

RESEARCH HIGHLIGHTS



**October-
December
1993**

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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.

**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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Northeast Region
Northeast Fisheries Science Center**

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FACILITIES

Woods Hole Laboratory
National Marine Fisheries Service
166 Water Street
Woods Hole, MA 02543-1097
(508) 548-5123
Officer-in-Charge: Dr. John B. Pearce

**James J. Howard
Marine Sciences Laboratory**
National Marine Fisheries Service
Building 74, McGruder Road, Sandy Hook
Highlands, NJ 07732
(908) 872-3000
Officer-in-Charge: Anne L. Studholme

National Systematics Laboratory
National Marine Fisheries Service
National Museum of Natural History
10th & Constitution Avenue, N.W.
Washington, DC 20560
(202) 357-2552
Director: Dr. Bruce B. Collette

Narragansett Laboratory
National Marine Fisheries Service
28 Tarzwell Drive
Narragansett, RI 02882
(401) 782-3200
Officer-in-Charge: Dr. Kenneth Sherman

Milford Laboratory
National Marine Fisheries Service
212 Rogers Avenue
Milford, CT 06460
(203) 783-4200
Officer-in-Charge: Dr. Anthony Calabrese

Gloucester Laboratory
National Marine Fisheries Service
30 Emerson Avenue
Gloucester, MA 01930
(508) 281-9300
Officer-in-Charge: Robert J. Learson

Oxford Cooperative Laboratory
National Marine Fisheries Service
904 South Morris Street
Oxford, MD 21654
(410) 226-5193
Contact: Frederick G. Kern

INFORMATION SERVICES UNIT

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Scientific Publishing & Technical Writing-Editing: Jon A. Gibson
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Research Highlights

**October-
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Annual Status-of-the-Stocks Report Issued

The Northeast Fisheries Science Center has issued its annual "Status of Fishery Resources off the Northeastern United States." The front section of the 140-page report summarizes trends in aggregate fishery resources, commercial and recreational fishery landings, and fishery economics. The back section details the current status of 53 individual populations or stocks of 48 species of demersal fish, pelagic fish, anadromous fish, squids, bivalve mollusks, decapod crustaceans, and marine mammals. This year's issue also includes a special section on ecosystem health and how it influences production of fishery resources. A limited number of copies for free distribution are available.

Contact Lynn Forbes, (508) 548-5123x260

Heavy Set of Bivalves in Northeast Bays & Estuaries

There was heavy setting (*i.e.*, change from a drifting larval stage to a sedentary juvenile stage) of eastern oysters, northern quahogs, bay scallops, and softshells in several of the Northeast's bays and estuaries this past spring and summer. Eastern oyster setting was heavy in Connecticut and northern Long Island (New York). Northern quahog setting was heavy in Connecticut. Bay scallop setting was heavy in eastern Long Island and some bays in Massachusetts. The scallop set in Long Island was the heaviest since stocks were first devastated by "brown tide" algal blooms in summer 1985.

Based on observations by the Northeast Fisheries Science Center, softshell setting was the heaviest (7,000/m²) in more than 20 years in New Jersey's Navesink and Shrewsbury Rivers and Raritan Bay. The Center will monitor these softshell stocks to see what factors (*e.g.*, predation, disease) control survival to the recruitment stage.

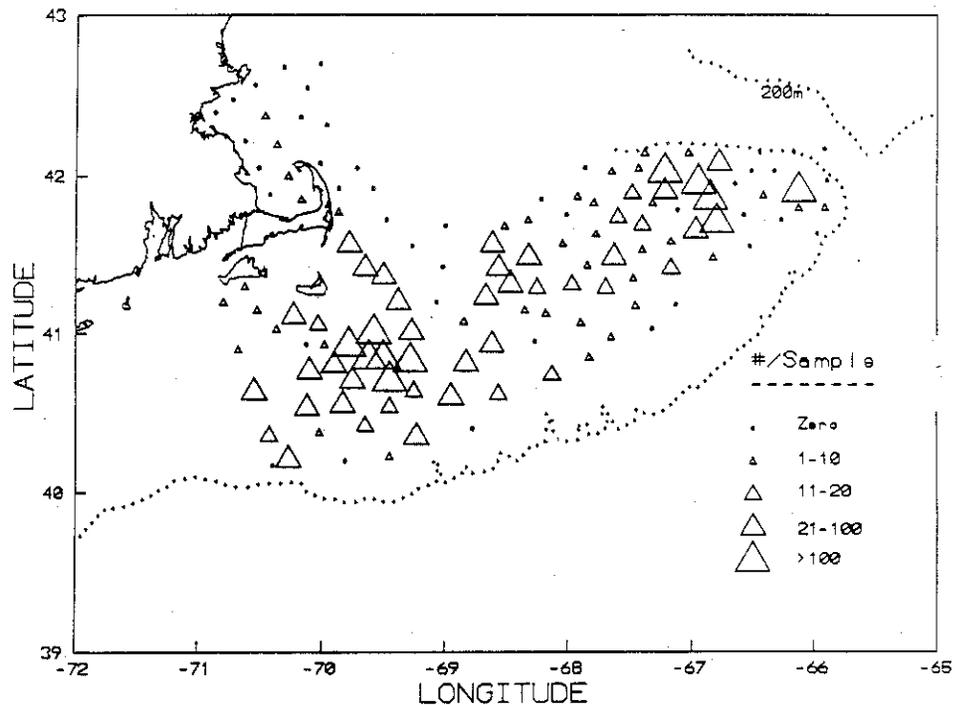
Interestingly, the weather in the summer of 1993 was very similar to the weather in the summers of the early 1960s when northern quahog setting was so heavy in Great South Bay (Long Island) that subsequent harvests from that bay alone accounted for as much as 45 percent of the total U.S. harvest. The early summers of 1993 and the early 1960s were warmer, drier, and with less cloud cover than usual; also, there were no cold fronts, strong winds, or heavy rains which one might suspect would reduce larval bivalve survival.

Contact Clyde L. MacKenzie, (908) 872-3019.

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Herring Spawning Is Extensive on Georges Bank

Evidence that Atlantic herring have now substantially recolonized their historic spawning grounds on eastern Georges Bank came from the Northeast Fisheries Science Center's November and December larval herring surveys. The following illustration shows the number of larvae per sample on the 2-10 November survey. Note the concentration of larvae-rich samples between 66 and 68°W (i.e., eastern Georges Bank).



As noted in recent issues of *Research Highlights*, the abundance level of herring has recovered to, even exceeded, the levels of the mid-1960s -- the period prior to foreign overfishing of this species. Also as noted in recent issues, the population has several strong year classes. Now, with the species substantially reoccupying its old spawning grounds, it may be time to call the herring recovery "complete."

**For more information on larval herring surveys,
contact Wallace G. Smith, (908) 872-3060**

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"New" Sandy Hook Laboratory Dedicated

A "new" Sandy Hook Laboratory was dedicated on 18 October. Called the James J. Howard Marine Sciences Laboratory in honor of the former U.S. Representative who spearheaded its creation, the new lab replaces and expands the capabilities of the old one, which burned down in 1985.

The Howard Laboratory, located within the Fort Hancock Historic District of the Gateway National Recreation Area on New Jersey's Sandy Hook Peninsula, includes a new 32,000-square-foot building, as well as the historic building which will be extensively renovated during 1994. The historic structure, along with several trailers, have housed the Northeast Fisheries Science Center's (NEFSC) Sandy Hook personnel since the 1985 fire.) The new building features an extensive suite of experimental seawater labs (including an environmentally controlled, 33,000-gallon aquarium for behavior research), as well as an extensive suite of labs for trace metal analysis, organic contaminant analysis, microbiological culture and analysis, radio-isotope preparation and measurement, sediment and water chemistry analysis, and taxonomic, developmental, and growth studies on early stages of marine organisms.

When the complex is completed, scientists from the NEFSC, the New Jersey Department of Environmental Protection and Energy, and a consortium of New Jersey colleges and universities will jointly use the new facility. The NEFSC's plans for the new facility are detailed in a 23-page report, "Research Program of the National Marine Fisheries Service at the James J. Howard Marine Sciences Laboratory, Sandy Hook, N.J." Copies of the report are available.

Contact Anne L. Studholme, (908) 872-3001.

Recent Publications and Reports

Northeast Fisheries Science Center authors are indicated in all capital letters in the list below. Unless otherwise indicated, single copies of the listed reports are available by writing to: Information Services Unit, Northeast Fisheries Science Center, National Marine Fisheries Service, 166 Water St., Woods Hole, MA 02543-1097 USA.

CHANG, S. 1993. Analysis of fishery resources: potential risk from sewage sludge dumping at the deepwater dumpsite off New Jersey. *Fish. Bull. (U.S.)* 91(4): 594-610.

COLLETTE, B.B. 1993. Review: Systematics, historical ecology, and North American freshwater fishes by R. Mayden, ed. *Syst. Biol.* 42(3): 398-402. Conservation and Utilization Division, Northeast Fisheries Science Center. 1993. Status of fishery resources off the northeastern United States for 1993. *NOAA Tech. Memo. NMFS-F/NEC-101*; 140 p.

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- HAYES, D.B. 1993. A statistical method for evaluating differences between age-length keys with application to Georges Bank haddock, *Melanogrammus aeglefinus*. *Fish. Bull. (U.S.)* 91(3): 550-557.
- Hobbie, J.E.; PEARCE, J.B. 1993. Ecology in Woods Hole: Baird, Bigelow, and Redfield. In: Barlow, R.B., Jr.; Dowling, J.E.; Weissmann, G.; with Clapp, P.L. The biological century: Friday evening talks at the Marine Biological Laboratory. Cambridge, MA: Harvard University Press; p. 261-286.
- HOLZWARTH-DAVIS, T.; TAYLOR, M.H. 1993. Description of the 1992 oceanographic conditions on the Northeast continental shelf. *Northeast Fish. Sci. Cent. Ref. Doc.* 93-25; 87 p.
- KANE, J. 1993. Variability of zooplankton biomass and dominant species abundance on Georges Bank, 1977-1986. *Fish. Bull. (U.S.)* 91(3): 464-474.
- LOFFLER, D.L.; VECCHIONE, M. 1993. An unusual squid paralarva (Cephalopoda) with tentacular photophores. *Proc. Biol. Soc. Wash.* 106(3): 602-605.
- NICOLAS, J.R. 1993. Summarized results of two necropsy sessions of harbor porpoise *Phocoena phocoena* incidentally taken during commercial fishing operations in the Gulf of Maine. *Northeast Fish. Sci. Cent. Ref. Doc.* 93-26; 19 p.
- TERCEIRO, M.; Ross, J.L. 1993. A comparison of alternative methods for the estimation of age from length data for Atlantic coast bluefish (*Pomatomus saltatrix*). *Fish. Bull. (U.S.)* 91(3): 534-549.
- Witherell, D.B.; BURNETT, J. 1993. Growth and maturation of winter flounder, *Pleuronectes americanus*, in Massachusetts. *Fish. Bull. (U.S.)* 91(4): 816-820.

**Information Services Unit
Northeast Fisheries Science Center
National Marine Fisheries Service
166 Water Street
Woods Hole, MA 02543-1097**

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