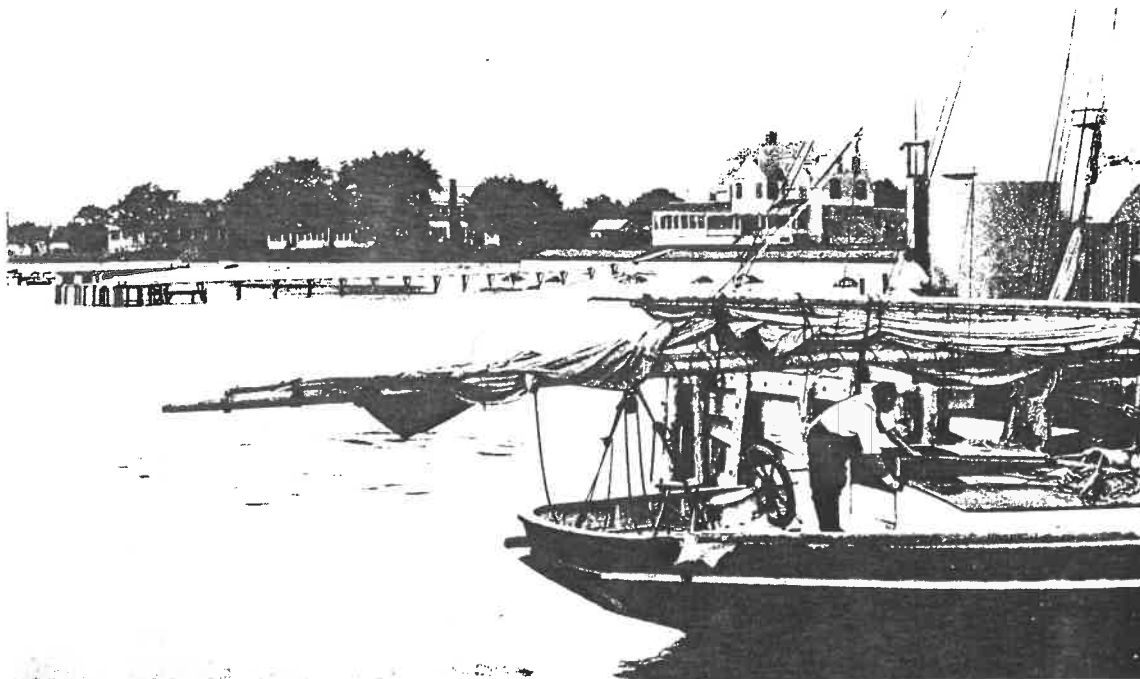




## Greenport, a Community Tied to the Sea

by Gene Feldman, Sea Grant Specialist in Riverhead



Fishing schooner at Greenport gas dock in early 1900s. Photo courtesy of the Stirling Historical Society, Greenport, N.Y.

"Greenport is a New England fishing town — if ever there was one out of New England itself." So a traveller described Greenport in the 1870s, a small village on the eastern end of Long Island some 90 miles from New York City. Since colonial days, Greenport has been an important maritime center and is referred to as "Winter Harbor" in the early records. Located on a deep water channel that provides access to the Atlantic Ocean, Greenport was accessible when other landings were closed by ice, allowing it to serve as the region's major port.

The fortunes of Greenport and its people have always been closely tied to the sea. The Woodland Indians gathered oysters to supplement their diet. The piles of oyster shells found

on the sites of former Indian villages attest to the role the oyster played in the lives of those early inhabitants.

In the 1880s, the oyster industry in New York was concentrated at the western end of Long Island. At the eastern end, oyster production was small although some experimental plantings were being tried. In 1884, the State of New York deeded to the Suffolk County Oyster Commission the land beneath the waters of Peco-nic and Great South Bay to be sold to persons who would use it for the cultivation of oysters. The industry relied upon seed oysters from the bays along the Connecticut shore. These oysters were transplanted onto carefully prepared sea bottom in the Greenport area, and were ready to be

harvested and marketed after about five years.

The Greenport oyster industry flourished during the early decades of the 1900s, with nearly 30 oyster companies operating. The industry peaked in 1936 when 2.5 million bushels of oysters were shipped out of Greenport, worth approximately \$60 million at today's market value. Annual production remained fairly steady until 1950. After 1950, however, production declined sharply and has remained at relatively low levels ever since.

Why has an industry that was once called the "backbone of Greenport's future" fallen upon such hard times?

*continued on page 8*

## New York's Hatcherles Hold a Bright Future for Lake Ontario Anglers

by Robert B. Buerger,  
Sea Grant Specialist in Oswego

For the past 10 years, the New York Department of Environmental Conservation (DEC) has planned and initiated a program to fully develop a Lake Ontario salmonid sportfishery. Through the years, the salmonid program has endured a number of setbacks, such as high fish mortality due to the parasitic sea lamprey and a stocking ban due to excessive contaminant accumulations in Lake Ontario trout and salmon. Although neither the lamprey or contaminant problems have been completely solved, progress has been made to the degree in which the salmonid propagation and stocking program's growth could continue.

Today, one factor still stands as a barrier to fully realizing the potential of a Lake Ontario salmonid sportfishery. That is, the state's hatchery system has been unable to stock Lake Ontario with adequate numbers of trout and salmon to insure increased angler success. Presently, the state hatchery system produces 547,000 pounds of fish annually. Of this, 14 percent is stocked in Lake Ontario, representing roughly 65 percent of the fish the state estimates is necessary to insure a high level of angler success.

Recently, the New York Sea Grant Extension Program sponsored a special informational meeting between

Average Annual Production of Trout and Salmon by DEC Hatcherles before 1981 to 1986, in pounds<sup>1</sup>

Hatchery	Before 1981	1981-82 <sup>2</sup>	1983-84 <sup>2</sup>	1985-86 <sup>2</sup>
Adirondack	22,000	15,000	15,000	15,000
Bath	55,000	55,000	65,000	70,000
Caledonia	80,000	160,000	160,000	160,000
Catskill	70,000	70,000	110,000	110,000
Chateaugay	40,000	45,000	50,000	50,000
Randolph	90,000	90,000	90,000	90,000
Rome	160,000	160,000	160,000	160,000
Salmon River	—	100,000	200,000	250,000
Van Hornesville	30,000	30,000	30,000	30,000
Cold Spring Harbor	closed 7/79	—	—	—
Crown Point	closed 11/80	—	—	—
Fortsville	closed 11/80	—	—	—
Warrensburg	closed 2/81	—	—	—
<b>Total</b>	<b>547,000</b>	<b>725,000</b>	<b>880,000</b>	<b>935,000</b>

<sup>1</sup> Based on information from the Bureau of Fisheries, Department of Environmental Conservation, Albany.

<sup>2</sup> Estimated projections, only.

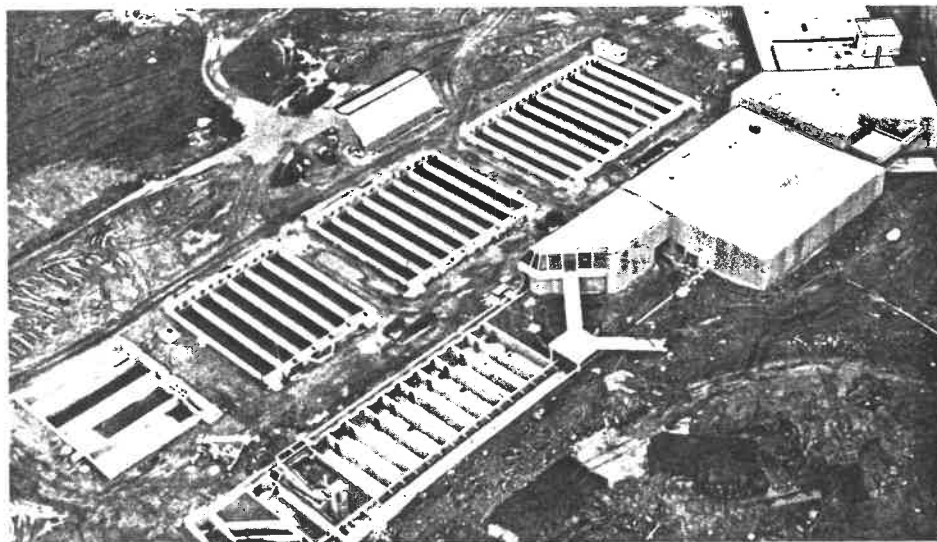
DEC fisheries personnel and key Lake Ontario sportfishery interest groups. The purpose of the meeting was to discuss the statewide fish propagation and stocking program and what the future holds. Approximately 55 individuals representing Lake Ontario shoreline counties, sportfishery advisory boards, sportsmen federations, and Chambers of Commerce attended the meeting. Attendees had the opportunity to meet and exchange ideas with other sportfishery interests from along the lake and with DEC fishery personnel.

At the meeting, Bruce Shupp, chief of the Bureau of Fisheries, presented a bright future for Lake Ontario anglers based on improvements and

expansion in New York's hatchery system. These changes, hopefully, will alleviate the present stocking deficit and provide the best fishing success potential for Lake Ontario anglers in the future. The key to the system will be the 1981 completion of the state's new Salmon River Fish Hatchery at Altmar, N.Y. This new \$11.5 million facility, which is still under final construction, has already begun operation with the arrival of 6.2 million chinook eggs from Michigan.

As a result of the Salmon River Hatchery, the stocking of fish in Lake Ontario should increase significantly. By 1982 approximately 100,000 pounds of fish will be produced and released from the new facility annually, and by 1985 that number will increase to 250,000 pounds. In addition to the new Salmon River facility, several older hatcheries are scheduled for renovation over the next few years. The modernization and expansion of many of the older hatcheries in the system will add an additional 138,000 pounds annually by 1985-86. The new Salmon River Hatchery and the renovation of present hatcheries should yield a 1985-86 production level of 935,000 pounds annually. This represents 100 percent of what fisheries managers believe is necessary to provide desirable levels of success for anglers on Lake Ontario.

For anglers, this all adds up to a bright future for trout and salmon fishing in Lake Ontario. (See 1981-82 stocking figures on next page.)



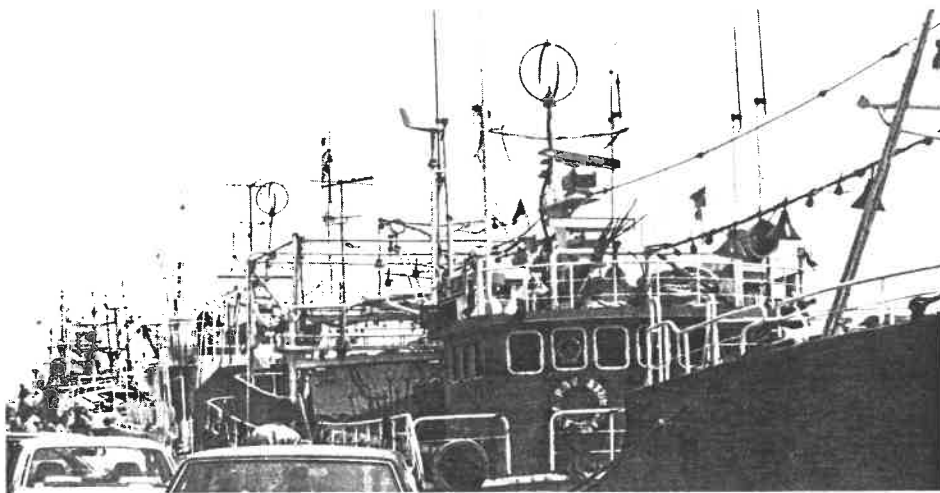
The new Salmon River fish hatchery in Altmar, N.Y. under construction in June 1980.

# Japan's Educational System for Fisheries

by Bruce T. Wilkins,  
Program Leader in Ithaca

The dramatic expansion of Japan's fishery in the post-war years was aided, perhaps made possible, by a fishery education system very different from ours. Visits last summer to universities and high schools in Japan brought several of the contrasts into focus. Two Colleges of Fisheries, each with 60 or so professors, are the peak of an educational system that also includes 37 fishery high schools.

Visits with, and lectures to, faculty at the College of Fisheries, University of Hokkaido reveal a college where applied fisheries topics are of primary concern. Professorships exist in such specialized topics as "Chemistry of Fish Oil", "Fishing Gear Engineering", and "Operation Technology of Fishing". U.S. (and New York) colleges possess few such positions. Our colleges have more recently added positions similar to those in Japan on "Fisheries Business Economy", "Marine Food Technology", and "Marine Culture". These additions have often come because of Sea Grant support.



An extensive, applied fishery education system underlies the expansion and modernization of Japan's fishery.

While a few Japanese colleges offer extensive applied fishery work, it is likely easier to get an education focused on fisheries in the U.S. New York, for example, has 4 four-year colleges or universities with fisheries courses and well over 100 such programs exist in this country, while only 16 colleges offer fishery work in Japan.

The reported 37 Japanese fisheries high schools are duplicated in few, if any, U.S. communities. Fisheries programs in community colleges along our coast have greater similarity to Japanese fishery education at the

high school level.

The recognition given the high school fisheries teacher whom I met, by the principal, mayor, and others, clearly marked his important role in the small community. Only after seeing such a well-accepted fishery high school program did I begin to question why BOCES or other high schools in New York's fishing areas lack such training! Perhaps such courses of study would aid New York's expanded fishing fleet gain better trained workers.

## Fishermen and Education

Discussions with some Hokkaido fishermen indicated they strongly value these high schools. Nevertheless, they were concerned that vocational fisheries programs should not be seen as a place to "dump" students who are less competent in other tasks. They also indicated a constant need to make sure that both the universities and high schools continue to focus on applied aspects of fisheries.

In Japan, state fishery agencies and, to a lesser degree, fishermen cooperatives and associations provide adult educational programs similar to those carried out by Sea Grant Extension programs in New York and other Sea Grant states. It is that part of the fisheries educational system which may be most similar in our two countries.

Recognition for the need of college education, research and extension programs in applied marine topics including fisheries, was of course the reason the Sea Grant program was established at both the national level and in New York state. Japan suggests there is still progress possible in our system.

## 1981-82 Great Lakes Trout and Salmon Stockings

At a recent meeting at the site of the state's new Salmon River Hatchery in Altmar, Department of Environmental Conservation biologists released proposed stocking figures for Lakes Ontario and Erie. This information is provide below.

Readers should understand that the proposed figures represent **projections only**. They are based on the best information available and constitute

stocking levels that state fish culturists strive to obtain. There is no guarantee against extenuating circumstances (such as fiscal problems, fish diseases, contaminant discoveries and other hatchery problems) ultimately limiting the number of fish to be stocked in any single year. Likewise, conditions and hatchery production levels could make additional numbers available.

### Stocking of Trout and Salmon in Lakes Ontario and Erie, 1981-1982

	Lake Ontario		Lake Erie	
	1981	1982	1981	1982
Lake Trout (Yearlings)	1,020,000	1,020,000	40,000	40,000
Lake Trout (Fingerlings)	180,000	180,000	500,000	500,000
Brown Trout (Yearlings)	350,000	350,000	50,000	50,000
Rainbow Trout (Yearlings)	80,000	80,000	50,000	50,000
Rainbow Trout (Fingerlings)	62,500	62,500	—	—
Steelhead (Yearlings)	215,000	215,000	—	—
Coho Salmon (Fingerlings)	300,000	350,000	50,000	200,000
Chinook Salmon (Fingerlings)	1,500,000	2,700,000	—	—
<b>Total</b>	<b>3,707,500</b>	<b>4,957,500</b>	<b>690,000</b>	<b>840,000</b>

# Tourism and Redevelopment

## New York's Seaway Trail

by Stephen D. Brown,  
Sea Grant Specialist in Potsdam

Tourist attractions along the shores of Lake Ontario and the St. Lawrence River, including the Thousand Islands and Niagara Falls, are now linked together by a self-guided route — the Seaway Trail. With passage of legislation introduced by Senators Douglas Barclay and John Daly, and Assemblymen Matthew Murphy and David Martin, a well-marked system of roads will now exist from the Roosevelt International Bridge near the Village of Massena, through the Village of Fairhaven where the original Seaway Trail ended, to the Rainbow Bridge in the City of Niagara Falls.

Visitors who travel the trail will be able to sample a wide variety of coastal attractions. They will find water sports galore, scenic wonders, museums large and small, historical sites where the past comes alive, and some of the best fishing in the north-east.

### Trails and Tourism

If properly developed and promoted, the Seaway Trail will stimulate growth in coastal tourism. Trails have been effective in integrating different areas and a variety of facilities into one, major, attraction. Once in place trails make vacations easier to plan because the tourist doesn't have to think ahead of time about places to visit and routes to take. Trails also assure the tourist of a well-marked, easy-to-follow route. For organizations engaged in tourist planning, development and promo-

tion, a trail provides a framework for coordinated activity. Local businesses will know which route most tourists will use, what sites are likely to be visited, and consequently, they will be better able to provide appropriate visitor services.

Properly designed trails can also help visitors better understand the history, architecture, geography and uniqueness of an area. The type of places identified as stopping points, the kind of tour guides developed — whether self-guided or escorted, the variety of information services available, and the mode of transportation used (e.g. automobile, bicycle, motor coach) all contribute toward helping the tourist.



An example of how a self-guided, drive-it-yourself, interpretative trail can help is seen in Niagara County's "Cobblestone Tour". Using the guidebook, a tourist can visit cobblestone buildings known for their architectural style. A copy of the guide is available free from the Department of Economic Development and Planning, Niagara County Court House, Lockport N.Y. 14094. (Enclose a self-addressed, stamped,

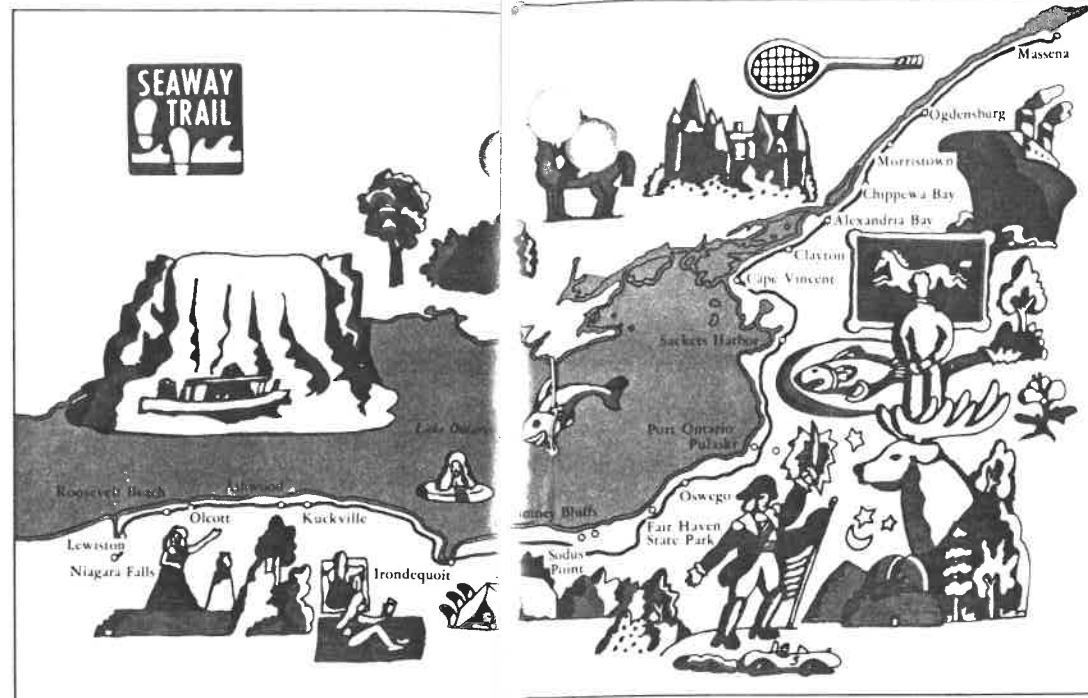


Illustration provided by the Thousand Islands International Council in Alexandria Bay.

business-size envelope.)

Once a main trail is established, offshoot trails can be added by using directional signs to guide visitors to a particular attraction and back again. Loops can be designed to connect a series of attractions off the main trail, and special hiking, biking, walking, and boating trails can be set up. Such minor trails add to the attractiveness of the main trail.

### A Success Story

In Bristol County, Mass., the "Americana Trail", a trail with 350 years of history in 119 miles, was spawned in the 1960s by a desire to stimulate regional tourism. Recognizing that cooperation was more beneficial than competition, the Bristol County Development Council helped to establish the Americana Trail Association, and created a drive-it-yourself trail from Mystic, Conn., through Rhode Island to Plymouth, Mass. The trail, which features historical sites, has six major stops, numerous loops and spurs which lead to other attractions. The main attractions on route are Mystic, Conn., Newport and Providence in Rhode Island, Fall River, South Carven, and Plymouth in Massachusetts.

From 1976 to 1978, the Americana Trail proved to be remarkably successful. Receipts from tourism increased \$2.5 million yearly in Bristol County alone. Now, advertising further capitalizes on the trail. In 1977, \$300,000 was spent for print

media. Travel and trade shows, special tours and events, information centers, vacation packages and market research were established, and business investment encouraged. The result is the Americana Trail has made the area a highly popular destination for tourists.

### The Challenge

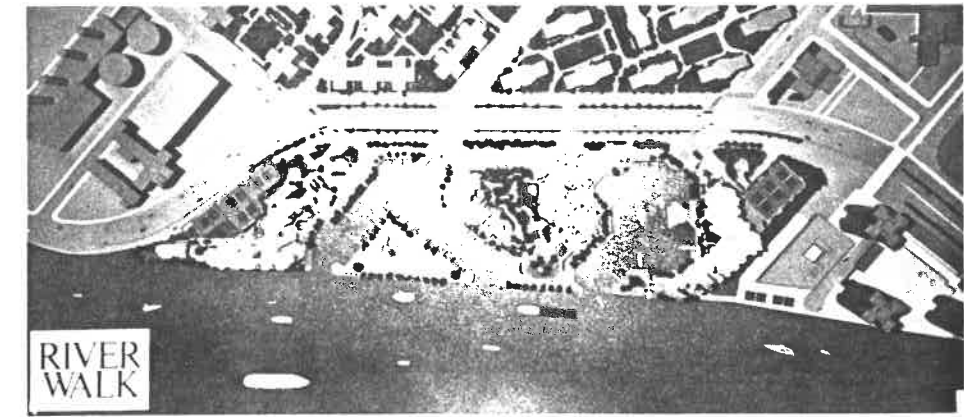
Like the Americana Trail, the success of the Seaway Trail will depend on cooperation and commitment. For the Americana experience to be repeated in New York, people along the trail will need to work together. Initially, efforts toward establishing the Seaway Trail have been encouraging. With continued effort, success will be assured.

## River Walk — Manhattan Style

by Stephen Lopez,  
Sea Grant Specialist in New York City

Termining the choice "one of the hardest I have had to make", New York City Mayor Edward I. Koch announced River Walk the winning proposal for redevelopment of a 30-acre site in midtown Manhattan. That was in the summer of 1980 and the project is now winding its way through a complicated maze of permits and approvals.

River Walk will be built on the waterfront of Community Planning Board 6, one of New York City's 59



Boards that provides input into local government.

The Board 6 waterfront is a study in contrasts: low intensity, land uses co-exist with high intensity areas and terribly conflicting uses are situated adjacent to one another. River Walk will replace a concrete batching plant, an abandoned pier, a burned-out, former municipal sanitation garage, a gas station, a parking garage and a small boat basin. The site is across the street (the Franklin D. Roosevelt Drive) from Peter Cooper Village and Stuyvesant Town.

The new development will integrate a 245-room hotel, 1,888 housing units, 250,000 square feet of commercial space and public recreational access to the waterfront. Much of this will be built on a deck over the East River. The plan has been criticized by the Board's Waterfront Committee Chairman Lester Wallman who says it "blocks the river front off from the rest of the community like the Great Wall of China". Although this particular River Walk project was not formally endorsed by the Community Planning Board, city officials approved the project based on the \$10 million additional income expected in taxes and fees, arguing that the plan is sensible and economically sound.

### Combining Private and Public Use

The process of developing proposal guidelines and soliciting private development proposals was lengthy. A task force was established in 1979 that included city officials and community representatives. Students from Harvard University's Graduate School of Design participated in the identification of site constraints and development opportunities. The New York State Sea Grant Extension Program provided continuous educational support on development process skills. Many public meetings

were held and a television program addressing the development issue was sponsored by the Community Planning Board in an attempt to gain a broad spectrum of public input.

The highest priority identified by the community was public recreational access to the waterfront. However, the reality of scarce public resources suggested a profitable private development venture would be necessary to ensure private construction and maintenance of public recreational facilities. The River Walk scheme, designed by the New York firm of Gruzen and Partners for the Toronto-based Cadillac-Fairview Corporation, includes a continuous waterfront esplanade.

Ultimately the site — zoned M 2-3 for manufacturing — was offered with C 2-6, commercial zoning. This zoning allows a mixture of residential use with a maximum floor area ratio (FAR) of 3.4 and commercial use with a maximum FAR of 2.0. Certain uses typically allowed in C 2 districts, such as discotheques and take-out eating places, were specifically excluded to prevent conflicts over use with the existing residential community.

In looking back over the history of River Walk, Jon Benguiat, the city's department of ports and terminals' assistant commissioner for waterfront redevelopment notes, "The end result is really exciting, but we can't afford to commit that much staff time to community involvement in the future."

The task of coordinating community input for the city was monumental. Each proposal reflected community priorities because of the community's participation in setting guidelines for the proposal. It is hoped there will be a continuing participatory role, however diminished, for community groups in waterfront redevelopment projects in the future.

# A Law Fellow Ventures Out on Thin Ice

by Bruce M. Kantrowitz, Assistant Director for Communications in Albany

Harvesting ice was once big business: from 1830 to 1910, our rivers, ponds, and lakes supplied much of the ice used for home and commercial refrigeration. Brewing lager was a most popular commercial use. The process requires chilling the holding vats. And until the advent of electric refrigeration, setting them on ice was the best way to keep them cool. Most of the ice used in the New York City area was cut from the Hudson around Troy and Rensselaer; and Massachusetts was the source for a vast ice export market to places like the Caribbean and India — where climates aren't as well suited for producing their own ice.

The business of ice harvest is no longer just of historical interest. Scott Brown, a Sea Grant Law Fellow at the State University of New York at Buffalo's Law School, has a new interest in ice harvest. Scott is anticipating a battle on the St. Lawrence and Great Lakes that may lead to a war on other navigable waterways. And he wants to be ready for it. Some have proposed that ice booms, ice breakers, and polypropylene bubblebers keep the St. Lawrence stirring all winter for navigation, shipping, and commerce.

But resisting winter navigation are operators of area power plants who fear the plan could impede power production by creating ice jams; members of the St. Lawrence tourism industry who have promoted recreational uses of the ice to boost winter business; and residents of the river's islands who depend on the winter ice cover to reach the mainland.

Ultimately, it could come down to a battle over exactly who has the right to the ice on the St. Lawrence River, or on any other river, says Brown. So he has been brushing up on the history of ice rights in anticipation of just such a battle.

Brown has found that, thanks to the ice harvesters and their technology, the turn of the century saw similar conflicts over competing uses for the ice cover. And these conflicts left us with a body of law.

The ice harvesters had developed unique tools for their trade. They divided the ice into checkerboards with special toothed plows. Then they broke up the ice with pry bars and carted it to ice houses — frame

riverfront warehouses — where they stacked it on layers of sawdust and stored it for shipping.

All this left sportsmen and travelers treading on thin ice, because the ice harvesters and their strange tools didn't have exclusive claim to the ice bed. In the winter the rivers became highways for travelers, playgrounds for skaters, and fishing grounds for anglers.

The national law states that whoever owns the bed over which the ice forms also owns the ice. In unnavigable waters that was a fairly simple matter. First ice rights belonged to those owning riverside property — they could extend property lines out over the water and claim the ice cover. Next rights were granted to those owning ice houses. After that, the ice was open to anyone else who could get to it without trespassing.

In navigable waters though, like the St. Lawrence and the Hudson, matters were more complex. The state holds title to the bed in all navigable waterways. Therefore, the state has title to the ice. The right to appropriate the ice consequently lies with the public. When one segment of the public wanted to use the ice for winter sport and another wanted to cut it up and sell it, it was time for the courts to step in and set up appropriation regulations.

In New York State several statutes were passed in 1895 to help sort out these conflicting uses for the Hudson's ice. These can be found in sections 260 to 265 of the General Business Law. They allowed riverfront property owners to appropriate a tract of ice proportionate to the amount of shoreline they owned.

The penal law further spelled out the harvester's responsibilities to protect those who use the ice for sport or thoroughfare — by erecting fences and guards — and to maintain the ice by staking with wooden posts and scraping it. Violators were subject to criminal penalties.

But just about the time the courts finished sorting out these issues and established some precedents — about 1910 — the technology of mechanical refrigeration starved out the business of ice harvest, laying to rest the whole body of ice rights — at least for awhile.

People reverted to the age old uses

of ice, they walked or rode upon it; they skated on it, and they fished through it. Along the St. Lawrence many began capitalizing on the icy flats to make this summer resort area a winter attraction, as well.

The laws atrophied. While the first issue of *American Jurisprudence* (1940) spent 12 pages on ice use, the most recent issue lights on the topic for but a paragraph.

But then the United States Army Corps of Engineers proposed winter navigation, following a study initiated ten years ago at the request of Congress. The plan is scheduled to open the St. Lawrence for business by 1990. Scott Brown expects that will resurrect a lot of these questions of user claims and priorities.

And we can't start from scratch to settle these issues. Maybe that would be easier, says Brown, but we've inherited a wealth of rules and regulations that date back to those days, and we're stuck with them. It is the lawyer's job to apply these to our current situation.

Today, Brown and some of his colleagues are doing just that. They are looking at how these old laws apply to the rights of the area's residents, power plants, and supporters and opposers of winter navigation.

According to Brown, there are many related issues to winter navigation that still haven't been explored: no one has considered the effects of winter navigation on sediment transport, on wetland ecology, and on other ecological issues. Brown says he is content though to leave nature for those who know nature.

But when and if a battle rages on the ice flats of the St. Lawrence, Scott will know the law.

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**Editor's note:** Because Sea Grant wanted to investigate legal as well as ecological issues, the Sea Grant law program was funded at the Law School at the State University of New York at Buffalo. Now in its fifth year, the program has produced research on a wide range of questions encountered in coastal management. Much of this is contained in the *New York Sea Grant Law and Policy* series. Order copies of the 1980 edition from Sea Grant in Albany.

# Oil, Echo Sounders, and Staff Position on Seafood Nutrition

Oil and water don't mix, and neither do oil and coastal property. But with proper planning and preparation, coastal property owners don't have to watch helplessly as oil spills foul their docks, boats and beaches. The techniques for protecting personal property in case of an oil spill will be the topic of a **public demonstration day** in the spring on the St. Lawrence River sponsored by Sea Grant in Potsdam. St. Lawrence River waterfront property owners will learn inexpensive but effective techniques for protecting their docks, boats, and beaches from the effects of large scale oil spills on the river. In addition to learning these techniques, river residents will be advised on: how to coordinate their efforts with the actions of the Coast Guard and other responsible agencies; how they can help protect fragile wetlands and wildlife habitat; and how to set up a communication system to keep other property owners informed. Much of the information for the demonstrations will be taken from **Oil Spills: A Coastal Residents Handbook** by John T. Omohundro (See I Want More). For information about demonstration day, contact Mark Wiley at our Potsdam office.

\* \* \* \* \*

In December, our Riverhead office sponsored a **workshop on fish finding using echo sounders**. The 32 participants heard University of Rhode Island specialist Duncan Amos discuss key principles in this technique. The most important first step in using echo sounding effectively is specifying what equipment is necessary to satisfy your requirements. Following its correct installation, the equipment must then be set up to differentiate between fish and background interference. This is best accomplished by correctly setting range, gain, white line, and sensitivity adjustments. The most salient point brought out in the workshop was that successful operation of echo sounders requires experience and practice. Although based on scientific principles, echo sounding is an art. A good publication on using echo sounders is **A Fishermen's Guide to Echo Sounding and Sonar Equipment: Acoustic Fish Detection Instruments**, Marine Bulletin 41. It is available for \$2.00 from the University of Rhode Island, Marine Advisory Service, Publications Unit, Bay Campus, Narragansett, R.I. 02882.

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We are pleased to announce establishment of a part time position in the Division of Nutritional Sciences at Cornell University to develop educational programs on nutritional aspects of seafood. **Glenna Kopphen** has assumed that position. Glenna comes to us with degrees in food science and research experience in food microbiology. She has also been a teaching assistant and has developed nutrition information programs. We look forward to this much needed new dimension in our programs for consumers.

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## I Want More!

Additional information is available from New York Sea Grant. Please check the publications which interest you and send to your nearest Sea Grant Extension Office. For the following publications, make checks payable to Cornell University:

- \_\_\_\_\_ **Examining Sea Life Thrills City Youngsters**, S. Willson, reprinted from Science and Children, October 1980, 2 pp., 35 cents.
- \_\_\_\_\_ **Oil Spills: A Coastal Resident's Handbook**, J.T. Omohundro, 1979, 16 pp., \$1.00.
- \_\_\_\_\_ **Modeling Ice Regime of Lake Erie**, Sea Grant Reprint Series, A. Wake and R. Rumer, Jr., 1979, 18 pp., \$1.00.
- \_\_\_\_\_ **An Aquaculture Pilot Plant for Lobsters**, Sea Grant Report Series, L. S. Turner et al., 1979, 83 pp., \$1.50.
- \_\_\_\_\_ **Landscape Visibility Mapping: Theory and Practice**, Sea Grant Reprint Series, J. P. Felleman, 1979, 11 pp., \$2.50.
- \_\_\_\_\_ **Pathogenesis of Experimental Vibriosis in Larval American Oysters**, Sea Grant Reprint Series, R. Elston and L. Leibovitz, 1980, 15 pp., \$2.00.

If you would like to be notified of additional publications by New York Sea Grant, please check the appropriate category and send to the Albany Sea Grant office. Be sure to include your name and address.

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| _____ General information on Sea Grant | _____ Aquaculture, Fisheries, Seafood |
| _____ Oceanography, Limnology, Geology | _____ Using Our Coastal Zone          |

## Greenport *continued from page 1*

Why is there only one firm left in Greenport that relies upon the oyster for its livelihood? Are there reasons to believe that a once thriving industry can one day be restored to its former prominence? For answers, it is necessary to understand the reasons behind the industry's decline, and to identify the steps needed for revitalization.

It is generally agreed that the decline was not the result of over-harvesting. One instance often cited is the storm that hit the Connecticut shore just after Thanksgiving in 1950. According to one long-time oysterman, "It was a big storm that blew for 30 hours straight and destroyed the oyster beds down 35-40 feet deep. It wiped out the seed oysters as well as the one, two and three year olds that were planted on the beds." Secondly, an increase in the populations of shellfish predators, particularly the sea star (*Asterias forbesi*), has also been cited. Natural reproduction of wild oyster stocks along the Connecticut shore may have decreased during this period due to the 1950 storm and increased levels of DDT.

Larval oysters are extremely sensitive to environmental changes during their early life stages, and DDT flowing down the rivers may have reduced their chances for survival. No one factor, however, can be pinpointed as the underlying cause behind the industry's collapse. More likely it was the cumulative effect of all things.

During the 1950s, Greenport's oyster industry survived on stocks of oysters planted in bays safe from the damage caused by the 1950 storm. There have been several good sets of naturally produced oysters since then, but recovery is slow. Oystermen agree that the future of the industry depends both upon naturally-produced seed stock and hatchery-reared oysters, needed to supplement stocks when natural production is low. The idea of oyster hatcheries is not a new one in New York, since the first hatchery was in operation here by 1921. Today, the two major problems facing hatcheries involve disease control and increasing energy costs.

Sea Grant has helped hatchery owners identify and combat the

sources of disease. One shellfish processor, with Sea Grant's aid, turned a once burdensome waste product into a highly marketable item. More recently, Sea Grant has been working with shellfish growers to reduce energy costs and to explore alternative energy sources such as wind and solar technologies. By providing information about these and other innovative energy-saving techniques, hatchery operators can make educated decisions concerning the directions their businesses should take in the future.

An editorial in the *Suffolk Times* in 1934 aptly describes the spirit of Greenport, a spirit that today is helping the village undertake an effort towards waterfront revitalization. It says, "Thus down through the years, as conditions have changed — as the hardy whaling crews gave place to the skillful fishermen, and finally to the oyster industry, as steam vessels supplanted sailing ships, only in time to give place to the gasoline motor and the Diesel engine, so has Greenport's maritime spirit kept pace with the times."

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