

## Woods Hole Sea Grant: Fisheries -- General

Aqueous Exposure to 4-Nonylphenol and 17 $\beta$ -Estradiol Increases Stress Sensitivity and Disrupts Ion Regulatory Ability of Juvenile Atlantic Salmon

Lerner, D.T., B. Thrandur Björnsson, and S.D. McCormick

Environmental Toxicology and Chemistry, Vol. 26, No. 7, pp. 1433-1440, 2007 WHOI-R-07-004

Also available as a PDF file: [click here](#)

Effects of Aqueous Exposure to Polychlorinated Biphenyls (Aroclor 1254) on Physiology and Behavior of Smolt Development of Atlantic Salmon

Lerner, D.T., B. Thrandur Björnsson, and S.D. McCormick

Aquatic Toxicology, Vol. 81, pp. 329-336, 2007 WHOI-R-07-005

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Larval Exposure to 4-Nonylphenol and 17 $\beta$ -Estradiol Affects Physiological and Behavioral Development of Seawater Adaptation in Atlantic Salmon Smolts

Lerner, D.T., B. Thrandur Björnsson, and S.D. McCormick

Environ. Sci. Technol., Vol. 41, pp. 4479-4485, 2007 WHOI-R-07-006

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Seasonal and Size-based Predation on Two Species of Squid by Four Fish Predators on the Northwest Atlantic Continental Shelf

Staudinger, M.D.

Fish. Bull., Vol. 104, pp. 605-615, 2006 WHOI-R-06-011

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Multiple Genetic Stocks of Longfin Squid *Loligo pealeii* in the NW Atlantic: Stocks Segregate Inshore in Summer, but Aggregate Offshore in Winter

Buresch, K.C., G. Gerlach, and R.T. Hanlon

Marine Ecology Progress Series, Vol. 310, pp. 263-270, 2006 WHOI-R-06-002

Portfolio: Fisheries and Aquaculture

Woods Hole Sea Grant

16 pp., 2005 WHOI-Q-05-002

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Learn more of how, over the past three decades, Woods Hole Sea Grant has invested in research, extension, and outreach in the programmatic theme area Fisheries and Aquaculture. This investment has resulted in the development of better management practices and policies for shellfish harvest and shellfish aquaculture, a better understanding of the life history and environmental requirements of commercially important species of fish and shellfish, and quantitative assessments and subsequent improvements of restoration activities.

Assessment of Shellfish Survival and Growth in the Pamet River System

Walton, B. and D. Murphy

Report Prepared for the Truro Shellfish Advisory Committee, 17 pp., 2003 WHOI-S-03-002

Microsatellite DNA Markers Indicate a High Frequency of Multiple Paternity within Individual Field-collected Egg Capsules of the Squid *Loligo pealeii*

Buresch, K.M., R.T. Hanlon, M.R. Maxwell, and S. Ring

Marine Ecology Progress Series, Vol. 210, pp. 161-165, 2001 WHOI-R-01-010

Estimating the Number of Fish in Atlantic Bluefin Tuna (*Thunnus thynnus thynnus*) Schools Using Models Derived from Captive School Observations

Hanrahan, B. and F. Juanes

Fish. Bull., Vol. 99, pp. 420-431, 2001 WHOI-R-01-006

Female Reproductive Output in the Squid *Loligo pealeii*: Multiple Egg Clutches and Implications for a Spawning Strategy

Maxwell, M.R. and R.T. Hanlon

Marine Ecology Progress Series, Vol. 199, pp. 159-170, 2000 WHOI-R-00-014

Pattern of Inheritance of Microsatellite Loci in the Squid *Loligo pealeii* (Mollusca: Cephalopoda)

Maxwell, M.R., K.M. Buresch, and R.T. Hanlon

Marine Biotechnology, Vol. 2, pp. 517-521, 2000 WHOI-R-00-011

Control of Predators on Cultured Shellfish: Exclusion Strategies

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Leavitt, D.F. and W.P. Burt  
NRAC Publication No. 00-007, 4 pp., 2000 WHOI-G-00-008

Theme Booklet: Fisheries and Aquaculture  
WHOI Sea Grant  
4 pp., 2000 WHOI-G-00-004

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Learn more of WHOI Sea Grant's investment in fisheries and aquaculture which has resulted in the development of better management practices and policies for shellfish harvest and shellfish aquaculture and better understanding of the life history and environmental requirements of commercially important species of fish and shellfish.

Contact with Squid Egg Capsules Increases Agonistic Behavior in Male Squid (*Loligo pealei*)  
King, A.J., S.A. Adamo, and R.T. Hanlon  
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An Ethogram of Body Patterning Behavior in the Biomedically and Commercially Valuable Squid *Loligo pealei* off Cape Cod, Massachusetts

Hanlon, R.T., M.R. Maxwell, N. Shashar, E.R. Loew, and K.-L. Boyle  
Biol. Bull., Vol. 197, pp. 49-62, 1999 WHOI-R-99-005

Mating Systems and Sexual Selection in the Squid *Loligo*: How Might Commercial Fishing on Spawning Squids Affect Them?  
Hanlon, R.T.  
CalCOFI Rep., Vol. 39, pp. 92-100, 1998 WHOI-R-98-008

Shellfish Diseases and Their Control in Local Waters  
*Helpful to educators and students.*  
Leavitt, D.F.

Focal Points, 2 pp., 1998 WHOI-G-98-002

Also available online: [click here](#)

Behavioral Dynamics that Would Lead to Multiple Paternity within Egg Capsules of the Squid *Loligo pealei*

Hanlon, R.T., M.R. Maxwell, and N. Shashar  
Biol. Bull., Vol. 193, pp. 212-214, 1997 WHOI-R-97-008

Tips on Tuna Handling

*Helpful to educators and students.*

White, A.W.

2 pp., 1988 WHOI-G-88-001

The value of the bluefin tuna fishery is driven largely by the high demand for top-quality, fresh tuna for the Japanese market. Fresh bluefin tuna is most valuable when the fat content is high (generally between the end of July and October) and when the fish has been handled properly to maintain its freshness and appearance. Tuna buyers are easily able to recognize when fish have been improperly handled. Step-by-step illustrations offer tips for doing it right; laminated for use on board vessels.

The Atlantic Salmon (*Salmo salar*) Population of the Matamek River, Quebec: 1967-1984 Data Report

[Only available on loan from the National Sea Grant Library](#)

Naiman, R.J., R. Morin, H. Caswell, W.L. Montgomery, E. Klopfer, and T. Kana

Woods Hole Oceanographic Institution Technical Report WHOI-86-21, 119 pp., 1986 WHOI-T-86-002

Physiological Smolt Characteristics of Anadromous and Non-anadromous Brook Trout (*Salvelinus fontinalis*) and Atlantic Salmon (*Salmo salar*)

McCormick, S.D., R.J. Naiman, and E.T. Montgomery

Canadian Journal of Fisheries and Aquatic Sciences, Vol. 42, pp. 529-538, 1985 WHOI-R-85-003

Evaluating the Consequences of Reproduction in Complex Salmonid Life Cycles

Caswell, H., R.J. Naiman, and R. Morin

Aquaculture, Vol. 43, pp. 123-134, 1984 WHOI-R-84-017

Some Determinants of Maturation in Brook Trout, *Salvelinus fontinalis*

McCormick, S.D. and R.J. Naiman

Aquaculture, Vol. 43, pp. 269-278, 1984 WHOI-R-84-019

Size, age, growth rate and photoperiod (the controlling effects of the length of the day on phenomena such as reproductive cycles in mammals, migration patterns in birds, flowering in plants) were examined for their effects on the timing of maturation and the proportion of mature male and female brook trout (*Salvelinus fontinalis*). Photoperiod completely entrained the gonadosomatic index and the timing of functional maturation (spermiation and ovulation). High feed and delayed photoperiod conditions resulted in a greater proportion of mature individuals of each sex in their first year, with percent maturation higher for males. The results indicated that 1) given a positive growth

rate, age and growth rate are less important than size in determining maturation of brook trout, and 2) the maturation response to size is sexually divergent. A conceptual model depicting the effects of environmental factors on size and the initiation of maturation is presented in this paper.

Osmoregulation in the Brook Trout, *Salvelinus fontinalis*: I. Diel, Photoperiod and Growth Relation Physiological Changes in Freshwater  
McCormick, S.D. and R.J. Naiman  
Comp. Biochem. Physiol., Vol. 79A, No. 1, pp. 7-16, 1984 WHOI-R-84-006

Osmoregulation in the Brook Trout, *Salvelinus fontinalis*; II. Effects of Size, Age and Photoperiod on Seawater Survival and Ionic Regulation  
McCormick, S.D. and R.J. Naiman  
Comp. Biochem. Physiol., Vol. 79A, No. 1, pp. 17-28, 1984 WHOI-R-84-007

The Reproductive Cycle of the Bay Scallop, *Argopecten irradians irradians* (Lamarck), in a Small Coastal Embayment on Cape Cod, Massachusetts  
Taylor, R.E. and J.M. Capuzzo  
Estuaries, Vol. 6, No. 4, pp. 431-435, 1983 WHOI-R-83-020

The spawning activity of the bay scallop *Argopecten irradians irradians* was monitored during the summer (May through September), 1979, in Waquoit Bay, a small embayment on the south shore of Cape Cod, Massachusetts. The investigators were interested in learning more about the reproductive cycle and early growth and development of bay scallop populations. This paper reports the gonadal development and spawning activity of adult bay scallop populations within this small embayment. Results indicated that spawning activity of the bay scallop populations occurred predominantly before the summer maximum temperature was recorded. After the summer maximum was reached, most of the gonads appeared spent, thus emphasizing the importance of temperature in stimulating spawning as reported in the literature.

The Seasonal Cycle of Gonadal Development in *Arctica islandica* from the Southern New England Shelf  
Mann, R.  
Fishery Bulletin, Vol. 80, No. 2, pp. 315-326, 1982 WHOI-R-82-026

Osmoregulation in the Brook Trout, *Salvelinus fontinalis*  
McCormick, S.D., R.J. Naiman, and E.T. Montgomery  
In: The Matamek Research Program: Annual Report for 1982, Woods Hole Oceanographic Institution Technical Report 83-37, pp. 29-37, 1982 WHOI-R-82-030

The Reproductive Biology of *Arctica islandica*  
Mann, R., R.A. Lutz, and M. Castagna  
International Council for the Exploration of the Sea, 12 pp., 1981 WHOI-R-81-005

Osmoregulation in the Brook Trout, *Salvelinus fontinalis*  
McCormick, S.D. and R.J. Naiman  
In: The Matamek Research Program: Annual Report for 1981. Woods Hole Oceanographic Institution Technical Report WHOI-82-29, pp. 169-176, 1981 WHOI-R-81-018

Determining the Osmoregulatory Ability of Anadromous Brook Trout  
McCormick, S.D. and R.J. Naiman  
In: The Matamek Research Program: Annual Report for 1980. Woods Hole Oceanographic Institution Technical Report WHOI-81-49, pp. 150-152, 1981 WHOI-R-81-002

Small-scale Commercial Fishing in Southern New England  
[Only available on loan from the National Sea Grant Library](#)  
Peterson, S.B. and L.J. Smith  
Woods Hole Oceanographic Institution Technical Report WHOI-81-72, 1981 WHOI-T-81-002

Behavioral Interactions Between Coho Salmon (*Oncorhynchus kisutch*), Atlantic Salmon (*Salmo salar*), Brook Trout (*Salvelinus fontinalis*) and Steelhead Trout (*Salmo gairdneri*) at the Juvenile Fluvial Stages  
[Only available on loan from the National Sea Grant Library](#)  
Gibson, R.J.  
Final Report to The Government of Quebec, Ministere Du Loisir, De La Chasse Et De La Peche, 94 pp., 1980 WHOI-T-80-002

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[Only available on loan from the National Sea Grant Library](#)  
Peterson, S.B. and L.J. Smith  
1979 WHOI-T-79-008

What's Happening at the Fish Pier?

[Only available on loan from the National Sea Grant Library](#)

Linskey, M.

1978 WHOI-R-78-011

Effects on Commercial Fishing of Petroleum Development off the Northeastern United States

[Only available on loan from the National Sea Grant Library](#)

Allen, D.W., R.B. Allen, R.E. Black, J.M. Friedman, L.G. Mallon, R.W. Morse, S.B. Peterson, and L.J. Smith

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Fishing Boat Income, Capital and Labor: A Distributional Study of a New England Port

[Only available on loan from the National Sea Grant Library](#)

Smith, L.J.

1976 WHOI-R-77-001

The View from New Bedford

Peterson, S.B.

1975 WHOI-R-75-005

*Last updated: June 24, 2014*

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