

SHEILA STILES

EDUCATIONAL HISTORY

B.S. Xavier University, Biology

M.S. University of Connecticut, Zoology/Ecology

Ph.D. University of Massachusetts, Fish Genetics

PROFESSIONAL HISTORY

Research Geneticist. As a Team Leader in the Biotechnology Branch, Aquaculture and Enhancement Division, Sheila is responsible for initiating and developing a multigenerational genetics and breeding program for bay scallops which investigates the use of genetic methods to improve growth and survival for increased production. She currently plans and directs research in three main areas: 1) Breeding (selection, inbreeding and hybridization); 2) Population Genetics –conducts DNA studies with Yale University and with a colleague in Massachusetts on hybridization; conducted molecular analysis (allozyme) in a joint cooperative research project, and DNA analysis and transgenic studies in collaboration with University of Connecticut, as well as a small-scale study on stock ID and genetic diversity of sea scallops; 3) Field evaluations for stock restoration or enhancement. Served as Acting Biotechnology Branch Chief (5/02-8/02, 4/03-7/03,2/04-6/04).

Previously, she was **Leader of the Genetics Unit** in the Genetics and Life History Investigation, then in the Microbiology Investigation which was concerned primarily with evaluating genetic effects of pollution on the reproductive success of winter flounder, the hard clam, and the oyster. The main focus was on damage to chromosomes, nuclei and cells of organisms at various life history stages, with some development of DNA procedures to examine the relationship between genetic population structure of a fish and/or shellfish, its reproductive success and annual year-class strength (fisheries recruitment). As Unit Leader, she supervised geneticists and fishery biologists, coordinating diverse projects of the Unit.

She initially assisted in aquaculture research on life history and ecology of various species of shellfish, then assisted with genetic applications in breeding and chromosome research.

ACCOMPLISHMENTS/HIGHLIGHTS:

- Provides scallops to industry, other researchers, schools, and to shellfish municipalities for stock enhancement and restoration
- Determined responses to selection for growth
- Estimated genetic diversity and identification of bay scallop populations
- Determined effects of inbreeding with self fertilization (scallops) and full-sib crosses (on oysters and scallops)
- Produced scallops with distinct shell markings (stripes), known as the “Milford Line” for the DNA Genbank, which assisted in identification for stock and habitat restoration efforts in the Niantic River and other places such as New York
- Developed a cytogenetic and cytological technique for shellfish larvae and other zooplankton from the field or in the laboratory
- Coordinated and led a team in a multidisciplinary study on reproductive success of hard clams.
- Conducted a multifaceted study that showed effects of PCBs and aromatic hydrocarbons on the early development of oysters.
- Previously planned and supervised genetic crosses for mutation (i.e., radiation), inbreeding and hybridization in commercially important shellfish as the oyster.
- Conducted experiments on chromosome manipulation and genetic engineering to understand mechanisms involved in obtaining polyploids and clones of shellfish.
- Preliminary collaborative work on fish identification was done with molecular analysis (allozymes)
- Determined meiotic and mitotic outcomes after polyploid induction.
- Was involved in initial mutagenesis projects to develop genetic methodology for winter flounder eggs and shellfish. Conducted a mutagenesis breeding test, called a dominant lethal.
- Collected on a research cruise, for cytogenetic use, finfish eggs from Deepwater Dumpsite 106.
- *Under a Joint Agreement, a cooperative research project was initiated on population genetics of commercial bay scallops. This allozyme analysis successfully demonstrated the degree of genetic diversity in various wild and cultured scallop populations from Canada to Florida, as well as the extent and loss of genetic diversity with inbreeding, which subsequently served as a basis for selecting a new supply of scallops to improve the genetic integrity of broodstock. Genetic lines developed for selection were available as reference stocks to estimate genetic diversity for hatchery vs. wild and homozygous vs. heterozygous populations. Moreover, this research enabled the demonstration of a difference in genetic variation for comparisons of a wild population with progeny derived from it.

HONORS AND AWARDS

- Best Poster Paper Award - World Mariculture Society, 1982. Stiles, S., and J. Choromanski, “Crossability and genetic experiments on Long Island Sound and other oyster populations: Implications for transplantation”.
- National Technical Association Achievement Award, 1996, 1997 and 2012.
- Co-author - Best Poster Paper Award, Southworth, J., M. Brown, S. Stiles and L. Strausbaugh. 1999. “Methodology for the generation of polymorphic molecular tags in the bay scallop, *Argopecten irradians*”. NOAA/UMES Conference.
- NOAA unit citation, Environmental Studies, 1974.
- Award-Chair, Poster Session/UMES Conference
- Various Sustained Superior (1987) and Outstanding (1974, 1985) Performance and QSI (1985,1995) Awards

PROFESSIONAL SOCIETIES/AFFILIATIONS

Genetics Society of America, ICES (International Council for the Exploration of the Sea) Genetics Working Group, American Men and Women of Science, Sigma Xi-Membership Committee, National Technical Association, National Shellfisheries Association, East Coast Shellfish Growers Association, American Association for the Advancement of Science.

Special Activities/Special Assignments

- Co-convenor of Genetics Theme Session at 2003 ICES 100 Anniversary Conference. Denmark. Also served on committee as a judge for best presentation at the Conference.
- Mussel Research - In collaboration with a population geneticist, used cytogenetic and cytological techniques to investigate population differences based on chromosome number and gross morphology of mussels from Georges Bank and Martha's Vineyard.
- Isoelectric focusing (electrophoresis) - in collaboration with NEFSC scientists, participated in (2) interlaboratory calibration projects.
- Consulting - Responded in person, by mail, or by telephone, to many requests for assistance/information/reprints. For example, provided fish genetics input for a letter to a Congressman in response to a constituent concerning the cross-breeding potential of cultured and wild stocks of clams.
- Served as one of the consultants for and appeared in a school science textbook, Science, Addison-Wesley, Published 1988.
- Editorial and Technical Reviews – Several, including review of the book, "Population Genetics and Fishery Management" for the Genetics Society of Canada.

PUBLICATIONS (Peer Reviewed)

- Stiles, S.**, and A. Crosby Longwell. 1973. Fertilization, meiosis and cleavage in eggs from large mass spawnings of Crassostrea virginica Gmelin, the commercial American oyster. *Caryologia*, 26(2): 253-262.
- Stiles, S.** 1973. Cytogenetic analysis of an attempted inter-species hybridization of the oyster. *Incompatibility Newsletter*, No. 3, pp. 41-45.
- Stiles, S.** 1978. Conventional and experimental approaches to hybridization and inbreeding research in the oyster. *In* J. W. Avault, Jr. (eds.) *Proc. 9th Annual Meeting World Mariculture Society*, 9: 577-586.
- Stiles, S.** and J. Choromanski. 1987. A method for cytogenetic and cytological examination of small shelled larvae of bivalves and other zooplankton. *Stain Technology* 62(2). 113-117.
- Longwell, A. Crosby, **S. S. Stiles** and D. G. Smith. 1967. Chromosome complement of the American oyster Crassostrea virginica, as seen in meiotic and cleaving eggs. *Can. J. Genet. Cytol.* 9(4): 845-856.
- Longwell, A. Crosby, and **S.S. Stiles**. 1968. Removal of yolk from oyster eggs by Soxhlet extraction for clear chromosome preparations. *Stain Technology* 43(2): 63-68.
- Longwell, A. Crosby, and **S.S. Stiles**. 1968. Fertilization and completion of meiosis in spawned eggs of the American oyster, Crassostrea virginica Gmelin. *Caryologia* 21(1): 65-73.
- Longwell, A. Crosby and **S.S. Stiles**. 1970. The genetic system and breeding potential of the commercial American oyster. *Endeavour* 29(107): 94-99. (also published in French and German).
- Longwell, A. and **S.S. Stiles**. 1970. Genetics and prospects of oyster breeding. *Prerota* (Russian).
- Longwell, A. Crosby, and **S. Stiles**. 1972. Inbreeding and gamete incompatibility genes in the commercial American Inbreeding and gamete incompatibility genes in the commercial American oyster, Crassostrea virginica. *Incompatibility Newsletter*, 17-23.
- Longwell, A. Crosby, and **S. Stiles**. 1973. Oyster genetics and the probable future role of genetics in aquaculture. *Malacological Review* 6(2): 151-177.
- Longwell, A. Crosby and **S. Stiles**. 1973. Gamete cross incompatibility and inbreeding in the commercial American oyster, Crassostrea virginica Gmelin. *Cytologia* 38: 521-533.
- Krzynowek, J. and K. Wiggin. Collaborators: M.G. Allsy, C. Annand, S.A. Braddon, K. Carter, J. Choromanski, N.F. Morrison, P. Odense, G.P. O'Leary, J. Pike, **S. Stiles** and L. Whittingham. 1981. Generic Identification of Cooked and Frozen Crabmeat by Thin Layer Polyacrylamide Gel Isoelectric Focusing: Collaborative Study, *J. Assoc. Off. Anal. Chem.* (Vol. 64, No. 3). 670-673.
- Lundstrom, R.C. Collaborators: M.C. Annand, C.R. Barmore, S.A. Braddon, B. Caffrey, J. Krzynowek, W. Laird, A.J. LaTerzi, To Lin B. W. Little, J.M. Mackie, J.M. Moodie, R. Morrison, P.H. Odense, G.P/ O'Leary, **S. Stiles**, B.E. Tuhkunen, and K. Wiggin. 1983. Fish Species Identification by Agarose Gel Isoelectric Focusing: Collaborative Study, *J. Assoc. Off. Anal. Chem* (Vol. 66, No. 1, 1983) 171-175.
- Stiles, S.**, J. Choromanski, D. Nelson, J. Miller, R. Greig and G. Sennefelder. 1991. Early Reproductive Success of the Hard Clam, Mercenaria mercenaria) from Five Sites in Long Island Sound. *Estuaries* 14(3): 332-342.

- Stiles, S.** 1994. Cytogenetic and viability effects of petroleum aromatic and PCB hydrocarbons, temperature and salinity, on early development of the American oyster, Crassostrea virginica Gmelin. Ph. D. Dissertation, University of Massachusetts, Amherst. 336 pp.
- Longwell, A. and **S. Stiles.** 1996. BOOK CHAPTER 12: "Chromosomes, Biology and Breeding" In: The Eastern Oyster. Crassostrea virginica. A. Eble, V. Kennedy and R. Newell (eds), 734 pp.
- Xue, Q., **S. Stiles**, F. Zhang, and J. Xiang. 1999. Population genetic structure at the allozyme phosphoglucosyltransferase (PMG) locus and its related traits in different populations of the bay scallop Argopecten irradians. *Oceano. Limnol. Sin/Haiyand Yu Huzhao*. 30. 381-389.
- Widman, J., J. Choromanski, R. Robohm, **S. Stiles**, G. Wikfors, A. Calabrese. 2001. A Manual for Hatchery Culture of the Bay Scallop, Argopecten irradians. CT Sea Grant (N. Balcom, ed.) 50pp.
- S. Stiles**, J. Choromanski and D. Jeffress, 2008. Genetic Approaches for the Culture and Restoration of Bay Scallops. CT Sea Grant. (M. Van Patten, ed.) 80pp.

Abstracts

- Stiles, S.** 1978. Approaches to inbreeding in the commercial American oyster, Crassostrea virginica. *Can. J. Genet. Cytol.*, 20(3): 455-456.
- Stiles, S.** 1980. Preliminary studies on genetic variation in oyster populations, species and hybrids. *Can. J. Genet. Cytol.*, 22(4): 678.
- Stiles, S.** 1990. A genetic model of polyploidy and hybridization in shellfish. Shellfish Seminar. *Environmental Auditor* 2(1): 10. (Also poster presentation).
- Stiles, S.** 1990. Cytogenetic, cytotoxic and embryotoxic effects of petroleum and PCB compounds on oysters. Genetic Society of America/Genetics Society of Canada Meeting, San Francisco, CA. Proceedings.
- Stiles, S.** 1992. Influence of environmental factors on genotoxicity of petroleum and PCB compounds on American oyster eggs and embryos. *Environmental Management* 16(4): 528-529. (Also poster presentation).
- Longwell, A. Crosby, and **S. S. Stiles.** 1967. The chromosome complement of the American oyster, Crassostrea virginica Gmelin, as seen in its meiotic and cleaving eggs. Twelfth Annual Meeting, Genetics Society of Canada.
- Longwell, A. Crosby, and **S. S. Stiles.** 1968. Fertilization and completion of meiosis in spawned eggs of the American oyster, Crassostrea virginica Gmelin. Seventh Annual Meeting, American Society for Cell Biology.
- Longwell, A. Crosby and **S. S. Stiles.** 1968. Meiosis, fertilization and chromosome complement of the commercial American oyster, Crassostrea virginica Gmelin. *Proc. XII International Congress of Genetics, Tokyo* 1: 287.
- Longwell, A. Crosby, and **S. S. Stiles.** 1972. Cross incompatibility and inbreeding of the American oyster, Crassostrea virginica. *Proc. Natl. Shellfish. Assoc.* 62: 4.
- Longwell, A. Crosby, and **S. S. Stiles.** 1972. Breeding response of the commercial American oyster to ionizing radiation. *Radiation Research* 51(2).
- Longwell, A. Crosby, and **S. S. Stiles.** 1973. Oyster genetics and the probable future role of genetics in aquaculture. *Bull. American Malacological Union, Inc.*, p. 36.
- Longwell, A. Crosby, J. B. Hughes and **S. S. Stiles.** 1975. Mutagenicity of heavy metal marine contaminants for oyster eggs. 13th Pacific Science Congress, Vancouver, B.C., Canada.
- Stiles, S.**, and J. Choromanski. 1979. Experimental hybridization of oysters. *Genetics Suppl.*, 9(4, pt. 2):123-124.
- Stiles, S.** and J. Choromanski. 1982. A cytogenetic method as a tool for assessing the condition of shellfish larvae. *Proceedings National Shellfish Assoc.*:102.
- Stiles, S.**, and J. Choromanski. 1984. Rapid cytological examination of bivalve larvae of commercial marine mollusks: potential for genetic toxicology and aquatic bioassays. *Genetics Suppl.* 107 (3/part 2):103.
- Stiles, S.**, J. Choromanski and B. Smith. 1985. Cytogenetic, breeding and morphological comparisons of Crassostrea rhizophorae oysters from Puerto Rico and Crassostrea virginica oysters from Long Island Sound, with observations on experimental hybridization. *Genetics Suppl.*, 110 (3/part 2): 564. (Also poster presentation).
- Choromanski, J. and **S. Stiles.** 1985. Growth and survival of various age classes and strains of oysters (C. virginica) in three test environments. 16th Annual Meeting World Mariculture Society. (Also poster presentation).
- Stiles, S.** and J. Choromanski. 1986. Manipulating Meiosis I in shellfish to produce polyploids and maternal clones. *Gen. Suppl.* 113. (Also poster presentation).
- Stiles, S.** and J. Choromanski. 1988. Chromosome mutagenicity and egg viability, studies in the hard clam (Merccenaria mercenaria). *Gen. Soc. Canada Bull.* Vol. 19, 1: ISSN 0316-4357.
- Stiles, S.** and J. Choromanski. 1991. Genetic strain performance of oysters, site suitability and dissolved oxygen in Long Island Sound. *Environmental Auditor.* 3 (1): 15. (Also poster presentation).
- Stiles, S.** and W. Blogoslawski. 1993. Viability and Genetic effects on oyster embryos exposed to bacteria and effluent from diseased juvenile oysters from a Long Island hatchery. *J. Shellfish Res.* 12(1): 114. (Also poster presentation).
- Stiles, S.** 1993. Genotoxicity of petroleum aromatic and PCB compounds to eggs and embryos of oysters from Long Island Sound. Long Island Sound Research Conference Proceedings. (Also poster presentation).
- Stiles, S.** and J. Choromanski. 1993. Habitat suitability, low dissolved oxygen, and genetic strain performance of oysters in Long Island Sound. Long Island Sound Research Conference Proceedings. (Also poster presentation).
- Stiles, S.** and J. Choromanski. 1994. Prospects for the Genetic Improvement of Shellfish in Long Island Sound. Aquaculture Seminar, Milford, CT. *J. Shellfish Res.* 13(1): 120. (Also poster presentation).
- Stiles, S.** and J. Choromanski 1995. Inbreeding Studies on the Bay Scallop, Argopecten irradians. Aquaculture '95 Meeting. San Diego, California. *J. Shellfish Research* 14(1):278. (Also poster presentation).

- Choromanski, J., and **S. Stiles**. 1995. Observations on Self-Fertilization of the Bay Scallop, *Argopecten irradians*. Aquaculture Seminar. Milford, CT. *J. Shellfish Research* 14(1): 140. (Also oral presentation).
- S. Stiles**, J. Choromanski, D. Schweitzer, and Q. Xue. 1996. Preliminary Investigations of Genetics and Breeding of the Bay Scallop, *Argopecten irradians*. *J. Shellf. Res.* 15 (2): 461. (Also poster presentation).
- J. Choromanski, **S. Stiles**, D. Schweitzer, M. Mroccka, and P. Dinwoodie. 1996. Comparison of Three Long Island Sound Sites for the Grow-out of Bay Scallops, *Argopecten irradians*. *J. Shellf. Res.* 15 (2): 458. (Also poster presentation).
- M. Mroccka, P. Dinwoodie, R. Goldberg, J. Pereira, P. Clark, **S. Stiles**, J. Choromanski, D. Schweitzer, and N. Balcom. 1996. Culture of the Bay Scallop, *Argopecten irradians*, Within a Small-Boat Marina on Long Island Sound (Connecticut). *J. Shellf. Res.* 15 (2): 458. (Also poster presentation).
- M. Mroccka, P. Dinwoodie, P. Casanova, R. Goldberg, J. Pereira, P. Clark, **S. Stiles**, J. Choromanski, D. Schweitzer, and N. Balcom. 1997. Culture of the bay scallop, *Argopecten irradians*, within a small-boat marina on Long Island Sound (Connecticut). *Journal of Shellfish Research* 16:273
- S. Stiles**, J. Choromanski, D. Schweitzer. 1997. Early Responses to Selection for Growth in the Bay Scallop, *Argopecten irradians*, from Long Island Sound. *J. Shellf. Res.* 16 (1): 295. (Also poster presentation).
- Martin, C., **S. Stiles**, J. Choromanski, J.C. Widman, Jr., D. Schweitzer and C. Cooper. 1997. *Sirolpidium zoophthorum*, lethal fungus parasite of bivalve larvae: recent observations in bay scallop cultures. *J. Shellf. Res.* 16 (1): 291.
- Stiles, S.**, J. Choromanski, C. Cooper and Q-Z Xue. 1998. Genetics and breeding investigations of bay scallops (*Argopecten irradians*). 18th International Congress of Genetics Proceedings. Beijing, China 8P218. P. 173 (Also poster presentation).
- Stiles, S.**, J. Choromanski and C. Cooper. 1998. Chromosome Engineering in Shellfish from Long Island Sound. Marine Aquaculture: Emerging Technologies and Global Opportunities Workshop. University of Connecticut at Stamford, June 26-27,1998. (Also poster presentation).
- Stiles, S.**, J. Choromanski and C. Cooper. 1998. Selection studies on growth and survival of bay scallops, (*Argopecten irradians*) from Long Island Sound. *J. Shellfish Res.* 17 (1): 363. (Also poster presentation).
- Wikfors, G.H., J.D. Widman, **S. Stiles**, R.A. Robohm, and A.Calabrese. 1998. New England Bay Scallop as a One-Season Aquaculture Crop. Marine Aquaculture: Emerging Technologies and Global Opportunities Workshop. University of Connecticut at Stamford, June 26-27, 1998.
- Choromanski, J., **S. Stiles**, and C. Cooper. 1998. Observations on overwintering survival of bay scallops from Long Island Sound. *J. Shellfish Res.* 17 (1): 350.
- Choromanski, J., **S. Stiles**, C. Cooper, E. Beden, S. Lonergan and P. Trupp. 1999. Growth and survival of juvenile bay scallops from genetic lines at difference densities and depths: Collaborative study between the NMFS and Bridgeport Aquaculture School. *J. Shellfish Research* 18(1): 263. (Also poster presentation).
- Southworth, J., M. Brown, **S. Stiles** and L. Strasbaugh. 1999. Methodology for the generation of polymorphic molecular tags in the bay scallop, *Argopecten irradians*. *J. Shellfish Res.* 18(1): 278.
- Choromanski, J., **S. Stiles**, C. Cooper, E. Bedan, S. W. Longergan, and P.J. Trupp. 1999. Growth and survival of juvenile bay scallops from genetic lines at different densities and depths: Collaborative study between the National Marine Fisheries Service and the Bridgeport Aquaculture School. *J. Shellfish Res.* 18(1): 263.
- Brown, M.V., **S. Stiles**, and L. Strasbaugh. 2000. Methodology for the generation of molecular tags in *Placopecten magellanicus*(sea scallop)and *Argopecten irradians*(bay scallop).*J.Shellf.Res.* 19 (1): 569. (Also poster presentation).
- Picozza, E., J. Crivello, M. Brown, L. Strasbaugh, and **S.Stiles**. 2000. Status report for the characterization of the *Argopecten irradians* genome. *J. Shellf. Res.* 19 (1): 578. (Also poster presentation).
- Chun, M.L., S. Seri, **S. Stiles** and T.T. Chen.2000. Production of transgenic mollusks and crustaceans. *J. Shellf. Res.* 19 (1):576.
- Stiles, S., J. T. Robinson and J. Choromanski. 2000. Observations on growth and survival of juvenile bay scallops (*Argopecten irradians*) from genetic lines under different density and holding conditions. *J. Shellf. Res.* 19 (1): 582. (Also poster presentation).
- Choromanski, J.and **S. Stiles**.2001. Preliminary investigations of crab predation on bay scallops. *J. Shellf. Res.* 20 (1): 514. (Also poster presentation).
- Choromanski, J., **S. Stiles**, M.Dixon, D.Veilleux and C. Cooper. 2002. Habitat suitability ascertained by growth and survival of bay scallops in tiered cages. *J. Shellf. Res.:* 21 (1): 340. (Also poster presentation).
- Choromanski and **Stiles**, 2003. Evaluation of genetic lines of bay scallops for grow-out, overwintering survival and stock enhancement. Pectinid Workshop Proceedings, Florida. (Also poster presentation).
- Stiles, S.**, J. Choromanski and D. Jeffress. 2003. Genetic strategies for culture and stock enhancement of bivalves. *J.Shellf. Res.*22 (1): 301.
- Stiles, S.**, J. Choromanski and D. Jeffress. 2004. A Review of genetic studies on commercial species of bivalves. *J. Shellf. Res.*
- Choromanski, J. and **S. Stiles**. 2004. Performance trials of genetic lines of bay scallops in the Niantic River. Proceedings - Aquaculture 2004 Conference, Hawaii. P. 111. (Also poster presentation).
- Choromanski, J., **S. Stiles**, D. Jeffress, R. Goldberg, and D. Veilleux. 2004. Tracking lab bred bay scallop growth and survival in the Niantic River. *J. Shellfish Res.* 23 (2): 634. (Also poster presentation).
- Clark, A., **S. Stiles**, D. Jeffress, and J., Choromanski. 2004. Observations of phenotypic plasticity and behavior in a genetic line of bay scallop, *Argopecten irradians irradians*. *J. Shellfish Res.* 3: 634. (Also poster presentation).
- Wadsworth, J.,**S. Stiles**, J. Choromanski, D. Jeffress and T. Rollins. 2005. Net pens as spawning, growth and survival sanctuaries for stock restoration of bay scallops, *Argopecten irradians*. *J. Shellfish Res.* 24 (4): 1273-1274.
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- Walton, W., D. Murphy, R. Goldberg, **S. Stiles**, S. Tettelbach, M. Chintala and K. Tammi. 2005. Bay Scallop Restoration in the Northeast: A Workshop Summary. *J. Shellfish Res.* 24 (2) 681.
- Stiles, S.**, J. Choromanski and D. Jeffress. 2006. A review of bay scallop *Argopecten irradians* genetics and breeding in the United States. *Abstract Proceedings, 9th International Congress on Medical and Applied Malacology*. China.

- Stiles, S.**, J. Choromanski, D. Jeffress, S. Pitchford and D. Williams. 2006b. Evaluation of scallop genetic lines for growth, overwintering survival and phenotypic and genotypic markers. *J. Shellfish Res.* 25 (2): 672-674.
- Stiles, S.**, J. Choromanski, D. Jeffress, S. Pitchford and C. Haggerty. 2006. Genetic Strategies for a Regional Approach to Stock Enhancement and Restoration of Bay Scallops, *Argopecten irradians*, in the Northeast.
- Choromanski, J., **S. Stiles**, and D. Jeffress. 2007. Overwintering Survival and Observations of Laboratory Reared Bay Scallops 2005-2006. *J. Shellfish Res.* 26 (2): 654 (Also poster presentation)
- Haggerty, C., J. Choromanski, and **S. Stiles**. 2006. Advancing Technology in Aquaculture: A Continuous Water Quality Monitor for Scallop Genetic Lines.
- Li, Y., G. Wikfors, S. Meseck, J. Alix, and **S. Stiles**. 2006. Winter-spring phytoplankton dynamics in Milford Harbor, Connecticut – relevance to over-winter survival of Bay Scallops, *Argopecten Irradians* *J. Shellfish Res.* 26:663.
- Choromanski, J., **S. Stiles**, D. Jeffress and D. Williams. 2006. Comparison of growth performance of bay scallops (*Argopecten irradians*) with phenotypes of different shell colors. *J. Shellfish Res.* 25 (2): 659.
- Stiles, S.**, J. Choromanski, D. Jeffress, S. Pitchford and C. Haggerty. 2007. Genetic strategies for a regional approach to stock enhancement and restoration of bay scallops, *Argopecten irradians*, in the Northeastern United States. *J. Shellfish Res.* 26 (2):270.
- Stiles, S.**, J. Choromanski, D. Jeffries, S. Pitchford, and C. Dimon. 2008. Genetic Aspects of Bay Scallops, *Argopecten irradians*, overwintering survival for estoration in the Niantic River. *J. of Shellfish Research.* 27(4):962-963.
- Stiles, S.**, J. Choromanski, D. Jeffries. 2009. Overwintering Survival of Genetic lines of Bay Scallops. Poster presentation. *J. of Shellfish Res.* (Also poster presentation).
- Choromanski, J., **S. Stiles** and D. Jeffress. 2010. Field Trials of genetic lines of bay scallops, *Argopecten irradians*. 30th MAS Conference. *J. of Shellfish. Research.* 29(2):547.
- Stiles, S.**, J. Choromanski and D. Jeffress. 2010. Recent Progress in Selective Breeding of the Bay Scallop, *Argopecten irradians*. 30th MAS Conference. *J. of Shellfish Research.* 29(2):561-562.
- J. Choromanski, **S. Stiles** and D. Jeffress. 2011. Evaluation of Genetic Lines of Bay Scallops: Selection for Growth At An Early Life Stage. 31st MAS Conference. *J. of Shellfish Res.* 30(2), p.445. (Also poster presentation).
- S. Stiles**, J. Choromanski, D. Jeffress and M. Amarante. 2012. Continuing Studies on Selective Breeding and Population Genetics for Enhancement and Restoration of a Bivalve: The Bay Scallop, *Argopecten irradians*. MAS. *J. of Shellfish Research.* 31(1), p227. (Also poster presentation).
- Pitchford, S., B. Smith, **S. Stiles**, C. Brown, R. McBride. 2012. Using Molecular Techniques to Identify Atlantic Cod (*Gadus morhua*) Remains in Spiny Dogfish (*Squalus acanthias*) Stomach Contents. Southern New England Chapter, American Fisheries Society Proceedings Winter Meeting. URI Narragansett, RI. Proceedings.
- Choromanski, J., **S. Stiles** and D. Jeffress. 2012. Comparison of Genetic Lines of Bay Scallops For Survival and Growth in Field Trials. MAS. *J. of Shellfish Research.*
- Amarante, M., **S. Stiles**, J. Choromanski, and D. Jeffress. 2012. Survival of Bay Scallop (*Argopecten irradians*) After Mantle Tissue Sampling for DNA Analysis. MAS. *J. of Shellfish Research.*
- Stiles, S.**, J. Choromanski, and D. Jeffress. 2013. Genetic Applications for Shellfish Restoration. *J. Shellfish Res.* 32(2).
- Choromanski, J., **S. Stiles**, D. Jeffress, and H. Ladeau. 2013. Evaluation of bay scallops from genetic lines of two geographic populations for growth and survival in the Niantic River, Connecticut. *J. Shellfish res.* 32(2).
- Stiles, S.**, J. Choromanski, and D. Jeffress. 2014. Developmental and genetic evaluation of pH effects on selected lines of bay scallops. Milford Aquaculture Seminar. (also poster presentation)
- Choromanski, J., D. Veilleux, D. King, D. Jeffress, and **S. Stiles**. 2014. Growth study of bay scallops in a floating upweller system. Milford Aquaculture Seminar. (Also poster presentation).

Additional Posters

- Stiles, S.** 1978 Conventional and experimental approaches to hybridization and inbreeding research in the oyster. 9th Annual Meeting World Mariculture Society, Atlanta, Georgia
- Stiles, S. S.**, and J. Choromanski. 1982. Crossability and genetic experiments on Long Island Sound and other oyster populations: Implications for transplantation. World Mariculture Society Annual Meeting (Poster) Best poster paper award. Charleston, SC
- Stiles, S.** and J. Choromanski. 1986. Manipulating division of Meiosis I to clone maternal genomes of shellfish. European Inland Fisheries Advisory Commission. Symp. E 37. Bordeaux, France (poster sent)
- Stiles, S. S.** and J. Choromanski. 1988. Chromosome mutagenicity and egg viability studies in the hard clam (*Mercenaria*). 16th International Congress of Genetics, Toronto, Canada.
- Stiles, S.** 1989. Performance of oyster strains and site suitability. Shellfish Seminar.
- Stiles, S.** 1991. Influence of environmental conditions on genotoxicity of petroleum and PCB compounds to oyster eggs and embryos. Shellfish Seminar.
- Stiles, S.** 1992. Genotoxicity of petroleum and PCB compounds to oyster eggs and embryos. Symposium on the Environment. UCONN Storrs, Conn.
- Stiles, S.**, J. Choromanski, 2002, Trends in genetics of bivalve mollusks. Northeast Aquaculture Conference. Rhode Island.
- Stiles S.**, J. Choromanski and D. Jeffress. 2008. Genetic Technology for the Manipulation of Cells and Chromosomes in Bivalve Mollusks. Poster presentation For Stem Cell Research Symposium in Connecticut –September, Farmington, CT
- Stiles, S.**, J. Choromanski and D. Jeffress. 2008. An Overview of Bivalve Genetics. For National Shellfisheries Association abstract and poster presentation. April, Providence, R. I Meeting.
- Stiles, S.**, J. Choromanski, D. Jeffress. 2009. Overwintering Survival of Genetic Lines of Bay Scallops. MAS Conf. *J. of Shellfish Research.*

Non-Peer Reviewed/Reports

- Stiles, S.** Oyster Genetics: Conventional and experimental breeding research. 1979. Karyogram, 5(2): 11, 16.
- Stiles, S.** Experimental Inbreeding and Hybridization in the Commercial American oyster. 1979. ICES. Mariculture Committee. 10 pp.
- Stiles, S.** Summary of experimental inbreeding and hybridization research on commercial oysters. 1980. Summary report submitted to Genetics Study Group of Mariculture Committee, International Council for the Exploration of the Sea (ICES). Svanoy, Norway. 5 pp.
- Stiles, S.** 1991. Recent progress on directed breeding experiments with Long Island Sound oysters. 1981. Paper for Mariculture Committee, ICES, 1981 Statutory Meeting, Woods Hole, Mass., U.S.A. C.M. 1981/F:33 Mariculture Committee. 14 pp
- Stiles, S., J. Choromanski, and A. Longwell.** 1983. Cytological appraisal of prospects for successful gynogenesis and androgenesis in the oyster. 1983. Paper for Mariculture Committee, ICES, Statutory Meeting, in the oyster. Paper for Mariculture Committee, ICES, Statutory Meeting, Copenhagen, Denmark, C.M.1983/F:10 Mariculture Committee, Ref. Shellfish Cttee. 14 pp
- Longwell, A. Crosby, S. Dudley, S. L. Halvonik and **S. Stiles.** 1983. Results of a bi-directional growth selection experiment on the American oyster presently in its third selected generation. 1983. Paper for Mariculture Committee, ICES Statutory Meeting, Copenhagen, Denmark, C.M.1983/F:9, 12 pp.
- Peterson A., A. Calabrese, A. Longwell and **S. Stiles.** 1990. Final Report on Reproductive Success of Hard Clams in Long Island Sound. EPA Contract. 61 pp.
- Xue, Qin-Zhao, **S. Stiles,** and J. Choromanski, 1995. A report on joint US-China population genetics research, "A Population Genetics Study of the Bay Scallop, Argopecten irradians. 10 pp.
- Calabrese, A., J. Choromanski, R. Robohm, **S. Stiles,** J. Widman, and G. Wikfors. 1997. Bay Scallop Aquaculture and Development in Connecticut; Technology Development and Demonstration. Progress Report for Marine Sciences and Technology Center, UCONN, 13 pp.
- NEFSC Stock Identification Working Group Report. 1998. Stock Identification Research Directions for the Northeast Fisheries Science Center. (G. Bolz, C. Chambers, K. Friedland Chair), J. Hughes, K. Lang, T. Munroe, L. Natanson, **S. Stiles,** G. Waring, J. Weinberg, V. Zdanowicz.
- Stiles, S.** US National Genetics Activity Report for the ICES Working Group on the Application of Genetics to Fisheries Management and Mariculture, April 12-15, 1999. Reykjavik, Iceland.
- Stiles, S.** and J. Choromanski. 2003. Trends in genetics of bivalve mollusks: A Review. ICES Conference, Genetics Theme Session. Mariculture Committee. 28 pp.
- Wikors, G. H., J.C. Widman, Jr., B.C. Smith, D. Veilleux, J. Choromanski, S. Meseck, R. Goldberg, **S. Stiles.** 2004. NEFSC Develops RAS system for Domesticated Bivalves. Global Aquaculture Advocate. 7: 53-54.

INVITED TALKS (S. Stiles)

- Aquacultural Genetics of Bay Scallops, Jackson State University, 1994
- Genetics, Biotechnology and Marine Science, Jackson State University, 1995
- Aquatic Toxicology, Jackson State University, 1995
- Genetic Applications to Marine Science, Jackson State University, 1996
- Investigations on Aquacultural Genetics of Bay Scallops, Qingdao, China 1998
- Aquacultural Genetics, Qingdao, China, 2006
- Aquaculture Genetics and the Domestication of Commercial Bivalves. University of Bridgeport. Marine Biology Symposium Series. 2008

SELECTED ORAL PRESENTATIONS (S. Stiles)

- Genetic abnormalities in eggs from mass spawnings of Crassostrea virginica Gmelin, the American oyster, from commercial beds. American Fisheries Society, New England Division Meeting, New Haven, Connecticut. 1975.
- Experimental inbreeding in the American oyster, Crassostrea virginica. American Fisheries Society, Southern New England Chapter, Kingston, Rhode Island. 1978.
- Approaches to inbreeding in the commercial American oyster, Crassostrea virginica. Genetics Society of Canada, University of Dalhousie, Halifax, Nova Scotia. 1978.
- Recent progress on directed breeding experiments with Long Island Sound oysters. Mariculture Committee, ICES, Statutory Meeting, Woods Hole, Massachusetts. 1981.
- Use of a cytogenetic technique as a tool for assessing the condition of oyster larvae. Proc. Natl. Shellfish. Assoc. Baltimore, MD. 1982.
- Rapid cytological examination of bivalve larvae of commercial marine mollusks: potential for genetic toxicology and aquatic bioassays. 53rd Annual Meeting Genetics Society of America, Vancouver, B.C., Canada. 1984.
- Hard clam reproductive success. EPA Review Workshop, University of Bridgeport, CT. 1987.
- Hard clam reproductive success: Genetic and viability studies. 8th Annual Shellfish Biology Seminar. Milford, CT. 1988.
- Cytogenetic and Viability Effects of PCB and Petroleum Aromatic Hydrocarbon Compounds on Early Development of Oysters, National Technical Association Meeting, July, Washington, DC. 1994.
- Preliminary Investigation of Genetics of Bay Scallops, Aquaculture Seminar 1996.
- Gloucester Fishermen's Forum Panel Presenter, Aquaculture Genetics of Bay Scallops, Gloucester, MA, September, 1996.
- Trends in Genetics of Bivalve Mollusks: A Review, ICES Conference 2003, Denmark
- Genetic strategies for culturing and stock enhancement of bivalve mollusks. Milford Aquaculture Seminar, 2003.
- A Review of Genetic Studies on Bivalve Mollusks, Milford Aquaculture Seminar, 2004.
- Walton, W., D. Murphy, R. Goldberg, **S. Stiles,** S. Tettelbach, M. Chintala and K. Tammi. 2005. Bay Scallop Restoration in the Northeast: A Workshop Summary.

- An Overview of Genetic Studies on Commercial Species of Bivalves. UJNR Aquaculture Panel, 36th Scientific Symposium. Aquaculture Technologies for Invertebrates. 2007
- Aquaculture Genetics and the Domestication Potential of Bivalve Mollusks. Oral presentation and abstract for The National Technical Association (NTA) annual meeting. June. Fullerton, California. 2008
- DNA-Based Research With Bay Scallops: A Collaboration Between NOAA and Yale University With An Outreach Component NTA oral presentation. 2009
- Recent Progress in Selective Breeding of the Bay Scallop, *Argopecten irradians*. NTA (Session Chair and Organizer)
- An Update on Selective Breeding of the Bay Scallop, *Argopecten irradians*. NTA Conference 2010. (Session Chair)
- Continuing Studies on Selective Breeding and Population. 2011. NTA Conference. (Session Chair and Organizer)
- Genetics in a Bivalve: the Bay Scallop, *Argopecten irradians*, NTA Conference.
- Studies on mitochondrial DNA, phenotypic and morphological markers for bay scallop identification and diversity in enhancement and restoration efforts. NTA Conference. 2010 (Session Chair and Organizer)
- Studies on Breeding and Molecular Genetics. 2012. NTA Conference.
- Introductory remarks on climate change. 2013. NTA conference. (Session Chair and Organizer).

PROFESSIONAL ACTIVITIES

Service

- Served as co-facilitator of a Stakeholders Meeting on Aquaculture in the EEZ. Massachusetts
- NEFSC Stock ID Committee, 1997
- NEFSC Factor IV Committee ~ 5 years
- NEFC CSSP (Committee on Scientific Standing and Publications), 1998 – 2001
- Special Assistant to Center Directorate NEFC: January - May 1987. Arranged and coordinated meetings; attended and participated in Staff and Technical meetings; Commented on aspects of policies that affected NEFC research operations and personnel matters. Worked on MOA/MOU with UMASS as a foundation for the CMER Program.
- Chaired the poster session for the NOAA/JSU Conference, 2001, (Received an award) and for the NOAA/UMES Conference, 1999 - organized and coordinated the poster session
- Was local contact person for NEFC Research Meeting; Chairperson for a session at the meeting, 1988
- Administered Summer HUROC (Howard University-Rockefeller Foundation) Program (including budget) at the laboratory for 2 student trainees, 1987, 1988 and 1989
- Was rapporteur for NEFSC Division Workshop on Fish Genetics/Stock ID, Sept. 9-10, 1987, Milford
- Technical Monitor for S-K projects such as DNA/molecular tagging of fish and polyploidy.
- Panelist-reviewed proposals on oyster disease research in 1994 and 1995 and for University of New Hampshire Sea Grant in 2002.
- Reviewer of ~ 100 proposals, journal articles over the years, including several Sea Grant, S-K and FIG proposals.
- Research Council, 1986 - 1987 Member of first group to serve on the Northeast NEFSC Research Council. Represented laboratory-attended meetings, and reviewed and evaluated proposals and documents that dealt with NEFC research. Made presentation on the research activities of the branch, including a large historical database on shellfish and environmental studies in LIS which stimulated interest in an updated re-analysis concerning shellfish recruitment
- Reviewed a publication upon request by a researcher in China, 1984 - "The Genetics and Breeding of Oysters" by Wu Rong, Journal of Fisheries of China, which included a table from our Hybridization and Inbreeding Paper

Mentor/Advisor/Outreach

- Served as a mentor in the New England Board of Higher Education (NEBHE)-MIT science and engineering mentoring program; was moderator for a panel discussion on entering and staying in college.
- Served as President, Yale Peabody Museum of Natural History Associates Board
- Mentored/advised/provided training and projects for several students over the years.
- Provided training for about 15-20 scientists; in addition to international activities such as collaboration with a visiting scientist and the ICES (International Council for the Exploration of the Sea) Genetics Working Group, assisted with hosting visiting scientists from Japan, Portugal, China.
- Served as Chairperson of the Advisory Board for the Hi-Tech Learning Center (New Haven - 1990-1991).
- Served as Vice-President on the Sound (Aquaculture) High School Advisory Board, New Haven, CT
- Served on Agriculture School Advisory Board, Bloomfield, CT
- Conducted a genetics workshop twice for high school and junior high school students in the Agency's NOAA National Marine Fisheries Service Saturday Academy Program, Washington, D.C.
- Conducted workshops for female high school and college students at Norwalk Community and Technical College and Gateway Community Technical College.
- Panelist at a Science Career Program for students at Fairfield University.
- Received community service and leadership awards.