

Lake Ontario Charter Fishing BOOM!

by Michael Voiland, Specialist at Brockport

Ten years ago, anyone looking for a quality salmon or trout fishing experience in New York would not have given Lake Ontario much consideration. While the lake's outlet, the St. Lawrence River may have ranked high on the list for bass, pike, and muskellunge, the 175 miles of lake-shore from Stony Point to the Niagara offered little in the way of piscatorial attractions. The lake proper was virtually devoid of attractive game fish, due to a long history of over-exploitation, pollution, habitat degradation and accidentally-introduced species.

Today, fueled by the state's management program involving plantings of millions of trout and salmon, anglers now find gamefish in abundance along the south shore of the lake. (See related story on page 2.) With the success of the stocking program, a charter fishing industry has blossomed, enhancing the angler's opportunity and contributing to economic revival of the lakeshore's tourism base.

As of this past winter, there were an estimated 150 charter boat businesses catering to Lake Ontario anglers, primarily based on the harvest of trout and salmon. This figure attests to the explosion of the charter fleet — there were only about 30 or so operations on the lake proper in early 1980, and no viable charter businesses were known back in 1975. Coast Guard officials estimate that probably some twenty new licensees have been entering the charter fishery each month. Charter boats now work out of all the major and minor ports along the lakeshore from Henderson Harbor to the Niagara River.



New York charter vessel with Toronto in the background.

A survey of the industry was conducted by Sea Grant Extension in the winter of 1983. While final results won't be forthcoming until May, preliminary figures suggest the size, nature, impact and some trends of the charter fishery.

The study indicated that the average charter vessel was 23 feet in length, six years old, stern-drive powered and trailerable. Its owner typically valued the craft at about \$15,000, its equipment at around \$5500, and the trailer at \$2100. Combined with the business's towing vehicle, the typical capital investment made by an operator totalled out to about \$30,000. The average captain had been licensed less than two years and grossed \$5200 in 1982, spending about \$3900 in business costs. Operators who had been established for a longer time had significantly higher gross sales levels.

Given these values and incomes, it can be estimated that the lakewide charter fleet currently represents a capital investment of over \$4 million, and had an economic impact in the lakeshore region of close to \$2 million in 1982.

The charter operators almost unanimously indicated in the survey that the fishery could and would expand, contingent, of course, on the continuance of the state's management program. Over the next 5 years,

forty-two percent (42%) foresaw themselves buying or operating new vessels, fifty-seven percent (57%) thought they would be involved with bigger craft, and twenty-two percent (22%) were considering purchase or operation of an additional boat.

Only six operators could be labeled as "full-time" charter captains, that is, generating the major share of their 1982 annual income from chartering. Some ninety percent (90%) of survey respondents considered themselves "side-liners," and depended upon other full-time occupations for income. These occupations ranged from factory-line workers to tradesmen, to lawyers, executives and educators.

As the charter fleet expanded, those involved in the industry have moved to upgrade professional standards while enhancing and facilitating fishery development. A lakewide professional trade organization, the Lake Ontario Charter Boat Association (LOCBA) now has a membership of over 100 captains, and carries out programs and services related to business insurance, promotion, advertising, education and fishery policy. Smaller, local charter associations also exist at Rochester and Henderson Harbor. For information on the lakewide group and its programs, contact John Oravec, President, LOCBA, 265 Marwood Dr., Rochester, N.Y. 14612 (716)-865-6596.



Shinnecock Dock Update

Approval of a \$550,000 grant from the Federal Economic Development Administration eliminated the last barrier to construction of a \$950,000 commercial fishing facility at Shinnecock Inlet in Eastern Long Island. To complete the project, Suffolk County approved an additional \$400,000 and contributed three acres of County-owned property located just west of the existing private docking center on Dune Road in the Town of Southampton. The docking facility, once completed, will be operated as a Southampton Town facility.

Plans call for a t-shaped pier extending out into Shinnecock Bay. It will provide slips for up to twenty vessels. The dock main section is to be 18 feet across. The 100 foot t-section at the end of the dock will be ten feet wide.

The improved commercial docking will encourage growth in the local commercial fishing industry through modest expansion and operating efficiency. This development resulted from a three-year pursuit of commercial fishermen, Southampton town officials, and the Long Island Fishermen's Association. They, with the help of Sea Grant Regional Marine Specialists, identified the need for additional dock facilities because of overcrowded conditions and the recognition that present facilities were limiting marketing opportunities for area fishermen. From that point on with the support of the Nassau/Suffolk Bi-County Planning Department, the Suffolk County Department of Economic Development, Congressman William Carney and Senator Alphonse D'Amato and finally the approval of the Federal Economic Development Administration, a new horizon for the commercial fishing community of Eastern Long Island beckoned.

—Contact J. Scotti, Riverhead

Record Stocking

Plantings of trout and salmon by the New York State Department of Environmental Conservation (DEC) in New York Great Lakes broke all past records in 1982.

According to final figures compiled by DEC's research stations at Cape Vincent and Dunkirk, 5,268,600 salmonids were stocked in Lakes Erie and Ontario during the last calendar year. This total represented a hefty 37% increase over 1981 stocking levels.

DEC Bureau of Fisheries personnel credit upgrading of the state's hatchery system as the main reason behind record plants of fish. In recent years, the state's newest and largest hatchery on the Salmon River in Altmar has gone into operation and other fish culture facilities around the state have been renovated and expanded.

The following table summarizes salmonid stocking completed by DEC in 1982 on Lakes Erie and Ontario:

	Lake Ontario	Lake Erie
Lake Trout	1,259,000	234,000
Brown Trout	754,000	138,000
Rainbow Trout	134,000	—
Steelhead	119,000	37,000
Coho Salmon	367,000	138,600
Chinook Salmon	1,808,000	280,000
Total	4,441,000	827,600

Ultimate stocking goals call for 5,330,000 salmonids to be stocked in Lake Ontario and 1,100,000 in Lake Erie on an annual basis.

—Contact M. Voiland, Brockport

Marine Camp

A one-week summer camp on marine life — fish, food, navigation principles, and marine careers — will be offered again this summer by 4-H and Sea Grant. The camp, July 25-29, will be held at the Nassau County 4-H camp, which is on Long Island Sound at Riverhead.

The camp, which will be closely supervised by professionals from Sea Grant and 4-H programs from the Metropolitan area and up-state, will cost \$135 for everything except transportation, which will be the parents' responsibility.

Information on the camp may be obtained by calling H. David Greene, Sea Grant Extension Program at (716) 652-5453.

Sportfishing Exhibition

Sportfishing boats and equipment used for angling on Lake Ontario waters will be highlighted at the Eastern Lake Ontario Sportfishing Exhibition. Over forty exhibitors are expected at the show, displaying the latest in boats, motors, tackle and related sportfishing equipment. In conjunction with the exhibition, continual demonstrations and lectures on the use of specific equipment and aspects of the Lake Ontario Sportfishing will be conducted in an adjoining educational area.

The exhibition will be held on April 22 and 23, 1983 at the Romney Fieldhouse, located on the State University College campus at Oswego. Co-sponsoring the event are the Oswego County Lake Ontario Sportfishing Advisory board and the Oswego Maritime Foundation in cooperation with the New York Sea Grant Extension Program.

—Contact R. Buerger, Oswego

Weather to Fish

Availability of prime game fish in all four seasons often brings anglers in contact with what can only be described as foul weather. Proper clothing is the key to comfort — and often safety. A new pamphlet produced by the New York State College of Human Ecology describes clothing materials and techniques that offer most protection.

Specific hints for fabric selection, clothing combinations, water repellency and skin protection are included. Your copy can be obtained for a 25¢ handling charge from the Ithaca office. See "I WANT MORE".

—Contact M. Duttweiler, Ithaca

COASTLINES is published quarterly by the New York Sea Grant Extension Program. This program is funded by the National Oceanic and Atmospheric Administration, the State of New York, and the New York Sea Grant Institute. Subscriptions to Coastlines are free for New York residents. Two-year out-of-state subscriptions are \$4. Request Coastlines from Sea Grant Extension Program, Fernow Hall, Cornell University, Ithaca, N.Y. 14853.

Research in Short



by Nancy Wagner,
Communications Intern, Albany

NEW TECHNIQUE PROMISES FRESHER FISH LONGER

A surprisingly simple procedure, discovered by researchers at Cornell University's Food Science Department, can greatly prolong the shelf-

life of fresh fish. The technique, called "blanching," consists of dipping whole or gutted fish in hot water for approximately two seconds at a recommended temperature of 88°C, or 190°F.

Robert Zall and Steven Kelleher, whose work with seafood technology is supported by the New York Sea Grant Institute, tested the method on cod and silver hake. They found that one-week-old blanched fish did not differ from freshly caught samples in taste, texture, odor, or biochemical makeup.

Blanching seems to work by killing bacteria that are adapted to cold water, and by removing the slime layer protecting the fish's skin. Zall and Kelleher found that the sooner the fresh fish was blanched, the longer its shelflife was extended.

The blanching technique holds promise for commercial application, and successes have already been reported with flounder. Because blanching is easy as well as inexpensive, fish could be blanched at dock-side or even on board ship to extend shelflife as long as possible. This greater shelflife could mean more and better fish for more consumers, and could alleviate one of the most troublesome problems in the seafood industry.

NEW PUBLICATIONS ADDRESS CURRENT ISSUES

Sea Grant Director Donald F. Squires's new book, *The Ocean Dumping Quandary: Waste Disposal in the New York Bight*, focuses on the dumping of toxic waste, spoils, and sludge off the coast of metropolitan New York and New Jersey. Dr. Squires describes the economic, social, and environmental impacts of this waste disposal in light of the Bight's many uses. The book also addresses important contemporary legal issues and the current state of dumping legislation. *The Ocean Dumping Quandary* is available from the State University of New York Press, PO Box 978, Edison, NJ 08818, 256 pages, \$10.95 paperback, \$39.50 clothbound.

The stream sources of Lake Erie bottom sediment are analyzed in *Great Lakes Coastal Geology: Sediment Contributions of Western New York Streams to Lake Erie*, a monograph just published by the New York Sea Grant Institute. Researchers H.T. Buxton, R.K. Fahnestock, and P.E. Calkin conducted the study, which was prompted by the erosion of bluffs and recreational beaches along western New York's Lake Erie coast. The authors compare the sediment contribution by streams and coastal areas. This monograph, is part of the Great Lakes Coastal Geology Series. See "I Want More" for ordering information.

I Want More!

Please check the publications which interest you and send to your nearest Sea Grant Extension office. Make checks payable to Cornell University.

I. From Coastal Living

- **Cool Weather Clothing Comfort for Boating and Fishing in New York State.** 1982. N.Y.S. College of Human Ecology. 1 pp. pamphlet. 25¢ handling.
- **Lake Ontario's Recreational Climate.** 1981. R. Buerger and R. DeAngelis. 29 pp. 25¢ handling.
- **Alchemy for the 80's.** 1982. New York Sea Grant Institute Report for Years X and XI. 39 pp. Free.

II. Technical Reports

- **Management of a Multiple Cohort Fishery: The Hard Clam in Great South Bay.** 1982. Sea Grant Reprint Series, 12 pp. \$1.50. Applies a mathematical model for management of Great South Bay clam resources. Suggests alternative harvesting strategies to maximize production.
- **Using Winter Coldness to Provide Refrigeration.** 1981. R. R. Zall et al. Sea Grant Reprint Series. 4 pp. \$1.50. Use of winter coldness for chilling coolers and producing ice and slush ice for food storage applications was found feasible and is described.
- **Recreational-boating Patterns and Water-surface Zoning.** 1982. C. A. Heatwole and N. C. West. Sea Grant Reprint Series. 11 pp. \$1.50. Water-surface conflicts and possible solutions are discussed and the specific case of Long Island Sound analyzed.
- **Sediment Contributions of Western New York Streams to Lake Erie.** 1982. H. T. Buxton, R. K. Fahnestock and P. E. Calkin. Great Lakes Coastal Geology Series. 70 pp. \$2.00.
See Research Shorts for description.

Hudson River Office

When Henry Hudson discovered the river now bearing his name he could hardly have foreseen the scale of development that would ensue in years to come. From the awesome New York metropolis to the impoundment of the estuary at Troy and beyond, impact on the natural environment is evidenced by the ever present rail and highway networks, the many riverfront communities, and the occasional isolated development.

However, not all is well in the lower Hudson. Invisible but dangerous chemical contaminants lie imbedded in river sediments, the by-product of certain industrial uses. The shores are effectively sealed from public access along much of the river due to the railroads along the very edge of the river and, in other instances, where private development precludes access. Added to these concerns is the fact that the waterfront of virtually every major city on the river is plagued by economic decline and marred visually by deterioration and decay of piers, wharfs, buildings and roadways.

It was into this setting that Sea Grant moved with the opening of a new regional office in the spring of 1982. Since its inauspicious initiation, the lower Hudson River office has begun to make substantial impacts by working through traditional Cooperative Extension networks and with traditional educational methodologies.

For instance, in Newburgh a fish derby was coupled with an educational program on contaminants and contaminant reduction through specific preparation techniques. The knowledge of organizing derbies and preparing fish to reduce contaminants is not new to other areas of the state where Sea Grant has been active in the past. But it is new in the Hudson Valley and illustrates how educational resources can have an important impact when introduced into new regions. The network backing this effort consists of Extension home economists, 4-H agents, state and local government and local public interest groups.

Work with local government on waterfront improvements also has yielded important gains. Improvement plans in Yonkers, the state's fourth largest city, are moving ahead with Sea Grant assistance on dredg-



Youngsters fishing in the Hudson Highlands — enjoyment with no age limits!

ing and permit questions. Similarly, in Piermont plans are being drawn that identify economically feasible and locally compatible uses for an earth fill pier one mile in length. And in Cold Spring, advice on construction technology and associated costs for rebuilding deteriorated waterfront structures has led to private funding commitments to help rebuild.

Marina, industry and residential property owners have also benefitted directly from Sea Grant educational programs over the past year. Though space does not permit delineating achievements for each of these uses here, the first annual report does and a copy is available on request from the lower Hudson River office (see "Home Ports" section for address).

—Contact S. Lopez, New City

Seed Money to Seed Clams

During 1983, some twenty 4-H teens will take part in a project involving the mariculture of hard shell clams. Youth are being recruited from 4-H teen councils and Long Island High School science classes to take part in this new twist on an old theme in 4-H programming.

Agriculture has long been a traditional source of 4-H projects with programs concerned with growing and marketing of food and fiber products. This mariculture project in Great South Bay provides the opportunity for an important 4-H community resource development effort. "The hard-clam fishery provides many economic and recreational benefits to New York State," remarks Robert Kent, Suffolk County 4-H Agent and overseer of the program. "Yet even though the Great South Bay recently produced 45% of the

total U.S. harvest of hard clams, it is in state of decline." Chris Smith, a Sea Grant Specialist working with the problem adds, "The kids will be using rafts, an experimental technique to assess one possible method of restoring the hard clams in the Bay." The clams will be raised in these rafts until they are large enough to be safely stocked on the bay bottom hopefully protecting the seed clams from their predators.

Sea Grant Specialists involved see it as a Master Gardener program in the middle of Great South Bay. It will give youths opportunity to work on an important community issue and provide scientific data to researchers while exploring marine careers.

The mariculture project is the first of many Sea Grant Extension hopes will be generated by the new Youth Involvement in Coastal Issues Small Grant program initiated in 1983. "The 'bait' of a small grant has enticed many new and innovative ideas from all over New York State," says Linda O'Dierno, who has reviewed the proposals as a member of the committee. "We're going to see a lot of exciting projects in New York's coastal areas in the next few years."

—Contact D. Greene, E. Aurora

What We've Done for You Lately

Selected accomplishments from the tenth and eleventh years of Sea Grant in New York are described in "Alchemy for the 80's". Featured topics include Great Lakes sportfishery development, seaweed mariculture for energy production, seafood science, dredging and spoil disposal in the New York harbor and the Great South Bay clam fishery. For your copy, see "I WANT MORE".

L. Ontario's Summer

Water and summer are synonymous along Lake Ontario's south shore. Warm days and cool nights provide ideal summer vacation conditions. From early June through late September, daily high temperatures average in the 70's to low 80's (°F). July is the warmest month, but temperatures over 90°F are infrequent (1 to 5 days). Rainfall (.1 inch or greater) occurs during the summer on an average of 4 to 8 days per month. By August, lake water have reached their seasonal high temperatures, usually in the low 70's. The summer climate along Lake Ontario shores is ideal for almost all outdoor activities.

For those venturing out onto the lake, visibility is usually less than 2 miles up to 20 percent of the time during the early summer, but improves as the lake warms, later in the season. Thunderstorms occur on 4 to 7 days per month during the summer and waves reaching a height of 5 feet or more can be expected 2 to 6 percent of the time. Winds blow in the preferred sailing range of 7-16 knots with wind direction predominantly from the south through the west during both morning and afternoon. Lake Ontario can truly be described as an aquatic playground.

For more information about the year-round recreation climate along Lake Ontario, see "I Want More".

—Contact R. Buerger, Oswego

VEGETATE!

Sea Grant coastal erosion specialists are turning to an erosion control practice farmers have known about for years — planting certain types of vegetation to slow erosion. Plant roots act as a net to tie soil together. The leaves and stems break the impact of falling raindrops, slow down blowing wind or flowing water, trap particles of soil carried in wind or runoff, and even dry up some of the excess moisture in the ground. When used together with protection for direct wave attack, conservation plantings can provide an affordable method of stabilizing coastal beaches and bluffs. Some beach grass planting can even reverse the trend of erosion by helping to form new sand dunes!

But wait! A landowner shouldn't just start planting without first considering soil types, climatic character-

istics of their area, and the steepness of the slopes to be stabilized. Information on the selection, use and management of conservation plants is available from Sea Grant Extension, county Cooperative Extension Associations, and the Soil Conservation Service.

Landowners along the state's Great lakes coast can see these stabilization methods in a natural setting at the B. Forman Park Demonstration Project Site in the Wayne County town of Williamson. This project, a joint effort of Sea Grant, Wayne County Cooperative Extension, Wayne County Soil & Water Conservation District, and Soil Conservation Service, shows how a landowner could undertake a do-it-yourself bluff stabilization program using slope grading techniques, seeding and transplants, mulch, and fertilizer for less than \$20 per foot of bluff. Entering its second growing season, this project appears to be quite effective in slowing the erosion of these moderately high glacial bluffs.

Vegetative plantings are not a cure-all — even a good plant cover won't stop erosion dead in its tracks — but in many cases the problem can be reduced and the shoreline can be enjoyed for a longer time for a reasonable cost.

—Contact Chuck O'Neill, Brockport

Aquaculture Planning Act

Since 1970, world aquaculture production has doubled. It now represents about 10% of total fishery production. Forecasters say by 1985 it could exceed 20%. People are recognizing aquaculture's potential for expansion in the United States. As a result, the New York State legislature is considering a bill, the State-wide Aquaculture Planning Act (S. 774-A, and A. 882-A) that calls for the preparation of a plan for the development of aquaculture in New York. The New York Sea Grant Institute and the Cornell College of Agriculture and Life Sciences would develop the plan within a year after the bill is passed.

Among other issues, the study will consider:

—the potential for aquacultural products in terms of need and markets,

—the species of finfish, shellfish and plants available for aquacultural production and marketing mechanisms now available.

—the potential for investment by farmers, fishermen, local and out-of-state businesses,

—existing barriers to aquaculture industry development and appropriate recommendations for the removal of such barriers,

—state agencies and public and private research and educational institutions concerned with research, education, regulation, promotion and marketing functions related to aquaculture,

—governmental and non-governmental mechanisms which can assist and enhance aquaculture activity through extension and transfer of existing and new technologies, practices and information, and

—the current state of technology in commercial and public aquaculture and recommendations for upgrading this technology to state of the art levels.

The plan will assess the potential for aquaculture in New York — for local economic development, food production, and increased employment opportunities — and serve as a basis for future legislative and administrative actions to foster the fulfillment of this potential.

—Contact D. Squires, Albany



EXPAND YOUR HORIZONS:

Read *Sea Grant Today*

Sea Grant Today, a bimonthly magazine, features articles about marine research, advisory, and education activities of all 28 state programs in the national Sea Grant Network. The magazine lists Sea Grant publications available to the reader and includes articles written to appeal to a general audience as well as professionals in marine science and industry.

To receive *Sea Grant Today* please fill out this form and return it to: *Sea Grant Today*, Food Science and Technology Bldg., Virginia Tech, Blacksburg, VA 24061.

- I have enclosed \$6 for one year.
- I wish to subscribe. Please bill me.
- Please note change of address.

Name _____ Occupation _____
Address _____ Zip _____

HOME PORTS

New York Sea Grant Institute
411 State Street
Albany, New York 12246
Tel. (518) 473-8002

Sea Grant Extension Program
Fernow Hall
Cornell University
Ithaca, New York 14853
Tel. (607) 256-2162

Great Lakes

Sea Grant Extension Program
Morgan III
SUNY/Brockport
Brockport, New York 14420
Tel. (716) 395-2638

Sea Grant Extension Program
Farm & Home Center
21 South Grove Street
East Aurora, New York 14052
Tel. (716) 652-5453

Sea Grant Extension Program
Cooperative Extension Regional Office
412 E. Main Street
Fredonia, New York 14063
Tel. (716) 672-2191

Sea Grant Extension Program
66 Sheldon Hall
SUNY/Oswego
Oswego, New York 13126
Tel. (315) 341-3042

Sea Grant Extension Program
512 Raymond Hall
SUNY/Potsdam
Potsdam, New York 13676
Tel. (315) 267-2130

Hudson River

Sea Grant Extension Program
Cooperative Extension
62 Old Middletown Road
New City, New York 10956
Tel. (914) 425-5500

Marine Coast

Sea Grant Extension Program
Cooperative Extension
111 Broadway — 17th Floor
New York, New York 10006
Tel. (212) 587-0722

Sea Grant Extension Program
Nassau County Cooperative Extension
Plainview Complex, Building J
1425 Old County Road
Plainview, New York 11803
Tel. (516) 454-0900

Sea Grant Extension Program
Cornell University Laboratory
39 Sound Avenue
Riverhead, New York 11901
Tel. (516) 727-3910

Sea Grant Extension Program
South Campus, Building H
SUNY/Stony Brook
Stony Brook, New York 11794
Tel. (516) 246-7777



SEA GRANT

Fernow Hall
Cornell University
Ithaca, New York 14853
Tel: (607) 256-2162