

Lake Ontario: A Winter Wonderland

by David G. White, Oswego

The sun is shining, birds are singing and it's a beautiful day on the shores of Lake Ontario. But as we look around, we don't see anyone in bathing suits, putting on suntan lotion or casting a fishing line. Instead, we see people donning stocking caps, snow suits and cross country skis. That's right, it's winter on Lake Ontario and a whole new world has opened up, offering a winter wonderland of recreational activities and stark beauty.

When many people visualize the Lake Ontario shore, they often forget to think of this resource as what it truly is . . . a year-round recreational playground. For some, sitting in front of the fireplace is where it's at on a cold winter's day. But for those who have experienced the thrill and splendor of the Lake Ontario shore, the coziness of the fireplace is a reward only after a day of cross country skiing, snowshoeing, snowmobiling, ice skating, ice fishing, ice sailing, touring, or enjoying the festivities of a winter carnival. All these activities abound on the 325 miles of Lake Ontario shoreline and are here for our enjoyment and pleasure.

But, like their summer counterparts, winter recreationists often ask "Where do I go to enjoy these activities?" In answer to this common query, let's take a lakeshore tour and discover what the coastal area has to offer.

Beginning our journey in western New York, we first see the Seaway Trail. This national recreation driving trail follows various routes paralleling the lakeshore and offers many panoramic views of Lake Ontario's unique geological features from its high bluffs to low wetlands, to sand

dunes now in their winter formations.

As we follow the trail along from the Niagara frontier to the Stony Point lighthouse in Jefferson County, eight state parks are open for our enjoyment. Though services are limited during winter, cross country skiing is allowed in all eight, with six having designated snowmobile trails, three with snowshoeing and two having sled runs. In other words, there's fun for the whole family! There is no admission charged and parking lots are kept clear and plowed for easy access.

In our travels, we will also pass several embayments and tributaries that are now frozen-over, offering stable ice cover for ice skating, ice fishing and ice diving. Many of the embayments, including Braddocks Bay, Irondequoit Bay, Sodus Bay, Port Bay, Little Sodus Bay, and North Sandy Point have public access areas available. When venturing out onto, or under the ice, please be sure to check local conditions for ice safety.

County and state agencies also operate many areas, be they parks, game management areas, marshes or wetlands, where the hearty winter enthusiast can participate in non-motorized activities like hiking or skiing. These areas often include unique landforms that take on a whole different appearance with the winds, ice and snow of winter.

If the above activities don't appeal to you, a number of the villages and towns along the lake have annual winter carnivals. If cabin fever is setting in, the festivities and activities of a local winter carnival may be just the thing to brighten your day.

All in all, the winter recreationist is fortunate to have such ample

access to many areas along the lake to enjoy these activities plus much, much more. Just remember that, when participating in any winter activity, be sure to dress properly, check on local conditions and be familiar with the do's and don'ts of the activity.

The shore of Lake Ontario is truly a year-round recreational wonderland that can be enjoyed by the whole family. If you would like to learn more about a specific geographic area or activity, please contact the New York Sea Grant Extension Program at Oswego, (315) 341-3042.





Voiland Honored for Sportfishing Education Program

Dr. Michael P. Voiland, Jr., a sportfishery education specialist with the New York Sea Grant Extension office at the State University of New York College at Brockport, has received the 1985 Outstanding Marine Advisory Service Program Award from the Great Lakes Sea Grant Network. The honor is awarded annually by the network, which is a consortium of Sea Grant programs from the states of Illinois, Indiana, Michigan, Minnesota, Ohio, New York and Wisconsin.

Voiland was cited for his efforts in developing and delivering information that has improved the angler's catch of trout and salmon on Lake Ontario. Focusing on the importance of springtime water warming processes occurring in the lake, Voiland has assisted fishermen in locating and catching fish in offshore areas, particularly during the months of May and June. The award selection committee noted that his work has had significant effects on spring fishing activity and success, its duration, and its economic impacts on lakeshore communities and charter fishing businesses.

Voiland received the award at the 1985 annual meeting of the national Sea Grant Association held recently in Newport, Rhode Island. He has been stationed in Brockport since 1976.

Students Grow Clams, Seed Harbor in Cooperative Educational Project

by R.J. Kent, Suffolk County

In a program sponsored by Suffolk County Cooperative Extension, Sea Grant, The Board of Cooperative Education Services (BOCES) and The Suffolk County Office for the Promotion of Education (SCOPE), eleven high school students from Hauppauge High School recently grew 12,000 hard clams (*Mercenaria mercenaria*). The project began in the spring of 1985, when the students built two floating hard clam nursery rafts. During the spring, the students received training in shellfish biology and shellfish management, and toured shellfish hatcheries.

The rafts were placed in Stony Brook Harbor on Long Island in April and stocked with 7-millimeter seed clams purchased from a New England hatchery. Over the course of the summer, the students monitored the rafts and kept records on growth rates.

On October 24, 1985, the clams were taken out of the rafts, and seeded into Stony Brook Harbor. They measured 28-millimeters on the final date, which meant the clams grew at a rate of 1-millimeter per week. Smithtown Town Supervisor Pat Vecchio came out personally to thank the students for their efforts.

Cooperative Extension has found working through the BOCES/SCOPE program an effective way to reach students. School districts help pay for the program, and assist with busing and other scheduling details.

In the fall of 1986, Cooperative Extension will be adding another educational program to the BOCES/SCOPE curriculum, entitled "Exploring Long Island's Fisheries Resource." A second group of students will also be selected to grow hard clams in 1986. Two new rafts will be built, and an expected total of 24,000 seed clams will be grown.

1984 Economic Impacts of Sportfishing on the Pulaski Area

by Chad Dawson, Mexico

When trout and salmon return during spring and fall migrations, so do the anglers — to fish, congregate, and spend. In fact, they spent an estimated \$10.9 million in the greater Pulaski area in 1984.

A recent survey of businesses in the Pulaski area conducted by two SUNY Oswego economists, J. David Bowman and Jack Miller, indicates that the impact of fishermen is greater than previously thought. Over the past 12 years, revenues, employment, and the number of businesses have increased substantially and many businesses now depend on and benefit from sport angling customers.

The sportfishing industry is one of the largest contributors to the local Pulaski economy. Those businesses which are more "fishing intensive" receive 25 to 100 percent of their revenues from anglers. Most of these businesses were started after 1973 and are smaller firms. Half of the "non-fishing intensive" firms receive 5 to 15 percent of their revenues from anglers. Although the non-fishing intensive firms receive a smaller proportion of their revenues from anglers, those revenues are a significant contribution just the same. In 1984, the "non-fishing intensive" firms averaged total revenues of \$24,865 from anglers, while "fishing intensive" firms averaged \$116,901.

The "fishing intensive" firms were listed as marinas, charterboats, sportfishing retail stores, motels and hotels, gas stations, most restaurants, and some other service/retail firms. These businesses were more dependent than other firms on part-time employees. Overall, an estimated total of 188 full-time and 238 part-time employees have jobs in the greater Pulaski area directly as a result of the business generated by sport fishermen.

The revenues directly spent in the community by sportfishermen also have secondary economic impacts as employees and business owners/operators respense those monies within the local community. This "multiplier" effect has been estimated at 1.58 for the greater Pulaski area. Thus, for every dollar spent by anglers, \$1.58 was actually generated within the local economy. As a result, the full economic impact of the sportfishery on the greater Pulaski area was an estimated \$17.2 million in 1984.

Research in Short



Quick Response Research Grant Awarded to Determine Effects of Diatom Bloom on Long Island's Bay Scallops

by Laura McKay, Albany

The summer of '85 may be remembered by Long Islanders as the summer the waters turned brown. The cause of the problem was a tiny brownish diatom (a minute planktonic alga) that experienced a widespread proliferation or "bloom" which began last May. Concern began to grow as the bloom persisted through June and July along Long Island's south shore and into the Peconic Bays — the heart of New York's shellfish grounds. The bloom did not disappear until early September.

Sea Grant researcher Dr. Scott Siddall at SUNY/Stony Brook's Marine Sciences Research Center was studying scallop larvae with Sea Grant funding last spring and noticed that adult scallops in the field had spawned but the larvae produced had not survived. It became evident that the diatom bloom was severely inhibiting scallop growth and reproduction. Others also noticed that mussels, hard clams and oysters were stressed and underweight for their age.

In mid-July the Sea Grant Institute awarded a quick response grant to Dr. Siddall to determine the exact effect of this diatom on bay scallop larval recruitment.

One of the major questions to be answered is whether this diatom is simply a poor food for scallops or somehow toxic to scallops. It seemed reasonable to assume that the diatom was a poor food. It was already known that scallops cannot feed efficiently on particles less than 7 microns. However, a similar (possibly the same) bloom broke out in Narragansett Bay, Rhode Island at about the same time. Here it was noted that mussels, which can feed on particles as small as 1 micron had stopped feeding. This is considered quite unusual for mussels which tend to continue feeding or 'pumping' in the presence of high concentrations of food, even when such food is unsuitable. This alerted scientists to the possibility that a substance toxic to shellfish and associated with the bloom may be involved.

If this diatom is just a poor food, the question becomes why? Is it simply too small? Does it lack important dietary components? Or was its concentration so high it simply clogged the digestive tracts of shell-

fish? Dr. Siddall's measurements showed concentrations of the diatom at 2.5 million cells per milliliter in Great Peconic Bay at the peak of the bloom. Others measured concentrations as high as 8 million.

To answer these questions, Dr. Siddall and Sea Grant Scholar, Chris Nelson, first had to culture the diatom in the laboratory so it was available as needed for experiments. This was accomplished by mid-August when they had the diatom rapidly growing in culture in 5 gallon carboys at a density of about 5 million cells per milliliter.

Work since then has involved feeding radio-labelled or tagged diatoms (the species in question has yet to be positively identified) to scallop larvae in the laboratory to see if the diatom can be ingested and assimilated and whether it is nutritionally suitable for growth and survival. Dr. Siddall is also centrifuging dense cultures of the diatoms (which separates the diatoms from any metabolites they have produced) so that an analysis of the presence of any toxic metabolites can be undertaken.

Chances are that future blooms cannot be prevented. They are probably created by events outside human control, such as sunlight, temperature or rainfall. However, should this happen again, we will have a better understanding of how shellfish will be affected. This should provide a sound basis for shellfish management decisions.

I Want More!

Please check the items which interest you and send to your *nearest* Sea Grant Extension Program office (unless otherwise indicated). Make checks payable to *Cornell University*.

- _____ **What's It? A Guide for Identifying St. Lawrence River Northern Pike and Muskellunge.** 1985. D.G. White. Pamphlet, illustrated. Free. (Order from the Oswego office).
- _____ **Outfitting Your Recreational Boat for Sportfishing on the Great Lakes.** 1985. D.G. White. 17 minute video tape. 3/4" - \$30.00; 1/2" VHS - \$10.00. Rentals available. (Order from the Oswego office.)
- _____ **Education Vessel Ontario Project: 1985 Annual Report.** M.P. Voiland. 11 pp. Free (Order from the Brockport office.)
- _____ **Discover Sea Grant in New York.** 1985. Pamphlet. Free

New York Stream Protection Act: Part I

by Kevin Brown, Sea Grant Law Program, SUNY Buffalo

Article 15 Title 5 of New York's Environmental Conservation Law is known as the Stream Protection Act. Title 5 requires a permit from the Department of Environmental Conservation before a person may alter the course, channel or bed of a stream (section 15-0501), place a dam or dock on the waters of the state (section 15-0503), or excavate or place fill in the navigable waters of the state or in adjacent marshes, estuaries and wetlands (15-0505). Joint federal and state regulation often requires that persons obtain both federal and state permits before engaging in the above activities.

Protection of Certain Streams; Disturbances of Stream Beds

ECL Section 15-0501 subdivision 1 prohibits any person from changing, modifying or disturbing the course, channel or bed of any stream or the removal of material from the bed or banks of a stream without a permit pursuant to that section. Small ponds or lakes with a surface area of ten acres or less located in the course of a stream are considered part of the stream and subject to regulation under this section.

In reviewing a permit application, including renewals and modifications, the Department must ascertain the probable effect of the proposed work on the health, safety and welfare of the people of the state and the effect on the natural resources of the state (15-0501 (3)). The Department may modify or deny the proposed project in order to minimize the disturbance of the stream, to prevent unreasonable erosion, increased turbidity, irregular variations in velocity, temperature and level of waters, the loss of fish and aquatic life or natural habitats and the danger of flood or pollution.

Protection of Streams; Dams and Docks

ECL Section 15-0503 provides that no dam or impoundment structure, including any artificial obstruction, temporary or permanent, in or across a natural stream or water course shall be erected, constructed or repaired by any person or local public corporation without a permit issued pursuant to the section. This section requires a permit for a dam or per-

manent dock. Before granting a permit for a project the Department of Environmental Conservation must ascertain its probable effect on the health, safety and welfare of the people of the state and its effect on the natural resources of the state. The department must review the application and the extent to which the waters of the state or the banks and shore thereof will be affected by the proposed project. The Department may grant or deny the permit or may approve the project with such conditions as might appear necessary to safeguard life, property and natural resources. [15-0503 (3)]

The activities regulated by this section are concurrently regulated by section 10 of the Rivers and Harbors Act (33 USCA section 403).

Protection of Navigable Waters; Excavation or Fill

ECL section 15-0505 provides that no person, local public corporation or interstate authority shall excavate or place fill below the mean high water level in any of the navigable waters of the state, or in marshes, estuaries or wetlands that are adjacent to and contiguous at any point to any of the navigable waters of the state and that are inundated at mean high water level or tide, without a permit issued pursuant to the section. (15-0505 (1))

Before granting a permit pursuant to section 15-0505, the Department of Environmental Conservation must ascertain the probable effect of the proposed project on the use of such waters for navigation, the public health, safety and welfare and on the natural resources of the state. The Department may grant or deny the permit or approve it subject to such conditions as will safeguard life and property and make navigable waters safe for use by the public. [15-0505] If such excavation or fill is to take place in the waters of the United States, an Army Corp of Engineers permit pursuant to Section 404 of the Federal Water Pollution Control Act of 1972 is required. (33 USC Section 1344; 33 CFR Part 223.)

Editor's Note:

Exception to permit requirements, form of application and enforcement will be discussed in Part II, which will appear in the next issue of *Coastlines* (Spring 1986).

DeYoung Cited for Sea Grant/ 4-H Program Development

Bruce DeYoung, Program Coordinator for Sea Grant's Marine District, was presented with the Award of Merit by the New York State Association of Cooperative Extension 4-H Agents at their annual conference on October 17, 1985.

DeYoung was cited for this award for his work in integrating Sea Grant programs with 4-H youth work. Under DeYoung's guidance, Sea Grant has helped fund marine science positions in Nassau County, Brooklyn, and Westchester County. The result has been a team of Cooperative Extension staff working closely with regional Sea Grant specialists implementing a variety of highly successful marine science programs. DeYoung's spirit of cooperation and leadership abilities were also cited.

Comings and Goings (continued)

December to take a position as Associate Director of the Marine Science Research Center at SUNY Stony Brook. Bill has been with New York Sea Grant since 1979.

Bringing new skills to New York Sea Grant Extension programming are Dr. Chad Dawson, specialist in tourism and small business development in the Mexico (Oswego County) office and David White, specialist in coastal recreation at the Oswego office. Chad started this past fall and will be the leader of a newly established Tourism/Small Business Cooperative Extension Team. Dr. Dawson was formerly with the Minnesota Sea Grant Program. Dave White, on the job since January 1985, was previously an instructor at the SUNY Agricultural & Technical College at Morrisville.

Dr. Michael Voiland, Regional Extension Specialist at the SUNY Brockport office since 1972, was appointed to the position of Great Lakes Program Coordinator in December. Mike will also continue in his role as sportfishing education specialist.

Tom Aulenbach has been named Sea Grant Marine Trades Professor at the SUNY Agricultural & Technical College at Farmingdale. Tom, an engineering graduate of the U.S. Naval Academy and MIT, will be conducting applied research and developing educational programs to meet the needs of New York's marine industries.

Seafood Retailers Cooperate and Organize for Industry's and Consumer's Benefit

by Ken Gall, Plainview

Seafood has become widely acclaimed for its positive nutritional attributes, and, as a result, the quest for a variety of high quality seafood products has escalated.

Today, consumers can purchase seafoods from more outlets than ever before. Although large supermarkets offer convenience and, in some cases, lower prices because of their ability to purchase large quantities, many consumers prefer to purchase fresh seafoods at their neighborhood fish market. In order to effectively compete with large corporations, independent seafood markets have recognized the need to increase the variety of seafoods they sell, while providing customer services that include educational and promotional activities—a difficult task at best for many small businessmen.

Most fish or seafood markets are relatively small family-run businesses. Employees work long hours and are expected to do a number of different jobs, ranging from cutting fish to answering customer questions. Sea Grant in recent years, recognizing time constraints that face these businesses and their need for educational and marketing information, began working with seafood retailers. An initial survey identified over 700 fish markets operating on Long Island in New York City and in the lower Hudson Valley. In another survey, market owners identified in-store operations and development of effective marketing programs, as their primary educational needs.

Sea Grant responded by developing a workshop for seafood retailers in 1983 to address some of these needs. A group of 30 retail market owners attended the workshop and expressed their commitment to working together to meet individual and general needs. Over the next year, a seafood retailers organization developed with the guidance of several retail market owners and Sea Grant. In 1984, they joined the Long Island Fishermans Association (LIFA) and the Seafood Retailers Committee was born. Retailers hope to encourage communication between commercial fishermen and those who sell their seafood to the public, while developing practical programs to assist their members.

One of the group's first initiatives was a project to introduce their customers to unusual seafoods through in-store cooking demonstrations. A small group of volunteers was trained by Sea Grant and Cornell Cooperative Extension agents to conduct the demonstrations, while retailers agreed to coordinate sales and promotional efforts. Twelve successful demonstrations were held in 1984. Some retailers reported that sales of products featured in demonstrations increased by 100 to 200 percent after their customers had the opportunity to taste species such as squid, blackfish and hake, and were shown how easy these products were to prepare.

In 1985, the Seafood Retailers Committee, working with Sea Grant and regional fisheries development organizations, held their first annual Seafood Retailers Conference and Expo. Experts from across the Northeast provided information on many aspects of in-store operations and effective marketing strategies. In addition, local companies that provide goods and services to retail markets were on hand to discuss their products.

According to Paul Houghton, owner of Miller Place Seafood and chairman of the Seafood Retailers Committee—LIFA, the group is an information clearinghouse for their members. Through this organization, a mechanism has been created for retailers to respond to industry issues as they arise. At a recent public event, Long Island Clam Day held on June 29, 1985, retailers, along with baymen and wholesalers, were able to present new initiatives to ensure the safety and quality of local hard clams to the public and press.

Houghton summarized the organization he leads as "a small group of seafood retail businesses concerned with their industry and who take pride in their businesses. We want to work with retailers that have the same philosophy and expect our organization to grow slowly and consistently in a way that will not interfere with each member's independence. By working together maybe we can accomplish what may be difficult or impossible for the individual working alone."

Comings and Goings

1985 was a time of staff changes for the New York Sea Grant Program. Since an education program often becomes closely tied to the educator's face and personality in the eyes of our audiences, it is appropriate for us to pause a minute to recognize those whose faces are no longer with the program and the new faces which have recently joined us.

Dr. Donald Squires, Director of the New York Sea Grant Institute since 1971, was in large part responsible for shaping the program as it exists today. Dr. Squires left New York last July to become Director of Marine Science Programs at the University of Connecticut. Since Connecticut Sea Grant is a part of that program, Don will still have contact with many Sea Grant researchers and educators throughout the northeast.

Stephen Brown, specialist in tourism, small business management, and St. Lawrence River issues, left the Potsdam office last spring upon assuming a regional specialist position with Vermont Cooperative Extension. Steve was with NY Sea Grant Extension since 1973. With Steve's leaving, the Sea Grant Extension Potsdam office was closed.

Dr. Michael Duttweiler, Great Lakes Program Coordinator and fishery issues program specialist at our Ithaca offices, shifted responsibilities in September to become an Extension Representative, still with Cornell Cooperative Extension. Mike's Sea Grant career in New York began as a field specialist in 1975 at Oswego. He became Program Coordinator in 1977.

Mark Malchoff, who worked in Lake Erie programs at the Fredonia office, and later held a temporary youth sportfishing position at Cornell, gained a permanent position as a Cooperative Extension Agent with Warren County (NY) Cooperative Extension last winter.

Linda Parks completed a special assignment with St. Lawrence County Cooperative Extension in Hospitality Training. Linda began with Sea Grant in the Potsdam office eight years ago.

William Wise, Assistant Director for Programs of the New York Sea Grant Institute, left the program in

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Identification Key Available for Muskie and Pike

To assist St. Lawrence River fishermen in distinguishing between northern pike and muskellunge, the Sea Grant Extension Program has produced "What's It? A Guide for Identifying St. Lawrence River Northern Pike and Muskellunge." This brochure reviews the most common identifying characteristics of the two species and offers several successful release procedures and handling hints.

Produced in cooperation with the DEC, the SUNY College of Environmental Science and Forestry, Jefferson County Cooperative Extension St. Lawrence River guides, the brochure is a sister publication to "What's It? A Guide for Identifying Great Lakes Salmon and Trout" and is available free. See "I WANT MORE" to order.

Outfitting Your Boat for Great Lakes Fishing

With the Great Lakes continuing to grow and develop as an exceptional sportfishery, fishermen have been turning out in record numbers to take advantage of this great recreational resource. Increasing at similar rates have been advances in new fishing techniques to assist the fishermen in their quest for salmonids.

Many fishermen venturing out onto the Great Lakes have been interested in learning more about these techniques which has prompted the Sea Grant Extension Program to produce a 17 minute video tape entitled "Outfitting Your Recreational Boat for Sportfishing on the Great Lakes." The tape covers the use and function of the VHF radio, Loran-C, sonar, downriggers, planer

boards, rods and reels and auxiliary power. With Sea Grant specialist Dr. Michael Voiland as your guide, you are given a tour of the E.V. (Educational Vessel) Ontario and witness an actual demonstration of Loran-C and planer board use with 4-H youths.

The tape is available on 3/4 for \$30.00 and 1/2" VHS for \$10.00. It can be used with both youth and adult audiences not familiar with sportfishing on the Great Lakes or as a refresher for those actively utilizing this resource. If you would like to purchase or rent a copy, please see. "I WANT MORE."

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Marine Coast

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