

Your casualty loss may be a tax deduction!

Residents in 12 New York coastal counties whose property has been damaged physically by a sudden, unexpected or unusual event may file for casualty loss deductions on their federal income tax returns.

According to the Syracuse office of the Farmers Home Administration, President Carter declared these coastal counties eligible for emergency loans in 1977 because of damages and losses caused by excessive rainfall, severe storms, heavy snow and freezing or frost: Cayuga, Chautauqua, Erie, Franklin, Jefferson, Monroe, Niagara, Orleans, Oswego, St. Lawrence, Suffolk and Wayne. (Please note, this does not include areas declared disaster areas in January 1978 because of snow or ice storms.)

If your county was not declared a disaster area by the President, but you still suffered casualty losses in 1977, you still may be eligible for tax exemptions. A

casualty loss is one that is swift and unanticipated—it does not occur in the course of day-to-day living. The loss must be caused by natural or other external forces in a sudden, unexpected manner.

Information about disaster and other casualty losses is available from Sea Grant in Insight Booklet #8, "Tax Information on Casualty Losses for Coastal Property Owners." This booklet describes the types of losses that may be deductible on federal returns and helps shoreline owners better understand how federal tax laws may assist in minimizing losses. Insight #8 was listed in the I WANT MORE section of our last issue. Two Sea Grant specialists also can answer additional questions about casualty losses. Call Bruce DeYoung, Fredonia (Great Lakes) at 716-672-2191, or John Scotti, Stony Brook (Long Island) at 516-246-7777. *Gay Hawk, Media Specialist.*

Critters + cooler + coins = catch!

by Michael P. Voiland, Sea Grant Extension Specialist



Even worms can be dispensed as a "fast food."

Paul and Jerry Miller of Hilton, New York, are now in the "fast food" business—if you happen to be an anxious angler who is after even more anxious game fish!

These proprietors of Skinner's Marina on Braddock Bay near Rochester have an interesting way of offering game fish "a meal in a minute." This unique approach involves selling bait through the use of a vending machine—a cold sandwich vending machine to be exact. (See photo.)

The Millers invested in the used machine so they could dispense pre-packaged varieties of bait to anglers at any hour of the day or night. The live bait machine offers night crawlers, crayfish and blood-suckers, which are packed in plastic or cardboard containers with water, bedding and some cornmeal for sustenance. This, plus the cool temperature provided by the machine's refrigeration unit, keeps the critters

fresh and ready to invite a hungry strike once they're at the end of a line.

Paul claims, "it has worked out beautifully! The machine alone dispensed over 10,000 worms last season. There's no telling how many we would have sold if the possession ban and advisory against eating certain Lake Ontario fish hadn't been in effect."

To be sure, the folks at Skinner's are happy with how things have worked out. And, there probably are many late-night and early-morning fishermen who are happier since it is easier to obtain bait during off hours—assuming they have the right change and no Canadian coins, please!

The January 30th issue of **Sports Illustrated** reported a fellow in Pennsylvania started using fresh bait "fast food" machines a couple years ago. New York's own version seems to be as effective.

Have YOU completed the readers' survey from our last issue? Please do!

New York takes a lead in mariculture research

by Nick DeGeorges, Sea Grant Extension Intern

New York industry has been a leader in mariculture, an evolving form of marine husbandry. Like its freshwater counterpart, aquaculture, the basic end product of mariculture is an increase in our ability to supplement natural production of marine finfish, shellfish and plants.

A wide range of activities may be included under this definition. One relatively elementary form, ocean ranching, involves capturing live finfish and holding these fish in floating pens or netted off areas for future sale. In New York, a more common form of mariculture is the propagation of seed oysters and hard clams in hatcheries for transplanting onto bay bottoms. Some mariculturists are working with polyculture methods, raising two or more species together.

In the United States, the commercially important salmon and oyster industries increasingly are dependent on culture methods. Approximately 30 percent of the total landings of Pacific salmon are reared in hatcheries to fingerling size for release in lakes, rivers and seas. And New York's Great Lake Salmon fishery is dependent on hatcheries. Also, some 40 percent of the U.S. oysters are produced by private culturists.

In New York, cultural practices are not new. Throughout history the oyster industry gradually has lessened its dependence on natural populations and increased dependence on cultural ones. In 1920, we began to raise oysters and other shellfish in hatcheries, and about 30 years before that, two million lobsters were raised from eggs for release into Long Island Sound.

Hard clam mariculture—raising seed calms in hatcheries and transplanting these on a bay bottom—is now on the increase in New York. Sea Grant funds help support research into shellfish health and water quality in hatcheries used to raise seed oysters and clams.

All the apparent potential exhibited by mariculture does not necessarily mean it will succeed. There are many questions to be answered.

On Long Island, mariculture has important biological, technical, economic, social and political implications. A forum where these concerns could be aired was sponsored

last fall by the Department of Environmental Conservation, the New York Ocean Science Laboratory, the Nassau-Suffolk Regional Planning Board, the Marine Sciences Research Center at Stony Brook, Southampton College and Sea Grant.

The symposium brought to light the positions of involved state agencies, some of the problems mariculture faces in New York, as well as some of its successes, and the views and concerns of local fishermen and baymen.

Fishermen and baymen said they fear that the bountiful production offered by mariculture will mean the eventual leasing of all bay bottoms to large companies, which may cause the death of public shell-

fishing grounds and their independent way of life. One mariculturist reported on the problems involving local government, coastal landowners and baymen in establishing his operation.

Other problems and issues addressed reflected the need for continued educational efforts to help explain the nature of mariculture.

Like an iceberg, there is more to mariculture than meets the eye. Many problems need to be identified and solved. Biological, technological, water quality, user conflicts, and institutional problems (zoning, waste control, and licensing) are but a few. In the meantime, mariculture in New York state will continue to be successful for some and challenging for others.

Lake Ontario levels critical

by Brian Doyle, Sea Grant Extension Specialist

As a result of above normal precipitation in the Great Lakes Basin and decreased outflows through the St. Lawrence Seaway during the summer and fall of 1977, the water level of Lake Ontario was nearly two feet above its long term average for the month of February. This situation has caused concern among shoreline owners and marina opera-

tors alike because springtime levels are expected to reach a height of about 247 feet.

For the past 8 months, precipitation in the Lake Ontario Basin has been significantly above average. In addition, record inflows from Lake Erie have contributed to the water level problems.

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Storms, especially Northeasters, during high lake levels can cause extensive damage to marina facilities, private homes and docks, and lakeshore property.

Sand mining in NY Harbor's Lower Bay

by Peter T. Sanko, Sea Grant Extension Specialist

When large quantities of fill material are needed for major construction projects on or near New York's waterfront, it's often more economical and efficient to mine underwater sand than it is to bring it in by trucks from inland deposits. This is why the Lower Bay of New York Harbor has become the largest single source of sand for fill in the New York Metropolitan area.

According to Jim Marotta of the New York Office of General Services, more than 95 million cubic yards of sand have been mined from the Lower Bay between the years of 1950 to 1973. This sand has been used for such projects as the construction of Battery Park City, Ports Newark and Elizabeth, portions of the New Jersey Turnpike, and the Newark Airport extension. One of the more interesting projects was the construction of the New Jersey Sports Complex. Four million cubic yards of Lower Bay sand were pumped through an 8-mile long pipeline from the Hudson River to Hackensack.

Along with the economic benefits obtained by being able to dredge and transport such large volumes of sand, some serious environmental concerns have been voiced. The future of sand mining will depend to a large extent on how it affects the environment. Considering that New York Harbor has always been this nation's most important port, scientists know surprisingly little about its natural environment, and a lot less about dredging's effects on it.

Some of the basic questions being asked by environmental and regulatory agencies, as well as by concerned New York citizens, are being addressed by Sea Grant researchers. Funding for the research, initially provided by the New York Sea Grant Institute, is now coming from the State of New York, through the New York State Office of General Services.

One of the first things that has to be known about this resource, if it's going to be managed effectively, is its character and extent. For the past year Charles Fray, Research Associate at the Marine Sciences Research Center, SUNY Stony Brook, has been dealing with this problem. Fray has collected several hundred surface sediment samples from the Lower Bay and is studying them for texture and mineralogical composition. His report on the surficial sediment distribution of the Lower Bay is expected to be published within the next several months. It will include the first detailed and most complete map of sediment distribution ever published for this area.

Fray also is working on finding out something about the vertical distribution of sediment in the Bay. He's doing this by correlating seismic reflection records with existing sediment borings. This report is expected to be published this summer.

His research will provide useful information to the managers of this resource. In addition to telling us how much of and where each type of sediment is located, his work will give some indications of the sources and degree of renewability of the resource. It's long been known that the East Bank of the Lower Bay is replenished by sand from the littoral drift of the South Shore of Long Island. Estimates of the amount of sand coming into the Bay from this source run as high as 1.5 million cubic yards a year. By charting the distribution of trace minerals peculiar to only the sands of the New Jersey beaches, Fray has found that some sand from the New Jersey beaches finds its way across the West Bank to Coney Island.

Other research projects on sand mining and dredging are described in the feature article on this page.

Researchers study Lower Bay sand mining & dredging

by Peter T. Sanko, Sea Grant Extension Specialist

What are the effects of dredging on the biology of the Lower Bay? Drs. Boudewijn Brinkhuis and Harry Carter of the Marine Sciences Research Center are trying to answer this question. Right now they're in the process of collecting samples in an effort to compare the biota in the bottom that previously has been dredged with the bottom of the Lower Bay that never has been dredged.

Preliminary results of this ongoing study indicate that undisturbed sediments on both the East and West Banks generally are impoverished of biota. Many of the West Bank areas dredged during mining operations have filled in with very fine silt, rich in organic matter, such as leaf debris. Very few organisms were found in these fine deposits. Future research efforts will continue to obtain biota samples, to

determine the amounts of suspended particles in the water column during mining operations, and to determine the nature of the fine organic matter collecting in the dredged areas.

Dr. Brinkhuis will also be taking a look at what is happening to dredge spoil that was disposed of in a deep hole resulting from a previous sand mining operation. This hole, dredged to a depth of 90 feet is being filled to the 35 foot level. Thus far, about four million cubic yards of uncontaminated dredge spoil from the inner harbor have been deposited in it, and it has the potential to receive about another 2.5 to 3 million more cubic yards of material. Ordinarily, this dredge spoil would be dumped in the ocean. By using the dredge hole for disposal and later capping it with sand similar to that on the surrounding surface, some environmental and economic benefits may

accrue. Many of those facing the problem of having to dispose of dredge spoil are now beginning to think in terms of dredging holes for sand that could later be used for the disposal of dredge spoil or other materials such as demolition rubble. Dr. Brinkhuis' study of the uncontaminated spoil in this dredge hole should provide a little more insight into this important problem.

Since changes in bathymetry or bottom contours have an important affect on circulation, the question of how mining affects circulation in the Lower Bay also arises. Dr. Robert Wilson of the Marine Sciences Research Center is working on a mathematical model that will predict the changes in water circulation that would result from any given change in bottom contours. One of the major objectives of his research is to

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Sand Mining

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determine what alterations in bathymetry might have a beneficial effect on the circulation of the Lower Bay. It's still too early to tell if this can be done, but even if it's not possible, his research will be valuable. Using the model he'll be able to predict the circulation changes that will take place as a result of any proposed dredging. This may help to avert some otherwise costly environmental errors in planning.

Out of a public forum on sand mining held on Staten Island last year, Sea Grant learned of the concern Staten Islanders have for the problem of possible dredging-induced erosion. To address this problem, Dr. Blair Kinsman of the Marine Sciences Research Center recently initiated a study to evaluate changes in wave regimes resulting from changes in bottom depths caused by mining operations. His study will attempt to determine if mining operations alter wave patterns and strengths to such an extent that shore erosion problems will occur, particularly along Staten Island's Eastern Shore. The results of this research are expected to be available this summer.

Effective management of a resource requires some knowledge of the economics involved. To fill this need, Dr. William Wallace of Rensselaer Polytechnic Institute is well into an economic study of the sand and gravel industry. He has just completed a survey of the Availability and Characteristics of Off-shore Mineral Aggregate Resources in the Greater New York Metropolitan Area, which should be available to users within the next several months. Dr. Wallace is now working on a study to give some insight into the aggregate supply and demand situation in the New York metropolitan area.

The information gathered in these research efforts will provide an important base upon which various federal, state, and local agencies can draw to better manage the sand resource of New York Harbor's Lower Bay. Combined, they should prove to be one of the most extensive scientific investigations into what is really happening out under the waters of one of the world's busiest ports.

Why not squid?

There is nothing permanent except change. If you're a part of the fishing industry, you'll know this is true because of new regulations which affect you. As one fisherman said, "Before, when I shoved off from the dock there was only me and the 'old man' up there; now the 'old man' is likely to be a Coast Guard patrol plane."

A decline in the traditional bread and butter stocks like cod, haddock, and yellowtail flounder resulted in legislation restricting fishing efforts on these species (even closing the fishery the last week of 1977). Foreign fishing was cut in half; thus, restricting access of foreigners to stocks they traditionally depended on.

The options

The options for foreigners and U.S. fishermen are similar. To stay in the fishing business means directing your efforts in accord with the new regulations. For many foreigners, this means forming joint ventures with Americans or going elsewhere in the world. Americans may emphasize non-traditional species in the same or new areas, using modified or new gear.

Currently, foreign fishermen are permitted to take total allowable catches of fish like squid and hake the U.S. fishermen don't have a capacity to take in a year. But as efforts gradually are turned toward these mass volume, low price species, foreign fishing for them will be decreased.

As with any change, problems may jeopardize such a new balance. Some of you would like to fish for hakes and summer squid. But to cover costs, you need 15 cents a pound rather than the 8-10 cents a pound now offered. If you can't cover costs, you'll stick with smaller volume, higher value species like fluke. Other New York fishermen will accept \$160-\$200 per ton for hake and squid rather than go out of business.

Development potential

So, what is the potential for developing fisheries for New York and the Mid-Atlantic states? We need to know what the species are and where and how to catch them. Fishermen need a price that will make it worthwhile catching them and a suitable market with the right handling and processing requirements. Two groups that fall into this

*by Douglas B. Gordon,
Sea Grant Extension Specialist*

category are squid—the long-finned winter squid (*Loligo*) and the short-finned summer squid (*Illex*)—and red and silver hake.

Both squid species are abundant on the edge of the outer continental shelf—*Illex* in the fall and spring; *Loligo* in November to March. U.S. catches of squid traditionally have been less than 2,000 tons per year and incidental to trawling for other species. Catches in the Atlantic States increased by more than 4,000 metric tons in 1976.

This past season, fishermen in New York were geared up to take the summer squid and other species; however, low water temperatures delayed coastal migrations inhibiting the expected fishing opportunity. There still are markets, but eight cents a pound for *Illex* is considered too low by many fishermen to warrant an effort.

A 1977 summer survey showed bottom and mid-water trawls caught nearly two tons of squid per tow using mid-water gear. After you catch squid, a market is needed. Squid may be a replacement for the declining West Coast abalone fishery and East Coast clam fishery.

Preservation and preparation

Squid should be cleaned and blast frozen, but using a mixture of ice and sea water on board maintains freshness for a longer time, thus, increasing vessel range, access to species and market acceptability of the product. Squid may be prepared in a variety of ways, and Howard Johnson's Restaurants, Red Lobster Inns, and others currently are looking into the feasibility of using squid in their fast food operations.

Iced sea water on-board preservation also works for hake. In fact, a 70-80 foot vessel could operate on herring, squid, and whiting using the same preservation method.

Other species of fish for which there is an available supply and development potential include dogfish sharks in the European fish and chips trade, skates, sea robins, crabs, and other mixed species whose minced flesh may be processed into a variety of marketable products.

There is a potential for developing new fisheries in New York. The Department of Commerce has funded proposals for fisheries development.

The 200-mile limit: One year later

*by Douglas B. Gordon
Sea Grant Extension Specialist*

A year ago, the Fisheries Conservation and Management Act went into effect. It established regional fishery management councils around the country and charged them with developing a management plan for each important species of fish. For New York, this means the Mid-Atlantic Council (covering Virginia, Maryland, Delaware, Pennsylvania, New Jersey and New York) has responsibility for developing the management plan for fish stocks from three to 200 miles from our shores.

What's been the effect of this act over the past year? One thing is clear; foreign fishing is down. It decreased by some 50 percent from a year ago, and foreign fishing for certain species (such as Atlantic cod, yellowtail flounder, haddock, tile fish, and all invertebrates except squid) has been halted.

Of equal importance, New York and other U.S. fishermen have found constraints on their fishing. American fishermen are subject to harvest and gear restrictions and to record keeping and identification requirements, often for the first time.

Councils have major role

Perhaps of maximum significance, a group of citizens—represented by Councils—now have legal involvement in establishing regulations for management of the fishery. The Council's role is to allocate stocks of fish considering the biological supply (ensuring sustained and renewability of the stocks) and the social and economic consequences of regulations.

This means the Councils have to determine a maximum sustainable yield of the stock, then plug in social and economic considerations to determine the optimum yield for that species. U.S. Fishermen are allocated the portion of this yield which they have the capacity to harvest; if there is any left over this may be allocated by quota to foreign fishermen.

New regulations

While pleased with the reduction in foreign fishing resulting from the Act, New York fishermen have found it difficult to grapple with this new management approach. Clearly, both foreign and domestic fisheries have to be regulated if the objectives of the Act are to be achieved. Thus, a requirement for fishermen to keep log books is new for most, such as

charter and party boat operators. A significant tonnage of fish is caught off such vessels; so, it's easy to see why regulations concerned with fish stocks have to incorporate this segment of the industry as well.

Clear recognition that the significant private boat and sport fishery catch is not known is another pattern of the Act's first year. Councils are seeking ways to get a better handle on that catch.

New management plans

The effects of the Act can perhaps most clearly be seen in the management plans developed. The surf/clam plan provided landing quotas plus quarterly quotas regulated by controlling the number of days fished per week, a one year moratorium on new vessel entry into the fishery, possible closure of clam beds to protect immature clams, and mandatory record keeping and reports on activities.

The ground fish plan (for cod, yellowtail and haddock) certainly has been one of the more controversial. Those species, traditionally the bread and butter fish of the trawler fishermen in the Northeast and the basis of the fresh fish dinner many Americans love, are in decline. The ground fish plan provided closed areas; daily, boat trip and per man quotas; size and gear restrictions; weekly reporting; and log keeping requirements. Charter and party boats in New York saw a problem with the requirement to display large identification numbers on their

boats, but as with many problems in implementing a new act, this one was corrected—numbers now can be displayed on removable placards.

Management plans for Atlantic mackerel and the two species of squid were also produced by the end of 1977. Expected soon are the plans on flounder, scup, butterfish, fluke, river herring, black sea bass, sharks and American shad. The Council has been busy in other ways, too, such as the resolution of gear conflict between mobile gear (such as trawlers) and fixed gear operators (such as lobstermen, crabbers, and set liners). It's likely that mandatory marking, identification reporting, and setting orientation of fixed gear will be required in some areas. Boundary questions between the United States and Canada and better communication with affected fishermen and other concerned agencies also have received attention.

The Fisheries Management and Conservation Act has had major impacts on the New York fishery as was envisioned by those who sought its enactment. It's clear further changes will occur. There probably will be more restrictions placed on foreign vessels and segments of the U.S. fleet. Regulations more readily complied with probably will be developed. Most important, more effective management and conservation of the fisheries stock so important to New York consumers and fishermen will evolve.

A waterfront legacy

Until very recently, New York City had often turned its back on its 578-mile waterfront. But, environmental considerations, a need for more space, and the changing roles of the waterfront have brought its importance to our attention.

A new film, New York City's Waterfront Legacy, is Sea Grant's response to the need for information about this valuable resource. It's all about New York City's waterfront—its history and development, present problems and issues, and its potential for the future.

It illustrates the intimate link between the waterfront and all aspects of New York's life. This is the story of New York's many miles of waterfront, a legacy from the past in a period of change . . . an area of

immense potential for all New Yorkers.

The film points out that planning for the future of this resource is necessary to satisfy the many needs that New York City has now and will have in the future. It also reminds us that planning for the future must be a realistic balancing of many competing priorities in New York City.

This film was produced for the New York Sea Grant Program, a consortium of State University of New York and Cornell University, by the Motion Picture Film Center, Media Services, New York College of Agriculture and Life Sciences at Cornell University (16 mm, color, 30 minutes). It can be rented from the Film Library, Judd Falls Road, Cornell University, Ithaca, NY.

More winter recreation!

Frost fishing, frost biting and bird watching may seem a bit unusual to folks who don't think about using our Great Lakes for winter recreation, but they are fun winter/early spring activities just like ice boating, ice diving, ice fishing and ice watching described in our last issue.

Again, cold, wintry weather is the common factor. If you're not up to trying those mentioned last time, maybe you'll give these a try.

Frost fishing

You have to cut a hole to fish through the ice, but frost fishing only requires a rod and reel and, of course, a willingness to withstand the cold temperatures and waters of unfrozen bays and tributaries. Frost fishing really has come into its own with the successful introduction of salmon and trout (rainbow and steelhead) to Lakes Erie and Ontario.

"There's good winter fishing if you're serious about it in lake tributaries such as the Salmon and Niagara Rivers and Maxwell and Oak Orchard Creeks," notes Ed Maxon, President of Rochester Trout and Salmon Anglers Association. "By using normal trout catching techniques with spawn (egg) sacks or spinners, latchin' onto a Great Lakes steelhead is an exciting possi-

bility!", he added.

"Frosting" also is possible where warm water effluent from power plants attracts fish and keeps the surface waters from freezing. Oswego Harbor, waters off Russell Power Station in Rochester, and Dunkirk Harbor on Lake Erie are frost fishing hot spots where salmon, trout, bass and other species are found.

According to Dunkirk Harbor-master Frank Napieralski, the Dunkirk City pier can be quite an active mid-winter fishing spot when salmon and trout gather in the warmer harbor waters.

Frost biting

Frost biting refers to the mid-winter "wet water" sailing phenomenon gaining popularity at the mouth of the Rochester Harbor, where the Genesee River meets Lake Ontario, and to a lesser extent at Youngstown on the mouth of the Niagara River. Here, frost biters such as Dick Walsh, professor of physics at Monroe Community College, race in open, frigid harbor waters. "There are about 40 members in the Rochester Frostbiters Association who sail and sharpen their racing skills all winter long," Dick said. The professor reports it is cold when they

by Michael P. Voiland, Sea Grant Extension Specialist and Jean L. Kinnear, Sea Grant Extension Intern

are sailing, but "You get used to it, or you call it a day real early."

Bird watching

Perhaps the most active and enthusiastic of the winter recreators along Lake Ontario are birdwatchers. "The Ontario shore is easily one of the best birding areas in the country," according to Chip Perrigo, a student at SUC/Brockport and member of the Rochester Birding Association. "The lake, its wetlands, and other habitats are attractive to all sorts of birds throughout the colder season—water fowl, winter finches, and wintering warblers are a few examples," he said.

The Genesee Ornithological Society sponsors field trips in the winter to the Niagara River, Hamlin Beach, Sodus, and Durand-Westman Parks and Braddock Bay (both near Rochester). Winter gives way to spring, with an April trip to either Derby Hill near Oswego or Braddock Bay State Park to observe the annual hawk migration.

Lake level

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The International Joint Commission (IJC) is responsible for maintaining the level of Lake Ontario between 242.77 feet and 246.77 feet. In mid-February the lake level stood at 246.0 feet and rising. A major weakness of a plan which allows the IJC to make weekly decisions on Lake Ontario outflows through the Moses Saunders Power Dam is that it doesn't adequately anticipate long-term lake level fluctuations and adjust the outflow to accommodate them. By the time the plan indicates a need for large water releases, as it did in January, the level is already too high.

There is, however, some latitude in the lake level management plan which allows deviation from the rules in light of anticipated problems. One such mechanism is referred to as "Criteria K" which states that in the event of excess water supplies, outflows will be regulated to provide all possible relief to shoreline owners upstream and downstream. In early January "Criteria K" was invoked, allowing for increased outflows. We'll soon know whether this action was taken in time to prevent serious erosion and flooding.



Ice fishing is one of the most popular winter recreational activities in the Great Lakes region. Other winter recreational opportunities are discussed in the article on this page.

UPDATE

All boaters, fishermen and others who spend time on our cold Great Lakes or Atlantic waters should know how to survive in cold water. An increased survival time of just a few minutes can mean the difference between being alive or dead when help arrives.

New York Sea Grant has a five-minute slide-tape set on cold water survival and a leaflet which discusses the same. The slide-tape set is available from our Brockport office. The pamphlet is available from all offices.

* * *

On August 11, terms will expire for New York's two representatives to the Mid Atlantic Fisheries Council—Nancy K. Goell, East Hampton, Executive Director of Group for America's South Fork, and William R. Pell, Greenport, proprietor of Pell's Fish Market and Seafood Transportation.

If you or your organization wish to suggest nominations for representatives to the council, contact the Governor's office by June. The Governor will submit his recommendations to the Secretary of Commerce, who appoints representatives to the Council.

* * *

Opportunity for recreational fishing for swordfish has developed in the last couple of years and may be a possibility for Long Island charter boat operators. Swordfish have been caught in 900 to 1100 feet of water on squid baits fished from 60 to 200 feet below the surface at night in Florida.

In one Florida swordfish tourna-

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ment, 60 swordfish totaling 11,226 pounds were taken, the largest weighing in at 491 pounds. Since that tournament, a fish weighing 629 pounds was caught!

The squid baits used are rigged with two hooks on 250 pound monofilament leaders about 13 to 14 feet long. Usually, a Cyalume light, which is chemically activated and is about the size and shape of a hotdog, is rigged to the line where the leader joins. Apparently, the lights arouse the curiosity of the fish and attract it to the bait.

If your curiosity has been aroused, and if you have the time, equipment and desire to experiment with these techniques, a recreational fishery for swordfish might be developed off New York's coast. If interested, contact Bruce T. Wilkins at the Ithaca Sea Grant office.

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The New York State Marine Education Association will hold its annual conference at Fort Schuyler May 5-6. Entitled "Man in the Modern Sea," the conference will feature field trips, commercial exhibits and specialized seminars relating to Marine Education. The main speakers will be Frank Braynard, director of OpSail, who will speak on "Raising the Savannah," and Marty Dunn, well-known photographer of coral reef ecology. Further information about the conference is available from Lou Siegel at 212-373-6400 or Bob Jaeger at 516-294-6240.

* * *

The smelt-run along Lake Ontario and the Niagara River, as well as some inland areas, is running its annual spring course, and many "smelt dippers" have had success in catching these small, but tasty silvery fish. A publication explaining ways to handle and cook smelt is available.

The publication, "Smelt—Dip Net to Dish," outlines the basic methods of cleaning, preparing, and storing these fish, and includes eight kitchen-tested recipes for baking, broiling, barbecuing, frying and pickling smelt (see I WANT MORE).

* * *

If you're a teacher who wants to learn more about marine science so you can discuss the subject with your students, or if you're a college student interested in marine science, two courses offered next summer by Cornell and the University of New Hampshire, at the Shoals Marine Laboratory (off New Hampshire) might interest you.

"Introductory Marine Science for Teachers" is designed to give an overview of living marine organisms and the environment they inhabit. It will be offered three times—June 29-July 5, July 6-12 and July 13-19.

The "Introduction to Marine Science" course for college students is designed for those who desire an initial overview of the marine sciences.

Further information and application forms are available from Shoals Marine Laboratory, 202 Plant Science Building, Cornell University, Ithaca, NY 14853.

I WANT MORE

Additional information which should help you solve coastal related problems is available from New York Sea Grant. Check the publications which interest you and send to your nearest Sea Grant Extension Program office.

Single copies of the following publications are free.

- _____ Aquaculture 1976—A Digest of Sea Grant Research, National Sea Grant Program, October 1976, 41 pp.
- _____ Smelt—Dip Net to Dish, Minnesota Marine Advisory Service, 4 pp.
- _____ How to Make Salmon (Trout) Egg Baits at Home, January 1978, 2 pp.
- _____ How to Survive in Cold Water, MIT and U-Mass Sea Grant.
- _____ Fishery Conservation and Management Act of 1976, a synopsis, 7 pp.
- _____ Marine Trades Flyer 9, "Dry Stack Storage: An Alternative to Wet-Slip Expansion," 6 pp, NYSG-EP-78-01.

New York's Coast: The diverse Western Ontario—Erie shoreline

It's part of the coastline, yet it's separated from the Port of New York by hundreds of miles of mountains, valleys, and plains. It's an area of generally uniform, low relief, yet it displays one of the nation's most unique topographic features. Rural countryside dominates the landscape, yet it is the home of the greatest concentration of industrial activity in the State.

If the Western Ontario-Erie region were summarized in a word, that word would be "diverse." The region is more accurately described as a strip of land and water, extending linearly for about 375 miles. Portions of Chautauqua, Erie, Niagara, Orleans, Monroe, and Wayne Counties are included in this swath. Offshore, the region spans the adjacent waters and underwater lands of Lake Erie, the Niagara River, and Lake Ontario.

Geologically, most of the region lies within the Erie-Ontario Plain, but in eastern Wayne County drumlin formations interrupt the relatively flat landscape. At the shoreline, however, the edge is often defined by bluffs, rising to over 120 feet at Chimney Bluffs in Wayne County. In some places, rivers slice through shorelands as they descend into the lake, creating gorges at Eighteen Mile Creek in Erie County, the Genesee River in Monroe County, and the lower Niagara River gorge. The spectacular Niagara Falls, 182 feet high and 1,075 feet wide on the American side, provides the State with its largest tourist attraction.

Glaciation formed the Great Lakes, first scouring out the lake beds as the thick masses of ice moved south, then filling them in with glacial melt waters as the glacier receded northward. Lake Erie is the shallowest of the Great Lakes with an average depth of 62 feet, an occurrence caused by the presence of relatively resistant limestone in the lakebed. Beneath the limestone strata, the Medina Sandstone group is estimated to hold the bulk of the natural gas deposits under New York's portion of Lake Erie, which may be the subject of offshore drilling in the future.

Climate has had a profound affect on the region's growth and economy. The lakes serve to moderate onshore temperatures, creating 30 more frost free days during the growing season. Combined with good soils, the coastal region has been an ideal location for fruit farms. Vineyards along Lake Erie and orchards along Lake Ontario are now a distinctive characteristic of the landscape. The lakes also have been the source of a less beneficial phenomena: "lake effect" snowstorms result from substantial differences in air and water temperatures and can produce snowfalls of three feet or more in one

day. The January 1977 storm which crippled Buffalo resulted from such a phenomena.

Today, Buffalo is one of the country's leading centers of heavy industry, and a major transshipment point in the northern United States. Abundant hydroelectric power has influenced the area's industrial development greatly. The Rochester metropolitan area also is outstanding for manufacture, focusing on light industry. Between the two metropolitan centers, orchards and vineyards, strip shoreline development, and vast open spaces distinguish the landscape.

The Western Ontario-Erie region reflects the problems of urbanized coastal areas across the state: declining economies, decaying waterfronts, and polluted waters. However, the level and extensiveness of industrial concentration in the Buffalo area, and the size of the city itself (second largest in the state), intensifies these problems in this urban setting. Rural needs such as preservation of farmlands, a statewide concern, also take on great importance in this region where specialized farming is dependent on unique coastal climates. Other problems, such as flooding and erosion of shore property, are particularly volatile issues in this time of high water level in Lake Ontario.

The Coastal Management Program can best address these and other issues in the Western Ontario-Erie region by first



For additional information, contact Robert Hansen, Program Manager, or Dot Fellows, Public Participation Specialist, at the New York Coastal Management Program, Department of State, 162 Washington Ave., Albany, New York, 12231, 474-5793.

recognizing the diversity of the area and the uniqueness of its resources. Based on this awareness, a balanced plan can be devised which promotes increased economic activity and an improved quality of life for the future.



Chimney Bluffs in Wayne County, New York. Photo by the New York State Department of Commerce.

This foldout page is prepared and paid for by the New York State Coastal Management Program.

The Coastal Energy Impact Program

In order to encourage development of domestic energy resources and protect and manage the Nation's coast, in harmony with the objectives of the States' developing coastal management programs, Congress amended the Coastal Zone Management Act in 1976 to create a ten-year \$800 million Coastal Energy Impact Fund and provide, for a period of eight-years, \$400 million in formula grants. The CEIP monies, once they are actually delivered to the state, can be used throughout the state's coastal area. Formula grants, or OCS Energy Activity Related Grants, on the other hand, are geared to those marine areas affected by Outer Continental Shelf Activities though monies can also be used elsewhere to prevent, reduce or ameliorate unavoidable losses of environmental or recreational resources.

This Coastal Energy Impact Program (CEIP) provides financial assistance to coastal states and local governments in order to help coastal communities prepare for the growth and any adverse effects caused by increased energy activity.

Local coastal communities feel the impacts of energy facility development most directly. In response to their needs, the CEIP aims to respond to development of energy resources in a manner consistent with the New York State Coastal Management Program.

The CEIP can provide assistance to help State and local governments meet needs caused by three categories of energy activities.

The most general category is **Energy Facility**. This category includes any equipment or facility used in the exploration for, or the development, production, conversion, storage, transfer, processing or transportation of any energy resource. This includes such facilities as electric generating plants; petroleum refineries; oil and gas storage tanks; ports and docks necessary for transfer of petroleum, gas, coal, or any other energy resource, as well as manufacturing facilities for energy-related development.

The second category, **Coastal Energy Activity**, refers to an energy activity that is dependent on or significantly affects coastal waters and requires that the facility be sited, constructed, expanded or operated in or near the coast. Such activity is limited by federal law to: Outer Continental Shelf (OCS) — related energy activity; Liquefied Natural Gas (LNG) — energy related activity; and energy activity related coastal transportation, transfer, and storage of coal, oil or gas.

The third category, and most restrictive, is **OCS Energy Activity**. This is an activity directly related to Outer Continental Shelf development.

Although the CEIP is intended primarily to assist coastal cities and counties, as well as other eligible agencies within the

defined coastal area, inland cities within coastal counties might also be eligible for funds, but only if impacts are clearly linked to a Coastal Energy Activity. For example, an inland community which is the site of pipeline fabrication to support offshore oil drilling could be eligible.

The CEIP provides five basic types of assistance: planning grants, environmental and recreational grants, Outer Continental Shelf (OCS) energy activity related grants, credit assistance, and repayment assistance.

Planning Grants are available on an 80% federal, 20% non-federal basis to help grant recipients prepare for the consequences of any new or expanded energy facility in the defined area.

Environmental and Recreational Grants, available on a 100% federal basis, are designed to help states prevent, reduce, or repair damage to or loss of valuable environmental or recreational resources caused by coastal energy activity. Environmental grants may be used to alleviate impacts resulting from previous coastal energy activity which cannot be traced to any one party.

OCS Energy Activity Related Grants, or Formula Grants, are available on a 100% federal funding basis to plan for, mitigate impacts of, and develop public facilities and services as a result of OCS related energy facility development.

These funds are also the primary source of assistance to help local communities prevent, reduce or ameliorate unavoidable losses of environmental or recreational resources as a result of a coastal energy activity that affects any part of a state's coastal area as defined by the Coastal Management Program.

Another important feature of the

Formula Grants is that monies can be used to pay the difference in cost between the least expensive method of providing a public facility and a more environmentally sound method.

Credit Assistance is available in the form of direct loans or guarantees of loans or bonds for the purpose of providing new or improved public facilities and services required as a result of coastal energy activity, especially when there will be a time lag between the time a facility is needed and the time the new facility and residents are generating local revenues.

Repayment Assistance is available to applicants who cannot meet CEIP credit obligations because expected revenue fails to materialize. Repayment assistance includes modification of credit terms, refinancing, a supplemental loan, or a repayment grant.

Capital improvement projects can be covered by CEIP funds if: (1) the community has borrowed money directly from the CEIP, or has used a CEIP guarantee; and (2) there is a change in scope of the energy activity so that projected revenues do not materialize.

For federal fiscal year 1977, New York State has been allotted \$334,624 for Planning Grants. These funds must be allocated within the state by the Department of State prior to October 1, 1977.

Planning Grant monies to be allotted to New York State by the federal government for fiscal year 1978 should be announced shortly. The other forms of CEIP assistance for fiscal year 1978 will depend, as with the fiscal year 1977 allotments, on OCS activities and finalization of the CEIP extended lateral seaward boundaries.



The beautiful Niagara Falls. Photo by the New York State Department of Commerce.

In the best tradition of the sea

by Bruce DeYoung, Sea Grant Extension Specialist

Gale-force winds which swept across Lake Erie in late January set the stage for a chilling rescue of stranded boaters by Dunkirk Harbor-based commercial fishermen.

The 12-hour ordeal began at 6 a.m. when two high school youths launched a 15-foot aluminum boat in Dunkirk Harbor to go fishing. Within four hours, a weather front dropped the 48°F temperature to 20°F and gusted winds to 50 knots.

As the two attempted to row to shore, wind pushed the boat into the rocks along the Harbor's shores. One youth scrambled to safety, but the other apparently remained behind to save the craft. Shortly thereafter, the open boat was swept into ice-jammed Lake Erie.

Sensing his friend's crucial dilemma, the land-bound angler sought help from Joe Vacanti, operator of Joe's Marina, and his assistant Bill Gage. They launched a 14-foot outboard motor boat and raced to the rescue. Unfortunately, after reaching the stranded boat, their own rescue boat became disabled in the freezing water.

The U.S. Coast Guard in Buffalo

and the Chautauqua County Sheriff's Department in Mayville were then called in. Because the weather was severe, they could not use a rescue helicopter; however, they could use the sheriff department's 26-foot "jet" boat. Sheriff navigation officers Robert "Toby" Pleszewski and Ernest Cowan set off about noon. They reached the previous rescuers and the fisherman in an hour, but because wind-driven snow obscured vision of the shore, the sheriff department's boat also was stranded in the midst of ice floes reported to be 400 yards in diameter. Flares and community fire horns were used to no avail in an attempt to guide rescuers home.

The stranded group huddled in the frozen boat, now a part of the fast moving ice floe which began to move farther out into Lake Erie.

Another call for help went out to Stanley "Casey" Case of the "Gloria Mae" and "Red" Russel of the "Mary S," two Dunkirk-based fishing tugs. Since the tugs were in winter storage, it took an hour to prepare them for launching. By then, it was nearly dark.

Despite known hazards and potential harm to their tugs, the skippers set out in search of the stranded group. After seven hours of search in blinding snow and darkness, the "Gloria Mae" sighted the revolving blue light of the sheriff's boat and took aboard five grateful people.

Because blowing snow had disabled the tug's radar antenna, the skipper navigated by dead reckoning to return the survivors safely to Dunkirk Harbor at 11 p.m. The skippers saved the stranded people from certain death by exposure.

Although these actions speak for themselves, Chautauqua County Executive Joseph Gerace later summarized it best by noting that it was the persistent determination of the crews of two private fishing tugs which kept a major tragedy from occurring. "Their actions, above all others, were in the best tradition of the sea and should be especially commended," he said.

The messages for Great Lakes recreators are clear—consult weather forecasts before venturing out and be prepared!

New York Sea Grant Institute
State University of New York
99 Washington Avenue
Albany, New York 12246
Tel. (518) 474-5787

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

Sea Grant Extension Program
246 Griffing Avenue
Riverhead, New York 11901
Tel. (516) 727-7850

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

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

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

Sea Grant Extension Program
Youth Development Program
381 Park Avenue South
Room 621
New York, New York 10016
Tel. (212) 685-5081

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

Sea Grant Extension Program
129 Merritt Hall
SUNY/Potsdam
Potsdam, New York 13676
Tel. (315) 268-3303

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SEA GRANT

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

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