

PHOTO COURTESY OF ARLENE STILLWELL
Sources of Information Published by Various Agencies: Maps, Gui des, Histories and How To Books
ADIRONDACK ATLAS. Syracuse, NY Marshall Dean Co. Large map. Road and place name information.
Bike Centennial, Inc. SEAWAY TRAIL BICYCLING: EASTERN COUNTIES. 111 page guidebook, foldout map. Includes information on St. Lawrence County. Available from Seaway Trail, Inc., Sackets Harbor, NY
Black Lake Chamber of Commerce, Hammond, N.Y. 13646, BLACK LAKE: THE HEART OF VACATIONLAND (1971). Tourism map for fishing on Black Lake.
Bryan, Charles W. RAQUETTE: THE RIVER OF THE FOREST. Blue Mountain Lake, NY: Adirondack Museum, 1964. Considered by Paul Jamieson to be an authoritative work on the region. Out of print.
Burnett, Jim. ADIRONDACK SNOW FLURRIES. Cranberry Lake, N.Y.: Halstead Publishing, 1987. History of Cranberry Lake region, includes chapters on snowmobiling. Out of print.
Cox, Donald D. SEAWAY TRAIL: WILDGUIDE TO NATURAL HISTORY. Illustrated guide to plants and animals along Seaway Trail, including St. Lawrence River. 176 pages. Available from Seaway Trail, Inc.
Crowell, Marnie Reed. GREENER PASTURES. New York: Funk and Wagnells, 1973. Later edition in paperback. Seasonal look at rural life in northern foothills, set in Town of Pierrepont.
Fowler, Albert. (Ed.) CRANBERRY LAKE: FROM WILDERNESS TO ADIRONDACK PARK. Blue Mountain Lake, NY: Adirondack Museum, 1968. Anecdotes, local history of Cranberry Lake region. Out of print.Gouverneur Chamber of Commerce, Gouverneur, N.Y. 13642. Recreation maps available
Harder, Kelsie B. and Mary H. Smallman. CLAIMS TO NAME: TOPONYMS OF ST. LAWRENCE COUNTY. Utica, NY
North Country Books, 1992. History of town and road names of St. Lawrence County. Jamieson, Paul and Donald Morris. ADIRONDACK CANOE WATERS: NORTH FLOW. Lake George, NY Adirondack Mt. Club,
 1994. 3rd ed. Revised. Best source for canoeing and kayaking in St. Lawrence County. Half the book is on county rivers. Keith, Herbert F. MAN OF THE WOODS. Syracuse, NY: Syracuse University Press, 1972. Out of print. Biographical and local history of Wanakena in southern St. Lawrence County. Information on Cranberry Lake, lumbering, and Oswegatchie River.
Kuschel, Leo. SEAWAY TRAIL LIGHTHOUSES. 2 [№] ed. 56 pgs. Includes Ogdensburg Lighthouse.
Available from Seaway Trail, Inc. LaRue, Robert. ST. LAWRENCE COUNTY ALMANAC 1996. Syracuse, NY: Peerless Press, 1996.
Short vignettes on St. Lawrence County based on the author's daily radio programs. LaRue, Robert. ST. LAWRENCE COUNTY ALMANAC 1997. Syracuse, NY: Peerless Press, 1997. More short vignettes
on County history, based on author's daily radio broadcasts. LaRue, Robert. 1998 ICE STORM ALMANAC: A STORY OF THE GREAT ICE STORM OF 1998. Syracuse, NY:
Peerless Press, 1998. Chronological account of the Big Ice Storm. McMartin, Barbara, et al. DISCOVER THE NORTHWESTERN ADIRONDACKS. Woodstock, VT. Backcountry Publications, 1990. Hiking Guide for southeastern St. Lawrence County, including trails in Wanakena,
Cranberry Lake Wild Forest, Five Ponds Wilderness area, Grasse River Wild Forest, and several other areas. In print. New York State Department of Commerce. Division of Tourism, 99 Washington Ave., Albany, NY 12245. I LOVE NEW YORK CAMPING. Revised. Lists State Parks and many private campgrounds and indicates facilities at each place.
<u>All DEC publications:</u> New York State. Department of Environmental Conservation, Divisions of Lands and Forests, Albany, NY 12201, or available from regional DEC offices.
ADIRONDACK CANOE ROUTES. Cranberry Lake is on map, though no other information provided. Itineraries are listed for areas near the county.
BIG GAME HUNTING. Annual publication. Information on regulations, seasons, and zones for hunting.
USE OF NEW YORK STATE'S FOREST LANDS. Policy statement on role of DEC in administering State lands in Forest Preserve and elsewhere. Lists permissible and non- permissible uses.
SNOWMOBILING IN NEW YORK STATE. DEC trails and areas only.
TRAILS IN THE CRANBERRY LAKE REGION. General trail descriptions with distances. Best used in conjunction with USGS maps for surrounding towns.
Division of Motor Boats. NEW YORK STATE BOAT LAUNCHING SITES. Lists state launch sites along with driving directions, type of ramp, number of parking places for cars and trailers.
NORDIC SKIING AND SNOWSHOEING TRAILS IN NEW YORK FOREST PRESERVES. Winter tips. Only county trails in Cranberry region.
TIPS FOR USING STATE LANDS. Camping tips for beginners. TRAIL GUIDE FOR ST. LAWRENCE COUNTY. Trail descriptions and maps of popular trails throughout
St. Lawrence County. DEC publication available from region office on US 11. O'Shea, Peter V. GUIDE TO ADIRONDACK TRAILS: NORTHERN REGION. Glens Falls, NY: Adirondack Mountain Club, 1997. 2 nd ed. revised. Hiking guide for southeastern St. Lawrence County: Grasse River, Fine, Wanakena, Star Lake, and Cranberry Lake.
O'Shea, Peter V. THE GREAT SOUTH WOODS: RAMBLES OF AN ADIRONDACK NATURALIST. Utica, NY: Devon Press. 2000. Observations, reflections and commentary about the woods, streams animals and plants of the northwest portion of the Adirondacks (primarily in St. Lawrence County).
Reagen, James. WARRIORS OF LAPRESENTATION. Oswegatchie Press, Ogdensburg, NY, 1999. Reliant Energy. THE POWER AND PROMISE OF WATER: RELIANT ENERGY'S PUBLIC ACCESS RECREATION AREAS.
Published by Reliant Energy and The Laurentian Chapter of the Adirondack Mountain Club. Reliant Energy. STONE VALLEY. Published by Reliant Energy and The Laurentian Chapter of the Adirondack Mountain Club.
 St. Lawrence County. HIGHWAY MAP OF ST. LAWRENCE COUNTY. Comprehensive road map. A must for the more than casual traveler. Road names and hamlets. Available from County Highway Department, Park St. Canton, NY 13617. St. Lawrence County Chamber of Commerce. The county chamber has numerous publications on accommodations, fishing,
golfing, agriculture, maple syrup, local attractions and events. Their latest publication is a guide to waterfalls in the county. 5862 USH 11, Canton, NY 13617-0759. 315-386-4000, 877-228-7810.
St. Lawrence County Snowmobile Association. P.O. Box 61, Canton, NY 13617. ST. LAWRENCE COUNTY SNOWMOBILE ASSOCIATION TRAIL MAP.
Seaway Trail Inc., Sackets Harbor, NY 13685-0660. ALONG THE TRAIL AND INTO THE PAST: ARCHITECTURE AND HISTORY ALONG THE NYS SEAWAY TRAIL. 61 p. Architectural guidebooks. Limited quantities and availability from Seaway Trail, Inc.
 Seaway Trail Inc. THE NAUTICAL SEAWAY TRAIL: CHARTBOOK AND WATERFRONT GUIDE. 120 pages. Oversized format, charts, 600 waterfront services, parks, historic sites, campgrounds as well as regional history, fishing information. Van de Water, John Ward. THIS LAND, THESE PEOPLE: ESSAYS ABOUT NORTH COUNTRY LIFE. Canton, NY: Jonsalvania Publishers, 1990. Collected essays on people and natural history of Northern New York.
Available from St. Lawrence County Historical Association, Canton, NY. VanDiver, Bradford B. ROCKS AND ROUTES OF THE NORTH COUNTRY. Geneva, NY: W.R. Humphrey Press, 1976. Detailed tours of local geological sites, including mineral collecting. Mostly on St. Lawrence County. Includes information on rock climbing and white water kayaking. Out of print, but still to be found.
VanDiver, Bradford B. ROADSIDE GEOLOGY OF NEW YORK STATE, 1988. Mountain Press Publishing. Includes information on St. Lawrence County. Still in print. Way-Mark Company. 7701 SH 56, Norwood, NY 13668. 315-353-2777. Guides to maps, hunting, fishing, snowmobiling,
 Wells, Jeff V. IMPORTANT BIRD AREAS IN NEW YORK STATE. National Audubon Society, 1998. Lists several important birding sites in St. Lawrence County.
Wilder, Patrick. SEAWAY TRAIL GUIDE TO THE WAR OF 1812. 96 pages. Written by War of 1812 historian and scholar. Covers whole trail from Lake Erie to Massena on the St. Lawrence River. Available from Seaway Trail, Inc. Sackets Harbor, NY
NOTE: This bibliography was compiled by Doug Welch, Northern Lights Bookshop 95 Irish Settlement Rd. Pierrepont, NY (Mail: Colton, N.Y. 13625). E-mail: nlb@northnet.org.
For further information, please check these Web sites: St. Lawrence County Chamber of Commerce: http://www.northcountryguide.com
St. Lawrence County Chamber of Commerce: http://www.northcountryguide.com St. Lawrence County Government: http://www.co.st-lawrence.ny.us

"EMC - Everybody Must Care!"

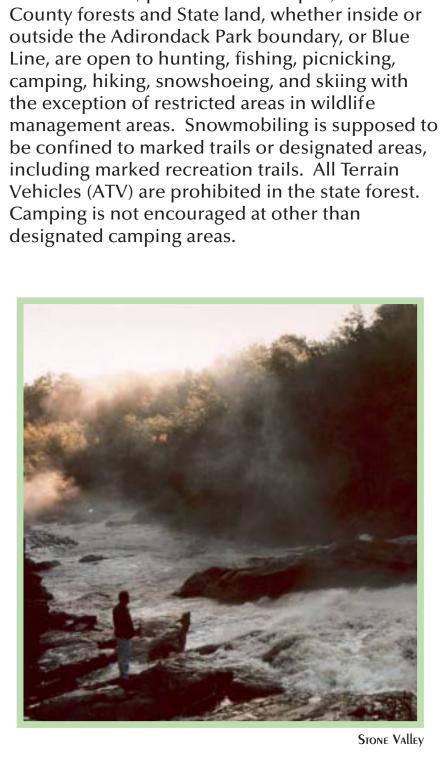
As New York State's largest and most geographically diverse county, St. Lawrence County lacks only a major urban area to be truly an empire within the Empire State.

The county is the westernmost of New York's northern tier counties, a region known since the early 1800s as the North Country. Its northern boundary is mid-stream in the St. Lawrence River. This rich, broad river valley section bordering the Province of Ontario is one of the most beautiful stretches of the thousands of miles of the U.S. - Canada boundary. The southern and eastern boundaries of the roughly triangular county reach deeply into the Adirondacks: the landscape undergoes a dramatic transition from summer homes along the St. Lawrence River and Black Lake to the dairy farms of the broad St. Lawrence Lowland, to the Adirondack foothills with their small farms, mines and forested areas, and finally to the vast forests of the interior, an area designated by the State as the Adirondack Park.

To the south, by way of U.S. Routes 11 and I-81 are the cities of Watertown and Syracuse, sixty

Use of Private and Public ands

Do not enter posted lands without permission. Lands are usually posted for special reasons even though the signs give a blanket denial of access. Some landowners may object only to hunting and fishing, or they may be concerned about liability, fire or litter. Whatever the reason, respect it. On the other hand, public lands are open, within limits. designated camping areas.



Boating, Canoeing and Kayaking

Safety first, middle, and last: a good rule for any outdoor activity is to retire gracefully if conditions get bad. Pull out of the river or off the lake if the weather turns ugly. Try not to let your ego get so involved that you must do something. Plan trips with maps and advice from people who have been there, and use Paul Jamieson's book, which is listed here in "Sources of Information", for streams in the Adirondack Park. There is no comparable guide to streams outside the Adirondack Park, but local boaters do lots of smoothwater and whitewater trips on all the County's rivers. There are good sets of rapids from Class II to Class III on the Oswegatchie, Grasse, and Raquette and on the West branch and Main Branch of the St. Regis.

With few exceptions the rivers draining the Adirondacks to the Northwest have whitewater of the "boulder garden" rather than "drop and pool" variety The terms are self-explanatory. Put-ins and take-outs are available at road crossings, for the most part. Whitewater trips are done mainly during the Spring run-off and in the Fall rains. Power generation, on the St. Regis especially, can raise water levels sufficiently to create whitewater boating opportunities during summer months. Whitewater is a day trip experience in St. Lawrence County. Short trip lengths and limited camping opportunities preclude lengthier trips in the private land portions of the northwest rivers.

Boaters on the St. Lawrence are in a unique environment. The river is an international boundary and a major international seaway. The river is exciting for these reasons, but boaters have responsibilities beyond what they face on other waters in the County as a result. Be careful to observe customs and immigration laws of both nations. Boaters who land in Canada must check in with the authorities. Boaters should observe the nautical rules of the road, but should be aware that rules are no substitute for consideration and common sense. The St. Lawrence is in many ways like the open ocean, and ought to be treated as such.



miles and one hundred thirty miles respectively from Canton, the county seat. Ottawa, the national capital of Canada, is seventy miles to the north. Montreal is a similar distance northeast. Lake Placid and the Adirondack High Peaks region are an eighty-mile trip to the southeast

The situation of St. Lawrence County has been historically to the county's advantage. The potential is great for tapping the vast resources of Canada and the American interior by rail and via the Great Lakes-St. Lawrence Seaway. There is year-round access by rail, road and air. Four rail corporations operate within the County. An international rail link crosses the St. Lawrence near the Village of Massena. Scheduled air service is available at Massena and Ogdensburg Intercity bus lines use the excellent road network The transportation system within the County is essentially an all-weather system, as the "lake effect" snows of areas to the south do not affect S Lawrence County. Travel to Canada is via the **Ogdensburg-Prescott International Bridge and** the Massena-Cornwall Seaway International Bridge, both of which give ready access to the Trans-Canada Highway 401.

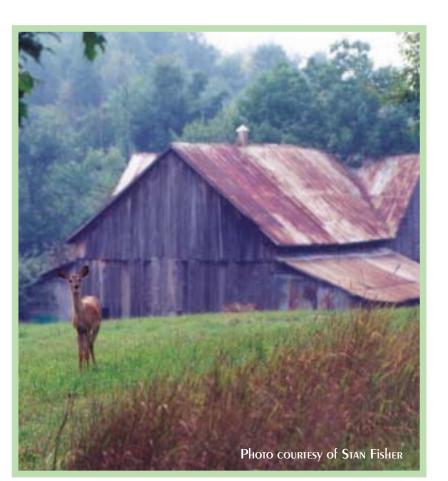
Camping

Ihese remarks are for the "primitive" camper, but campground campers can take heed. Stays of up to three nights at one site are lawful without a permit. The cutting of evergreen boughs for bedding is destructive and should not be done and should not be included in books on camping methods. Use downed wood for fires over real dirt, not on the organic duff of the forest floor. Better yet, use a small stove and go to bed if you get cold. Bury solid human waste, but no deeper than a few inches. That way bacteria can break it down much faster than if deeper or, worse yet, on the surface. Camping suppliers sell small plastic trowels for this use. By the way, bury nothing else. Carry out your trash. Drinking water quality is still fairly high, but campers should treat <u>all</u> water by boiling or with tablets or an iodine solution.

Campgrounds are noted on the master list on the other side of the map.

Hiking

Although the chart next to the map lists hiking for a large number of places, the only hikes worthy of the term are at Mt. Arab, Catamount Mt., Cat Mt., and the Cranberry Lake-High Falls area. The rest are just walks in the woods. Hikers should consult USGS maps, even take one along. Good strong shoes or high sneakers are necessary, mountaineering boots are not. There is no good substitute for a good sense of humor. On a long hike take some lunch, but leave nothing that will not decompose. Oranges, by the way, have a waxy coating that refuses to break down, so orange skins should be toted back out in the lunch bag. Learn the seasons for fruits such as blueberries, blackberries, and raspberries, but don't count on them for lunch. Take along a bread wrapper or locking plastic bag and gather berries for jam, even wine. Allow a half-hour for each mile of walking and add a half-hour for each thousand feet of ascent.



Cross-Country Skiing

This county has potential to be one of the world's great areas for ski touring. The county's terrain is often challenging, especially in the area of the Adirondack highlands. The map and list of recreational activities includes listings for Nordic skiing opportunities.

Highlights include: Clarkson University, maintaining 7 km of marked trails near the Science Center on the hill campus in the Village of Potsdam. The Village trails are easy and popular. The State Parks Commission maintains trails at Barnhart Island that are located in a basically flat area of alternating woods and open areas. Parks Commission trails in the town of Oswegatchie have been laid out near the state park golf course. Higley Flow State Park, in the Town of Colton, offers a variety of interesting and challenging trails. The Gouverneur Chamber of Commerce maintains over

At 2,840 square miles, St. Lawrence County is the fifth largest county east of the Mississippi. In addition to its rural population base, St. Lawrence County has a number of significant communities. Of the county's 111,931 people, almost 40% live in or near the urban centers of Massena (11,209), Ogdensburg (12,364), Potsdam (9,425), Canton (5,882), and Gouverneur (4,285).

The outstanding feature of the economic landscape is agriculture, especially dairying, which accounts for much of the land area in the Valley. However, the largest employment sector is education, health and social services, with more than 14,400 persons employed, followed by manufacturing, with about 5,400 employed. The County's five colleges and professional schools enroll over 11,000 students annually. The largest industrial concentration is at Massena, with two ALCOA aluminum plants and the General Motors-Central Foundry, all reliant on the power production from Moses-Saunders hydroelectric dam. Additionally, Ogdensburg's new Commerce Park has added several "high-tech" companies to that city's established manufacturing base. (Data from 2000 Census)



10 km of marked trails, with shelters. Write for their map. Good wilderness skiing is available in the Cranberry Lake area. The frozen lake surface and the state fire truck trail give access to the Cat Mountain, High Falls and Five Pond areas over marked hiking trails. Occasional well equipped and physically fit groups travel the miles of unmarked wilderness between Cranberry Lake and Stillwater Reservoir in Lewis County.

Insect and Plant "Pests" to Avoid

There are no dangerous wild animals, reptiles, insects, or birds in St. Lawrence County. That is, dangerous in a life and death sense. There are, however, some unpleasant members of our ecosystem to be found here.

We do have black flies in season from the end of May to the first of July. They are the least popular living things. They do not specialize in humans, even though it may seem so, but go after all warm-blooded creatures. There is no place to escape - no totally effective anti-fly dope. The most effective preparations contain N-N-diethylmeta-toluamide, or "deet". Some even smell badly enough to make you think they must be working. The deer fly attacks only during the day. The mosquito is another matter. Black flies and deer flies are everywhere and mosquitoes are too, but are most prevalent near standing water.

To minimize the discomfort from insects, use a combination of good sense, long pants, long sleeved shirt, a headnet, and a repellant containing "Deet". The worst of "black flytime" is over by the Fourth of July weekend. Our dislike of the bugs comes of our very anthropocentric view of the environment. They have special ecological niches and are very necessary in the functioning of the total ecosystem, an ecosystem in which we, too, participate. Now just try to think ecologically while a cloud of black flies is swarming inside your headnet!

Poison sumac, which may cause an itchy rash worse than poison ivy in some people, is a bog shrub or small tree with red leaves in the fall and gray berries through the winter. It is not the commonly seen sumac of the roadside and abandoned meadow. This harmless species has clusters of furry red fruits. Certain plants in the buttercup family may blister the skin and cause eye irritation. Wild parsnip, when contacted by wet skin in bright sunlight, may cause irritation or a rash. Stinging nettle, which contains formic acid, can cause a short-term but itchy rash. Poison oak and poison ivy are not related to oaks; they are of the genus Toxicodendron. There are many varieties of each but all have three clustered leaflets with pointed tips and broad center areas. Poison oak and poison ivy love full sun but do nicely in the partial shade. Tell them by their shiny leaves. Ivy remains green until it dies but oak turns from crimson to green to crimson from spring to fall.



Mt. Arab Fire Tower



St. Lawrence County Geology by Rob Badger

St. Lawrence County consists of two major physiographic regions, the St. Lawrence lowlands and the Adirondack region. These two regions differ in geology and topography.

The Adirondack region is located in the southern two-thirds of the county. This is an area southeast of a line drawn roughly from the St. Lawrence River at Chippewa Bay, in the extreme southwestern part of the county, northeastward through DePeyster, Potsdam, Hopkinton and on to Nicholville at the eastern boundary of the county.

The Adirondack region consists of rocks that are over 1 billion years old. Some of these rocks originally were flat lying sediments of sandstone, shale and limestone, while others consisted of lava flows and volcanic ash. A few tens of millions to perhaps two or three hundred million years after deposition, the rocks were altered by intense heat and tremendous pressure associated with the formation of a large mountain range known as the Grenville Mountains. These altered sedimentary and igneous rocks were recrystallized to form metamorphic rocks: the marbles, gneisses, quartzites and amphibolites that we see today. These rocks are generally coarse grained, very hard, contain a variety of metamorphic minerals, and have a very complex history that geologists are still trying to interpret. The Grenville Mountains, once possibly as large as the present day Himalayas, were completely eroded by about 600 million years ago, leaving just the roots of the former mountain chain for us to view and walk on today.

The topography of the Adirondack region slowly increases in elevation towards the southeast, in the direction of the High Peaks region of Essex County. The Adirondack region of northwestern Northern New York can be divided into two geologic zones, separated by an irregular line from Carthage (Jefferson County) to Colton. Northwest of this line the rocks are predominantly metasedimentary rocks, while southeast of the line the rocks are primarily metavolcanic rocks. This line, therefore, must represent some sort of major geologic boundary. Geologists interpret this line as a fault that has transposed two different geologic terrains next to each other. This fault would have been active at the same time as the Grenville Mountains were formed, about a billion years ago, and has long since ceased to be active. The surface expression of this fault would have been a break in the rocks, as we see today for the San Andreas Fault in California. But a billion years ago, when the section of fault that is exposed today would have been active, it would have been located at a depth of about 20 kilometers below the surface. Because of the heat and pressure at such depths, there would not have been a clean break in the rocks, but instead there would have been a zone, several tens of meters or more wide, that was stretched like taffy as the two blocks of earth's crust tried to move laterally in different directions. That 20 kilometers of overlying rock has since been removed by erosion, allowing us to study what a fault would look like at depth. Such stretched out zones of rock are called shear zones. This particular fault is known as the Carthage/Colton Shear Zone and in St. Lawrence County can best be viewed at a place called The Narrows along the Stone Valley Trail in Colton. A sign on a tree along the trail marks the shear zone and describes its geologic history.

After the Grenville Mountains were formed, the forces of nature worked to erode them. Four hundred million years of erosion leveled the once lofty mountains to rolling hills of low elevation. By the beginning of the Cambrian geologic time period, about 544 million years ago, land elevation had slowly subsided beneath sea level, and, as the sea encroached, sediments were deposited on top of the metamorphic rocks. The first sediments were sand, much like beach sands found today, usually a yellowish white color but sometimes reddish due to iron oxides. As the land continued to subside and water depths increased, lime mud was deposited over the sand. When these sediments were compressed into rock by overlying sediments, the sand was lithified to become the Potsdam Sandstone, quarried for building stone during the 19th and 20th centuries, and the lime mud was turned into limestone and dolostone, quarried for building blocks in the Madrid and Waddington area and elsewhere in the county quarried to be mixed with tar and turned into asphalt. These rocks comprise the second major geologic region found in the county, the St. Lawrence lowlands, located northwest of the Adirondack region and along the river.

Other significant geologic features of St. Lawrence County are those formed by the advance and retreat over the land of glaciers during the Ice Age, beginning about two million years ago and ending about 12,000 to 14,000 years ago. These glacial features, called moraines, are broad, ridge-like hills formed of debris left by glaciers as they stagnated for long periods of time and then retreated. At the end of the Ice Age, when the glaciers were melting, the northern part of St. Lawrence County was covered by a lake. This was caused by the melting of snow and ice at higher elevations in the southern part of the county and on the northern slopes of the Adirondack Mountains. This meltwater flowed north along routes that eventually formed our current network of rivers, including the St. Regis, Raquette, Grasse and Oswegatchie, but was blocked from flowing out to the sea along the present day St. Lawrence River by the retreating ice sheet. Remnant shorelines of this transitory lake, called Lake Iroquois, can be seen at Parishville and just south of Hannawa Falls.

St. Lawrence County has a reputation as a collecting ground for minerals and crystals. Museums all over the world contain specimens that were found in St. Lawrence County, particularly of tourmaline. Following is a list of areas to view interesting rock exposures and for mineral collecting. The geologic features listed are at road cuts accessible to the public, but some of the mineral collecting localities are on private property where permission to collect is needed and some landowners charge a small fee to collectors.

A. <u>Prominent Geologic Features</u> - Public access

1. Snake Road Cut – U.S. 11, 4 miles southwest of Canton – plastically folded marble. The Snake is a thin band of feldspar that traverses the white marble road cut on the east side.

2. Rock Island Road Cut - 3 miles north of Gouverneur on Rock Island Road, south of the Oswegatchie River - exposes cavity fillings of Potsdam sandstone in Grenville Marble.

3. Hailesboro Road Cut - Highway 58 near Hailesboro, 2.2 miles south of Gouverneur – exposes a large section of folded marble with clusters of black gabbroic rock.

4. Poplar Hill Road Cut - Highway 58 one mile northwest of Fowler, N.Y. – exposes quartz-biotiteoligoclase gneiss that is one of the most extensive metasedimentary rock types in the Grenville Formation.

5. Chippewa Bay Road Cut - on N.Y. 12, .2 miles northeast of the intersection with Pleasant Valley road, 2.7 miles east of Chippewa Bay – exposure of Potsdam Sandstone and the Theresa Formation. The Potsdam Sandstone is mostly white ortho quartzite and the Theresa Formation is sandstone that is gray and blue gray and consists of feldspar, calcite and dolomite.

6. Brier Hill Road Cut - N.Y. 12 south of the Brier Hill turnoff and Jacques Cartier Park – exposes a folded and faulted section of Theresa formation. It consists of white ortho quartzite alternating with gray and blue-gray dolomite sandstones.

7. Stalbird Ice Contact Debris - Marshville-Stalbird Road, Hermon. Example of debris from ice contact B. <u>Mineral Collecting Localities</u>

1. Doubly terminated black tourmaline crystals - Powers Farm, Pierrepont. Take Route 68 for 7 miles SE of Canton or 0.7 miles NW of County Road 24. The farm is on the north side of the road. Permission is required and a small fee is charged for collecting.

2. Green tremolite crystals - West Pierrepont. From Pierrepont drive 4.3 miles SW on County Road 24 and turn left just before the bridge in W. Pierrepont. Continue a mile on this road and turn right onto a dirt road. Park at the top of the hill in 0.2 miles and walk uphill to the deposit.

3. Gem quality diopside crystals - Edwards. Distinctly greenish outcrop of rock on the north side of Route 58 just east of the easternmost turnoff to Edwards.

4. Dravite (brown tourmaline) crystals - Richville. Take Welch Road, at the south end of Richville, about 1 mile to a farm on the south side of the road. The deposit is located on the hill behind the farm. Permission needed and a donation requested.

Rob Badger is an Associate Professor in the Geology Department at SUNY Potsdam, Potsdam, NY

From the father of waters, the majestic St. Lawrence River, to the lush dairy lands of the St. Lawrence Valley, to the fabled forests of the Adirondack Park, only one county has it all. This is St. Lawrence County - the cream on the top of New York State. The St. Lawrence River features developed state parks and campsites as well as undeveloped islands along its shores. The Adirondack portion, for its part, hosts perhaps the premier wild area of the entire northeast - the Five Ponds Wilderness.

The rivers of the county are legendary. The Grasse, the St. Regis, the Raquette, the Oswegatchie are all here as they flow from the Adirondack plateau through the rolling plains to the pastoral St. Lawrence Valley to finally join with the St. Lawrence River. Some of the finest canoeing in the entire eastern United States is now available here. Ranging from the exhilarating challenge of whitewater to the intimacy of meandering flows through some of the most scenic landscapes in the lower 48. These rivers as well as the entrancing waterfalls that line their path have been a relative secret until recently. They are now in large measure open and available for everyone to enjoy.

The lakes, which are as numerous as our snowflakes in winter, extend from the large and sprawling such as Carry Falls, Higley Flow, and the island-studded Cranberry Lake to secluded pristine ponds lying as dimpled jewels across the face of the land.

Camping in St. Lawrence County can surely be a truly memorable experience. The choices vary from fully developed campsites with all amenities on the larger lakes and along the St. Lawrence River to the adventure of truly primitive camping in the back country of the Adirondack Forest Preserve - all this amidst the splendid scenery that so defines St. Lawrence County.

Hiking in St. Lawrence County is equally special and varied. A choice exists between uncluttered trails coursing through truly magnificent forests and rolling topography (many so superbly suited to cross country skiing in the winter) to relatively short, steep ascents up moderate-sized mountains. From the tops of these mountains may be glimpsed a sea of green - a forested landscape unfurling towards the horizon with scarcely any trace of human intrusion in evidence. The fortunate hikers who already know these trails register their approval by returning year after year.

St. Lawrence wildlife tends more towards the royal than the mediocre. There are species here that are rare elsewhere in the state and others may be sighted more frequently than elsewhere. Bobcat, Fisher, Otter, Eastern Coyote, Beaver, Mink, Bald Eagle, Osprey, and Loon all thrive locally along with the occasional moose, pine marten, Canada Lynx and Golden Eagle.

Hunting for trophy White-tailed Deer and Black Bear in the Adirondack section of the county is a quality experience that will long be treasured. Excellent waterfowl and small game hunting is to be had in the St. Lawrence Valley, especially in the three wildlife management areas that are maintained primarily for public hunting by the New York State Department of Environmental Conservation.

For those who enjoy matching wits with the finned residents of our waters, fishing ranges from the thrill of Brook and Lake Trout in the Adirondacks to the legendary Northern Pike, Muskellunge and Bass fishing on the St. Lawrence River - all amidst settings unsurpassed in beauty and tranquility.

St. Lawrence County is indeed unique and truly blessed in its bounteous supply of natural splendors These span the spectrum from the deep wilderness of the Adirondack Forest to the charming vistas of the St. Lawrence Valley where, as it is often said, the old ways linger. You will soon see why most visitors succumb to the lure of the region and return time and again.

"Welcome!"

Peter V. O'Shea is a local resident, writer, naturalist, conservationist and environmentalist. Peter served on the St. Lawrence County Environmental Management Council for ten years. O'Shea also serves on the Board of Directors of the Residents Committee for the Protection of the Adirondacks, and is a member of the statewide Open Space Committee.



guidelines:

- forest ranger.

- birch bark.

- Check weather reports before you set out.

For further information, contact the NYS Dept. of Environmental Conservation Regional Office in Potsdam, NY at 315-265-3090 during normal business hours.

St. Lawrence - A County for All Seasons by Peter V. O'Shea

Endangered Plants

Some things should not be picked because they are harmful to the picker, others because it is harmful to the species. Under no circumstances should anyone pick jack-in-the pulpit, any of the lady's slippers, trailing arbutus, trilliums, gentians, Indian cucumber-root, or showy orchis, among others (a list of protected plants is available from D.E.C.).

A good rule of thumb for resolving the should-I-pick or should-I-not question in the field is, of course, don't pick wild flowers at all. They are most beautiful where they are found, set in their natural surroundings, whether that is a roadside ditch or a deep forest. "Pick" them with your mind's fingers or with a camera or sketch pad.

Important Guidelines

The Adirondack forests and mountains offer numerous opportunities for recreational pleasure, nature appreciation and an escape from the urban world. Help maintain the natural character of New York State's Adirondack Forest Preserve for your enjoyment and those that follow. Please observe these simple

• What you carry in, carry out. Leave the woods cleaner than you found them. Bring a garbage bag to carry out trash. Burying refuse is prohibited.

• Fires - No fires are permitted, except for cooking, warmth or smudge. Choose bare level ground, clear away leaves and twigs for three feet and lay stones in a fire ring. Use only dead and downed wood. Be sure fires are extinguished before you leave. Better yet, carry a portable stove. Be careful with cigarettes and matches. Don't leave garbage in the fire pit. Report unattended fires to the local

• Camping - Unless the site is designated by a DEC sign, you must camp at least 150 feet from water, roads, and trails. Choose clear level ground to pitch your tent; disturb as little ground cover as possible. Respect other campers by keeping noise to a minimum and keeping your site clean. Carry a tent in case lean-tos are full. Obtain camping permits in advance from the local forest ranger.

Latrines - If there are no toilets nearby, dig a trench 8 inches deep; cover human waste completely when you break camp. Stay 150 feet away from (and below) any water supply.

Water Supply - Wash dishes and yourself away from and below sources of water. Dispose of waste water away from streams and springs. Do not drink untreated water.

• Enjoy but do not remove or deface plants, animals, fossils or rocks. Do not drive nails into trees, or peel

Observe posted regulations and be considerate of fellow recreationists.

• Do not discharge a firearm in a parking or camping area or across a road open for traffic.

• Plan your trip according to routes and time available, carrying the latest guide books and maps.

• Always let someone know where you are going and when you expect to return. Sign all trail registers.

• Prepare for emergencies. Carry a day pack, compass, pocketknife, waterproof matches, candle, first-aid kit, rain gear and protective clothing, high energy food items, such as candy, and a flashlight with extra batteries.

• In case of an accident, at least one person should remain with the injured. Others should carefully note the location and contact the local forest ranger to report a lost or injured companion.

• If lost, keep calm, stay where you are and keep warm. A large smoky fire is the best means to signal your position. If you think you can find your way out, following streams downhill will nearly always lead you to habitation.

Owners with dogs should consider fellow hikers so that restrictive measures will not be necessary to control pets. When others approach, leash your dog and keep it quiet. Keep it out of sources of potable water. Remove droppings from the trail and campsite area.