

CURRICULUM VITAE

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1966 -- B.S., Brooklyn College, City University of New York. Biology.

1972 -- Ph.D., University of North Carolina at Chapel Hill Botany.

I. Education

II. Professional Background

1971-1972, Faculty Research Associate, Department of Experimental Statistics, North Carolina State University, Raleigh, North Carolina.

1972-1977, Assistant Professor, Botany Dept., University of Maryland, College Park

1977-1988 Assistant Professor and Associate Professor, Horn Pt Lab / UMCES.

1988-present, Professor, Horn Point Laboratory / UMCES

III. Research

A. Areas of professional expertise

Coastal zone resources and water quality management issues.

Ecology of marsh and sea grass systems.

Effects of sea-level rise on wetlands and coastal shorelines.

Environmental History of Chesapeake Bay and its Watershed.

B. Publications (Papers in Refereed Journals, Book Chapters and Books):

- 1) Withner, C. and J. C. Stevenson. 1968. The *Oncidium tetrapetalum-pulchellum* syngameon in Jamaica. American Orchid Soc. Bull. 37:21-32.

- 2) Stevenson, J.C. with W. Scheeren. 1970. A Preliminary Checklist of the Orchids in the Luquillo Mts. of Puerto Rico. p. 282-288. In A Tropical Rain Forest, Book 3, Edited by H.T. Odum. U.S. Atomic Energy Commission. Oak Ridge, Tenn.
- 3) Stevenson, J.C. 1972. Evolutionary strategies and ecology of *Goodyera* and *Spiranthes* species (Orchidaceae). Ph.D. Dissertation, Univ. of North Carolina at Chapel Hill.
- 4) Stevenson, J.C. with M.M. Goodman. 1972. Ecology of Exotic Races of Maize 1. Leaf number and tillering of 16 races under four temperatures and two photoperiods. *Crop Science* 12:864-868.
- 5) Stevenson, J.C., D. Heinle, D. Flemer, R. Small, R. Rowland and J. Ustach. 1977. Nutrient exchanges between brackish water marshes and the estuary. p. 219-240, In M. Wiley (ed.) *Estuarine Processes Vol. II*, Academic Press, New York. 690).
- 6) Stevenson, J.C. and K. Lomax. 1977. Non point pollution source studies on the Chesapeake Bay and the Eastern Shore Watersheds at Horn Point. Chesapeake Research Consortium Special Publication #58. 190 p.
- 7) Stevenson, J.C. and N. Confer. 1978. Summary of Available Information on Chesapeake Bay Submerged Vegetation. U.S. Dept. Interior, Fish and Wildlife Service, Biological Services Program (FWS/OBS-78/66) NTIS, 335 p.
- 8) Boynton, W.R., W.M. Kemp, and J.C. Stevenson. 1979. A research design for understanding and managing complex environmental resource systems. In F. McCormick and R. Johnson (eds.) *Strategies for the Protection of Wetlands and Other Riparian Ecosystems*. U.S. Dept. Interior, Publ. Washington, D.C.
- 9) Lipschultz, F., J.J. Cunningham and J.C. Stevenson. 1979. Nitrogen fixation associated with four species of submerged angiosperms in the central Chesapeake Bay. *Estuarine and Coastal Marine Science* 9:813-818.
- 10) Stevenson, J.C., N. Confer and C. Pieper. 1979. The Decline of Submerged Aquatic Vegetation in the Chesapeake Bay: U.S. Fish and Wildlife Service Biological Services Program (FWS/OBX-79/24) 12 p plus illust.
- 11) Athanas, L.C., J.C. Stevenson and F. Monteferrante. 1980. Biomass, Production and Transpiration Responses of the Forest Community to Wastewater Irrigation. p. 49-83. In J.E. Ayers, L.C. Athanas (eds.) *Spray Irrigation of Domestic Sewage Effluent on Atlantic Coastal Plain Soils and Vegetation: The St. Charles City Wastewater Irrigation Project*. University of Maryland College Park, MD.

- 12) Kemp, W.M., M. Lewis, J.J. Cunningham, J.C. Stevenson and W.R. Boynton. 1980. Microcosms, macrophytes and hierarchies: environmental research in Chesapeake Bay, pp. 911-936. In J. Giesy (ed.) Microcosm Research in Ecology. U.S. Dept. Energy CONF-781101, National Technical Information Service, Springfield, VA.
- 13) Athanas, L.C., J.H. Axley, J.E. Ayars, F. Monteferrante and J.C. Stevenson. 1981. Spray irrigation of domestic sewage effluent on Atlantic Coastal Plain soils and vegetation: The St. Charles City Wastewater irrigation project. Maryland Agricultural Experiment Station, Miscel. Public no. 964. College Park. 73 p.
- 14) Boynton, W.R., W.M. Kemp, A. Herman, J. Kahn, T. Schueler, S. Bollinger, S. Longergan, J.C. Stevenson et al. 1981. An analysis of energetic and economic values associated with the decline of submerged macrophytic communities in Chesapeake Bay, pp. 441-454. In W.J. Mitsch, R.W. Bosserman, J.M. Klopatic (eds.). Energy and Ecological Modeling. Elsevier, Amsterdam.
- 15) Lomax, K.M., J.C. Stevenson, M.S. Christy and J.R. Todd. 1981. Nonpoint pollution data collection problems on low flat coastal plain topography, pp. 46-52. In K.C. Flynn (ed.) Nonpoint pollution control. Interstate Commission on the Potomac River Basin. Rockville, MD.
- 16) Jones, T.W., W.M. Kemp, J.C. Stevenson and J.C. Means. 1982. Degradation of atrazine in estuarine water/sediment systems and selected soils. *Journal Environmental Quality* 11:109-115.
- 17) Kemp, W.M., J.C. Means, T.W. Jones and J.C. Stevenson. 1982. Herbicides in Chesapeake Bay and the effects on submerged aquatic vegetation, pp. 503- 567. In Chesapeake Bay Program Technical Studies: A Synthesis, U.S. EPA, Washington, D.C.
- 18) Kemp, W.M., R.L. Wetzel, W.R. Boynton, D. D'Elia and J.C. Stevenson. 1982. Nitrogen cycling at estuarine interfaces, pp. 209-220. In V.S. Kennedy (ed.) Estuarine Comparisons. Academic Press, NY.
- 19) Lewis, M.R., W.M. Kemp, J.J. Cunningham, and J.C. Stevenson. 1982. A rapid technique for preparation of aquatic macrophyte samples for measuring ¹⁴C incorporation. *Aquatic Botany* 13:203-207.
- 20) Lomax, K.M. and J.C. Stevenson. 1982. Diffuse source loadings from flat coastal plain watersheds: water, movement and nutrient budgets. Tidewater Administration, Department of Natural Resources, Annapolis, MD. 72 p.

- 21) Kemp, W.M., W.R. Boynton, J.C. Stevenson, R.W. Twilley and J.C. Means. 1983. The decline of submerged vascular plants in upper Chesapeake Bay: summary of results concerning possible causes. *Marine Technology Society Journal* 17:78-89.
- 22) Stevenson, J.C., T.W. Jones, W.M. Kemp, W.R. Boynton and J.C. Means. 1983. An overview of atrazine dynamics in estuarine ecosystems, pp. 71-94. In *Agrichemicals and Estuarine Productivity*. NOAA Office of Marine Pollution Assessment (U.S. Gov'n't Printing Office: 1983-676-001/1205), U.S. Department of Commerce, Boulder, Colorado.
- 23) Cunningham, J.J., W.M. Kemp, M.R. Lewis and J.C. Stevenson. 1984. Temporal responses of the macrophyte, *Potamogeton perfoliatus L.*, and its associated autotrophic community to atrazine exposure in estuarine microcosms. *Estuaries* 7:519-530.
- 24) Kemp, W.M., W.R. Boynton, R.R. Twilley, J.C. Stevenson and L.G. Ward. 1984. Influences of submersed vascular plants on ecological processes in upper Chesapeake Bay, pp. 367-394. In V.S. Kennedy (ed.) *The Estuary As A Filter*. Academic Press, N.Y.
- 25) Kearney, M.S. and J.C. Stevenson. 1985. Sea-level rise and marsh vertical accretion rates in Chesapeake Bay, pp. 1451-1461. In O.T. Magoon et al. (eds.), *Coastal Zone '85, Volume II*.
- 26) Kemp, W.M., W.R. Boynton, J.J. Cunningham, J.C. Stevenson, T.W. Jones and J.C. Means. 1985. Effects of atrazine and linuron on photosynthesis and growth of the macrophyte, *Potamogeton perfoliatus L.* and *Myriophyllum spicatum L.* in an estuarine environment. *Marine Environmental Research* 16:255-280.
- 27) Stevenson, J.C., M.S. Kearney and E.C. Pendleton. 1985. Sedimentation and erosion in a Chesapeake Bay brackish marsh system. *Marine Geology* 67:212-235.
- 28) Stevenson, J.C., L.G. Ward, M.S. Kearney and T.E. Jordan. 1985. Sedimentary processes and sea level rise in tidal marsh systems of Chesapeake Bay, pp. 37-62. In: H.A. Groman et al. (eds.), *Wetlands of the Chesapeake*. Environmental Law Institute, Wash. D.C.
- 29) Twilley, R.R., W.M. Kemp, K.W. Staver and J.C. Stevenson. 1985. Nutrient enrichment of estuarine submersed vascular plant communities. I. Algal growth and effects on production of plants and associated communities. *Marine Ecology Progress Series* 23:179-191.

- 30) Cahoon, D.R. and J.C. Stevenson. 1986. Production, predation and decomposition in a low salinity *Hibiscus* marsh. *Ecology* 67:1341-1350.
- 31) Jones, T.W., W.M. Kemp, P.S. Estes and J.C. Stevenson. 1986. Atrazine uptake, photosynthetic inhibition, and short-term recovery for the submersed vascular plant *Potamogeton perfoliatus* L. *Archives of Environmental Contamination and Toxicology* 15:277-283.
- 32) Stevenson, J.C., K. Staver, and R. Brinsfield. 1986. Surface runoff and groundwater impacts from agricultural activities in the Chesapeake region. pp. 211-219. In: J.B. Summers and S.S. Anderson (eds.), *Toxic Substances in Agricultural Water Supply and Drainage - Defining the Problem*. U.S. Committee on Irrigation and Drainage, Denver, Colo.
- 33) Stevenson, J.C., L.G. Ward and M.S. Kearney. 1986. Vertical Accretion in marshes with varying rates of sea level rise, pp. 241-259. In D. Wolf (ed.), *Estuarine Variability*. Academic Press, N.Y.
- 34) Hopkinson, C.S., S.J. Kipp and J.C. Stevenson. 1988. Nitrogen pools and turnover times in a tropical sea grass system, Terminos Lagoon. p. 171-180. In: A. Yanez-Arancibia and J.W. Day, Jr. (eds.), *Ecology of Coastal Ecosystems in the Southern Gulf of Mexico, The Terminos Lagoon Region*. UNAM, Mexico City.
- 35) Kearney, M.S., R.E. Grace and J.C. Stevenson. 1988. Marsh loss in the Nanticoke Estuary, Chesapeake Bay. *Geographical Review* 78:205-220.
- 36) Kemp, W.M., W.R. Boynton, J.C. Stevenson, C.S. Hopkinson, J.W. Day and A. Yanez-Arancibia. 1988. Ammonium regeneration in the sediments of a tropical sea grass (*Thalassia testudinum*) community, Terminos Lagoon. p. 181-192. In A. Yanez-Arancibia and J.W. Day, Jr. (eds.), *Ecology of a Coastal Ecosystem in the Southern Gulf of Mexico: The Terminos Lagoon Region. A Community and Estuarine Ecosystem Profile*: UNAM/OAS, Mexico City.
- 37) Serafy, J.E., R. Harrell and J.C. Stevenson. 1988. Quantitative sampling of fishes in dense vegetation: Design and field testing of portable "pop-nets". *Journal of Applied Ichthyology* 4:149-157.
- 38) Staver, K.W., R. Brinsfield and J.C. Stevenson. 1988. Strategies for reducing nutrient and pesticide movement from agricultural land in the Chesapeake region. pp. 87-101. In: J.B. Summers and S.S. Anderson (eds.), *Proceedings of National Meeting: "Toxic Substances in Agricultural Water Supply and Drainage - Searching for Solutions."* Published by. U.S. Committee on Irrigation and Drainage, Denver, CO.

- 39) Stevenson, J.C. 1988. Comparative ecology of submersed grass beds in fresh, brackish and marine environments. *Limnology and Oceanography* 33:867-893.
- 40) Stevenson, J.C., C. Madden and C.S. Hopkins Jr. 1988. Sources of new nitrogen in a tropical sea grass system, Terminos Lagoon, with special reference to N-fixation. p. 159-170. In: A. Yanez-Arancibia and J. Day Jr. (eds.) *Ecology of Coastal Ecosystems in the Southern Gulf of Mexico: The Terminos Lagoon Region*. Universidad Nacional Autónoma de Mexico (UNAM) and Organization of American States (OAS), Mexico City.
- 41) Stevenson, J.C., L.G. Ward, and M.S. Kearney. 1988. Sediment transport and trapping in marsh systems: Implications of tidal flux studies. *Marine Geology* 80:37-59.
- 42) Kearney, M.S. and J.C. Stevenson. 1989. Marsh loss and shore erosion with sea-level rise in Chesapeake Bay. pp.506-509. In: J.C. Topping Jr. (ed.), *Coping with Climate Change*, published by The Climate Institute, Wash., D.C.
- 43) Staver, K.W., R. Brinsfield and J.C. Stevenson. 1989. The effects of best management practices on nitrogen transport into Chesapeake Bay. pp. 163-180. In: J.B. Summers and S.S. Anderson (eds.), *Proceedings of the 2nd Pan-American Regional Conference on Irrigation and Drainage*, published by the U.S. Committee on Irrigation and Drainage, Denver Colo.
- 44) Kearney, M.S. and J.C. Stevenson. 1991. Island land loss and marsh vertical accretion rate evidence for historical sea-level changes in Chesapeake Bay. *Journal of Coastal Research* 7:403-415.
- 45) Batiuk, R.A., R.J. Orth, K.A. Moore, W.C. Dennison, J.C. Stevenson et al. 1992. *Chesapeake Bay Submerged Aquatic Vegetation Habitat Requirements and Restoration Goals: A Technical Synthesis*. US EPA, Chesapeake Bay Program, Annapolis, MD. 186 p.
- 46) Cornwell, J.C., J. Stribling and J.C. Stevenson. 1992. Biogeochemical studies at the Monie Bay National Estuarine Reserve. pp.645-655. IN: *Proceedings Organizing for the Coast, 13th International Conference*. The Coastal Society, Wash. D.C.
- 47) Dennison, W.C., R.J. Orth, K.A. Moore, J.C. Stevenson, V. Carter, S. Kollar, P. Bergstrom and R. Batiuk. 1993. Assessing Water Quality with Submersed Aquatic Vegetation -- Habitat requirements as barometers of Chesapeake Bay health. *Bioscience* 43:86-94.
- 48) Malone, T., W. Boynton, T. Horton and J.C. Stevenson. 1993. Nutrient loadings to surface waters: Chesapeake Bay case study. pp.8-38. IN: Uman, M. (ed.),

Keeping Pace With Science And Engineering: Case Studies In Environmental Regulation. National Academy of Press, Washington D.C.

- 49) Posey, M., C. Wigand and J.C. Stevenson. 1993. The Effects of an introduced aquatic plant *Hydrilla verticillata* on benthic communities in the Upper Chesapeake Bay. *Estuarine & Coastal Shelf Science* Vol 37:539-555.
- 50) Stevenson, J.C., L.W. Staver and K. Staver. 1993. Water quality associated with survival of submersed aquatic vegetation along an estuarine gradient. *Estuaries* 16:346-361.
- 51) Kearney, M.S., J.C. Stevenson and L.G. Ward. 1994. Spatial and temporal changes in marsh vertical accretion rates at Monie Bay: Implications for sea-level rise. *Journal of Coastal Research* 10:1010-1020.
- 52) Wigand, C. and J.C. Stevenson. 1994. The presence and possible ecological significance of mycorrhizae in the submersed macrophyte, *Vallisneria americana*. *Estuaries* 17:217-226.
- 53) Cornwell, J.C., C. Neil and J.C. Stevenson. 1995. Biogeochemical origin of ^{34}S isotopic signatures in a prairie marsh. *Can. Jour. Fish. & Aquat. Sci.* 52:1816-1820.
- 54) Staver, L.W. and J.C. Stevenson. 1995. The impacts of the exotic species *Hydrilla verticillata* on the shallows in Chesapeake Bay. Proceedings of Chesapeake Research Conference: "Toward a Sustainable Coastal Watershed", Norfolk VA. Chesapeake Research Consortium, Shady Side MD.
- 55) Bricker, S.B. and J.C. Stevenson. 1996. Nutrients in coastal waters: A chronology and synopsis of research. *Estuaries* 19:337-341.
- 56) Cornwell, J.C., J.C. Stevenson, D.J. Conley and M. Owens. 1996. A sediment chronicle of Chesapeake Bay eutrophication. *Estuaries* 19:488-499.
- 57) Demas, G., M. Rabenhorst and J.C. Stevenson. 1996. Subaqueous soils: A pedological approach to the study of shallow water habitats. *Estuaries* 19:229-237.
- 58) Rice, D. and J.C. Stevenson. 1996. The distribution and expansion rate of *Phragmites australis* in six marshes in Chesapeake Bay area. pp. 467-476. IN: Hallam, C.A., J.M. Salisbury, K.L. Lanfer and W.A. Battaglin (Eds.), Proceedings of the AWRA Annual Symposium, GIS and Water Resources. American Water Resources Association, Herndon VA.

- 59) Staver, L.W., K.W. Staver and J.C. Stevenson. 1996. Nutrient inputs to the Choptank River Estuary: Implications for watershed management. *Estuaries* 19:342-358.
- 60) Stevenson, J.C. and M.S. Kearney. 1996. Shoreline dynamics on the windward and leeward shores of a large temperate estuary. pp. 233-259, IN: Nordstrom, K.F. and C.T. Roman. (Eds.), *Estuarine Shores: Hydrological, Geomorphological and Ecological Interactions*. J. Wiley & Sons, New York. 486 p.
- 61) Wigand C. and J.C. Stevenson. 1997. Facilitation of phosphate assimilation by aquatic mycorrhizae of *Vallisneria americana*. *Hydrobiologia* 342/343:35-41.
- 62) Wigand, C., J.C. Stevenson and J.C. Cornwell. 1997. Varying sediment biogeochemistry of submersed macrophytes of the tidal freshwater Upper Chesapeake Bay. *Aquatic Botany* 56:233-244.
- 63) Ward, L.G., M.S. Kearney and J.C. Stevenson. 1998. Variations in sedimentary environments and accretionary processes in estuarine marshes undergoing rapid submergence, Chesapeake Bay. *Marine Geology* 151:111-134.
- 64) Stevenson, J.C., J.I. Marusic, B. Ozretic, A. Marson, G. Cecconii and M.S. Kearney. 1999. Shallow water and shoreline ecosystems of Chesapeake Bay compared with the Adriatic Sea: transformation of habitat at the land sea margin, pp 29-80. IN: Malone, T.C., A. Malej, N. Smoldaka and R.E. Turner (Eds.), *Ecosystems at the Land Sea Margin - Drainage Basin to Coastal Sea*. American Geophysical Union, Washington D.C. ISBN 0-87590-269.
- 65) Arnold, R., J.C. Cornwell, W.C. Dennison and J.C. Stevenson. 2000. Sediment-based reconstruction of submersed aquatic vegetation distribution in the Severn River, a Sub-Estuary Chesapeake. *Journal of Coastal Research* 16:188-195.
- 66) Koch, E., S. Ailstock and J.C. Stevenson. 2000. Beyond light: Physical, geological and chemical environments. pp. 55-69. In: *Chesapeake Bay Submerged Aquatic Vegetation Water Quality Requirements and Habitat-Based Requirements and Restoration Targets: A Second Technical Synthesis*. U.S. Environmental Protection Agency Chesapeake Bay Program, Annapolis MD, USA.
- 67) Rice, D., J. Rooth and J.C. Stevenson. 2000. The colonization and expansion of *Phragmites australis* in upper Chesapeake Bay tidal marshes. *Wetlands* 20:280-299.
- 68) Rooth, J. and J.C. Stevenson. 2000. Sediment deposition patterns in *Phragmites australis* communities: Implications for coastal areas threatened by rising sea-level. *Wetlands Ecology and Management* 8:173-183.

- 69) Kearney, M. S. and J.C. Stevenson. 2001. North American Coasts: Readings On Evolution, Processes and Policy. Kendall/Hunt Publishing Co. Dubuque Iowa, 244 p. ISBN 0-7872-8704-0.
- 70) Stevenson, J.C., J. Rooth, M.S. Kearney and K. Sundberg. 2001. The health and long term stability of natural and restored marshes in Chesapeake Bay. pp 709-735. In: M. P. Weinstein and D. A. Kreeger (Eds.), Concepts and Controversies in Tidal Marsh Ecology. Kluwer Academic Press, Dordrecht, Netherlands. ISBN 0 -7923-6019-2.
- 71) Kearney, M.S., A.S. Rogers, J.P.R.G. Townsend, E. Rizzo, D. Stutzer J. C. Stevenson and K. Sundberg. 2002. Landsat imagery shows decline of coastal marshes in Chesapeake and Delaware Bays. *Eos*, Transactions American Geophysical Union: 83:173-178.
- 72) Stevenson, J.C., M.S. Kearney and E.W. Koch. 2002. Impacts of sea-level rise on tidal wetlands and shallow water habitats: A case study from Chesapeake Bay, pp. 23-36. In: N. A. McGinn (Ed.), Fisheries in a Changing Environment. American Fisheries Society Symposium No. 32, Bethesda, MD, USA. ISBN 1-888569-40-9
- 73) Mazanti, L., C. Rice, K. Bialek, D. Sparling, J.C. Stevenson, W.E. Johnson, P. Kangas and J.Rheinstein. 2003. Aqueous-phase disappearance of atrazine, metolachlor, and chorpyrifos in laboratory aquaria and outdoor microcosms. *Archives of Environmental Contamination and Toxicology* 44:67-76.
- 74) Mazanti, L., D.W. Sparling, C. Rice, K. Bialek, J.C. Stevenson, B. Teels. 2003. Synergistic effects of a combined exposure to herbicides and an insecticide in *Hyla versicolor*—L. , pp.111-129. In: G. L. Linder, S. Krest, E. E. Little, and D. Sparling (Eds.), Multiple Stressor Effects in Relation to Declining Amphibian Populations. ASTM International Publ. STP # 1443. West Conshohocken, PA, USA. ISBN 0-8031-3464-9.
- 75) Rooth, J., J.C. Stevenson and J.C. Cornwell. 2003. The influence of 5 and 20-yr old Phragmites populations on rates of accretion in an oligohaline tidal marsh of Chesapeake Bay. *Estuaries* 26:475-483.
- 76) Fisher, T. R., A.B. Gustafson, G.M. Radcliffe, K.L.Sundberg and J.C. Stevenson. 2003. A long-term record of photosynthetically available radiation (PAR) and total solar energy at 38.6E, 78.2E W. *Estuaries* 6:1450-1460.
- 77) Peterson, J., W.M. Kemp, R. Bartleson, W.R. Boynton, C. Chen, J.C. Cornwell, R.H. Gardner, D. Hinkle, E. Houde, T.C. Malone, W. Mowitt, L. Murray, L. Sanford, J.C.

Stevenson, K. Sundberg, and S. Suttles. 2003. Multiscale experiments in coastal ecology: Improving realism and advancing theory. *Bioscience* 53: 1181-1197.

- 78)) Kemp, W.M., Batiuk R., Bartleson R., Bergstrom P., Carter V., Gallegos C.L., Hunley W., Karrh L., Koch E.W., Landwehr J.M., Moore K.A., Murray L., Naylor M., Rybicki N.B., Stevenson J.C., Wilcox D.J. 2004. Habitat requirements for submerged aquatic vegetation in Chesapeake Bay: Water Quality, light regime, and physical factors. *Estuaries* 27: 363-377.
- 79) Kearney M. & J. C. Stevenson. 2004 . North America Coastal Ecology, pp. 886-894, *In: M. Schwartz & R. Fairbridge (eds). Encyclopedia of Coastal Science. Kluwer Academic Publishers, Amsterdam Netherlands. ISBN: 1402019033.*
- 80) Bartleson, R., Kemp. W.M. and J.C. Stevenson. 2005. Use of a simulation model to examine effects of nutrient loading and grazing on *Potamogeton perfoliatus* L. microcosm communities. *Ecological Modelling*. 184. [Reprint available online: <http://www.sciencedirect.com>]

Submitted Papers (in revision and review):

- 81) Stevenson, J.C. and M.S. Kearney. (in press). Dissecting and classifying the impacts of historic hurricanes on estuarine systems. Kevin Sellner et al. (eds.) *Hurricane Isabel in Perspective* (Proceedings of Conference held Nov 15-17, 2004).
- 82) Schmitz J. P., J.C. Stevenson and P. Kangas. (in revision). Perturbation and mesoscale community organization in experimental tidal marsh mesocosms compared to field plots. *Wetlands*.
- 83) Kearney, M.S., D. Stutzer and J.C. Stevenson. (in revision). Spectral properties of marsh vegetation under inundation. *Wetlands*.
- 84) Kemp, W.M., W.R. Boynton, J.E. Adolf, D.F. Boesch, W.C. Boicourt, G. Brush, J.C. Cornwell, T.R. Fisher, P.M. Glibert, J.D. Hagey, L.R. Harding, E.D. Houde, D. G. Kimmel, W.D. Miller, R.I.E. Newell, M.R. Roman, E.M. Smith and J. C. Stevenson. (in revision). Eutrophication of Chesapeake Bay: Historical trends and ecological interactions. *Marine Ecology Progress Series*.
- 85) Stevenson J.C. & M.S. Kearney. (in review). Sea level rise and sediment Inputs into Bangladesh: Future prospects for long-term stability. *Journal of Coastal Research*.
- 86) Saltonstall K. and J. C. Stevenson. (in review) Biomass allocation and growth of native and introduced *Phragmites australis* in a common garden. *Journal of Ecology*.

C. Contracts and Grants (principal investigator or co-PI last 10 years)

Chesapeake Bay Nutrients and SAV. (with M. Kemp) U.S. Environmental Protection Agency (EPA) Region 3. 1993-1995. \$194,066.

Recreational Boating and Submerged Aquatic Vegetation in the South River, Elk, Choptank and South Rivers, Maryland. 1993-1995. \$44,200

Multiscale Modeling of Coastal Landscape Dynamics. (with R. Costanza) NOAA: C-CAP. 1993-1996. \$100,007.

Benthic Algal and Macrophyte Production in Marshes of the Delaware Estuary. Subcontract through EA Engineering from Public Service Electric and Gas (PSE&G), Salem N.J. 1995-1996. \$67,541.

Multiscale Experimental Ecosystem Center-Marsh and SAV Cosms U.S. EPA. 1993-2002. \$509,944.

The Choptank River: Mid-Chesapeake Bay Index Site for Evaluating Ecosystem Responses to Nutrient Management. U.S. EPA - CISnet. 1998-2002. \$596,000.

The Impacts of Breakwaters on SAV Habitats. U.S. Army Adelphi Laboratory Center. 1999-2002. \$311,477.

Shoreline Erosion as a Source of Sediments and Nutrients: Upper and Middle Coastal Bays. 2000-2002. Maryland Geological Survey , DNR (NOAA-CZM funds) \$39,878.

Experimental Pond Biogeochemistry. Maryland Environmental Service. (Addendum on J.C. Cornwell's MES Grant for JCS) 2002 134,000.

Shoreline Erosion as a Source of Sediments and Nutrients: Mid-Chesapeake Bay. Maryland Geological Survey, DNR (EPA Chesapeake Bay Program funds). 2002-2003. \$ 15,384

Sediment Monitoring and Plant Survival Testing for the Wetland Restoration at Poplar Island. MD Environ. Service, Port of Baltimore & US Army Corps of Engineers May, 2003 - June 30, 2005. [074-30838] \$158,000

Assessment of the Living Shoreline Projects in Chesapeake Bay. (with E. Koch), NOAA Costal Zone Management funds through MD Department of Natural Resources. Mar 2004 – Sept 2004. [074-30880] \$39,980

Living Shorelines Stewardship Initiative – Field Assessment Component. (with Eva Koch), MD Chesapeake Bay Trust. Mar 2004 – Feb 2005 [074-35284] \$23,500

D. Seminars and Presentations (Since 2000):

Note: *indicates invited presentation and (Abstract) indicates abstract is available.

- *Stevenson, J.C. 2000. Water quality outside St. Michaels Harbor during major summer holidays in 2000. St. Michaels Town Commissioners Mtg. Dec 11.
- *Stevenson, J.C. 2000. Eltonhead revisited: people, patents and transformation of the environment of lower Calvert County. Concluding Event of Chesapeake Biological Laboratory's 75th Anniversary Celebration. Solomons MD, Dec. 7.
- *Stevenson, J.C. and William C. Dennison. 2000. The potential impacts of recreational boating on submersed aquatic vegetation in upper Chesapeake Bay. Recreational Boating Workshop, Rutgers Univ. New Brunswick, Nov. 7.
- *Stevenson, J.C. and Michael Kearney. 2000. Chesapeake wetlands and shorelines: Past present & future. Salisbury State University Anniversary--Lecture Series October 17.
- Stevenson et al. Water Quality and health of the Choptank River Estuary. 2000. U.S. EPA - CISnet Workshop, Narragansett Rhode Island, September 26.
- Rooth, J.E. and J.C. Stevenson. 2000. The role of the invasive *Phragmites australis*, in Chesapeake Bay marsh stability. Millenium Wetland Event-Quebec 2000: Joint Mtg of International Association of Ecology, Society of Wetland Scientists, International Peat Society and International Mire Conservation Group Quebec, Canada, Aug. 8. (Abstract)
- Stevenson, J.C., K. Sundberg and J.C. Cornwell. 2000. Does species diversity really matter in salt marsh ecosystems? Millenium Wetland Event-Quebec 2000: Joint Mtg of International Association of Ecology, Society of Wetland Scientists, International Peat Society and International Mire Conservation Group Quebec, Canada, Aug. 7. (Abstract)
- Stevenson, J.C., J.C. Cornwell and K. Sundberg. 2000. Efficiency of high and low diversity tidal marsh ecosystems in buffering groundwater nitrogen inputs. American Society of Limnology and Oceanography Meeting, Copenhagen, Denmark, June 5. (Abstract)
- Bartleson, R., L. J. Walstad, L. P. Sanford, W. M. Kemp and J. C. Stevenson. 2001. Effects of seagrass bed size and flow regime on local water quality: preliminary model study and field corroboration. American Society of Limnology and Oceanography Meeting, Albuquerque, NM, Feb. 13. (Abstract)

- *Stevenson, J. C. J. C. Cornwell, M. S. Kearney and L. G. Ward. 2001. Sedimentation and erosion of tidal marshes along the Choptank River. American Geophysical Union, Boston, Mass., June 1. (Abstract)
- *Stevenson, J. C., L. W. Staver and M. S. Kearney. 2001. Impacts of global warming and sea level rise on tidal wetlands and shallow water habitats. Annual Meeting of the American Fisheries Society, Phoenix AZ., Aug. 20. (Abstract)
- *Stevenson, J. C. 2001. Implications of global warming and sea-level rise for resource management in Chesapeake Bay, Venice and Bangladesh. Department of Natural Resources Noon Seminar, Annapolis MD, Oct 11.
- *Stevenson, J. C. 2001. Global warming & sea-level rise: Ecological impacts at the land/sea-interface. 'Forum on Sea-Level Rise and Natural Disasters' sponsored by the Natural Disasters Roundtable, National Academy of Science, Wash. D.C. October 25. (Abstract)
- *Stevenson, J. C. and E. W. Koch. 2001. Impacts of eroding marshes on seagrass habitats. 16th Biennial Meeting of the Estuarine Research Federation, St Pete Beach, FL, Nov 6. (Abstract)
- *Bartleson, R., L. P. Sanford, W. M. Kemp and J. C. Stevenson. 2001. Patch scale influence on the interaction of seagrass and water quality. 16th Biennial Meeting of the Estuarine Research Federation, St Pete Beach, FL, Nov 6. (Abstract)
- *Stevenson, J.C. and J. Rooth. 2002. An historical and ecological perspective of Phragmites in the mid-Atlantic landscape. New Jersey Sea Grant Special Symposium: "Phragmites: a sheep in wolf's clothing?" Vineland, NJ. (Abstract)
- Rooth, J., J.C. Stevenson and J.C. Cornwell. 2002. The influence of 5 and 20-yr old Phragmites populations on rates of accretion in an oligohaline tidal marsh of Chesapeake Bay. New Jersey Sea Grant Special Symposium: "Phragmites: a sheep in wolf's clothing?" Vineland, NJ. (Abstract)
- *Stevenson, J. C. 2002. Sustainability of biological and ecological resources of Bangladesh in the 21st Century. Dhaka, Bangladesh, January 29. (Abstract)
- Kearney, M.S., D. Stutzer, and J.C. Stevenson. 2002. Impacts of higher tidal ranges on assessing marsh surface condition using thematic mapper data. AGU/ASLO Ocean Sciences Meeting, Honolulu, Hawaii. February. (Abstract)
- M.S. Kearney, J.C. Stevenson and J. Townsend. 2002. Accelerated marsh loss and sea level rise along the US Atlantic Coast. International Coastal Science Meeting, Templepatrick, N. Ireland. March 31. (Abstract)

- Stevenson, J.C. 2002. Impacts of Global Change on the Chesapeake Landscape. Adkins Arboretum Invited Lecture. Ridgley, MD. May.
- *Stevenson, J.C. & J.C. Cornwell. 2002. Scaling issues in created and natural marsh ecosystems: productivity and buffering of groundwater nitrogen inputs. International Wetlands Symposium: "Wetland Restoration and Management: Addressing Asian Issues Through International Collaboration". Nanjing, China. September 12. (Abstract)
- *Stevenson, J.C. 2002. Impacts of global warming and sea level rise on tidal wetlands and shallow water habitats. Cutis and Edith Munson Marine Conservation Distinguished Lecture Series. Yale University, New Haven, Conn, October 9.
- *Stevenson, J.C. & M.S. Kearney. 2002. Impacts of global warming and sea-level rise: Accelerated shoreline and wetland erosion. Society of Environmental Journalists, Baltimore, MD October 10.
- *Stevenson, J.C. 2003. Global climate change: Implications for marshes and the flora of the Mid-Atlantic region. Garden Club of Talbot County, Easton, MD. January 8.
- *Stevenson, J.C. 2003. Global change, wetlands and shallow water habitats. Coastal Research Unit Seminar, Magdalene College, University of Cambridge, U.K. February 6.
- *Stevenson, J.C. 2003. Water quality trends in the Miles River outside St. Michaels Harbor: 2000-2002. St. Michaels Town Commissioners Meeting. St. Michaels MD, March 25.
- *Stevenson, J.C. 2003. Water Quality Trends on the Eastern Shore of Chesapeake Bay. Talbot Water Quality Forum sponsored by Talbot Rivers Protection Association, Historical Society Auditorium, Easton MD, April 2003.
- *Stevenson, J.C. 2003. Water Quality Trends in the Miles and Choptank Rivers -- Where's the Bay Cleanup? Talbot County Commissioners, Easton, May 20.
- * Stevenson, J.C. 2003. Water Quality Trends in Chesapeake Bay: Past Present & Future. Special Presentation to Delegation from Thailand. Center Administration, University of Maryland Center for Environmental Science. July 9.
- * Stevenson, J.C. 2003. Sea-Level Rise in the Chesapeake. Coastal Zone 2003, July 16.
- * Stevenson, J.C. 2003. How Wetlands Work: Upper Tuckahoe River Example. Teachers Workshop Field Trip, sponsored by Washington College, Chestertown MD. July 24.
- * Stevenson, J.C. 2003. Marsh Restoration in Chesapeake Bay. Venice in Peril Symposium, University of Cambridge, UK. September 16. (Abstract).

- *Koch, E. and J.C. Stevenson. 2003. Linking Sea-Level Rise and Seagrass Distribution via Marsh Retreat. Estuarine Research Federation Biennial Meeting, Seattle, Washington. September 15. (Abstract)
- * Stevenson J.C. and J.C. Cornwell. 2003. Linkages Between Water Quality & Submersed Aquatic Vegetation (SAV) in Shallow Waters: Eastern Shore of Chesapeake Bay. Estuarine Research Federation, Seattle, Washington. September 17. (Abstract).
- * Stevenson, J.C. 2003. Critical Area: Common Sense and Science. Bay Hundred Environmental Forum, St. Michaels MD, September 27.
- *Stevenson, J.C. 2003. Coping with Sea-Level Rise in Chesapeake Bay and Around the World. Special Seminar at MD Dept. of Natural Resources, sponsored by Integration and Application Network (IAN) of UMCES, Annapolis MD. November 13 (available on internet- <http://ian.ca.umces.edu>).
- *Stevenson, J.C. Rooth, 2003. The Health and Stability of Natural and Restored Marshes. Blackwater Marsh Burning Symposium, Horn Point Laboratory, Cambridge MD, Nov 14.
- *Strevenson, J.C. 2004. Global Climate Change and Sustainability of Coastal Wetlands. Friends of Heron Point, Chestertown MD, January 22
- *Stevenson, J. C. 2004. Water Quality of the Miles River at St Michaels. Rotary Club of St Michaels Miles River Yacht Club, St. Michaels MD, February 10.
- *Stevenson, J.C. 2004. Changes in the Landsacpae at Eltonhead Manor and Surroundings at the Mouth of the Patuxent River from the 17th Century Onwards. Special Public Seminar, Smithsonian Institution, Edgewater MD, April 17. (Abstract).
- *Stevenson, J.C. 2004. Impacts of Global Warming and Sea level Rise on Tidal Wetlands and shallow water habitats. Lecture at Teachers Workshop organized by Laura Murray, HPL, Cambridge MD, June 24.
- *Stevenson, J.C., L.W. Staver and J.C. Cornwell. 2004. Poplar Island: Mitigation of Marsh Losses in Chesapeake Bay. INTECOL Meeting, Utrecht, Netherlands, July 29. (Abstract).
- *Stevenson, J.C. 2004. Sea Level Rise and the Restoration of Tidal Marsh Systems in Chesapeake Bay. Geography Department Weekly Seminar, University of Maryland, College Park, September 16.

Stevenson, J.C. 2004. Restoration of Chesapeake Bay and Surrounding Wetlands. Guest Speaker, Federation of Women's Clubs Overseas (FAWCO) Alumnae, Easton MD, October 8.

*Stevenson, J.C. and M.S. Kearney. 2004. Dissecting and classifying the impacts of historic hurricanes on estuarine systems. *Hurricane Isabel in Perspective* Conference Nov 15-17, Linthicum, MD. (Abstract).

Stevenson, J.C. Staver, L. W., Kiss, E., Mielcarik, K., and J.C. Cornwell. 2004 Establishment of Poplar Island: A large Marsh Restoration Project in Chesapeake Bay. First National Conference on Ecosystem Restoration, December, 5-9, Buena Vista, FL. (Abstract).

F. Memberships in Professional Societies

American Society of Limnology and Oceanography
Atlantic Estuarine Research Society
Coastal Education and Research Foundation
Estuarine Research Federation
Society of Wetland Scientists

III. Teaching and Training

A. University System of Maryland Courses Taught:

Botany 100 (UMCP) General Botany
Botany 462 (UMCP) Plant Ecology Lecture
Botany 464 (UMCP) Plant Ecology Laboratory
Botany 471 (UMCP) Marine Botany
Botany 661 (UMCP) Advanced Plant Ecology
MEES 498 I (UMCP) Ecology of Chesapeake Bay and its Watershed
MEES 608 D (UMCP) Advanced Applications relating to Scale in Ecosystems
MEES 645 (UMCP) Ecology and Management of Wetland and SAV Systems
MEES 698 Z (UMCP) Ecology of Wetlands and Submersed Aquatic Ecosystems

Additional Courses Taught at Johns Hopkins Univ. (Krieger School of Arts & Sciences):

CS471.468 Plant Ecology and Taxonomy
420.626 Field Methods in Ecology
420.628 Ecology and Management of Wetlands

B. Postdoctoral Fellows and Graduate Students Advised (1972-Present)

Post-doctoral Fellows:

Dr. Edward Pendleton (1980-1981); Ph.D., N.C. State Univ.

Dr. Robert Twilley (1981-1985); Ph.D., Univ. of Florida.

Dr. L. Chris Athanas (1983-1986); Ph.D., Univ. of Maryland.

Dr. Jeffrey Cornwell (1986-1987); Ph.D., Univ. of Alaska.

Dr. Kristin Saltonstall (2002-present); Ph.D. Yale University

Ph.D. Students:

G. Bradford Shea. Biological effects of enhanced ultraviolet radiation on a salt marsh ecosystem. (Fall 1976), Botany Dept., UMCP.

Donald R. Cahoon. Community production and biomass allocation of *Hibiscus moscheutos* L. (Malvaceae), a brackish marsh dominant (1982); Botany Dept., UMCP.

L. Chris Athanas. The effects of wastewater enrichment on a coastal plain forest ecosystem. (1982); Botany Dept., UMCP.

Cathleen Wigand. The Ecological Significance of Mycorrhizal Fungi in the Submersed Macrophyte *Vallisneria americana* in Upper Chesapeake Bay. (1994); MEES Program, UMCP.

Laura Mazanti. Effects of Herbicide Applications on the Survival and Reproductive Success of the Southern Leopard Frog, *Rana sphenoccephala*, in Freshwater Depressional Wetlands. (1999); MEES Program, UMCP.

Jill Rooth. The Accretion potential of *Phragmites australis* in Chesapeake Bay. (2002); MEES Program, UMCP.

Rick Bartleson. Effects of seagrass bed size and flow regime on local water quality. (Projected graduation: December 2003); MEES Program, UMCP.

M.S. Students:

Donald R. Cahoon. Net productivity of emergent vegetation at Horn Point salt marsh. (1975); Botany Dept., UMCP.

- Randy Rowland. Nutrient exchange and utilization of the Horn Point marsh system. (1976); Botany Dept., UMCP.
- L. Chris Athanas. Energy flow through the birds of a brackish tidal marsh. (1976); Botany Dept., UMCP.
- Robert J. Small. Inorganic nitrogen concentrations and system metabolism in a Maryland brackish marsh ecosystem. (1977); Botany Dept., UMCP.
- Fredric Lipschultz. Nitrogen fixation in Horn Point Marsh on the upper Chesapeake Bay. (1978); Botany Dept., UMCP.
- Jeffrey J. Cunningham. Responses of microcosm communities containing submerged aquatic vegetation to herbicide stress. (1979); Botany Dept., UMCP.
- Marlon R. Lewis. An investigation of some homeostatic properties of model ecosystems in terms of community metabolism and component interaction. (1980); Botany Dept., UMCP.
- Margaret Shenton Leonard. Denitrification in the shallows of Chesapeake Bay. (1982); MEES Program, UMCP.
- Lorie W. Staver. Competitive interactions of submersed aquatic vegetation under varying nutrient and salinity conditions. (1986); MEES Program, UMCP.
- Danielle Lucid. Nitrogen Uptake and Fixation in Algal Turf Microcosms. (1989); MEES program, UMCP.
- Susan Hill (now McGinnich). Phosphorus uptake in the submersed aquatic macrophyte, *Vallisneria americana*. (1989); MEES, Program, UMCP.
- Phillipe Hensel. Nitrogen Uptake in the submersed aquatic macrophyte *Vallisneria americana*. (1992); MEES Program, UMCP.
- Kelly (Splain) Merrell. Effects of Flow and Mixing on *Vallisneria* and Its Associated Community in Experimental Mesocosms. (1996); MEES Program, UMCP.
- Dan Rice. Determining *Pragmites australis* communities in Chesapeake Bay 1938-1995. (1996); MEES Program, UMCP.
- Joshua Schmitz. Marsh Plant Community Organization in Experimental and Natural Ecosystems: Fire Response (2000).

Kristin Mielcarek. Plant Survival in Dredged Material on Poplar Island Restoration Site. (Expected degree date: 2005).

3. Graduate Student Committees: (2000-Present)

Todd Beser	(Katia Englehardt)
Jeanna Bryner	(Jeffrey Cornwell, UMCES)
John Brawley	(Bob Costanza, UMCES)
George Demas	(Martin Rabenhorst, UMCP)
Peter May	(Pat Kangas, UMCP)
Jenifer Zelenke Merrell	(Jeff Cornwell, UMCES)
Andrew Rogers	(Michael Kearney, UMCP)
Stacey Swartwood	(Pat Kangas, UMCP)
Jason Traband	(Tom Fisher, UMCES)
Caroline Wicks	(Evamaria Koch)

V. Outreach and Service

A. University (2002-5)

HPL Boat Committee (Chair), July 2002-2004

HPL Facilities Committee, July 2004-Present

UMCES Senate (Chair), Sept 2002-Present

Senate Chairs Committee, Sept 2002-Present

UMCES Administrative Council: Faculty Representative, Sept 2002 -Present

Council of University System Faculty (CUSF): UMCES Representative, Sept 2002-Present

C. Federal/State/Local Government Activities (2000-Present)

Submersed Aquatic Vegetation Workgroup (EPA CHESAPEAKE BAY PROGRAM) chaired by Mike Naylor (Md DNR).

Scientific Technical Advisory Committee, Maryland Coastal Bays, EPA Program chaired by Dr. Tom Jones 1995-Present.

Submersed Aquatic Vegetation Technical Synthesis II Committee chaired by Richard Batiuk, Environmental Protection Agency.

Governor's Task Force on Clamming and Submersed Aquatic vegetation.

Submersed Aquatic Vegetation Coordination Group on Shallow -water Dredging,
chaired by Daniel Small, U.S. Corps of Engineers, Baltimore District.

Governors Task Force on Erosion Chaired by Del. Rudolph Crane.

Assateague Island UMES Coastal Ecology Laboratory Working Group Chaired by
Paul Sweet, University System of Maryland, Adelphi MD.

Shore Leadership Lecture and Tour of Blackwater Marsh May 17, 2001 (News
articles in the June 27 *Cambridge Daily Banner* and May 31 *Star Democrat*).

University of Maryland Board of Regents Annual Meeting at Horn Point:
Presentation\ and Tour of MEERC Marsh Mesocosms. July13, 2001

TV & Radio Interviews (2000-Present)

NewsNight Maryland produced by Gary S. Davis: panel discussion moderated by
Bob Athage, "Sinking Eastern Shore" (Maryland Public Television) April 26, 2000.

BBC-International: Effects of Sea-Level Rise in Chesapeake Bay compared to the
Adriatic and Bangladesh Coastlines. August 2000

ABC News - Wildlife Preserve Shows Effects of Global Warming, March 2001

BBC-International: Global Change Impacts around the Planet- segment on shoreline
erosion at Cooks Point at the mouth of the Choptank River produced by Emil
Petrie, April 2001.

National Geographics: Segment on Smith Island and Sea-level Rise. April 2001.

National Public Radio: Segment Sea-Level Rise, Marsh and Island Losses in
Chesapeake Bay hosted by Diane Toomey, Science Editor, Living on Earth,
Boston Mass. May 2001.

Independent Video Production. We are all Smith Islanders. Directed and Produced
by Mike Tidwell and released in June, 2005.