Coastlines

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Property Owners Work Together to Stabilize Shore

By
Peter Sanko
Sea Grant Extension Specialist

Faced with the prospect of losing their homes to erosion, 10 residents of Leeton Drive, Southold, Long Island, have joined together to combat the destructive forces of Long Island Sound. With assistance from the Sea Grant Advisory Service, the property owners have developed a comprehensive plan to stabilize their shoreline which experienced severe erosion this past fall and winter. Protective sand dunes were washed out, the foundations of several homes were undermined, and bulkheading was in danger of being undercut.

For some years, there were indications the area was in for trouble. Several of the residents observed the beaches had not been building up as much as they usually did during the summer. Donald Stanton, a Smithtown, Long Island resident who owns a summer home on Leeton Drive, realized the potential seriousness of the problem last summer and began to investigate not only the causes of erosion but also the potential solutions.

By the time Mr. Stanton contacted the Sea Grant Advisory Service in September, he had already collected a great deal of information about the area, including maps and aerial photographs. Mr. Stanton, an electrical engineer who holds a master's degree in marine environmental sciences from SUNY, Stony Brook, had the technical background which helped him anticipate erosion would soon reach a critical stage.

The Leeton Drive property owners, led by Mr. Stanton, worked with the Sea Grant Advisory Service and their contractor, Thompson Marine, Inc., and over the next several months evaluated a technically feasible plan that would be environmentally and economically acceptable. Since the most important environmental consideration was to minimize the impact on adjacent properties, the objective had to be to maintain the existing beach and structures rather than build up additional beach width.

This 1010 foot section of shoreline presented two distinct types of stabilization problems. The westernmost end is already protected by 665 feet of bulkhead which was in danger of being undercut, while the eastern section of 355 feet had no existing protection. A rock revetment laid on filter cloth was considered to be the best method of primary stabilization for the eastern section, rather than to extend the existing bulkhead. The sloping, rough, and porous rock structure would absorb more wave energy than a vertical bulkhead, thereby reducing scour at the toe.

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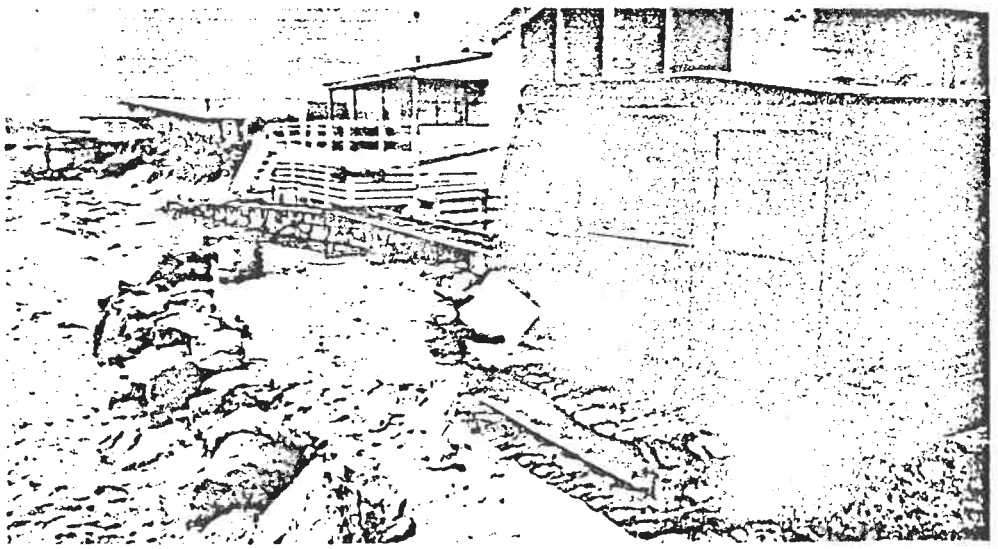

Donald Stanton, who owns a summer home on Leeton Drive, Southold, Long Island, was instrumental in organizing fellow property owners to work together to develop a shoreline stabilization plan.

The Future of Fish Contaminants

by
Michael Duttweiler
Sea Grant Extension Specialist

Optimists among us had hoped for a clearer picture of the Lake Ontario fish contaminants problem by the time the daffodils and crocus appeared. If anything, spring has brought more confusion.

Last fall, possession of seven species of Lake Ontario fish were prohibited by the New York State Departments of Health and Environmental Conservation. This ban was based on the presence of the toxic chemical Mirex in the flesh of coho and chinook salmon, lake trout, brown bullhead, smallmouth bass, members of the alewife/herring family, and American eels. Shortly after the possession ban on these species went into effect, it was altered to allow possession of a designated number of smallmouth bass, coho and chinook salmon for trophy purposes only.

The possession ban had been preceded by a 1975 advisory that certain Lake Ontario fish contained unacceptable levels of polychlorinated biphenyls (PCBs). Interpretation of the Mirex problem was complicated by the presence of these and other contaminants.

RECENT DEVELOPMENTS

Large numbers of fish were collected and analyzed by the N.Y.S. Department of Environmental Conservation during the fall of 1976 and the winter of 1977. The purpose of this sampling program was to expand and verify existing Mirex data, most of which was provided by Canadian agencies.

The Chaumont Bay fishery for brown bullhead was reopened by March 1977 after analyses indicated that bullheads from that area contained acceptable levels of Mirex. Other analyses supported the early data in that Mirex was identified banned species.

It was also found that smaller fish generally had lower Mirex contents than larger fish of several important species. This fact raised hope that smaller fish might pose less of a potential health risk than larger fish of the same species.

By late March, the ban was further modified. The coho salmon fishery was reopened for fish less than 21 inches long. However, additional possession bans were placed on brown trout longer than 18 inches and rainbow and steelhead trout longer than 25 inches.

The data base for the ban was questioned when an independent researcher, contracted by a major chemical firm, reported there were contaminants in Lake Ontario fish but questioned whether Mirex itself was one of them. Additionally, a Minority Task Force of the New York State Assembly conducted public hearings on fish contaminants and concluded that the possession ban was an "overreaction" and urged that it be lifted.

THE DILEMMA

Additional possible contaminants have been noted by the Water Quality Board of the International Joint Commission. The Board has announced it will study at least 40 chemicals as "candidates" for problems in Lake Ontario. This certainly does not mean there will be 40 more contaminant crises for Lake Ontario. It does mean, however, that at least 40 chemicals that have characteristics of large volume use, toxicity and chemical stability have been used in the Lake Ontario Basin and *could* present problems.

Shortly after the Water Quality Board's announcement about its study, the proposed ban on the artificial sweetener Saccharin raised the ire of consumers throughout the country. Lakeshore newspapers soon drew editorial parallels between regulation of food additives and fish contaminants. The essence of their commentary was that the individual consumer's freedom of choice was being limited.

Obviously, many questions about fish contaminants in Lake Ontario remain unanswered. It seems likely that other waters will become involved as our knowledge is expanded and our study techniques are refined.

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Lower Ontario Level Expected

According to the latest U.S. Army Corps of Engineers forecasts, the water level of Lake Ontario is expected to peak at about 245.4 feet sometime during June. This is three inches lower than the long-term average for that time of year and almost two feet lower than last year's level.

The water level of Lake Ontario is currently controlled by the International Joint Commission of the United States and Canada. According to the regulation plan, the lake level elevation is to be maintained as nearly as possible between 242.77 feet and 246.77 feet. During three of the previous four years, the lake has exceeded the upper limit of 246.77 feet causing severe flooding and erosion along many reaches of Ontario. Excess precipitation throughout the entire Great Lakes Basin and unusually high inflows from Lake Erie have been the principle factors causing these record levels.

With inflows and precipitation expected to decrease markedly this year, there appears to be little chance of high water again this spring and summer. However, freak storms or abnormal rainfall patterns could alter this situation and significantly change what is now considered to be an encouraging outlook.

Coastal Damage Tax Claims

Coastal landowners whose properties have been physically damaged by a "sudden, unexpected or unusual" event may file a casualty loss deduction on their federal income tax.

A casualty event is usually one that is swift and ordinarily unanticipated. It does not occur in the course of day-to-day living. Gradual or progressive damage which commonly occurs, such as ongoing erosion, is not generally considered to be a casualty loss deduction.

Coastal property damaged by a storm, flood, or hurricane may be a deductible casualty loss. Other casualty losses may include damage caused by mudslides, high winds, and landslides. The loss must be caused by natural or other external forces in a sudden, unexpected or unusual manner.

Property owners must document damages which have been incurred. Photographic evidence of "before and after" conditions are helpful but should be supplemented by appraisals and other evidence.

Information which further explains Casualty Loss Deduction and its significance for coastal property owners is available from your local Sea Grant Advisory Service office. (See I WANT MORE.)

Bibliography

"Sea Grant Publications for the Fishing Industry" is a bibliography of all the Sea Grant publications published by the Sea Grant Programs on the east coast, including New York. Free copies are available from your local New York Sea Grant Advisory Service Office.

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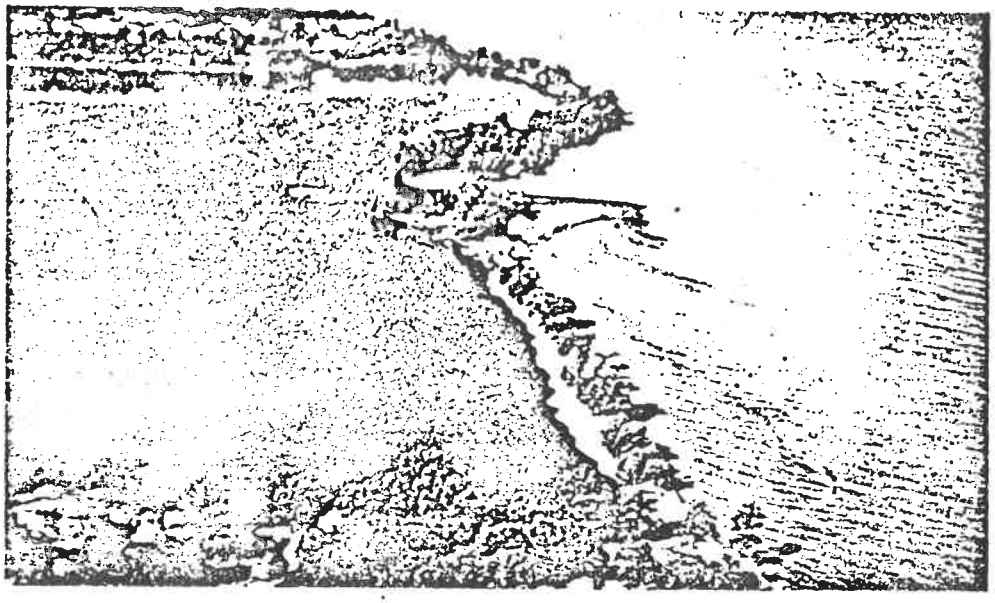

The State Attorney General's Office has taken action to acquire title to barrier bars on Lake Ontario such as the one above at Port Bay.

State Moves to Acquire Ontario Barrier Bars

By
Brian Doyle
Sea Grant Extension Specialist

The State Attorney General's Office of the State of New York, acting through the Department of Environmental Conservation (DEC), has moved to acquire title to the barrier bars which stretch across East and Port Bay on Lake Ontario. By definition, barrier bars, or barrier beaches as they are often called, are normally separated from the mainland by shallow bays and can vary in width from a few yards to a mile.

The two barrier bars, which are both located in Wayne County, are composed chiefly of sand and gravel and are about one half mile in length. The East Bay bar averages 90 feet in width, while the Port Bay bar averages 200 feet. These dimensions can fluctuate considerably depending upon the lake level. There are summer cottages along both bars.

According to DEC, these bars are not of a permanent nature and, therefore, are not characteristic of most real property. Historic records show that these and other barrier bars along Lake Ontario were once submerged and have developed through the gradual deposition of sediment. In harmony with the predominant pattern of shoreline erosion along the southern shore of Lake Ontario, the two bars have maintained a steady movement inland. Since beach materials are always in motion due to wave action, these bars have a dynamic quality; however, this movement may not always be perceptible to the casual observer.

This latest move by the State culminates 10 years of effort to settle the question of ownership on these bars. After the report of a March public hearing is filed, the Commissioner of the Department of Environmental Conservation will make a final decision on future title acquisition proceedings for the two barrier bars. This decision is expected sometime in May. At that time, the State Attorney General's Office will conduct a title search and identify any owners possessing lawful deeds. These persons will be offered market value for their property while persons who are found to have no right to, title to, or interest in the barrier bar land to be appropriated may file claim in the Court of Claims.

At the March public hearing DEC listed several factors which influenced their decision to assert public ownership

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Oil Spill Prevention

By
Stephen Brown
Sea Grant Extension Specialist

According to tourists who travel to the 1000 Islands, the St. Lawrence River is pristine and majestic. A river so lovely as to snatch one's breath away. On June 23rd, however, an oil spill temporarily hid that beauty. The NEPCO 140 struck an island and released 308,000 gallons of a thick foul-smelling fuel. Following the winds and currents, the oil spread quickly down river, covering everything for more than 100 miles. Residents were stunned and bewildered, business dropped off, wildlife died, and property became damaged; the river community and the taxpayers were ravaged. It was America's most expensive spill —$8 million for the clean-up alone!

Are you ready for an oil spill? If not, it is time to develop and implement a defense plan. A plan which would minimize the likelihood of a spill, and if a spill did occur, mitigate the possible damage.

PREVENTION

The causes of spills are many — equipment failure, human error, collisions, natural disasters. Most, according to the Federal Government, can be prevented by the use of proper equipment and procedures. Responsibility for implementing a prevention program lies with the U.S. Coast Guard, the U.S. Environmental Protection Agency, and the New York Department of Environmental Conservation.

HOW TO RESPOND LOCALLY

The most critical period in the fighting of an oil spill is the first 24 hours. It is during this time that difficult decisions must be made — decisions most likely affecting the very outcome of the cleanup effort.

You can mitigate oil spill damages if you are prepared with detailed information concerning the local geography and marine environment, appropriate clean-up equipment and personnel, and a plan of action which can be easily implemented. The response should be like the actions of a volunteer fire department —quick and effective.

Several communities in New York have found it valuable to establish an oil spillage control board to respond to spill incidents. In Huntington, Long Island, the Town Board established a seven-member board to respond to oil spills and oil pollution incidents. The oil spillage control board in Huntington was set up to:

- issue permits for oil handling operations;
- enter into agreements for the purpose of coordinating and jointly using equipment, material, and personnel to combat oil pollution;
- assist the United States Coast Guard under the direction of its on-scene coordinator in pollution control efforts; and
- administer an oil spill fighting fund.

Once an oil spillage control board is established, the members should begin work on an oil spill contingency plan. Once the plan is developed, realistic recommendations need to be made which can be implemented over time. Funding for the oil spillage control board would eventually be obtained when oil spill operations begin. Reimbursement would occur when successful legal actions are brought against polluters to cover costs under federal, state, and local statutes.

REVERSE ADVERSE PUBLICITY

Disasters make news, lots of it. However, clean ups aren't as dramatic to report.

In a study on the assessment of damage to New York's commercial recreation firms following hurricane Agnes, Tommy L. Brown, Sea Grant researcher at Cornell, noted two phases of business loss: 1) the time all or portions of the businesses were necessarily closed [while under water and mud, loss of utility services] and 2) losses from expected customer revenues once the clean up was completed. The recreationists, it seems, returned to these campgrounds and marinas in substantially decreasing numbers. He stated, "It is now apparent that two related promotional factors worked to bring this about — negative promotion via news media coverage and lack of positive promotion by firms and other tourism publicity agencies." People who change their vacation plans because of the "bad news" about a spill should be told when the region is "back in business". Positive promotion, stating the true facts about clean up operations and results, is the key to getting people back to recreation areas.

EVALUATE

If you have experienced an oil spill you know what it can do. Learn from what happened and work to insure that you are ready next time.

Evaluate the events and then alter your procedures and get the training and equipment you need. "Talk up" your observations with your neighbors, representatives and agencies, then act to minimize the impact of a potential spill.

Further information on oil spill prevention is available from me in the Potsdam office.

eneral Permit for roperty Owners

By
Brian Doyle
Sea Grant Extension Specialist

ue to the severe ice and storm condi- of this past winter, Commissioner Environmental Conservation Peter Berle has initiated a statewide Gen- Permit program to allow shorefront perty owners to repair damaged s, moorings and bulkheads. The Gen- Permit had originally been issued to r only marine waters, but recently been extended to also include all s bordering fresh water as well.

he Commissioner indicated repairs damaged waterfront structures will e little or no environmental impact that a General Permit program would viate delays caused by processing usands of permit requests for repair rk. The only requirement is that land- ners notify the Department of Environ- ntal Conservation in writing before rk begins and no later than June 1, 7. Individual permits are not required. Under the General Permit only work sisting of repair or replacement in e same location and of the same size the damaged structures is allowed. us, any changes you wish to make in e, location or configuration will re- ire filing for an individual permit in e usual manner. In addition, freshwater tidal wetlands are not to be disturbed der any circumstances.

The General Permit covers removal of maged pilings; redriving or replacing enwork docks or pier pilings and moor- g piles; repair or replacement of float- g docks, ramps or decking; and repair reconstruction of bulkheading.

Repair work done on docks, moorings bulkheads does not require an Army orps of Engineers permit as long as you o not intend to change the size, location configuration of your present struc- re.

I WANT MORE

Additional information which should help you solve coastal problems is available from the Sea Grant Advisory Service offices. Check the appropriate boxes of the publications which interest you and send to the Sea Grant Advisory Service Office nearest you.

Single copies of the following publications are free.

_____M23 Insight #2, "Shoreline Protection Guide for Property Owners", Sanko, 24pp., January 1975.

_____M24 Monitoring the Seashore, Marisawa and King, 17 pp., February 1974.

_____M25 PCBs in Fish, flyer, Duttweiler, April 1976.

_____M26 ABC's of PCBs, Wisconsin Sea Grant, 5 pp.

_____M27 Tax Information on Casualty Losses for Coastal Property Owners, New York Sea Grant, 5 pp., March 1977.

There is a charge for the following publications. Please make checks payable to Cornell University.

_____J34 Beach Forms and Coastal Processes, Yasso and Hartman, New York Bight Atlas Monograph Series #11, 31 pp., January 1975, $4.00

_____J35 Politics of Shore Erosion: Westhampton Beach, Heikoff, 1975, $15.00.

_____J36 Government Jurisdictions of the New York Coastal Zone, An Analysis of Coastal Programs, August 1976, 117 pages, $2.50.

_____J37 Film: Our Everchanging Shoreline, focuses on problems of erosion and deposition of New York's Atlantic and Great Lakes shores. Available for rent.

Contaminants

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Toxic substances in Great Lakes fish have transformed from single discovery or crisis problems to long-term, complex dilemmas of water resources management. The status of single, current health advisories or consumption bans is only one phase of the question.

The central issue becomes another question — How do we interpret presently known contamination, anticipate future discoveries and yet allow fullest "safe" use of your aquatic resources?

Barrier Bars

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of these bars. They feel that the barriers possess tremendous fish and wildlife resource potential; are of great recreational value to the public as environments for fishing, hunting, picnicking and hiking; and could be utilized to enhance small boat access to the lake and bays themselves. In addition, present and potential health problems resulting from septic system pollution could be eliminated by removing residences from the bars.

Although this action is currently limited to these two small barrier bars, there are clearly some implications for others who now live, or plan to live, on similar geologic formations. It may be well worth the investment to have a title search done to guarantee that you indeed own barrier beach property. It could spare you from much worry and confusion in the future.

Next issue: The Impact of

Extended Jurisdiction

Shoreline Stabilization

continued from page 1

To maintain a beach elevation in front of the bulkhead and planned revetment and thus provide some protection from undercutting, a field of seven short, low-profile timber groins was selected. The groins are 48 feet long, two feet above the existing beach grade on the landward end, and slope to an elevation of 6 inches above the beach where they terminate at mean low water. Groin spacing varies from 105 feet on the western or "updrift" end of the field to 200 feet on the eastern or "downdrift" end. The plan also calls for construction at the downdrift end, artificial filling of the compartments, and installation of a sill parallel to the shoreline at the toe of the groin field if needed. Timber was selected for groin construction if modification of height or profile is needed.

It is expected that the groin field will maintain the beach at or near the elevation of the groins. Their low-profile and short length should allow for natural bypassing of sand carried in the littoral drift both over and around the ends of the groins. Higher and longer groins might starve the downdrift beaches by trapping too much sand or by deflecting it offshore.

To develop a shore stabilization is one thing, but to implement it is another. Following the unusual weather conditions that prevailed on Long Island Sound during the late fall and early winter months, which resulted in the undermining of the foundations of the homes along the unprotected section of the shorelines, the N.Y.S. Department of Environmental Conservation issued permits to allow construction of the revetment. However, severe ice conditions delayed construction until March 1977. The issuance of permits for the remainder of the project is pending decision by the Department of Environmental Conservation subsequent to hearings held in March.

When the project is completed, the problems of the Leeton Drive residents may not be over. At a meeting held by Sea Grant Advisory concerning the erosion problems in the Leeton Drive and Mattituck Inlet areas of Long Island Sound, some disturbing facts were brought out. Records dating back to 1838 show that the Sound shoreline in the Leeton Drive area has been eroding at the average rate of about two feet per year. However, since the installation of a 400 foot jetty at Goldsmith Inlet in 1964 updrift of the area, greatly accelerated erosion has occurred downdrift. In the long run, this means that unless some relief in the form of additional sand in the littoral drift is supplied to the area in general, erosion will probably continue on both sides of the stabilized area, threatening it with erosion from both flanks. Meanwhile, the Leeton Drive property owners are determined to work as a unit to prolong the life of their shoreline.

Their experience is unique. It is praiseworthy that 10 property owners with more than 1000 feet of shoreline could get together and agree on a unified shoreline stabilization plan. Their decision to maintain their beach rather than to attempt to increase its size out of environmental consideration is an important one. Hopefully, their months of careful planning will result in a successful shoreline stabilization effort.

Kantrowitz Joins Sea Grant Staff

Bruce Kantrowitz has joined the New York Sea Grant Institute in Albany as Assistant Director for Communications. Bruce received a master's degree in communications from Rensselaer Polytechnic Institute in Troy, New York, where he is currently a doctoral candidate. He joins Sea Grant from a position in New York City where he worked in corporate communications for the insurance industry.

Marine Education Association

by
Rick Raymond
Sea Grant Extension Specialist

The New York State Marine Education Association is planning its third annual conference for May 21-22 at Southampton College. Anyone who is interested in details can contact me at the Park Avenue New York City Office, or you can contact one of several persons who have been very important to the association's development:

Gene Kingpan, chairperson of the Conference planning committee, is completing his second year as president of the Association. A founding father of the Association, Gene is a recognized leader in marine science education on Long Island and is chairman of the science department at Shelter Island High School. Gene and his family live in Southold;

Lou Siegel is a science teacher at John Dewey High School in Brooklyn. He is president-elect of the Marine Education Association and is a director of the association for Nassau County. Lou has conducted numerous programs and activities for marine educators at the Nassau County Museum "Tackapausha". He has co-authored the publication *Adventures on the Beach* and is currently conducting a survey of marine educators and marine education programs in New York. Lou lives in Massapequa; and

Karen Hensel is the Education Curator at the New York Aquarium and was a key person at the first meeting that led to the formation of the Marine Education Association. Karen, who has been a leading force to the Association, is chairperson of the education committee. She is also a member of the Sea Grant Marine Education/Youth Development Advisory Committee, the Board of Directors of the National Marine Education Association, and the education committee of the American Association of Zoological Parks and Aquariums. Karen lives in New York City.

UPDATE

The New York Sea Grant Advisory Service welcomes Mary Fountain of Scotia, New York, who joined our staff March 1 as a Sea Grant Extension Specialist dealing with aspects of Extended Jurisdiction. Mary will be located in the Stony Brook office.

Mary has taken course work directed towards an interdisciplinary Ph.D. in Marine Affairs and Resource Management at the Institute of Marine Studies, University of Washington in Seattle. She received a master's degree from Fletcher School of Law and Diplomacy at Tufts University concentrating in International Economics, Diplomacy and International Law. Her bachelor's degree is from Elmira College where she majored in International Relations, History, and Secondary Education.

A former schoolteacher, Mary has also participated in research on the expected political, economic, and social impacts of offshore oil development in Alaska and has worked for the Agency for International Development's Washington, D.C. Office of Management Planning.

* * *

Elizabeth Pennisi and Nicolas DeGeorges have joined the Advisory Service program as interns. The program has been established to assist in developing and implementing educational programs carried out by Advisory Service specialists throughout the State.

Nick will begin his year's internship with Sandy Schuman and Mike Duttweiler in the Oswego office concentrating on coastal recreation and tourism. One assignment will be to develop a tour of Eastern Lake Ontario shorelines. After six months, Nick will likely help out on Long Island.

Liz began her first six-month assignment in New York City with Rick Raymond working on marine youth education. Her next six months will be at an upstate office.

Liz received in January a bachelor's degree in biology from the College of Agriculture and Life Sciences at Cornell.

Nick received last year a master's degree from Texas A&M University in Marine Resources Management. He graduated in 1971 from the University of Western Florida, where he majored in marine biology.

* * *

Businesses

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run more effectively. This is why Sea Grant, Jefferson Community College and the Small Business Administration developed and ran the "Managing Your Business" course. If you are interested in conducting a similar business management course in your area, contact me in the Potsdam Sea Grant Extension office for a course overview and outline.

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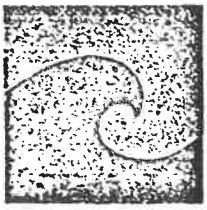

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