

## **INTRODUCTION**

Canoeing has become an increasingly popular sport. At once peaceful and challenging, it is a rewarding, aesthetic and ecologically sound recreational activity.

The Winooski River is one of Vermont's most spectacular resources. The second longest river in the state, it flows through mountains and farmland, the state's capital and the largest city before emptying 1,080 square miles of an immense river valley into Lake Champlain. As Chittenden County continues to grow, many river communities are turning to this rich natural resource as a means of preserving open space and natural areas for public recreation.

The river corridor penetrates the landscape of Vermont more effectively than any other transportation route. It brings the towns, farms and people of the Green Mountain State within the direct purview of the canoeist. This guide is designed to assist those who would like to take advantage of cleaner waters and improved public access to the Winooski waterway by exploring the river valley--in its haunting cultural and natural splendor--as it was experienced by the early wilderness explorers.

## **THE WINOOSKI VALLEY PARK DISTRICT**

The idea of a Winooski River Park originated in the mid-sixties when, on the basis of a public opinion poll of river valley residents, it was suggested that canoe and boat accesses, trails to the water's edge, picnic areas, and bird and wildlife sanctuaries be established. Five river communities agreed to join in this effort and, by a special statute passed by the Vermont Legislature in 1972, formed the Winooski Valley Park District comprised of Burlington, Colchester, Essex, South Burlington, and Winooski. In 1988, the towns of Jericho and Williston elected to join.

Since then the seven communities have worked together to protect or acquire areas of special interest to the citizens of member towns for purposes of conservation, environmental protection and recreational use. Water quality, minimum stream flow at dams, canoe and boat access areas, trail systems, and the preservation of floodplain and wetland areas as wildlife sanctuaries are all concerns of the Winooski Valley Park District. As regional issues, they are best addressed when the river and its watershed are considered together as a natural ecosystem. The Winooski Valley Park District will continue to maintain properties within its member towns for dispersed recreation and environmental protection and will work with communities along the entire length of the Winooski to ensure that the river's educational, recreational, ecological and aesthetic value be maximized.

#### HISTORY AND LAND USE

Abenaki Indians named the Winooski River for the wild leeks or onions which grew along its banks. For thousands of years, prehistoric settlers exploited the abundant resources afforded by the river: butternuts, fish, birds, and mammals for food; wild plants for food and medicine; and clay, wood, bone, and plant fibers for tools and containers. Sometime around 1000 A.D., horticulture came to the region, and the Winooski floodplain lands supported Indian crops of corn, beans, and squash.

Samuel de Champlain led the first Europeans into the area in 1609, but it was nearly a century and a half later before the French tried to settle the area with colonists. The French cut lumber along the Winooski's banks. During the frequent colonial wars, French and Indian raiding parties used the Winooski as a route inland to the Connecticut River and English colonies to the south.

English victory over the French in 1763 opened northern Vermont to new settlers. The colonies of New York and New Hampshire both claimed what would become Vermont. An enterprising group of Connecticut brothers, the Allens, formed the Onion River Land Company to buy New Hampshire land grants at prices depressed by the controversy. They gained the questionable titles to tens of thousands of acres, then led efforts to resist New York's authority. Through leases, sales, and contracts with the company, pioneer farmers began

improving lots along the Winooski River until the American Revolution induced most of them to flee. After the Revolution, improvements resumed. Ira built sawmills, a forge, and a gristmill powered by the Winooski Falls. Ethan chose a site downriver to start his own farm with his second wife, Fanny. Neither Ira nor Ethan ever realized the fortune they expected from land investments, but their efforts led to the development of Burlington and many other towns, and ultimately to the separate State of Vermont.

While the Winooski River has always yielded a multitude of benefits, including transportation, food source and power, to those living along its banks, the river's potential to flood has often taken its toll. In the flood of November 1927, Vermont's worst recorded flood to date, 55 died and \$13,500,000 in property was lost. Most recently, in the flood of March 1992 there were more than \$2 million in damages in Montpelier.

Today, the Winooski River plays an important role in the areas of hydropower, waste water disposal, farming and recreation. Agricultural land use has evolved from original extensive practice (fallow period) by the Indians to today's intensive farming (labor intensive). One aspect of the river that has yet to change is its intrinsic beauty and its value to those who use the Winooski for recreation and leisure.

The watershed area of the Winooski River covers 1,080 square miles and comprises nearly all of Washington County, half of Chittenden County and parts of four other counties. Starting at the head of the Winooski, the principal communities are: Cabot, Marshfield, Plainfield, Barre, Berlin, East Montpelier, Montpelier, Middlesex, Moretown, Duxbury, Waterbury, Bolton, Jonesville, Richmond, Jericho, Essex, Essex Junction, Williston, Winooski, South Burlington, Colchester and Burlington--a length of 90 miles. The river and tributaries from the head to Montpelier are mostly narrow and steep with heavily timbered valleys. Beyond Montpelier the river has a relatively consistent gradient with fertile open land well suited for cultivation except for a few steep gorges. The Middlesex, Bolton and Winooski gorges facilitate the harnessing of hydropower and have attracted mills and the development of towns dating to the late 1700s.

The river has seven major tributaries: Waterbury (Little) River, North (Worcester) Branch and Kingsbury Branch enter from the north and the Huntington River, Mad River, Dog River

and Stevens Branch enter from the south. The Winooski River has played a key part in the development of many of the towns and cities on the river, where hydropower from the mills produced basic necessities such as lumber and flour. Subsequent mills, in addition to lumber and flour, produced paper, refined cotton and wool. In the 1880s, many mills started to produce electrical power as a secondary source of income. Eventually many of the mills were converted entirely to hydropower.

The first mills on the Winooski were two saw mills powered by timber crib dams built by Ira Allen in 1786. The two mills and others that were later built in Winooski were periodically flooded. Mills followed in Montpelier, Middlesex and later in Richmond, Bolton and other towns. The timber industry experienced a decline in the early 1800s due to over-harvesting of the forest. This deforestation and subsequent runoff contributed to flooding of the Winooski.

Growth in the emerging textile industry promoted the revitalization and replacement of many existing structures with larger mills capable of greater output. A cotton mill was established in Montpelier in 1810 and a woolen mill opened on the North Branch in 1820. In 1835 the Burlington Mill Company was organized. The success of this new industry was reflected in statistics recorded in 1840: Merino sheep imported from Portugal numbered 1.7 million, a six-to-one ratio over the human population of the state. The Colchester mill, built in 1888 and the third in the Woolen Mill complex, manufactured cotton and merino hosiery yarns and now houses the Woolen Mill Apartments. The Champlain Mill was built in 1912 and produced worsted dress goods and is now a revitalized shopping mall. Many of the original mills on the river were destroyed by fires and floods.

The Winooski River and its tributaries have been a major source of hydroelectric power for more than a century. Many mills produced power as a secondary income. In 1886 Standard Light and Power Company started producing hydroelectric power for local use in Montpelier. At about the same time Burlington Light and Manufacturing Company was also selling local hydroelectric power. Later hydroelectric projects included Bolton Falls built in 1899 and Station #19 built in 1917 in Essex Junction. In the 1920s many of the power companies were acquired by what is now Green Mountain Power. The Winooski River and its tributaries are the state's second largest hydroelectric source with a total of 15 hydroelectric

sites of which eleven are now in use.

### **ANIMAL LIFE**

The Winooski River, from its headwaters in the foot hills east of the Green Mountains near Cabot to its mouth at Lake Champlain, provides a rich habitat for many wildlife species. Birds, mammals, reptiles and amphibians interact with the river and with each other to create one of Vermont's most visible and beautiful natural areas.

In spring, summer and fall you may see sandpipers probing the shallow waters for food, or bank and barn swallows catching insects. Other birds often seen along the river include great blue herons, ring-billed and herring gulls, and goldfinches. Kingfishers may also frequently be seen diving into the river after fish.

Watch for American osprey nests in the snags of large mature trees. With luck, you may see this water-loving, eagle-like hawk plunge feet first for fish. In the hopes of attracting more osprey pairs to sections of the Winooski River where large nesting trees are scarce, Vermont's Nongame Wildlife Program has worked with the Green Mountain Power Corporation to set up man-made nesting platforms in the Intervale area. Look for two platforms at the Winooski Valley Park District's McCrea Farm and Heineburg Wetlands Parks in the Intervale.

Where adjacent lands are forested, you are likely to see deer. Moose have also been sighted along the North Branch and other tributaries in the Winooski River Basin. As you canoe down the river, you will probably spot frogs, snakes, turtles and toads. Species such as muskrats, beavers, water shrews and otters, all of whom depend on the river for their food, are also frequently seen. Keep an eye out for raccoons, foxes, skunks, fishers and coyotes, who may use the river as their source of water.

For the wildlife enthusiast, areas that abound in a rich diversity of wildlife are the Winooski floodplain. Many species of waterfowl, including Canada geese, mallards, pintails, green-winged teal, blue-winged teal, hooded mergansers, ring-billed gulls and buffleheads use the wetlands during migrations and some species make the wetlands their year-round home. Along with the mammals already mentioned, there are field mice, gray squirrels, chipmunks, mink and weasels.

There are several particularly good observation points along the floodplain. Year-round waterfowl can be seen at the island just below Salmon Hole. Migrating waterfowl use the sand knoll north of the Central Vermont Railway track near the McNeil plant. Half Moon Cove is home to the mink, as well as waterfowl and muskrats, who live in the cattail and buttonbush-filled marshes. Many migrating songbirds can be found in the Derway Island floodplain, and the Intervale floodplain, located between Burlington and Colchester, has over 50 nesting bird species. In addition to the animals normally found along the river, woodchucks, star-nosed moles, short-tailed shrews and meadow voles have been found in the Intervale. The garter, milk, water and redbellied snakes are among the reptiles living in this area, and some of the common amphibians include American toads and spring peepers, as well as green, leopard and pickerel frogs.

## **FISH**

The Winooski River system is home to several varieties of freshwater fish. They are generally found in two distinct types of fisheries: cold water and warm water. Cold water fisheries are typified by fast-moving water and rapids, which includes the headwaters of rivers that originate high in the mountains. (The Winooski starts east of the Green Mountains, not in the mountains). They are also found below functioning dams if the dams are of the type that releases water from the bottom of a large, deep pool. Fish in these areas include rainbow trout, brook trout, or squaretail, and brown trout--all species which are known for the exciting fight they give fishermen.

Warm water fisheries are found in placid and slow running water, as well as in wider and deeper stretches where the sun increases the temperature of the water. They contain small mouth bass, walleye, yellow perch, and rock bass. Chain pickerel are found in some of the ponds formed by dams along the river and largemouth bass, northern pike, brown bullhead and channel catfish are found below the Salmon Hole.

Regions along the Winooski offer opportunities to catch both types of fish. Near the mouth of the river, at Lake Champlain, walleye, landlocked salmon, rainbow trout, and occasionally lake trout make their way up the river to spawn. The Salmon Hole just downstream of the Winooski-Burlington bridge, is posted by the State as closed to fishing during

the early spring to protect spawning walleyes.

Currently, one species of fish in the Winooski River, the Eastern Sand Darter, is listed as a threatened species. This member of the perch family is quite small and true to its name as it hides in the sand.

For additional information regarding fishing rules and regulations, consult the Vermont Hunting and Fishing Handbook, which is available at any establishment where fishing licenses are sold.

Following are descriptions of the most common Winooski River game fish:

***Warm Water Species:***

**WALLEYE**

- color is usually olive or golden brown or yellow with belly yellow-white
- scaleless or slightly scaled cheeks
- eye: large, silvery
- two separate dorsal fins; forward one spined, spotless, with dark blotch at base in back
- white patch on lower tip of tail
- belongs to the perch family
- length: 13-20"

**CHAIN PICKEREL**

- color ranges from bright to olive-green to brown, and color is in patches except for the creamy white underbelly
- dark chain-like markings over a yellow-green background along its sides
- fully-scaled cheeks and gill covers
- long body and long, toothed snout
- one dorsal fin near tail
- a member of the pike family
- length: 15-18"

**NORTHERN PIKE**

- differentiated from chain pickerel by having fully scaled cheek, and scales on only the top half of the gill cover
- color ranges from dark brilliant green to almost brown, and body covered with whitish bean-shaped spots
- length: 18-30"

## **BASS**

### *Large mouth*

- color: variations of green with white to yellow belly
- eye: brownish
- solid, wide black band on flanks
- upper jaw extends back past the eye
- length: 8-15"

### *Small mouth*

- color: variations of green with milky-white underside
- eye: thin vertical bars along sides
- upper jaw ends even with the eye

## ***Cold Water Species:***

### **LANDLOCKED SALMON**

- color: silvery sides, silver-white belly, and brown, green or blue back
- Bronze-brown at spawning time
- scales are conspicuous
- end of upper jaw lines up with center of eye
- x-shaped, irregular black spots concentrated on upper half of body - no spots on the tail (sharp cornered tail)
- no spots on adipose fin
- length: 12-20"

### **TROUT**

#### *Rainbow*

- color: top varies from steel-blue to yellow-green to brown. Flanks are lighter with a pink stripe (more pronounced in spawning males)
- scales are conspicuous
- body heavily spotted with small block dots, and tail has radiating rows of dots
- adipose fin is olive with black margin

#### *Brown*

- same body shape as rainbow except a squared tail
- color: light brown overall, the flanks are lighter, spots are red-dish intermixed with black spots, and each spot has a halo
- mouth extends way past the eye
- no markings on the lower fins, few or no tail spots -adipose fin may have orange spots or an orange margin
- length: 8-18"

## **PLANT LIFE**

As you canoe down the river, take a moment to notice the plant life along the banks. You are most likely to see hardwood tree species. Along the banks, silver maple and black willow grow, while further back you may notice green ash, eastern cottonwood, boxelder, red maple, and American elm. Most of the time, species will grow where they can compete best. Although a particular type of tree might "prefer" to live in middle-land, well drained soils, it might not be able to survive there because it would not be able to compete with other tree species. The trees mentioned above have consequently learned to survive in moist soils that occasionally get flooded by the river. Black willow, eastern cottonwood, silver maple, and American elm are adapted to living on the banks. These trees drop fully developed seeds that can germinate quickly in mid-June and the rich floodplain soil makes it easy for the seeds to grow.

The trees and shrubs along the river banks help protect the land from erosion. Especially important during floods, these plant species hold on to the soil, helping to prevent the banks from washing away. Speckled alder, a thick shrub that grows on the banks, is one particularly important species serving this function. Bank vegetation also provides habitat for wildlife.

Some lower-lying species you may encounter include buttonbush and small willows. In areas of slow moving water, bull rush, sedges, wild rice, and burreed may be found. If you look closely, you may see river grape, the most common wild grape of Vermont. The grape gets its name from its favorite habitat, the rich alluvial soils found along a river. The river grape will grow to any height in order to reach sunlight and bears abundant fruit. Although speckled alder may be an annoyance to a fly-fisherman, this thick shrub is important in preventing soil erosion along the banks. You can identify buttonbush by the clusters of small white blossoms that form ball-like heads an inch in diameter. Willows, with their tough, vital roots and the readiness of their broken branches to throw new shoots, provide an excellent cover to hold river banks from eroding.

Other shrubs you may come across fall into the viburnum family. An ornamental shrub, the toothed arrow-wood, can be distinguished by its relatively large size (five to ten feet) and smooth branches and leaves.

One of the most attractive native shrubs, sheep berry (otherwise known as nannyberry or sweet viburnum) shows beautiful autumn colors and bears sweet, edible fruit. Another shrub of the viburnum family, highbush cranberry, has been used for its medicinal properties.

Keep an eye out for poison ivy; it has three leaflets, green and reddish-purple in color and smooth and shiny in texture. This plant usually grows farther back from the banks, though be watchful for it in a semi-open habitat.

### **WATER QUALITY**

Like many American rivers, the Winooski has been used to dispose of many different types of waste over the years, including sewage and discharge from mills. In fact, as recently as 1968, much of the Winooski's water was rated class D--the lowest water classification--with high levels of bacteria, floating solids and human waste.

Since the early 1970s, the Winooski River's water quality has improved immensely, and as a result all sections of the river are now classified as either B or C. Class B water is suitable for public water supply with filtration and disinfection; irrigation and other agricultural uses; swimming and recreation. About 40 percent of the river is suitable for swimming. Class C water is suitable for recreational boating and any recreational or other water uses where contact with water is minimal and ingestion of the water is not probable; irrigation of crops not used for human consumption without cooking; and compatible industrial uses.

Today, two of the greatest threats to river water quality are non-point source pollution and treated wastewater pollution from both municipal and industrial sources. There are a number of municipal and one private sewage treatment facilities on the Winooski and its tributaries. On the main river, locations include: Marshfield, Plainfield, Waterbury, Richmond, Essex Junction, Burlington (Riverside), Winooski, Burlington (North End), and IBM. Wastewater from these plants adds nutrients to the water. Many of these substances contain nitrogen and phosphorous which make aquatic plants, such as algae, grow quickly. The decay of

these plants and the presence of organic material in waste water depletes oxygen out of the water, which in turn can cause problems for the river's fisheries.

In addition to sewage and industrial discharge, other forms of water pollution threaten the Winooski, as they do most rivers throughout the United States. Although there is little information about the precise source or content of much urban runoff in Vermont, it can contain heavy metals and other contaminants. Runoff along the Winooski has been found to include oil, grease and road salts washing into the river from adjacent streets and highways. Also, with the growth and development of towns along the river, trees and shrubs are cut down, which allows more soil erosion to occur along the banks. The result is increased sediment in the river which can hurt clear water fish species such as trout and salmon.

Agriculture has always played an important role along the Winooski. Unlike agricultural runoff in the 18th century, today's runoff can contain traces of pesticides and herbicides. Fertilizers and manure contain nutrients that have the same effects as those discharged from the treatment plants.

There have been efforts to clean up the river. Sand has replaced salt on most bridges in the winters, and Vermont has increased Soil Conservation Service projects that involve the voluntary participation of farmers to improve manure disposal practices and reduce agricultural nonpoint pollution. In addition, several private organizations routinely monitor the river's quality, and the government has placed strict standards on sewage treatment and industrial discharge. In recent years, due to increased efforts by government, business, farmers and citizens, the Winooski's wildlife and fish have begun to make a comeback--a sign of a clean, healthy river.

## **GEOLOGY**

The Winooski River begins east of the Green Mountains, cuts through them, and then empties into Lake Champlain. Most of Vermont's rivers are referred to as "subsequent", which means they flow parallel to a mountain range. The Winooski River, however, is what geologists call a "superimposed" river, which means that it flows perpendicular to the mountain range. This means that the Winooski River predates the

mountain range and was able to cut through the Green Mountains at the same rate at which the mountains rose 450 million years ago.

Geologic features form as a result of continuous hydrologic processes over very long periods of time. As water flows over bedrock, it erodes and deposits material that, in turn, forms a variety of structures within the channel. The different flow rates form different structures. Where the river flows fast, it erodes sediment from the bottom and carries it downstream. Where it slows down, it deposits the sediment back on the bottom. For example, in a river meander (s-curve) the outer bank is being eroded while the inner bank receives sediment. This dynamic process allows the river to migrate over the entire floodplain. When the natural character of a river is altered, for example by damming, building bridges, road beds and railroad beds, the hydrologic processes governing the river are no longer the same. Waterfalls, cascades, and gorges are among the many geologic features which give the Winooski River its unique natural character. On your Winooski River journey you may observe these three gorges, one fall, and a cascade.

#### **I. Middlesex Gorge**

Before Middlesex Gorge, the Winooski River alluvial plain averages over 100 feet in width. Upon entering the gorge, which is about 1,000 feet long with high angled rock walls (20 to 60 feet high), it narrows to a width of 15 to 30 feet. The rocks are vertically bedded schist and contain "potholes" which form in rocks beneath turbulent water.

#### **II. Bolton Falls**

There is a power dam at the bottom of the Bolton Falls Gorge. It is not a natural fall, and the site has been redeveloped to once again produce hydroelectric power.

#### **III. Allen Brook Cascade**

A cascade differs from a waterfall in that the water never falls free from the bedrock. Allen Brook (near Muddy Brook) is a small stream, three to five feet wide, which cascades about 200 feet downstream, dropping a total of 20 feet. Small potholes are common in this area of dolomitic bedrock.

#### **IV. Lime Kiln Gorge**

In Lime Kiln Gorge, which extends about 250 feet, the Winooski River flows about 70 feet wide. The walls are nearly vertical and rise 15 to 70 feet. The limestone

bedrock forms steep, fractured and jagged walls. There are rippled rocks at the upstream end of the gorge and several caves on the north shore.

#### **V. Winooski Gorge**

The Winooski Gorge is a uniquely formed gorge which is dammed, and relatively inaccessible. The gorge is more than 150 feet across at its narrowest point. The walls range from 50 to 80 feet high, and are composed of dolomitic limestone. Small caves exist along the walls of the river and flooded portions of the gorge may also contain large potholes and sculpted ledges.

#### **CANOEING SAFETY**

Like all rivers the Winooski is a living river--shifting channels, fallen trees, rocks, and banks can create dangers for the canoeist. Trees that pose a hazard at a bend in the river one year may move downstream or disappear altogether next year. Use good judgement and always paddle with caution.

Although you do not have to be an expert canoeist to safely paddle the Winooski River (except on the upper most reach and in all gorges), some rudimentary skill is recommended; the river tends to carry you into potential dangers unlike the still water of a lake. Be aware of your boating ability, and don't attempt to canoe a stretch of river if you know it is beyond that ability. Most good paddlers learn skills gradually, and attempts to advance too quickly will compromise your safety and equipment.

#### **KEY TERMS**

Rapids Classification -

The following Rapid classification is reprinted from the safety code of the American Whitewater Affiliation.

Class I. Moving water with a few riffles and small waves. Few or no obstructions.

Class II. Easy rapids with waves up to 3 feet, and wide, clear channels that are obvious without scouting. Some maneuvering is required.

Class III. Rapids with high, irregular waves often capable of swamping an open canoe. Narrow passages that often require complex maneuvering. May require scouting from shore.

Class IV. Long, difficult rapids with constricted passages that often require precise maneuvering in very turbulent waters. Scouting from shore is often necessary, and conditions make rescue difficult. Generally not possible for open canoes. Boaters in covered canoes and kayaks should be able to Eskimo Roll.

Class V. Extremely difficult, long and very violent rapids with highly congested routes which nearly always must be scouted from shore. Rescue conditions are difficult and there is significant hazard to life in the event of a mishap. Ability to eskimo roll is essential for kayaks and canoes.

Class VI. Difficulties of class V carried to the extreme of navigability. Nearly impossible and very dangerous. For teams of experts only, after close study and with all precautions taken.

Riffle - A shallow spot extending across the river bed with rapids.

Eddy - Current that is deflected by an obstruction or bend in the river and is moving in a circular motion or opposite directions.

Line - Walking and pulling or carrying the canoe through or around shallow water or rapids.

Following is an **advisory** list of rudimentary cautions and basic points. **For a complete list of safety procedures, consult guides such as The American Red Cross *Whitewater in an Open Canoe* and the *Appalachian Mountain Club River Guide*.**

- 1) Sudden changes in water level can result from storms and water releases from dams. Faster water, increasing difficulty of rapids, and an increase in the number of rapids can result from an increase in the water flow. Be alert for such changes even in mid-summer or fall.
- 2) When the river is low many normally hidden rocks and ledges appear. Choose a route through these areas by finding the deepest channel to avoid running aground in the shallows.
- 3) Pull over above each section of rapids. This will allow you time to check for hazards and the best navigable route through these waters.
- 4) Since the wind has a tendency to blow upriver (particularly in the lower reaches) travel may be slower than anticipated. Allow for this on a windy day and plan to paddle harder and to spend more time on the river to get to your destination.
- 5) If you want to start and finish at the same point it is easier to go upstream first and then float downstream to your destination.
- 6) If you are unfamiliar with a stretch of the river, go ashore and walk upstream to scout the area and assure a safe approach to potential hazards such as rapids or dams.
- 7) Most river campsites are primitive in that they are not routinely maintained and do not have fire rings or picnic tables unless otherwise noted. Please leave the campsite as you found it. In Reach 7 primitive river camping is allowed by permit only at some Winooski Valley Park District parks located in this stretch of river. (See Reach 7 map)
- 8) When the river is at flood stage or excessively high water it should be considered off limits to all parties.
- 9) Keep your weight centered and low in the canoe. A kneeling position enhances stability and paddling efficiency.
- 10) Do not change places in a canoe while on the water. Instead, go ashore unless you are familiar with the proper technique.
- 11) If your canoe upsets, immediately get to the upstream end so that you cannot be crushed between a rock and your

boat by the force of the current. Always keep your feet at the surface and look downstream for an eddy. Hold onto your boat. There are few exceptions to this rule. It is your biggest and best life preserver and you will be easier for rescuers to spot. The only time you should release your boat and swim for safety is if it will improve your chances, especially if the water is cold or dangerous rapids lie ahead. Do not attempt to stand in fast-moving water; if your foot wedges on the bottom, fast water will push you under and keep you there. Get to slow or very shallow water before attempting to stand or walk.

12) In rough water fasten all gear (non-floating) securely to prevent loss.

13) A spare paddle in the canoe can prevent disaster. Always carry one and keep it close, secure, and readily accessible.

14) A life jacket is required for all parties in the canoe by Vermont laws. A snug fitting, vest-type preserver offers back and shoulder protection as well as the floatation needed to swim safely in whitewater. Without a life jacket you would not be able to float high enough to see where you are.

15) Boating alone is discouraged. The minimum party is three people or two craft.

16) The river contains many dams. Review all maps carefully and become familiar with the locations of these dams. Some, but not all, dams are preceded by orange and white floating barrels which are placed in the river on or about Memorial Day and removed on or about November 1st. **NEVER PROCEED PAST ANY SUCH BARRIERS.** Always proceed with caution when approaching any dam - it is always possible that the floating barrels may not be in the river.

17.) Remember that flows will vary downstream of a dam. Some dams are equipped with audio safety warnings which alert downstream users when generation will begin. **If you here a warning, please be careful.**

**Please remember that this is an advisory safety list only.  
For a thorough knowledge of safety procedures  
consult canoe safety guides.**

## **BASIC GEAR AND CLOTHING**

**CANOE** -- A 15 to 17 foot canoe is best for the Winooski River. This length is large enough to carry a reasonable load yet easy to handle and portage.

**PADDLES** -- A third paddle provides a spare for emergencies and is handy if you use paddles of different lengths for smooth water and for rapids. The longer being used to slam the stern of the canoe sideways in a rapid.

**ROPE** -- Attach a 20-foot, 3/8 inch in diameter rope to each end of your canoe. These lines are useful for tying up, lining past rapids, hauling up steep banks, and if worse comes to worse, they are a great help in rescuing a swamped canoe. Nylon resists abrasion, but some people like the plastic lines that float. Smaller lines may be strong enough but they are hard to grip with a cold, wet hand and tend to kink up and knot.

**WATERPROOF PACKS** -- All kinds of waterproof packs are available but some advertised as waterproof are only water repellent. Test in advance. Old army ammunition boxes, institution-size plastic jars with screw-top lids make excellent waterproof packing for small items and cameras. Plastic garbage bags are too flimsy to offer useful protection. All equipment should be tied into the canoe so it will not slide around or be lost in a spill.

**EMERGENCY KIT**-- Your small packet of emergency items should

include a first aid kit and a roll of duct tape. The tape is indispensable for patching holes in canoes, rainsuits, and other items. A small sewing kit, complete with thread, needles, pins, buttons, extra cloth, and folding scissors is very handy on a long trip. Also take along a knife, a small tube of waterproof glue, extra cord, waterproof matches, and a compass.

**CANOE CAMPING GEAR** -- Consult books on the subject or talk with experienced canoeists and reputable canoe outfitters.

## **CLOTHING**

Many people like to canoe in a **bathing suit**; this is fine for a while, but be sure to take along more protective clothing--a **hat**, a **longsleeved shirt**, **pants** , **socks** and **gloves**.

Carry a spare set of **woolen clothing** in case of an accident or a sudden drop in temperature.

**Blue jeans** and **sweat shirts** are the worst possible choice; they hold water, are chilly when wet, and take forever to dry.

**Wading shoes** should be worn. Sneakers are usually sufficient.

A rainsuit is the best protection against the weather. **Ponchos dangerously hamper** your swimming ability and always get in the way of paddling.

## **CANOE STROKES**

Some of the basic strokes in paddling are the forward stroke, the J-Stroke, and various forms of cross strokes, including cross forward, cross draw and cross back.

**Forward Stroke:** The paddle enters the water comfortably ahead of the paddler's position. With the blade perpendicular to the keel line and the paddle vertical, pull straight along the side of the canoe. Keep both arms relatively straight throughout all phases of the stroke. Push forward and down over the blade with the top arm and pull with the lower arm. Body and shoulder rotation provides

much of the power.

**J-Stroke:** This stroke provides forward momentum at the same time that it keeps the canoe on a straight course. Start off with a forward stroke, but then push the top hand farther out over the water than the lower hand. This motion moves the blade under the boat and carves the "J" by levering the paddle off the boat. The last push away from the boat should be a quick one.

**Cross Forward:** Executed parallel to the canoe's centerline. Both hands remain over the water, keeping the paddle shaft vertical to the water. The stroke is short and performed in front of the body. The paddle is planted as far forward as a person can lean comfortably. Move the upper body forcefully to an upright position and stop the stroke at your knees. An underwater recovery helps to establish a quick back-and-forth rhythm.

**Cross Back:** More often used by solo paddlers, this stroke requires good upper-body flexibility. The paddler crosses over the boat with the paddle and inserts the blade opposite the hips. The body must be rotated until the shoulders are almost parallel to the boat's centerline. This stroke is a powerful way to stop a boat quickly to scout a rapid, and is usually used with a back stroke to maintain position in the river.

**REACH 1: CABOT TO PLAINFIELD, 15 MILES**

<b>Location</b>	<b>Distance</b>	<b>Access</b>
Cabot	0 Miles	Left bank of river
Old Schoolhouse Common, Marshfield	8 Miles	Left bank of river
Twinfield Union School	13 Miles	Left bank of river
Plainfield	15 Miles	Left bank of river

A general caution is in order about the first two reaches of the river. The navigability and conditions vary widely in the upper reaches and require expert skills during high water. Hazard signs are not provided for dams above Montpelier. Use caution.

The headwaters of the Winooski River begin in Cabot at an elevation of 1820 feet and form the watershed of Coits Pond. The outlet of the pond forms the beginning of the Winooski River. From here, the river winds its way to Marshfield, and continues under route 2 to the dam in Marshfield. This section of river is not suitable for canoeing. The first access for this reach is located at the Old Marshfield Elementary School, now called the Old School House Common.

However, Marshfield Dam, a popular recreational canoeing area is located just 2 miles north of Marshfield on Route 2. (You will see this area referred to as Molly's Falls Pond on topographical maps). Green Mountain Power and Vermont Fish & Wildlife have provided a public boat access to the dam. Thistle Hill Campground is nearby off Rt.2. (See reach 1 map for reference.) There are two stores and a bakery/cafe in Marshfield.

To reach the Old School House Common take a left (heading west) off Route 2 onto Depot Street which is an unmarked Street across from the general store. The Common is located on the right, there is an entrance sign and the building is easily recognized as an old schoolhouse.

The waters in this stretch can be quick and full of sharp turns and small rapids. The river meanders through pastureland with large flat topped hills and passes Spooner's Campground & RV park, which is located on the right bank. The access is on the left bank and there is a small bridge that can be used to reach the campground. Brook, Brown and Rainbow Trout are often caught in these waters.

Five miles downriver access is available on the left immediately after the bridge to Twinfield Union School. The school is easily sighted directly off Rt. 2. From this

bridge the river continues its meandering course, but as the gradient increases, the current increases and class II rapids extend for one mile to the Onion River Campground, which passes on the left. As the river approaches Plainfield it crosses under several roads and a covered bridge. To portage around private property and the dam in Plainfield you must pull out at the last access before Plainfield. After you pass under the covered bridge, the access is located on the left immediately before the next bridge you come to.

**HAZARD SIGNS ARE NOT PROVIDED AT DAMS ABOVE MONTPELIER; CANOE AT YOUR OWN RISK. No portage map is provided, see Reach I map for reference.**

**REACH 2: PLAINFIELD TO MONTPELIER,  
12-13 MILES**

<b>Location</b>	<b>Distance</b>	<b>Access</b>
Plainfield Recreation Area	0 Miles	Left bank of river
East Montpelier	5 Miles	Right bank of river
Montpelier	12-13 Miles	Right bank of river

To reach the Plainfield Recreation Area take a left off Route 2 (heading west) at the light in the center of town. The Plainfield hardware store is on the corner here. Then take your first right, follow this road over a small bridge and take your first right. There is a Plainfield Recreation Area sign but it is set back off the road. Put in near the basketball court. From this access point until nearing the Route 2 bridge, there is a considerable set of class II rapids. Do not attempt these rapids if you are ill prepared. Use caution. Access can be found below the rapids on the right side, just before the river passes under the Route 2

bridge. Continuing downriver the current is swift as the river meanders through alternating wooded and pasture lands.

Approximately 5 miles downriver, you will approach East Montpelier where a store can be found for supplies. As you canoe into East Montpelier you will be paddling right along Route 2. At the end of the Route 2 guardrail you can beach your canoe on the right. Continuing downriver you will pass under Route 14 and, on your right, the confluence of Bennett Brook.

On the left, just downstream from Bennett Brook, is an access which can be used to reach the Green Valley Campgrounds and is the recommended spot to end paddling this reach.

Paddling beyond this point involves portaging three dams with only short paddling distances between each. All can be portaged on the right, with the first dam requiring the use of ropes to lower the canoe and the last dam requiring take out 200 yards before the dam just under the power line crossing. Detailed portage maps are not provided. **HAZARD SIGNS ARE NOT PROVIDED FOR DAMS ABOVE MONTPELIER. CANOE AT YOUR OWN RISK.**

**REACH 3: MONTPELIER TO THE MIDDLESEX  
DAM, 5.5 MILES**

<b>Location</b>	<b>Distance</b>	<b>Access</b>
Montpelier: Interstate 89 overpass	0 Miles	Right bank of river
Middlesex: river Parallels Rte. 2	3.5 Miles	Right bank of river
Middlesex Gorge: Above 100B bridge	5.5 Miles	Right bank of river

When beginning a canoe trip from Montpelier, there are several good places to put in. One is at the northeast corner of Montpelier High School located on Bailey Avenue and the other is underneath the Interstate 89 overpass on the right side of the river on Rt. 2. As of 2001 it is recommended that the Montpelier High School launch be used. Plenty of parking is available at both areas. Or if you would like to run a short section of easy rapids put in another one and one quarter mile upstream from the high school on the right bank. This access can be reached through local parking areas.

Canoeing the stretch between the Interstate 89 overpass and Middlesex Dam is very relaxing and pleasant. The current is slow and the course winds past farmhouses and pastureland. Many large dairy farms are visible along this stretch and much of the land is cultivated. Trees are of the wetland variety, such as willows and alders. The river can be shallow in spots and the canoe may have to be lined. About two and a half miles downstream where Interstate 89 and the train tracks closely parallel the river, is a small section of rapids. Pull out on the left bank before the rapids to decide on the best route to proceed. About a mile beyond these rapids on the right bank is a canoe stop along Route 2. The bank is steep here but this area can be used as an access point.

Another take-out and launching area is one and one-quarter mile further downriver, before the Route 100B bridge where Route 2 curves with the bend of the river. The bank is low here and from this access a store is within easy reach by foot. If you are unsure of your ability to reach the Middlesex Dam access area safely or do not want to negotiate its short, yet steep hill ( see Middlesex Dam section on next page), take out at this access.

### **Middlesex Dam**

Middlesex Gorge just above the GMP dam is one of the most

spectacular areas on the river with rock walls towering 75 feet above the water in some places. Remember that like all dams on the river, the Middlesex Dam is potentially dangerous and should be approached with caution. Boat barriers in the form of floating barrels span the river under the Route 100B bridge. **DO NOT GO BEYOND THE BRIDGE!** The barrels are normally in place about Memorial Day to about November 1st. It is always possible that the floating barrels may not be in the river for reasons beyond Green Mountain Power's control.

The take out is on the left side of the river, just after the bridge. The bank here is quite steep and though it is a short distance you may require a rope to pull your canoe up to the road. The portage, which begins just upstream of the bridge and ends downstream of the powerhouse is .2 miles. Much of the portage runs along Route 100B. The canoe access is reached by following the dam access road off Rt. 100B down to the powerhouse. There is a gently sloping path that leads to the river's edge off the parking area.

There is a chute of rapids below the dam which can be very tricky depending on the water flow over the dam. Boaters should be mindful of eddies caused by discharges immediately behind the powerhouse. Survey the rapids from the bank before attempting to run them. If the water is shallow, the rapids may be portaged around on the left bank.

**REACH 4: MIDDLESEX DAM TO BOLTON  
FALLS DAM, 9.5 MILES**

<b>Location</b>	<b>Distance</b>	<b>Access</b>
Middlesex below GMP Dam	0 Miles	Left bank of river
Townline: Middlesex/Waterbury	2.5 Miles	Right bank of river
Moretown off Rte. 2	3 Miles	Left bank of river
Waterbury	5.5 Miles	Right bank of river

Bolton Falls Dam: powerline spans the river	9.5 Miles	Left bank of river
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The put in for this section is just below the Green Mountain Power Dam. Follow the dam access Road off Rt. 100B down to the small parking area adjacent to the powerhouse. (See Reach 4 map and Middlesex Dam portage map for reference.)

This section of the river runs through flat or undulating agricultural land and with the exception of the difficult rapids below the confluence of the Winooski and Mad Rivers, canoeing this stretch of the river is easy. The current is slow to moderate and the river corridor curves through cultivated land and northern hardwood forest, red and sugar maples, beech, yellow birch and some hemlock.

Off to your left, Camel's Hump towers over the river valley from its elevation of 4,083 feet. One of the most prominent peaks of the Green Mountain range, Camel's Hump is easily recognized by its unique double humped profile which serves as a conspicuous landmark in northern Vermont.

The Mad River enters the Winooski on the left about three quarters of a mile below the dam. A good swimming hole can be found on the Mad River about one-quarter mile upstream at the end of a short rapid. Just downstream of the confluence of the Mad and Winooski Rivers is a good fishing spot. Below the Route 2 bridge at the lower tip of a large island is a very dangerous set of rapids which must be carefully negotiated. Canoeists would be wise to take out at the junkyard above the rapids on the left and care must be taken to avoid rocks. If necessary the rapids may be portaged on the left. High cliffs rise on the north side of the river with moderate rapids continuing for some distance below.

At the end of the rapids several old iron anchor rings can be seen in the rocks in the center and on the south shore of the river. Logging drives were common in the Winooski River Valley during the nineteenth century. Logging crews would follow these drives in adirondack style "bateaux" which handled well in fast, narrow and ledge areas. Log jams frequently occurred in riverbends and at falls and these iron rings may have held booms to help control the timber as it flowed through this narrow section of the river valley.

About one and one-half mile downstream on the Middlesex/Waterbury town line is a remote canoe stop which can be used as a campsite. Beach your canoe in a small inlet where the river bends around a rock ledge on the right bank. This area is inaccessible from the road. But about half a mile downstream is a highway rest stop access on Route 2 which is on the left bank of the river. There are picnic tables and trash barrels here but the site is not suitable for camping.

Two and one-half miles beyond the last roadway access is the town of Waterbury where there is a general store. You can take out on the right bank just upstream of the Route 2 bridge or at the end of Winooski Street where a small bridge crosses the river. This is a good drop-off spot, since there is a small parking area across from an electric substation and you can put in there just downstream of the bridge, where there is a path. This area is adjacent to the Waterbury Athletic Field.

About one mile downstream a railroad bridge crosses the river. Before canoeing under the bridge, take out on the left bank and scout for boulders and log jams. If necessary, the bridge can be portaged on the left. Just beyond the railroad bridge where the Little River enters on the right, is a good fishing spot.

The Little River leads upstream and is passable only to a certain point by canoe to the Waterbury Reservoir and flood control dam. This popular recreational facility is located within the Mt. Mansfield State Forest. The camping and canoeing at Little River State Park are excellent. The reservoir access is approximately a one mile hike up the dam access road from where the river becomes impassable. The Park is approximately a half mile up the road from here.

Just below the Little River outlet are several islands where Snow Geese have been sighted. Bolton Falls dam is one and one-half mile below the Little River outlet.

### **Bolton Falls Dam**

Approximately 1000 feet before reaching the take out point,

you will note orange balls attached to the transmission lines suspended over the highway and the river. A second set of orange balls suspended from a wire 15 feet above the river will be noted just before you take out, the access is located on the left side of the river. **YOU MUST TAKE OUT AT THIS POINT.** From about Memorial Day to November 1st there are boat barriers in the form of floating barrels located just beyond the take out and well before the dam. It is always possible that the barrels may not be in the river for reasons beyond Green Mountain Power's control. **Do not paddle beyond the take out because river conditions become very hazardous and you run the risk of being swept over the dam.**

Beach your canoe on the left bank near the take out, before the barrels. The bank here can be very muddy. The steep uphill portage is marked with wooden engraved signs and is easy to follow. The total distance is about 2000 feet. This portage is difficult and takes at least one half hour. See portage map on previous page.

The portage trail intersects a small dirt road which is the dam access road. This road may be used as a vehicular access from the River Road on the south side of the Winooski River. Parking space is available and there is a spectacular view of the falls over the dam. Green Mountain Power has put in a small recreation area here with picnic tables, garbage cans, and a port-a-pot.

The rock ledge in the Bolton Narrows is called Allen's Rock, after Ira Allen, one of the original Green Mountain Boys. According to legend, Allen distinguished himself from his traveling companions one day by standing at the edge of the cliff and staring straight down into the narrows below without any sign of fear or hesitation. Since that day the cliff has been known as Allen's Rock.

**REACH 5: BELOW BOLTON FALLS DAM TO RICHMOND, 10.5 MILES**

<b>Location</b>	<b>Distance</b>	<b>Access</b>
Below Bolton Falls Dam: Duxbury	0 Miles	Left bank of river
Bolton-2 miles below dam	2 Miles	Left bank of river
Jonesville stream from Jonesville bridge	6.5 Miles	Right bank of river
Richmond 1.4 miles below Huntington River	8 Miles	Left bank of river
Richmond Bridge Street bridge	10.5 Miles	Right bank of river

The 10.5-mile stretch from the Bolton Falls Dam to Richmond presents some hazards only during low or very high water and contains two moderate rapids. Here the Winooski flows through the heart of the Green Mountains providing spectacular scenery as it heads towards the gentle farmlands of Bolton and Richmond.

Put in at the access area below the Bolton Falls Dam in Duxbury. This spot can be reached by following River Road which runs along the south side of the River. Follow Winooski St. in Waterbury, cross river, turn right on to the south bank of the river and follow the road 2.9 miles to the DeForge Hydro Electric Dam.\* Look for the Green Mountain Power sign and dam access road on the right which is a small dirt road that goes over a bridge from the main road down to

the river. (See Reach 4 map and Bolton Falls Dam portage map.)

The area just below the dam is a good fishing spot. Boaters should be mindful of eddies caused by discharges immediately behind the powerhouse.

\*The Winooski Street Bridge is presently closed for repair and may not be open again until 1994. Until this time you can reach River Road off route 100 South in Moretown or by crossing the bridge in Jonesville and taking your first left. ( See Reach 4 and 5 maps for reference)

### **Below Bolton Falls to Jonesville**

This scenic stretch of the Winooski bisects the Green Mountains and passes through northern hardwood forests and farms. As the river meanders through this section there are gravel bars, islands and rocks which obstruct the stream's flow. Canoeists should be cautious in maneuvering around the rocks in this area.

There is an unmarked canoe stop for picnics or overnight camping approximately one-quarter mile downstream on the right side of the river. A clear brook feeds into the river here and it is a good fishing spot because of the many deep pools in the river.

About three-fourths of a mile below the Bolton Falls Dam is a moderate set of rapids which can cause problems in low water, and serious problems at very high water due to strong currents with large waves piling into trapped flotsam on the railroad bridge abutments. At the end of the rapids underneath the railroad bridge, there are many large rock outcroppings which have been smoothed by the water. The water forms deep pools here and the channel is deceptive. Approach with caution. If you choose to run the rapids, bear right to pass under the railroad bridge. These rapids can be portaged to the left by landing near the mouth of Ridley Brook, carrying your canoe through the woods, past a private dwelling to the RR tracks. Follow the RR tracks to the trestle and put in on the downstream side. Do not cross the trestle. The portage is about 1500 feet.

About one and one half mile downstream from the railroad

bridge, on the left bank is the Bolton canoe access. There is an inlet here and a large rock projects from the bank. Parking is available. This access can be reached by car off River Road. (see reach 5 map for reference)

The next bridge you pass under will be the Jonesville Bridge. Just before the Jonesville bridge there is rope swing on the right side of the river and a great swimming hole. Just after the Jonesville bridge, there is a canoe stop on the right bank. This is also where the Long Trail passes through Jonesville on route to Camel's Hump to Bolton Mountain. For further information on hiking the Long Trail consult: The Long Trail Guidebook (Green Mountain Club, P.O. Box 889, Montpelier, VT 05602, 802-223-3463).

### **Jonesville to Richmond Bridge Street Bridge**

At the mouth of the Huntington River in Jonesville, trout fishing and swimming are possible. In this section the current is fair with some riffles. Beyond the Huntington River, the river takes a slow curving course, flowing around islands, past bluffs and rock outcroppings, and through hardwood forest. One and one quarter mile downriver of the confluence of the Huntington River, on the left, is the 35 acre Rivershore Preserve owned and managed by the Richmond Land Trust. This area can be used as a rest stop. A developed canoe access is proposed (fall, 1993 completion) along with picnic areas, trails and parking.

As you continue downriver, the next bridge you will pass under is in the town of Richmond. Shortly after the bridge you can beach your canoe on the right at the Richmond Town Green, called Volunteer Green. This is a good picnic site. There are tables, grills and garbage cans available. If you need to pick up supplies, it is a short walk to town, where there is a pharmacy and grocery store, as well as a bakery. One-quarter of a mile south from the steel bridge in Richmond is the Old Round Church. Built in 1812, this unique historical structure has sixteen sides capped by a bell cupola.

**REACH 6: RICHMOND, BRIDGE STREET  
BRIDGE TO ESSEX JUNCTION  
DAM, 11.5 MILES**

<b>Location</b>	<b>Distance</b>	<b>Access</b>
Richmond Bridge Street bridge	0 Miles	Right bank of river
Richmond Rte. 2 Bridge	2.5 Miles	Left bank of river
Jericho beyond railroad bridge on Rte. 117	4.5 Miles	Right bank of river
Essex Junction	11.5 Miles	Left bank of river

Through this stretch the river is broad and flat, flowing through fields and woodlands. Two and one-half miles downstream from Richmond are the Interstate 89 and Route 2 bridges. A quarter mile below these bridges on the right is a store where some camping supplies may be obtained. The store is on the other side of Rt. 117 and is not visible until you are up on the bank. Just downstream from the next railroad bridge, where Route 117 comes into view on the right, is another roadway rest stop area on the right bank. Garbage cans and parking are available. Two and one-half miles downriver from this access is a state leased boat access. The area is on the right bank across from a small island, and can be used as a rest stop.

**North Williston Bridge to Essex Junction Dam**

The North Williston bridge is located one mile downstream of the state leased boat access. The bank is steep here but it is used as an access. The river is fairly deep (3-5) feet

through this section as you proceed downriver and becomes deeper as you approach the dam. The river takes a wide slow course through farmland and the residential areas of Essex Junction. Depending upon the natural flows and the amount of water passing through the generation units at the Essex #19 Dam, the current may be swift or slow, and the river narrow or wide.

Just above the Essex Junction Dam, on the left bank, directly across from the IBM boat launch, is an unmarked overnight canoe stop. The landowner has given permission for canoeists to utilize this area provided that they are respectful of the privilege by carrying out all their trash, using only down and dead wood for fires, and making sure that all fires are completely out before leaving.

### **Essex Junction Dam**

There are two portage trails around Essex Junction Dam. Both begin before the boat barriers that are placed in the water about Memorial Day and removed about November 1st. **DO NOT GO BEYOND THE BARRELS.** Always proceed with caution when approaching the dam - it is always possible that the floating barrels may not be in the river for reasons beyond Green Mountain Power's control.

The northern portage is preferable in high water. Take out above the dam on the right, **making sure to stay far back from the edge of the dam.** Portage along the IBM access road, turn left onto park street and then right onto Cascade Street. **Beware of traffic on route 2A.** Follow this road to the Essex Junction Waste Water Treatment Plant located on the left with a small parking lot and a trail leading down to the river. The total distance of this portage is about one mile. See portage map on previous page.

The southern portage is not quite as long but traverses more rugged terrain. Bear to the left shore as you approach the barrels. Do not go beyond the barrels. A warning sign should be posted on a tree on a small island near the left bank. Take out on the left bank adjacent to the warning sign. The portage trail runs next to the GMP substation fence and crosses the field and Route 2A. **Beware of traffic on Route 2A.** Across the road Green Mountain Power has constructed Overlook Park which provides picnic tables and port-a-pots.

From the picnic area follow the trail over the steep rocks to the footpath leading through the woods to the ledges along the river. **Do not launch your canoe just below the bridge because the rocks, ledges and rapids are extremely hazardous to canoeists.** Continue portaging beyond the rapids and put in further downstream. The footpath continues through the woods (and poison ivy) beyond the ledges. The total distance of this portage is about 3500 feet.

**REACH 7:       BELOW ESSEX JUNCTION DAM TO LAKE CHAMPLAIN,  
17 MILES**

<b>Location</b>	<b>Distance</b>	<b>Access</b>
Essex Junction below GMP Dam	0 Miles	Both sides of river
Woodside Park	4 Miles	Right bank of river
Upriver of the Lime Kiln Bridge	5 Miles	Right bank of river
Winooski Millyard Canoe Access	7 Miles	Right bank of river
Burlington Ethan Allen Homestead	10 Miles	Left bank of river
McCrea Farm	12.5 Miles	Old McCrea Cove
Rte. 127 Bridge	13.5 Miles	Right bank of river

Colchester-on Lake Champlain Beach	15.5 Miles	Right bank of river
Lake Champlain	17 Miles	

(See Essex Junction Dam section and Essex Junction Dam portage map for information on the first access below the dam.)

The river flows through residential and urban areas and eventually returns to wooded and wetland areas. Downstream of the city of Winooski the river becomes a wide and flat body of water recharging a great intervalle floodplain and flowing through its delta for 17 miles before emptying into Lake Champlain.

**In this last reach there are canoe access points at Winooski Valley Park District parks. Primitive camping is allowed by permit only at some of these parks. (See Reach 7 map for reference.) Please contact the Winooski Valley Park District at 863-5744 for information and a permit.**

#### **Essex Junction Dam to Millyard Canoe Access**

Through this section the river is wide and fairly deep. Farmland, residential areas and some deciduous forest line the river's banks.

Just below the Essex Junction Dam, the channel to the left of the island may be blocked, depending on the water level. If so, canoeists can use the right channel. **A caution is in order about releases.** Canoeists should be aware that water levels here depend on how much water is in the river and when waters are released from the Essex Junction Dam. Levels can change rather quickly.

This whole section of river is impacted by the Winooski Gorge Dam (Green Mountain Power's #18 facility located just below the Lime Kiln Bridge) which may pond water for several miles distance upstream, reaching to the Winooski Valley Park District's Woodside Park in Essex. At other times this part of the river has a swift current. This is all based on the amount of water naturally in the river, the operation of the Essex #19 and Gorge #18 facilities, and the relative time of releases. Generally releases are in the morning and late afternoon, and frequently not on Sundays.

Muddy Brook (access to Allen Brook Cascade) enters the river from the left bank about a mile below the Essex Junction Dam where the river turns sharply to the right. There is a canoe access on Muddy Brook a few yards beyond where the brook joins the river. This is an excellent fishing, walking and picnicking area. Several short nature trails through unusually lush floodplain flora have been provided by the Winooski Valley Park District which leases this 8-acre parcel from S.T. Griswold and Company. To access the area by vehicle, turn onto Lime Kiln Road south from Route 15 across from St. Michael's College. Take the second left onto National Guard Avenue. Follow National Guard Avenue onto Poor Farm Road to the Muddy Brook entrance and parking area on your left. Poor Farm Road continues to River Cove Road which meets Route 2A one mile south of the Essex Junction Dam.

Just beyond the confluence of Muddy Brook is a moderately easy set of rapids about one-quarter of a mile long. Water flow will be low during the summer except after heavy rains and it may be necessary to line your canoe. Four miles below the Essex Junction dam and just past a sharp turn in the rivers course is the Winooski Valley Park District's Woodside Park on the right. A canoe/boat ramp has been constructed here, although access by vehicles to the park is currently restricted. A quarter mile portage from the park gate at the Woodside Correctional Center is necessary.

Access to the park is directly across from Fort Ethan Allen on Route 15. Picnicking, hiking and fishing are available in this recreation area. Parking is available at the park gate.

In order to bypass the impassable Winooski Gorge and the Winooski Falls in the City of Winooski, a two mile vehicular portage should be arranged in advance. Canoeists may exit at Woodside Park or continue one mile further and exit before the Lime Kiln Bridge. There is an access shortly after the wastewater treatment plant on the right. (See Winooski Gorge portage map for information.)

**YOU MUST EXIT HERE BECAUSE** beyond the Lime Kiln bridge the river cannot be paddled for two and one-half miles since it spills over Green Mountain Power's Gorge #18 Dam in Colchester/Winooski, and the Winooski Falls Chase Mill Dam in Winooski.\*

Your portage by car should be made to the Winooski Valley Park District's Millyard Canoe Access off West Canal Street in downtown Winooski. The Millyard Canoe Access can be reached by taking Route 15 into downtown Winooski and taking a left onto Main Street. Just before crossing the bridge into Burlington, turn right onto West Canal Street and continue for one-half mile to a paved road into the Millyard Condominiums. This road leads to the river and the canoe access. Parking is available here (see portage map).

\*Green Mountain Power is presently working with the Winooski Valley Park District and Northern Vermont Canoe Cruisers to establish a portage around the Gorge #18 Dam. This would allow canoeist to travel as far as the Winooski Falls before requiring portage by car.

### **Millyard Canoe Access to Lake Champlain**

The river between the City of Winooski and Lake Champlain meanders through flat terrain which quickly changes from an urban setting to farms and forestland.

Just above the Millyard access is a choice fishing spot known as Salmon Hole. Long appreciated by local fishermen for its walleye pike, steelhead trout, and landlocked salmon, this fishing hole nestled just below the Winooski Falls also makes a lovely picnic area. The Winooski Valley Park District owns the area and has provided a graded trail up to Riverside Drive on the Burlington side of the river.

Downriver of the Millyard access, near the railroad bridge, is the site of the first clearings in the Winooski Valley in 1773. But this is also the site of a much earlier settlement: recent archaeological finds indicate that almost over 300 years before Ira and Ethan Allen settled on the river, the Winooski River's floodplain was farmed by Indians. Pre-historic campsites have been unearthed throughout the Intervale area. As you approach the railroad bridge, twisted girders and abutments of the original bridge, which was washed away in the infamous 1927 flood, become visible.

Two and one-half miles below Winooski, the 284 acre Ethan Allen Homestead appears on your left. Owned by the Winooski Valley Park District, this public park has a large picnic

shelter, fireplace and outdoor privy located in the upper meadow. A canoe access on the left bank is indicated by a sign. The access is located where an inlet joins the river. This is a pleasant spot to stop for lunch, to hike or rest.

The 200 year-old Ethan Allen Farmhouse and adjacent buildings are also owned by the Park District. A walking tour and video presentation on Ethan and Fanny Allen is offered daily from spring to fall for a small fee, along with other educational programs by the Ethan Allen Homestead Trust. For further information inquire at the Hill-Brownell Education Center (located in the large barn) or by calling 865-4556.

To reach the Ethan Allen Homestead by car, take Route 127 north and exit for North Avenue Beaches. Then take the first right at the small green signs to the Ethan Allen Homestead.

Two and one-half miles below the Ethan Allen Homestead is another Winooski Valley Park District canoe access. Adjacent to an island, McCrea Farm offers picnic and parking facilities. Canoe into the cove three-fourths of a mile downstream from the island on the right. The cove opening is in the right corner where the river takes sharp turn to the left. The canoe access and picnic tables are at the end of the cove.

This 286-acre park is home to a wide variety of songbirds, ducks, and geese which visit the marsh in the lower portion of the park each year. In its quiet cove by the river, you may find blue winged teals, American bitterns and herons. McCrea Farm can be reached by taking Route 127 north to Colchester four corners, the first intersection with a light after the bridge; from there go right on MaCrea Road to the park entrance at the road's end.

About one mile downstream, the river turns sharply to the right shortly before the Route 127 Heineberg Bridge. Stay far to the right on this corner, since the river tends to carry you into logs and dead wood on the left bank and below.

There is an access on the left immediately after the bridge. The bank is low here but there is a steep hill that you will need to pull the canoe up in order to reach the road access. Parking is available on the side of the old road bed. To reach this area by car exit off Route 127 at Plattsburg Avenue and take your first right. This is an unmarked road.

Just below the Heineberg bridge there is also a very sharp eddy on the right bank near the old bridge abutment. Be cautious; it can be dangerous, especially in high water.

From the Heineberg Bridge on down, the river is more exposed and wider. On windy days it can be noticeably choppy. As you paddle this section, Derway Island in Burlington is to your left and Half Moon Cove in Colchester is through the woods to your right. Both areas have significant scientific and wildlife value.

Three-quarters of a mile above the mouth of the river on the right bank is a state fishing access. Canoeists may take out here or continue to the mouth of the river, head north along the shoreline of Lake Champlain for about one-half mile around a spit of land, to a beach and portage about 200 yards to the same access area. The Winooski Valley Park District's 55-acre Delta Park is adjacent to the state access. The park contains 3000 feet of lake and river frontage and is the home of rare plants and animals. A parking lot, picnic tables and trails are provided.

Delta Park and the state fishing access can be reached by car by following Route 127 (North Beltline) one mile beyond the Heineberg Bridge to Colchester four corners (first intersection with a light after the bridge); turn left onto Porter's Point Road and continue for one and one-third miles; take a left onto Airport Road, go one-third mile, turn left again onto Windemere Way and follow it to its end.

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