



V. Abolins

Marine Basin President Carl Darenberg, Jr. presents scholarship to MSRC student Mary Gibbons.

FIRST MARINE BASIN SCHOLARSHIP AWARDED

Through a donation made by the Montauk Marine Basin, the first annual Montauk Marine Basin Scholarship was presented to an MSRC student on 10 March 1981. Ms. Mary C. Gibbons was selected by Marine Basin President Carl Darenberg, Jr. and a committee of MSRC personnel as the recipient of a \$1,000 award to offset the cost of research on a problem affecting Long Island's coastal waters. Research with the potential for yielding substantial scientific and/or societal benefits was considered for the award.

Ms. Gibbons will use the scholarship to continue her study of factors influencing the predation of juvenile hard clams (*Mercenaria mercenaria*) by crabs. Long Island's Great South Bay supports a \$100 million hard clam industry, and crabs are considered one of the more serious threats to juvenile hard clam survival.

NATURAL HAZARDS ON THE PACIFIC COAST OF SOUTH AMERICA-REGION VIII, CHILE—STEVE COVELL

Throughout the history of central Chile, including the area known as Region VIII, natural hazards have persistently conditioned human activities and social development along the coast. Today the Region's population is concentrated within the Concepcion metropolitan area.

Concepcion was originally founded adjacent to the Bay of Concepcion upon the present-day site of Penco. This location was chosen to take advantage of one of central Chile's few natural harbors and also because it was considered a militarily defensible position.

In 1570, 1657, 1730, and 1751 Concepcion was extensively damaged by earthquakes and by the large, ocean surface waves (i.e., tsunamis) that they generated. These destructive incidents provided the impetus for moving the town farther inland, but the advantages of economical sea transportation, abundant fisheries resources, and opportunities for shore-dependent recreation have attracted and bound an increasingly large number of inhabitants to the coastal zone.

During the course of my thesis research, including seven months spent in Chile, I assembled coastal natural hazards information concerning Region VIII. This information is necessary to private individuals as well as to regional planners in order to make damage-reduction and damage-sharing rational adjustments to the hazards. Generation, improvement, and dissemination of natural hazards information is critical to the improvement of coastal zone management decision-making.

Part of the information I assembled involves the cold oceanic Humboldt Current, which flows northerly along the coast of Region VIII. This current is a barrier to extra-tropical cyclones, which are warm-water dependent. Yet, severe destructive weather events such as the 1877 Lebu water-spout and the 1934 Concepcion tornado have struck the coast. Intense winter rains cause floods upon poorly drained areas (especially in Concepcion-Talcahuano), and make rivers overflow their banks.

I prepared annotated chronologies of major earthquakes (magnitude ≥ 7) and tsunamis that impacted Region VIII during 1550 through 1960. The historical probability of a major earthquake striking Region VIII is approximately 0.12 per year, and the earthquake risk is greatest along the coast where hypocenters are nearer the Earth's surface and magnitudes have generally been greater. Tsunamis that impacted the Region's coast were generated by nearby earthquakes that caused sudden displacements of the sea floor, as well as by distant seismic events in such places as along the perimeter of the North Pacific

Seriously, he explained, "It had never been done and it's important to pull it all together." Scientists, clambers, managers, legislators--all must know everything they can about the clam to utilize the resource wisely, and Dr. McHugh feels his publication will be an invaluable tool in leading them to the information they need. Proper laws and strict enforcement of laws, he asserts, are the key to managing the resource without exhausting it, and this cannot be accomplished unless lawmakers and enforcers have ready access to the information required to understand clams and clamming.

The inventory will be published next year by the National Marine Fisheries Service. Dr. McHugh will work on the two proposed clam books after he retires next year, and expects "Whales and Man" to be published in 1982. The public has always been fascinated by whales, he says, though "they've not been very well studied because they're hard to catch and keep. We should know more." The former chairman of the International Whaling Commission was one of the first persons contacted when the sick Physty beached itself, and advised those who discovered the whale to notify the Smithsonian Institution in order to comply with the Marine Mammal Protection Act.

Though Dr. McHugh is deeply involved in the dissemination of knowledge on clams and whales, he assures one that he does not regard these animals merely as sources of data to be gathered. He appreciates the aesthetic beauty of whales, and as for the hard clams that occasionally grace his table, "I just enjoy eating them."

PUBLICATIONS

BAYLOR, E. R. and M. B. BAYLOR. 1980. Surf-to-wind transfer of viruses. *Annals. N.Y. Acad. Sci.* 353:201-208.

JONES, C. R. and J. R. SCHUBEL. 1980. Distribution of surficial sediment and eelgrass in Great South Bay, New York (from Smith Point west to Wantagh State Parkway). MSRC Special Report 39.

McHUGH, J. L. 1981. Coastal fisheries. Chap. 14 in *Fisheries Management*. R. T. Lackey and L. A. Nielsen (eds.), John Wiley and Sons, New York.

RECENT MSRC GRADUATES

Five students completed requirements in May for the M.S. degree:

STEPHEN COVELL, Coastal natural hazards of Region VIII, Chile: Information for coastal zone management decision-making (Prof. Peter K. Weyl).

ZENA GOLD-KAUFMAN, Nitrogen assimilation by phytoplankton in Great South Bay, New York (Prof. Edward Carpenter).

KENNETH KURKOWSKI, Effects of filtration by adult *Mercenaria mercenaria* upon its larvae (Prof. Robert Malouf).

JOHN LIVELY, Primary production and abundance of phytoplankton in a barrier island estuary (Prof. Edward Carpenter).

MARGARET LOUNSBURY, Is extended jurisdiction working: an analysis of the surf clam and ocean quahog fishery management plan (Prof. J. L. McHugh).

JOHN TEAL FIRST GELBER LECTURER

The Center welcomed Dr. John Teal, author of the book, *The Life and Death of the Salt Marsh*, as the first annual Sidney Gelber Lecturer in Marine Sciences. The 8 April lecture was part of an effort to recognize the contributions made to the Center's development by Dr. Sidney Gelber, who has retired as University Provost.



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Lecturer John Teal (left) and MSRC Director J. R. Schubel (right) join retired University Provost Sidney Gelber (center) at first annual Sidney Gelber Lecture in Marine Sciences. Dr. Gelber holds framed announcement of lecture, presented to him by Dr. Schubel.



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