New York Researcher Studies Omega-3 Fatty Acids in Fish

Recent research concerning the relationship between dietary fats and health has prompted recommendations of major modifications in the American diet. Many studies have shown that the consumption of large amounts of fats, particularly the saturated fats, is linked to an increase in the risk of coronary heart disease, one of the leading causes of death in the United States.

Researchers are exploring healthful alternatives to high-fat diets. Seafood can be a wise choice for those individuals looking to reduce their consumption of saturated fats. However, researchers are also discovering that seafood may provide additional health benefits. Sea Grant Researchers and Extension Specialists in New York have been contributing actively to the national research effort exploring the health benefits of fish consumption.

Dr. John Kinsella of the Department of Food Science at Cornell University in Ithaca, New York, has been conducting research into the effects of omega-3 fatty acids found in fish. New York Sea Grant funding has been responsible for some of the success he and his team of research assistants have had in assessing the impact of omega-3 polyunsaturated fatty acids on human disease, such as atherosclerosis, thrombosis, and cancer.

With the support of New York Sea Grant, Kinsella has published a book on the effects of fish and fish oils entitled, *Seafood and Fish Oils in Human Health and Disease*, published by Marcel Dekker, Inc.

The major body of Kinsella’s research has focused on the effect of omega-3 fatty acids on the cardiovascular system. According to Kinsella, the average American’s diet consists of approximately 40 percent fat, a significant portion of which is saturated—a type of fat which hastens coronary artery disease, one of the leading causes of death in the United States.

Omega-3 fatty acids appear to decrease the risk of heart disease by affecting triglyceride levels and possibly cholesterol levels in the blood and by reducing the aggregation of blood platelets, which slows blood clotting. Kinsella has found that omega-3 fatty acids are more effective in diets that also have reduced fat levels.

Another area of concern to Kinsella is the correlation of saturated fat consumption and cancer. According to Belur Loken and Mark Black, two Kinsella coworkers, preliminary results show that omega-3 fatty acids may retard the growth of tumors, thus enhancing cancer treatment by keeping tumors dormant. Studies have indicated that there is a reduced risk of certain types of cancer in countries where the diet includes a large amount of fish.

Kinsella’s research involving omega-3 fatty acids depends upon an adequate supply continued on page 2

Walleye Restoration Efforts Show Progress

Walleye, a popular game fish, have been virtually absent in the embayments of New York’s Lake Ontario since the late 1950s. However, recent attempts to restore the walleye population apparently have made progress. These efforts have resulted in the stocking of over 130,000 walleye fingerlings in Lake Ontario embayments since 1986.

Evidence of the success of the restoration efforts was produced this past summer. More than 30 catches of sublegal (less than 15 inches) walleye were reported in Port Bay. Previous to the stocking efforts, no walleye had been caught in that area in recent memory. Similar catches of sub-legal walleye have been reported by members of the Niagara River Anglers Association.

Research conducted by Dr. Joseph Buttner of the State University College at Brockport, in cooperation with the New York Department of Environmental Conservation (DEC), Sea Grant, Cornell University’s Department of Agronomy, and two private angler groups, has contributed to the success of these restoration activities. Buttner has been studying the culture of walleye fingerlings in earthen ponds, with funding provided by New York Sea Grant.

According to Buttner, the walleye has been identified as a fish of national importance, requiring top research priority. His research has helped define and refine the science of growing walleye to fingerling size in earthen impoundments.

Results of Buttner’s work have been shared with private angler groups through two workshops conducted by New York Sea Grant Extension specialists in 1986 and 1988. The information presented at these workshops has led to the stocking of an estimated 70,000 pond-raised walleye fingerlings this year. Walleye fry provided by DEC have been raised in earthen ponds by continued on page 7
From the Director's Chair...

This is the first issue of Coastlines to hit the streets for many months due to a lot of other things that have changed since our last issue. If you’re concerned about the changes taking place in New York Sea Grant, it is true that the staff is all new, and that the Institute’s main offices have been moved from Albany to a new location in Stony Brook. However, with new people and new surroundings come new approaches and new perspectives. Yet, there are many things, perhaps the most important things, that have not changed about New York Sea Grant.

First, all of our mission remains unchanged. Through activities in research, extension, and education, our mission is to promote the wise use and conservation of the coastal resources of the state and the nation. We undertake this mission through quality campus-based research closely linked to extension and education, and the critical linkages, which in the coastal environment is provided uniquely by Sea Grant, has been strengthened by the recent changes.

Secondly, the Institute’s leadership has a long history of experience with New York Sea Grant. In fact, Dr. Michael Voland, Director of New York Sea Grant, spent many years as a Sea Grant Extension Specialist on the Great Lakes. He came to his new position in 1987 with as much experience with New York Sea Grant and knowledge of the state’s Great Lakes resources as anyone in the state.

The Institute’s 15-member governing board, charged with considering the major policy decisions that shape New York Sea Grant, includes a number of people who have worked with Sea Grant for many years. So, in most cases our individual roles may have changed, but the continuity of leadership has not been lost.

The component of Sea Grant that receives the most interest from the public, and that the Stony Brook office is the research program. We are now in the process of reviewing research proposals for 1999 funding. In response to Coastlines for more details.

Research is fun — it is exciting to advance our understanding of natural systems. Although enhanced understanding for its own sake is valuable, we also strive to make our research available to more from a Sea Grant research project.

Our research should also make a difference in the way that we protect our coastal environments and the way in which we deal with the problems that confront us. We must continue to make progress to ensure that our research and extension components function cooperatively and closely. As extension director, I am fully committed to using the Institute’s associate director and program director (and in some major decision-making processes).

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Kinsella continued from page 2

Ocean's oil. Because of this, he has been in conjunction with Food Science Department, marine science, and agricultural water, to evaluate fish oil extraction and enrichment techniques.

Kinsella is working to develop methods for efficient and cost-effective fish oil extraction. High quality fish oil is difficult to obtain due to the extreme instability of the oils. Kinsella and Rivier hope to develop a method for enhancing the quality of the fish oil that is produced. Based on the recent results concerning the effects of omega-3 fatty acids on some chronic diseases, many researchers are recommending that individuals consume two to three fish meals a week. All seafood is a potential source of fatty acids, so individual choice can be tailored to fit the family budget and tastes.

Suggestions for seafood consumers will soon be available in back issues of Coastlines that are being developed by New York Sea Grant and Cornell Cooperative Ex- tension.

A grant awarded by The Northeast

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**Extension Notes**

Through activities in research, extension, and education, our mission is to promote the wise use and conservation of the coastal resources of the state and the nation.

First things first On behalf of the entire extension education community, I bid you welcome—maybe welcome back is more appropriate—to Coastlines! Our extension staff person found in this issue should bring you up to speed on who and where our core group of extension specialists are and their principal areas of expertise. We’ve also introduced you to the names and activities of those university-based faculty who are currently funded by New York Sea Grant. In future issues, we’ll provide the names of those county extension agents who are providing a large share of the marine and Great Lakes extension activities in the Empire State.

Despite all the changes of recent years in New York Sea Grant, some very positive things remain the same. The Sea Grant Institute’s extension program, administered by Cornell Cooperative Extension, is recognized as one of the finest—if not, THE finest—Sea Grant Extension program in the nation, receiving high praise in its 1987 federal proposal review.

Coastal resource users, including commercial fish harvesters, charter sport fishing operators, shrimp dealers, shoreline landowners, marine operators, seafood processors, consumers, and 4-H kids, have continued to tap our field extension personnel for information that results in a more informed decision, a wiser choice, and a more productive, enjoyable, useful, and healthy coastal resource.

Finally, a subtle, but no less important, change is in the way we value worth mentioning. Since January 1987, the new leadership of Sea Grant has worked hard to ensure that our research and extension components function cooperatively and closely. As extension director, I am fully committed to using the Institute’s associate director and program director (and in some major decision-making processes).

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Mike Voland

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**Welcome Back!**

Yes, we’re back in publication, and no, you didn’t disappear from our mailing list. For those of you unfamiliar with who we are, the New York Sea Grant Institute is a consortium consisting of the State University of New York (SUNY) and Cornell University. The marine offices of the Institute are located on the SUNY campus at Stony Brook. Cornell University in Ithaca is the home base of the New York Sea Grant Extension program.

New York Sea Grant presently is emerging from a period of dramatic change. In 1986 the Board of Governors of the Institute was conducting a nationwide search for a new Director. However, during the search period, the Board also proposed and approved a relocation of the Institute’s main offices from Albany to a research institution. This decision led to the move to SUNY at Stony Brook, located on the north shore of Long Island.

The search for a Director resulted in the hire of Robert Malouf, at that time a professor at the Marine Sciences Research Center at Stony Brook. Dr. Malouf assumed the responsibilities of his new position in January 1987.

The office staff at Albany decided not to make the move to Stony Brook, so the entire New York Sea Grant personnel had to be replaced. It was then Dr. Malouf’s task to recruit staff and the announcement of the Institute began. Later that spring the Fiscal Officer (Ruth Tempsky) and Assstant Director (Don Tupper) were hired.

The search was then mounted for a new Communication Director in November. Kathleen Giffin Barkus joined the board on the same day. 1987 also saw a change in the leadership of the New York Sea Grant Program. When Dr. Michael P. Voland was hired as Program Director, the leadership of the Institute began to change. For those of you who are familiar with the Institute’s newsletter, the former executive editor of the newsletter, which had to be developed for us, and that has not been published since the new issue of the newsletter.

For those of you who are familiar with the newsletter in its previous life, there are some changes that may not be too obvious to the casual reader. The distribution and distribution of Coastlines will be handled at the Institute’s main office in Stony Brook.

Covior will take a different course than the previous version of Coastlines. We will be exploring different research projects underway in New York and what their impact is and will be on the individual resident. We will show how some of these research results are incorporated in communities throughout the State through the work of our Extension Specialists.

For your convenience, we have included a directory of New York Sea Grant personnel on the inside. Please note the new additions as well as some changes in mailing addresses and telephone numbers. If your name or address have changed, or if you received multiple copies, or if you would like to have your name removed from our mailing list, please take a minute to let us know so that we can keep our list current and our production costs down.

We regret the lapses in publication. Coastlines. We hope the new version of the newsletter is worth the wait! Any comments? Please drop us a line!
The following publications are available upon request from New York Sea Grant at the addresses below. All reprints are free in the United States (unless otherwise indicated), multiple copies and overseas delivery are available for $1.00 each, check payable to New York Sea Grant.

Please request to receive:

Communications
New York Sea Grant Institute
Dutchess Hall
Stony Brook
Stony Brook, NY 11794-5001

Overproduction and purification of the luxA gene product: Transcriptional activator of the Vibrio fischeri luxAB operon. Hid B. Kaplan and E. P. Greenberg

Potential use of organochlorine contaminants to validate a food web model. Richard F. Lock, William H. McDowell, and Greg Yogi

Relative inhibitory potencies of flavonoids on 12-oxygenase of fish liver, R. J. Heshe, J. B. German, and J. E. Kinsella

Seasonal light and temperature interaction effects on development of Larimichthys crocea (Pomacanthidae) gametophytes and juvenile spawning. Jin Ae Lee and Boudewijn H. Brinkhuis

Wave propagation between two breakwaters. Philip L. F. Lu and Polly Bossen

Wave transmission through submerged barriers. Philip L. F. Lu and Jing-Wu Wu

Westhampton Beach: Options for the Future. (Proceedings of a Workshop held March 30-31, 1986). Jay Taneki and Henry Bokunewicz (eds.). $2.00 per copy

What is fish quality? Can we incorporate consumer perceptions? Carole Bisogni, Giann J. Ryan, and Joe M. Rigenstein

The following publications are available from the New York Sea Grant Extension office. The name and address of the extension specialist to contact for ordering information is provided for your convenience. Please address all requests for Extension publications to the appropriate specialist.

Please contact Mark Machoff (Sea Grant Extension Program, C.U. Horticulture Lab, 638 South Avenue, Riverhead, NY 11901) for the following publications:
Nassau County Recreation and Climate Guide
Marketing Your Charter Boat Enterprise: Putting Relationships to Work
Preparing to Go Party and Charter Boat Fishing
Downrigging Fishing—More Fish for Your Fuel

Please contact Dave Greene (Sea Grant Extension Program, Farm and Home Center, 21 S. Grove St., East Aurora, NY 14052) for ordering information for those publications. The Angles on Master Anglers
Coastal Educator’s News (bimonthly newsletter for marine educators in the Great Lakes region)
Aquatic Games for Youth Cubs
New York’s Lake Erie Trout and Salmon Fishery: The Basics
Angling for Smallest Bush in Lake Erie continued on page 6

The following publications can be obtained from Stan Pizziokowski (Sea Grant Extension Program, Community Programs Center, 300 Park Ave., Deer Park, NY 11729)

Electrical Submersion in Marinas Equipment Protection through Oil Analysis

Ken Gall (Sea Grant Extension Program, Community Programs Center, 300 Park Ave., Deer Park, NY 11729) will provide information on how to order the following publications upon request:

Hunting Your Catch—A Guide for Saltwater Anglers
Seabirds: The Healthy Catch Buying Hard Clams

Ordering information for the publications listed below can be obtained from Charles Obrecht (Sea Grant Extension Program, Administration Building, State University College, Brockport, NY 14420).

Structural Methods for Controlling Coastal Erosion (information bulletin 200)

Please contact Dave Greene (Sea Grant Extension Program, Farm and Home Center, 21 S. Grove St., East Aurora, NY 14052) for ordering information for those publications. The Angles on Master Anglers
Coastal Educator’s News (bimonthly newsletter for marine educators in the Great Lakes region)
Aquatic Games for Youth Cubs
New York’s Lake Erie Trout and Salmon Fishery: The Basics
Angling for Smallest Bush in Lake Erie continued on page 6

The mailing address for the main office of the New York Sea Grant Institute is:
New York Sea Grant Institute
Dutchess Hall
Stony Brook, NY 11794-5001

The telephone number for the office is 516-632-6505. The following people can be reached at that telephone number and address:

Director: Robert Malicoat, Ph.D.
Assistant Director: Corine Schlink
Fiscal Officer: Ruth Tompkins
Assistant Coordinator: Kathleen Griffin Barkus

Communications
A Summary of the 1987 Bed and Breakfast Lodging Industry in New York State


The following publications can be obtained from Stan Pizziokowski (Sea Grant Extension Program, Community Programs Center, 300 Park Ave., Deer Park, NY 11729)

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New York’s Lake Erie Trout and Salmon Fishery: The Basics
Angling for Smallest Bush in Lake Erie continued on page 6
New York Sea Grant Currently Funded Research

The following research projects are currently underway with funding by New York Sea Grant, the Lake Ontario Fisheries—Barbara McIntyre, Department of Natural Resources, Cornell University—Spawning, Early Life History and Larval Transport of Bluefish, Pomatomus saltatrix, in the New York Bight: Robert K. Cowen and David O. Conover, Marine Sciences Research Center, State University of New York at Stony Brook.

Creation of Genetic Clones for Increased Commerical Production of Bay Scallop, Argopecten irradians—Richard K. Koehn, Department of Ecology and Evolution, and V. Monica Brode, Marine Sciences Research Center, State University of New York at Stony Brook.

Improved Diagnostic Methodology for Diseases o Salmoids—Paul R. Bowser, Department of Aquaculture and Animal Medicine, Cornell University.

Coastal Processes

Open Water Management on Great South Bay, Long Island, New York—Thomas S. Libin, Laboratory of Ornithology, Cornell University.

Diving Physiology

Artificial Atmospheric Pressure for Inert Gas Elimination in Divers—Claes E. G. Lundgren and William T. Norfleet, Department of Physiology, State University of New York at Buffalo.

Fisheries

Comparator of the Reproductive Success of Herring Lake Trout Strains on Different Spawning Shoals in Lake Ontario—Charles C. Krueger, Department of Natural Resources, Bernice May, Section of Ecology and Systematics, and Charles F. Aquadro, Department of Fisheries and Development, Cornell University.

Development of a Behavioral Model of Lake Ontario Boat Angling—Douglas C. Bennett, Daniel J. Decker, and Harlan B. Brummett, Department of Natural Resources, Cornell University.


On the Horizon...

The following announcements are provided by the State Director of the New York Sea Grant, if you know of a conference, meeting, or symposium that you would like to have announced in the future, please send the registration information to: Cooperative Extension, 425 State Street, Albany, NY 12220-3430.


World Symposium on Fishing Gear and Fishing Gear Design, November 21-24, 1988, St. John's, Newfoundland, CONTACT: Dr. D. M. Campbell at 709-778-0000.


Sea Fair '89, February 15-17, 1989, Long Beach, California, CONTACT: Sea Fair Expositions, Inc., 3510 Pacific Coast Highway, Suite #18, Santa Monica, California 90403, or 206-547-6030.


Coastal Zone '89, July 11-14, 1989, San Francisco, California, CONTACT: Deores Clark, NOAA Office of Constituent Afffairs, 1395 Sutter Street, Room 802, San Francisco, California 94111, or 415-443-8031.

The First International Marine Biotechnology Conference, May 21-24, 1989, Tokyo, Japan, CONTACT: Prof Isao Karube, The Japanese Society for Marine Biotechnology, Laboratory of Biotechnology, Osaka City University Center, LTD, 503 Aishin Tonaromon Bldg, 3-18-4 Toranomon, Minato-ku, Tokyo 105, Japan, or 03-434-1744 or 03-434-2789.


The following announcements are provided by the State Director of the New York Sea Grant, if you know of a conference, meeting, or symposium that you would like to have announced in the future, please send the registration information to: Cooperative Extension, 425 State Street, Albany, NY 12220-3430. 


World Symposium on Fishing Gear and Fishing Gear Design, November 21-24, 1988, St. John’s, Newfoundland, CONTACT: Dr. D. M. Campbell at 709-778-0000.


Annual Meeting of the American Boat and Yacht Council, November 30-December 1, 1988, St. Martin, French West Indies. CONTACT: Dwight Rockwell at 212-421-5200.


World Symposium on Fishing Gear and Fishing Gear Design, November 21-24, 1988, St. John’s, Newfoundland, CONTACT: Dr. D. M. Campbell at 709-778-0000.

Extension Helps Students Study Marine Pollution Problems

Cornell Cooperative Extension's 4-H Development Program has made marine pollution curriculum materials available to schools throughout Suffolk County. According to Louis A. Iozzi of Rutgers University, the author of the materials, "For many years coastal waterways have served as convenient depositories for the wastes of human activities. Such disposal practices used to pose few problems; human populations were small and their waste products were easily assimilated by the seas. Those days are long gone."

If Fish Could Talk is an educational program designed for use in high schools. It contains two units, "Sources of Pollution in New York and New Jersey" and "Effects of Pollution in New York and New Jersey." Each unit contains a 35-mm film strip, cassette recording, key ideas, discussion questions and activities, student readings, and teaching suggestions.

Some objectives of the program are: to provide students with a historical perspective of waste disposal and its problems; to acquaint students with the New York Bight, including its location and importance to the New York-New Jersey area; and to help students realize that coastal problems are related to social, economic, and political issues, as well as scientific questions.

The Great Garbage Chase was designed for use in elementary schools. Author Iozzi notes that, "Pollution of all types has become so common that it often goes unnoticed--particularly by young children. Today's children were born into a world in which litter and pollution are pervasive; hence, they have to learn that pollution is not the norm."

This program, which features two cartoon characters trying to discover how garbage got on the beach, helps children discover how litter gets into the ocean; understand that people are responsible for the pollution found on beaches; and learn what can be done to protect beaches from pollution.

For more information on these programs and their use in your local school, contact Robert Kent at Cornell Cooperative Extension of Suffolk County, 246 Griffing Avenue, Riverhead, New York 11901, or call 516-727-7850.

Both programs are sponsored by the National Oceanic and Atmospheric Administration, New York Sea Grant Extension Program, and the New Jersey Marine Sciences Consortium.

—Robert J. Kent

New York Sea Grant Institute
Dutchess Hall
State University of New York at Stony Brook
Stony Brook, New York 11794-5001

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