

RECREATION

Mt. Ascutney Region



Connecticut River Management Plan



2008

RECREATION
Mt. Ascutney Region River Subcommittee

adopted April 8, 2008

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Cover image: The “Hen and Chicks” on the Connecticut River,
looking downstream between
Plainfield, New Hampshire and Hartland, Vermont

Connecticut River Joint Commissions

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PREFACE

A Citizen-based Plan for the Connecticut River

The Mt. Ascutney Region's plan is a blueprint for stewardship of the Connecticut River – for communities, landowners, visitors, businesses, and agencies on both shores. Gathering together to create this plan for the Mt. Ascutney segment of the river were representatives from the towns of Plainfield, Cornish, Claremont, and Charlestown, New Hampshire, and Windsor, Weathersfield, Springfield, and Rockingham, Vermont. Hartland, Vermont did not participate.

The strength of the Mt. Ascutney Subcommittee's planning process lies in the diversity of its membership. These citizens, as directed by RSA 483, represent local business, local government, agriculture, recreation, conservation, and riverfront landowners. All of the recommendations of the Mt. Ascutney Subcommittee's plan represent the consensus of this diverse group of citizens.

Origin of the Connecticut River Management Plan

The Connecticut River Joint Commissions (CRJC) mobilized hundreds of valley residents and local officials to join them in nominating the Connecticut River into the New Hampshire Rivers Management and Protection Program in 1991-2. The New Hampshire Legislature subsequently designated the river for state protection under RSA 483, which authorized CRJC to develop a river corridor management plan. CRJC sought support from the Vermont Legislature as well, so citizens from both states could engage in planning for their shared river.

With backing from both legislatures, CRJC contacted select boards or city councils from the 53 New Hampshire and Vermont riverfront communities and asked them to nominate representatives to serve on five bi-state local river subcommittees. This partnership between local town representatives and the state commissions for the Connecticut River enabled CRJC to publish the first edition of the *Connecticut River Corridor Management Plan* in 1997, after five years of work by the Commissions and the five bi-state local river subcommittees. Since this planning process began in 1993, nearly 200 citizens have thus participated in the subcommittees' work. A summary of progress on the plan's recommendations for recreation appears in Appendix B.

A New Recreation Plan

Increasing attention to public recreation in the region prompted CRJC to ask the local river subcommittees to update and expand the 1997 Recreation chapter of the *Connecticut River Corridor Management Plan*. The Subcommittees have explored new topics, especially in land-based-recreation, in an attempt to portray and address the full range of recreation issues in the region.

Plan Process

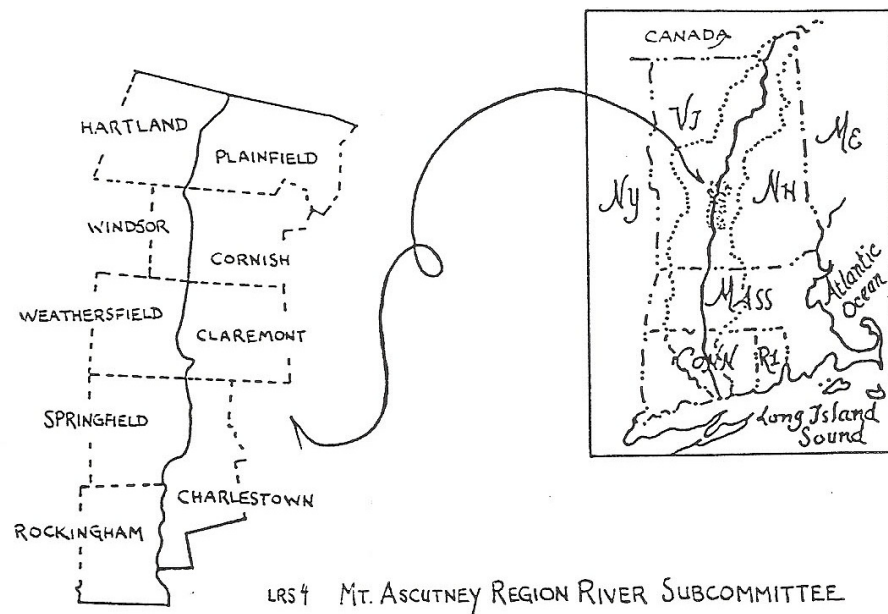
The Mt. Ascutney Subcommittee met at Windsor House and the Windsor Connection Resource Center throughout 2004 and 2005 to develop the new recreation chapter for this section of the river. CRJC's Conservation Director, who manages the five subcommittees' communications with each other, CRJC, and state agencies and organizations, transcribed the subcommittee's discussions to construct drafts of the plan, which the members revised and approved. Final updates were included before the plan was approved in 2008.

Scope of the plan

The Subcommittee has concentrated its planning upon the towns that border 39 miles of the Connecticut River in this segment. Recommendations are presented within each topic area, and are summarized in Appendix A, arranged by responsible party. Some are aimed beyond town boundaries, to guide state and federal agencies. The Subcommittee recognizes that proper care of the river is such a large task and important public duty that help from beyond the watershed is sometimes appropriate and needed from those agencies which share responsibility for the river.

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, and to cooperate with Vermont for the benefit of the valley. The Vermont legislature established the Connecticut River Watershed Advisory Commission in the following year. The two commissions banded together as the Connecticut River Joint Commissions (CRJC) in 1989, and are headquartered in



Charlestown, New Hampshire. The 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 broad goal is to assure responsible economic development and economically sound environmental protection. The thirty volunteer river commissioners, fifteen appointed by each state, represent the interests of business, agriculture, forestry, conservation, hydro power, recreation, and regional planning agencies on both sides of the river.

Acknowledgments

MT. ASCUTNEY REGION RIVER SUBCOMMITTEE

The following members and river commissioners participated in developing this recreation plan for the Mt. Ascutney Region:

Plainfield - Steve Halleran, Ted Moynihan, Nancy Franklin*

Windsor - Frank and Susan Anthony

Cornish - Susan Fitch, Jabez Hammond, Cheston Newbold*

Weathersfield - Steven Walasewicz*

Claremont - Bob Woodman, Allan Berggren

Springfield - Kurt Staudter (Subcommittee Co-Chair), Roger Marshall (former Subcommittee Chair), Ken Bishop*

Charlestown - Ted Putnam (Subcommittee Co-Chair), Janice Lambert

Rockingham - Tom Hernon, Margaret Perry

**Connecticut River Commissioner*

We are particularly grateful to the Town of Windsor for providing meeting space.

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NH Department of Environmental Services

National Oceanic and Atmospheric Administration

RECREATION ON AND ALONG THE CONNECTICUT RIVER

The river's return from years of pollution has enriched the recreational value of the river for valley residents and visitors. Swimming, fishing, boating, camping, hiking, bicycling, hunting, and wildlife observation along a cleaner, more appealing, and still relatively undeveloped river are now widely enjoyed and appreciated in the Mt. Ascutney region. The Mt. Ascutney River Subcommittee wishes to see the Connecticut River and its surroundings enjoyed as equitably as possible by the people of the Valley, both residents and visitors.

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. Many people enjoy ice fishing in the setbacks during the winter.

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, a designated Important Bird Area at a river confluence in Rockingham, provide pleasant areas for picnicking and watching wildlife.

For well over a century before the Connecticut River Byway made it official, the river corridor was a favored scenic route for a Sunday drive. Byway visitor centers are now introducing residents and visitors to recreational opportunities in the region.

Economic Value of Recreation - It is increasingly clear that protection of what we value about the Connecticut River and its tributaries supports an important aspect of local economic health as well as "quality of life." A wide choice of outdoor recreation opportunities within a few miles of home also offers opportunities for better public health.

Outfitters, merchants, campgrounds, motels, bed and breakfasts, and other businesses earn income from those who come to enjoy the Connecticut River. A 2007 study in New Hampshire (1) found that about \$379 million in total sales is generated by those who are fishing, boating or swimming in New Hampshire fresh waters, or about 26% 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. Interviews with users of 11 public boat ramps in the Dartmouth-Sunapee Region area, (none on the Connecticut River in the Mt. Ascutney region), found that 85% of anglers, boaters and swimmers say they would decrease their intended visits to the Dartmouth-Sunapee Region if water clarity and purity grew poor(er). For the purpose of this study, "water clarity and purity" include milfoil or other invasives, mercury, and algae. Of those who would decrease their intended visits, 23% would leave the state and 26% would leave the region. Approximately 9% would go to some unspecified location in New Hampshire, and 42% would remain in the region. Those recreationalists who would leave the state because of declining water clarity and purity would create a loss of 12%...a loss of about 35,000 visitor days.

The study found that overall, surface water recreation in the 33 towns in New Hampshire's Dartmouth-Sunapee tourism region generates over 100 jobs. These jobs equate to over \$2.6 million in personal income and almost \$7.5 million in business sales, totaling about 3.5% of the recreational revenue generated by anglers, boaters and swimmers in the state of New Hampshire. A perceived decline in water clarity and purity in the Dartmouth-Sunapee region would lead to a loss of almost \$1 million in business sales. While similar figures not available for Vermont, it is clear that Vermont residents and visitors are also enjoying these waters.

Several other studies confirm the economic value of the area's woods, waters, and wildlife for recreation. Wildlife-related recreation, including observing and photographing wildlife, fishing, and hunting, contribute dollars spent for trip-related expenses, equipment purchases, licenses, contributions, land ownership and leasing, guide services, and other items (2). 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 New Hampshire residents participated in wildlife-associated recreation.

Many more people spend money and time on wildlife-watching than on fishing or hunting. The same study found that 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 a remarkable 55 percent of Vermonters and 46 percent of New Hampshire residents 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.

A 2003 study (3) found that boating, fishing, and swimming in New Hampshire's rivers, streams, lakes, and ponds contribute up to \$1.2 billion to that state's economy each year, attracting visitors, generating spending, creating jobs and household income, and boosting tax revenue.

The National Wildlife Federation found in 1997 that water-based recreation in Vermont at the time was at least a \$109 million business, generating \$5.5 million in tax revenues. Fifty-two percent of the sampled statewide households participate in recreation activities along Vermont rivers. Ninety-two percent of outdoor recreation business respondents reported that continual improvements in clean water are important to their business. (4) The Vermont Data Tourism Center has found that outdoor recreation visitors spend nearly a third more than the average visitor when they come.(5)

BOATING

The northernmost 26 miles of the Mt. 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. This stretch is very popular with canoeists who savor the river's character and the fine scenery on the shores. The river here has a lively current, offering pleasant and easy paddling. Most is Class I, quick flatwater, with a few Class II riffles.

Sumner Falls, a series of ledges once proposed as a site for a hydro dam, attracts advanced kayakers to play and practice in heavy whitewater, but is a dangerous barrier for the canoeist or less experienced kayaker. A portage on the Vermont side, on land owned by TransCanada Hydro Northeast, offers a way to avoid this hazard and often serves as a starting or ending point for day trips. The area is popular with Dartmouth's Ledyard Canoe Club and other local paddlers on weekday afternoons and evenings as well as on weekends. The property will be conserved as part of the terms of the 2001 Settlement Agreement for the renewed federal license for Fifteen Mile Falls, a hydro power development many miles upstream.

Between the Ascutney Bridge and the Bellows Falls Dam, where the current slows as it enters the impoundment, the river is well used by power boats as well as canoes, and increased presence by Marine Patrol would help to increase safety for small boats. Boaters should watch for debris such as submerged or floating logs. Water skiing is inappropriate above the Cheshire Bridge because of the narrowness of the river. Local fire departments should have water rescue equipment available for river recreation emergencies at all seasons.

Flows in this section are dependent upon activity at both the Wilder Dam upstream and the Bellows Falls Dam at the foot of this segment, and the river may be quite shallow in some places in times of low flow. Paddlers should be aware that releases from the dams may result in sudden changes in water level and current. Boaters should avoid anchoring their boats below the Bellows Falls Dam due to the possibility of sudden releases of water.

TransCanada Hydro Northeast manages water levels in the Bellows Falls impoundment for recreation following the policy set by its predecessor, New England Power Company, in response to public request. During weekends from Memorial Day through the beginning of October, when 85% of river recreation occurs, the water level is kept at 289.6 feet (above mean sea level) from 4 pm Friday to midnight Sunday. The water level seldom reaches the limits of the dam's operating permit. By Monday mornings, with power generation for business activity resuming, dam managers return the impoundment to normal operating levels. These limits are not license restrictions, and there may be instances where circumstances dictate the need to deviate from these levels.

Boaters can check on water conditions at the Connecticut River Joint Commissions' web page on flow (www.crjc.org/riverflow.htm), which provides links to river gages and to the hydro power company's page on current and projected flows at mainstem dams.

Waterfalls, Cascades, and Gorges - The Mt. Ascutney reach of the river features quickwater, cascades and gorges on the mainstem and its tributaries. The Connecticut River cascades spectacularly over a series of ledges at Sumner Falls (mile 205) between Hartland and Plainfield. The river plunges again at the Great Falls between Walpole and Rockingham (mile 170), source of the name of the nearby community of Bellows Falls. There is a one-and-a-half-mile long portage trail around these falls, on the New Hampshire side. There are also several waterfalls and cascades on tributaries, including Lull's Brook Gorge and North Hartland Falls on the Ottauquechee River, 1/4 mile upstream from the Connecticut River in Hartland.

Boating Laws - New Hampshire boating law is in force on the Connecticut River. Boats may not exceed headway speed (no-wake, or 6 mph) within 150 feet (300 feet for ski craft) from shore, islands, bridges, other boats, swimmers, or floats. Boats towing water skiers may exceed headway speed when starting up if the safety of others is not endangered.

Consistent enforcement of boating laws is necessary, especially with expansion of boating access at Hoyt's Landing in Springfield. It would be beneficial for a Marine Patrol officer to be assigned full time to this region of the Connecticut River during periods of heavier boater traffic.

Boater Education and Responsibility- Better public awareness of boating laws will help improve public safety and the quality of the river experience. Fortunately, New Hampshire has now joined Vermont in requiring boater education. Both states include information on erosion impacts of boat wakes and how to avoid spreading invasive nuisances such as Eurasian milfoil and Zebra mussel.

Boating on the Connecticut River in Vermont and New Hampshire, a pamphlet published by the Connecticut River Joint Commissions and posted on their web site, indicates public access sites and those sections of the river too narrow for travel above headway speed.

Good stewardship by river users is also important for its continued health and value for recreation. The efforts of groups like the Black River Watershed Action Team to clean up this tributary make the river more enjoyable for all. All public river access points should have a place to post information for boaters, including river maps and advisories on boating laws and invasive species.

Boat landings in the region sometimes suffer from litter problems, and vandalism occurs at Herrick’s Cove, Sumner Falls, and Lower Landing at Charlestown. There are occasional conflicts when boaters' cars parked on private land interfere with movement of farm equipment.

KEY RECOMMENDATIONS

- NH 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.
- Boaters should obey boating laws, dispose of litter properly, park responsibly, and use designated public access to reach the river, rather than crossing private land.
- Managers of river access sites provide signage aesthetically in keeping with the rural nature of the region. Signage should be secure and large enough so that it is easily viewed. Herrick’s Cove especially needs better signage.
- Boaters and other citizens should participate in volunteer cleanups.

Boat Wakes and Riverbank Erosion - In addition to ensuring public safety, consistent boat speed enforcement protects riverbanks. Power boat wakes are one of the key causes of bank erosion on this part of the Connecticut River. The waves they create wash away soil at the base of the bank, undercutting it, particularly if it is unvegetated, and allowing the unsupported bank material above to collapse into the river. This reduces water quality and sometimes forces landowners into expensive riverbank stabilization projects.

Water Skiing

Boats towing water skiers sometimes use the portion of the river above the Cheshire Bridge where riverbank erosion is a problem, often in places too narrow to avoid legal travel far enough from other boats. Boats towing water skiers have right of way. Floating debris, particularly after heavy rains, can make water skiing dangerous on the river.

<p>State rules on water ski courses The NH Division of Safety Services’ Marine Patrol issues permits for water ski courses, and may deny an application if the location or configuration of the waterbody is inappropriate for the use.</p>
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KEY RECOMMENDATIONS

- Boaters should avoid creating boat wakes which erode riverbanks.
- NH Department of Safety should increase enforcement of boating speed laws, to minimize boat wake-induced riverbank erosion.
- Boats towing skiers should use only those areas of the river wide enough to allow a turn while maintaining skier speed, staying 150 feet from shore at all times except when getting underway and dropping off.
- Water skiers should refrain from water skiing north of the Cheshire Bridge.

Ski Craft and Personal Watercraft - The Connecticut River is not well suited to ski craft or personal watercraft, since it is not wide enough to allow them to travel above headway speed except in a very few areas. Add to that floating logs and other debris present in the river, and jet ski riders may discover that other water bodies are probably safer and more fun. Some people operate ski craft on the river at night, although it is extremely dangerous to do so. The Subcommittee discourages use of jet skis throughout the Mt. Ascutney segment of the Connecticut River.

These craft often travel further upriver than other small boats because of their shallow draft, although the river is too narrow to legally permit it. Although the Subcommittee does not recommend use of jetskis anywhere on the river, users should be aware that the only sections of the river in the Mt. Ascutney region that are wide enough for legal use of ski craft over headway speed are from a point one half mile above the Pine Street Boat Launch in North Walpole to the Cheshire Bridge, and for half a mile above the Cheshire Bridge to North Charlestown.

The rules for personal watercraft, also known as jetskis, 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 this state 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. These craft may not exceed headway speed within 300 feet from shore, islands, bridges, other boats, swimmers, or floats, and therefore require a river that is more than 600 feet wide.

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. Because they are currently defined as boats, they 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 as to which laws apply to which craft, and have made enforcement more difficult. The definition should be updated to apply the rules for ski craft to all personal watercraft, to simplify enforcement and to protect the sensitive river shoreline.

KEY RECOMMENDATIONS

- The New Hampshire General Court should pass legislation updating the definition of personal water craft to include all such craft under the definition of ski craft, retaining the 300' distance from shore as a requirement for travel over headway speed. The NH Department of Safety should support this legislation.
- Operators of personal watercraft should avoid using these craft on the Connecticut River, especially at night.

River Access - There are eleven boat launches in the Mt. Ascutney segment, including portages around Sumner Falls and the Bellows Falls Dam. Further access to the Connecticut River for canoes and kayaks is needed, as these craft do not travel as quickly as power craft. Access from tributaries could also increase the variety of canoe trips on the mainstem, and disperse the impacts of public use. The best opportunities for future river access may be where tributaries enter the river and slopes are gentler. State agencies should assist towns in setting up and maintaining access to the river, especially where federal transportation funds are used in transportation projects.

A 2003 survey in Southern Windsor County indicated that greater public access to the Connecticut and Black Rivers is a priority for area residents (8). Currently there is no public river access in Plainfield or Windsor, where the river is suitable only for very shallow draft boats. The above-mentioned survey indicated strong interest in better access to the Connecticut River for swimming, boating, and fishing, especially in Windsor, where a waterfront revitalization has been in the planning stages, and may include river access. The public Cornish Boat Landing just across the river currently serves the need.

The Subcommittee advises against creation of formal public river access in Plainfield for a number of reasons. Sites for suitable access are few because banks are typically steep in this section. There is a public car-top boat access in Lebanon just a few hundred feet upstream of the Plainfield line that provides ample opportunity for paddlers to reach the upstream part of Plainfield's section of the river, and the access at Sumner Falls in Hartland provides a means of reaching the lower part. Bald eagles returned to nest on the river in Plainfield in 2004 after an absence of many years, and adding traffic at a new boat launch could disturb the birds. Rampant growth of poison ivy is also a deterrent in this area.

Adequate public access to the Connecticut River for trailered boats already exists. 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. The Subcommittee believes that adding more access for trailered boats will create further boating conflicts and strain the already limited enforcement ability of NH Marine Patrol.

The hydro power company occasionally draws down water levels in the Bellows Falls impoundment to accommodate construction projects, such as on bridge abutments or rail line infrastructure, for projects that require much advance scheduling. In order to avoid difficulties for those using affected boat launches, the company can post notices of planned drawdowns at launch sites. Those planning events such as fishing tournaments are advised to check with the company to be sure there are no planned drawdowns that might affect the event.

KEY RECOMMENDATIONS

- Towns and state Fish and Game/Wildlife and Parks/Recreation agencies should avoid construction of further access points for trailered boats, since adequate access for these boats already exists in the areas of the river deep enough to accommodate them. If expansion of river access to New Hampshire waters is contemplated on the Vermont side, those responsible should confer with NH Marine Patrol.
- Managers of river access sites should better maintain the portable toilet facilities at these points.
- The Vermont Department of Fish and Wildlife should assist the town of Windsor in studying and creating appropriate sites for foot and car-top boat access to the river.
- Towns and state Fish and Game/Wildlife and Parks/Recreation agencies and the Connecticut River Byway Council should educate visitors to the region about visitor responsibility.
- Local fire departments should have water rescue equipment available for river recreation emergencies at all seasons.
- TransCanada Hydro Northeast and its successors should retain and conserve its property at Sumner Falls and ensure continued public access to the river here, provide safety signage indicating the level of skill needed to safely negotiate the rapids, and work with the Town of Hartland to discourage vandalism, overnight use, and littering.
- TransCanada Hydro Northeast and its successors should continue to maintain public river access at Herrick's Cove and the primitive canoe campsite at Lower Meadow.
- TransCanada Hydro Northeast and its successors should post notices at boat ramps before a scheduled draw down of the Bellows Falls impoundment.
- Organizers of river events should contact the power company to check whether there is a scheduled drawdown that might affect the event.

Public river access points in the Mt. Ascutney Region

TOWN	ACCESS NAME	TYPE OF BOAT	OWNER	RIVER MILE*	COMMENTS
Hartland VT	Sumner Falls	car-top boats	TransCanada Hydro Northeast	204	access both above and below the falls provides safe portage around the falls
Plainfield, NH					no public river access
Cornish NH	Cornish Boat Landing	trailed and car-top boats	NH Fish & Game Department	197	Steep, eroded ramp is difficult for most trailed boats. This access needs erosion control and a covered sign board for information. Notices are currently posted on a fence railing.
	North Star Canoe Rentals	car-top boats	private outfitter	196	fee; outfitter services available
Windsor, VT					no public river access
Weathersfield VT	Wilgus State Park	car-top boats	VT Division of Forests, Parks & Recreation	191	fee for parking
Claremont NH	Andrews Road	car-top boats	State of NH	192	very steep narrow path to river at site of former bridge to Ascutney
	Ashley Ferry Boat Landing	trailed and car-top boats	NH Department of Parks & Recreation	187	Has covered sign board and ample parking.
Springfield VT	Hoyt's Landing	trailed and car-top boats	VT Department of Fish & Wildlife	179	only Vermont site on the Connecticut River which offers a universal access shore fishing platform
Charlestown NH	Patch Park	car-top boats	Town of Charlestown	178	needs a signboard for public information
	Lower Landing	trailed and car-top boats	TransCanada Hydro Northeast	177	concrete ramp, seasonal dock, riparian buffer, picnic tables, parking, signpost
Rockingham VT	Herrick's Cove	trailed and car-top boats	TransCanada Hydro Northeast	173	concrete ramp, seasonal dock, riparian buffer, picnic tables, parking, signpost
N. Walpole NH	Pine Park	trailed and car-top boats	TransCanada Hydro Northeast	170	concrete ramp, seasonal dock, riparian buffer, picnic tables, parking, signpost

*River mileage is expressed here in distance from the mouth of the river at Long Island Sound. River mileage shown in *Along the Northern Connecticut River: An Inventory of Significant Instream Features* by MicroDATA Inc., CRJC, 1994, uses distance from the Massachusetts border, 134 miles from the Sound.

Invasive species - Hitchhiking on trailed boats is probably the most likely means for introducing invasive aquatics to the Connecticut River, and is also the most preventable. 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 therefore check their boats, trailers, and fishing equipment before launching in the river or its tributaries, to ensure they are not unwittingly introducing Eurasian milfoil, water chestnut, Zebra mussels, or other unwanted invasive exotic plants and animals into the Connecticut River.

Eurasian milfoil, found first on the Connecticut River at Hoyt's Landing by a member of the Mt. Ascutney Region River Subcommittee, has spread to many more places downstream. Water chestnut was discovered in 2003 at North Springfield Lake on the Black River, and is the target of an aggressive removal effort by the U.S. Army Corps of Engineers. The most recent unwanted arrival is the invasive alga *Didymo* in 2007, discovered upstream in the Connecticut River at Bloomfield, Vermont and in the White River. Herrick's Cove harbors the northernmost known population of curly pondweed on the river, as of this writing.

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 on the interstate for a boater or fisherman. Juvenile or larval mussels can hitchhike in anglers' bait bucket water and boat engine cooling water. Non-native baitfish and the exotic rusty crayfish are also nuisance animals that can become invasive if introduced when a bait bucket is emptied carelessly. These aquatic exotics reproduce rapidly as they do not have any natural local predators.

KEY RECOMMENDATIONS

- State environmental and fisheries agencies should continue to cooperate to better understand and address the Didymo infestation.
- River users must carefully clean their gear after visiting the Connecticut River and report sightings of invasive aquatic species to state agencies. Do not release unused bait into the water.
- Local outfitters and guides should educate their customers about Didymo and other invasives, and to clean gear.
- Boaters should check their boats and trailers before launching and after taking out of the Connecticut or its tributaries to avoid transporting milfoil, Zebra mussels, or other unwanted invasives.
- Managers of river access sites should post information about invasive plants and boat cleaning.

Docks - A number of private docks are installed on the Connecticut River mainstem, especially in Charlestown. While private docks may reduce pressure on public access points, they can affect the river as banks are cut, re-graded, and cleared of their natural buffer. This degrades the scenic quality of the river shore, particularly where shoreland owners have cleared trees and shrubs for a view of the river that in turn opens a view of shoreland development to river users. Docks also create a regular maintenance problem for landowners who must remove them each fall without further damage to the riverbank. Towns should consider how they regard this kind of river development. Leaving as much native vegetation as possible around a dock protects scenic qualities and the landowner's privacy, and safeguards the riverbank.

In contrast to a lake installation, docks on the river require some attention in engineering and design. Although impounded for a good part of its length in the Mt. Ascutney region, the Connecticut River is not a lake, and dock design must be able to handle regular water level fluctuations and occasional high flows and strong currents. Docks must be anchored and tethered securely to the shore and built so they can be easily removed and stored without damage to the riverbank. High water, which often comes in June after docks are installed for the season, sometimes carries them away, and each year some are torn loose and float down to the Bellows Falls Dam, where they are a nuisance to dam operations.

Ice damage to docks is common. Docks should be built so they can be easily removed in the winter. Dock owners should remove their docks by November 1, well before the river begins to freeze.

New Hampshire limits docks on rivers to seasonal structures of 6 feet by 30 feet for lots with 75 feet or more shoreline frontage. Docks on smaller lots are limited to 4 feet x 24 feet. Docks must be located more than 20 feet from the property line. New Hampshire does not permit structures such as decks over the water which transfer activities to the water that are usually associated with the land, such as sunbathing and picnicking. If stairs are desired for access to the dock, they must be no wider than 6 feet and constructed over the bank in a way that does not require regrading or re-contouring.

There is currently little control over dock installation on the Vermont shore, since New Hampshire jurisdiction extends to the low water mark on the Vermont side. The situation is further complicated by the fact that the state line has been inundated in some places by dam impoundments. Both states have been reluctant to apply dock rules to this apparent no-man's land, leaving the shoreline vulnerable to uncontrolled development. For the sake of consistency, Vermont should adopt rules for docks on the Connecticut River similar to those established by New Hampshire. Unlike New Hampshire, Vermont still has no statewide shoreland protection law, although some towns have ordinances in place.

KEY RECOMMENDATIONS

- 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 state boundary lies in each town and where the rules apply.
- Towns should consider adopting local control of docks, especially in Vermont in the absence of state oversight of dock construction. Towns should consider and adopt shoreline protection, and encourage retention of riverbank vegetation for its scenic value and many other benefits.
- Regional planning commissions should draft a model ordinance on dock construction for towns.
- Dock owners should remove their docks by November 1, well before the river begins to freeze.
- The states should consider establishing a date for dock removal similar to the date in effect for ice fishing houses. Alternatively, towns could advise riverfront landowners to take in their docks when the floating safety lines at the Bellows Falls Dam are removed at the end of the recreation season.
- Property owners considering a dock should check with NH DES to see if they can file a Seasonal Dock Notification or whether a permit is needed.
- Dock owners should retain as much vegetation in the riparian buffer as possible, to protect the shore from erosion and the preserve the scenic appearance of the riverbank.

Outfitters and Marinas - Several outfitters offers canoe livery services, river access, and river tours, from bases at Balloch's Crossing in Cornish and the Windsor Industrial Park. 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, which could threaten water quality and create boat traffic congestion which could then stimulate bank erosion.

KEY RECOMMENDATION

- Towns and state agencies should discourage further development or expansion of instream marinas.

SWIMMING

Public swimming access is limited in this segment by steep banks and private land ownership. Sumner Falls and a natural beach on the Student Conservation Association property in Charlestown are commonly used for swimming.

Water Quality for Swimming - Island beaches, rope swings, and hot summer days invite swimming in the river, although at this writing, the water is not always safe for swimming, at least in the northernmost ten miles of the Mt. Ascutney segment. Below Blow-Me-Down Brook to the Bellows Falls Dam, the river is considered safe for swimming and other recreation.

In preparation for the update of this plan, and at the request of the Connecticut River Joint Commissions, the New Hampshire Department of Environmental Services, assisted by the Environmental Protection Agency, conducted an assessment of the entire river in New Hampshire in 2004. NH DES added a sampling location at Sumner Falls in order to better understand water quality in this section.

While no bacterial contamination was present during the five days of sampling in 2004, the State of New Hampshire still considers that combined sewer overflows (“CSOs”) in the wastewater collection systems serving White River Junction and Lebanon, discharging to the White and Mascoma Rivers, render the Connecticut River unsafe for swimming from the confluence of the White River to Blow-Me-Down Brook in Cornish. CSOs can allow runoff from a heavy storm to mix with untreated sewage, sending it into the river. River contamination is therefore more likely during and immediately after heavy rainfall.

The part of the river considered threatened by CSOs includes Sumner Falls, where kayakers and swimmers often immerse themselves. The area just upstream also receives treated wastewater from the three plants serving Hanover, Lebanon, and White River Junction. Bacteria can also reach rivers through poorly functioning septic systems and through runoff, such as drainage from a pasture or stormwater washing over a city street where dog walkers do not pick up after their pets. Failures at several wastewater treatment plants upstream in the Connecticut River watershed have closed tributaries to swimming or threatened contact recreation for short periods of time in the past. Working under a grant from EPA, volunteer water quality monitoring in 2008 and 2009 will gather more information on the threat of combined sewer overflows to swimming and other recreational river use, and share results with local officials and the public.

Unusually algae blooms at the mouth of the Black River near Hoyt’s Landing, which were a nuisance for many years, are becoming a thing of the past now that Springfield has updated its wastewater treatment plant’s discharge to remove most of the phosphorus.

There is incomplete information about the quality of tributaries entering the Connecticut River in this region. It is not known whether it is safe to swim in Hanchett and Beaver Brooks in Plainfield, Cornish’s Dingleton, Mill, and unnamed brooks, or Charlestown’s Meadow, Gully, Ox, Beaver, Dickerson, and Hackett Brooks. A 0.36 mile segment of Blow-Me-Down Brook is known to be safe for swimming, as are Hibbard Brook in Plainfield, the lowest mile of Charlestown’s Clay Brook, and the Little Sugar River in Charlestown, but much of the Sugar River in Claremont is not, due to bacteria from unknown sources.

Of Vermont tributaries in this region, the Ottauquechee River below Hartland Dam and Lull’s Brook in Hartland, Windsor’s Mill Brook, and Weathersfield’s Spencer Brook may not be safe for swimming due to bacteria from horses and cows that pasture near these streams, and also from unknown sources. Weathersfield’s Mill, Blood, and Barkmill Brooks appear to have excellent water quality. More will be known once the state’s basin planning for these streams proceeds.

KEY RECOMMENDATIONS

- State environmental agencies should assist towns with elimination of combined sewer overflows and improvement of water quality, to ensure that the river becomes safe for swimming once again north of Blow Me Down Brook.
- Towns should consider and adopt shoreline protection and encourage retention of riverbank vegetation for its scenic value as well as for its role in protecting water quality for recreation.
- Wastewater treatment plant managers should notify the public immediately if there is a suspected water quality violation at a plant during the summer recreation season.
- Landowners should obey the Comprehensive Shoreland Protection Act in NH, and avoid cutting and leaving slash near riverbanks.

RIVER CAMPING / CONNECTICUT RIVER WATER TRAIL

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 Mt. Ascutney region and beyond, beginning in 1992. Others, including the Student Conservation Association and TransCanada Hydro Northeast, also own and maintain riverfront campsites for public use. Many are maintained by volunteers, such as town conservation commissions or scout groups.

Experience has proven the value of designated sites in carefully selected locations, to help focus recreational use in places that can be monitored, and reduce unauthorized camping and trespassing in places where campers are not welcome. The campsites are intended for canoe and kayak access from the river only, and land-based access is prohibited. There is no charge for use of the sites, which are available on a first-come-first-served basis, with a limit of two nights' stay per site. Because of the increasing use of the sites, the Subcommittee recommends that stays be limited to one night. In the past, homeless people have been using several of the campsites in this area on an extended basis, and enforcement is needed.

Wilgus State Park, on the river in Weathersfield, offers camping and is accessible from Route 5. There are also several private commercial campgrounds in the area in Weathersfield and Springfield. Area residents have expressed interest in more primitive camping areas, including for winter use.

Island camping -- Islands make convenient camping locations, since they offer relative privacy and are not easily accessible by land for casual use. Not all islands in the Connecticut River are open for camping, however. Hart Island in Windsor is closed to camping due to the presence of several rare and threatened plant and animal species. An illegal campsite on Chase Island in Cornish, owned by the NH Fish and Game Department, has become overused by campers who come largely from Windsor and stay for the summer, creating a human waste problem that threatens water quality. Horses spend much of the summer on this island as well, swimming from a nearby Cornish farm.

Unauthorized camping at Hubbard and Jarvis Islands in Claremont has become a problem for the landowner, and the Student Conservation Association is working on diverting these campers to the SCA sites. Hubbard Island supports several large populations of rare plants, including a federally endangered sedge, which are vulnerable to trampling. In general, campers should avoid the upstream ends of cobble islands in the river that, in the Mt. Ascutney region, are home to the federally endangered Cobblestone Tiger Beetle.

Canoe campsites open to the public in the Mt. Ascutney Region include:

TOWN	CAMPSITE NAME	CAMPSITE MANAGER	RIVER MILE	CAPACITY	AMENITIES
<i>Plainfield NH</i>	Burnap's Island	Plainfield Conservation Commission	207	8	Cleared tent site, box privy, fire ring managed by Upper Valley Land Trust island owned by the Town of Plainfield
<i>Windsor VT</i>	Burnham Meadow	Upper Valley Land Trust	200	Accommodates large groups	Cleared tent site, box privy, fire ring, picnic table
<i>Weathersfield VT</i>	Wilgus State Park	VT Department of Forests, Parks & Recreation	191	Maximum 8 people/site	Accessible from Route 5. Fees apply for tent sites and lean-to sites, and there are additional charges for more than 4 people/site.
<i>Charlestown NH</i>	Student Conservation Association	Student Conservation Association	184	2 small sites	
	Lower Meadow	TransCanada Hydro Northeast	174	10+	Composting toilet and platforms. Not for extended stays. Campers should bring fuel for cooking and should check with local fire wardens before considering open fires.

*River mileage is expressed here in distance from the mouth of the river at Long Island Sound. River mileage shown in *Along the Northern Connecticut River: An Inventory of Significant Instream Features* by MicroDATA Inc., CRJC, 1994, uses distance from the Massachusetts border, 134 miles from the Sound.

KEY RECOMMENDATIONS

- Land trusts should continue to monitor use of their canoe campsites, particularly on potentially sensitive islands.
- Land trusts and others interested in creating new canoe campsites should continue to confer with state agencies on campsite layout and management plans and to avoid conflicts with archeological or natural heritage inventory sites.
- Paddlers should help monitor campsites and avoid camping on Hubbard and Jarvis Islands and walking on the upstream ends of cobble islands.
- NH Fish and Game Department should address the human waste problem and unauthorized camping at Chase Island.

FISHING

Fishing is nearly a year-round sport in the Mt. Ascutney region, particularly on the Connecticut River at Hoyt's Landing and in river setbacks popular with ice fishermen. The tributaries offer fine fishing for cold water 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. New Hampshire fishing licenses or Vermont resident licenses are required for the Connecticut River, and allow fishing on the tributaries on both sides of the river up to the first bridge crossing.

Fishing in a river managed for hydro power production - Fishermen must be aware that water levels can change with little or no warning on the Connecticut River, as gates are opened at Wilder and Bellows Falls Dams. While TransCanada has sirens, audio warnings, and flashing lights at each of its dams to alert river users of water releases, fishermen are often caught by surprise as the water rises, inundating the sand bar they intended for their path home or altering the current around their feet. While the company provides a phone recording and internet site to announce expected water levels, these are often inaccurate as power pricing conditions change, and fishermen cannot rely upon them.

Fish tissue toxins - While fishing is good sport, the quarry is no longer completely safe for eating. Mercury, delivered primarily by prevailing westerly winds, has entered the food web and accumulated in resident fish to the point where the State of New Hampshire considers the entire Connecticut River system, and others in our region, to be contaminated with varying levels of mercury and has issued fish consumption guidelines. Congress and the states should act to reduce the amount of air-borne mercury delivered to the Connecticut River Valley.

In 2000, the U.S. Environmental Protection Agency worked with the four Connecticut River states to conduct a comprehensive fish tissue toxin study (9). This landmark study, which may be the first river-wide study of fish tissue in the nation, represents significant cooperation among the four states, each of which contributed substantial funding and staff. The concept for the study comes directly from the public, raised in the 1997 *Connecticut River Corridor Management Plan*, and stimulated by a question from Springfield's representative to the Mt. Ascutney Region River Subcommittee.

Biologists sampled white sucker, yellow perch, and smallmouth bass from eight sections of the Connecticut River, choosing fish species that represent different levels of the food chain and are widely found in most of the 410 mile long river. Smallmouth bass, yellow perch and white suckers were collected during 2000 from the mainstem of the Connecticut River and composite samples were analyzed for total mercury, coplanar (dioxin-like) PCBs and organochlorine pesticides, including DDT and its breakdown products. EPA banned the use and manufacture of PCBs in the U.S. in 1977. DDT use was severely restricted by EPA in 1972 after application of over 1.3 billion pounds during the previous 30 years. Dioxins and PCBs break down very slowly in the environment and bio-accumulate in food chains.

Mt. Ascutney Region fish were sampled as part of Reach 5 (Wilder Dam to Vernon Dam). In this reach, mercury in fish is a threat to subsistence fishers and to fish-eating birds and mammals, but not to recreational fishers. Dioxin-like PCBs pose a risk to recreational and subsistence fishers and to fish-eating mammals and fish-eating birds. DDT and related breakdown products pose a risk to human subsistence fishers and to fish-eating birds, but not to recreational fishers or fish-eating mammals.

The study found that total mercury concentrations in all three species of fish were significantly higher upstream than downstream. Risk from PCBs was generally lower in upstream areas than in downstream areas, although this varied by fish species and was different for the humans, mammals, birds or fish that eat them.

Lead fishing tackle is also a source of waterfowl and loon poisoning. The states of New Hampshire and Vermont prohibit use of lead sinkers weighing one ounce or less and jigs less than one inch long on all fresh waters to protect wildlife from this toxic substance. Loons that eat lead tackle usually die within a matter of weeks. Fishermen should replace their tackle immediately.

KEY RECOMMENDATIONS

- 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.
- Fishermen should be alert for changing water levels when fishing on the mainstem, and avoid relying upon published predictions of water levels. Replace lead sinkers and jigs with safe tackle.

New Hampshire Fish Consumption Guidelines: pregnant and nursing women, and women who may get pregnant, can safely eat one 8-oz. meal of freshwater fish per month. Children under age 7 can safely eat one 4-oz. serving per month. All other adults and children age 7 and older can safely eat four 8-oz. meals per month of freshwater fish. Bass and pickerel should be 12 inches or less in length while following the above guidelines. Advisory does not apply to stocked fish. For rainbow and brown trout, women of childbearing age and children can safely eat one meal per week, others can eat 6 meals per week. Brook trout could be either stocked or from a reproducing population, therefore they should be consumed at the rate of the general statewide advisory.

Fishing tournaments - The Connecticut River's Bellows Falls impoundment is a popular location for fishing tournaments, drawing boats from all over New England. Tournament organizers are required to notify the NH Fish and Game Department in advance. Tournament organizers should also check with the hydro power company to be sure that there are no scheduled draw downs that could make launching difficult on the day of a fishing tournament.

The influx of out-of-state boats at such events greatly increases the risk of delivering invasive exotics to the Connecticut River system. Tournament organizers should arrange boat and trailer checks before boats are launched in the river, and be certain that participating fishermen, who may not be familiar with the area, understand and obey Connecticut River boating laws, especially with respect to legal speed and distances from bridges, islands, other boats, swimmers, and fishermen. Since there is milfoil in this part of the river, tournament participants should also check their boats and trailers for clinging plant fragments after taking their boat out of the river, to avoid transporting milfoil to another water body. The arrival of Didymo in the river system means that all fishermen must carefully clean their gear after using it in the river.

KEY RECOMMENDATIONS

- NH Marine Patrol should make a special effort to be present at fishing tournaments.
- Fishing tournament organizers should notify the NH Fish and Game Department well in advance of an event and inform visiting fishermen of boating laws on the Connecticut River, especially with respect to legal speed. They should contact TransCanada Hydro Northeast to be sure that there are no scheduled draw downs that could make launching difficult on the day of a fishing tournament, and arrange for boat and trailer checks before boats are launched in the river and after they are removed, to avoid spreading invasive aquatics.
- Fishermen must clean their gear carefully to avoid spreading Didymo.

LAND-BASED RECREATION

Walking and trail activities are the most popular form of recreation in the United States for all age groups, according to research in 2003. In New Hampshire, half of recreation takes place within ten miles of home. (6) It comes as no surprise that the most common recreational activities in New Hampshire (walking, wildlife observation, and hiking) require plenty of open space. States should look into creating accessible facilities.

Similar research in Vermont in 2002 (7) showed that the most popular recreational activities are hiking in the warm-weather months, and downhill skiing, followed by cross-country skiing and snowshoeing, in the winter. A higher percentage of Vermont's residents enjoy watching wildlife than any other in the country. A separate survey in Southern Windsor County revealed public interest in more inter-generational recreation opportunities, as the population ages, as well as better accessibility for residents and visitors with disabilities. (8)

Private Lands and Landowner Liability - People in the Connecticut River Valley have long been able to walk, hike, snowmobile, hunt, and ski on land belonging to others, with the understanding that they would leave no trace and respect the property. This long-standing tradition is now threatened as the land is developed and posted, closing off recreational opportunities to many. For example, the number of posted acres in Windsor County increased from 1083 in 1991 to 25,960 in 2004, a change of 2296%. (9)

Fear of liability is often cited as a factor in the decision to post land. Landowners should be aware that both New Hampshire and Vermont have enacted laws protecting private landowners who open their land to the public for recreation, if the landowner has not charged a fee for this access and has not purposefully created a hazard. Both states have blanket \$2 million policies to defend landowners from suits for use of state official OHRV trails maintained by recreation clubs for winter use, but this does not yet apply to summer use.

Land assessed under the Current Use program in New Hampshire is eligible for a 20% extra reduction if it is open for public recreation. Landowners do not have to allow motorized recreation or hunting to qualify.

KEY RECOMMENDATIONS

- Fish and Game/Wildlife and Parks/Recreation agencies should educate visitors to the region about visitor responsibility.
- Fish and Game/Wildlife and Parks/Recreation agencies, conservation commissions, and recreation groups can help inform landowners about the benefits of leaving land open to the public and the liability protections offered by existing laws.
- Recreation groups should provide monitoring, trail watches, and peer education, and encourage local stewardship of recreation areas including campsites, trail heads, and trails.

Land Protection for Recreation - Trails and other open space for active or passive recreation require plenty of space where the public is welcome. As development continues in the region, more and more land that was previously open to the public is becoming subdivided, sold, and posted. The riverfront is especially threatened.

Conserving land brings new opportunities for public recreation, and the Upper Valley Land Trust has emphasized this benefit in a recently expanded section of its web site that provides information on trails open to the public on conserved lands.

There are several federal and state programs, such as the Land and Water Conservation Fund, the Transportation Enhancement Act program, the federal Scenic Byway Program, and the Vermont Housing and Conservation Board that can help communities protect scenic views and create trails and other recreation assets. New Hampshire's Land and Community Heritage Investment Program ("LCHIP"), which was established in part to help protect land for public recreation, has not been fully funded. The New Hampshire legislature should ensure adequate funding for LCHIP, and towns should take advantage of this and other opportunities to protect land for public recreation and open space.

A 2003 survey by New Hampshire (6) found stronger public interest in funding for non-motorized activities than for motorized activities, and more enthusiasm for land, water, and species protection than for recreation development. A similar survey by Vermont (10) showed 91.6% of Vermonters felt it was important to provide opportunities for non-motorized recreation, and 63.6% felt it was not important for the state to provide opportunities for riding motorized recreation vehicles.

A 2002 study (11) found that 70% of Vermonters and 72% of New Hampshire people 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% of Vermonters said access to the forests of northern New England is very important for hiking, but only 21% and 28%, respectively, felt such access was very important for snowmobiling. With regard to designating more areas for non-motorized wilderness-like recreation, 68.5% of Vermonters agreed or strongly agreed.

(7)

KEY RECOMMENDATIONS

- The New Hampshire General Court should ensure adequate funding for LCHIP.
- Regional planning commissions should coordinate multi-community recreation and open space plans.
- Land trusts should continue their work in land conservation, providing public recreation access where appropriate.

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 in Windsor, West Windsor, and Weathersfield are perhaps best known. Energetic conservation activity by generous landowners working with the Upper Valley Land Trust has led to permanent protection of most of the trail network on Mount Ascutney, which offers stunning views of the river valley. Trails at Saint-Gaudens National Historic Site in Cornish are also receiving more use.

The increasing popularity of hiking, skiing, and snowshoeing is resulting in a need for better parking at trail heads. There is interest in maps of trail systems and in more primitive upland camping opportunities, and a "ring" trail around Mount Ascutney, with parking and picnic tables. A Southern Windsor County survey in 2003 revealed that area residents desire more trails and bikeways. (8)

Trail erosion can become a water quality concern, especially where trails run near small headwater streams. Hikers should avoid trails in wet conditions, especially when paths are saturated from snow melt and rain. Trails require special care between sugaring season and Memorial Day to prevent erosion and damage. Since higher elevation soils take longer to dry out, hikers should observe the Green Mountain Club guidelines, which advise staying below 1000' until May 1, below 2,000' until May 15, and below 3,000' until Memorial Day. Signs explaining the reason for such care should be posted at trailheads. Hikers should help maintain the trails they enjoy.

To protect wetlands and streams from trail erosion, both states now have rules in place for trail construction. In New Hampshire, if trail construction or maintenance is to cross a surface water or wetland, DES requires a "Notification of Trail Activities Having Minimum Impact" or possibly a wetlands permit. Trail builders should use "Best Management Practices for Erosion Control During Trail Maintenance and Construction," developed in 1994 by the NH Department of Resources & Economic Development. In Vermont, permits from the Water Quality Division of the VT Agency of Natural Resources are required for trail stream crossings. Projects should be reviewed by a stream alteration engineer. Any work in wetlands requires a Conditional Use determination, and possibly a permit. Paths with hardened surfaces and those disturbing over one acre require a Construction General Permit and development of an erosion prevention and sediment control plan. Consult the Vermont Trails and Greenways Council Manual (2005).

KEY RECOMMENDATIONS

- Towns should consider establishing trails on town properties, creating guides to these lands, and organizing trail maintenance activities with help of conservation commissions. They can explore federal and state funding programs, such as SAFE-TEA, to create trails and other new recreation opportunities.

- Conservation commissions should encourage snowmobile groups, Upper Valley Trails Alliance, and other recreation groups to provide monitoring, trail watches, and peer education.
- Recreation groups should post signs at trailheads advising hikers to avoid the trails during mud season or when trails are very wet.
- Citizens should avoid hiking or riding on trails in wet conditions, especially when exposed soils are saturated from snow melt and rain, and should volunteer to help with trail maintenance for their chosen form of recreation, whether it's hiking, mountain biking, cross country skiing, or snowmobiling.

Sugar River Rail Trail - The Sugar River Rail Trail runs 9.5 miles from Claremont to Newport. This multi-use four season trail is open to ATVs and dirt bikes.

Bicycling - Bicycling is an increasingly popular family and touring sport in the region. The river roads are especially attractive routes for their easy cycling and fine river views. The Toonerville Trail, a three-mile, shared-use path on a former trolley line along the Black River, opened in 2000 and runs from a trail head parking area near the Cheshire Bridge to the center of Springfield. The trail has quickly become very popular, and hosts cross country skiers in winter and pedestrians and cyclists in summer.

Safe traveling for cyclists in the region is sometimes a concern, and some major roadways require wider shoulders to accommodate cyclists. Route 5 is popular for bicycle touring but dangerous because of narrow shoulders. Bicycle lanes are needed here.

A connecting network of bicycle paths and tour routes should be identified in the valley, described on published maps. The Connecticut River Byway Council could promote a network of bicycle routes in the region.

Non-motorized, foot-pedaled mountain bikes can cause erosion on steep trails under certain conditions, since their tires are outfitted with nubs to give them greater traction for rough terrain. Cyclists should stay on trails that are hard enough to sustain this use, and avoid cycling on steep foot trails or in wet conditions when their tires are more likely to leave ruts and cause permanent trail damage. Off-road biking is a water quality concern especially in spring before trails have dried out.

KEY RECOMMENDATIONS

- 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 Scenic Byway Council should promote a network of bicycle paths in the valley. Bicycle tour routes should be identified for the area, and published with maps.
- Mountain bikers should stay off trails until Memorial Day, when the trails have had a chance to dry out, and be prepared to volunteer to help maintain local trails where they ride.

The Connecticut River Birding Trail - 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 in riverfront towns from Rockingham to Haverhill, was established in 2001. A descriptive color map describes the sites and birds likely to be observed. Several groups have worked together to extend the Connecticut River Birding Trail both north and south of the region, to establish a river-long network of birding and nature observation sites where the public is welcome to explore and enjoy the area's natural heritage.

Herrick's Cove, a key stop on the trail, is a designated Important Bird Area, and offers high quality resting and feeding habitat for migrating birds. Two hundred twenty one species have been recorded here. Herrick's Cove also hosts a popular annual wildlife festival sponsored by the Ascutney chapter of the Audubon Society and the landowner, TransCanada Hydro Northeast. The increase in visits to Herrick's Cove by birders has resulted in a significant decrease in vandalism at this popular recreation area.

Birding Trail stops in the Mt. Ascutney region are:

Plainfield, NH - French's Ledges, Helen Woodruff Smith Bird Sanctuary

Hartland, VT - North Hartland Lake

Cornish, NH - Saint-Gaudens National Historic Site

Windsor, VT - Ascutney State Park, Lake Runnemedede, Paradise Park, Marton Road

Springfield, VT - North Springfield Lake

Rockingham, VT - Herrick's Cove

Valley Quest - Vital Communities of the Upper Valley has created an innovative form of recreation in the region, a series of treasure hunts known as Quests. Often developed in cooperation with local schools, Quests share the natural and cultural history of the region using hand-drawn maps and riddle-like clues to lead to special places such as remote lakes, historic landmarks, and forgotten cemeteries. Those interested in creating their own quests can refer to *Questing: A Guide to Creating Community Treasure Hunts*, 2004.

Quests in the Mt. Ascutney Region:

Plainfield, NH - Plainfield Village, French's Ledges

Hartland, VT - Three Corners, Lull's Nature Trail

Cornish, NH - Blacksmith Bridge, Blow Me Down Mill, Trinity Church, Wyman Sawmill, Cornish Flat, C.R.E.A. Quest

Windsor, VT - Constitution House, Historic Windsor, North Main Street, Paradise Park, Kestrel Quest, Old South, Windsor Architecture

Weathersfield, VT - Crystal Cascade

Charlestown, NH - SCA Quest, Old Fort at No. 4

Springfield, VT - North Springfield Bog, Springweather A and B, Springfield Choices

Rockingham, VT - History Quest in Bellows Falls, Rockingham Meeting House, Herrick's Cove Bird Quest

All-Terrain Vehicles - Registrations of all off-highway recreational vehicles more than doubled in New Hampshire between 1996 and 2003, and ATV numbers are increasing by 10-15% per year. All vehicles must be registered if used off the owner's property, and cannot be used on private land without written permission of the landowner.

Most private landowners do not welcome ATVs on their property, because they cause erosion, degrade wetlands, disturb wildlife, and could spread invasive species. Landowners near ATV trail systems report that riders sometimes stray onto their property and leave gates open. Vermont and New Hampshire laws restrict OHRVs from driving through wetlands and surface waters, but these laws are not always obeyed. Compared to foot traffic, mechanical travel by ATVs, dirt bikes, and other machines creates damage which can be especially harsh depending on the season. Private landowners need to know about the effects of allowing trails over streams on their land. However, if used responsibly, ATVs can provide enjoyment to those who want to explore the woods this way, and they do help to keep trails open and the brush down.

There is rising demand among ATV riders for trails similar to those used by snowmobiles in winter. In New Hampshire, the state manages 250 miles of ATV trails including some on state lands. The Sugar River Rail Trail from Claremont to Newport is open to ATVs and dirt bikes. In Vermont, ATVs are prohibited on nearly all public lands. There is growing pressure to open up public lands and develop trails on private lands. Proposed trails on 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. Snowmobile clubs present a good model for ATV riders.

An adequate mandatory registration fee could provide enough funds to build trails and provide law enforcement. Part of this registration fee could also be dedicated to a landowner restitution fund to which landowners can apply for reimbursement if they have sustained damage from OHRVs. Riders should also be required to be members of a statewide ATV organization which would provide education and training. While boaters and drivers are required to pass a safety education course, there is no such requirement for ATV riders. Penalties for eluding an officer should be meaningful.

Some believe that the NH state park funding system created in 1991 has resulted in a culture of dependency on motorized users, since the Trails Bureau must rely on registration fees for snowmobiles and other OHRVs. Because NH Fish and Game does not have the manpower to enforce responsible riding, it is now making grants to towns to help them take over enforcement responsibility. Towns should consider applying for these funds if they are experiencing a problem. Town officials and landowners should contact Fish and Game if a problem occurs, and should make their concerns known to their legislators.

Trails in both states should be consistent with local planning and zoning, and a community should have the authority to impose more stringent regulations on private lands which are part of the state trail system.

KEY RECOMMENDATIONS

- The New Hampshire General Court should identify a new source of funding for the Trails Bureau that will allow it to equally serve non-motorized users.
- State Fish and Game/Wildlife and Parks/Recreation agencies should develop ATV trails on state lands only after ample public discussion, and if the responsible state agency can adequately monitor the trails with active cooperation from a local club. They should educate private landowners about the effects of allowing OHRV trails over streams on their land, and set a mandatory ATV registration fee adequate to provide funds to build trails, provide law enforcement, and create a landowner restitution fund to which landowners can apply for reimbursement if they have sustained damage from OHRVs.

- States should require a safety education course for ATV riders similar to boater and hunter safety courses, and require ATV riders to be members of a statewide ATV organization which would provide training. They should set a meaningful penalty for eluding an officer on an ATV.
- Towns should ensure that ATV trails are consistent with local planning and zoning, and consider more stringent regulations on local private lands which are part of the state trail system.

Hunting - Hunting as a recreational pastime has decreased in recent years, although it is still significant. In Vermont, 81% of hunting takes place on private land, and 76% in New Hampshire, with the remaining hunting on public land. These statistics confirm what many already well understand: that respect for private landowners and courteous use of their land is the key to keeping private land open for hunting. Hunters in both states notice an increase in posting of private land against hunting. Hunters should seek permission from landowners who have not posted their land.

The Connecticut River’s role as a migratory flyway brings a wealth of waterfowl to the river each spring and fall, especially to the shallow waters of “setbacks” at the mouths of tributaries, such as Herrick’s Cove. New Hampshire and Vermont have enacted reciprocal migratory waterfowl hunting rights for licensed waterfowl hunters in the Connecticut River Zone. A person holding either a Vermont or a New Hampshire resident hunting license which allows the taking of migratory waterfowl and coots may hunt them in this area.

In some areas frequented by migrating waterfowl, there are homes located close to the water. Hunters should be aware that in New Hampshire, no one may discharge a firearm within 300 feet of a permanently occupied dwelling without the landowner's permission.(RSA 207:3-a). In Vermont, a property owner may establish a 500' safety zone around any occupied building, using signs provided by the VT Fish and Wildlife Department. Vermont law does not provide for a mandatory safety zone around a building.

The Connecticut River Zone for waterfowl hunting in this region includes that portion of New Hampshire lying west of the line defined by Route 12 and Route 12-A. In Vermont, this zone lies east of Interstate 91. Hunters on the Vermont side of the Connecticut River Zone must follow New Hampshire regulations.

KEY RECOMMENDATION

- Hunters should seek permission from landowners who have not posted their land, and demonstrate respect and courteous use of their property.

Winter recreation - Snowmobiling, skiing, snowshoeing, pond skating, and ice fishing are a few of the many winter outdoor recreation opportunities in the region. Local groups offer snowshoe walks and winter hikes. Cross-country skiers glide on formal groomed trails or explore trails laid out by friends on private land. Downhill skiers gather at Ascutney Mountain in West Windsor or at Claremont’s Arrowhead ski area. Okemo Mountain and Mt. Sunapee ski areas are located at the edge of the watershed. All offer an excellent opportunity for local school children to learn to ski.

Snowmobiling has become a winter way of life for many, and there are well-coordinated and managed trail systems linking most towns, through the efforts of local clubs like the Crescent Lake Snow Riders. Agreements with private landowners allow passage during the season, but not generally for summer use by the public, except for trails maintained by the Vermont Association of Snow Travelers (VAST). Many of these trails bring riders and business to local stores and eateries.

In general, cross-country skiers and snowmobiles now share the trail in most places with no conflict in this region, due to good communication and care in observing trail etiquette by both groups. 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.

Permission to use snowmobile trails does not extend to use of these trails by ATVs, four-wheelers, motor or mountain bikes, hiking, or other uses, unless specifically authorized. In general, a snowmobile trail is a trail only during the snow season, and any other use is considered trespassing. As with hiking trails, snowmobile trails and the private land they cross deserve attention and care during sensitive times of the year. Snowmobiles should avoid traveling over exposed soil and wet areas to avoid creating erosion and water quality problems.

Ice safety: Those hoping to venture on to the ice should check it first. The Cold Regions Research and Engineering Laboratory in Hanover recommends this rule of thumb for new, clear ice: a minimum of: 4 - 6 inches of ice to support a few well-dispersed people; 6 - 7 inches for small, on-foot, group activities; and at least 8 - 10 inches for snowmobile activities. A wise precaution is to carry an ice pick or long stick to help distribute weight or to lay across a hole in an emergency. If ice at the shore is cracked or soft, stay off. Avoid ice during thaws. Avoid honeycombed ice, dark snow and dark ice. Ice is generally thinner where there is moving water, such as at inlets and outlets, around bridge abutments, islands and objects protruding through the ice.

Snowmobiling on the river is not safe, but is common. On the Connecticut River and its setbacks, ice thickness can vary greatly within a few feet, depending upon whether there is a spring below, or where the current is active. In the impoundment behind Bellows Falls Dam, the water level continues to fluctuate with generation at the dam, even though the ice cover above it appears solid. There may be several feet of empty space between the bottom of the ice and the top of the water.

KEY RECOMMENDATIONS

- 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.

CONNECTICUT RIVER BYWAY

The river corridor has been a popular route for auto touring since the invention of the Sunday drive. In 1999, the States of New Hampshire and Vermont designated the Connecticut River Scenic Byway, after the Connecticut River Joint Commissions worked with the states and regional planning agencies on a study and implementation plan for a scenic byway in the Valley. In the Mt. 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 Federal Highway Administration designated the 500 miles of byway as a national scenic byway in 2005.

CRJC now hosts the Connecticut River Byway Council, which fosters the promotion of tourism in the Connecticut River Valley, preservation of scenic, cultural, and recreational features, and development of the infrastructure of signage and other information that will enable visitors, whether from the next town or from across the country, to enjoy and explore the Valley. Membership in the Byway Council is open to all. Its steering committee has balanced representation from municipalities, regional planning agencies, chambers of commerce, cultural and natural resource organizations, the agricultural community, and state agencies.

The Byway 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 pursue protection of the values that give the region its appeal: the extraordinary collection of historic buildings, covered bridges, scenic farmland, and a clean environment.

Waypoint communities - Ten communities along the Byway between Canada and the Massachusetts border have stepped forward to offer education and services to visitors. In the Mt. Ascutney region, these include Windsor, Claremont, and Bellows Falls. At this writing, Bellows Falls has built and opened a Byway visitor center to the public, sharing the history and appeal of this and the surrounding communities. Claremont has built a building and furnished it with exhibits about the city. Rehabilitation of an historic building to house Windsor's waypoint visitor center will be completed in 2008, and there is an opportunity to link this with a walking trail for viewing the Cornish-Windsor Covered Bridge.

KEY RECOMMENDATIONS

- State transportation agencies should provide signage identifying waterways which is aesthetically in keeping with the rural nature of the region.
- Land trusts should help protect scenic views, especially near the river.
- Regional planning commissions can help inventory scenic features.
- Towns should consider and adopt shoreline protection, and encourage retention of riverbank vegetation for its scenic value as well as for its role in protecting water quality for recreation.
- New Hampshire riverfront landowners should obey the Comprehensive Shoreland Protection Act, and avoid cutting and leaving slash near riverbanks.
- State forestry departments should enforce slash cutting laws on riverbanks.
- Windsor should provide a walking trail from its visitor center for viewing the Cornish-Windsor Covered Bridge.
- The Connecticut River Byway Council should promote a network of bicycle routes in the Connecticut River valley.

OTHER RECREATIONAL OPPORTUNITIES

Plainfield, NH: River Road and Route 12A are used by walkers, joggers, and the occasional equestrian. These roads also offer a primary corridor for bicycling, as part of a loop that includes Bellows Falls, and numerous bicycle tours use these roads in summer and fall.

Hartland, VT: The North Hartland Flood Control Dam on the Ottauquechee River, upstream of its confluence with the Connecticut, includes 570 acres owned and managed by the US Army Corps of Engineers, and provides swimming, fishing, boating, and picnicking. The VT Fish and Wildlife Department property at the mouth of Lull's Brook consists of 27 acres, but

at present affords only difficult access to the Connecticut River. Trails include VAST snowmobile trails near the river and a network of cross-country ski and equestrian trails.

Cornish, NH: Saint-Gaudens National Historic Site offers hiking and nature and historical tours. The Cornish Boat Landing is a popular riverside photo stop for covered bridge viewers. Route 12A is frequently used by bicyclists and joggers. Canoe and raft rentals are available at North Star Canoe Rentals at Balloch's Crossing.

Windsor, VT: A variety of historic and cultural sites are found in Windsor, linked and interpreted by a walking tour. Paradise Park's 140 acre nature preserve offers hiking and cross-country skiing. Runnemed Pond has limited access, while Kennedy's Pond has a public swimming area. Mt. Ascutney State Park and extensive surrounding conserved lands feature popular hiking trails to the summit, which affords a remarkable view of the river valley, and a campground. The Windsor Country Club is a privately owned golf course in the northern part of town.

Claremont, NH: People enjoy observing wildlife, including, turkeys, song birds, aquatic wildlife, and migratory birds at Ashley Ferry State Park. Arrowhead ski area, just a few blocks from downtown, is staffed by local volunteers. A visitor center on North Street is now open to the public and offers a fine view of the Sugar River and downtown.

Weathersfield, VT: Camping, picnicking, and a canoe access are offered at Wilgus State Park.

Charlestown, NH: Just south of the Fort at No. 4, a major tourist attraction, the town operates Patch Park, a recreation facility consisting of athletic fields and a picnic area next to the river beach. Hubbard Hill State Forest offers hiking and biking trails.

Springfield, VT: Meeting Waters YMCA Camp abuts the Springfield Town Forest. Birdwatching is popular at North Springfield Lake, where there are marked trails above the flood control area owned and managed by the US Army Corps of Engineers.

Rockingham, VT: Recreational opportunities include the Saxtons River recreation area. The Rockingham Recreation Center offers a municipal ski tow, swimming, tennis, basketball, and a ball field. During fish migration, people enjoy visiting the fish ladder at the Bellows Falls Dam. The Green Mountain Flyer offers scenic excursion train rides. The Bellows Falls Municipal Forest provides opportunities for hiking and cross-country skiing. TransCanada Hydro Northeast's recreation area at Herrick's Cove offers prime birdwatching as well as picnicking and boating. The Bellows Falls Waypoint Visitor Center for the Connecticut River Byway offers exhibits and information about the surrounding region.

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