

Clammy Hands in Research! *by David Chase, Sea Grant Specialist in Riverhead*

More than half of the hard clams in the United States come from Long Island! Since the clam is king in New York—and one of the most important U.S. fisheries—it is not surprising that the New York Sea Grant Institute created a professorship for shellfish biology at the Marine Sciences Research Center of SUNY in Stony Brook.

Identifying critical problems

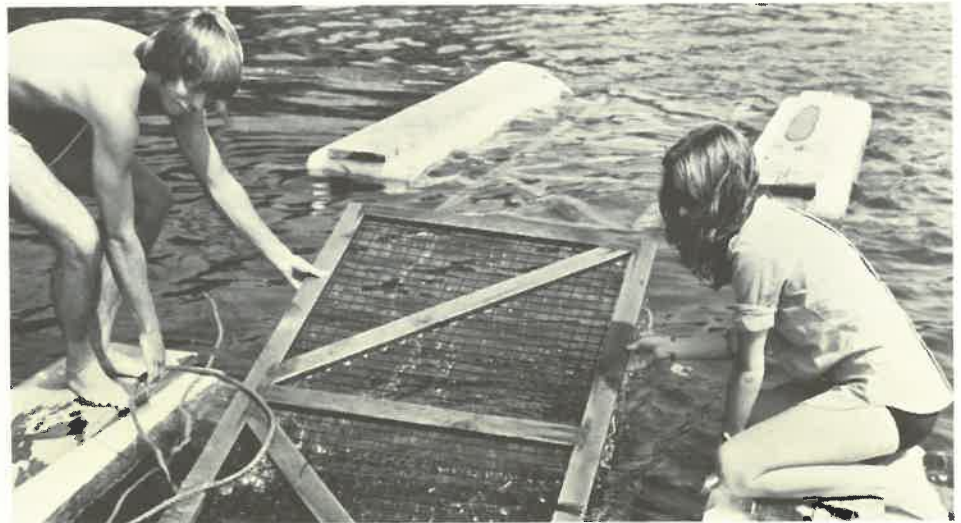
For Bob Malouf, New York's one and only Sea Grant professor, it has been an interesting turn of events. Beginning in August 1977, the major challenge he has faced is identifying the critical research areas he should become involved in. According to Malouf, "This initial problem was overcome by listening to Sea Grant Advisory Committee members, baymen, biologists from shellfish hatcheries, plus state and town government officials who are responsible for shellfish management."

Presently, Malouf's research emphasizes reproductive biology designed to determine:

- the reproductive capacity of clams in different age groups;
- the timing of the spawning cycle;
- influence of predators on small clams;
- culture techniques and survival of young clams.

Although towns can conduct their own field experiments, few presently have the resources for such needed research. For this reason, Malouf finds his most important challenge is to complement the work of town and state governments.

In the short time Malouf has been on Long Island, he has developed research facilities at Flax Pond. But Malouf is quick to cite the "indispensable" capabilities of technical specialist, Charlie DeQuillfeldt. "Con-



Sea Grant Trainees Paul Flagg and Monica Bricej inspect the condition of hundreds of tiny hard clams raised on floating rafts owned by the Town of East Hampton on Long Island.

tinued expansion of the shellfish research program," Malouf points out, "is largely dependent on the further improvement of the Flax Pond Lab facility."

Raft vs. mud and sand cultures

Outside the lab, Malouf and his graduate students are investigating protective devices for raising young clams from hatcheries in Long Island waters. Such a student is Paul Flagg, a Sea Grant trainee. Flagg is working with the Town of East Hampton on raising young clams on floating rafts. The growth and survival of these clams will be compared with that of other clams raised on sand and mud bottoms in various coastal waters. "With the increasing demand for seed, this research is especially critical for shellfish hatcheries and those involved in shellfish management," says Malouf.

Although his heavy work load has sometimes caused him to "pull in his siphon," Malouf plans to spend more time with the industry than he has in

the past. About the future, Malouf says, "The hard clam industry may take a severe beating because of overfishing and pollution. Clams are currently harvested in many areas as soon as they are mature. The number harvested has not increased in recent years, but the fishing effort has. It is probably not a healthy situation."

Most experts agree shellfish are difficult to manage. But Malouf stresses the need for cooperation among town shellfish management programs. "There is some duplication of research among towns, but as reproductive biology, culture methods, and management are researched, the clam industry should regain its important role in the Long Island economy."

Prior to joining New York Sea Grant, Malouf worked as resident biologist at the University of Delaware's Marine Laboratory. His master's and doctoral degrees are from Oregon State University where he specialized in growth of the Pacific oyster.

Gear Today— Gone Tomorrow

by Donna Edgar, Sea Grant Specialist
in Stony Brook

Many fishermen can be heard expressing their concern over potential gear damage and economic losses resulting from increased oil and gas leasing activities taking place on the Outer Continental Shelf (OCS).

These concerns have been addressed in Title IV, the Fishermen's Contingency Fund, a section found in the Outer Continental Shelf Land Act amendments which appeared in the Federal Register on February 12, 1979.

This \$1 million fund provides a mechanism by which fishermen may be compensated for gear damage or loss and the resulting economic loss from OCS activities. This fund is available only when the lessee involved in the conflict cannot be identified. If the party can be identified, fishermen must then recover their damages directly from the financially responsible party.

Eligibility for gear compensation

According to the act, only commercial fishermen, defined as "any citizen of the U.S. who owns, operates, or derives income from being employed on a commercial fishing vessel," will be eligible to make a claim against the fund.

A commercial fisherman suffering damages under this act must file a claim for compensation with the Secretary of Commerce within 60 days after the discovery of damages.

A commercial fisherman claiming damages under this act should be prepared to establish that:

1) The commercial fishing vessel was being used for fishing and was located in an area affected by OCS activities.

2) A report on the type and location of the equipment which caused the damage and the nature of the damage is made within five days after the date of damage discovery.

3) There was no record on nautical charts or in the Notice to Mariners on the date the damages were sustained that the item(s) causing the damage existed in the area.

4) No proper surface marker or lighted buoy was attached or closely anchored to the equipment, which caused the damages.

Another important aspect of the

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The design and construction of coastal structures often requires specialized marine technology.

Western N.Y. Marine Contractors Unite

by Brian E. Doyle, Sea Grant Specialist in Brockport

As almost any Great Lakes shoreline property owner or marina operator can tell you, attempting to locate a reputable marine contractor who has the ability and expertise to build quality docking systems, bulkheads or rock revetments can be frustrating at best. Until now that is!

Recently a group of marine contractors representing companies from Erie, Pa. to Sodus Bay formed the Western New York Marine Contractors Association (WNYMCA). The purposes of the association are to promote professional recognition of this specialized business and encourage members to perform high quality marine construction practices. Additionally, members are committed to educating prospective clients on alternatives to a particular problem.

The need for an association was recognized by Sea Grant Specialists working in the fields of coastal engineering and marina facilities design. Coastal construction along the Great Lakes shoreline often involves more complex coastal technology than the usual conventional land construction practices. Since this technology requires specialized training and experience, Sea Grant felt an association of knowledgeable persons would promote high quality marine construction practices. Thus, Sea Grant provided the initial coordination and planning to make the association a reality.

Members of the WNYMCA possess a wide range of capabilities in designing and constructing a variety of erosion control structures including:

concrete and sheetpile seawalls, wooden bulkheads, rock revetments, gabions and so on. They also have experience in building docks, boat launch ramps, boat houses and harbor protection structures as well as dredging, underwater salvage and coastal drainage systems.

One of the first tasks of the association will be to prepare a membership directory for local distribution. This will provide individuals and groups with a quick and easy reference for locating assistance.

Jon Ruckdeschel, a Rochester marine contractor and president of the WNYMCA, feels "members will benefit from training seminars available through Sea Grant, the Corps of Engineers, and coastal engineers from Cornell University. Training will ensure members are kept up to date on construction methods and permit requirements." This, in turn, will provide the customer with a higher quality service.

Optimism is also expressed by Andy Lichtenthal, a marine contractor from Grand Island and vice president of the WNYMCA. He sees the association as filling an information void. "Until now there has been little centralized information available to those performing and those requiring marine contracting services."

A similar group, the Long Island Marine Contractors Association, successfully formed five years ago. The WNYMCA has structured its organization in much the same way and keeps in close contact with the Long Island group.

Sea Grant Focuses on North Country Tourism Problems and Potentials for Community Development of Tourism

by Robert B. Buerger, Sea Grant Specialist in Oswego

In 1976, American tourists spent approximately \$108 billion on overnight and day trips to attractions 100 miles or more away from their homes, creating over 4 million tourist jobs. These figures represent a 28 percent increase over the \$84 billion spent on travel in 1975 and a 19 percent increase in related jobs. For this same period, 36 million travelers spent about \$4.6 billion in New York, creating approximately 180,000 jobs.

This overview set the stage for Sea Grant's day-long conference in May on "Tourism in the North Country." County and city legislators, Chamber of Commerce members, and members of the tourist industry attended the conference in Watertown. One of the basic themes was the idea that all communities have an opportunity to attract tourist dollars.

Getting the traveler to stop

Although some northern communities such as the Thousand Islands already get a large share of New York's tourists, any community can attract tourist dollars simply because travelers pass through them. The key to successful tourism is to develop a community's uniqueness — each community is different — in such a way to encourage the traveler to stop. Whether it's for an hour or a day, once the traveler stops, money will be

spent and new income added to the community.

According to Donald McCoy, president of a fuel oil and gasoline distributing firm in northern New York, "The fuel shortage is a real and serious problem to tourism-related businesses." Less fuel at higher prices will deter summer tourists. Weekend closings of service stations will also affect north country tourism.

Realizing the importance of fuel supplies to tourism, local groups such as the Chamber of Commerce were encouraged to meet with station operators to work out a plan to keep stations open during peak travel periods. Community leaders were also urged to share their concerns with government officials. McCoy indicated such interests must be expressed so the tourist industry will receive its fair share in any government fuel allocation plan.

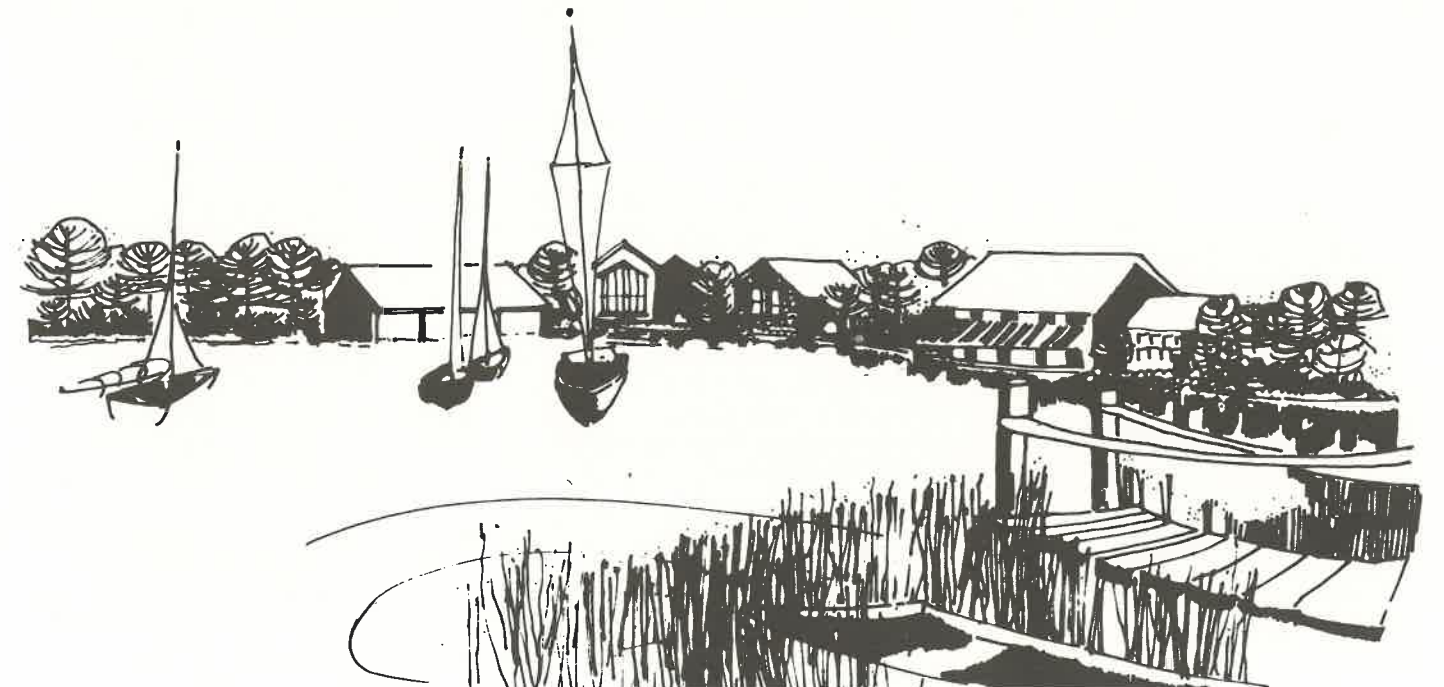
Packaging vacations for travelers

Commenting on this potential limitation on travel, H. Preston Locke, assistant deputy commissioner of the New York Division of Tourism said "Now is the time to actively organize and pursue vacation packaging." He explained that vacation packaging occurs when travel arrangements are prearranged. The traveler buys a planned vacation, including transpor-

tation, lodging, meals and attractions. The advantage of packaging is having all arrangements made in one simple step at a lower price compared to planning and paying for each item separately. For the local business, packaging means guaranteed customers and income. In addition, packaging makes it possible to determine whether or not an extended tourist season is profitable.

The difficulties of planning a total tourism program were described by Hal Mills of the Prince Edward Island Department of Tourism, Parks, and Conservation. "Many of the problems you have discussed today are similar to those we are also facing, but ours are at a different level." Mills went on to attribute Prince Edward Island's success to the acceptance by communities and government officials of (1) the great economic gains from tourism; (2) good planning—the development of tourism is not haphazard—and realistic goals pursued with the flexibility to change as need arises; and (3) the incorporation of local life styles and patterns into tourism. The pattern of local residents must not be changed, he stressed.

Conference participants returned to their communities with new information on how tourism can be incorporated into local and regional plans.



Turn the Tide on Beef

by Michael Haby, Term Specialist in Stony Brook

Just about everyone loves seafood, but there is a real inconsistency in consumers' love of seafood and the extent of retail sales. Purchasing seafood for home preparation and consumption is quite another matter. Another bit of irony is that even those who claim that "fishiness" bothers them often reach for that can of tuna. Force of habit? . . . Perhaps. But a closer look at the consumer explains the real answer.

To find out why tuna sells while dogfish, for example, doesn't, we have to look at the process each of us goes through when deciding to purchase any item. This is known as the **product adoption process**. Going through this process itself can take several months or the time it takes to blink an eye.

The process begins with identification of a problem—like what to serve for dinner. The search, or seeking out recipes and ideas, is the second step. Deciding what to purchase, or in this case, what to fix is the third step. Making the actual purchase is the fourth step. And the fifth most important step is the post-purchase evaluation. "Did my family enjoy it?" "Was it difficult to fix?" Here the consumer decides whether the purchase was worthwhile, and whether it will be purchased again.

If tuna is a dish which the family enjoys and is easy to prepare, why would anyone buy dogfish, a small shark with very mild, white, firm flesh? Besides, how do you cook dogfish?

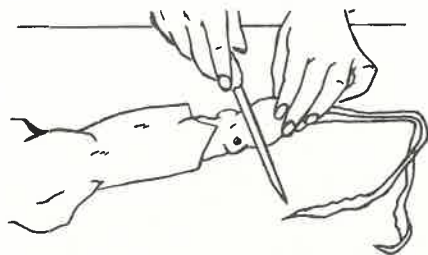
Nowhere is the phrase "give the consumers what they want" more important than in the seafood retailing business. Even though fishery products are high quality items, they just won't sell themselves without the retailer's help.

By and large when people are unfamiliar with a product, they are cautious, many times unwilling to spend money to experiment. Customers are confident that seafoods are good sources of nutrition, but they are quite unsure about various ways of preparing them.

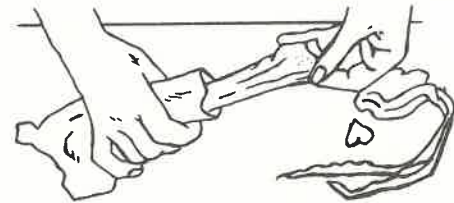
Other problems are created when a display is haphazardly set up. People perceive a casually, jumbled display as containing poor quality products.

FOOD FROM THE FATHOMS

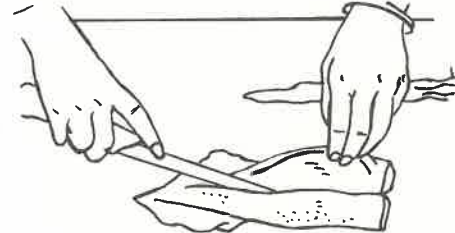
HOW TO CLEAN SQUID



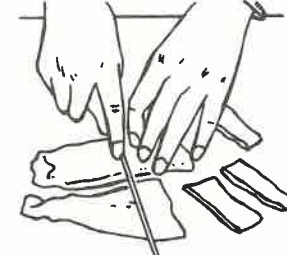
1. Thaw frozen squid. Cut through arms near the eyes. With thumb and forefinger, squeeze out the inedible beak which will be located near the cut. Reserve tentacles.



2. Feel inside mantle for chitinous pen. Firmly grasp pen and attached viscera; remove mantle. Wash mantle thoroughly and drain. It is now ready for stuffing. To make rings, cut across the mantle.



3. To cut mantle into strips or pieces, lay the mantle flat and cut down the center from top to tail. Spread open and wash thoroughly.



4. Cut mantle into size strips or pieces desired. Arms can be chopped, minced, or left whole.

Customers want information.

Recipes, serving suggestions, and cooking timetables for various fishery products can increase sales. On the other hand, unfamiliar varieties which are displayed without helpful information are sure to spoil before anyone risks dollars on an unfamiliar purchase.

There are also real advantages in using promotional and point of purchase materials. Obviously, the hidden benefit of greater sales is the real payoff.

Here in the Northeast, traditionally fished-for species are highly regulated by catch quotas and closed fishing areas which severely constrict quantities and thus inflate the price. Because the wholesale price of certain fresh flounders, cod, and haddock is high, the competitive markup is small.

Conversely, unregulated species which aren't as widely fished-for command much lower prices. Here customers can find real bargains while retailers can make excellent margins. But with these so-called underutilized seafood varieties, consumer information and recipes will make the difference in profit and loss.

Turning the tide on beef can be an easy, and extremely profitable venture. At the same time, customers will be getting the most from their food dollar, in terms of taste, nutrition, and variety.

Consumers Turn to Squid

What sea water animal "wears" an internal suit of armor, has a large head with well-developed eyes like a vertebrate, a parrot-like beak, 10 arms, a sack full of ink-like fluid, can swim backwards and forwards in a jet-like manner, and is an edible delicacy?

The answer is squid, a cousin of abalones, clams, scallops and oysters — all of which belong to the mollusk family.

If you're on the West Coast, the most common type of squid you'll find is *Loligo opalescens*, but if you're in the East, *Loligo pealei* or *Illex illecebrosus* is more common. All varieties are finding their way to local supermarkets and seafood wholesalers on both East and West Coasts.

While some ethnic groups have been eating squid for centuries — in Europe, fried squid is a popular fast-food specialty — squid is just beginning to catch on with American customers.

To bridge the gap between the supermarket and the dinner table, Sea Grant in many states has taken steps to help consumers use underutilized seafood species such as squid. The following samples of squid recipes are the result of this Sea Grant effort. If, after experimenting with

these recipes, you would like more information, you may send away for the publications listed below.

Fried Squid Sicilian Style a la Gloucester House

2 pounds whole squid, fresh or frozen; 1/2 cup flour, 1/2 cup corn meal or Italian bread crumbs; 1 teaspoon salt; fat for frying; lemon wedges.

Clean squid. Cut large squid into several pieces. Cut tentacles into 1-inch pieces.

Combine flour and cornmeal (or bread crumbs), and salt. Roll squid in flour mixture. Place squid in a single layer in hot fat, in a 10-inch fry pan. Fry at moderate heat, 350°F, for 3 to 5 minutes. Turn carefully. Fry 3 to 5 minutes longer or until squid are lightly browned. Drain on absorbent paper. Serve with lemon wedges. Makes 3 to 4 servings.

Italian Squidgetti

2 pounds whole squid, fresh or frozen; 1/2 cup chopped onion; 1 clove garlic, chopped; 2 tablespoons cooking oil; 1 can (1 pound) tomato puree or tomatoes; 1 can (6 oz.) tomato paste; 2 1/2 cups water; 2 tablespoons sugar; 1 teaspoon salt; 1/4 teaspoon pepper; 1 package (16 oz.) spaghetti.

Clean squid. Cut mantle and tentacles into 1/2-inch pieces.

Cook onion and garlic in hot oil until tender. If canned tomatoes are

used, prepare puree in blender. Add tomato puree, tomato paste, water and seasonings; mix thoroughly. Cover and simmer for 1 1/2 hours, stirring occasionally. Add squid. Cover and simmer for approximately 30 minutes or longer or until squid are tender.

Cook spaghetti according to directions on package. Serve over spaghetti. Makes 4 to 6 servings.

Squid Oriental

4 pounds whole squid, fresh or frozen; 1 cup water; 1 package (10 ounces) frozen Chinese style vegetables; 1 package (10 ounces) frozen Japanese style vegetables; 1/4 cup sour cream; 1 teaspoon soya sauce; salt, pepper, cayenne and thyme to taste; rice cooked according to package directions.

Thaw frozen squid. Clean squid. Cook mantles in boiling, salted water 1 hour or until tender; drain. Cut mantles into strips. Prepare Chinese and Japanese style vegetables according to directions on package.

Combine sour cream, soya sauce, seasonings, and squid with vegetables. Serve over rice. Makes 4 servings.

Stuffed Squid a la Commodore

2 pounds whole squid fresh or frozen (approximately 8 medium or 14 small squid); 2 tablespoons lemon juice; 1 teaspoon salt; 1/8 teaspoon pepper;

rice stuffing; 1 can (8 ounces) tomato sauce; 1 cup boiling water; 2 tablespoons cooking or olive oil; 1 tablespoon flour; 1/2 teaspoon salt; 1/4 teaspoon oregano; 1/4 teaspoon pepper; 1 clove garlic crushed.

Clean squid, keeping mantle whole for stuffing. Chop tentacles.

Sprinkle lemon juice, salt and pepper on squid. Stuff squid loosely. Close opening with a small skewer or toothpick. Place squid in a single layer in a well-greased baking dish approximately 12 by 8 by 2 inches.

Combine tomato sauce, water, oil, flour and seasonings. Pour sauce over squid. Cover with aluminum foil. Bake in a moderate oven, 350°F for approximately 30 to 40 minutes or until squid are tender. Makes 3 to 4 servings.

Rice Stuffing

1/4 cup cooking or olive oil; 1 cup chopped onion; chopped tentacles; 3/4 cup uncooked rice; 3 tablespoons chopped parsley; 3 tablespoons chopped fresh dill; 3 tablespoons chopped pine nuts, optional; 1/2 teaspoon salt; dash pepper.

Cook the onion in hot oil until tender. Add tentacles and cook for 2 to 3 minutes. Add rice and cook for 5 minutes, stirring occasionally. Add parsley, dill, nuts, salt and pepper. Cook for several minutes longer. Cool. Makes approximately 1 1/4 cups stuffing.

For More Information:

Let's Cook Squid the European Way, 1976, 40 pp., free. Order from the University of California Sea Grant Marine Advisory Program, 554 Hutchinson Hall, University of California, Davis, Calif. 95616.

The Uncommon Cookbook, 1978, 42 pp., \$1.50. Order from Maine Sea Grant Publications, Ira C. Darling Center, Walpole, Maine 04573.

Catching, Cleaning and Cooking Squid, Marine Brief #3, 1977, 2 pp., free. Order from the University of California Sea Grant Marine Advisory Program at address given above.

Squid the Versatile Shellfish, 1975, 16 pp., free. Order from National Marine Fisheries Service, Marketing Services Branches, P.O. Box 1109, Gloucester, Mass. 01930.

Squid—An Underutilized Species, Food Science and Technology Notes, 1978, 8 pp., free. Order from Cooperative Extension Service, Virginia Polytechnic Institute and State University, Blacksburg, VA. 24061.

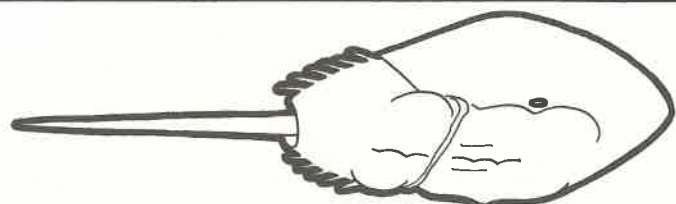
Denizens . . .



Hermit crab in shell



Skate egg case



Horseshoe crab

. . . of the Deep

by Linda O'Dierno, Sea Grant Specialist
in New York City

As the mercury rises during the hot summer months, people just naturally gravitate toward the sea. There hundreds of thalassophiles—better known as beach lovers—gather to collect pebbles, shells and all kinds of King Neptune's treasures!

The Life of an Ancient Mariner

Along New York's marine shores, the horseshoe crab, (*Limulus polyphemus*), one of nature's most successful experiments, is a common find. Having outlived ice ages, continental shifts, and dinosaurs, this animal—which isn't really a crab at all—is a close relative of the arachnids, a group that includes spiders, ticks, mites and scorpions. Often you can find their casts or molts in the beach wrack, the accumulation of dried marine life which washes up on the beach by waves.

As the crab grows, it sheds its tanklike armor in one neat piece. And although it looks quite menacing, this armor is its only protection. Many people believe the crab has a stinger at the end of its tail, but in real life, the crab's long tail is used to upright itself after a wave tosses it on its back.

Horseshoe crabs are like miniature transportation systems, providing travel arrangements for barnacles, slipper shells, and parasites such as the flatworm *Bdelloura* that lives between the crab's book gills. Long a favorite for scientific research, the crab's blue blood is used for hematological research and its giant optic nerve for neurological research.

When shellfish such as the edible blue mussel, (*Mytilus edulis*), abound, the beach becomes a gourmet's paradise. The name mussel is derived from the Greek word for "mouse." With a stretch of the imagination, perhaps there is a slight resemblance since young mussels are usually found nestled in among rocks, stone pilings or docks. There they settle down and secrete a liquid that turns into a hard thread-like anchoring structure called the byssus. These threads, when secreted by the pen shell, an animal closely related to the blue mussel, are used to weave a shimmering "cloth of gold" fabric.

The would-be gourmet mustn't confuse the blue mussel with the inedible horse or ribbed mussel (*Modiolus modiolus*). The blue mussel, as its name implies, is truly bluish-black and smooth while the horse mussel is brown with long ridges.

The Habits of a Beach Hermit

Another interesting beach animal is the hermit crab

(*Pagurus sp.*). Since the crab lacks a shell of its own, it solves its housing problem by living like a hermit in the shell of another animal such as a moon snail or whelk. When the crab gets too large for its shell, like a wheeling-dealing real estate speculator, it casts off its shell and finds a larger one. Due to nature's cleverness, the crab's abdomen is shaped in a spiral-like curve just so the crab can fit into discarded shells.

Like the horseshoe crab, hermit crabs also pick up hitchhikers such as sea anemones, barnacles, and hydroids. Hydroids are the tiny jellyfish-related creatures that give a crab a pinkish-purple fuzzy look. Colonial in nature, the hydroid's tiny stalks can be seen with the help of a magnifying glass.

One of the most suitable homes for the hermit crab is the moon snail shell (*Pollinices hero*). These snails are known for their sand collar egg masses. After the snail passes its eggs into the sand, grains of sand stick to the eggs, forming a delicate sand collar.

A Deadly Tongue and a Mermaid's Purse

The moon snail is also known for preying on hapless clams. With its raspy tongue called a radulla, the snail can drill holes through a clam's shell. After injecting digestive juices, the snail sucks the clam out, leaving the shells to be washed upon the beach.

Other interesting remnants of marine life are egg cases. The egg cases of waved whelk are round and joined together in the form of an irregular ball called a "sea wash ball." Sailors discovered that if the wet cases were rubbed between their hands, they formed a lather. The egg cases of knobbed whelk, which look like a paper-like chain of capsules, are laid under the sand and then pushed to the surface. Each capsule contains about two dozen eggs. If you open one of the capsules, you sometimes find tiny knobbed whelks. Skates egg cases, commonly called mermaid's purses, are the familiar black cases with two curved hooks used for anchoring into the shore bottom.

These are only a few of King Neptune's organisms found along New York's ocean shores. To help you investigate others, an inexpensive field guide or a Sea Grant publication entitled, **Seacapes, Glimpses of Our Water World** might come in handy. **Seacapes** is available for one dollar from the Communications Office, College of Marine Studies, University of Delaware, Newark, Del. 19711.

Happy Beach Combing!

UPDATE

The effect of science and technology on our fragile marine environment was the theme of the **New York State Marine Education Association's (NYSMEA) Conference** at Adelphi University in May. Over 400 educators attended the 30 sessions, nine field trips and keynote talks by Otto Heck, Assistant Professor at Trenton State College and Mickey Weiss of Project Oceanology.

Educators were urged to stress the importance of preserving our quickly diminishing coastal resources in their classroom teaching. The United States, which began as a sea nation, must again turn to the sea after a century of declining marine interest. Living on a planet covered 70 percent by global sea and breathing air, 80 percent of which is provided by marine life, justify this urgency, according to the educators.

Founded in 1975, NYSMEA provides a mechanism for communication among formal and informal educators interested in marine and aquatic education. The association sponsors inservice courses, workshops, and an annual conference. Members receive "Ripples," a quarterly publication of articles, classroom ideas and experiments, reviews, calendar and job announcements. For information on NYSMEA, contact your local Sea Grant office.

Gear Today — Continued from page 2

act is to try to insure that all equipment, tools, and other items used by OCS oil and gas operators be properly color coded, stamped, or labeled with owner's identification prior to actual use. This is to help determine the responsible party if an incident occurs.

To help prevent gear losses, information on proposed OCS and other

activities, which may conflict with commercial fishing, can be obtained through the Atlantic Notice to Fishermen, Commander (Aol), U.S. Coast Guard - Atlantic Area, Governors Island, N.Y. 10004. For general clarification, contact Sea Grant Specialist Donna Edgar at Stony Brook.

In contrast to gear damage caused by OCS activities, vessels damaged

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by foreign or domestic fishing vessels operating within the U.S. 200-mile limit or by "acts of God" are eligible for compensation under the Fishermen's Protective Act. For further information, contact M. Grable or K. Hensley, Financial Services Division, National Marine Fisheries Service, NOAA, Washington, D.C. 20235. TN-202-634-7496.

I WANT MORE

Additional information is available from New York Sea Grant. Please check the publications which interest you and send to your nearest Sea Grant Extension Office. Single copies of the following publications are free:

- _____ **Boating Safety — Thunderstorms**, Florida Sea Grant, 1978, 12 pp.
- _____ **Waste Misplaced**, R. R. Zall, NY's Food and Life Sciences Quarterly, 1978, 3 pp.
- _____ **Fish a Wasted Resource**, R. C. Baker, NY's Food and Life Sciences Quarterly, 1978, 2 pp.
- _____ **The Problem of Food Waste**, R. C. Baker, NY's Food and Life Sciences Quarterly, 1978, 2 pp.
- _____ **Measurement and Analysis of Historic Bluff Recession Along the Lake Ontario Coast in New York**, New York Sea Grant Short Report Series, T. F. Drexhage, 1979, 2 pp.
- _____ **Lake Erie's Recreational Climate . . . Year 'Round!**, Jean L. Kinnear and R. DeAngelis, 1979, 20 pp.
- _____ **Understanding Fixed and Floating Docks: Some Things to Consider Before You Build**, Marine Trades Flyer #11, W. Koelbel, 1979, 4 pp.

For the following publications, make checks payable to Cornell University:

- _____ **Casualty Loss Tax Information for Coastal Property Owners**, B. and K. DeYoung, 1979, 4 pp., 15 cents.
- _____ **Controlling Great Lakes Bluff Groundwater**, B. DeYoung, 1979, 4 pp., 15 cents.
- _____ **Data and Procedures for the Design of Floating Tire Breakwaters**, V. W. Harms, 1979, 115 pp., \$1.50.
- _____ **New York Sea Grant Law and Policy Journal**, 1978, Vol. II, 279 pp., \$5.00.
- _____ **St. Lawrence Seaway Tourist Survey**, A. Venkatesh and C. E. Gearing, 1979, 103 pp., \$1.50.

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

- Cut here _____
- _____ General information on Sea Grant
 - _____ Aquaculture, Fisheries, Seafood
 - _____ Oceanography, Limnology, Geology
 - _____ Using our Coastal Zone

Sea Grant Reports on . . . Great Lakes' Hotline and Research

Want an inside tip on the hottest fishing action along the Lake Ontario shoreline?

Well, anglers planning to visit the big lake can now get up-to-date information on when, where and how the fish are biting by calling Monroe or Niagara County Fishing Information Hotlines.

In Niagara County, the hotline (716-433-5606) is sponsored by the local Fishery Advisory Board and operated by Cooperative Extension. Dick Robinson, extension agent, calls the hotline "a proven, heavily-used educational tool and tourist attractor."

In Monroe County, the new hotline (716-428-6748) is the "brain child" of that county's Fishery Advisory Board which coordinated raising money for the line from a host of public and private organizations. Sea Grant Specialist Mick Voiland will operate the hotline for the first year. "The hotline should go a long way in meeting the informational needs of fishermen residing inside and outside the county," says Bob Gilmore, fishery board chairman.

If you would like information on setting up and operating a fishing "hotline," contact Mick Voiland at our Brockport Office.

A recent study on the Lake Ontario salmonid sports-fishery suggests that the fishery could generate substantial revenues and boat launch needs by 1985.

In a report entitled "Projected Economic Impact and Boat Launching Needs of a Mature Salmonid Sports-fishery for the Western New York Lake Ontario Shoreline," researcher Martin Schwartz of the Department of Recreation and Leisure, SUNY College, Brockport found that sportfishing could be producing regional expenditures of \$15 million annually by 1985. Schwartz also determined that as many as 60,000 trout and salmon anglers could require the development of 32 additional launch ramps along the shores of Niagara, Orleans, Monroe and Wayne Counties.

"The forecasts made in the study depend upon a number of basic assumptions, such as the continued and fuller development of a salmonid fishery by the State DEC," says Schwartz. He adds that the study represents a "reasonable picture of the fishery's potential effects for shoreline community leaders to consider."

The study was funded by the New York Sea Grant Institute as a quick-response research project. Copies of the report are available on loan from Mick Voiland, at our Sea Grant office in Brockport.

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