

CURRICULUM VITAE
Dr. Steven A. Murawski
University of South Florida College of Marine Science
140 Seventh Avenue South, MSL 118
St. Petersburg, Florida, 33701, USA
Tel: 727-553-3367
smurawski@usf.edu

EDUCATION

University of Massachusetts at Amherst Fisheries Biology B.S. 1973
Course work in zoology, physical sciences, mathematics and statistics, fisheries.

University of Massachusetts at Amherst Fisheries Biology M.S. 1976
Course work in fisheries science, applied statistics, and oceanography.
Thesis title: Population dynamics of anadromous rainbow smelt, *Osmerus mordax* in the Parker River, Massachusetts

University of Massachusetts at Amherst Fisheries and Wildlife Biology Ph.D. 1984
Course work in applied statistics, systems ecology and fisheries science.
Dissertation title: Simulating optimal harvest strategies for fixed-species trawl fisheries off the Northeast coast of the United States.

ADDITIONAL SPECIFIC TRAINING

Leadership, Supervision, Safety:

NOAA course Supervision and Group Performance, 1980.
Workshop on Managing in a Multi-Racial Workplace, 1986
NOAA course EEO Training for Supervisors, 1986
NOAA course Supervisory Training for Managers. 1988.
Office of Personnel Management Course, Management Development Seminar, Denver, CO, 1993
Office of Personnel Management Course, Managing Scientists and Engineers, 1993, Woods Hole, MA.
Office of Personnel Management Course, Conflict Resolution. 1995, Woods Hole, MA.
Expert witness training. 1994, Woods Hole, MA
Safety Training for Supervisors, 2003
Laboratory safety training, University of South Florida 2012-2021
IACUC Training, 2015, University of South Florida

Technical Training:

FORTRAN IV Computer Programming Brookdale College, NJ, 1976.
Calculus and Linear Algebra. Bridgewater State College, MA, 1978, 1979.
Time-Series Analysis. University of Massachusetts, 1987
Desktop Publishing, Boston University, 1987
Linear models for unbalanced data. Snydale Searle, Woods Hole, MA, 1991
Randomization methods in statistical analysis by Bryan Manly, Woods Hole, MA, 1998
Visual display of quantitative information by Edward Tufte, 2000, Boston, MA.

PROFESSIONAL EMPLOYMENT

January 2011-present

University of South Florida, College of Marine Science, St. Petersburg, Florida
Supervisor: Dr. Jacqueline Dixon, College of Marine Science

Position Title: Professor and Downtown Partnership Peter Betzer Endowed Chair of Biological Oceanography

Description of Duties: As Professor, my duties are to develop and conduct an active program of research, collaboration, and professional development commensurate with the goals of the University. I am actively engaged in program development for integrated sciences across campuses of the University. I am developing interdisciplinary programs and research investigating how activities such as recovery of the Gulf of Mexico marine ecosystem can be structured to achieve long term positive outcomes. My research in fisheries science includes developing new technological approaches to assessment of resource status (reef fishes), employing a towed camera system (C-BASS or camera based assessment system), using novel techniques for understanding fishermen's behavior choice, and investigating the short- and long-term effects of the Deepwater Horizon oil spill on marine animal populations. I undertook the first comprehensive survey of fish diseases of the Gulf of Mexico, and continue to analyze the impacts of Deepwater Horizon on Gulf fish population dynamics. I served as the Director and Principal Investigator of the Center for Integrated Modeling and Analysis of Gulf Ecosystems (C-IMAGE), funded through a total of \$36 million grants by the Gulf Research Initiative (GRI). I am the Director and PI for the Center for Ocean Mapping and Innovative Technologies (COMIT), a cooperative agreement between the NOAA Office of Coastal Survey and the University of South Florida. I also served on the National Academies' Ocean Studies Board (two terms), and as the chair of its Fisheries Sub-Committee, and have participated in three OSB-Sponsored panels (Use of Chemical Dispersants in Oil Spills, LAPP Programs, and Decadal Survey of Oceanography).

June 2005-January 2011

Employer: National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, Maryland, 20910-3282
Supervisor: Dr. William Hogarth, Assistant Administrator for Fisheries, NOAA

Position Title: Director of Scientific Programs and Chief Science Advisor

Informal Title: Chief Scientist

Grade: Federal Senior Executive Service

Description of Duties: As Chief Scientist for the U.S. National Marine Fisheries Service, I was responsible for the development and implementation of national science programs for the agency. This included the policies and priorities for the use of science supporting the federal Magnuson Stevens Fishery Conservation and Management Reauthorization Act, the Endangered Species Act, the Marine Mammal Protection Act, and many other statutes requiring ecological science input for implementation of federal programs. Total of \$324 million in federal funding.

of \$450 million, organized into 25 laboratories within six regional Centers (Northeast to the western Pacific Islands). Our science capabilities utilized 11 ocean-going research vessels as well as numerous other infrastructure assets and technologies. I developed and implemented detailed budgets for science, participated in agency national management and science policy development, and provided critical and often controversial testimony and briefings to Congress, the federal court system, the US Regional Fishery Management Councils, states and other decision-making bodies. I was heavily involved in international environmental issues with respect to bilateral and multinational treaty obligations of the USA, the United Nations and its various organizations, and the International Convention for the Exploration of the Seas, of which I was US Commissioner and vice-President. I was one of NOAA's chief advocates for implementing the ecosystem approaches to management activities and for understanding the impacts of climate change on living marine resources and their management. I funded numerous studies by the National Academy of Sciences, including three evaluations by the Ocean Studies Board on impacts of ocean acidification, sea level assessment methods and infrastructure requirements to meet the national ocean science needs for the next decade.

June 1997 – March 2004

Employer: National Marine Fisheries Service, Northeast Fisheries Science Center, Resource

regional Stock Assessment Review Committee/Stock Assessment Workshops. Most work was presented at regional Stock Assessment Review Committees/Stock Assessment Workshops, which were assessment reviews jointly conducted by NMFS-NEFSC/NERO/ASMFC/States. Presentations are routinely made before various management bodies, including Regional Councils, ASMFC and various international research/management authorities.

I served as editor of the annual NEFSC publication 'Status of the Fishery Resources off the Northeastern United States', and supervised production of regional summaries for the NMFS national document 'Our Living Oceans'. Additional Branch research responsibilities included supporting a number of bilateral and multi-national fishery agreements including NASCO (North

Council, and as USA representative to the ICES (International Council for the Exploration of the Sea) Working Groups on Methods of Fish Stock Assessment, and Multispecies Fisheries (chairman of Multispecies Committee 1988-1993). Served as USA ICES Shellfish Committee member. Appointed member of the Northeast Fisheries Center Research Council. Research topics included specific directed studies on important fisheries as well as generic investigations to develop new methodologies for stock assessment, as incorporation of discards into assessment calculations, and aspects of management of multispecies fisheries. Interacted directly with Regional Fishery Management Councils and Staffs, NMFS Northeast Regional Director and staff, NMFS Directorate, and representatives of various other governmental agencies (e.g., U.S. Dept. of State, U.S. Department of the Interior), universities, state marine fisheries agencies and the fishing industry.

June 1985 - March 1986

Employer: National Marine Fisheries Service, Resource Assessment Division, Northeast Fisheries Center, Woods Hole, Massachusetts 02543

Supervisor: Dr. Emory D. Anderson

tributaries during spawning and throughout the year. Data developed during the study were used by the State Marine Fisheries Agency to develop rational management policy.

September 1972 - January 1973

Employer: Zoology Department, University of Massachusetts, Amherst

Position Title: Laboratory Assistant

Description of Duties: Maintained museum collections of fishes for ichthyology and vertebrate zoology classes. Set up laboratory demonstrations and serviced field collecting equipment.

SPECIAL ASSIGNMENTS AND ACTIVITIES

Research vessel surveys and fishing Vessel Observations

R/V WIECZNO. September 1974. Juvenile herring and mackerel survey, Georges Bank, aboard Polish national research vessel

F/V VALERIE E. August 1976. Clam survey during summer anoxia conditions, coast of New Jersey

R/V. ALBATROSS IV. September-October 1976. Tann groundfish survey, Cape Cod, MA - Cape Hatteras, VA.

R/V DELAWARE II. April 1977. Shellfish resource assessment cruise, Cape Cod, MA - Cape Charles, VA.

R/V DELAWARE II. July 1977. Clam dredging w/dive team off Long Island, NY.

R/V DELAWARE II. January-February 1978. Shellfish resource assessment cruise. Clam dredge survey Cape Cod, MA - Cape Hatteras, NC.

F/V DIANE MARIA. July-August 1978. Ocean quahog marking project off Long Island, NY.

R/V DELAWARE II. December 1978. Shellfish resource assessment cruise. CHIEF SCIENTIST. Clam dredge survey from Montauk Pt., NY, to Cape Charles, VA.

R/V DELAWARE II. April 1979. Groundfish survey cruise. WATCH CHIEF. Southern New England - Gulf of Maine.

F/V KRISTY LEE. June 1979. Sea sampling trip from Ocean City, MD.

F/V BRANDYWINE. June 1979. Sea sampling trip from Chincoteague, VA.

F/V NORMAN D. June 1979. Sea sampling trip from Ocean City, MD.

R/V DELAWARE II. August 1979. Recovery of mud and ocean quahogs and gear testing. Long Island, NY.

R/V DELAWARE II. January 1980. Ocean clam survey by WATCH CHIEF. Cape Cod to Cape Hatteras, NC.

NOAA Representative to the Presidential Ocean Policy Task Force (2009), working group member on implementation options for ocean policy recommendations, co-authored the National Ocean Policy <http://www.whitehouse.gov/administration/eop/ceq/initiatives/oceans/interim-framework>

Co-Chair of the White House's National Science and Technology Council (NSTC), Joint Subcommittee on Ocean Science and Technology (JSOST); Served as one of the Principal Authors of the Ocean Research Priorities Plan and Implementation Strategy (ORPP/IS): http://ocean.ceq.gov/about/sup_jsost_prioritiesplan.html

Served as NOAA's Representative to the National Science and Technology Council's Subcommittee on Ecological Systems. This Subcommittee coordinates research on sustainability and ecological

RECENT KEYNOTE/PLENARY LECTURES

If I were Posiedon: Right Sizing an Ocean Observing System for the Gulf of Mexico. Plenary Panel, Gulf of Mexico Oil Spill and Ecosystem Science Conference.

<http://gulfofmexicoconference.org/program/plenary-panelists/>

Current State of the Gulf of Mexico. Public Forum Gulf of Mexico. Gulf of Mexico Oil Spill and Ecosystem Science Conference.

<http://gulfofmexicoconference.org/2012/public-forum-a-broader-understanding-of-the-current-status-of-the-gulf-of-mexico/>

Overview of oil and dispersant impacts and mitigation on living marine resources. DEEPWATER HORIZON OIL SPILL PRINCIPAL INVESTIGATOR WORKSHOP OCTOBER 26, 2011

Fisheries, December, 2004

NOAA BRONZE Medal 2007, for "providing the vision and scientific and organizational leadership across NOAA to respond to devastating effects of hurricanes Katrina and Rita"

Gulf of Mexico Research Initiative, C-IMAGE: for “Center for Integrated Modeling and Analysis of Gulf Ecosystems” \$20,010,000

National Fish and Wildlife Foundation: for “Restoring Fish and Sea Turtle Habitat on the West Florida Continental Shelf: Benthic Habitat Mapping, Characterization and Assessment, \$4,477,863

National Academy of Sciences: For “Understanding Oil Spill Impacts on Fishing Communities of the Gulf of Mexico: From Deepwater Horizon to Future Spill Scenarios” \$1,000,000.

Gulf of Mexico Research Initiative, C-IMAGE: for “Center for Integrated Modeling and Analysis of Gulf Ecosystems” \$5,141,000

Tampa Bay Estuary Program, for “Do PFAS Compounds Represent a Threat to Tampa bay Ecosystems”, \$147,000

NOAA National Ocean Service (NOS) for “Collaborative Habitat Mapping Big Bend Demonstration Project \$274,000

NOAA National Ocean Service, Office of Coastal Survey for “Center for Ocean Mapping and Integrative Technologies (COMIT) \$8,970,000 (5 years)

Total Grants and Contracts for USF-Related Science: \$52.5 million

PROFESSIONAL REFERENCES

Dr. William Hogarth
Former Assistant Administrator for Fisheries (NOAA), &
Former Interim dean, USF College of Marine Science, &
Former Director, Florida Institute of Oceanography
bill.hogarth@hotmail.com

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Project

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- [6] Murawski, S.A. and G.T. Waring. 1977. An assessment of the butterfish, *Trachurus triacanthus* (Peck) off the northwestern Atlantic coast. Nat. Mar. Fish. Serv. Woods Hole Lab. Ref. 77-29:33 pp.
- [7] Murawski, S.A. and C.F. Cole. 1978. Population dynamics of anadromous rainbow smelt, *Osmerus mordax*

- quahog, *Arctica islandica*, resource of the Middle Atlantic Bight: 1979 Woods Hole Laboratory Reference 79-44. 11 pp.
- [24] Murawski, S.A. and F.M. Serchuk. 1980. Clams and scallops off the Northeast Coast. *Water Naturalist* 12(4):25-33.
- [25] Murawski, S.A., G.R. Clayton, R.J. Reed and C.F. Cole. 1980. Movement patterns of spawning anadromous rainbow smelt, *Osmerus mordax*, in a Massachusetts estuary. *Estuaries* 3(4): 308-314.
- [26] Ropes, J.W. and S.A. Murawski. 1980. Size and age at sexual maturity of ocean quahog (*Arctica islandica*) from a deep oceanic site. *ICES C.M.* 1980/ K:26. 11 pp.
- [27] Murawski, S.A., J.W. Ropes and F.M. Serchuk. 1980. Growth studies of the ocean quahog (*Arctica islandica*). *ICES C.M.* 1980/K:38. 28 pp.
- [28] Serchuk, F.M. and S.A. Murawski. 1980. Evaluation and status of ocean quahog (*Arctica islandica*) populations off the Middle Atlantic coast of the United States. *Nat. Mar. Fish. Serv. Woods Hole Lab. Ref.* 80-32. 8 pp.
- [29] Serchuk, F.M. and S.A. Murawski. 1980. Assessment and status of surf clam (*Spisula solidissima*) populations in offshore Middle Atlantic waters. *Nat. Mar. Fish. Serv. Woods Hole Lab Ref.* 80-33. 46 pp.
- [30] Murawski, S.A., A.M. Lange, R.K. Mayo, M.P. Sissenwine and B.E. Brown. 1981. Species similarity of otter trawl catches off the Northeast coast of the United States. *Nat. Mar. Fish. Serv. Woods Hole Lab. Ref.* 81-16. 32 pp.
- [31] Lange, A.M.T., S.A. Murawski, M.P. Sissenwine, R.K. Mayo and B.E. Brown. 1981. Fishery trends off the Northeastern coast of the United States, 1964-1980. *Nat. Mar. Fish. Serv. Woods Hole Lab. Ref.* 81-17. 61 pp.
- [32] Mayo, R.K., A.M.T. Lange, S.A. Murawski, M.P. Sissenwine and B.E. Brown. 1981. Estimation of discards in mixed trawl fisheries off the Northeast coast of the United States, based on bottom trawl survey catches. *Nat. Mar. Fish. Serv. Woods Hole Lab. Ref.* 81-18. 24 pp.
- [33] Murawski, S.A. and F.M. Serchuk. 1981. Assessment and current status of offshore surf clam populations off the Middle Atlantic coast of the United States. *Nat. Mar. Fish. Serv. Woods Hole Lab. Ref.* 81-33. 50 pp.
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- [35] Murawski, S.A., A.M. Lange, M.P. Sissenwine and R.K. Mayo. 1981. Definition and analysis of multi-species otter trawl fisheries off the Northeast coast of the United States. *ICES C.M.* 1981/G:62. 32 pp.
- [36] Murawski, S.A. and F.M. Serchuk. 1982. Assessment and current status of offshore surf clam populations off the Middle Atlantic coast of the United States - Autumn 1982. *Nat. Mar. Fish. Serv. Woods Hole Lab. Ref.* 82-43. 59 pp.
- [37] Murawski, S.A. 1982. Deterministic yield per recruit simulations of mixed-species fisheries. *ICES C.M.* 1982/G:35. 46 pp.
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- Menidia menidia* Fishery Bulletin (U.S.) 80(1):145-150.
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- [43] Anderson, E.D.S.A. Murawski, and M.P. Sissenwine. 1982. Size profile of fishery resources and U.S. fishing effort between Block Island (Southern New England) and LaHave Bank (Nova Scotia). Nat. Mar. Fish. Serv. Woods Hole Lab.(DISTRIBUTION RESTRICTED). 65 pp.
- [44] Murawski, S.A. and F.M. Serchuk. 1983. An assessment of the surf clam resource in FCZ waters off southern New England - Spring 1983. Nat. Mar. Fish. Serv. Woods Hole Lab. Ref. 83-20: 21 pp.
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- [47] Murawski, S.A., M.P. Sissenwine and J.E. Kirkley. 1983. Optimal effort allocation among competing mixed-species fisheries, subject to fishing mortality constraints. ICES C.M. 1983/D:12. 22 pp.
- [48] Murawski, S.A., A.M. Lange, M.P. Sissenwine, and R.K. Woelke. 1983. Definition and analysis of multispecies otter trawl fisheries off the Northeast coast of the United States. Cons. int. Explor. Mer. 41(1): 13-27.
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- [50] Murawski, S.A. 1983. Calculation of U.S. and Canadian access to fish and shellfish stocks on Georges Bank. Nat. Mar. Fish. Serv. Woods Hole Lab.(DISTRIBUTION RESTRICTED). 20 pp.
- [51] Murawski, S.A. (editor). 1983. Review of Canadian Counter-Memorial paragraphs 200-226, Figures 20-24. by Resource Assessment Division Staff. Nat. Mar. Fish. Serv. Woods Hole Lab. (DISTRIBUTION RESTRICTED). 104 pp.
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- [54] Ropes, J.W., D.S. Jones, S.A. Murawski, F.M. Serchuk and A. Jearld, Jr. 1984. Documentation of annual growth lines in ocean quahogs. Fishery Bulletin (U.S.) 82(1): 1-19.
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- [81] Population Dynamics Branch. 1987. Status of demersal species demersal finfish resources in New England and scientific basis for management. Nat. Mar. Fish. Serv. Woods Hole Lab. Ref 87-08. 105 pp.
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- [83] Murawski, S.A. 1987. A probabilistic approach to the definition of maximum sustainable yield in the Atlantic surf clam fishery. Working Paper 8, 5th Stock Assessment Workshop NEFC, November, 1987. 20 pp.
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<http://dx.doi.org/10.1890/00028487.2014.911205>
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http://www.neafc.org/system/files/Final_Report_2014_NEAFC_Review.pdf
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- [194] Paris, C.B., A.C. Vaz, I. Berenshtein, N. Perlin, R. Faillettaz, Z.M. Aman, and S.A. Murawski. 2019. Simulating deep oil spills beyond the Gulf of Mexico pp. 315-336. Murawski, S.A., D. Hollander, C. Ainsworth, S. Gilbert, C.B. Paris, M. Schlüter, and D. Wetzel (eds.) Scenarios and Responses to Future Deep Oil Spills - Fighting the Next War Springer.
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- estuaries. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* 4:97–111, 2019
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