

The Marine Sciences Research Center Newsletter will report to members of SUNY developments in the University's expanding marine program. This initial issue will provide a brief introduction to the Center and its staff in addition to describing significant events that have occurred since the Center was created by the State University trustees in March, 1965. The Newsletter is initially scheduled to appear three times yearly--Spring, Fall and Winter. It will be published more frequently as the University's fledgling marine program gains momentum.

The Center and Its Staff. The establishment of the Marine Sciences Research Center (MSRC) of the State University of New York was the logical outgrowth of two phenomena: the increase during the 1960's of a national awareness of the marine environment's importance to man, causing oceanography to emerge from relative obscurity to become one of science's most dynamic disciplines; and New York State's strategic geographic position for study of the marine habitat, being bordered by the Atlantic Ocean and two Great Lakes.

New York's Board of Regents and the State University Trustees realized the wealth of opportunity that this dual situation offered the University but also recognized the great costs that would be entailed. They created the Center as a focus for the University's expanding marine program to assure the development of comprehensive, SUNY-wide activities which avoided wasteful duplication of effort.

Located on the Stony Brook campus, the only State University Center with direct access to the sea, the MSRC will direct its resources toward understanding the total nature of the marine environment and the forces--natural and man-made--that interact with it. Such a multi-faceted effort will draw upon the expertise of the many disciplines contained within the natural, engineering, social and health sciences. In implementing such a program, the Center seeks to coordinate interdisciplinary marine research and instruction throughout SUNY. It will collaborate with agencies of many kinds--government at all levels, industry, private conservation groups, etc.

The MSRC staff at present includes 8 professional and semiprofessional members, plus supporting technical and secretarial personnel. In September, 1968, Donald F. Squires (Ph.D., Cornell), an expert in invertebrate zoology, systematics and coral-reef ecology, was appointed Director of the Center as well as Prof. of Biological, and Earth and Space Sciences at Stony Brook. Prior to accepting this position, Dr. Squires served as Deputy Director of the Smithsonian Institution's Museum of Natural History.

Following are listed other members of the Center's staff and their special interest areas (academic appointments indicated are with SUNY at Stony Brook): Edward R. Baylor (Ph.D., Princeton), Prof. of Biological Sciences--behavior and physiology of marine organisms; Thomas Goreau (Ph.D., Yale), Prof. of Biological Sciences, Resident Director of the Center's Discovery Bay Marine Laboratory in Jamaica, W.I.--coral-reef ecology; Meredith Grant Gross (Ph.D., Cal. Tech.), Assoc. Prof. of Oceanography--sediments, marine geochemistry; Peter K. Weyl (Ph.D., Chicago), Prof. of Oceanography--ocean currents, marine geochemistry and physical oceanography; George Williams (Ph.D., U.C.L.A.), Prof. of Biological Sciences--planktonic fish ecology and evolution; Peter deNyse, Administrative Assistant; and Judith D. Smith, Special Assistant for Sea Grant Activities and Editor, MSRC Newsletter.

The Center's professional staff is projected to increase to approximately 25 members. In addition to the natural sciences, the engineering, social and health sciences will be represented.

Two facilities of the Center ready for use. Two of the Center's proposed network of affiliate laboratories are now available for limited use by SUNY researchers. These are the Flax Pond Research and Study Site, a wetlands area on the North Shore of Long Island, and the Discovery Bay Marine Laboratory, Jamaica, W.I.

Flax Pond, which the University owns jointly with the N.Y.S. Dept. of Conservation, is 3 miles from the Stony Brook campus. The site is approximately 160 acres in size and consists of Spartina marshlands and gravel beaches bordered by an upland grass and cedar environment. Rich in terrestrial and marine wildlife, the region is suitable for many types of biological as well as geological studies. The State University plans to erect a 15,000-square-foot laboratory on the site, but for the present faculty should plan to employ the area for field study only.

The Discovery Bay laboratory, headed by Dr. Thomas Goreau of the Center, is ideal for tropical studies, particularly of coral-reef ecology. The variety of habitats--underwater (coral-reef, rocky, sandy, grass-flat, deep-sea) and coastal (rocky, sandy, muddy, estuarine, mangrove, lagoon)--within easy reach of the laboratory makes the area suitable for a wide range of zoological studies. The U. of the West Indies shares in the operation of this site.

Brochures describing Flax Pond and Discovery Bay are in preparation. Prior to their publication, inquiries concerning either facility may be addressed to the Facilities Manager, c/o the MSRC. All SUNY faculty wishing to use these sites for research or education are encouraged to do so.

39-Foot research ship purchased by the Center. The MSRC took delivery in April of a new research vessel for use by members of the State University. A former Maine lobster boat, the ship is no thing of beauty but is excellently suited for work in Long Island Sound. A contest is under way to select a name for this worthy craft.

Specifications: Length, 39'; beam, 12'6"; draft, 3'6". Oak framed with cedar planking. 15 Knot maximum, 12-knot cruising speed. The Center is equipping the vessel to a limited extent now and will improve the facilities after requirements are further assessed. SUNY personnel are encouraged to use the boat for research or class instruction and should contact the Facilities Manager for scheduling, costs and types of gear required.

The Center has arranged to charter larger vessels as needed. At present, a 70-foot oyster dragger (\$125/day) and a 65-foot T-boat (\$250/day) are available.

INTERCAMPUS LIAISON

MSRC Advisory Committee appointed. In keeping with the MSRC's University-wide responsibilities, an Advisory Committee, composed of faculty from SUNY colleges with marine programs, was established in 1966 to participate in the Center's major policy decisions. The Committee, which meets approximately every 6 months, is currently composed of the following members: Dr. Meir H. Degani, Maritime College at Fort Schuyler; Dr. Thomas W. Donnelly, Binghamton; Dr. Robert D. Hennigan, Syracuse (Water Resources Center); Dr. John M. Kingsbury, Cornell (Agriculture); Dr. George R. Maxwell, II, Oswego; Dr. Vincent J. Schaefer, Albany; Prof. Walter L. Smith, Suffolk County Community; Dr. John F. Storr, Buffalo U.; and Dr. Robert A. Sweeney, Buffalo Coll.

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As an initial step in appraising the scope of SUNY's marine activities, the Center is working to identify the marine interests, and researchers, of each campus and to assist

in the development of activities where limited experience exists. Toward this end, Dr. Squires has visited many campuses to date and plans to visit all campuses as early as possible.

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--Six SUNY colleges played host to distinguished marine scientists this winter, in a series of seminars sponsored by the Center. The invited speakers, and their topics of discussion, were: Dr. John Lee of CCNY--microfauna in a square millimeter of ocean bottom; Dr. John Bunt, U. of Miami--sea ice as a site for primary productivity; Dr. Charles Brown, U.S. Navy Underwater Sound Lab.--study of plankton biology through underwater acoustics; Dr. John Kingsbury, Cornell--economics of Irish moss; Dr. Peter Dehlinger, U. Conn--the origin of the Juan de Fuca and Gorda ridges in the Northeast Pacific; Dr. Allan Faller, U. Maryland--recent studies of flow discontinuity circulation; Dr. Redwood Wright, Woods Hole Oceanographic Inst.--potential energy and the circulation of the North Atlantic; and Dr. Jack Pierce of the Sandy Hook (N.J.) Marine Lab.--some quantitative aspects of benthic ecology.

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--Approximately 65 administrators and faculty from 20 SUNY 2-year colleges will attend a meeting at the Center on May 16 and 17 to discuss the potential for further development of marine technology programs. The meeting will highlight employment opportunities, training programs, and curriculum and facilities requirements. It has been scheduled in response to the great interest of the 2-year colleges in this field.

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on
RESEARCH ROUND-UP

Thermal pollution study begun by the Center. Work will begin in mid-April upon the initial phase of a long-range study of thermal pollution in Long Island Sound. The project's major purpose is to spell out, through physical, chemical and biological investigations, the precise impact upon the Sound's ecology of heated water discharged from power plants. In addition, the economic, social and political factors related to the increased power needs of the area's rapidly growing population will be considered.

As part of this program, the Center plans to develop the ability to predict how power plants on Long Island Sound projected for the year 2000 may, singly and/or collectively, affect marine conditions. Such a predictive capability must precede the establishment of protective regulations.

The present project, which has received approximately \$120,000 in support from New York State and the Long Island Lighting Co. (LILCO), is focusing upon a single power plant--LILCO's 2-generator unit at Northport. Its purpose is to elucidate the problems created by thermal pollution and to define the limits of the effects of heat emitted from a single source. In addition to the Center's staff, faculty from Suffolk Community College, Brookhaven National Labs and others will participate in this work.

Data from this pilot project will be used to plan the larger regional study of thermal pollution, funds for which will be sought from Federal and State government and from industry. Opportunities to participate in this program will be open to interested SUNY scientists.

Dumping of waste solids being probed. The increasing tendency of rubbish-besieged U.S. cities to use the oceans as dumping grounds is beginning to cause alarm in scientific circles, where the practice is viewed as the possible prelude to a serious environmental problem. New York City, for example dumps millions of tons of solid material into the

Atlantic every year in the form of dredging sediments, construction debris, industrial waste, sewage sludge, etc. What chemical and physical by-products are produced when such foreign solids react with the ocean's natural sediments? How do these by-products affect the marine environment?

These are some of the questions that Dr. M. Grant Gross of the Center intends to answer through a research program whose ultimate goal is the development of a predictive capability for the sea's capacity to assimilate waste solids. Specifically, he is concentrating upon the following aspects of the waste-solid problem: 1. discovering what kinds of materials are being dumped, and their major sources; 2. determining the composition of established dumpsites; 3. eliciting whether substances deposited on the ocean floor undergo physical and chemical changes and, if so, how?

Dr. Gross is collaborating in this work with the Woods Hole Oceanographic Inst. (to map near-bottom waters of L.I. Sound), Sandy Hook Marine Lab. (to study sediments at a NYC dumpsite for sewage sludge), NYC Dept. of Water Resources (to study the effects of runoff from Kennedy Airport and from sewage plants into Jamaica Bay), and the U.S. Army Corps of Engineers (analyzing sediments from a dredging project). Other SUNY personnel involved are Prof. Raymond N. Smith of Stony Brook, and Prof. Walter Smith and Mr. John A. Black of Suffolk Community College. The program will at a later date be extended to include waste-solid disposal in the Hudson River and Great Lakes.

"Challenger" cruise yields nutrient data on Sound. This past January, the MSRC sponsored a 3-day cruise aboard the Sandy Hook Marine Lab.'s 65-foot research vessel "Challenger," to determine east-to-west variations in the nutrient content, temperature and salinity of Long Island Sound. The study was conducted in winter to register conditions prior to warm-weather algal bloom; it will be repeated to determine seasonal changes. In this instance, phosphate content was discovered to be five times greater at the west end of the Sound than at the east end, the result of sewage discharged from NYC and its heavily congested suburbs.

Dr. Peter Weyl of the Center performed the expedition's temperature and salinity studies. Chemical and nutrient determinations were made by personnel from Suffolk Community College, Selden, L.I.: Prof. Charles D. Hardy, and technical assistants Edwin L. Sherril, Allan T. Plitt and Harry H. White, Jr. The expedition made use of the docking facilities of the SUNY Maritime College at Fort Schuyler.

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Marine Alert aids public reporting of marine events. Primarily as a public service but also as a way to collect potential research data, the MSRC has set up a "hotline" telephone over which unusual or dangerous marine phenomena observed off the coasts of New Jersey, New York and Connecticut may be reported to the Center. Formerly, many such attempts on the part of concerned citizens were thwarted by their inability to select from a profusion of agencies the authorities responsible for the situation at hand.

The Center's program, dubbed "Marine Alert," provides a single telephone number (516-246-7777) where any type of marine observation--from a boat collision to a beached whale--may be called in. The Center relays the information to the proper agencies for action, later notifying callers of steps taken to deal with the problem. The Marine Alert phone is manned year-round, from dawn to dusk, seven days a week.

Since November the Center has received complaints of five sizable oil slicks, a pesticide-induced fish kill, severe beach erosion threatening property, and a rash of calls concerning an epidemic of "angler" fish washed up on Long Island beaches. The public's use of Marine Alert has been good to date and is expected to increase sharply as the return of warm weather initiates the annual exodus to the seashore.

Sea Grant news. As all SUNY colleges have been informed, the State University and Cornell are applying as a consortium for "institutional" support under the provisions of the National Sea Grant Act of 1966. This Act, an amendment to the Marine Resources Engineering Development Act of the same year, provides that Federal grants be given to institutions to spur, through education and research, development of the nation's marine resources.

The Center is currently preparing a Sea Grant proposal to be submitted to the National Science Foundation, who administers the program, in the fall. If our effort is successful, funds from this source will back many of SUNY's marine activities. Thus, "Sea Grant news" may become a regular feature of the Newsletter.

For the application, the Center has gathered from 36 SUNY campuses the names and interest areas of faculty anxious to participate in a marine program, as well as descriptions of the marine-related curricula that these campuses now offer or propose to develop.

Federally designated "marine," the Great Lakes will fall under Sea Grant auspices. Dr. Robert Hennigan of the Water Resources Center, College of Forestry at Syracuse, will administer the Great Lakes portion of the program within SUNY.

The Newsletter would like to receive newsworthy items related to SUNY's marine sciences program. Such material might include reports of new marine-related courses or research projects, faculty appointments, grants, fellowships, etc. This material, subscription requests and miscellaneous inquiries should be addressed to Mrs. Judy Smith of the MSRC.