley raises the specter of too many in the wrong place. Sometimes, “if you build it, they will come” is an invitation that proves unfortunate after it’s too late. “Improvements” in the name of tourism are sometimes best passed over in favor of protecting the authentic character of a scenic road or an historic building. There are special community treasures – a hidden waterfall, a narrow trail to a favorite lookout – that the entire world should not be invited to come and see. Part of the appeal of the valley’s small-town, rural atmosphere is the intimacy of such special places that are not trampled and degraded beyond recognition or environmental health.

Tourists visiting the beautiful Connecticut River valley are bound to think about putting down roots in such an enchanting place. Inviting visitors to this scenic valley requires that we also work to preserve our villages, farms, forests, and shorelines, the assets at the core of the valley’s appeal. Otherwise, the valley is likely to evolve into something that we no longer recognize as home. Early churches and homes, covered bridges, stonewalls, and wild mountain trails are all part of the Byway infrastructure, and need protection.

To ensure motivation to protect what is best about the valley, it is essential to appeal to potential visitors who are interested in its authentic attractions: American history, historic architecture, the machine tool industry, the valley’s rich and evolving farming heritage, river recreation, scenic rail lines, locally-made products, natural history, and farmers markets, and their inevitable connections with the streams that gather to form New England’s largest river.

Opportunities & Recommendations

- **Balance promotion and preservation.** The Connecticut River Byway Council’s message of resource protection needs to be as clearly understood as its role in marketing promotion. The Council can actively support local historic and natural resource protection through the Federal Highway Administration’s Scenic Byway grant program and other channels.
- **Encourage low-impact activities.** The Connecticut River Byway Council can promote sustainable, low-impact, natural resource-based tourism and recreation, by marketing to the traveling public most appreciative of historic and natural resources. On the river, encourage fly-fishing, canoeing and kayaking, and waterfowl watching. On the land, encourage hiking, snowshoeing, cross-country skiing, bird watching, and visiting local farm stands and pick

-your-owns. Avoid publicizing places and activities that cannot withstand additional attention from visitors.

- **Visitor responsibility.** The Byway Council, waypoint community organizers, chambers of commerce, outfitters, and managers of attractions can make the most of every opportunity to educate on the essential topic of visitor responsibility and etiquette.
- **Offer authentic experience.** The hospitality industry can apply a “value-added” concept by increasing the educational enrichment of a visitor’s experience, such as through participation in a Quest, interpretation at a museum, or walking tour guides to historic villages.
- **Promote sustainable tourism.** All involved in promoting tourism can minimize impact on the land and increase revenue to local businesses while engaging people in the outdoors, such as through inn-to-inn bicycle and canoe tours. For example, to help protect the campsite system from overuse, develop a network of bed and breakfasts along the river that are interested in catering to river recreational users, and establish links between B&Bs and area outfitters and liverys. Encourage B&Bs to develop a package for paddlers in conjunction with outfitters and even caterers who could deliver paddlers to the river, supply them with equipment and food, and intercept them each afternoon for transport to the next historic inn downstream to spend the night before resuming their trip.
- **Protect scenic views.** The Connecticut River Byway Council can work with regional planning commissions and land conservation organizations to inventory scenic views and promote their protection, such as through conservation of undeveloped land and discouragement of ridgeline development.
- **Promote farm products and conserve farms.** The scenic, cultural, and economic contributions of farmland are in many ways the dominant theme of the Connecticut River valley. Tourism planners can assist owners of interested farms in developing and promoting farm visits, and work with Vital Communities’ Valley Food and Farm program to market local farm products and experiences. Enlist the help of area land trusts to work on farmland protection, following the fine example set by the Upper Valley Land Trust.
- **Tell local stories.** Those in communities with notable historic features can work with their historical societies to find ways to interpret their town’s history for visitors and residents, and to protect architectural treasures.
- **Fund LCHIP.** The New Hampshire Land and Community Heritage Investment Program is an essential source of funding for protecting heritage tourism assets for the future, and is a wise long-term economic investment for the state.
- **Vermont should enact shoreland protection.** Actions to protect shoreland and riparian buffers will protect the scenic value of the river for recreation and tourism, while protecting the quality of the water. Vermont is the only state in New England that does not have a statewide shoreland protection law. Enactment of such protection would greatly improve the outlook for 250 miles of Connecticut River shoreline.

VI. Key Riverwide Recommendations for Recreation

A. Federal Government

EPA

- Assist communities with cost of eliminating combined sewer overflows and straight pipe discharges, and upgrading wastewater treatment plants. EPA should not relax its requirements that communities remediate combined sewer overflows to maintain the “fishable, swimmable” standards of the Clean Water Act.

Congress

- Act to reduce the total amount of mercury entering the environment from man-made sources, such as from coal-burning power plants.
- Ensure stable and greater funding for the Land and Water Conservation Fund.

The Silvio O. Conte National Fish and Wildlife Refuge

- Develop plans for fish and wildlife oriented recreation at the Pondicherry Refuge, and establish hiking trails at the visitor center in the Nulhegan Basin.

The National Park Service Rivers and Trails Conservation Assistance Program

- Investigate the river’s carrying capacity for various kinds and levels of recreational use, including boating and riverside camping. Such a study should consider the river’s varying width, suitability for different uses, and impacts of each kind of use to riverbanks and riverfront landowners.

B. State Government

New Hampshire Legislature

- Sustainably fund the Land and Community Heritage Investment Program.
- Provide adequate funding to allow Marine Patrol to increase enforcement of boating laws.
- Appropriate funds from the General Fund to pay for enforcement.
- Reconsider reliance upon OHRV registration fees to fund Bureau of Trails; seek other sources of revenue.

- Raise registration fees for out-of-state OHRVs and penalty fees, and apply this funding to enforcement, education, and mitigation. Ensure that the Fish and Game Department has the capacity to carry out its mandated enforcement responsibility for ATVs.
- Update the definition of personal watercraft, retaining the 300-foot distance from shore for travel over headway speed.

Vermont Legislature

- Provide stable funding for Vermont's Housing and Conservation Board.
- Enact a shoreland protection law, as have the other New England states.

State Legislators

- Work together to share ideas for achieving meaningful reduction of mercury to help each state design more effective and consistent mercury-related legislation.

N.H. Department of Environmental Services and Vt. Agency of Natural Resources

- Continue to provide training and logistical support for water quality monitoring on the mainstem and tributaries, and encourage the development of volunteer monitoring efforts.
- Develop a permit exchange agreement across their shared waters for projects such as public river access.
- Limit construction of new marinas.
- Assist economically challenged communities in ending pollution from straight pipe discharges.
- Support hazardous waste collection and encourage organizations like Hospitals For a Healthy Environment.

N.H. Department of Environmental Services

- Revise dock rules to address development of docks on large waterfront parcels.

Vermont Agency of Natural Resources

- Develop a permitting policy for docks on the Vermont side of the river.

Public health officials

- Work with local wastewater treatment plant operators to ensure that the public is given immediate warning of any polluting discharge.

N.H. Department of Safety Services

- Respond to local petitions to limit boating where the river is consistently too narrow for travel over headway speed, such as above the Lancaster/Lunenburg Bridge.
- Marine Patrol officers supervising fishing derbies should also inspect boats for invasive species.
- Increase enforcement of boating laws on the Connecticut River throughout its length.

State fish and wildlife/parks and recreation agencies

- Assist in establishing small access sites for car-top boats in locations identified by local river subcommittees.
- Contact N.H. Marine Patrol to determine whether there is additional enforcement capacity before making decisions to expand boat ramps.

- Discourage expansion of boat ramps serving powerboats or construction of new such access.
- Continue to limit public dock facilities to day use; match the level of development at such facilities with the character of the river accessible from the area.
- Ensure that boat access sites have signs about invasive species; consider boat wash stations and boat checks.

New Hampshire Fish and Game Department

- Consider whether fish tissue sample sizes from Reach 8 in the northern river between Pittsburg and Canaan are adequate to draw conclusions in EPA's 2000 toxin study, and whether further study is warranted, with financial support from EPA. Native brook trout, rather than perch or bass, are the appropriate target for sampling here.

Vermont Forests, Parks & Recreation Department and N.H. Division of Parks and Recreation

- Develop programs to encourage and give recognition to private landowners who allow their land to be used for public recreation.
- Better reflect in public policy the general public's predominant interest in non-motorized recreation.
- Create opportunities for public education and interpretation on public land in Vermont's Northeast Kingdom and New Hampshire's Connecticut Lakes Headwaters Working Forest.
- Support snowmobile and ATV clubs' peer education efforts.
- Build trails only with landowner permission.
- Develop ATV trails only on public lands acquired for that purpose, with consent of the affected towns.
- Support stronger ATV clubs to ensure adequate enforcement and effective trail maintenance.
- Set more effective penalties for ATV violations.
- Set emission standards for Horns.
- Plan for potential impacts of six-wheeled ATVs and tracked vehicles.

N.H. Division of Parks and Recreation

- Avoid expanding ATV trails in Pisgah State Park and do not allow ATVs in the Connecticut Lakes Headwaters Working Forest.
- Conduct a recreational impact study to look at the economic benefits and drawbacks of each potential form of recreation in the Connecticut Lakes Headwaters Working Forest.

N.H. Department of Transportation and Vermont Agency of Transportation

- Follow federal requirements for providing public river access for car-top boats and fishing when federal funds are used for bridge repair or replacement.
- Consider the scenic character of rural roads and bicycling safety during road reconstruction.
- Consider a campaign to help educate motorists to share the road with bicyclists.
- Work with conservation commissions and recreation groups to convert unused rails to public trails.
- Make converted rail trails more suitable for non-motorized recreation by improving the surface.
- Ensure that rail cars stored near the river are moved on a timely basis, and not stored indefinitely.

C. Town Government

Town Government

- Ensure that the fire department has emergency water rescue equipment and training to be prepared for boating, fishing, and swimming accidents in all seasons, and consider sharing equipment with neighboring riverfront towns.
- Consider applying for federal Scenic Byway funding to conserve scenic, natural, and historic resources.
- Work to end water pollution by straight pipe discharges.
- New Hampshire: Take full advantage of the Land Use Change Tax to conserve land for recreation.
- Vermont: Establish local conservation funds.

Town planning boards/commissions

- Ensure that in New Hampshire local permits issued for shoreland projects do not conflict with the Shoreland Protection Act.
- Develop regulations to limit construction of new marinas on the river, including overnight boat docking and rental facilities.
- (Vermont): develop criteria for seasonal docks.
- Ensure that parking for water-dependent facilities is set well back from the river, with low-impact design.
- Match public dock facilities with the character of the river accessible from the area, and avoid building docks or launches designed for large powerboats where the river is too narrow or shallow to accommodate them.
- Develop regulations to preclude water parks or theme parks near the river.
- Consider local land use controls to guide development of new ATV trails.

Conservation commissions

- Check town properties and public boat launch areas for the presence of invasive species.
- Ensure that town boat launch sites have posted signs about invasive species.
- Educate citizens about recognizing invasive species and removing them from their own properties.
- Work with state park agencies, recreation groups to recognize and appreciate private landowners who allow public recreation on their land.
- Enlist townspeople in trail maintenance and clean-up activities.
- Create trails in town forests, neighborhoods, along downtown waterfronts; publish trail guides to town properties.
- Help ensure that local trails are built with proper trail permits and laid out to minimize erosion.
- Help inform residents and visitors about responsible off-road bicycling.
- Work with state transportation agencies and neighboring rail towns to convert unused rails to public trails.
- Work with local schools to create Quests in their communities.

Wastewater treatment plant operators

- Work with state health officials to ensure that the public is given immediate warning of any polluting discharge.

D. Regional Organizations

Regional Planning Commissions

- Draft a model ordinance for towns' use in controlling dock construction and marinas.
- Inventory scenic resources for the Connecticut River Byway.
- Help recreation groups develop bicycle tour routes.

Connecticut River Byway Council

- Assist Byway waypoint centers and their staffs in educating visitors to the area through hospitality training.
- Ensure that the public as its role in marketing promotion as clearly understands its work in resource protection.
- Promote sustainable, low-impact, natural resource-based tourism and recreation.
- Work with regional planning commissions and land trusts to inventory and protect scenic views and other natural and cultural resources.
- Educate the public on the essential topic of visitor responsibility and etiquette.

E. Private Sector

Connecticut River Watershed Council

- Organize a volunteer water quality monitoring program on the river with the support of the states.
- Organize the management of the Connecticut River Water Trail primitive canoe campsites.

New Hampshire Lakes Association

- Set up a Lake Host program, with the help of TransCanada and NH DES, to check for invasive species at heavily used boat launches on holiday weekends, especially at the Connecticut Lakes.

Recreation groups

- Acknowledge and involve private landowners who open their land to the public for recreation.
- Enlist their members in trail maintenance and clean-up activities.
- Build trails only with landowner permission.
- Work with conservation commissions to create local trails.
- Help inform residents about responsible off-road bicycling.
- Work with state transportation agencies to convert unused rails to public trails.
- Continue to promote trail etiquette.
- Educate the public on protecting trails in early spring.
- Ensure that trails and bridges are built and maintained according to permit conditions.

State and local snowmobile organizations

- Continue to educate snowmobile riders about respectful use of private property and obeying trail closures.

Fishing tournament organizers

- Inform visiting participants of boating laws and hold boat and trailer checks for invasive species.

Land conservation organizations

- Work with private landowners to conserve land for public recreation and scenic views.
- Work with regional planning commissions to inventory scenic views.
- Assist towns in establishing small access sites for car-top boats on conserved land.

Chambers of commerce and Byway waypoint center leaders

- Help Byway communities focusing on the region's authentic attractions.
- Emphasize authentic experiences such as interpretation at a museum, a guided walking tour in historic villages, or participation in a Quest.
- Assist owners of interested farms in developing and promoting farm visits, and work with Vital Communities' Valley Food and Farm program to market local farm products and experiences.
- Make the most of every opportunity to educate on the essential topic of visitor responsibility and etiquette.

Water Trail coordinators

- Help protect the Connecticut River Water Trail from overuse by avoiding wide promotion.
- Identify more primitive camping opportunities in the North Country.
- Set up a management system that may include reservations or other means of ensuring sustainable campsite usage.

Marinas

- Consider excursion tours of the Connecticut for Byway travelers.
- Educate customers about boating laws, boat wakes and erosion, and invasive species.
- Consider offering a boat washing station.
- Advise customers renting jet skis where they may legally use the craft.

TransCanada Hydro Northeast

- Address all provisions of the recreation plans that accompany the company's facility licenses.
- Develop at least one campsite on Moore Reservoir, as called for in the 2001 license for Fifteen Mile Falls.

Outfitters

- Offer to help maintain primitive canoe campsites and car-top boat launches used by their clients.
- Communicate with peers to help disperse pressure on campsites and launches.
- Educate clients about river etiquette, Didymo and other invasives, and water quality.

Organizations and groups sponsoring Connecticut River canoe camping trips

- Make financial contributions to support campsite costs or offer a day of volunteer maintenance service.
- Educate participants about river etiquette, invasives, and water quality.

Hospitals and clinics

- Bring the award-winning Trails for Life program to their communities and its benefits to their patients.

Managers of museums, parks, and conservation areas

- Take advantage of Questing as a compelling interpretive tool for visitors.

Rail companies

- Offer scenic riverside excursion rail tours.

Riverfront landowners

- Participate in state and federal cost-sharing programs to protect and enhance riparian buffers.

Farmers

- Consider taking advantage of USDA programs to help with the cost of fencing livestock out of waterways.



Hanover High School crew practice.

Hanover, N.H.
(Photo by Joey Kulkin)

VII. Local River Subcommittee Executive Summaries

Following are summaries of the recreation plans created by CRJC's five local river subcommittees. Full plans from each subcommittee are available on the CRJC Web site, www.crjc.org.

1. Headwaters Region

There are few places more appealing for recreation than the headwaters of the Connecticut River. Swimming, fishing, boating, camping, hiking, bicycling, snowmobiling, hunting, trapping, and wildlife-watching are popular with residents and visitors, many of whom come to see for themselves the source of this legendary river. The river's only designated natural segment draws canoeists and kayakers, and the Northern Forest Canoe Trail follows a section of the Connecticut River here. Hiking opportunities are increasing, most notably with the Cohos Trail, and mountain summits reward hikers with long views of the river valley. In winter, the region's vast network of snowmobile trails has become a destination for riders from throughout the Northeast. The Headwaters region has a long and honored history as a working landscape of industrial timberland and family farms, and farm and forest views contribute to the region's magnetic appeal for recreation.



Top Priorities for Recreation

1. Recognize and reward landowners for keeping their land open to the public.
2. Encourage protection of open space for public recreation and scenic views.
3. Encourage limited new car-top boat access and encourage non-motorized boating.
4. Monitor water quality.
5. Protect riparian buffers for their scenic value and to protect water quality.
6. Capitalize on the scenic value of local rail lines.
7. Educate visitors on respect for private land.
8. Provide more primitive camping opportunities.
9. Address the growing problem of ATVs.
10. Provide more hiking trails and options for low-impact, non-motorized recreation.

A. Water-based Recreation

Boating Activity - From a quiet paddle on the designated “natural” segment in Stratford/Brunswick/Maidstone to a morning spent trawling for lake trout on the Connecticut Lakes, there are many ways to enjoy boating in the Headwaters region. More people are planning multi-day paddling trips and seeking to camp along the river. More large groups are paddling down the river, although litter problems have not followed. The stretches from Canaan to Colebrook and from North Stratford/Bloomfield to the Stratford-Maidstone Bridge are the most frequently used portions of the river. The Northern Forest Canoe Trail joins the Connecticut River for 21 miles from Bloomfield to Northumberland.

Boating Laws and Safety - With the exception of the seven-mile natural segment, motor boats are currently allowed on the entire Connecticut River in the Headwaters section, although few parts of the river below the lakes are deep enough for propeller-driven boats. The river is too narrow in this region to allow legal travel over headway speed and is therefore a no-wake zone. Yet, motorboats sometimes travel between Colebrook and Canaan above this speed, in an area vulnerable to erosion. The northern Connecticut River attracts some recreational users who do not have the skills to navigate more challenging parts of the river, such as the breached dams at Lyman Falls and Northumberland.

Boat Wakes and Erosion - The Headwaters reach is renowned as a trout fishery, and should be protected from turbidity, sedimentation, and gasoline pollution, all of which can result from motor boat use on relatively narrow, shallow rivers. Therefore, the Subcommittee believes that non-motorized boats are more in keeping with the nature of the river here.

Connecticut Lakes -The Connecticut Lakes, a chain of four ponds and the impoundment of Lake Francis, are the source of New England’s largest river and a symbol of New Hampshire’s remote wilderness. The lakes are vulnerable to drought because they are located at the very head of the watershed. Their role in water storage for hydro generation and flood control sometimes conflicts with their use as a recreation destination during very dry summers. Jet skis have become much more common in the last few years. These craft disturb wildlife and are inconsistent with the remoteness and quiet of the region. The ban on their use on many local ponds should be extended to the Connecticut Lakes.

River and Lake Access - There are 17 sites for public boat access to the Connecticut River in the Headwaters segment, including seven launches at the lakes for all kinds of boats and 10 sites on the river serving car-top boats. There are also three places or trails where the public may walk to the river. The southernmost portion is also accessible from a boat ramp at the Route 2 Bridge in Lancaster. There are also three places where the public can walk to the river for fishing and swimming. A new, safer public access is needed above Canaan Dam, and on the long and meandering section between the Stratford Maidstone Bridge and Guildhall. A new public access at the Stratford/Maidstone Bridge is now open after years of planning. At First Connecticut Lake, not all property owners are aware that they must seek permission from TransCanada if they wish to construct a dock, since the company owns the part of the lake bottom inundated by the dam.

Invasive Species -The Connecticut River system is becoming increasingly vulnerable to non-native nuisance plants and animals that could interfere with boating, swimming and fishing, drive down property values, and overwhelm native river life. Didymo, commonly called “rock snot,” was found in the region in 2007 and poses a grave threat to fish habitat. While the zebra mussel has not yet invaded the Connecticut River, the river’s water chemistry is suitable for this pest, which has already infested Lake Champlain. Eurasian milfoil and water chestnut are now present in the Connecticut many miles south of this region, but have not yet reached this area. Vigilance is needed to protect these waters.

Swimming - The Headwaters region offers fine swimming, whether at a public beach such as at Lake Francis State Park, or at a natural beach on a sandy river bend. As with all other forms of recreation in this wild and scenic country, swimming is dispersed and generally not supervised. The 53 miles of river below Indian Stream to Groveton are unsafe or could be unsafe for swimming, due to bacteria from largely unknown sources. Ironically, this part of the Connecticut River, which includes the natural segment, is very popular for swimming. The possibility of sudden water level changes make swimming hazardous just above and below the dams at First and Second Lakes and below Murphy Dam.

River Camping - Interest in canoe camping in the Headwaters region is rising sharply as more people take longer trips on the river. People often camp on private lands, not always with the permission of landowners, and leave trash, damage crops, and leave farm gates open. Below the state parks in Pittsburg, there are currently only four places on the river in the Headwaters segment where the public is allowed to camp overnight. More dispersed primitive canoe campsites on the river would help prevent trespassing and disperse camping impacts. Nearby businesses and paddling groups could adopt a campsite to assist with maintenance. There is currently no coordinated management of the canoe campsite system.

Fishing - Residents and visitors enjoy fishing nearly year-round in the Headwaters region for cold water fish such as rainbow, brown, and especially the native brook trout and land-locked salmon. Lake Francis is popular for fishing tournaments. Fish consumption advisories are in effect for the entire river system. Mercury levels in Headwaters region fish were studied in 2000 and were above the minimum risk level. However, trout were not sampled in this study, and only a few white suckers were sampled from the reach above Canaan Dam.

Key Recommendations for Water-based Recreation

- The N.H. Marine Patrol should patrol the Headwaters reach of the river more regularly to enforce existing boating laws, including non-motorized boating on the natural segment, to prevent boating conflicts and minimize boat wake-induced riverbank erosion. Residents should report problems to the N.H. Marine Patrol.
- Owners of motorboat launch sites should post signs alerting boaters that the river is a no-wake zone in this area. Those operating motorboats on the river must not create a wake.
- Citizens should petition the N.H. Marine Patrol to close First, Second, and Third Connecticut Lakes to jet skis, in order to protect nesting loons and other wildlife.

- Landowners should leave a thick riparian buffer of native vegetation on their streambanks and riverbanks to help keep soil in place and reduce erosion.
- Public Service Company of New Hampshire should provide a safer river portage around Canaan Dam.
- New Hampshire Fish and Game Department and/or Vermont Forests, Parks and Recreation Department should establish a car top river access to the river between the Stratford/Maidstone Bridge and Guildhall.
- Boaters must check their boats, trailers, and fishing equipment before launching in the lakes, river or its tributaries, to ensure that they are not bringing unwanted invasive plants and animals, and wash their gear carefully to avoid spreading Didymo.
- The N.H. Department of Environmental Services should assist local volunteers in monitoring water quality in the mainstem and identifying sources of bacteria.
- State parks and recreation agencies should work with local volunteers and willing landowners to develop more primitive canoe campsites in places that are not ecologically or archeologically sensitive. Campers must camp responsibly, by asking permission, carrying out trash, and leaving no trace of their visit.
- Congress and the states should continue to act to reduce the amount of air-borne mercury delivered to the Connecticut River Valley, and reduce local sources of mercury. Further testing of fish for toxins should be done in wild resident trout, especially in the Pittsburg-Clarksville section of the river.

B. Land-based Recreation

Private Land and Public Access - Much public recreation in this region makes use of private land. A growing number of property owners complain that some users of their land treat access as a right, not a privilege, and abuse that privilege. The problem worsens as land that was previously open to the public is subdivided, sold, and posted. Safeguarding the tradition of public use and expanding opportunities for public recreation in the future will take work by citizens, the state legislatures and agencies, the federal government, recreational groups and clubs, and private landowners. Conservation of the Connecticut Lakes Headwaters Working Forest in New Hampshire and West Mountain and the Nulhegan River basin in Vermont are examples of major efforts to protect a long tradition of public access for recreation.

Walking and Hiking Trails - Most towns offer hiking and walking trails enriched by views of the river and surrounding hills. A favorite is Lemington's Monadnock Mountain. The 162-mile Cohos Trail, nearly completed, will be the longest single foot-trail system in New Hampshire. The Subcommittee hopes that the Connecticut Lakes Headwaters Forest will become known for mountain hiking. There is a need for more hiking options that are separate

from snowmobile trails.

Bicycling - Bicycling is a popular family and touring sport along the Connecticut River, particularly on a loop along Route 102 and Route 3, which are especially inviting for their easy cycling and fine river views. Safe traveling for cyclists on busy highways is sometimes a concern.

Rail Trails - The Upper Coös Recreational Trail runs 10.5 miles between Colebrook and Beecher Falls. Hikers, bikers, horseback riders, snowshoers, cross-country skiers, and sled dogs can legally use this trail along the former railroad bed, and OHRVs can use it when there is continuous snow cover. However, this trail is groomed for and heavily used by snowmobiles, making it difficult for snowshoers, cross-country skiers, and sled dogs to use the trail safely.

All-Terrain Vehicles - There is rising demand among ATV riders for trails similar to those for snowmobiles. Snowmobiles traveling on frozen, snow-covered ground do not have the same ability to cause erosion, degrade wetlands, or disturb breeding wildlife as do ATVs and dirt bikes, although ATVs are usually not a problem when riders stay on hardened trails. All such vehicles are capable of causing erosion, threatening nearby trout streams. Landowners near ATV trails report that riders sometimes stray onto their property, and ATVs leave ruts in the earth fill at Murphy Dam at Lake Francis that create gullies and a hazard to the dam. Because there are already several ATV trail systems in the Connecticut River valley, and a large new network has opened in nearby Berlin, the subcommittee believes that there is no need to expand ATV access in the Connecticut Lakes region.

Winter Recreation - The Headwaters region is well known for its hundreds of miles of well-coordinated and managed snowmobile trails. During the last five years, Route 3 has become a dangerous major artery for snowmobilers driving north to ride in the Headwaters region, as wide trailers travel the often narrow lanes at high speed. During times of thin snow cover when the trails can be damaged, there are riders who ignore trail closings or ride in spite of poor conditions, and trails are suffering. There is strong interest in healthy, non-motorized outdoor winter sport. Trails for winter hiking, snowshoeing, and cross country skiing in the Connecticut Lakes Headwaters Forest could provide opportunities for winter exploring and wildlife tracking, and for times when snow and ice cover is not sufficient for snowmobiles. Cross country skiers and snowmobiles now share the trail in most places with little conflict, although problems still occur.

Wildlife-related Recreation - Bird and wildlife watching are growing in popularity among all age groups and offer a way to enjoy natural places with little or no harm to the land or river. People regularly visit the area to view moose, loons, and bald eagles. The Colebrook visitor center features exhibits about wildlife and habitat in the region, and the Conte National Fish and Wildlife Refuge has opened a visitor center in the Nulhegan River basin. The Connecticut River Birding Trail, a series of sites from Fourth Lake to Brattleboro where the public is welcome to enjoy the area's wildlife and natural heritage, now includes over a dozen stops in the Headwaters region. Hunting as a recreational pastime has decreased in recent years, although it is still an important part of life in the North Country. Keeping large tracts of land open and undeveloped protects wildlife habitat and water quality, and can help protect

the tradition of hunting.

Connecticut River Byway - Open scenic views of the river valley provide pleasant auto and bicycle touring, particularly along Routes 3 and 145 in New Hampshire, and Route 102 in Vermont, part of the Connecticut River Byway. The Byway was designated a National Scenic Byway in 2005. A Byway visitor center in Colebrook, along with nine others in Lancaster, St. Johnsbury, and farther south, is now introducing residents and visitors to the region's natural and cultural heritage.

Key Recommendations for Land-based Recreation

- State parks and recreation agencies should work with recreation groups to seek ways of recognizing and rewarding landowners who keep their land open to the public. Recreation groups should continue to educate their members about the respectful use of private land.
- The New Hampshire Legislature should provide adequate funding for LCHIP to help protect wildlife habitat and to keep land open for public recreation. Towns should take advantage of opportunities to protect land, especially on the riverfront, for public recreation and open space.
- State recreation agencies should train deputy wardens who are members of local ATV and snowmobile clubs, promote club management of ATV activities similar to that of snowmobile clubs, and establish a required safety education course for recreational ATV riders. State legislatures should establish a registration fee for ATVs to provide adequate funds for law enforcement and trail construction and a landowner restitution fund.
- The N.H. Division of Parks and Recreation should avoid inviting ATV use in the Connecticut Lakes Headwaters Forest and in the Connecticut River corridor, particularly near the designated natural segment.
- The N.H. Division of Parks and Recreation should work with forest landowners to provide more non-motorized winter recreation trails in the Connecticut Lakes Headwaters Working Forest.
- Parks & Recreation agencies should support snowmobile license reciprocity between the states. State and local police should provide more traffic control on highways during peak travel times for snowmobile trailers.
- The Conte Refuge should expand education for residents and visitors about wildlife and wildlife habitat in the region. The Connecticut River Byway Council and the Nulhegan Gateway Association should encourage bird watching and other nature-based, low-impact forms of recreation.
- The Connecticut River Byway Council, Nulhegan Gateway Association, and chambers of

commerce should help educate residents and visitors about the region's distinctive heritage and respectful use of private land, and help seek protection of scenic areas and sensitive recreational features, to avoid problems with overuse by tourists.

2. Riverbend Region

The Riverbend Region offers more varied recreational opportunities than perhaps any other segment of the Connecticut River, due in part to the river's changing character as it moves from free-flowing stream to the deep expanses of the Fifteen Mile Falls reservoirs, combined with the scenic, largely undeveloped farm and forest land along its banks. Popular land-based recreation includes camping, hiking, bicycling, hunting, picnicking, photography, bird-and wildlife-watching, snowshoeing, and cross-country skiing, as well as snowmobiling and touring by all-terrain vehicles.

Top Priorities for Recreation

1. Reduce mercury contamination in the Connecticut River system.
2. Encourage landowners to keep their land open to the public for recreation.
3. Encourage protection of open space for recreation and scenic views.
4. Prevent the spread of invasive species to this reach of the river.
5. Encourage more car-top boat access.
6. Preserve the scenic rural character of local roads.
7. Provide consistent dock rules on both sides of the river.
8. Ensure that water quality is safe for recreation.
9. Discourage high-impact recreation facilities.
10. Encourage low-impact recreation.

A. Water-based Recreation

Boating Activity - Canoeing, kayaking, rafting, sailing, swimming, and fishing are important low-impact forms of river recreation, while power boating, water skiing, and jet skiing are common higher-impact activities. Above the Lancaster-Lunenburg Bridge, the river is not wide enough for legal travel over headway speed, and only small outboards can pass among the rocks. Canoes, kayaks, and shallow-draft pontoon boats use the river from the Route 2 bridge to the Gilman Dam. Below the Gilman Dam, shallow paddling water gives way to the broad expanse of 3,500-acre Moore Reservoir. Moore and Comerford reservoirs are used by all types of craft. All the dams have portage trails, providing carries and access, although some of the carries are difficult.



Boating Laws and Safety - Other than on the reservoirs, the river is rarely wide enough for legal travel over headway speed. Many river users consider that enforcement of boating laws should be increased. Boating hazards include submerged or floating logs and rock shoals in the reservoirs that may be more or less submerged due to changing water levels. On Moore and Comerford reservoirs, strong winds and chop from boat wakes can create difficult conditions for small boats. Releases from any of the dams here or from Murphy Dam upstream can result in sudden water level changes, posing danger for boaters anchored below the dams. The remains of the Wyoming Dam at Guildhall/Northumberland include concrete, spikes, and rebar, all hazards to paddlers. Area fire departments need emergency water rescue equipment and training to be prepared for boating accidents, particularly here, and in all seasons.

Jet Skis - Ski craft can be used legally in the Riverbend region only on Moore, Comerford, and McIndoe Falls reservoirs, although they are regularly observed as far north as Lancaster. Jet skis create a high wake and have potential to disturb wildlife resting in areas too shallow for larger boats. There are reports of conflicts between jet skis and fishermen. The rules for jet skis are confusing on the Connecticut River because the definition of the craft is outdated in New Hampshire. Inconsistencies in this definition have resulted in confusion as to which laws apply to which craft, and have made enforcement difficult.

River Access - Twenty-two boat launches provide access to the Connecticut River in the Riverbend segment, including 12 ramps for all kinds of boats and ten sites serving only car-top boats. There are public ramps for trailered boats located on all parts of the river wide enough for legal travel above headway speed. Boat landings in the region sometimes suffer from litter problems and vandalism. People enjoy picnicking at power company access sites on the reservoirs. Any new access sites should be carefully located and designed to prevent a level of boat traffic that leads to unsafe conditions such as conflicts between power boats and swimmers or non-motorized craft, demands a level of enforcement that currently does not exist, or disturbs sensitive habitat areas. A privy is needed to reduce the present human waste problem at the canoe/fishing access at the breached Wyoming Dam in Guildhall. There is currently no public access in Ryegate.

Fifteen Mile Falls - The Riverbend Subcommittee considers that there is currently no room for expansion of high-impact uses, particularly of power boating on Moore Reservoir, which has greatly increased in recent years. The impoundments offer some of the best sailing conditions anywhere on the Upper Connecticut River, and could host sailing regattas. Scullers now use the area near Moore Dam, and sculling races and canoeing competitions, which are becoming popular downstream, could also take place here.

Docks - The past 10 years have seen new private docks installed on Comerford Reservoir, although there are few docks on the rest of the river in this region. There is currently little or no control over docks on the Vermont shore, since New Hampshire jurisdiction extends to the low water mark on the Vermont side, and on the reservoirs, the state line has been inundated by the dams.

Invasive Species - In 2007, the invasive alga *Didymo* was discovered in the Connecticut River in Guildhall and upstream. Eurasian milfoil and water chestnut, exotic plants that interfere with boating, swimming and fishing, are now present downstream but have not yet

reached the Riverbend region. While the zebra mussel has not yet invaded the Connecticut River, the river's water chemistry is suitable, and the mussel has already infested Lake Champlain, just a short trip for a boater or fisherman.

Swimming - The Riverbend region offers fine swimming, whether at a public beach, such as at the reservoirs or at a natural beach on a sandy river bend. At Woodsville and downstream, people swim from sandbars on the river. The state of New Hampshire assessed the river in 2004, finding it safe for swimming throughout the Riverbend region, except for the northernmost part of this area, from the confluence of the Upper Ammonoosuc River to a half mile below the Guildhall/ Northumberland bridge, due to *E. coli* bacteria from an unknown source. Sudden releases of water make swimming unsafe immediately below the dams.

River Camping - There are currently only six places on the river here where the public may camp overnight. Interest in canoe camping is rising sharply, and new sites will help prevent trespassing and disperse impacts. Unauthorized camping on Moore Reservoir has been a problem for years. The reservoirs present barriers to paddlers on extended trips, because they are long, often experience wind-driven waves, provide little or no current, and must be crossed in a single day. Indian Island, at the mouth of the Passumpsic River, is not suitable for a public campsite, although it is frequently used.

Fishing - People enjoy fishing nearly year-round here for cold water species such as rainbow, brown, and especially the native brook trout. There is a big spring walleye run and fishing for northern pike is good from Comerford Dam on down. Moore and Comerford Reservoirs draw boats from all over New England for fishing derbies, and in winter, they become ice-fishing villages of their own. Mercury has accumulated in resident fish to the point where New Hampshire considers the entire river system, and others in our region, to be contaminated. On Moore, Comerford, and McIndoe Falls reservoirs, the state has issued stricter fish consumption guidelines.

Key Recommendations for Water-based Recreation

- The N.H. Legislature should increase funding for enforcement of boating laws. The state Department of Safety should enforce existing boating laws to improve boating safety and minimize the erosive impacts of boat wakes.
- The N.H. Legislature should update the definition of ski craft to simplify enforcement and to protect the sensitive river shoreline. Businesses renting jet skis should be certain their customers understand how and where these craft can be legally operated.
- N.H. Department of Safety and Vermont State Police should buoy off danger areas on the reservoirs and confine the use of high speed, high-powered boats and water skiing to selected areas on Moore and Comerford reservoirs. Boaters should avoid anchoring their boats below dams and watch for hazards in the reservoirs.
- State emergency management agencies should assist local fire departments in acquiring

emergency water rescue equipment for river recreation emergencies at all seasons.

- Fish and Game/Wildlife and Parks/Recreation agencies and towns should encourage more car-top boat access for canoes and other small craft because of their low impact on the river. State transportation agencies should assist where federal funds are used in transportation projects. The states should explore a registration fee for non-motorized boats, to provide funds for non-motorized river access. Vermont should work with the Vermont River Conservancy to explore a possible public access easement below the Dodge Falls Dam in Ryegate.
- Fish and Game/Wildlife and Parks/Recreation agencies and towns should discourage new public access for trailered boats, since enough access exists where the river is wide enough for legal travel above headway speed.
- The Vermont Agency of Natural Resources should adopt and enforce rules for docks on the Connecticut River similar to those established by New Hampshire.
- Fish and Game/Wildlife and Parks/Recreation agencies should set up boat washing stations at launches at infested waters to prevent vehicles from bringing invasive species to the Connecticut River. Fishing derby organizers should require boat and trailer checks. Boaters should check boats and trailers before launching.
- The N.H. Department of Environmental Services and Vermont Agency of Natural Resources should assist volunteers in monitoring water quality, to ensure that the river is safe for swimming. Guildhall should work with Vermont to provide a privy to reduce the human waste problem at the town's riverfront property.
- Fish and Game/Wildlife and Parks/Recreation agencies should work with local volunteers to identify potential canoe campsite locations. TransCanada should build a primitive canoe campsite on Moore Reservoir.
- The Vermont Fish and Wildlife Department and New Hampshire Fish and Game Department should cooperate to offer a joint free fishing day for residents.
- The federal government should act to reduce mercury pollution coming into the region, and citizens should avoid using household items containing mercury or recycle them.

B. Land-based Recreation

Private Land and Public Access - Public access to private land is increasingly threatened as land is becoming subdivided, sold, and posted against trespassing. For example, no land in Caledonia County, Vt. was posted in 1991, but by 2004, 10,982 acres had been posted. Fear of liability is often cited as a factor in the decision. Conserving land brings new opportunities for public recreation.

Scenic Landscape - Much of the stunning beauty of the river and its forested backdrop around Fifteen Mile Falls is due to long-time stewardship of thousands of acres by the hydro

power companies. The terms of the dams' new license include donation of permanent conservation easements on some 8,000 acres, permanently protecting both waterfront and ridgelines from uncontrolled development. Throughout the region, an effort to keep farmland open and active, perhaps with the help of conservation agreements, will help retain scenic views to and from the river.

Walking and Hiking Trails - Many towns in the Riverbend region offer hiking and walking trails enriched by views of the river and surrounding hills. A number of local schools have constructed nature trails for their students and the public. New trails could offer a way for residents to enjoy town forests. A map of major area trails would be welcomed.

Rail Trails -The Ammonoosuc Recreational Trail is a well-used 19.2-mile trail on a former railroad bed running from Woodsville to Littleton. In winter, this trail is so heavily used by fast-moving snowmobiles that it is unsafe for other use. Another trail follows the former Wells River-Montpelier rail line from Wells River to Groton State Forest and provides fine mountain biking and hiking.

Bicycling - Bicycling is a popular family and touring sport in the Riverbend region, especially near the river. In Vermont, bicyclists and bike tour groups use Routes 102, 18, and 5, and a loop along the west side of Comerford Reservoir from Barnet to Lower Waterford and White Village, to Route 135. In New Hampshire, Route 135 from Lancaster through Woodsville, Route 18, and Route 10 are now part of the statewide bicycle route system. Safe traveling for cyclists on busy highways is sometimes a concern, such as on state-identified bicycle routes that have no shoulder or bike lane.

Nature Observation - The Fifteen Mile Falls area is a favorite for watching bald eagles, where open water below the dams year-round provides the birds with good fishing when other waters are frozen over. The Connecticut River Birding Trail, a series of nature observation sites in the river valley, was extended north in 2005. There are nine stops in the Riverbend region. Hunting remains a favorite traditional pastime.

All-Terrain Vehicles - Landowners near ATV trail systems report that riders sometimes stray onto their property, leave gates open, and cause erosion. The Subcommittee reported in 1997 that four-wheeled off-road recreational vehicles were eroding the earth fill on Moore Dam. This remains a problem, and presents an expense and enforcement issue for the power company. Enforcement of rules for ATV use is essential. Snowmobile clubs present a good model for ATV riders.

Recreational Developments - The Riverbend Subcommittee values the rural character of the river and its use as a migratory route for wildlife, and recommends that development of intensive recreational facilities, such as theme parks, should take place only well away from the river, to protect the environment and passive recreational use. Factors such as sound, light, runoff, and shoreline stability should be considered.

Winter Recreation -The Riverbend region is lively in winter with snowmobiling, winter hiking, and cross-country skiing. Ice fishermen bring their bob houses onto the frozen impoundments and backwaters. Hundreds of miles of snowmobile trails attract riders to

the area, bringing business to local stores and eateries. While there is better cooperation between snowmobilers and foot travelers, snowmobile trails are usually so busy that they are dangerous for cross-country skiers and snowshoers. On the Connecticut River, ice thickness can vary greatly, and in the impoundments, the water level continues to change even though the ice appears solid. This can mean a safety hazard to snowmobilers and other vehicles.

Connecticut River Byway - Open scenic views of the river valley provide pleasant auto and bicycle touring, particularly along Routes 10 and 135 in New Hampshire, and Route 5 in Vermont, part of the Connecticut River Byway. The Byway was designated a National Scenic Byway in 2005. Byway visitor centers in Lancaster, St. Johnsbury, Wells River, and Haverhill Corner are now introducing residents and visitors to the region's natural and cultural heritage. The state of New Hampshire's visitor center at Exit 44 off Interstate 93 in Littleton commands a fine view of Moore Reservoir.

Key Recommendations for Land-based Recreation

- The N.H. Legislature should provide adequate funding for the Land and Community Heritage Investment Program to help keep land available for public recreation. TransCanada should complete the conservation of company lands called for in the 2001 FERC license.
- Fish and Game/Wildlife and Parks/Recreation agencies, recreation clubs, and the Connecticut River Byway Council should encourage landowners to keep their land open to the public for recreation, and educate residents and visitors to the region on visitor responsibility and respect for private land.
- Towns should explore programs to create trails especially for cross-country skiing, hiking, and snowshoeing. Towns should consider creating trail guides to town owned properties. TransCanada should restore the old trail along Moore Reservoir from Waterford Launch to Dodge Hill and North Littleton.
- Recreation groups should encourage local care-taking of recreation areas, address trail erosion with increased trail maintenance, set up connections between trails, develop more published information on trail systems, and provide better signage where needed.
- States should assist towns in creating separate bike paths to reduce pressure to widen roads to accommodate bicycles, and avoid road improvement that could lead to increased speed of traffic.
- Fish and Game/Wildlife and Parks/Recreation agencies should enforce ATV rules and require users to pass a rider safety course. The New Hampshire Legislature should establish a registration fee large enough to provide funds for law enforcement, trail construction, and a landowner restitution fund. The states should require riders to have insurance and to be members of an ATV organization that would provide education and training. Towns should consider ATV trail development in local planning and zoning and allow construction only with the written permission of the landowner and with the necessary trail construction permits in place.

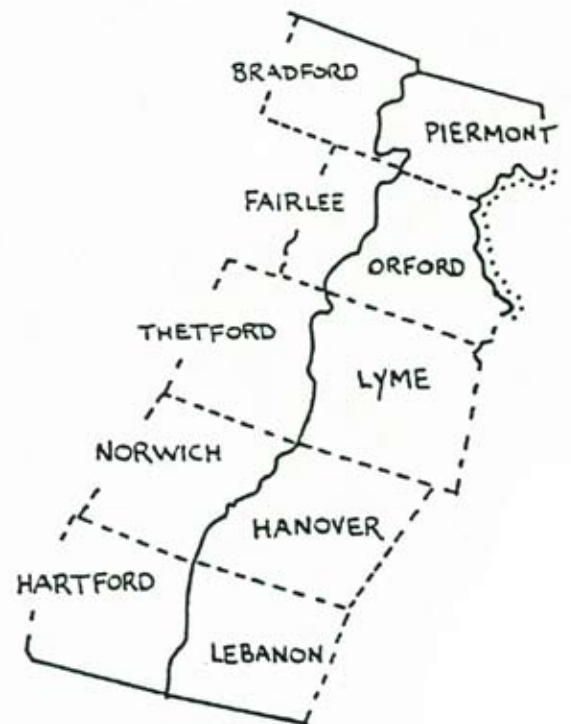
- Towns should discourage development of intensive recreational facilities such as theme parks near the river, to protect the environment and the passive recreational experience there. Marinas and other high impact river uses should be discouraged, because they invite further enforcement problems which already exist in this reach.
- The Connecticut River Byway Council should encourage low-impact forms of recreation, such as bird watching and other nature-based recreation, an excursion train along the river, and inn-to-inn canoe and bicycle trips.
- Land conservation organizations should work with towns to help protect scenic views and open space, especially along the river. Towns should encourage farmland conservation to keep farmland active and views open, and provide public recreation access for birding, car-top boats, or trails where possible and appropriate.

3. Upper Valley Region

The Upper Valley reach of the river, largely impounded by Wilder Dam, features pleasant paddling and deep water throughout the season for summer boating. Many people enjoy ice fishing in the river shallows and on ponds during the winter. Growing networks of foot trails, including the famous Appalachian National Scenic Trail, offer excellent local hiking, while marshes at tributary confluences offer good wildlife watching.

Top Priorities for Recreation

1. Ensure that new riverfront recreational facilities maintain a healthy riparian buffer and keep parking well back from the river.
2. Reduce mercury contamination in the Connecticut River system.
3. Protect shoreland and riparian buffers.
4. Increase enforcement of boating laws.
5. Provide boat washing stations to reduce threat of invasive aquatic species.
6. Provide consistent review of dock construction on both sides of the river.
7. Discourage construction of beaches.
8. Discourage use of jet skis on the river.
9. Discourage further construction or expansion of ramps for trailered boats; encourage new car-top boat access.
10. Invest in land conservation to ensure that open space remains for public recreation.



A. Water-based Recreation

Boating Activity - Because of its quiet waters, beautiful scenery, and easily observable wildlife, the Connecticut River is very popular for canoeing and kayaking. The Upper Valley reach offers easy flat-water paddling with some quick water below Wilder Dam. Rowing and sculling are becoming very popular, particularly at Hanover. A 1,000-foot no-wake zone above the Ledyard Bridge protects swimmers and small craft. Wilder Dam creates a long reach for powerboat travel. On a sunny weekend day, motor boats, water skiers, jetskis, rowing shells, canoes, and kayaks share the river.

River Access - Sixteen boat launches provide public access to the Connecticut River in the Upper Valley, including nine ramps serving all boats and seven sites serving only car-top boats. Two trails provide public access to the river. Boat landings sometimes suffer from litter problems, and there is occasional vandalism. Adequate public access to the Connecticut River for motorboats already exists. Further access for canoes and kayaks is needed because these craft cannot travel as far and as fast as power craft.

Boating Law Enforcement - More consistent and effective enforcement of boating laws by the N.H. Marine Patrol is necessary, particularly with the steady increase in many kinds of potentially conflicting boat traffic and the vulnerability of the river's banks to erosion from boat wakes. Powerboat wakes are one of the key causes of bank erosion on the mainstem above Wilder Dam.

Jet Skis - The Connecticut River is not well suited to these watercraft, since only the small area immediately above and within sight of Wilder Dam is wide enough to allow those registered as "ski craft" to travel above headway speed. However, jet skis commonly use the river as far upstream as Orford.

Water Skiers - Boats towing water skiers use the portion of the river that is impounded by Wilder Dam above the Ledyard Bridge, especially between Fullington Landing and the Lyme/Thetford Bridge, often in places too narrow to keep a proper distance from other boats. Floating debris, particularly after heavy rains, can make water skiing dangerous on the river.

Docks - The past five years have seen a dramatic increase in the number of new docks on the Wilder impoundment. While this may reduce pressure on public access points, it can lead to loss of riparian integrity and threaten water quality, as riverbanks are cut, re-graded, and cleared of their natural buffer. Although impounded, the Connecticut River is not a lake, and dock design must accommodate both regular water level fluctuations and occasional high flows and strong currents. Each year loose docks float down to Wilder Dam, becoming a safety hazard to boaters and a nuisance to dam operations. Neither state applies its dock rules to the Vermont side of the river. New Hampshire's rules are inadequate for controlling dock construction on the many large parcels that remain along the Connecticut River.

Marinas - Although there are no marinas sited on the river, there are several marine dealers and boat shops that serve local boaters. The river's depth, width, flow, and fluctuating level in

this segment are incompatible with development of marinas with conventional docks and gas service on the water.

Invasive Species - Invasive aquatic animals and plants are a direct threat to recreation on the Connecticut River. Eurasian milfoil has become established near the mouth of Clay Brook in Lyme and at the outlet of Lake Morey in Fairlee. It is also present in Lakes Morey and Fairlee, where an expensive control program is underway. Purple loosestrife and Japanese knotweed are becoming common at some of larger access sites. Didymo, the alga discovered in the White River and on the northern Connecticut River in 2007, is a major threat.

Swimming - On hot summer days, swimming occurs anywhere along the river where access is suitable. There's often someone swimming in the roped area at the Ledyard Boathouse in Hanover or from the many private docks. New Hampshire assessed the river in 2004, finding it safe for swimming throughout the Upper Valley region down to the mouth of the White River. From the White River down to Cornish and Windsor, however, bacterial contamination from combined sewer overflows sometimes renders the river unsafe for swimming. This reach receives treated wastewater from Hanover, Lebanon, and White River Junction. Boaters in this area occasionally report an odor that detracts from the river experience.

River Camping -The natural appeal of the still-rural river corridor, the increased pace of land conservation by landowners willing to share their property with the public, and the rising numbers of paddlers seeking an extended river experience prompted the Upper Valley Land Trust to create a string of primitive canoe campsites in the Upper Valley and beyond, beginning in 1992. The six sites managed by UVLT, TransCanada, and others are well used, and are intended for canoe and kayak access from the river only, although there have been problems with overuse, pre-emption by power boaters and homeless people, and trespassing.

Fishing - Fishing is nearly a year-round sport on the Connecticut River, where ice fishermen enjoy the frozen setbacks. The tributaries and the mainstem below Wilder Dam offer fine fishing for cold water species such as rainbow, brown, and the native brook trout, and the Wilder impoundment provides habitat for warm water species such as perch, pickerel, bass, and walleyed pike. Mercury contamination of fish is a strong concern.

Key Recommendations for Water-based Recreation

- The N.H. Marine Patrol should increase enforcement of existing boating laws, to prevent boating conflicts and minimize boat wake-induced riverbank erosion. Area towns should coordinate water rescue training and equipment.
- Towns and state recreation agencies should encourage additional car-top boat access, especially in Fairlee, Piermont, and at Mink Brook in Hanover, and discourage construction of new public and private boat ramps or expansion of existing ramps for trailered boats.
- The N.H. Legislature should pass legislation updating the definition of personal water craft. Recreationists should avoid operating jet skis on the river, especially at night and in areas too narrow for their legal use.

- The Connecticut River Joint Commissions should convene a joint N.H./Vt. dock rules committee to agree upon how to achieve consistent oversight for dock construction on the Connecticut River that includes revision of New Hampshire dock rules to reflect large riverfront parcels, and to address the lack of oversight of dock construction on the Vermont side. The Vermont Legislature should adopt shoreland protection legislation. Area towns and state agencies should discourage construction of marinas on the river. The N.H. Department of Environmental Services and area towns should discourage construction of new public and private beaches on the riverfront.
- State agencies should consider providing boat-washing stations at ramps for trailered boats, and at Lake Morey, Lake Fairlee, Mascoma Lake, and other water bodies with infestations of aquatic invasive plants.
- The N.H. Department of Environmental Services should assess water quality, to assure that the river is safe for swimming. Lebanon should continue its program to eliminate combined sewer overflows. Wastewater treatment plant operators should notify the public immediately if there is a suspected water quality violation at a wastewater treatment plant.
- CRJC should encourage an organization to take active responsibility for overseeing the system of primitive canoe campsites.
- Congress should act to reduce the amount of air-borne mercury delivered to the Connecticut River Valley. State legislatures should urge meaningful action.

B. Land-based Recreation

Room for Public Recreation - States and towns should invest in land conservation to ensure that open space remains for public recreation. The trend of posting land against public use has continued in the Upper Valley, and more and more land that was previously open to the public is becoming subdivided, sold, and posted. The number of posted acres in Orange County, Vt., increased from 1,782 acres in 1991 to 19,892 acres in 2004, an increase of 1,016 percent. Fear of liability is often cited as a factor in the decision to post land. Conserving land brings new opportunities for public recreation.

Walking and Hiking Trails - Every town in the Upper Valley offers hiking and walking trails enriched by views of the river and surrounding hills. The Appalachian Trail is the best known, crossing the Connecticut River on the Ledyard Bridge. The Cross-Rivendell Trail starts on Mount Cube in Orford and crosses the river and travel through Fairlee and West Fairlee to Flagpole Hill in Vershire. The Upper Valley Trails Alliance, founded in 1999, has piloted a five year "Upper Valley Trails for Life" project with Dartmouth Hitchcock Medical Center, aimed at enhancing physical activity and public health through walking and the use of trails. Trail erosion can become a water quality concern, especially for nearby small headwater streams that harbor trout.

Bicycling - Road bicycling is a popular family and touring sport in the Upper Valley. The river roads are especially attractive routes for their easy cycling and fine views, and Route 5 north of Norwich and the cyclist-friendly wide shoulders of Route 10 between Hanover and Lyme are busy road bike routes. Many commercial bicycle tours visit the region, with overnight stays at local inns and bed-and-breakfast facilities. Safe traveling for cyclists is sometimes a concern. Back roads, logging roads, and even hiking trails have attracted many Upper Valley cyclists in recent years.

Northern Rail Trail - Fifteen miles of a former rail line along the Mascoma River from Lebanon have become a trail through the efforts of local volunteers. The trail is open for hiking, horseback riding, bicycling, snowmobiling, cross-country skiing, and dogsledding. ATVs and motorbikes are allowed only when there is snow cover in winter.

Nature Observation - The Connecticut River Birding Trail, a series of nature observation sites with a descriptive map, includes 25 stops in the Upper Valley. Among them are waterfowl observation areas at the Ompompanoosuc flats, Reeds Marsh, and Wilder Wildlife Management Area.

Quests - Vital Communities of the Upper Valley has created an innovative series of treasure hunts, known as Quests, which share the natural and cultural history of the region at 66 sites in the Upper Valley.

All-Terrain Vehicles - Compared to foot traffic, motorized travel by ATVs, dirt bikes, and other wheeled vehicles creates damage that can be especially harsh depending on the season. One vehicle in one day can do damage that may take years to heal. This is a particular threat to small streams. Snowmobile clubs present a good model for ATV riders. Private landowners need to know about the effects of allowing trails over streams and up steep hills on their land.

Winter Recreation - There are just as many opportunities for snowbound outdoor recreation in the Upper Valley as there are in warmer months. Many groups offer snowshoe walks and winter hikes. The Hulbert Outdoor Center hosts an annual winter festival on Lake Morey, and the Dartmouth Winter Carnival is a long-standing tradition. Upper Valley people enjoy skiing in all its forms. Cross-country skiers glide on miles of groomed trails or explore conserved public and private land. Downhill skiers gather at the Dartmouth Skiway in Lyme or at Lebanon's Storrs Hill. The Ford Sayre ski program offers training for area youth. Snowshoeing on open fields or on woods trails is a favorite, and dog sledding, ski-joring, and other relatively new winter sports are becoming more popular. Snowmobiling is a long-established winter way of life for many, and well-managed trail systems link most towns. Nordic skating has gained interest in the Upper Valley, and Lake Morey has the country's longest Nordic skating track.

Connecticut River Byway - Designated a national scenic byway in 2005, the Byway follows the river on both sides throughout New Hampshire and Vermont. In the Upper Valley, it follows Routes 5, 10 and 12A, visiting the historic villages, scenic river overlooks, and Dartmouth College along the way. Scenic views along the Byway are being inventoried to help towns and conservation organizations prioritize their protection. In the Upper Valley,

the State of Vermont has opened a downtown visitor center in the White River Junction train station, sharing the history and appeal of this community and its neighbors.

Key Recommendations for Land-based Recreation

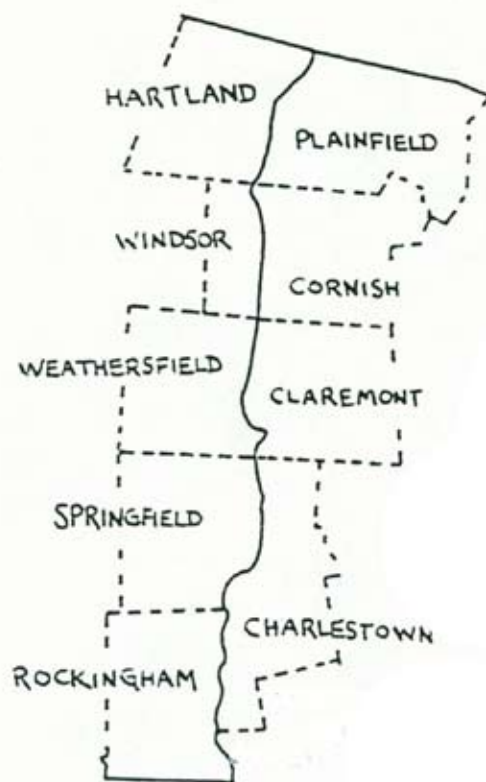
- Recreation groups can provide monitoring, trail watches, and peer education on the proper use of private land to help prevent trespassing and littering, and to encourage landowners to keep their land open to the public.
- States and towns should invest in land conservation to ensure that open space remains for public recreation. The New Hampshire Legislature should provide sustained funding for the Land and Community Heritage Investment Program. The Upper Valley Land Trust should continue with its exemplary work in land conservation, providing public recreation access where possible and appropriate.
- Trail groups should actively encourage hikers and horseback riders to avoid trails in wet conditions, especially when they are saturated from snow melt and rain.
- Upper Valley towns should enhance bicycle safety by promoting construction of bike paths, both dedicated and adjacent to highways.
- State recreation agencies should consider designating limited special areas for ATV trails and require that their design, construction, and maintenance are consistent with state and local planning and zoning, that water stays on site and trail erosion does not contribute to water quality degradation. Proposed ATV trails on state lands should be developed only after ample public discussion, and only if the responsible state agency can adequately monitor the trails, with active cooperation from a local club. A mandatory registration fee for ATVs should be large enough to provide funds for law enforcement.
- Snowmobile clubs should enforce the rules on trail travel under erosion-prone conditions and discourage their members from riding on the river. Distance skaters using the Connecticut River should approach this activity with caution. Snowmobiling on the river is not safe.
- Upper Valley towns should define “recreational facilities” in their zoning ordinances, to allow them to better guide these developments, particularly along waterways, and ensure that they maintain a healthy riparian buffer and keep parking well back from the river.
- The Connecticut River Byway Council should help educate new residents and visitors to the region on respectful use of private land and assist efforts by area land trusts to conserve views, including riverfront lands. Waypoint centers should provide information about places of interest on both sides of the Connecticut River.

4. Mount Ascutney Region

Swimming, fishing, boating, camping, hiking, bicycling, hunting, and wildlife observation along a cleaner, more appealing, and still relatively undeveloped river are widely enjoyed and appreciated in the Mount Ascutney region. The upper reach of this segment offers first-class canoeing, kayaking, and trout fishing, while the Bellows Falls impoundment provides deeper water throughout the season for summer motor boating and angling for warm water fish. Hiking trails on Mount Ascutney and a growing number of bicycle and snowmobile routes round out recreation opportunities in the region. Places like Herrick's Cove at the Williams River confluence in Rockingham provide pleasant areas for picnicking and watching wildlife.

Top Priorities for Recreation

1. Reduce mercury contamination of fish in the Connecticut River system.
2. Improve water quality, which is currently considered unsafe for recreation in some parts of this region.
3. Invest in land conservation to ensure that open space remains for public recreation.
4. Protect shoreland and riparian buffers.
5. Improve bicycling safety.
6. Continue to maintain public river access facilities associated with hydro dams.
7. Protect the river against invasive species.
8. Discourage use of jet skis on the river.
9. Increase enforcement of boating laws.
10. Address the growing problem of ATVs.



A. Water-based Recreation

Boating activity - The northernmost 26 miles of the Mount Ascutney reach, from Hartland/Plainfield to the Ascutney Bridge in Weathersfield/Claremont, offer some of the best canoeing and kayaking anywhere on the entire Connecticut River. Most is Class I, quick flatwater, with a few Class II riffles. Sumner Falls attracts advanced kayakers, but must be portaged by others. Flows depend upon activity at both Wilder Dam upstream and Bellows Falls Dam at the foot of this segment. In the impoundment between the Ascutney Bridge and Bellows Falls, the river is actively used by powerboats as well as canoes.

River Access - There are 11 boat launches in the Mount Ascutney segment. Public access to the Connecticut River for trailered boats is dequate, but further access for canoes and kayaks is needed. Major public boat ramps are located in every town (Charlestown, Claremont, Springfield, and Rockingham) where the river is deep enough for power boat traffic, except for Weathersfield. Boat landings in the region sometimes suffer from litter problems, and vandalism occurs at Herrick's Cove, Sumner Falls, and Lower Landing at Charlestown.

Boating Law Enforcement - Better enforcement and public awareness of boating laws will help improve public safety and the quality of the river experience. Powerboat wakes are also one of the key causes of bank erosion on this part of the Connecticut River.

Jet Skis - The Connecticut River is not well suited to ski craft or personal watercraft, since only a small area is wide enough to allow them to travel above headway speed. The Subcommittee discourages use of jet skis throughout the Mount Ascutney segment. The state of New Hampshire's definition of the craft is outdated.

Invasive Species - The river is highly vulnerable to invasive plants and animals hitchhiking on trailered boats. Hoyt's Landing, the first known site for Eurasian milfoil on the river, is now heavily infested. While boat wash stations would help to reduce this threat, they are expensive and require space that most access sites do not offer. Boaters must check their equipment before launching, to ensure they are not unwittingly transporting unwanted invasive plants and animals to or from the Connecticut River.

Outfitters and Marinas - Several outfitters offers canoe livery services, river access, and river tours. Green Mountain Marina, on the river in Rockingham, serves local boaters. The depth, width, flow, and fluctuating level of the river in this segment discourage further development of marinas on the river.

Docks - A number of private docks are installed on the Connecticut River, especially in Charlestown. Some have resulted in banks that are cut, re-graded, and cleared of their natural buffer, degrading the scenic quality of the river shore. Each year some docks are torn loose by high water and float down to the Bellows Falls Dam, where they are a nuisance to dam operations. There is little control over dock installation on the Vermont shore, since New Hampshire jurisdiction extends to the low water mark here. Neither state applies its dock rules to this area, leaving the Vermont shoreline open to uncontrolled development.

Swimming - Island beaches, rope swings, and hot summer days invite swimming in the river, although the water is not always safe for swimming in the northernmost ten miles of this segment. New Hampshire considers combined sewer overflows (CSOs) in the wastewater collection systems in Lebanon as rendering the Connecticut River unsafe for swimming from the White River to Blow-Me-Down Brook in Cornish. This includes Sumner Falls, where kayakers and swimmers often immerse themselves. CSOs can allow runoff from a heavy storm to mix with untreated sewage, sending it into the river. Below Blow-Me-Down Brook to the Bellows Falls Dam, the river is considered safe for swimming. Unsightly algae blooms at the mouth of the Black River near Hoyt's Landing are becoming a thing of the past now that Springfield has updated its wastewater treatment plant to remove most of the phosphorus from its discharge.

River Camping - The Mount Ascutney region features a string of five primitive canoe campsites managed by the Upper Valley Land Trust, Student Conservation Association, and TransCanada, in addition to Vermont's Wilgus State Park. An informal campsite on Chase Island in Cornish, owned by the N.H. Fish and Game Department, has become overused,

resulting in a human waste problem that threatens water quality. Unauthorized camping at Hubbard and Jarvis Islands in Claremont has become a problem for the landowner.

Fishing - Fishing is nearly a year-round sport in the region, particularly at Hoyt's Landing and in river setbacks. The tributaries offer fine fishing for coldwater species such as rainbow, brown, and the native brook trout. The slow water behind Bellows Falls Dam provides habitat for warm water species such as perch, pickerel, bass, and walleyed pike. The Bellows Falls impoundment is popular for fishing tournaments, drawing boats from all over New England. Mercury contamination makes Connecticut River fish no longer completely safe for eating, and the states have issued fish consumption advisories.

Key Recommendations for Water-based Recreation

- The N.H. Department of Safety should increase enforcement of boating speed laws, to prevent boating conflicts and minimize boat wake-induced riverbank erosion, and seek funding to support full-time marine patrol presence on the river. The N.H. Marine Patrol should make a special effort to be present at fishing tournaments.
- The N.H. Legislature should pass legislation updating the definition of personal water craft to include all such craft under the definition of ski craft, retaining the 300-foot distance from shore as a requirement for travel over headway speed. People should avoid using these craft on the Connecticut River, especially at night.
- Boaters should check and clean their boats and trailers before launching and after taking out of the Connecticut or its tributaries to avoid transporting Didymo, milfoil, zebra mussels, or other unwanted invasives.
- The Vermont Agency of Natural Resources should adopt and enforce rules for docks on the Connecticut River similar to those established by New Hampshire, and inform its riverfront towns where the rules apply. Towns should consider adopting local control of docks, especially in Vermont in the absence of state oversight. Regional planning commissions should draft a model ordinance on dock construction for towns.
- Towns and state agencies should discourage further development or expansion of marinas on the river.
- Vermont should follow New Hampshire's example in adopting statewide shoreland protection. Towns should consider and adopt shoreline protection, and encourage retention of riverbank vegetation for its scenic value as well as for its role in limiting boat wake erosion and protecting water quality for recreation. Landowners should understand and obey state and local protection of riverbanks and buffers.
- TransCanada and its successors should continue to maintain existing public river access facilities, including at Herrick's Cove, Charlestown Lower Landing, and the primitive canoe campsite at Lower Meadow. TransCanada should conserve Sumner Falls and continue to work with the town of Hartland to ensure adequate patrol to discourage vandalism and overnight

use.

- State agencies and towns should avoid construction of further access for trailered boats, since adequate access already exists in the areas of the river deep enough to accommodate them. Vermont agencies and towns considering expanding such access should confer with the N.H. Marine Patrol about the potential for increased enforcement needs.
- Local fire departments should be sure they have adequate water rescue equipment.
- The N.H. Department of Environmental Services and EPA should assist Lebanon with elimination of combined sewer overflows and improvement of water quality, to ensure that the river becomes safe for swimming once again.
- Paddlers should help monitor campsites and avoid camping on Hubbard and Jarvis Islands and walking on the upstream ends of cobble islands which are habitat for rare and endangered beetles.
- The N.H. Fish and Game Department should address unauthorized camping and the human waste problem at Chase Island.
- Congress should act to reduce the amount of air-borne mercury delivered to the Connecticut River valley. State legislatures should urge Congress to take meaningful action.
- Fishing tournament organizers should notify the N.H. Fish and Game Department before an event and inform visiting anglers of boating laws on the Connecticut River, especially with respect to legal speed. They should contact TransCanada to avoid scheduled draw downs that could affect launching on the day of a fishing tournament, and arrange for boat and trailer checks to avoid spreading invasive aquatics.

B. Land-based Recreation

Room for Public Recreation - Trails and other open space for active and passive recreation require plenty of room where the public is welcome. As development continues, more and more land that was previously open to the public is becoming subdivided, sold, and posted. The riverfront is especially threatened. The number of posted acres in Windsor County increased from 1083 in 1991 to 25,960 in 2004, a change of 2,296 percent. Fear of liability is often cited as a factor in the decision to post land. Conserving land brings new opportunities for public recreation.

Walking and Hiking Trails - There are few trails close to the river, but a number are open to the public nearby, of which the trails up Mount Ascutney are best known. The Upper Valley Land Trust has helped generous landowners to permanently protect most of the trail network. Trails at Saint-Gaudens National Historic Site in Cornish are also receiving more use. Trail erosion can become a water quality concern, especially where trails run near small headwater streams.

Bicycling - Bicycling is an increasingly popular family and touring sport in the region, especially along the river. The Toonerville Trail, a three-mile, shared-use path on a former trolley line along the Black River from the Cheshire Bridge to the center of Springfield, opened in 2000. The trail has quickly become very popular, and hosts cross-country skiers in winter and pedestrians and cyclists in summer. Route 5 is popular for bicycle touring but dangerous due to narrow shoulders.

Nature Observation - Bird and wildlife watching are growing in popularity among all age groups and offer a way to enjoy natural places with little or no harm to the land or river. The Connecticut River Birding Trail, a series of nature observation sites, was established in 2001, and includes six stops in this area. Among them, Herrick's Cove is a designated Important Bird Area, offering high quality habitat for migrating birds. Herrick's Cove also hosts a popular annual wildlife festival.

Quests - Vital Communities of the Upper Valley has created innovative treasure hunts known as Quests that share natural and cultural history using hand-drawn maps and riddle-like clues to lead to special places such as remote lakes, historic landmarks, and forgotten cemeteries. Twenty-seven Quests have been developed in the Mount Ascutney Region.

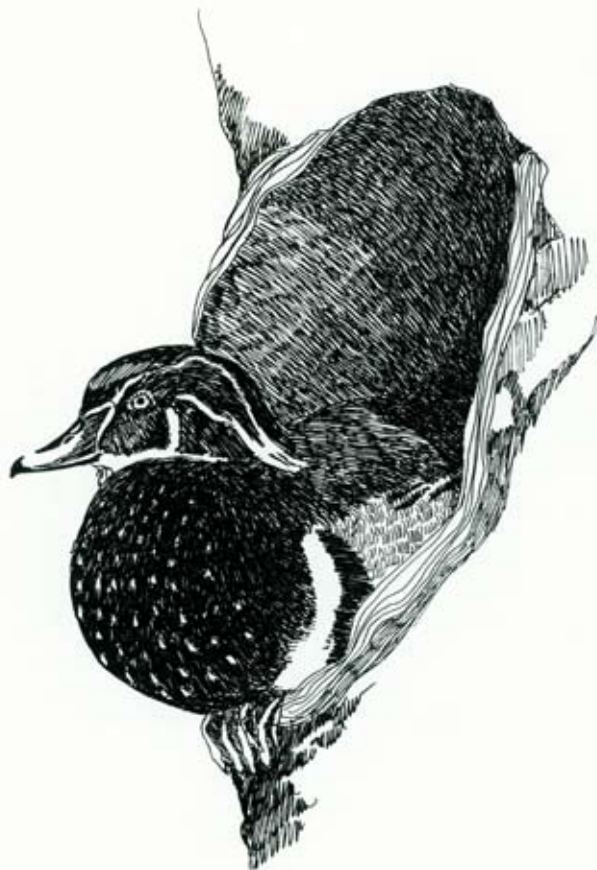
All-Terrain Vehicles - Compared to foot traffic, mechanical travel by ATVs, dirt bikes, and other machines creates damage that can be especially harsh depending on the season. However, if used responsibly, ATVs can provide enjoyment to those who want to explore the woods this way. There is rising demand among ATV riders for trails similar to those used by snowmobiles in winter. Inadequate enforcement of responsible riding and unauthorized trails are concerns, as is damage to private land.

Winter Recreation - Snowmobiling, skiing, snowshoeing, pond skating, and ice fishing are a few of the area's many winter outdoor recreation opportunities. Downhill skiers gather at Ascutney Mountain in West Windsor or at Claremont's Arrowhead ski area. Okemo Mountain and Mount Sunapee ski areas are located at the edge of the watershed. Snowmobiling has become a winter way of life for many, and there are well-coordinated trail systems linking most towns. Local snowmobile clubs deserve support of the general public, to help them maintain trails that others can also use, and to ensure safe and legal use of the trails. Snowmobiling on the river is not safe, but is common.

Connecticut River Byway - The Federal Highway Administration designated the 500 miles of byway as a national scenic byway in 2005, six years after New Hampshire and Vermont established the Byway. In the Mount Ascutney region, the Byway follows Routes 5 (Vermont) and 12A (New Hampshire), visiting the historic villages, scenic river overlooks, and the famed Cornish Windsor Covered Bridge along the way. The Byway provides a custom-made economic reason to pursue protection of the values that give the region its appeal: extraordinary historic buildings, scenic farmland, and a clean environment. In this region, Windsor, Claremont, and Bellows Falls have stepped forward to offer education and services to visitors.

Key Recommendations for Land-based Recreation

- Land trusts should continue their work in land conservation, protecting scenic views and providing public recreation access where appropriate. The N.H. Legislature should ensure full funding for the Land and Community Heritage Investment Program.
- Recreation groups should provide trail watches and peer education, and encourage local stewardship of recreation areas including campsites, trail heads, and trails.
- Towns should consider establishing trails on town properties, creating guides to these lands, and organizing trail maintenance activities with the help of conservation commissions. Regional planning commissions should coordinate multi-community recreation plans.
- State transportation agencies should work to improve bicycling safety, and add a bicycle lane on Route 5, a popular but dangerous bicycle route. Regional planning commissions should help identify places where bicycle shoulders could be added without destroying the character of a local road. Recreation groups and the Connecticut River Byway Council should promote a network of bicycle tour routes with published maps.
- The N.H. Legislature should identify a new source of funding for the Trails Bureau that will allow it to better serve non-motorized users.
- State agencies should develop ATV trails on state lands only after ample public discussion, and if the responsible agency can adequately monitor the trails with active cooperation from a local club. They should set a mandatory ATV registration fee adequate to provide funds to build trails, provide law enforcement, and create a landowner restitution fund. States should require a safety education course for ATV riders and require riders to be members of a statewide ATV organization that would provide training.
- Towns should take advantage of nearby opportunities for local children to learn to ski, through the school system.
- Snowmobile clubs should discourage their members from riding on the river and also on trails when there is inadequate snow cover.

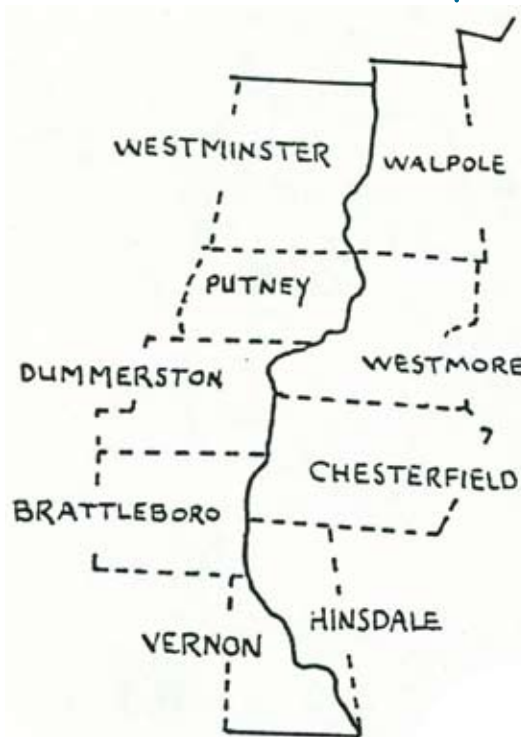


5. Wantastiquet Region

The Connecticut River is the centerpiece for a wide variety of recreation in the Wantastiquet region, from paddling trips down New England's largest waterway, to hikes affording expansive river views from atop Mount Wantastiquet itself. The river's return from years of pollution has transformed the Connecticut into a rich recreational asset for valley residents and visitors. Swimming, fishing, boating, camping, hiking, bicycling, wildlife observation, and sight-seeing are more widely enjoyed and appreciated in the Wantastiquet region than ever before.

Top Priorities for Recreation

1. Reduce mercury contamination in the Connecticut River system.
2. Ensure that the river's water quality is safe for recreation.
3. Protect shoreland and riparian buffers.
4. Invest in land conservation to ensure that open space remains for public recreation.
5. Address the growing problem of ATVs.
6. Encourage creation of more river access, especially for small, cartop boats.
7. Be prepared for water rescue at all seasons.
8. Understand respectful use of private land.
9. Prevent the spread of invasive plants and animals.
10. Discourage use of jet skis on the river.



A. Water-based Recreation

Boating Activity - Things have changed since Henry David Thoreau visited the Connecticut River at Brattleboro in 1856, noting in his journal, "Not a boat to be seen upon it." On a sunny summer weekend these days, motor boats, water skiers, pontoon boats, jet skis, rowing shells, canoes, and kayaks share the river as fishermen angle from shore. The Wantastiquet section offers easy flatwater paddling, with some quickwater below the Bellows Falls and Vernon Dams. The river's depth permits power boating from central Westmoreland to Vernon Dam. The few miles from the Ashuelot River to the Massachusetts line are passable by canoe, kayak, and small motor boat.

River Access - Fourteen boat launches provide access to the Connecticut River in the this segment, including eight ramps accommodating all boats, one serving small outboard motor boats, and five serving only car-top boats. There is currently no public boat access in Westminster or Westmoreland. There are public boat ramps located in every town (other than these two towns) where the river is deep enough for power traffic. In general, adding further access for trailered boats to already congested parts of the river will create additional boating conflicts and strain the limited enforcement ability of the N.H. Marine Patrol. However, a launch is needed for small motorboats at the mouth of the Ashuelot River below Vernon Dam in Hinsdale. Currently, the only access to this section is from Northfield, forcing fishermen

to abide by Massachusetts fishing regulations even if their catch comes from New Hampshire waters.

Boating Law Enforcement - The reach between the Chesterfield/Brattleboro bridge and Vernon Dam is often congested with heavy power boat traffic, small boats, and jet skis, and reports of boaters and jet ski operators disregarding boat speed laws are common. More consistent and effective enforcement of boating laws is necessary, for public safety and to protect the river's banks from erosion from boat wakes.

Jet Skis - These craft are more common in the Wantastiquet segment than elsewhere on the northern river. While only a small section here is wide enough for legal use of ski craft over headway speed, they are common in a much larger area. New Hampshire's definition for these craft is outdated, making enforcement difficult and threatening erosion prone riverbanks.

Invasives - The alarming increase of invasive aquatic species threatens the quality of river recreation. Eurasian milfoil was introduced in the mid-1990s to the Connecticut River north of this area, and the aquatic weed is now abundant here, especially in Retreat Meadows.

Docks and Marinas - Many new private docks have been installed on the Connecticut River, particularly in Chesterfield and Dummerston, sometimes without a permit. River docks must be anchored and tethered securely to the shore. There is little control over docks on the Vermont side. New Hampshire jurisdiction extends to the low water mark here, and both states have been reluctant to apply their dock rules to this area, leaving the shoreline vulnerable to uncontrolled development. The Wantastiquet segment has the most concentrated marina development anywhere north of Massachusetts.

Swimming - Recent studies by New Hampshire indicate that the entire reach of the river in the Wantastiquet region is safe for swimming, except perhaps after heavy storms. Bacteria in the water can affect the safety of swimming and reach rivers through runoff, such as stormwater washing over a city street, drainage from a pasture, or combined sewer overflows, where runoff from heavy storms can send untreated sewage into the river. There is no regular water quality monitoring program on the Connecticut River.

River Camping - There are presently three public canoe campsites on the river in this area. Two are owned and managed by the hydropower company, and the other is in the care of a private landowner. There are also two private commercial campgrounds. Interest in canoe camping on the river is on the rise, and creation of several more sites will help prevent trespassing and disperse camping impacts.

Fishing - Residents and visitors enjoy fishing nearly year-round in the Wantastiquet region. The tributaries offer fine fishing for coldwater species such as rainbow, brown, and the native brook trout. The impounded river behind Vernon Dam provides habitat for warm water species such as perch, pickerel, bass, and walleyed pike and draws boats from all over New England for fishing tournaments. Mercury, largely delivered by prevailing westerly winds, has accumulated in resident fish to the point where the state of New Hampshire considers the entire river system, and others in our region, to be contaminated.

Key Recommendations for Water-based Recreation

- The N.H. Marine Patrol should increase enforcement of existing boating laws, to prevent boating conflicts and minimize boat wake-induced riverbank erosion, and could consider the use of unmarked boats. Boaters must obey boating speed laws, dispose of litter properly, and avoid creating erosive boat wakes. Fishing tournament organizers should inform visiting fishermen of boating laws on the Connecticut River. Managers of river access points should provide signage, aesthetically in keeping with the rural nature of the region, reminding the public of the boat speed law, the problem of bank erosion, nuisance aquatics, and boater responsibility. Local fire departments should have water rescue equipment available for river recreation emergencies.
- The N.H. Legislature should update the definition of personal water craft to include all such craft under the definition of ski craft, retaining the 300-foot distance from shore as a requirement for travel over headway speed. Jet ski operators should understand where they can legally operate their craft.
- Vermont should follow New Hampshire's example in adopting statewide shoreland protection. Towns should consider and adopt shoreline protection, and encourage retention of riverbank vegetation. Landowners should understand and obey state and local protection of riverbanks and buffers.
- Vermont should assist Westminster with construction of a public car-top boat access. New Hampshire should assist Cheshire County with a public boat access at the County Farm in Westmoreland, after ample public discussion about its design, and build an access for small motorboats below Vernon Dam. The N.H. Department of Transportation should create a small parking area and cartop boat access at the Route 9 bridge.
- Vermont should adopt rules for docks on the Connecticut River similar to those of New Hampshire. Towns should consider local control of docks, especially in Vermont in the absence of state oversight. Property owners should check if a permit is needed before installing a dock. Docks should be removed well before the river begins to freeze. Towns and state agencies should discourage further marina construction on the river.
- Town conservation commissions should monitor local boat access points for invasive species. Marina owners and fishing tournament organizers should encourage inspection of trailers and boats for invasive species. Boaters must check their boats, trailers, and fishing equipment.
- State water quality agencies should monitor water quality in the mainstem and tributaries, working with citizen volunteers, to ensure that these waters are safe for swimming and other recreation.
- The N.H. Fish and Game Department should work with local volunteers to develop a canoe campsite at Dunshee Island in Walpole. Recreation groups should identify other potential campsite locations, work with state historical resource agencies to screen sites for

archeological resources, and enlist nearby businesses and paddling groups to adopt and maintain a campsite. Campers should avoid disturbing the eagles nesting near Vernon Dam.

- Fishing tournament organizers must notify the N.H. Fish and Game Department and N.H. Marine Patrol before an event and contact hydro dam operators for scheduled water level changes. Tournament organizers should make provisions for legal parking for participants.
- Congress should act to reduce the amount of air-borne mercury delivered to the Connecticut River Valley. State legislatures should support this action and find ways to reduce locally-generated mercury.

B. Land-based Recreation

Room for Public Recreation - The Wantastiquet region of the Connecticut River valley has enticed recreational hikers for well over a century. The long-standing tradition of public access to private land is threatened as the pace of development quickens, land is posted and trails are blocked. With increased development and posting of land, state government may have to purchase more land to dedicate to public recreation.

Walking & Hiking Trails - Most towns in the Wantastiquet region offer trails enriched by views of the river and surrounding hills. The Wantastiquet Trail in Chesterfield and Hinsdale, which parallels the river and ascends Wantastiquet Mountain, is a popular hiking route. The Wantastiquet-Monadnock Greenway Trail now reaches Chesterfield. Interpretive trails at the Cheshire County Farm feature a fine remnant of floodplain forest and lead visitors to benches at the water's edge. A trail now connects Windmill Hill and Pinnacle Ridge from Rockingham to the Putney-Dummerston line, and another riverfront trail connects Route 119 in Hinsdale with the Route 9 bridge in Chesterfield. The Whetstone Pathway is under development in Brattleboro. A long-held dream to create cross-river trail connections will be realized when the historic Hinsdale/Brattleboro Bridge becomes a bridge for pedestrians and cyclists, as has recently happened at the Chesterfield/Brattleboro Route 9 bridge.

Rail Trails - Three former railroad beds on the New Hampshire side have been converted to recreational trails in this region: the Cheshire Recreational Trail, the Ashuelot Recreational Trail, and the Fort Hill Recreational Trail. Many provide good birding and wildlife watching.

Bicycling - Bicycling is a popular family and touring sport especially along the river. A hope is to create a system of scenic and informative cross-river bicycle "theme rides" in Windham County, Vt. and Cheshire County, N.H. Safe traveling for cyclists is sometimes a concern, especially in Brattleboro. A limited number of mountain bike trails are open in Pisgah State Park.

Nature Observation - Bird and wildlife watching are growing in popularity among all age groups and offer a way to enjoy natural places with little or no harm to the land or river. The river's role as a migration corridor brings a richer variety of birds to the region in spring and fall. In winter, open water near Vernon Dam is a favorite bald eagle observation point. Eagles have returned to nest here, drawing admirers sometimes too close. The Connecticut River

Birding Trail has been extended into the Wantastiquet region, as part of a river-long network of nature observation sites where the public is welcome to explore and enjoy the area's natural heritage. The region is recognized as part of the Middle Connecticut River Important Bird Area.

All-Terrain Vehicles - Compared to foot traffic, motorized travel by ATVs, dirt bikes, and other machines creates damage that can be especially harsh depending on the season. Most private landowners do not want ATVs on their property, because they cause erosion, degrade wetlands, and disturb wildlife. There is growing pressure to open up public lands to all-terrain vehicles and to develop trails on private lands. Pisgah State Park in Hinsdale has 20 miles of trails open to ATVs. No appropriate location for an ATV trail system exists in the Connecticut River corridor in the Wantastiquet Region.

Winter Recreation - Winter brings a different kaleidoscope of recreation opportunities to the Wantastiquet region. The area's rail trail system hums with snowmobile traffic and provides easy grades for cross country skiing and snowshoeing. Downhill skiers flock to the many ski areas of southern Vermont and New Hampshire. Well-coordinated and managed snowmobile trail systems link most towns through the efforts of local clubs. Cross-country skiers and snowmobiles now share the trail in most places with no conflict, due to good communication and care in observing trail etiquette. Ice fishermen populate ponds and river setbacks, and people enjoy skating on the river. Ice thickness can vary greatly, and the area near Vermont Yankee no longer freezes because the plant discharges warm water from its cooling operations.

Connecticut River Byway - The Byway, designated by the states in 1999 and as a National Scenic Byway in 2005, represents a custom-made opportunity for regional economic development based upon the features that set our valley apart: fine and varied river recreation, scenic beauty, tangible history, and a rich agricultural heritage. The Byway also provides an economic reason to protect those aspects that give the region its flavor, such as its extraordinary collection of historic buildings, covered bridges, scenic farmland, and a clean environment. The region's dramatic scenery is dominated by the forested slopes of Fall Mountain in the north and Wantastiquet Mountain in the south. Brattleboro is the waypoint community serving the Wantastiquet region, sharing the history and appeal of this and surrounding towns.

Key Recommendations for Land-based Recreation

- Towns and the Connecticut River Byway Council should encourage protection of scenic views of the river corridor. Towns should explore the purchase of small parcels of land along waterways for public parks, and identify opportunities, when land is developed, to retain easements for public access for trails, birding, car-top access, or other public recreation. Land conservation organizations should pursue protection for open space and scenic views. The N.H. Legislature should provide adequate funding for LCHIP.
- Recreation groups can provide monitoring, trail watches and maintenance, and peer education on the proper use of private land to help prevent unwanted trespassing and littering,

and educate New Hampshire landowners about the 20 percent recreational adjustment under current use and the liability protections offered by existing laws.

- Recreation groups should develop more published information on trail systems, and explore possible connections between trail systems. Trail users should avoid trails in wet conditions and help with trail maintenance.
- State transportation agencies should work together to connect the historic Route 9 bridge with bicycle lanes on Routes 9 and 5 to improve cross-river bicycle and walking trail connections. They should make efforts to improve bicycling safety, such as working with towns to create bike paths.
- The Connecticut River Byway Council should encourage bird watching and other nature-based, low impact forms of recreation.
- The N.H. Division of Trails should not expand the ATV trail system in Pisgah State Park. Proposed ATV trails on other state lands should be developed only after ample public discussion, and if the responsible state agency can adequately monitor the trails, with active cooperation from a local club. State Parks and Recreation agencies should provide more enforcement to discourage ATV violations, and establish a registration fee that is adequate to provide funds for trail development and enforcement. Towns should control establishment of ATV trails within the town. States should require ATV riders to be members of a statewide ATV organization. ATV riders should respect private property and ride responsibly.
- Snowmobile owners should consider replacing older machines with four-stroke engines, for better sound and pollution control.
- The Federal Highway Administration should award Byway grant funding to establish the Brattleboro Waypoint Center.



Above Dodge Falls.

VIII. Overview Notes

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V. Heritage Tourism

1. *Connecticut River Valley Outdoor Recreation Visitor Profile 1999-2000*, prepared by D.K. Shifflet & Associates, Ltd.

IX. Appendices

Appendix A: Participants List - Connecticut River Joint Commissions

New Hampshire Connecticut River Valley Resource Commission

Robert Christie, Lancaster (representing statewide conservation organizations)
Glenn English, Haverhill (member at large)
Robert Harcke, Westmoreland (representing Southwest Region Planning Commission)
Nancy Franklin, Plainfield (member at large)
Cleve Kapala, Hopkinton (representing hydroelectric interests)
Robert Kline, Plainfield (representing the Connecticut River Flood Control Commission)
Cheston Newbold, Cornish (representing Upper Valley Lake Sunapee Regional Planning Commission)
Robert Ritchie, Piermont (representing agricultural interests)
William Roberts, Hinsdale (member at large)
John Severance, Whitefield (member at large)
Mary Sloat, Northumberland (representing North Country Council)
Henry Swan, Lyme (representing the forest products industry)
John Tucker, New London (member at large)
George Watkins, Walpole (representing the Connecticut River Watershed Council)

Vermont Connecticut River Watershed Advisory Commission

Peter Gregory, Woodstock (representing Two Rivers-Ottawquechee Regional Planning Commission)
Thomas Kennedy, Hartland (representing Southern Windsor County Regional Planning Commission)
John Lawe, Norwich (representing Upper Valley Lake Sunapee Regional Planning Commission)
Stephen Long, Corinth (member at large)
Beverly Major, Westminster (representing agricultural interests)
James Matteau, Westminster (representing Windham Regional Commission)
Alison Meaders, St. Johnsbury (representing Northeastern Vermont Development Association)
Gary Moore, Bradford (member at large)
Gayle Ottmann, Hartford (member at large)
Joseph Sampson, Bradford (member at large)
Michaela Stickney, Waterbury (representing the Vermont Agency of Natural Resources)
Nathaniel Tripp, Barnet (member at large)
Stephen Walasewicz, Weathersfield (member at large)
Brendan Whittaker, Brunswick (member at large)
Norman Wright, Putney (member at large)

In addition, the following former commissioners participated in the development of this Recreation Plan:

New Hampshire

Bruce Clement, Westmoreland (member at large)
Denise Meadows, Keene (representing tourism interests)
Ann Sweet, Sullivan (representing Southwest Region Planning Commission)

Vermont

Kenneth Bishop, Springfield (member at large)

Mary Daly, Fairlee (member at large)

Peter Richardson, Norwich (member at large)

*Among these commissioners are also....*hunters, sheep farmers, chamber of commerce directors, forest landowners, town managers, hydropower industry executives, natural resource professionals, librarians, ski instructors, former natural resource agency heads, newspaper columnists, regional planners, town selectmen, doctors, ministers, wildlife biologists, maple sugar producers, dairy farmers, birdwatchers, foresters, authors, former state legislators, former county commissioners, school board members, canoeists, hikers, kayakers, fishermen, soccer coaches, railroad enthusiasts, conservation organization board members, video producers, economic development association board members, skiers, boaters, public relations consultants, educators, industry developers, town planning board and conservation commission members, riverfront landowners, engineers, hotel managers, tourism board members, and apple farmers.

Appendix B: Progress on the 1997 Connecticut River Corridor Management Plan

CRJC's Connecticut River Corridor Management Plan published in 1997 presented issues and opportunities for recreation and heritage tourism in a section entitled "Economic Opportunities that Flow from the River." The following is a progress report on the recommendations articulated at that time.

Recreation

1. The N.H. Legislature should provide adequate funds to allow the Department of Safety Services, Marine Patrol, to increase enforcement of existing boating speed laws on the Connecticut River.

Current status: There appears to be a slightly increased presence of Marine Patrol on the river, especially in the vicinity of Ashley Landing in Claremont, and the department has made an effort to recruit more staff and volunteers. However, complaints about lack of enforcement continue, particularly in the Vernon pool and Wilder Pool, where boating traffic can be especially heavy. Local subcommittee members in the Headwaters Region report never having seen Marine Patrol on their section of the river. There are encouraging reports that Marine Patrol may locate a permanent base of operations at a riverfront recreation area currently under development on TransCanada property in the town of Hartford, Vt., just above Wilder Dam.

2. Boaters should obey existing speed and safety laws.

Current status: We believe that CRJC's widely distributed free pamphlet, *Boating on the Connecticut River in New Hampshire and Vermont* (1999 and 2001) has been helpful in informing boaters about river width and allowable boat speed, but there are still consistent reports of violations.

3. New Hampshire should institute a required boating safety course.

Current status: New Hampshire has now joined Vermont in requiring boater education. The course, which is administered by the Department of Safety, includes cautions concerning boat wakes and avoiding the spread of nuisance plants and animals. By 2008, all motor boaters will be required to have passed the course. Such education would also be useful to those using non-motorized boats, although it is not required.

4. Vermont and New Hampshire should establish more small, cartop access sites.

Current status: A number of public and private entities have established or begun planning for new access for cartop boats on the Connecticut River, greatly increasing the opportunities for enjoying the river in a low-impact manner and reducing conflicts with private landowners. Vermont has specifically

dedicated funds to establish or improve such access on its side of the river.

- Canaan, Vt.: The Grace Methodist Church built a river access in Beecher Falls with funding from CRJC's Partnership Program.
- Bloomfield, Vt.: The Vermont Department of Forests, Parks, and Recreation, assisted by the Vermont River Conservancy with partial funding from CRJC's Partnership Program, conserved two parcels of riverfront land, one to create Lyman Falls State Park with canoe campsites accessible from the river, and another in Bloomfield village which provides river access.
- Guildhall, Vt.: The Vermont River Conservancy and the Northwoods Stewardship Center, with funding from CRJC's Partnership Program and assistance from the Vermont Agency of Transportation and the Town of Guildhall, reopened and improved a portage and river access around the breached and dangerous Wyoming Dam.
- Lunenburg, Vt.: The Northwoods Stewardship Center, assisted by funding from CRJC's Partnership Program, built a river access at the Mt. Orne Covered Bridge on land provided by the Town of Lunenburg. This replaced a previous access on the New Hampshire side on private land.
- Barnet, Vt.: The Passumpsic Valley Land Trust conserved land on the Passumpsic River near its confluence with the Connecticut, and established a handicapped accessible access.
- Newbury, Vt.: The Upper Valley Land Trust conserved land on the Connecticut River and established a canoe access at Knox Farm.
- Hartford, Vt.: The Town of Hartford established access to the White River near its confluence with the Connecticut.
- Windsor, Vt.: River access is being considered at an industrial park and also in a redevelopment plan for the town center.
- Weathersfield, Vt.: Attempts to create a river access at Weathersfield Bow have not been successful.
- Westminster, Vt.: Attempts to create a river access have not been successful.
- Stratford, N.H.: The N.H. Department of Transportation and Northwoods Stewardship Center have built a parking area for a cartop boat access site at the recently renovated and reopened Stratford-Maidstone Bridge. The Vermont Agency of Transportation provided funds for a feasibility study of an earlier concept for this access. This area is one of the most heavily used parts of the river for paddling, yet until 2007 no access existed except over private land.
- Monroe, N.H.: The N.H. Department of Transportation and TransCanada Hydro Northeast worked together to improve river access at the McIndoe Falls-Monroe Bridge as part of the bridge renovation.
- Haverhill, N.H.: The N.H. Fish and Game Department worked with the Town of Haverhill to provide a cartop boat river access in the village of Woodsville.
- Lyme, N.H.: The Town of Lyme, working with the Upper Valley Land Trust and assisted by funding from CRJC's Partnership Program, built a river access and replanted a riparian buffer at the mouth of Hewes Brook on newly conserved floodplain land from which a mobile home had been removed.
- Charlestown, N.H.: The Fort at No. 4 has provided a dock for canoes at its riverfront property, with funding from CRJC's Partnership Program.

5. States and towns should avoid construction of further large public access for trailered boats.

Current status: This recommendation pointed to unwanted effects upon water quality and riverbank stability from increased power boat traffic and expanded parking facilities. The N.H. Fish and Game Department is working with the town of Orford to rebuild the existing public access for trailered boats to reduce the current impacts on the riverbank from parking and erosion, and in 1997, rebuilt an eroding public access at Ashley Ferry in Claremont. No new public access points for trailered boats have been built, and an existing trailered boat launch at the Hanover Wastewater Treatment Facility was closed following expansion of that facility. Unauthorized trailered boat access was blocked by the owner of private property in Lyme.

6. The states and New England Power Company or its successors should erect signage at their existing boat access sites to inform users about bank erosion, boating and fishing laws, etiquette for use of private property, and proper boat cleaning to avoid transporting invasives.

Current status: TransCanada has added signage at its boat access sites. The states have added signs about invasives and fishing laws. Little or no signage, other than relatively temporary signs placed by

CRJC, informs boaters about erosion, boating laws, or use of the property.

7. Further development of marine services should be oriented to areas not located directly on the river.

Current status: While no new marinas have been built on the river, Norm's Marina in Hinsdale has expanded its docking facilities significantly.

8. The Conte Refuge and state tourism promoters should educate visiting sportsmen and recreational users.

Current status: This need continues. The Conte Refuge's new visitor center at the Nulhegan Basin in the Northeast Kingdom will help fill this need, as does the Refuge's presence at the Montshire Museum.

9. All river users should respect private property and ask permission of the landowner before entering private land.

Current status: This need remains strong. Reports from the northern reach of the river indicate that more groups are using the river for recreation, and also performing clean-ups, but unauthorized camping and river access are still occurring.

10. The states should develop discreet signage to identify the river.

Current status: The N.H. Department of Environmental Services has spent some years developing a design for such signage and in 2006 offered it to towns. Signage has been erected at river crossings in a number of communities, including Dalton, Lyme, Lebanon, Charlestown, and Hinsdale.

11. Vermont and New Hampshire should cooperate on a bi-state Connecticut River access policy and provide coordinated review of permit applications for docks on the Vermont side of the river.

Current status: This has not occurred. The need for a dock policy on the Vermont side of the river remains strong.

12. Existing railway corridors should be retained, either for rail transportation or for conversion to trails.

Current status: Rail trail development has occurred on unused railway corridors in several locations, and has been warmly welcomed by the public. Ownership of a section of rail corridor in Lebanon has been transferred to the city, but will continue to be used for rail transport. Unfortunately, a long section of rail line in Stratford and Columbia, N.H. has been used for storage of hundreds of rusting rail cars for some time.

13. Establishment of new public trails along the river should only be attempted with the complete support of riverfront landowners.

Current status: New public trails along the river have been created in isolated situations, such as on conserved land, with the consent of the landowner.

Heritage Tourism

1. Local communities should participate in the Tri-State Scenic Byway Study.

Current status: Colebrook, Lancaster, St. Johnsbury, Wells River, Woodsville, Haverhill, White River Junction, Windsor, Claremont, Bellows Falls, and Brattleboro have been active in the Byway project as it has unfolded.

2. The states of New Hampshire, Vermont, and Massachusetts should support and establish the Tri-State Scenic Byway.

Current status: Massachusetts has not moved forward with development of the Byway in that state, although the states of New Hampshire and Vermont not only designated the Connecticut River Byway into their byway programs, but successfully worked together to support nomination of the byway as a National Scenic Byway in 2005. The travel and tourism offices in these two states have developed a

constructive working relationship centered on their shared Connecticut River Byway.

3. Local historical and cultural groups should make use of the CRJC's new inventory of cultural features.

Current status: Several towns, including Lyme and Orford, have used the Web-based inventory to create walking tours of historic sites and other publications.

4. Neighboring towns should explore opportunities for heritage tourism together.

Current status: This is developing as the Byway project gathers momentum. For example, the Bellows Falls Waypoint Center hosts exhibits on the neighboring towns of Walpole and Charlestown, and a Precision Valley themed brochure was developed for Claremont, Windsor, Springfield, and St. Johnsbury.

5. Local communities should recognize the economic value of a healthy river.

Current status: Progress has been made on several fronts, such as the adoption by Northumberland and Cornish of a prohibition on construction in the floodplain, but much work remains.

6. Agriculture departments and Cooperative Extension should assist farm businesses to investigate the potential for agri-tourism.

Current status: Much potential remains in this area. Vital Communities of the Upper Valley, a regional non-profit organization, initiated a "Valley Food and Farm" program, partly with grant support from CRJC's Partnership Program, that publicizes farm stays, farmers markets, and pick your own operations in a seasonal free local agricultural bulletin.

7. State tourism agencies and area chambers of commerce should market the Connecticut River valley to heritage-oriented tourists.

Current status: Much potential remains in this area. The Northeast Kingdom Chamber of Commerce and St. Johnsbury Works! have been increasingly successful in promoting that town's many historic features and attractions. The Cohase Area Chamber of Commerce in the bi-state Wells River-Woodsville region has actively promoted heritage tourism and river recreation, as has the Mt. Ascutney Region and the Great Falls Chambers of Commerce.

8. State transportation agencies and utilities should consider impacts of their activities on community character, and take steps to protect stonewalls, historic bridges, naturally vegetated riverbanks, and scenic roads.

Current status: Progress in this area is very uneven, with the most tangible advances related to historic bridges. New Hampshire and Vermont have worked together in the last few years to rehabilitate three valuable historic bridges linking Stratford and Maidstone, Orford and Fairlee, and Monroe and McIndoe Falls. The latter bridge was slated for removal and replacement until the N.H. Department of Transportation realized that this bridge is part of the Connecticut River Byway. The historic bridge linking Chesterfield and Brattleboro was retained for pedestrian use after a new twin bridge was built next to it for vehicle traffic, and the Hinsdale-Brattleboro bridge has a similar future. Some scenic roads have become less so due to road widening.

Unfortunately, activities associated with rail transportation have resulted in a considerable detriment to the scenic character and environmental health of the river. Clear cutting of riparian buffers along riverside rail lines, with slash left on the riverbank, has marred the appearance of the banks. Construction of salt sheds and other buildings directly on the top of the bank and in historic areas threatens water quality while degrading scenic resources. The First Circuit Court of Appeals has declared that the rail companies are exempt from state and local requirements for building setbacks or buffer protection. Rusting rail cars left on long sections of track in the North Country have been the subject of complaints by tourists and residents alike.

Since the plan was written in 1997, applications for telecommunications tower construction have multiplied. Approximately half of the riverfront towns have adopted height limits or other restrictions on

cell tower development, although construction of tall towers still threatens the character of scenic areas in the rest of the region.

Finally, the state of Vermont has not yet joined New Hampshire in providing statewide shoreland protection, a need that is becoming more apparent each year.

9. Towns should maintain the vitality of historically compact village and town centers.

Current status: A number of valley towns are looking constructively at this question, most notably Hanover, Windsor, Bellows Falls, and Claremont. Sprawl is a particular danger as development increases in the Littleton, Lancaster, Lebanon, and Brattleboro areas.

10. The National Park Service should expand its efforts to support local stewardship of historic resources, such as the Certified Local Government grant program offered to towns through state historic resources offices.

Current status: State historic resources offices are constrained by limited funding and have not been able to notably increase their role in local historic preservation. Few towns are currently registered as Certified Local Governments to enable them to receive grants. However, the New Hampshire Preservation Alliance has added a shared field services program with the National Trust for Historic Preservation that has been helpful to Connecticut River communities.

11. The National Park Service should support New Hampshire in establishing and publicizing a “Barn Again!” program similar to Vermont’s, and state historic resource offices should investigate ways to encourage preservation of these and other historic structures through tax incentives and recognition.

Current status: New Hampshire has enacted a Discretionary Preservation Easement Program for historic agricultural structures that is a model for the country, and provides tax incentives and recognition for historic barn owners. It has also created a Barn Restoration Small Grant program that, while underfunded, has assisted a number of barn owners. In 2008 Vermont initiated a survey of historic barns.

12. The states should expand opportunities for archeological investigations in our long-populated river valley, promoting bank stabilization to protect riparian sites.

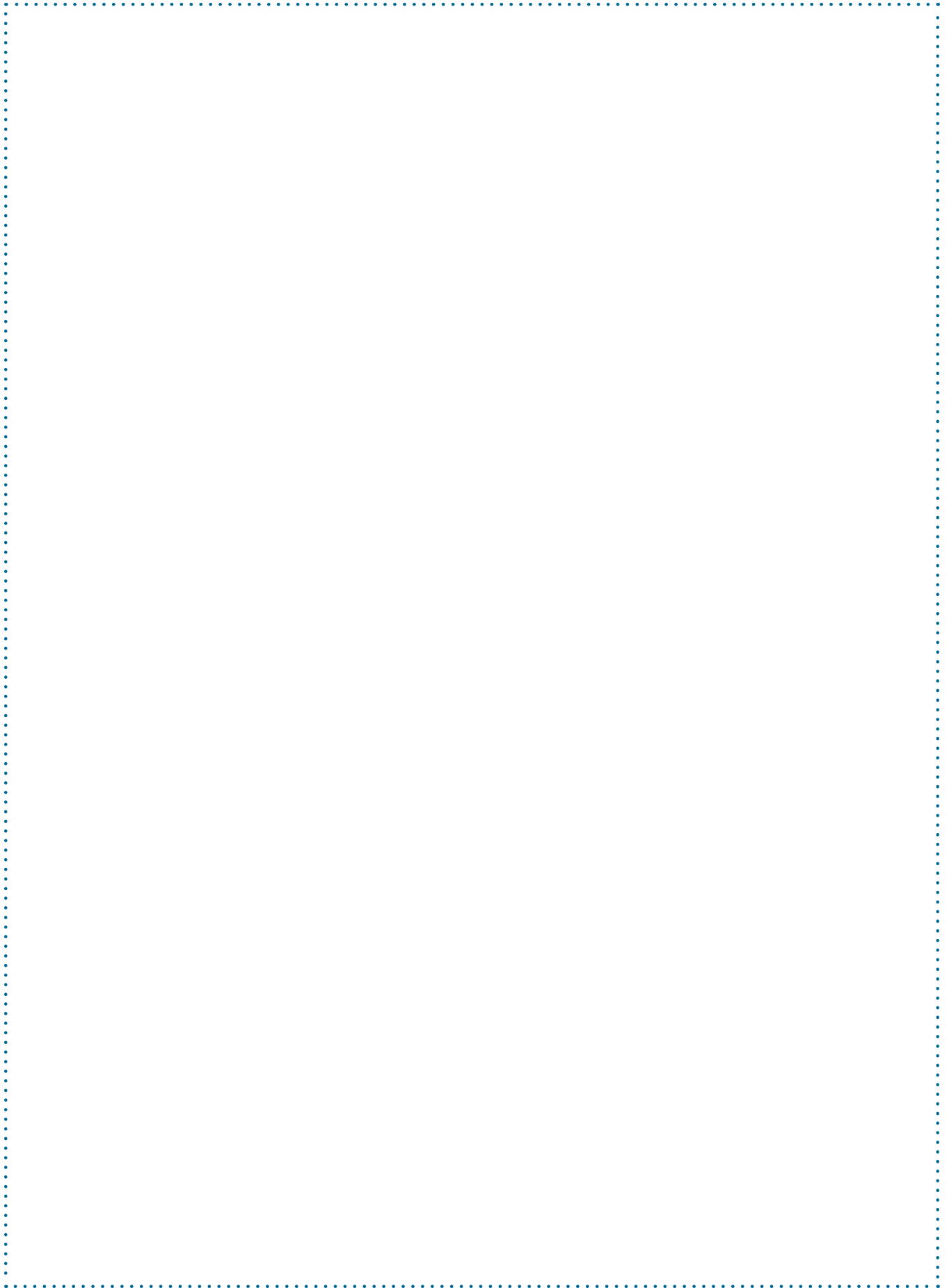
Current status: The New Hampshire Division of Historic Resources assisted CRJC and the Natural Resources Conservation Service with a major bank stabilization project to protect a key Post-Contact archeological site in Charlestown at the Fort at No. 4. Expanded excavations are underway in Jefferson, N.H. at an important site.

Appendix C: Credits

Local subcommittee chapters: the five newly updated recreation chapters are the result of 522 volunteer hours, over 450 of them invested by LRS members, and over 70 hours by commissioners. Efforts were powered by their personal dedication to the health of the river, faith that their contribution to this effort can have a positive impact in their towns, and 30 pounds of zucchini bread.

Ken Alton of TransCanada attended more than a dozen subcommittee meetings and spent many hours reviewing chapter drafts and advising on ice safety, water management for recreation, and the company’s management of its recreation facilities. N.H. DES responded effectively and quickly to answer the LRS questions about safety of swimming and other recreation, and provided a grant to underwrite CRJC’s work on the plan. EPA helped to support the 2004 Connecticut River water quality study that was the basis for determinations of swimming safety.

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