

RESEARCH HIGHLIGHTS



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The Northeast Fisheries Science Center's *Research Highlights* is a news bulletin on selected Center research findings. News write-ups focus on practical applications and implications of those findings to fisheries resource and habitat management. A name and telephone number have been included at the end of each write-up to contact for detailed information. Names of organisms follow--to the extent possible--the lists of scientific and common names of fishes, mollusks, and decapod crustaceans published by the American Fisheries Society. Any mention of trade names does not imply endorsement. *Research Highlights* is produced by the NEFSC Information Services Unit with the assistance of the Center's scientific staff.

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Northeast Fisheries Science Center

Research Highlights

Chinese Score With Scallop Introduction

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Bay scallops provided by the Northeast Fisheries Science Center's (NEFSC's) Milford (Conn.) Laboratory to the People's Republic of China (PRC) -- at the PRC's request -- have resulted in a huge new fishery in that nation within the past 10 years. During 1981 and 1982, the NEFSC provided three shipments of scallops to the PRC's Institute of Oceanology, Academia Sinica, in Qingdao. All animals in the first two shipments (45 and 200, respectively) either died during shipping or failed to spawn. Twenty-six of the 128 animals in the third shipment survived and spawned. Subsequent hatchery production and field transplanting along much of the PRC's coast have resulted in an estimated 220-million-pound (live weight) yield in 1991.

The PRC sought to introduce the bay scallop into its waters for economic reasons -- it grows faster and is better suited to hatchery production than the PRC's native scallop, *Chlamys farreri*. However, the successful introduction of a new species into an existing biological community causes ecological alteration, sometimes enough to damage existing economic, recreational, or aesthetic uses by humans. Accordingly, intentional species introductions are not routine, are usually controlled by protective treaties/laws/regulations, and are often backed up by careful scientific studies. In this instance, the PRC assumed responsibility for the effects of introducing bay scallops into its waters. For its part, the United States -- through the NEFSC -- sought to ship disease-free, parasite-free animals.

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NEFSC Gets Superfund Nod

The Comprehensive Environmental Response, Compensation and Liability Act (SUPERFUND) and the Oil Pollution Act of 1990 designate federal officials, on behalf of the public, to: (1) assess damages to natural resources from releases of oil and other hazardous substances; (2) attempt to recover costs of damages and assessments; and (3) restore or replace damaged resources. To carry out these responsibilities in the nation's marine and estuarine environments, NOAA has established a Damage Assessment and Restoration Program, with a Damage Assessment Center in its National Ocean Service, a Restoration Center in its National Marine Fisheries Service (NMFS), and legal support from its Office of General Counsel. The NMFS's Northeast Region, through both its Northeast Operations Office and its Northeast Fisheries Science Center (NEFSC), is rapidly expanding its commitment to resource restoration in its geographic area of concern. The NEFSC has assigned three scientists to these efforts.

The NOAA Damage Assessment and Restoration Program will be busy. In the Northeast alone, there are 12 SUPERFUND sites, eight oil-spill sites, and at least 35 other sites in the marine/estuarine environment where some cost recovery for resource restoration is possible. The fields of formal resource/habitat damage assessment and restoration are relatively new, though, and it will be a challenge to meld the appropriate scientific, economic, and legal expertise to find the best solutions for damaged resources.

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Northeast Fisheries Science Center

Research Highlights

Important Squid and Fish Microevolution Papers Released

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Two books -- *Utilization of Squid* by M. Sugiyama, S. Kousu, M. Hanabe, and Y. Okuda, and *Microevolution of Fishes* by M.V. Mina -- have been translated from Japanese and Russian, respectively, for the National Marine Fisheries Service. The 251-page squid utilization book discusses: (1) types and locations of squid resources worldwide; (2) anatomical and chemical composition of squid; (3) maintenance of freshness at sea and on land; (4) variety of seafood products and associated processing methods; and (5) nutritional considerations. This book would be valuable for organizations involved with research & development on squid catching, processing, marketing, and/or retailing. It would be valuable, if not essential, for organizations involved with, or considering involvement with, exporting squid products to the Japanese market.

The 215-page fish microevolution book discusses: (1) the nature and extent of phenetic (observable characteristics) diversity of fishes, as well as the relationship of phenetic diversity to genetics and taxonomy; (2) the evolutionary interpretation of this diversity; and (3) the effects of human activities (fishing, polluting, etc.) on this diversity. This book would be valuable for two different audiences -- fish systematists/taxonomists and fishery managers concerned with what might be called "genetic overfishing."

We have several copies of each book for free distribution. Requests from scientific libraries will be considered, but initial distribution will go to individuals actively engaged in these respective fields.

Contact Lynn Forbes, FTS 840-1260 or (508) 548-5123

Publications and Reports

Northeast Fisheries Science Center (NEFSC) authors are indicated in all capital letters in the list below. Unless otherwise indicated, single reprints or photocopies of the publications and reports are available--subject to supply--by writing to the senior NEFSC author, c/o Information Services Unit, Northeast Fisheries Science Center, 166 Water St., Woods Hole, MA 02543-1097 USA.

- MacKENZIE, C.L., JR. 1990. History of the fisheries of Raritan Bay, New York and New Jersey. *Mar. Fish. Rev.* 52(4): 1-45.
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- TAYLOR, M.H. 1992. Test and evaluation of SBE Model 16 conductivity/temperature recorder. [Nat. Mar. Fish. Serv.,] *Northeast Fish. Sci. Cent. Ref. Doc.* 92-01. 14 p.
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