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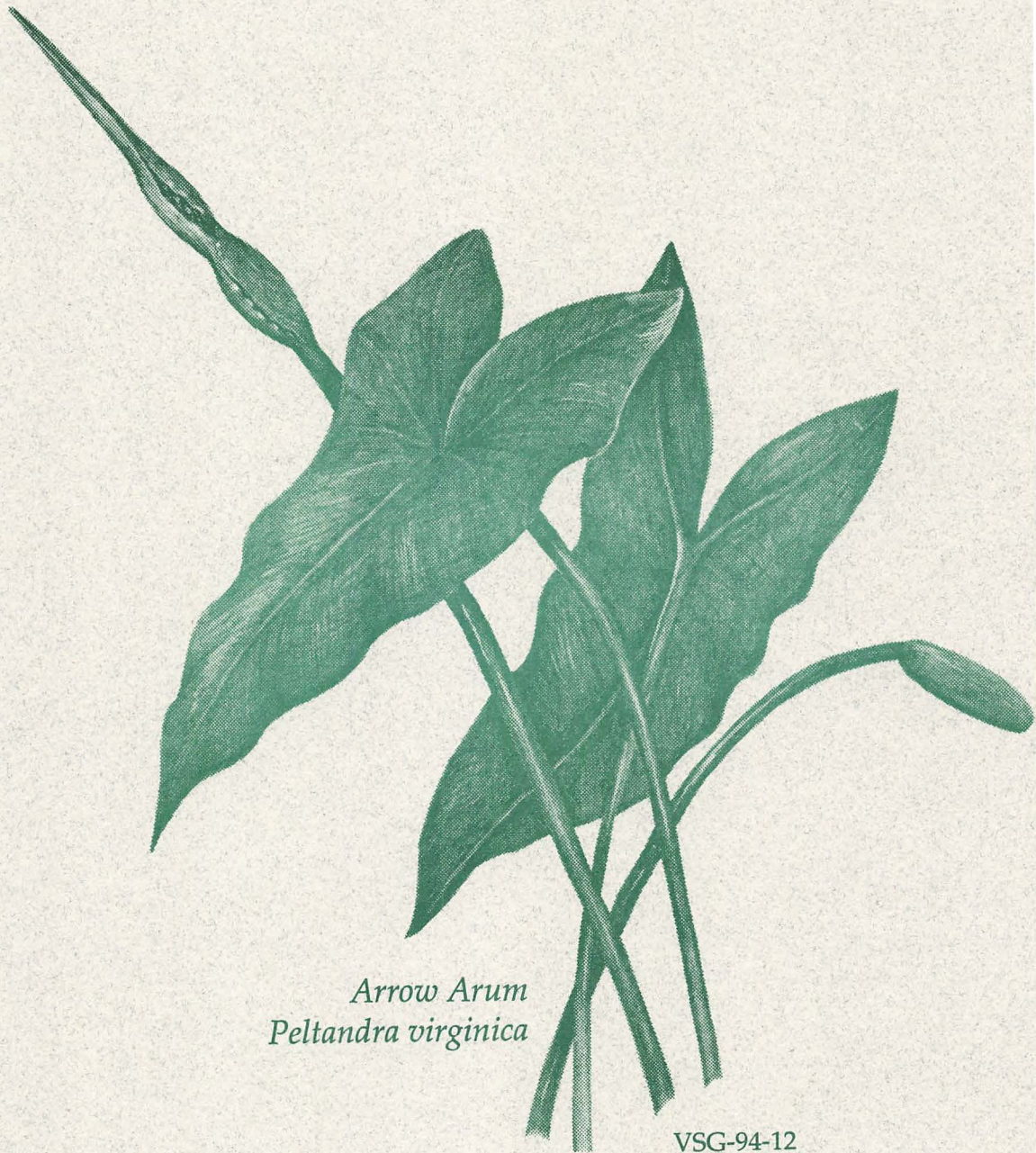
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TIDAL FRESHWATER ECOSYSTEMS

• *Bibliography*



Arrow Arum
Peltandra virginica

VSG-94-12

DAVID J. YOZZO • DAVID E. SMITH • MARILYN L. LEWIS

Cover illustration of *Peltandrica virginica* by Mary Warinner, from *Common Plants of the Mid-Atlantic Coast. A Field Guide*, by Gene M. Silberhorn.

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TIDAL FRESHWATER ECOSYSTEMS BIBLIOGRAPHY

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INTRODUCTION

Tidal freshwater ecosystems represent an important transition zone between saline reaches of estuaries and non-tidal riverine environments. Tidal freshwater systems are distributed worldwide, but have been intensively studied in only a few geographic regions, such as the U.S. east coast and western Europe. Typically, tidal freshwater systems are characterized by high physical stress due to sediment instability and tidal action, which results in low species diversity. However, a number of anadromous and resident fish species utilize tidal freshwater reaches of estuaries as a spawning and nursery area, including economically significant species such as striped bass, American shad, and Atlantic sturgeon. Tidal freshwater marshes are a unique wetland community type, and are utilized extensively by migratory and wading bird species. Much of the research conducted in tidal freshwater ecosystems, particularly in the mid-Atlantic region of the U.S., has focused on the ecology of tidal freshwater marshes.

The existing literature on tidal freshwater ecosystems is scattered among numerous technical journals spanning a variety of scientific disciplines. A considerable body of gray literature, in the form of agency and institutional reports, is available. We have included both the primary and grey literature in our compilation, and indexed the body of work by author and subject. We hope that this resource will benefit current and future scientists and resource managers working in tidal freshwater ecosystems.

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1. Adams, D.D., 1978. Habitat development field investigations, Windmill Point marsh development site, James River, Virginia; Appendix F: Environmental impacts of marsh development with dredged material: sediment and water quality; Volume II: Substrate and chemical flux characteristics of a dredged material marsh. U.S. Army Waterways Exp. Stn. Tech. Rep. D-77-23.
2. Admiraal, W., G. Vandervelde, H. Smit, and W.G. Cazemier. 1993. The Rivers Rhine and Meuse in the Netherlands: present state and signs of ecological recovery. *Hydrobiologia* 265:97-128.
3. Anderson, A.B., and R.E. Schmidt. 1989. A survey of larval and juvenile fish populations in water chestnut (*Trapa natans*) in Tivoli South Bay, a Hudson River tidal marsh. VI-1 in E.A. Blair and J.R. Waldman, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1988. New York: Hudson River Foundation.
4. Anderson, G.F. 1986. Silica, diatoms, and a freshwater productivity maximum in Atlantic coastal plain estuaries, Chesapeake Bay. *Est. Coast. Shelf. Sci.* 22: 183-197.
5. Anderson, R.R., R.G. Brown, and R.D. Rappllye. 1968. Water quality and plant distribution along the upper Patuxent River, Maryland. *Ches. Sci.* 9:145-156.
6. Aust, W.M., S.F. Mader, L.J. Mitchell, and R. Lea. 1990. An approach to the inventory of forested wetlands for timber-harvesting impact assessment. *For. Ecol. Manage.* 33:215-225.
7. Austin, H.K., and S.E.G. Findlay. 1989. Benthic bacterial biomass and production in the Hudson River Estuary. *Microb. Ecol.* 18:105-116.
8. Barbour, S., and E. Kiviat. 1986. A survey of Lepidoptera in Tivoli North Bay (Hudson River Estuary). IV-1 in J.C. Cooper, ed. Polgar Fellowship Reports of the Hudson River National Estuarine Sanctuary Program, 1985. New York: Hudson River Foundation.
9. Bayley, S., V. Stotts, P.F. Springer, and J. Steenis. 1978. Changes in submerged aquatic macrophyte populations at the head of Chesapeake Bay, 1958-75. *Estuaries* 1:73-84.
10. Beaven, M., and J. A. Mihursky. 1980. Food and feeding habits of larval striped bass: analysis of larval striped bass stomachs from the 1976 Potomac estuary collection: final report to Maryland Department of Natural Resources Power Plant Siting Program. Solomons, MD: University of Maryland, Chesapeake Biological Laboratory. (Reference No.UMCEES 79-45-CBL).
11. Bennett, J.P., J.C. Woodward, and D.J. Schultz. 1986. Effect of discharge on the chlorophyll a distribution in the tidally-influenced Potomac River. *Estuaries* 9:250-260.
12. Benninger, L.K., and C.S. Martens. 1983. Sources and fates of sedimentary organic matter in the White Oak and Neuse River Estuaries. Raleigh, NC: Water Resources Research Institute of the University of North Carolina.
13. Bewers, J.M., and P.A. Yeats. 1978. Trace metals in the waters of a partially mixed estuary. *Est. Coast. Mar. Sci.* 7:147-162.

14. Bianchi, T.S., and S. Findlay. 1990. Plant pigments as tracers of emergent and submergent macrophytes from the Hudson River. *Can. J. Fish. Aquat. Sci.* 47:492-494.
15. Bianchi, T.S., and S. Findlay. 1991. Decomposition of Hudson Estuary macrophytes: photosynthetic pigment transformations and decay constants. *Estuaries* 14:65-73.
16. Bianchi, T.S., J.E. Dibb, and S. Findlay. 1993. Early diagenesis of plant pigments in Hudson River sediments. *Est. Coast. Shelf Sci.* 36:517-527.
17. Bianchi, T.S., S. Findlay, and R. Dawson. 1993. Organic matter sources in the water column and sediments of the Hudson River Estuary: the use of plant pigments as tracers. *Est. Coast. and Shelf Sci.* 36:359-376.
18. Bianchi, T.S., S. Findlay, and D. Fontvieille. 1991. Experimental degradation of plant materials in Hudson River sediments. *Biogeochemistry* 12:181-187.
19. Bianchi, T.S., S. Findlay, R. Dawson, J.E. Dibb, and D. Fontvieille. 1991. Plant photopigments as tracers of organic matter in the tidal freshwater Hudson River: final report to the Hudson River Foundation 003/88A. New York: Hudson River Foundation.
20. Billen, G. 1975. Nitrification in the Scheldt Estuary. *Est. Coast Mar. Sci.* 3:79-89.
21. Birch, J.B., and J.L. Cooley. 1982. Production and standing crop patterns of giant cutgrass (*Zizaniopsis miliacea*) in a freshwater tidal marsh. *Oecologia* 52:230-235.
22. Birch, J.B., and J.L. Cooley. 1983. Regrowth of giant cutgrass (*Zizaniopsis miliacea*) following cutting. *Aquat. Bot.* 15:105-111.
23. Birtwell, I.K., and D.R. Arthur. 1980. The ecology of Tubificidae in the Thames Estuary, with particular references to *Tubifex costatus* (Caparede). pp. 331-381 *in* R.O. Brinkhurst and D.G. Cook, eds. *Aquatic Oligochaete Biology*. New York: Plenum Press.
24. Blanchard, S.F., and R.H. Coupe, Jr. 1982. Water quality of the Potomac River and estuary: hydrologic data report, 1981 water year. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 82-575).
25. Blanchard, S.F., R.H. Coupe, Jr., and J.C. Woodward. 1982. Water quality of the tidal Potomac River and estuary: hydrologic data report, 1980 water year. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open File Report 82-152).
26. Blanchard, S.F., and D.C. Hahl. 1981. Water quality of the tidal Potomac river and estuary: hydrologic data report, 1979 water year. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open File Report 82-152).
27. Bohne, C. and R.E. Schmidt. 1989. Larval fish flux between a freshwater tidal marsh and the Hudson River Estuary. VII-1 *in* E.A. Blair and J.R. Waldman, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program*, 1989. New York: Hudson River Foundation.
28. Bonasera, J., J. Lynch, and M.A. Leck. 1979. Comparison of the allelopathic potential of four marsh species. *Bull. Torrey Bot. Club* 106:217-222.

29. Bowden, W.B. 1984a. Nitrogen and phosphorus in the sediments of a freshwater tidal marsh in Massachusetts. *Estuaries* 7:108-118.
30. Bowden, W.B. 1984b. A nitrogen-15 isotope dilution study of ammonium production and consumption in a marsh sediment. *Limnol. Oceanogr.* 29:1004-1015.
31. Bowden, W.B. 1986. Nitrification, nitrate reduction and nitrogen immobilization in a tidal freshwater marsh sediment. *Ecology* 67:88-99.
32. Boynton, W.R., and W.M. Kemp. 1982. The temporal and spatial influences of sediment processes on water quality and productivity in a temperate estuary. *Atlantica* 5:15-16.
33. Boynton, W.R., T.T. Polgar, and H.H. Zion. 1981. Importance of juvenile striped bass food habits in the Potomac Estuary. *Trans. Am. Fish. Soc.* 110:56-63.
34. Boynton, W.R., E.M. Setzler, K.V. Wood, H.H. Zion, M. Homer, and J.A. Mihursky. 1977. Final report on Potomac River Fisheries Study: ichthyoplankton and juvenile investigations. Solomons, Maryland: University of Maryland Chesapeake Biological Laboratory (UMCEES 77-196-CBL).
35. Bradfield, G.E., and G.L. Porter. 1982. Vegetation structure and diversity components of a Fraser Estuary tidal marsh. *Can. J. Bot.* 60:440-461.
36. Brown-Peterson, N. and M.S. Peterson. 1990. Comparative life history of female mosquitofish, *Gambusia affinis*, in tidal freshwater and oligohaline habitats. *Env. Biol. Fish.* 27:33-41.
37. Brundage, H.M., and R.E. Meadows. 1982. Occurrence of the endangered shortnose sturgeon, *Acipenser brevirostrum*, in the Delaware River Estuary. *Estuaries* 5:203-208.
38. Brunori, C.R. 1986. Wildlife wetland habitat and permit review: environmental modification for enhancement benefits on a tidal freshwater project. pp. 453-462 in *Proceedings of a Symposium on Waterfowl and Wetlands Management in the Coastal Zone of the Atlantic Flyway*. Dover, DE: Delaware Department of Natural Resources and Environmental Control, Division of Fish and Wildlife.
39. Buchanan, C., and J.A. Schloss. 1983. Spatial distributions and hypothetical grazing pressures of zooplankton in the tidal, freshwater Potomac River. *J. Freshwat. Ecol.* 2:117-128.
40. Buckley, J., and B. Kynard. 1985. Yearly movements of shortnose sturgeons in the Connecticut River. *Trans. Am. Fish. Soc.* 114:813-820.
41. Burbidge, R.G. 1993. Distribution, growth, selective feeding, and energy transformations of young-of-the-year blueback herring, *Alosa aestivalis* (Mitchill) in the James River, Virginia. *Trans. Am. Fish. Soc.* 102: 297-311.
42. BATTERY, B.R., and J.M. Lambert. 1965. Competition between *Glyceria maxima* and *Phragmites communis* in the region of Surlingham Broad. I. The competition mechanism. *J. Ecol.* 53:163-182.
43. Caldwell, F.A., and G.E. Crow. 1992. A floristic and vegetation analysis of a freshwater tidal marsh on the Merrimack River, West Newbury, Massachusetts. *Rhodora* 94:63-97.

44. Callender, E., and D.E. Hammond. 1982. Nutrient exchange across the sediment-water interface in the Potomac river estuary. *Est. Coast. Shelf Sci.* 15:395-413.
45. Callender, E., V. Carter, D.C. Hahl, K. Hitt, and B.I. Schultz, eds. 1984. A water-quality study of the tidal Potomac River and Estuary - an overview. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Water Supply Paper 2233).
46. Campbell, M., and B.L. Dexter. 1987. Identification, distribution and abundance patterns of aquatic algae and herbivores in marshlands of the Hudson River National Estuarine Research Reserve (Stockport Flats component). VI-1 *in* E.A. Blair and J.C. Cooper, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986. New York: Hudson River Foundation.
47. Carey, K.M., and R. H. Waines. 1987. Geology, hydrology and related historical aspects of the Tivoli Bays, Cruger Island and Magdalen Island, Town of Red Hook, Dutchess County, New York and of Stockport Flats, Town of Stockport, Columbia County, New York, including a study of the relationship of a proposed landfill and Stockport Flats. VIII-1 *in* E.A. Blair and J.C. Cooper, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986. New York: Hudson River Foundation.
48. Carlson, D.M., and K.W. Simpson. 1987. Gut contents of juvenile short-nose sturgeon in the upper Hudson Estuary. *Copeia* 1987:796-802.
49. Carter, V. 1986. Water quality in the tidal Potomac River and Estuary. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 86-145).
50. Carter, V., J.W. Barko, G.L. Godshalk, and N.B. Rybicki. 1988. Effects of submersed macrophytes on water quality in the tidal Potomac River, Maryland. *J. Freshwat. Ecol.* 4:493-501.
51. Carter, V., P.T. Gammon, and N. Bartow. 1983. Submersed aquatic plants of the tidal Potomac River. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Bulletin 1543).
52. Carter, V., and G.M. Haramis. 1980. Distribution and abundance of submersed aquatic vegetation in the tidal Potomac River - implications for waterfowl. *Atl. Nat.* 33:14-19.
53. Carter, V., J.E. Paschal, and N. Bartow. 1985. Distribution and abundance of submersed aquatic vegetation in the tidal Potomac River and Estuary, Maryland and Virginia, May 1978 to November 1981. Reston, VA: U.S. Geological Survey. (U. S. Geological Survey Water Supply Paper 2234-A).
54. Carter, V., J.E. Paschal, Jr., and G.M. Haramis. 1980. Submersed aquatic vegetation in the tidal Potomac. pp. 1537 - 1557 *in* B.L. Edge, ed. Coastal Zone '80: proceedings of the Second Symposium on Coastal and Ocean Management. New York: American Society of Civil Engineers.
55. Carter, V., and N.B. Rybicki. 1986a. Resurgence of submersed aquatic macrophytes in the tidal Potomac River. *Estuaries* 9:368-375.

56. Carter, V., and N.B. Rybicki. 1986b. The effects of grazers and light penetration on the survival of transplants of *Vallisneria americana* Michx. in the tidal Potomac River, Maryland. *Aquat. Bot.* 23:197-213.
57. Carter, V., and N.B. Rybicki. 1991. Light attenuation and submersed macrophyte distribution in the tidal Potomac River and estuary. *Estuaries* 13:441-452.
58. Carter, V., N.B. Rybicki, R.T. Anderson, T.J. Trombley, and G.L. Zynjuk. 1985. Data on the distribution and abundance of submersed aquatic vegetation in the tidal Potomac River and transition zone of the Potomac Estuary, Maryland, Virginia and the District of Columbia, 1983 and 1984. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 85-82).
59. Carter, V., N.B. Rybicki, and R. Hammerschlag. 1991. Effects of submersed macrophytes on dissolved oxygen, pH, and temperature under different conditions of wind, tide and bed structure. *J. Freshwat. Ecol.* 6:121-133.
60. Carter, V., N.B. Rybicki, R.C. Jones, J.W. Barko, P.V. Dresler, R.E. Hickman, and R.T. Anderson. 1989. Data on physical, chemical, and biological data and characteristics of *Hydrilla* beds, mixed beds, and unvegetated sites in the tidal Potomac River, Maryland and Virginia, 1987. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 88-709).
61. Carter, V., N.B. Rybicki, and C.L. Schulman. 1987. Effect of salinity and temperature on germination of monoecious *Hydrilla* propagules. *J. Aquat. Plant. Manage.* 25:54-57.
62. Carter, V., N. B. Rybicki, and M. Turtora. 1991. Population dynamics of submersed macrophytes in the tidal Potomac River. pp. 41-53 *in* Proceedings, 25th Annual Meeting, Aquatic Plant Control Research Program. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station. (Miscellaneous paper A-91-3).
63. Cassellato, S., and R. Poja. 1984. Ecology of tubificids in the lower reaches of the Rivers Adige and Brenta (N.E. Italy). *Boll. Zool.* 51:339-352.
64. Cauwet, G., and Meybeck, M. 1987. Seasonal fluctuations of carbon levels in a temperate river, Loire River (France). pp. 349-357 *in* E.T. Degens, S. Kempe, and G. Weibin, eds. *Transport of Carbon and Minerals in Major World Rivers*. Hamburg: Im Selbstverlag des Geologisch-Paläontologischen Institutes der Universität Hamburg. (Mitteilungen aus dem Geologisch-Paläontologischen Institut der Universität Hamburg, Heft 64).
65. Cerco, C.F., 1981. Nitrification in the upper tidal James River. pp. 413-424 *in* Neilson, B.J., and L.E. Cronin, eds. *Estuaries and Nutrients*. Clifton, NJ: Humana Press.
66. Cerco, C.F. 1988. Sediment nutrient fluxes in a tidal freshwater embayment. *Water Res. Bull.* 24:255-260.
67. Cerco, C.F., A.Y. Kuo, and P.V. Hyer. 1987. Model study of eutrophication in Virginia's Potomac embayments. pp. 119-124 *in* Lynch, M.P. and K.L. McDonald, eds. *Estuarine and Coastal Management - Tools of the Trade: Proceedings of 10th national conference, The Coastal Society, New Orleans, LA, Oct. 12 - 15, 1986, v.1*. Bethesda, MD: The Coastal Society.

68. Chambers, R.M. 1992. A fluctuating water-level chamber for biogeochemical experiments in tidal marshes. *Estuaries* 15:53-58.
69. Chambers, R.M., and J.W. Fourqurean. 1991. Alternative criteria for assessing nutrient limitation of a wetland macrophyte (*Peltandra virginica* (L.) Kunth). *Aquat. Bot.* 40:305-320.
70. Chambers, R.M., and W. E. Odum. 1990. Porewater oxidation, dissolved phosphate and the iron curtain. *Biogeochemistry* 10:37-52.
71. Chanton, J.P., and C.S. Martens. 1988. Seasonal variations in ebullitive flux and carbon isotopic composition of methane in a tidal freshwater estuary. *Global Biogeochem. Cycles.* 2:289-298.
72. Chanton, J.P., C.S. Martens, and C.A. Kelley. 1989. Gas transport from methane-saturated, tidal freshwater and wetland sediments. *Limnol. Oceanogr.* 34:807-819.
73. Clairain, E.J., R.A. Cole, R.J. Diaz, A.W. Ford, R.T. Huffman, L.J. Hunt, and B.R. Wells. 1978. Habitat development field investigations, Miller Sands Marsh and Upland Habitat Development Site, Columbia River, Oregon: summary report. Vicksburg, MS: U.S. Army Waterways Experiment Station. (U.S. Army Waterways Experiment Station Technical Report D-77-38).
74. Clark, L.J., and N.A. Jaworski. 1972. Nutrient transport and dissolved oxygen budgets in the Potomac estuary. Annapolis, MD: U.S. Environmental Protection Agency Field Office, Region III. (Technical report 37).
75. Clark, L.J., N.A. Jaworski, and S.E. Roesch. 1978. Assessment of 1977 water quality conditions in the upper Potomac Estuary. Annapolis, MD: U. S. EPA Annapolis Field Office, Annapolis Science Center. (EPA Report 903/9-78-008).
76. Clark, L.J., S.E. Roesch, and M.M. Bray. 1980. Assessment of 1978 water quality conditions in the upper Potomac Estuary. Annapolis, MD: U. S. Environmental Protection Agency, Region III, Central Regional Laboratory. (Report 903/9-80-002).
77. Cohen, R.R. H. 1986. Phytoplankton dynamics of the fresh tidal Potomac River, Maryland, for the summers of 1979 to 1981. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Water Supply Paper 2234-C).
78. Cohen, R.R.H., P.V. Dresler, E.J.P. Phillips, and R.L. Cory. 1984. The effect of the Asiatic clam, *Corbicula fluminea*, on phytoplankton of the Potomac River, Maryland. *Limnol. Oceanogr.* 29:170-180.
79. Cohen, R.R. H., and S. O. Pollock. 1983. Primary productivity by phytoplankton in the tidal, fresh Potomac River, Maryland, May 1980 to August 1981. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Water Research Report 83-4255).
80. Cohen, R.R. H., S.O. Pollock, V.E. Stoezel, and K.E. Boulukos. 1985. Phytoplankton abundance and generic composition data for the Potomac River and Estuary, Maryland. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 84-859).

81. Cole, B.E., and D.D. Harmon. 1980. Phytoplankton productivity, respiration, and nutrient regeneration in the Potomac River, August 1977-August 1978. Reston, VA: U.S. Geological Survey. (US. Geological Survey Open-File Report 81-700).
82. Cole, J.J., N.F. Caraco, and B. Peierls. 1991. Phytoplankton primary production in the tidal, freshwater Hudson River, New York (USA). *Verh. int. Verein. Limnol.* 24:1715-1719.
83. Cole, J.J., N.F. Caraco, and B. Peierls. 1992. Can phytoplankton maintain a positive carbon balance in a turbid, freshwater, tidal estuary? *Limnol. Oceanogr.* 37:1608-1617.
84. Conner, J. 1978. Osprey trapped by water chestnut. *Auk* 95:610-611.
85. Conte, M.H., R.G. Otto, and P.E. Miller. 1979. Short-term variability in surface catches of ichthyoplankton in the upper Chesapeake Bay. *Est. Coast. Mar. Sci.* 8:511-522.
86. Coupe, R.H., Jr., and W.E. Webb. 1984. Water quality of the tidal Potomac River and Estuary: hydrologic data reports supplement, 1979 through 1981 water years. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 84-132).
87. Crumb, S.E. 1977. Macrobenthos of the tidal Delaware River between Trenton and Burlington, New Jersey. *Ches. Sci.* 18:253-265.
88. Dauer, D.M., R.M. Ewing, and A.J. Rodi. 1987. Macrobenthic distribution within the sediment along an estuarine salinity gradient: benthic studies of the lower Chesapeake Bay, U.S.A. *Int. Revue ges. Hydrobiol.* 72:529 -538.
89. Davis, F.W. 1985. Historical changes in submerged macrophyte communities of upper Chesapeake Bay. *Ecology* 66:981-993.
90. DeFur, P.L., D. Nusbaumer, and R.J. Lewis. 1988. Physiological aspects of molting in blue crabs from the tidal freshwater Potomac River, Virginia. *J. Crust. Biol.* 8:12-19.
91. Den Hartog, C. 1963. The amphipods of the deltaic region of the Rivers Rhine, Meuse and Scheldt in relation to the hydrography of the area. Part I. Introduction and hydrography. *Neth. J. Sea Res.* 2:29-39.
92. Den Hartog, C. 1964. The amphipods of the deltaic region of the Rivers Rhine, Meuse and Scheldt in relation to the hydrography of the area. Part III. The Gammaridae. *Neth. J. Sea Res.* 3:407-457.
93. DeSeve, M.A. 1993. Diatom bloom in the tidal freshwater zone of a turbid and shallow estuary, Rupert Bay (James Bay, Canada). *Hydrobiologia* 269/270:225-233.
94. DeVries, C., and C.B. DeWitt. 1987. Freshwater tidal wetlands community description and relation of plant distribution to elevation and substrate. IX-1 in E.A. Blair and J.C. Cooper, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986. New York: Hudson River Foundation.
95. Dey, W.D. 1981. Mortality and growth of young-of-the-year striped bass in the Hudson River Estuary. *Trans. Am. Fish. Soc.* 110:151-157.

96. Dias, R.K., J.V. Merriner, and M. Hedgepeth. 1978. Part III, Aquatic biology - nekton. pp. 55-78 in Habitat development field investigations, Windmill Point Marsh development site, James River, Virginia: Appendix D: Environmental impacts of marsh development with dredged material: botany, soils, aquatic biology and wildlife. Vicksburg, MS: U.S. Army Waterways Experiment Station. (Waterways Experiment Station Technical Report D-77-23).
97. Diaz, R.J. 1974. Asiatic clam, *Corbicula manilensis* (Philippi), in the tidal James River, Virginia. Ches. Sci. 15:118-120.
98. Diaz, R.J. 1978. Ecology of tidal freshwater and estuarine Tubificidae (Oligochaeta) pp. 319-330 in Brinkhurst, R.O. and D.G. Cook, eds. Aquatic Oligochaete Biology. New York: Plenum Press.
99. Diaz, R.J. 1989. Pollution and tidal benthic communities of the James River Estuary, Virginia. Hydrobiologia 180:195-211.
100. Diaz, R.J., and D.F. Boesch. 1977. Habitat development field investigations, Windmill Point Marsh development site, James River, Virginia; Appendix C: Environmental impacts of marsh development with dredged material: acute impacts on the macrobenthic community. Vicksburg, MS: U.S. Army Waterways Experiment Station. (U.S. Army Waterways Experiment Station Technical Report D-77-23).
101. Diaz, R.J., D.F. Boesch, J.L. Haver, C.A. Stone, and K. Munson. 1978. Part II, Aquatic biology - benthos. pp. 18-54 in Habitat development field investigations, Windmill Point Marsh development site, James River, Virginia. Appendix D: Environmental impacts of marsh development with dredged material: botany, soils, aquatic biology and wildlife. Vicksburg, MS: U.S. Army Waterways Experiment Station. (U.S. Army Waterways Experiment Station Technical Report D-77-23).
102. Doumlele, D., and G. Silberhorn. 1978. Part IV, Botanical studies. pp. 107-123 in Habitat development field investigations, Windmill Point Marsh development site, James River, Virginia. Appendix D: Environmental impacts of marsh development with dredged material: botany, soils, aquatic biology and wildlife. Vicksburg, MS: U.S. Army Waterways Experiment Station. (U.S. Army Waterways Experiment Station Technical Report D-77-23).
103. Doumlele, D., B. Fowler, and M. Silberhorn. 1985. Vegetative community structure of a tidal freshwater swamp in Virginia. J. Soc. Wetl. Sci. 4:129-145.
104. Doumlele, D.G. 1981. Primary production and seasonal aspects of emergent plants in a tidal freshwater marsh. Estuaries 4:139-142.
105. Dovel, W.L. 1971. Fish eggs and larvae of the upper Chesapeake Bay. Solomons, MD: Natural Resources Institute, University of Maryland. (NRI Special Report no. 4).
106. Dovel, W.L., and J.R. Edmunds, IV. 1971. Recent changes in striped bass (*Morone saxatilis*) spawning sites and commercial fishing areas in upper Chesapeake Bay; possible influencing factors. Ches. Sci. 12:33-39.
107. Dresler, P.V., and R.L. Cory. 1980. The Asiatic clam, *Corbicula fluminea*, in the tidal Potomac River, Maryland. Estuaries 3:150-151.

108. Drill, S., and R.E. Schmidt. 1988. The composition of the summer zooplankton community in Tivoli Bays, Hudson River, New York. II-1 *in* J.R. Waldman and E.A Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1987. New York: Hudson River Foundation.
109. Dubinski, B.J., R.L. Simpson, and R.E. Good. 1986. The retention of heavy metals in sewage sludge applied to a freshwater tidal wetland. *Estuaries* 9:102-111.
110. Duinker, J.C., and R.F. Nolting. 1978. Mixing, removal, and mobilization of trace metals in the Rhine Estuary. *Neth. J. Sea Res.* 12: 205-223.
111. Duinker, J.C., R. Wollast, and G. Billen. 1979. Behaviour of manganese in the Rhine and Scheldt estuaries. II. Geochemical cycling. *Est. Coast. Mar. Sci.* 9: 727-738.
112. Duryea, M., and R.E. Schmidt. 1987. Feeding biology of tessellated darter (*Etheostoma olmstedi atromaculatum*) at Tivoli North Bay, Hudson River, New York. III-1 *in* E.A. Blair and J.C. Cooper, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986. New York: Hudson River Foundation.
113. Elkins, J.W., S.C. Wofsy, M.B. McElroy, and W.A. Kaplan. 1981. Nitrification and production of N₂O in the Potomac: evidence for variability. pp 447-464 *in* Neilson, B.J., and L.E. Cronin, eds. *Estuaries and Nutrients*. Clifton, NJ: Humana Press.
114. Erondy, E.S., and A.C. Chindah. 1991. Physico-chemical and phytoplankton changes in a tidal freshwater station of the New Calabar, southeastern Nigeria. *Environ. Ecol.* 9:561-570.
115. Ettinger, W.S. 1982. Macrobenthos of the freshwater tidal Schuylkill River at Philadelphia, Pennsylvania. *J. Freshwat. Ecol.* 1:599-606.
116. Ettinger, W.S., R.W. Blye, Jr. 1981. Occurrence of the blue crab *Callinectes sapidus* in the tidal freshwater reaches of the Delaware and Schuylkill rivers in 1976. *J. Crust. Biol.* 1:183-189.
117. Fassett, N.C. 1925. *Bidens eatoni* and its varieties. *Rhodora* 27:142-146.
118. Ferguson, H.A., and W.J. Wolff. 1984. The Haringvliet Project: the development of the Rhine-Meuse Estuary from tidal inlet to stagnant freshwater lake. *Water Sci. Technol.* 16:11-26.
119. Ferren, W. R., Jr., and R.E. Good. 1977. Habitat, morphology, and phenology of southern wild rice (*Zizania aquatica* L.) from the Wading River in New Jersey. *Bull. Torrey Bot. Club* 104:392-396.
120. Ferren, W.R., Jr., and A.E. Schuyler. 1980. Intertidal vascular plants of river systems near Philadelphia. *Proc. Acad. Nat. Sci. Phil.* 132:86-120.
121. Fewlass, L. 1980. Life history and management of the largemouth bass in the upper Chesapeake Bay: final report F-20-R, warmwater fisheries investigations, Study no. 2, largemouth bass management, job no. 2. Annapolis: Maryland Department of Natural Resources.

122. Findlay, S., K. Howe, and H.K. Austin. 1990. Comparison of detritus dynamics in two tidal freshwater wetlands. *Ecology* 71: 288-295.
123. Findlay, S., K. Limburg, and D. Strayer. 1988. Modelling carbon flow in Tivoli South Bay. IX-1 in J.R. Waldman and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1987. New York: Hudson River Foundation.
124. Findlay, S., M. Pace, and D. Lints. 1991. Variability and transport of suspended sediment, particulate and dissolved organic carbon in the tidal freshwater Hudson River. *Biogeochemistry* 12:149-169.
125. Findlay, S., M.L. Pace, and D. Lints. 1991. Bacterial metabolism and use of organic carbon in the tidal freshwater Hudson River. Final Report to the Hudson River Foundation 007/89A.
126. Findlay, S., M.L. Pace, D. Lints, J.J. Cole, N.F. Caraco, and B. Peierls. 1991. Weak coupling of bacterial and algal production in a heterotrophic ecosystem: The Hudson River Estuary. *Limnol. Oceanogr.* 36:268-278.
127. Findlay, S., M.L. Pace, D.Lints, and K. Howe. 1992. Bacterial metabolism of organic carbon in the tidal freshwater Hudson Estuary. *Mar. Ecol. Prog. Ser.* 89:147-153.
128. Findlay, S., K. Schoeberl, and B. Wagner. 1989. Abundance, composition, and dynamics of the invertebrate fauna of a tidal freshwater wetland. *J. N. Am. Benthol. Soc.* 8:140-148.
129. Flemer, D.A., D.R. Heinle, C.W. Keefe, and D.H. Hamilton. 1978. Standing crops of marsh vegetation of two tributaries of Chesapeake Bay. *Estuaries* 1:154-163.
130. Fowler, B.K., and C. Hershner. 1989. Primary production in Cohoke Swamp, a tidal freshwater wetland in Virginia. pp. 365-374 in R.R. Sharitz and J.W. Gibbons, eds. *Freshwater Wetlands and Wildlife: proceedings of a conference held at Charleston, SC, March 24-27, 1986.* Washington, DC: U.S. Dept. of Energy. (DOE symposium series 61).
131. Fox, A.M., W.T. Haller, and K.D. Getsinger. 1991. Factors that influence water exchange in spring-fed tidal canals. *Estuaries* 14: 404-413.
132. Fox, A.M., W.T. Haller, K.D. Getsinger, and W.R. Green. 1991. Characterization of water exchange in *Hydrilla*-infested tidal canals of the Crystal River, Florida. Vicksburg, MS: U.S. Army Engineers Waterways Experiment Station. (U.S. Army Engineers Waterways Experiment Station Miscellaneous paper A-91-2).
133. Frucci, J.R., and R.W. Howarth. 1990. Carbon, nitrogen and phosphorous loading to the tidal, freshwater portion of the Hudson River Estuary from point and nonpoint sources: preliminary analyses. Final Report to the Hudson River Foundation 004/87A, 004/88A.
134. Fulton, R.S., and R.C. Jones. 1991. Growth and reproductive responses of *Daphnia* to cyanobacterial blooms on the Potomac River. *Int. Revue ges. Hydrobiol.* 76:5-19.

135. Garbisch, E.W., and L.B. Coleman. 1978. Tidal freshwater marsh establishment in upper Chesapeake Bay: *Pontedaria cordata* and *Peltandra virginica*. pp. 285-298 in R.E. Good, D.F. Whigham and R.L. Simpson, eds. *Freshwater Wetlands: Ecological Processes and Management Potential*. New York: Academic Press
136. Garofalo, D. 1980. The influence of wetland vegetation on tidal stream channel migration and morphology. *Estuaries* 3:258-270.
137. Garritt, R.H., and R.W. Howarth. 1989. Metabolism of submersed aquatic macrophyte beds in a freshwater portion of the Hudson River Estuary. III-1 in E.A. Blair and J.R. Waldman, (Eds.), *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989*. New York: Hudson River Foundation.
138. Gill, K.A., and S.G. Findlay. 1987. The contribution of bacteria to benthic processes in the Hudson River Estuary. VI-1 in E.A. Blair and J.C. Cooper, eds., *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986*. New York: Hudson River Foundation.
139. GKY and Associates, Inc. 1982. Tidewater Potomac cleanup, a decade of progress: a report for the Environmental Protection Agency. Rockville, MD: Interstate Commission on the Potomac River Basin.
140. Glooschenko, W.A., and I.P. Martini. 1983. Wetlands of the Attawapiskat River mouth, James Bay, Ontario, Canada. *Wetlands* 3:64-76.
141. Goldhammer, A. and S. Findlay. 1988. Estimation of suspended material flux between a *Trapa natans* stand and the Hudson River estuary. VIII-1 in J.R. Waldman and E.A. Blair, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1987*. New York: Hudson River Foundation.
142. Good, R.E., and N.F. Good. 1975. Vegetation and production of the Woodbury Creek-Hessian Run freshwater tidal marshes. *Bartonia* 43:38-45.
143. Good, R.E., R.W. Hastings, and R.E. Denmark. 1975. An environmental assessment of wetlands: a case study of Woodbury Creek and associated marshes. New Brunswick, NJ: Marine Sciences Center, Rutgers University. (Marine Sciences Center Technical Report no. 75-2).
144. Gould, K., and S. Findlay. 1991. Changes in interstitial water chemistry along a salinity gradient in the Hudson River. II-1 in E.A. Blair and J.R. Waldman, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1990*. New York: Hudson River Foundation.
145. Grabemann, I., H. Kuhle, B. Kunze, A. Muller, and L.J. R. Neumann. 1990. Studies on the distribution of oxygen and nutrients in the Weser Estuary. pp. 341-344 in W. Michaelis, ed. *Estuarine Water Quality Management: Monitoring, Modelling, and Research*. Berlin: Springer-Verlag. (Coastal and Estuarine Studies 36).
146. Grant, G.C., and J.E. Olney. 1991. Distribution of striped bass *Morone saxatilis* (Walbaum) eggs and larvae in major Virginia rivers. *Fish. Bull.* 89:187-193.

147. Grant, R.R., and R. Patrick. 1970. Tinicum Marsh as a water purifier. pp. 105-123 in J. McCormick, R.R. Grant, and R. Patrick, eds. Two Studies of Tinicum Marsh, Delaware and Philadelphia Counties, Pennsylvania. Washington, DC: The Conservation Foundation.
148. Green, D.M., S.B. Nack, and J.L. Forney. 1988. Identification of black bass spawning and nursery habitats in the Hudson River Estuary. Ithaca, NY: Cornell University. Final report to the Hudson River Foundation 017/86B.
149. Green, D.M., S.B. Nack, D. Bunnell, and J.L. Forney. 1989. Identification of black bass spawning and nursery habitats in the Hudson River Estuary. Ithaca, NY: Cornell University. Final report to the Hudson River Foundation 002/87R.
150. Hall, L.W., Jr. 1985. In-situ investigations for assessing striped bass, *Morone saxatilis* larval and yearling survival as related to contaminants and changes in water quality parameters: contaminants and water quality evaluations in east coast striped bass habitats report. Shady Side, MD: John Hopkins University Applied Physics Laboratory, Aquatic Ecology Section.
151. Hall, L.W., Jr. 1987. Acidification effects on larval striped bass, *Morone saxatilis* in Chesapeake bay tributaries: a review. *Water Air Soil Pollut.* 35:87-96.
152. Hall, L.W., Jr., W.S. Hall, S.J. Bushong, and R.L. Herman. 1987. In-situ striped bass (*Morone saxatilis*) contaminant and water quality studies in the Potomac River. *Aquat. Toxicol.* 10:73-99.
153. Hall, L.W., Jr., A.E. Pinkney, R.L. Herman, and S.E. Finger. 1987. Survival of striped bass larvae and yearlings in relation to contaminants and water quality in the upper Chesapeake Bay. *Arch. Environ. Contaminat. Toxicol.* 16:391-400.
154. Hall, L.W., Jr., A.E. Pinkney, L.O. Horseman, and S. E. Finger. 1985. Mortality of striped bass larvae in relation to contaminants and water quality in a Chesapeake Bay tributary. *Trans. Am. Fish. Soc.* 114:861-868.
155. Hall, L.W., Jr., M.C. Zeigenfuss, S.J. Bushong, M.A. Unger, and R. L. Herman. 1989. Studies of contaminant and water quality effects on striped bass prolarvae and yearlings in the Potomac River and upper Chesapeake Bay in 1988. *Trans. Am. Fish. Soc.* 118:619-629.
156. Hankin, N., and R.E. Schmidt. 1992. Standing crop of fishes in water celery beds in the tidal Hudson River. VIII-1 in Waldman, J.R. and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989. New York: Hudson River Foundation.
157. Haramis, G.M., and V. Carter. 1983. Distribution of submersed aquatic macrophytes in the tidal Potomac River. *Aquat. Bot.* 15:65-79.
158. Harris, J.H. 1987. Growth of Australian bass *Macquaria novemaculeata* (Perciformes: Percichthyidae) in the Sydney Basin. *Aust. J. Mar. Freshwat. Res.* 38:351-361.

159. Harley, M.T., and S. Findlay. 1992. The photosynthetic response of several submersed macrophyte species to light conditions in the tidal freshwater Hudson River. V-1 in Waldman, J.R. and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989. New York: Hudson River Foundation.
160. Harvey, J.W. and W.E. Odum. 1990. The influence of tidal marshes on upland groundwater discharge to estuaries. *Biogeochemistry* 10:217-236.
161. Hastings, R.W. and R.E. Good. 1977. Population analysis of the fishes of a freshwater tidal tributary of the lower Delaware River. *Bull. N.J. Acad. Sci.* 22:13-20.
162. Hawkins, P., and C.F. Leck. 1977. Breeding bird communities in a tidal freshwater marsh. *Bull. N.J. Acad. Sci.* 22:12-17.
163. Hearn, P.P., D.L. Parkhurst, and E. Callender. 1983. Authigenic vivianite in Potomac River sediments: control by ferric oxyhydroxides. *J. Sediment. Petrol.* 53:165-177.
164. Heilman, P.E., D.M. Greer, S.E. Brauen, and A.S. Baker. 1978. Habitat development field investigations, Miller Sands Marsh and upland habitat development site, Columbia River, Oregon: Appendix E: Postpropagation assessment of botanical and soil resources on dredged material. Vicksburg, MS: U.S. Army Engineers Waterways Experiment Station. (Waterways Experiment Station Technical report D-77-38).
165. Heinle, D.R., P. Pulles, and H.S. Millsaps. 1979. Population dynamics of zooplankton in the upper Potomac Estuary, March through May, 1977: final report to the State of Maryland, Power Plant Siting Program. Solomons, MD: University of Maryland, Chesapeake Biological Laboratory. (UMCEES 79-82-CBL).
166. Hobbs, H.H., and W.H. Massman. 1952. The river shrimp, *Macrobrachium ohione* (Smith), in Virginia. *Va. J. Sci.* 3:206-207.
167. Holliday, L.M., and P.S. Liss. 1976. The behaviour of dissolved iron, manganese and zinc in the Beaulieu estuary, S. England. *Est. Coast. Mar. Sci.* 4:349-353.
168. Hopkins, D., and D.M. Green. 1989. Evaluation of potential sources of recruitment of largemouth bass to the Hudson River. VIII-1 in E.A. Blair and J.R. Waldman, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989. New York: Hudson River Foundation.
169. Hopkinson, C.S., Jr. 1992. A comparison of ecosystem dynamics in freshwater wetlands. *Estuaries* 15:549-562.
170. Howarth, R.W., J.R. Frucci, and D. Sherman. 1990. Inputs of sediment and carbon to an estuarine ecosystem: influence of land use. *Ecol. Appl.* 1:27-39.
171. Howarth, R.W., R. Marino, R. Garritt, and D. Sherman. 1992. Ecosystem respiration and organic carbon processing in a large, tidally influenced river: the Hudson River. *Biogeochemistry* 16:83-102.
172. Hussey, B.H., and W.E. Odum. 1992. Evapotranspiration in tidal marshes. *Estuaries* 15: 59-67.

173. Jackson, R.H. , P.J. le B. Williams, and I.R. Joint. 1987. Freshwater phytoplankton in the low salinity region of the River Tamar Estuary. *Est. Coast. Shelf Sci.* 25:299-311.
174. Jaworski, N.A. 1990. Retrospective study of the water quality issues of the upper Potomac Estuary. *Rev. Aquat. Sci.* 3:11-40.
175. Jaworski, N.A., D.W. Lear, and O. Villa. 1972. Nutrient management in the Potomac Estuary. pp. 246-273 *in* G.E. Likens, ed. *Nutrients and Eutrophication: The Limiting Nutrient Controversy*. Lawrence, KS: American Society of Limnology and Oceanography.
176. Jenkins, J.D., and H.M. Johnson. 1978. Flood profiles in combined tidal freshwater zones. *Proc. Am. Soc. Civ. Eng., J. Hydraul. Div.* 104:919-922.
177. Jenter, H.L., N. Rybicki, R.A. Baltzer, and V. Carter. 1991. Tidal mass exchange between a submerged aquatic vegetation bed and the main channel of the Potomac River. pp. 298 - 304 *in* *Hydraulic Engineering: proceedings of the 1991 national conference*. New York: American Society of Civil Engineers.
178. Jervis, R.A. 1969. Primary production in the freshwater marsh ecosystem of Troy Meadows, New Jersey. *Bull. Torrey Bot. Club* 96:209-231.
179. John, D.M., L.R. Johnson and J.A. Moore. 1990. Observations on the phytobenthos of the freshwater Thames. III. The floristic composition and seasonality of algae in the tidal and non-tidal river. *Arch. Hydrobiol.* 120:143-168.
180. Jonathan, G.E., and C.B. Powell. 1989. The crab larvae (Crustacea, Decapoda, Brachyura) of tidal freshwater and low-salinity estuaries in West Africa. *Trop. Freshwat. Biol.* 2:158-168.
181. Johnson, R.K., and T. S. Y. Koo. 1973. Production and distribution of fish eggs and larvae in the C and D Canal. Appendix I *in* *Hydrographic and ecological investigations: final Report, contract DACW-61-71-C-0062*. Philadelphia, PA: U.S. Army Corps of Engineers, Philadelphia District.
182. Johnson, R.K., and T. S. Y. Koo. 1973. Production and distribution of striped bass eggs in the C and D Canal. Appendix II *in* *Hydrographic and ecological investigations: final Report, contract DACW-61-71-C-0062*. Philadelphia, PA: U.S. Army Corps of Engineers, Philadelphia District.
183. Johnson, R.K., and T. S. Y. Koo. 1975. Production and distribution of striped bass (*Morone saxatilis*) eggs in the Chesapeake and Delaware Canal. *Ches. Sci.* 16:39-55.
184. Jones, P.W., J.S. Wilson, R.P. Morgan, H.R. Lunsford, and J. Lawson. 1977. Potomac River Fisheries Study: striped bass spawning stock assessment, interpretive report 1974-1976. Solomons, MD: University of Maryland, Chesapeake Biological Laboratory. (UMCEES 77-56-CBL).
185. Jones, R.C. 1988a. Submersed aquatic weedbeds as a habitat in the tidal freshwater Potomac. pp. 15-25 *in* M.P. Sullivan and J.H. Hannahan, eds. *Submerged Aquatic Vegetation in the Potomac*. Washington, DC: D.C. Water Resources Research Center. (DC WRRC Report no. 87).

186. Jones, R.C. 1988b. Use of in situ nutrient addition and dilution bioassays to detect nutrient limitation in the tidal freshwater Potomac. pp. 241-252 in M.P. Lynch and E.C. Krome, eds. *Understanding the Estuary: Advances in Chesapeake Bay Research*. Solomons, MD: Chesapeake Research Consortium. (CRC Publication no. 129) (CBP/TRS 24/28).
187. Jones, R.C. 1990. The effect of submersed aquatic vegetation on phytoplankton and water quality in the tidal freshwater Potomac River. *J. Freshwat. Ecol.* 5:279-288.
188. Jones, R.C. 1991. Spatial and temporal patterns in a cyanobacterial phytoplankton bloom in the tidal freshwater Potomac River, U.S.A. *Verh. int. Verein. Limnol.* 24:1698-1702.
189. Jones, R.C., C. Buchanan, and V. Andrie. 1992. Spatial, seasonal and interannual patterns in the phytoplankton communities of a tidal freshwater ecosystem. *Va. J. Sci.* 43:25-40.
190. Jones, R.C., and D.P. Kelso. 1988. An ecological study of Gunston Cove - 1987-88: final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
191. Jones, R.C., and D.P. Kelso. 1989. An ecological study of Gunston Cove - 1988-89: final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
192. Jones, R.C., and D.P. Kelso. 1990. An ecological study of Gunston Cove - 1989-90. final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
193. Jones, R.C., and D.P. Kelso. 1992a. An ecological study of Gunston Cove - 1990-91: final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
194. Jones, R.C., and D.P. Kelso. 1992b. An ecological study of Gunston Cove - 1991-92: final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
195. Jones, R.C., D.P. Kelso, and P.L. deFur. 1985. An ecological study of Gunston Cove - 1984: final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
196. Jones, R.C., D.P. Kelso, and P.L. deFur. 1986. An ecological study of Gunston Cove - 1985-86: final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
197. Jones, R.C., G.F. Warner, P.L. deFur, and S.A. Touart. 1987. An ecological study of Gunston Cove - 1986-87: final report to Fairfax County, Virginia. Fairfax, VA: George Mason University, Dept. of Biology.
198. Kator, H., L.J. Morris, R.L. Wetzel, and E.T. Koepfler. 1992. A rapid chromatographic method for recovery of $^{15}\text{NO}_2^-$ and NO_3^- produced by nitrification in aqueous samples. *Limnol. Oceanogr.* 37:900-907.

199. Kelly, M., and W. Perrote. 1989. The epiphytic invertebrates of *Trapa natans* and *Myriophyllum* at Roosevelt Cove, Hyde Park, NY. IV-1 in E.A. Blair and J.R. Waldman eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1988. New York: Hudson River Foundation.
200. Kemp, W.M., R.R. Twilley, J.C. Stevenson, W.R. Boynton, and J.C. Means. 1983. The decline of submerged vascular plants in upper Chesapeake Bay: summary of results concerning possible causes. *Mar. Tech. Soc. J.* 17:78-79.
201. Kernehan, R.J., M.R. Hendrick, and R.E. Smith. 1981. Early life history of striped bass in the Chesapeake and Delaware Canal and vicinity. *Trans. Am. Fish. Soc.* 110: 137-150.
202. Kerner, M., H. Kausch, and M. Kersten. 1986. Effect of tidal action on the distribution of nutrients and heavy metals in flat sediments of the Elbe Estuary. *Arch. Hydrobiol. Suppl.* 75:118-131.
203. Kerner, M., H. Kausch, and G. Miehllich. 1990. The effect of tidal action on the transformations of nitrogen in freshwater tidal flat sediments. *Arch. Hydrobiol. Suppl.* 75: 251-271.
204. Kerwin, J.A., R.E. Munro, and W.W.A. Peterson. 1975. Distribution and abundance of aquatic vegetation in the upper Chesapeake Bay, 1971-1973. pp. D1 - D21 in J. Davis, ed. *Impact of Tropical Storm Agnes on Chesapeake Bay. Appendix: The Effects of Tropical Storm Agnes on the Chesapeake Bay Estuarine System.* Gloucester Point, VA: Chesapeake Research Consortium, Inc.
205. Keup, L., and J. Bayliss. 1964. Fish distribution at varying salinities in the Neuse River Basin, North Carolina. *Ches. Sci.* 5:119-123.
206. Kilgore, K.J., R.P. Morgan, and N. B. Rybicki. 1989. Distribution and abundance of fishes associated with submersed aquatic plants in the Potomac River. *N. Amer. J. Fish. Manage.* 9:101-111.
207. Kircher, S.R., and R.C. Jones. 1991. The effect of pH on the release of phosphorous from the sediments of Gunston Cove, Virginia. in J.A. Mihursky and A. Chaney, eds. *New Perspectives in the Chesapeake System - A Research and Management Partnership.* Solomons, MD: Chesapeake Research Consortium. (CRC Publication No. 137).
208. Kiviat, E. 1973. A fresh-water tidal marsh on the Hudson, Tivoli North Bay. Paper 14, 33 p. in *Hudson River Ecology: proceedings of the 3rd Symposium on Hudson River Ecology.* New York: Hudson River Environmental Society.
209. Kiviat, E. 1976. Goldenclub, a threatened plant in the tidal Hudson River. Paper 21, 13 p. in *Hudson River Ecology: proceedings of the 4th Symposium on Hudson River Ecology.* New York: Hudson River Environmental Society.
210. Kiviat, E. 1978. Hudson River east bank natural areas, Clermont to Norrie. Arlington, VA: The Nature Conservancy.
211. Kiviat, E. 1980. A Hudson River tidemars snapping turtle population. *Trans. Northeast Sect. Wildl. Soc.* 37:158-168.

212. Kiviat, E. 1981. A Hudson River fresh-tidal marsh: management planning. *Restor. Manage. Notes* 1:14-15.
213. Kiviat, E. 1983. Osprey use of Tivoli Bays, (Town of Red Hook, Dutchess County) New York: report to the Museum of the Hudson Highlands, Cornwall-on-Hudson, New York. Annandale, NY: Hudsonia Ltd.
214. Kiviat, E. 1987. Water chestnut (*Trapa natans*). pp. 31-38 in Decker, D.J. and J.W. Enck, eds. *Exotic Plants with Identified Detrimental Impacts on Wildlife Habitats in New York State*. Ithaca, N.Y.: N.Y. State College of Agriculture and Life Sciences, Cornell University.
215. Kiviat, E., and D.C. Buso. 1977. Geographic distribution: *Graptemys geographica* (map turtle). *Herpetol. Rev.* 8:84.
216. Kiviat, E., and R.E. Schmidt. 1984. Survey of the aquatic biology of two abandoned barge slips at the proposed oil terminal site, Hudson, New York: report to Witeman, Osterman and Hanna, Albany, NY. Annandale, NY: Hudsonia Ltd.
217. Kiviat, E., R.E. Schmidt, and N. Zeising. 1985. Bank swallow and belted kingfisher nest in dredge spoil on the tidal Hudson river. *Kingbird* 35:3-6.
218. Kiviat, E., and J. Stapleton. 1983. *Bufo americanus* (American toad): estuarine habitat. *Herpetol. Rev.* 14:46.
219. Kiviat, E., and K. Westad. 1989. Ecological survey of the site of a proposed boardwalk at the Saugerties Lighthouse, Ulster County, New York: report to Heritage Task Force for the Hudson River Valley. Annandale, NY: Hudsonia Ltd.
220. Knox, S., M. Whitfield, D.R. Turner, and M.I. Liddicoat. 1986. Statistical analysis of estuarine profiles: III. Application to nitrate, nitrite and ammonium in the Tamar Estuary. *Est. Coast. Shelf Sci.* 22:619-636.
221. Knox, S., W.J. Langston, M. Whitfield, D.R. Turner, and M.I. Liddicoat. 1984. Statistical analysis of estuarine profiles: II. Application to arsenic in the Tamar estuary (S.W. England). *Est. Coast. Shelf Sci.* 18:623-638.
222. Knox, S., D.R. Turner, A.G. Dickson, M.I. Liddicoat, M. Whitfield, and E.I. Butler. 1981. Statistical analysis of estuarine profiles: application to manganese and ammonium in the Tamar Estuary. *Est. Coast. Shelf Sci.* 13:357-371.
223. Kohlenstein, L.C. 1980. Aspects of the population dynamics of striped bass (*Morone saxatilis*) spawning in Maryland tributaries of the Chesapeake Bay: prepared for Maryland Power Plant Siting Program. Laurel, MD: Johns Hopkins University Applied Physics Laboratory. (JHU PPSE T-14).
224. Kohlenstein, L.C. 1981. On the proportion of the Chesapeake Bay stock of striped bass that migrates into the coastal fishery. *Trans. Am. Fish. Soc.* 110:168-179.
225. Krogman, D.W., R. Butalla, and J. Sprinkle. 1986. Blooms of cyanobacteria on the Potomac River. *Plant Physiol.* 80:667-671.

226. Kuiper, J.G.J., and W.J. Wolff. 1970. The Mollusca of the estuarine region of the rivers Rhine, Meuse, and Scheldt in relation to the hydrography of the area. III. The genus *Pisidium*. *Basteria* 34:1-40.
227. Landers, L., A.S. Johnson, P.H. Morgan, and W.P. Baldwin. 1976. Duck foods in managed tidal impoundments in South Carolina. *J. Wildl. Manage.* 40:721-728.
228. Leck, M.A. 1979. Germination behavior of *Impatiens capensis* Meerb (Balsaminaceae). *Bartonia* 46:1-11.
229. Leck, M.A. 1989. Wetland seed banks. pp. 283-305 in M.A. Leck, V.T. Parker, and R.L. Simpson, eds. *Ecology of Soil Seed Banks*. San Diego: Academic Press.
230. Leck, M.A., and K.J. Graveline. 1979. The seed bank of a freshwater tidal marsh. *Am. J. Bot.* 66:1006-1015.
231. Leck, M.A., and R.L. Simpson. 1987a. Seed bank of a freshwater tidal wetland: turnover and relationship to vegetation change. *Am. J. Bot.* 74:360-370.
232. Leck, M.A., and R.L. Simpson. 1987b. Spore bank of a Delaware River freshwater tidal wetland. *Bull. Torrey Bot. Club* 114:1-7.
233. Leck, M.A., and R.L. Simpson. 1992. Effect of oil on recruitment from the seed bank of two tidal freshwater wetlands. *Wetl. Ecol. Manage.* 1:223-231.
234. Leck, M.A., and R.L. Simpson. 1993. Seeds and seedlings of the Hamilton Marshes, a Delaware River tidal freshwater wetland. *Proc. Acad. Nat. Sci. Philadelphia.* 144:267-281.
235. Leck, M.A., R.L. Simpson, and V.T. Parker. 1989. The seed bank of a tidal freshwater wetland and its relationship to vegetation dynamics. pp. 189-206 in R.R. Sharitz and J.W. Gibbons, eds. *Freshwater Wetlands and Wildlife: Proceedings of a conference held at Charleston, SC, March 24-27, 1986*. Washington, DC: U.S. Dept. of Energy (DOE symposium series 61).
236. Leck, M.A., R.L. Simpson, D.F. Whigham, and C.F. Leck. 1988. Plants of the Hamilton Marshes: a Delaware River tidal freshwater wetland. *Bartonia* 54:1-17.
237. Leonardi, L. 1991. Bryophytes of two New York State freshwater tidal swamps. *Evansia* 8:22-25.
238. Leonardi, L., and E. Kiviat. 1989. A moss and liverwort survey of freshwater tidal swamps along the Hudson River: report to the Alan DeVoe Bird Club. Annandale, NY: Hudsonia, Ltd.
239. Leonardi, L., and E. Kiviat. 1990. The bryophytes of the Tivoli Bays freshwater tidal swamps. III-1 in J.R. Waldman and E.A. Blair, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989*. New York: Hudson River Foundation.

240. Lickus, M., and P. Barten. 1991. Hydrology of a tidal freshwater marsh along the Hudson River Estuary. I-1 *in* E.A. Blair and J.R. Waldman eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1990. New York: Hudson River Foundation.
241. Limburg, K.E., and D. Strayer. 1988. Studies of young-of-the-year river herring and American shad in the Tivoli Bays, Hudson River, New York. VII-1 *in* J.R. Waldman and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1987. New York: Hudson River Foundation.
242. Lints, D., S. Findlay, and M. Pace. 1992. Biomass and energetics of consumers in the lower food web of the Hudson River. *in* C.L. Smith ed. Estuarine Research in the 1980's: the Hudson River Environmental Society 7th Symposium on Hudson River Ecology. Albany, NY: State University of New York Press.
243. Lipschultz, F., S.C. Wofsy, and J.E. Fox. 1986. Nitrogen metabolism of the eutrophic Delaware River ecosystem. *Limnol. Oceanogr.* 31:701-716.
244. Loesch, J.G., R.J. Huggett, and E.J. Foell. 1982. Kepone concentration in juvenile anadromous fishes. *Estuaries* 5:175-181.
245. Lovley, D.R., and E.J. Phillips. 1986. Availability of ferric iron for microbial reduction in bottom sediments of the freshwater tidal Potomac River. *Appl. Env. Microb.* 52:751-757.
246. Lunz, J.D. 1978. Habitat development field investigations, Windmill Point marsh development site, James River, Virginia: Appendix E: Environmental impacts of marsh development with dredged material: metals and chlorinated hydrocarbon compounds in marsh soils and vascular plant tissues. Vicksburg, MS: U.S. Army Waterways Experiment Station. (Waterways Experiment Station Technical Report D-77-23).
247. Lunz, J.D., T.W. Zweigler, R.T. Huffman, R.J. Diaz, E.J. Clairain, and L.J. Hunt. 1978. Habitat development field investigations, Windmill Point marsh development site, James River, Virginia; summary report. Vicksburg, MS: U.S. Army Waterways Experiment Station. (Waterways Experiment Station Technical Report D-77-23).
248. Manickam, S., L. Barbaroux, and F. Ottman. 1985. Composition and minerology of suspended sediment in the fluvio-estuarine zone of the Loire River, France. *Sedimentology* 32:721-741.
249. Marchesi, C.E., and P.K. Barten. 1992. Development of tidal discharge and sediment flux prediction functions at the Tivoli Bays Hudson River National Estuarine Research Reserve. I-1 *in* Waldman, J.R. and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989. New York: Hudson River Foundation.
250. Marino, R., and R.W. Howarth. 1993. Atmospheric oxygen exchange in the Hudson River: dome measurements and comparison with other natural waters. *Estuaries* 16:433-445.
251. Marshall, H.G., and L.F. Affronti. 1992. Seasonal phytoplankton development within three rivers in the lower Chesapeake Bay region. *Va. J. Sci.* 43:15-23.

252. Marshall, H.G., and R.W. Alden. 1990. A comparison of phytoplankton assemblages and environmental relationships in three estuarine rivers of the lower Chesapeake Bay. *Estuaries* 13:287-300.
253. Martens, C.S. and B. Goldhaber. 1978. Early diagenesis in transitional sedimentary environments of the White Oak River estuary, North Carolina. *Limnol. Oceanogr.* 23:428-441.
254. Martin, F.D., and E.M. Setzler-Hamilton. 1982. Assessment of larval striped bass stock in the Potomac River. Solomons, MD: University of Maryland Natural Resources Institute. (NRI Educational Series no. 61).
255. Martin, F.D., D.A. Wright, J.C. Means, and E.M. Setzler-Hamilton. 1985. Importance of food supply to nutritional state of larval striped bass in the Potomac River Estuary. *Trans. Am. Fish. Soc.* 114:137-145.
256. Massman, W.H. 1954. Marine fishes in fresh and brackish waters of Virginia rivers. *Ecology* 35:75-78.
257. Massman, W.H. 1963. Summer food of juvenile American shad in Virginia waters. *Ches. Sci.* 4:167-171.
258. Massman, W.H., E.C. Ladd and H.N. McCutcheon. 1954. Postlarvae and young of the menhaden (*Brevoortia tyrannus*) in brackish and fresh waters of Virginia. *Copeia* 1954:19-23.
259. McCarron, E., and S. Findlay. 1989. Sediment metabolism at Tivoli South Bay and a *Vallisneria* bed in the Hudson River. I-1 in E.A. Blair and J.R. Waldman, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989. New York: Hudson River Foundation.
260. McCormick, J. 1970. The natural features of Tinicum Marsh, with particular emphasis on the vegetation. pp. 1-104 in J. McCormick, R.R. Grant, and R. Patrick, eds. Two Studies of Tinicum Marsh, Delaware and Philadelphia Counties, Pennsylvania. Washington, DC: The Conservation Foundation.
261. McCormick, J. 1977. Maximum heights of plants in tidal freshwater marshes. *Bull. N.J. Acad. Sci.* 22:28-30.
262. McCormick, J., and T. Ashbaugh. 1972. Vegetation of a section of Oldmans Creek tidal marsh and related areas in Salem and Gloucester Counties, New Jersey. *Bull. N.J. Acad. Sci.* 17:31-37.
263. McGovern, J.C., and J.E. Olney. 1988. Potential predation by fish and invertebrates on early life history stages of striped bass in the Pamunkey River, Virginia. *Trans. Am. Fish. Soc.* 117:152-161.
264. McIvor, C.C., and W.E. Odum. 1986. The flume net: a quantitative method for sampling fishes and macrocrustaceans on tidal marsh surfaces. *Estuaries* 9: 219-224.
265. McIvor, C.C., and W.E. Odum. 1988. Food, predation risk, and microhabitat selection in a marsh fish assemblage. *Ecology* 69:1341-1351.

266. McIvor, C.C., L.P. Rozas, and W.E. Odum. 1989. Use of the marsh surface by fishes in tidal freshwater wetlands. pp. 541-552 in R.R. Sharitz and J.W. Gibbons, eds. *Freshwater Wetlands and Wildlife: Proceedings of a conference held at Charleston, SC, March 24-27, 1986*. Washington, DC: U.S. Dept. of Energy. (DOE symposium series 61).
267. McCleave, J.D., and R.C. Kleckner. 1982. Selective tidal stream transport in the estuarine migration of glass eels of the American eel (*Anguilla rostrata*). *J. Cons. Int. Explor. Mer.* 40:262-271.
268. McCleave, J.D., and G.S. Wippelhauser. 1987. Behavioral aspects of selective tidal stream transport in juvenile American eels. pp. 138-150 in Dadswell, M.J., R.J. Klauda, C.M. Moffitt, R.L. Saunders, R.A. Rulifson, and J.E. Cooper, eds. *Common Strategies of Anadromous and Catadromous Fishes*. Bethesda, MD: American Fisheries Society. (American Fisheries Society Symposium, 1).
269. McNaughton, S.J. 1968. Autotoxic feedback in relation to germination and seedling growth in *Typha latifolia*. *Ecology* 49:367-369.
270. McVaugh, R. 1947. Establishment of vegetation on sand-flats along the Hudson River, New York. *Ecology* 28:189-193.
271. McVaugh, R. 1957. Establishment of vegetation on sand-flats along the Hudson River, New York. II. The period 1945 - 1955. *Ecology* 38:23-29.
272. McVay, M.E., P.E. Heilman, D.M. Greer, and S.E. Brauen. 1980. Tidal freshwater marsh establishment on dredge spoils in the Columbia River Estuary. *J. Environ. Qual.* 9:488-493.
273. Meanley, B. 1965. Early fall food and habitat of the Sora in the Patuxent River marsh, Maryland. *Ches. Sci.* 6:235-237.
274. Meanley, B., and J.S. Webb. 1963. Nesting ecology and reproductive rate of the red-winged blackbird in tidal marshes of the upper Chesapeake Bay region. *Ches. Sci.* 4:90-100.
275. Meredith, W.H., R.J. Wolfe, D.B. Carter, and C.J. Stachecki, Jr. 1990. Restoration of a degraded, urban tidal freshwater marsh: an overview of the Broad Dyke project. *Proc. N.J. Mosq. Contr. Assoc.* 77:46-49.
276. Metropolitan Washington Council of Governments. 1984. *The upper Potomac Estuary: a report on water quality data for 1983*. Washington, DC: Metropolitan Washington Council of Governments.
277. Metropolitan Washington Council of Governments. 1985. *The 1983 algae bloom in the Potomac Estuary*. Washington, DC: Metropolitan Washington Council of Governments.
278. Metzler, K., and R. Rosza. 1982. Vegetation of fresh and brackish tidal marshes in Connecticut. *Newsl. Conn. Bot. Sci.* 10:2-4.
279. Meybeck, M., G. Cauwet, S. Dessery, M. Somville, D. Gouleau, and G. Billen. 1988. Nutrients (organic C,P,N, Si) in the eutrophic River Loire (France) and its estuary. *Est. Coast. Shelf Sci.* 27:595-624.

280. Mihursky, J.A., W.R. Boynton, E.M. Setzler, K.V. Wood, H.H. Zion, E.W. Gordon, L.Tucker, P. Pulles, and J. Leo. 1976. Final report on Potomac Estuary fisheries study: ichthyoplankton and juvenile investigations. Solomons, MD: University of Maryland, Chesapeake Biological Laboratory. (CEES 76-12-CBL).
281. Miller, A.J. 1987. Shore erosion as a sediment source to the tidal Potomac River, Maryland and Virginia. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Water-Supply Paper 2234-E).
282. Morris, A.W., A. J. Bale, and R.J.M. Howland. 1981. Nutrient distributions in an estuary: evidence of chemical precipitation of dissolved silicate and phosphate. *Est. Coast. Shelf. Sci.* 12:205-216.
283. Morris, A.W., A. J. Bale, and R.J.M. Howland. 1982. The dynamics of estuarine manganese cycling. *Est. Coast. Shelf. Sci.* 14:175-192.
284. Morris, A.W., D.H. Loring, A.J. Bale, R.J.M. Howland, R.F.C. Mantoura, and E.M.S Woodward. 1982. Particle dynamics, particulate carbon and the oxygen minimum in an estuary. *Oceanol. Acta* 5:349-353.
285. Morris, A.W., R.F.C. Mantoura, A.J. Bale, and R.J.M. Howland. 1978. Very low salinity regions of estuaries: important sites for chemical and biological reactions. *Nature* 274:678-680.
286. Morris, J.T., and W.B. Bowden. 1986. A mechanistic, numerical model of sedimentation, mineralization, and decomposition for marsh sediments. *Soil Sci. Soc. Am. J.* 50:96-105.
287. Morris, J.T. and K. Lajtha. 1986. Decomposition and nutrient dynamics of litter from four species of freshwater emergent macrophytes. *Hydrobiologia* 131:215-223.
288. Munro, M.A, P.L. Whitfield, and R. Diffley. 1989. *Pomphorhynchus laevis* (Mueller) in the flounder, *Platichthys flesus* L. in the tidal River Thames: population structure, microhabitat utilization and reproductive status in the field and under conditions of controlled salinity. *J. Fish Biol.* 35:719-735.
289. Nack, S., and W. Cook. 1987. Characterization of spawning and nursery habitats of largemouth bass (*Micropterus salmoides*) in the Stockport component of the Hudson River National Estuarine Research Reserve. IV-1 in E.A. Blair and J.C. Cooper, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986. New York: Hudson River Foundation.
290. Nack, S.B., D. Bunnell, D.M. Green, and J.L. Forney. 1993. Spawning and nursery habitats of largemouth bass in the tidal Hudson River. *Trans. Am. Fish. Soc.* 122:208-216.
291. Neill, W.T. 1947. *Rana grylio* in South Carolina. *Copeia* 1947:206.
292. Newbury, G.E.M, III. 1981. Changes in the wetlands of Hunting Creek, Fairfax County, Virginia. Fort Belvoir, VA: U.S. Army Corps of Engineers Topographic Laboratories. (Report no. ETL-R017).
293. Nichols, A.B. 1992. Restoring a freshwater tidal marsh: mixing art with science. *Water Environ. Technol.* 4:24.

294. Odum, E.P., J.B. Birch, and J.L. Cooley. 1983. Comparison of giant cutgrass productivity in tidal and impounded marshes with special reference to tidal subsidy and waste assimilation. *Estuaries* 6:88-94.
295. Odum, W.E. 1978. The importance of tidal freshwater wetlands in coastal zone management. pp. 1196-1203 *in* Coastal Zone 78: Symposium on Technical, Environmental, Socioeconomic and Regulatory Aspects of Coastal Zone Management. New York: American Society of Civil Engineers.
296. Odum, W.E. 1985. Role of non-tidal and tidal freshwater marshes in reducing nutrient inputs in Chesapeake Bay. pp. 76-83 *in* H.A. Groman, T.R. Henderson, E.J. Meyers, D.M. Burke, and J.A. Kusler, eds. Proceedings of the Conference: Wetlands of the Chesapeake. Washington, DC: Environmental Law Institute.
297. Odum, W.E. 1988. Comparative ecology of tidal freshwater and salt marshes. *Ann. Rev. Ecol. Syst.* 19:147-176.
298. Odum, W.E., M.L. Dunn, and T.J. Smith, III. 1979. Habitat value of tidal freshwater wetlands. pp. 248-255 *in* P.E. Greeson, J.R. Clark and J.E. Clark, eds. Wetland Functions and Values: the State of Our Understanding. Minneapolis, MN: American Water Resources Association
299. Odum, W.E., J.S. Fisher, and J.C. Pickral. 1979. Factors controlling the flux of particulate organic carbon from estuarine wetlands. pp. 69-80 *in* R.J. Livingston, ed. Ecological Processes in Coastal and Marine Systems. New York: Plenum Press.
300. Odum, W.E., and M.A. Heywood. 1978. Decomposition of intertidal freshwater marsh plants. pp. 89-97 *in* R.E. Good, D.F. Whigham and R.L. Simpson, eds., Freshwater Wetlands: Ecological Processes and Management Potential. New York: Academic Press.
301. Odum, W.E. and J.K. Hoover. 1988. A comparison of vascular plant communities in tidal freshwater and salt marshes. pp. 526-534 *in* D.D. Hook et al., eds. Ecology and Management of Wetlands. London: Croom Helm.
302. Odum, W.E., L.P. Rozas, and C.C. McIvor. 1988. A comparison of fish and invertebrate community composition in tidal freshwater and oligohaline marsh systems. pp. 561-569 *in* D.D. Hook et al., eds. Ecology and Management of Wetlands. London: Croom Helm.
303. Odum, W.E., and T.J. Smith, III. 1980. Ecology of tidal, low salinity ecosystems. pp. 36-44 *in* R.C. Carey, P.S. Markovitz, and J.B. Kirkwood, eds. Proceedings, U.S. Fish and Wildlife Workshop on Coastal Ecosystems of the Southeastern United States. Washington, DC: Coastal Ecosystems Project, Office of Biological Services, Fish and Wildlife Service, U.S. Dept. of the Interior. (FWS/OBS-80/59).
304. Odum, W.E., T.J. Smith, III, J. K. Hoover, and C.C. McIvor. 1984. The Ecology of Tidal Freshwater Marshes of the United States East Coast: A Community Profile. Washington, DC: Fish and Wildlife Service, U.S. Dept. of the Interior. (FWS/OBS-87/17).
305. Olney, J.E., J. D. Field, and J.C. McGovern. 1991. Striped bass egg mortality, production, and female biomass in Virginia rivers, 1980-1989. *Trans. Am. Fish. Soc.* 120:354-367.

306. Opute, F.I. 1990. Phytoplankton flora in the Warri-Forcados Estuary of southern Nigeria. *Hydrobiologia* 208: 101-110.
307. Orringer, S., and R.A. Daniels. 1992. Reproductive biology of the redbreast sunfish (*Lepomis auritus*). VII-1 in Waldman, J.R. and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989. New York: Hudson River Foundation.
308. Orson, R.A., R.L. Simpson, and R.E. Good. 1990. Rates of sediment accumulation in a tidal freshwater marsh. *J. Sed. Pet.* 60:859-869.
309. Orson, R.A., R.L. Simpson, and R.E. Good. 1992a. A mechanism for the accumulation and retention of heavy metals in tidal freshwater marshes of the upper Delaware River Estuary. *Est. Coast. Shelf. Sci.* 34:171-186.
310. Orson, R.A., R.L. Simpson, and R.E. Good. 1992b. The paleoecological development of a late Holocene, tidal freshwater marsh of the upper Delaware River Estuary. *Estuaries* 15:130-146.
311. Osteen, D.V., A.G. Eversole, and R.W. Christie. 1989. Spawning utilization of an abandoned ricefield by blueback herring. pp. 553-566 in R.R. Sharitz and J.W. Gibbons, eds. *Freshwater Wetlands and Wildlife: Proceedings of a conference held at Charleston, SC, March 24-27, 1986*. Washington, DC: U.S. Dept. of Energy. (DOE symposium series 61).
312. Pace, M.L., S.E.G. Findlay, and D. Lints. 1991. Variance in zooplankton samples: evaluation of a predictive model. *Can. J. Fish. Aquat. Sci.* 48:146-151.
313. Pace, M.L., S.E.G. Findlay, and D. Lints. 1992. Zooplankton in advective environments: the Hudson River community and a comparative analysis. *Can. J. Fish. Aquat. Sci.* 49:1060-1069.
314. Parker, V.T. and M.A. Leck. 1985. Relationships of seed banks to plant distribution patterns in a freshwater tidal wetland. *Am. J. Bot.* 72:161-174.
315. Paschal, J.E., Jr., D.R. Miller, N.C. Bartow, and V. Carter. 1982. Submersed Aquatic Vegetation in the Tidal Potomac River and Estuary of Maryland, Virginia, and the District of Columbia: Hydrologic Data Report, May 1978 to November 1981. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open File Report 82-694).
316. Pelczarski, K., and R.E. Schmidt. 1991. Evaluation of a pop net for sampling fishes from water chestnut beds in the tidal freshwater Hudson River. V-1 in E.A. Blair and J.R. Waldman, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1990. New York: Hudson River Foundation.
317. Peller, P., and R. Bopp. 1986. Recent sedimentation and pollutant accumulation in the Hudson River National Estuarine Sanctuary. VII-1 in J.C. Cooper, ed. Polgar Fellowship Reports of the Hudson River National Estuarine Sanctuary Program, 1985. New York: Hudson River Foundation.
318. Perry, M.C., and F.M. Uhler. 1981. Asiatic clam (*Corbicula manlensis*) and other foods used by waterfowl in the James River, Virginia. *Estuaries* 4: 229-233.

319. Peterson, D.H. 1979. Seasonal water chemistry in the tidal Potomac River. pp. 1558-1573 in B.L. Edge, ed. Coastal Zone '80: Proceedings of the Second Symposium on Ocean and Coastal Management, vol. II. New York: American Society of Civil Engineers.
320. Peterson, M.S. 1988. Comparative physiological ecology of centrarchids in hyposaline environments. *Can. J. Fish. Aquat. Sci.* 45:827-833.
321. Peterson, M.S. 1991. Differential length-weight relations among centrarchids (Pisces: Centrarchidae) from tidal freshwater and oligohaline wetland habitats. *Wetlands* 11:325-332.
322. Peterson, M.S., and S.T. Ross. 1991. Dynamics of littoral fishes and decapods along a coastal river-estuarine gradient. *Est. Coast Shelf. Sci.* 33:467-483.
323. Pfannkuche, O. 1981. Distribution, abundance and life cycles of aquatic Oligochaeta (Annelida) in a freshwater tidal flat of the Elbe Estuary. *Arch. Hydrobiol. Supplbd.* 43:506-524.
324. Pheiffer, T.H. 1976. Current nutrient assessment of the upper Potomac Estuary. pp. 28-37 in W.T. Mason and K.C. Flynn, eds. *The Potomac Estuary Biological Resources: Trends and Options*. Bethesda, MD: Interstate Commission on the Potomac River Basin.
325. Phillip, C.C., and R.G. Brown. 1965. Ecological studies of the transition-zone vascular plants in South River, Maryland. *Ches. Sci.* 6:73-81.
326. Pickett, J., H. McKellar, and J. Kelley. 1989. Plant community composition, leaf mortality and aboveground production in a tidal freshwater marsh. pp. 351-364 in R.R. Sharitz and J.W. Gibbons, eds. *Freshwater Wetlands and Wildlife: Proceedings of a conference held at Charleston, SC, March 24-27, 1986*. Washington, DC: U.S. Dept. of Energy. (DOE symposium series 61).
327. Poe, T.P., and D.C. Stefan. 1974. Several environmental factors influencing the distribution of the freshwater polychaete, *Manyunkia speciosa* Leidy. *Ches. Sci.* 15:235-237.
328. Polgar, T.T. 1977. Striped bass ichthyoplankton abundance, mortality and production estimation for the Potomac River population. pp. 110-126 in W. Van Winkle, ed. *Proceedings of the Conference on Assessing the Effects of Power-Plant Induced Mortality on Fish Populations, Gatlinburg, TN, May 3-6, 1977*. Elmsford, NY: Pergamon Press.
329. Polgar, T.T., J.A. Mihursky, R. E. Ulanowicz, R.P. Morgan, and J.S. Wilson. 1976. An analysis of 1974 striped bass spawning success in the Potomac Estuary. pp. 151-165 in M.L. Wiley, ed. *Estuarine Processes*, vol. 1. New York, NY: Academic Press.
330. Polgar, T.T., R.E. Ulanowicz, D.A. Pyne, and G.M. Krainak. 1975. Investigations of the role of physical transport processes in determining ichthyoplankton distributions in the Potomac River: Interim report for 1974 Spawning Season Data. Maryland Power Plant Siting Program. (PPRP 11/PPMP 14).

331. Portner, E.M., and C.A. Rhode. 1977. Tests of a high volume pump for ichthyoplankton in the Chesapeake and Delaware Canal. Laurel, MD: Johns Hopkins University, Applied Physics Laboratory. (Report JHU PPSE-T-3).
332. Posey, M.H., C. Wigand, and J.C. Stevenson. 1993. Effects of an introduced aquatic plant, *Hydrilla verticillata*, on benthic communities in the upper Chesapeake Bay. *Est. Coast. Shelf Sci.* 37: 539-555.
333. Powell, C.B. 1979. Three alpheid shrimps of a new genus from West African fresh and brackish waters: taxonomy and ecological zonation (Crustacea, Decapoda, Natantia). *Res. Zool. Afr.* 93:116-150.
334. Pritchard, D.W., and G.B. Gardner. 1974. Hydrography of the Chesapeake and Delaware Canal. Baltimore, MD: Chesapeake Bay Institute, Johns Hopkins University. (Technical Report 85).
335. Raney, E.C., and W.H. Massman. 1953. The fishes of the tidewater section of the Pamunkey River, Virginia. *J. Wash. Acad. Sci.* 43:424-434.
336. Rathjen, W.F., and L. C. Miller. 1957. Aspects of the early life history of the striped bass (*Roccus saxatilis*) in the Hudson River. *N.Y. Fish Game J.* 4:42-60.
337. Reed, A. 1989. Use of a freshwater tidal marsh in the St. Lawrence Estuary by greater snow geese. pp. 605-616 in R.R. Sharitz and J.W. Gibbons, eds. *Freshwater Wetlands and Wildlife: Proceedings of a conference held at Charleston, SC, March 24-27, 1986.* Washington, DC: U.S. Dept. of Energy. (DOE symposium series 61).
338. Rehm, E. 1985. The distribution of phosphorus in the Weser Estuary. *Environ. Technol. Lett.* 6:53-64.
339. Relaxans, J.C., and H. Etcheber. 1986. Characterization of the particulate organic matter in the Loire Estuary (France) using ETS activity measurements. *Org. Geochem.* 10:743-749.
340. Relaxans, J.C., M. Meybeck, G. Billen, M. Brugaille, H. Etcheber, and M. Somville. 1988. Algal and microbial processes involved in particulate organic matter dynamics in the Loire Estuary. *Est. Coast. Shelf Sci.* 27:625-644.
341. Rheinhardt, R. 1992. A multivariate analysis of vegetation patterns in tidal freshwater swamps of lower Chesapeake Bay, U.S.A. *Bull. Torrey. Bot. Club* 119:192-207.
342. Rheinhardt, R.D. 1992. Disparate distribution patterns between canopy and subcanopy life-forms in two temperate North American forests. *Vegetatio* 103:67-77.
343. Rheinhardt, R.D., and C. Hershner. 1992. The relationship of below-ground hydrology to canopy composition in five tidal freshwater swamps. *Wetlands* 12:208-216.
344. Richard, E., and R.E. Schmidt. 1987. Feeding ecology of banded killifish (*Fundulus diaphanus*) at Tivoli North Bay, Hudson River, New York. II-1 in E.A. Blair and J.C. Cooper, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986.* New York: Hudson River Foundation.
345. Richmond, N.D. 1940a. *Natrix rigida* (Say) in Virginia. *Herpetologica* 2:21.

346. Richmond, N.D. 1940b. Nesting of the sunfish, *Lepomis auritus* (Linnaeus), in tidal waters. *Zoologica* 25:329-331.
347. Richmond, N.D., and C.J. Goin. 1938. Notes on a collection of amphibians and reptiles from New Kent County, Virginia. *Ann. Carnegie Mus.* 27:301-310.
348. Roberts, M.H., and R.J. Diaz. 1986. Impacts of alum sludge on tidal freshwater streams. pp. 178-188 in C.Y. Kuo and T.M. Younos eds. *Proceedings of the Chesapeake Bay Research Conference: Effects of Upland and Shoreline Use on the Chesapeake Bay*. Richmond, VA: Virginia Division of Soil and Water Conservation.
349. Roman, C.T., and F.C. Daiber. 1984. Aboveground and belowground primary production dynamics of two Delaware Bay tidal marshes. *Bull. Torr. Bot. Club* 111:34-41.
350. Royte, J., L. Brako, and R.C. Harris. 1985. Two crustose lichens new to North America. *Evansia* 2:10.
351. Rozas, L.P., C.C. McIvor, and W.E. Odum. 1988. Intertidal rivulets and creekbanks: corridors between tidal creeks and marshes. *Mar. Ecol. Prog. Ser.* 47:303-307.
352. Rozas, L.P. and W.E. Odum. 1987a. Fish and macrocrustacean use of submerged plant beds in tidal freshwater marsh creeks. *Mar. Ecol. Prog. Ser.* 38:101-108.
353. Rozas, L.P. and W.E. Odum. 1987b. The role of submerged aquatic vegetation in influencing the abundance of nekton on contiguous tidal freshwater marshes. *J. Exp. Mar. Biol. Ecol.* 114:289-300.
354. Rozas, L.P. and W.E. Odum. 1987c. Use of tidal freshwater marshes by fishes and macrofaunal crustaceans along a marsh stream-order gradient. *Estuaries* 10:36-43.
355. Rozas, L.P. and W.E. Odum. 1988. Occupation of submerged aquatic vegetation by fishes: testing the roles of food and refuge. *Oecologia* 77:101-106.
356. Rybicki, N.B., R.T. Anderson, and V. Carter. 1988. Data on the distribution and abundance of submersed aquatic vegetation in the tidal Potomac River and transition zone of the Potomac Estuary, Maryland, Virginia and the District of Columbia, 1987. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 88-307).
357. Rybicki, N.B., R.T. Anderson, J.M. Shapiro, C.L. Jones, and V. Carter. 1986. Data on the distribution and abundance of submersed aquatic vegetation in the tidal Potomac River, Maryland, Virginia and the District of Columbia, 1985. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 86-126).
358. Rybicki, N.B., and V. Carter. 1986. Effects of sediment depth and sediment type on the survival of *Vallisneria americana* Michx. grown from tubers. *Aquat. Bot.* 24:233-240.
359. Rybicki, N.B., V. Carter, R.T. Anderson, and T.J. Trombley. 1985a. *Hydrilla verticillata* in the tidal Potomac River, Maryland, Virginia and the District of Columbia, 1983 and 1984. Denver, CO: U.S. Dept. of the Interior, Geological Survey (U.S. Geological Survey Open-File Report 85-77).

360. Rybicki, N.B., V. Carter, R.T. Anderson, and T.J. Trombley. 1985b. *Hydrilla verticillata* in the tidal Potomac River, 1983 and 1984. pp. 170 - 174 in Proceedings, 19th Annual Meeting, Aquatic Plant Control Research Program. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station. (Waterways Experiment Station Miscellaneous Paper A-85-4).
361. Rybicki, N. B., and M.R. Schening. 1990. Data on the distribution and abundance of submersed aquatic vegetation in the tidal Potomac River and transition zone of the Potomac Estuary, Maryland, Virginia, and the District of Columbia, 1988. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 90-123).
362. Saliot, A., J. Tronczynski, P. Scribe, and R. Letolle. 1988. The application of isotopic and biogeochemical markers to the study of the biogeochemistry of organic matter in a macrotidal estuary, the Loire, France. *Est. Coast. Shelf Sci.* 27:645-669.
363. Schmidt, K.A. 1986. The life history of the Chrysomelid beetle *Pyrrhalta nymphaeae* (Galerucinae) on the water chestnut, *Trapa natans* (Hydrocharitaceae), in Tivoli South Bay, Hudson River, NY. V-1 in J.C. Cooper, ed. Polgar Fellowship Reports of the Hudson River National Estuarine Sanctuary Program, 1985. New York: Hudson River Foundation.
364. Schmidt, R.E. 1986. Fish community structure in Tivoli North Bay, a Hudson River freshwater tidal marsh: report to NOAA, Estuarine Sanctuary Program. Hudsonia, Ltd. Annandale, NY.
365. Schmidt, R.E. 1993. Fishes of Manitou marsh with comments on other aquatic organisms. final report to Museum of the Hudson Highlands. Annandale, NY: Hudsonia, Ltd.
366. Schmidt, R.E. and E. Kiviat. 1988. Communities of larval and juvenile fishes associated with water-chestnut, water-milfoil, and water-celery in the Tivoli Bays of the Hudson River: final report to the Hudson River Foundation 022/86B. Annandale, NY: Hudsonia, Ltd.
367. Schmidt, R.E., C. Bohne, A.B. Anderson, and K. Limburg. 1992. Dynamics of larval fish production in a Hudson River tidal marsh. pp. 458-475 in C.L. Smith, ed. *Estuarine Research in the 1980's: The Hudson River Environmental Society Seventh Symposium on Hudson River Ecology*. Albany, NY: State University of New York Press.
368. Schoeberl, K., and S. Findlay. 1988. Composition, abundance and dynamics of macroinvertebrates in Tivoli South Bay, with emphasis on the Chironomidae (Diptera). V-1 in J.R. Waldman and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1987. New York: Hudson River Foundation.
369. Schubel, J.R. 1968. Suspended sediment of the northern Chesapeake Bay. Baltimore, MD: Chesapeake Bay Institute, Johns Hopkins University. (Chesapeake Bay Institute Technical Report 35).
370. Schuchardt, B. and M. Schirmer. 1990. Diatom frustulues as natural tracers to determine the origin of suspended matter in the Weser Estuary. *Environ. Technol. Lett.* 11:853-858.

371. Schuchardt, B., and M. Schirmer. 1990. Seasonal and spatial patterns of *Actinocyclus normanii* (Bacillariophyceae) in the Weser Estuary in relation to environmental factors. pp. 385-388 in W. Michaelis, ed. Estuarine Water Quality Management: Monitoring, Modelling, and Research. Berlin: Springer-Verlag.
372. Schuchardt, B., and M. Schirmer. 1991. Phytoplankton maxima in the tidal freshwater reaches of two coastal plain estuaries. Est. Coast. Shelf. Sci. 32:187-206.
373. Sellner, K.G., D.C. Brownlee, M.H. Bundy, S.G. Brownlee, and K.R. Braun. 1994. Zooplankton grazing in a Potomac River cyanobacterial bloom. Estuaries 16:859-872.
374. Sellner, K.G., R.V. Lacouture, and C.R. Parrish. 1988. Effects of increasing salinity on a cyanobacteria bloom in the Potomac River Estuary. J. Plankt. Res. 10:49-61.
375. Serafy, J.E., R.M. Harrell, and J.C. Stevenson. 1988. Quantitative sampling of small fishes in dense vegetation: design and field testing of portable "pop-nets". J. Appl. Ichthyol. 4:149-157.
376. Serodes, J.B., and J.P. Troude. 1984. Sedimentation cycle of a freshwater tidal flat in the St. Lawrence Estuary. Estuaries 7:119-127.
377. Setzler, E.M., W.R. Boynton, T.T. Polgar, J.A. Mihursky, and K.V. Wood. 1978. Spatial and temporal distribution patterns of striped bass ichthyoplankton and juveniles in the Potomac Estuary. in J. Cooper, ed. Proc. of a symposium on advances in striped bass life history and population dynamics. Am. Fish. Soc. 108th Ann. Meeting, Univ. of Rhode Island, Kingston, R.I., Aug. 23, 1978.
378. Setzler, E.M., J.A. Mihursky, K.V. Wood, W.R. Boynton, T.T. Polgar, and G.E. Drewry. 1981. Major features of ichthyoplankton populations in the upper Potomac estuary: 1974 - 1976. pp. 204-206 in Lasker, R., and K. Sherman, eds. The Early Life History of Fish: Recent Studies: The Second ICES Symposium, Woods Hole, April 2-5, 1979. Copenhagen: Conseil International pour L'Exploration de la Mer. (Rapports et Procès-Verbaux des Réunions, vol. 178).
379. Setzler-Hamilton, E.M., W.R. Boynton, J.A. Mihursky, T.T. Polgar and K.V. Wood. 1981. Spatial and temporal distribution of striped bass eggs, larvae and juveniles in the Potomac River Estuary. Trans. Am. Fish. Soc. 110:121-136.
380. Setzler-Hamilton, E.M., J.A. Mihursky, K.V. Wood, W.R. Boynton, D. Shelton, M. Homer, S. Kerig, and W. Caplins. 1980. Potomac River fisheries program: ichthyoplankton and juvenile investigations, 1977: final report. Solomons, MD: University of Maryland, Chesapeake Biological Laboratory. (UMCEES 80-76-CBL) .
381. Shaver, G.R., and J.M. Melillo. 1984. Nutrient budgets of marsh plants: efficiency concepts and relation to availability. Ecology 65:1491-1510.
382. Shima, L.J., R.R. Anderson, and V. P. Carter. 1976. The use of aerial color infrared photography in mapping the vegetation of a freshwater marsh. Ches. Sci. 17:74-85.

383. Shultz, D.J. 1989. Nitrogen dynamics in the tidal freshwater Potomac River, Maryland and Virginia, water years 1979-81: a water quality study of the tidal Potomac River and Estuary. Washington, DC: U.S. Government Printing Office. (U.S. Geological Survey Water-Supply Paper 2234-J).
384. Sickels, F.A., and R. L. Simpson. 1985. Growth and survival of giant ragweed (*Ambrosia trifida* L.) in a Delaware River tidal freshwater wetland. Bull. Torrey Bot. Club 112: 368-375.
385. Sidari, M., and R. Schmidt. 1990. Larval fish foods in water-chestnut beds. VI-1 in J.R. Waldman and E.A. Blair, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989. New York: Hudson River Foundation.
386. Simons, J. 1975. *Vaucheria* species from estuarine areas in the Netherlands. Neth. J. Sea Res. 9: 1-23.
387. Simpson, K.W. 1976. A water quality evaluation of the Hudson River, based on the collection and analysis of macroinvertebrate communities. Paper 24, 47 p. in Hudson River ecology: proceedings of the 4th Symposium on Hudson River Ecology. New York: Hudson River Environmental Society.
388. Simpson, K.W., R.W. Bode, J.P. Fagnani, and D.M. DeNicola. 1984. The freshwater macrobenthos of the main channel. Part B: Biology, taxonomy and distribution of resident macrobenthic species: final report to the Hudson River Foundation 008/83A. Albany, NY: Wadsworth Center, New York State Department of Health.
389. Simpson, K.W., R.W. Bode, J.P. Fagnani, and D.M. DeNicola. 1985. The freshwater macrobenthos of the main channel. Part A: General study description and results, including a discussion of organism-substrate relationships. final report to the Hudson River Foundation 008/83A. Albany, NY: Wadsworth Center, New York State Department of Health.
390. Simpson, K.W., R. Bode, M. Novak, J. Fagnani, and D. DeNicola. 1986. The benthic macroinvertebrates of the Hudson River from Troy to Albany, New York: final report to the Hudson River Foundation 017/84A. Albany, NY: Wadsworth Center, New York State Department of Health.
391. Simpson, K.W., J.P. Fagnani, D.M. DeNicola, and R.W. Bode. 1985. Widespread distribution of some estuarine crustaceans (*Cyathura polita*, *Chiridotea almyra*, *Almyracuma proximoculi*) in the limnetic zone of the lower Hudson River. Estuaries 8:373-380.
392. Simpson, K.W., J.P. Fagnani, R.W. Bode, D.M. DeNicola, and L.E. Abele. 1986. Organism-substrate relationships in the main channel of the lower Hudson River. J. N. Am. Benthol. Soc. 5:41-57.
393. Simpson, R.L., and R.E. Good. 1985. The role of tidal wetlands in the retention of heavy metals. pp. 164-175 in Burke, D.M., H.A. Groman, T.R. Henderson, J.A. Kusler and E.J. Meyers, eds. Proceedings of the Conference: Wetlands of the Chesapeake. Washington, DC: Environmental Law Institute.

394. Simpson, R.L., R.E. Good, B.J. Dubinski, J.J. Pasquale, and K.R. Philipp. 1983. Fluxes of heavy metals in Delaware River freshwater tidal wetlands: final report. New Brunswick, NJ: Center for Coastal and Environmental Studies, Rutgers University.
395. Simpson, R.L., R.E. Good, M.A. Leck, and D.F. Whigham. 1983. The ecology of freshwater tidal wetlands. *BioScience* 33:255-259.
396. Simpson, R.L., R.E. Good, R. Walker, and B.R. Frasco. 1983. The role of Delaware River freshwater tidal wetlands in the retention of nutrients and heavy metals. *J. Env. Qual.*12:41-48.
397. Simpson, R.L., R.E. Good, R.E. Walker, and B.R. Frasco. 1981. Dynamics of nitrogen, phosphorous, and heavy metals in Delaware River freshwater tidal wetlands. New Brunswick, NJ: Rutgers University.
398. Simpson, R.L., M.A. Leck, and V.T. Parker. 1985. The comparative ecology of *Impatiens capensis* Meerb. (Balsaminaceae) in central New Jersey. *Bull. Torr. Bot. Club.* 112: 295-311.
399. Simpson, R.L., and D.F. Whigham. 1978. The effect of sewage effluent on the structure and function of a freshwater tidal marsh ecosystem. pp. 49-55 *in* Annual report fiscal year 1978. New Brunswick, NJ: New Jersey Water Resources Research Institute, Rutgers University.
400. Simpson, R.L., D.F. Whigham, and K. Brannigan. 1979. The mid-summer insect communities of freshwater tidal wetland macrophytes, Delaware River Estuary, N.J. *Bull. N.J. Acad. Sci.* 24:22-28.
401. Simpson, R.L., D.F. Whigham, and R. Walker. 1978. Seasonal patterns of nutrient movement in a freshwater tidal marsh. pp. 243-258 *in* R.E. Good, D.F. Whigham and R.L. Simpson, eds. *Freshwater Wetlands: Ecological Processes and Management Potential.* New York: Academic Press.
402. Smith, R.E., and R.E. Herndon. 1980. Physical and chemical properties of the Potomac River and environs, August - September 1977. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 79-1635).
403. Smith, R.E., and R.E. Herndon. 1980. Physical and chemical properties of the Potomac River and Environs, August 1978. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open-File Report 80-746).
404. Smith, S., and R.E. Schmidt. 1988. Trophic status of the spottail shiner, (*Notropis hudsonius*) in Tivoli North Bay, a Hudson River freshwater tidal marsh. VI-1 *in* J.R. Waldman and E.A. Blair, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1987.* New York: Hudson River Foundation.
405. Soltanpour-Gargari, A., and S. Wellerhaus. 1987. Very low salinity stretches - the main habitat of *Eurytemora affinis*, a plankton copepod. *Meeresforschung* 31:199-208.

406. Sorensen, P.W., and M.L. Bianchini. 1986. Environmental correlates of the freshwater migration of elvers of the American eel in a Rhode Island brook. *Trans. Am. Fish. Soc.* 115:258-268.
407. Squires, D.F. 1992. Quantifying anthropogenic shoreline modification of the Hudson River and Estuary from European contact to modern time. *Coast. Manage.* 20:343-354.
408. Stapleton, J., and E. Kiviat. 1979. Rights of birds and rights of way. *Am. Birds* 33:7-10.
409. Stern, M.K., J.W. Day, and K.G. Teague. 1986. Seasonality of materials transport through a coastal freshwater marsh: riverine vs. tidal forcing. *Estuaries* 9:301-308.
410. Stern, M.K., J.W. Day, and K.G. Teague. 1991. Nutrient transport in a riverine-influenced, tidal freshwater bayou in Louisiana. *Estuaries* 14: 382-394.
411. Stevenson, K.A., R. Armstrong, and W.R. Schell. 1986. Chronological determination of mercury, lead and cadmium in two Hudson River freshwater tidal marshes. VIII-1 in J.C. Cooper, ed. *Polgar Fellowship Reports of the Hudson River National Estuarine Sanctuary Program, 1985*. New York: Hudson River Foundation.
412. Steward, K.K., T.K. Van, and V. Carter. 1984. *Hydrilla* invades Washington D.C. and the Potomac. *Am. J. Bot.* 71:162-163.
413. Stone, W.B., E. Kiviat, and S.A. Butkas. 1980. Toxicants in snapping turtles. *N.Y. Fish Game J.* 27:39-50.
414. Strayer, D.L. 1991. Projected distribution of the zebra mussel, *Dreissena polymorpha*, in North America. *Can. J. Fish. Aquat. Sci.* 48:1389-1395.
415. Strayer, D.L., and L.C. Smith. 1993. Distribution of the zebra mussel (*Dreissena polymorpha*) in estuaries and brackish waters. pp. 715-727 in T.F. Nalepa and D.W. Schloesser, eds. *Zebra Mussels: Biology, Impacts, and Control*. Boca Raton, FL: Lewis Publishers.
416. Svenson, H.K. 1935. Plants from the estuary of the Hudson River. *Torreyia* 35:117-125.
417. Swarth, C., and D. Peters. 1993. Water quality and nutrient dynamics of Jug Bay on the Patuxent River: 1987-1992. Lothian, MD: Jug Bay Wetlands Sanctuary.
418. Swift, B.L. 1987. Analysis of avian breeding habitats in Hudson River tidal marshes: final report to the Hudson River Foundation. Albany, NY: New York State Dept. of Environmental Conservation.
419. Swift, C., R.W. Yerger, and P.R. Parrish. 1977. Distribution and natural history of the fresh and brackish water fishes of the Ochlockonee River, Florida and Georgia. *Bull. Tall Timbers Res. Stn.* 20:1-111.
420. Thomann, R., N. Jaworski, S. Nixon, H. Paerl, and J. Taft. 1985. The 1983 algal bloom in the Potomac Estuary. Philadelphia, PA: USEPA Region III, Potomac Strategy State/EPA Management Committee.

421. Thomas, D.L., and B.A. Smith. 1973. Studies of young of the black drum, *Pogonias cromis*, in low salinity waters of the Delaware estuary. Ches. Sci. 14:124-130.
422. Tresselt, E.F. 1952. Spawning grounds of the striped bass or rock, *Roccus saxatilis* (Walbaum) in Virginia. Bull. Bing. Oceanogr. Coll. 14:98-110.
423. Tronczynski, J., J.C. Marty, P. Scribe, and A. Saliot. 1986. Dissolved and particulate hydrocarbons in the Loire Estuary, from the riverine zone to the external estuary: budget at different seasons. Int. J. Environ. Anal. Chem. 23:169-187.
424. Tsai, C., and H.S. Millsaps. 1985. Utilization of sewage by zooplankton and its role in striped bass spawning success. Solomons, MD: University of Maryland, Chesapeake Biological Laboratory. (UMCEES 85-23).
425. Tsai, C., M. Wiley, and A. Chai. 1991. Rise and fall of the Potomac River striped bass stock: a hypothesis of the role of sewage. Trans. Am. Fish. Soc. 120:1-22.
426. Ulanowicz, R.E., and T.T. Polgar. 1980. Influences of anadromous spawning behavior and optimal environmental conditions upon striped bass (*Morone saxatilis*) year-class success. Can. J. Fish. Aquat. Sci. 37:143-154.
427. Uphoff, J.H., Jr. 1989. Environmental effects on survival of eggs, larvae, and juveniles of striped bass in the Choptank River, Maryland. Trans. Am. Fish. Soc. 118:251-263.
428. Vader, W. 1977. Habitat and distribution of *Perforatella rubiginosa* (Gastropoda, Pulmonata) in the fresh water tidal region of the Scheldt Estuary, Belgium. Hydrobiologia 52:23-28.
429. Van Urk, G. 1984. Lower Rhine-Meuse. pp. 437-468 in B.A. Whitton, ed. Ecology of European Rivers. Oxford: Blackwell Scientific.
430. Vaque, D., M. L. Pace, S. Findlay, and D. Lints. 1992. Fate of bacterial production in a heterotrophic ecosystem: grazing by protists and metazoans in the Hudson Estuary. Mar. Ecol. Prog. Ser. 89:155-163.
431. Vorosmarty, C.J., B. Moore, W.B. Bowden, J.E. Hobbie, B.J. Peterson, and J. Morris. 1983. The transport and processing of nitrogen in a tidal, freshwater marsh and river ecosystem: modelling the roles of water movement and biotic activity in determining water quality. pp. 689-697 in W.K. Lauenroth, G.V. Skogerboe, and M. Flug, eds. Analysis of Ecological Systems: State-of-the-Art in Ecological Modelling. Amsterdam: Elsevier.
432. Wagner, B., and S.G. Findlay. 1987. Colonization of artificial substrate by the Chironomidae (Diptera) of Tivoli South Bay. VII-1 in E.A. Blair and J.C. Cooper, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986. New York: Hudson River Foundation.
433. Waterman, B., and C. Linder. 1991. Evaluation of Tivoli Bays archaeology and assessment of its potential to provide paleoenvironmental information. VIII-1 in E.A. Blair and J.R. Waldman, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1990. New York: Hudson River Foundation.

434. Weiner, J., and D.F. Whigham. 1988. Size variability and self-thinning in wild rice (*Zizania aquatica*). *Am. J. Bot.* 75:445-448.
435. Wellerhaus, S. 1981. Turbidity maximum and mud shoaling in the Weser Estuary. *Arch. Hydrobiol.* 92:161-198.
436. West, D., and D.F. Whigham. 1976. Seed germination of arrow-arum (*Peltandra virginica* L.) *Bartonia* 44:44-49.
437. Westad, K.E. 1987. Addendum to flora of freshwater tidal swamps at Tivoli Bays. X-1 in E.A. Blair and J.C. Cooper, eds. Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1986. New York: Hudson River Foundation.
438. Westad, K.E., and E. Kiviat. 1986. Flora of freshwater tidal swamps at Tivoli Bays Hudson River National Estuarine Sanctuary. III-1 in J.C. Cooper, ed. Polgar Fellowship Reports of the Hudson River National Estuarine Sanctuary Program, 1985. New York: Hudson River Foundation.
439. Wetzel, R.L. and S. Powers. 1978. Part VI: Soils analysis. pp. 103-119 in Habitat development field investigations, Windmill Point Marsh development site, James River, Virginia: Appendix D: Environmental impacts of marsh development with dredged material: botany, soils, aquatic biology, and wildlife. Vicksburg, MS: U.S. Army Waterways Experiment Station. (Waterways Experiment Station Technical Report D-77-23).
440. Whigham, D.F. 1974. Preliminary ecological studies of the Trenton Marshes. Lawrenceville, NJ: Dept. of Biology, Rider College.
441. Whigham, D.F., T.E. Jordan, and J. Miklas. 1989. Biomass and resource allocation of *Typha angustifolia* L. (Typhaceae): the effect of within and between year variation in salinity. *Bull. Torrey Bot. Club* 116:364-370.
442. Whigham, D.F., J. McCormick, R.E. Good, and R.L. Simpson. 1978. Biomass and primary production in freshwater tidal wetlands of the middle Atlantic Coast. pp. 3-20 in R.E. Good, D.F. Whigham, and R.L. Simpson, eds. *Freshwater Wetlands: Ecological Processes and Management Potential*. New York: Academic Press.
443. Whigham, D.F., and R.L. Simpson. 1975. Ecological studies of the Hamilton Marshes: progress report for the period June 1974-January 1975. Lawrenceville, NJ: Biology Dept., Rider College.
444. Whigham, D.F., and R.L. Simpson. 1976a. The potential use of tidal freshwater marshes in the management of water quality in the Delaware River. pp.173-186 in J. Tourbier and R. W. Pierson, eds. *Biological Control of Water Pollution*. Philadelphia: University of Pennsylvania Press.
445. Whigham, D.F., and R.L. Simpson. 1976b. Sewage spray irrigation in a Delaware River freshwater tidal marsh. pp. 119-144 in D.L. Tilton, R.H. Kadlec and C.J. Richardson, eds. *Freshwater Wetlands and Sewage Effluent Disposal: Proceedings of a Symposium held on May 10-11, 1976, at the University of Michigan, Ann Arbor*. Ann Arbor, MI: University of Michigan.

446. Whigham, D.F., and R.L. Simpson. 1977. Growth, mortality and biomass partitioning in freshwater tidal populations of wild rice (*Zizania aquatica* var. *aquatica*). Bull. Torrey Bot. Club 104:347-351.
447. Whigham, D.F., and R.L. Simpson. 1978a. Nitrogen and phosphorous movement in a freshwater tidal wetland receiving sewage effluent. pp. 2189-2203 in Coastal Zone '78: Symposium on Technical, Environmental, Socioeconomic and Regulatory Aspects of Coastal Zone Management. New York: American Society of Civil Engineers.
448. Whigham, D.F., and R.L. Simpson. 1978b. The relationship between above ground and below ground biomass of freshwater tidal macrophytes. Aquat. Bot. 5:355-364.
449. Whigham, D.F., and R.L. Simpson. 1982. Germination and dormancy studies of *Pontedaria cordata* L. Bull. Torrey Bot. Club 109: 524-528.
450. Whigham, D.F., and R.L. Simpson. 1992. Annual variation in biomass and production of a tidal freshwater wetland and comparison with other wetland systems. Va. J. Sci. 43:5-14.
451. Whigham, D.F., R.L. Simpson, R.E. Good, and F.A. Sickels. 1989. Decomposition and nutrient-metal dynamics of litter in freshwater tidal wetlands. pp. 167-188 in R.R. Sharitz and J.W. Gibbons, eds. Freshwater Wetlands and Wildlife: Proceedings of a conference held at Charleston, SC, March 24-27, 1986. Washington, DC: U.S. Dept. of Energy. (DOE symposium series 61).
452. Whigham, D.F., R.L. Simpson, and M.A. Leck. 1979. The distribution of seeds, seedlings, and established plants of arrow-arrum (*Peltandra virginica* (L.) Kunth) in a freshwater tidal wetland. Bull. Torrey Bot. Club 106:193-199.
453. Whigham, D.F., R.L. Simpson, and K. Lee. 1977. The effect of sewage effluent on the structure and function of a freshwater tidal marsh ecosystem. pp. 59-62 in Annual Report Fiscal Year 1977. New Brunswick, NJ: New Jersey Water Resources Research Institute, Rutgers University.
454. Whigham, D.F., R.L. Simpson, and K. Lee. 1980. The Effect of Sewage Effluent on the Structure and Function of a Freshwater Tidal Marsh Ecosystem. New Brunswick, NJ: New Jersey Water Resources Research Institute, Rutgers University.
455. Wolff, W.J. 1968. The Mollusca of the estuarine region of the rivers Rhine, Meuse and Scheldt in relation to the hydrography of the area. I. The Unionidae. Basteria 32:13-47.
456. Wolff, W.J. 1970. The Mollusca of the estuarine region of the rivers Rhine, Meuse and Scheldt in relation to the hydrography of the area. IV. The genus *Sphaerium*. Basteria 34:75-90.
457. Wolff, W.J. 1973a. The distribution of *Asellus aquaticus* (L.) and *Prosellus meridianus* (Rae.) in the southwestern part of the Netherlands. Hydrobiologia 42:381-392.
458. Wolff, W.J. 1973b. The estuary as a habitat. An analysis of data on the soft-bottom macrofauna of the estuarine area of the rivers Rhine, Meuse and Scheldt. Zool. Verh. 26:1-242.

459. Wolff, W.J. 1978. The degradation of ecosystems in the Rhine. pp. 169-188 in M.W. Holdgate and M.J. Woodman, eds. *The Breakdown and Restoration of Ecosystems*. New York: Plenum Press.
460. Wollast, R., G. Billen, and J.C. Duinker. 1979. Behaviour of manganese in the Rhine and Scheldt Estuaries. I. Physico-chemical behaviour. *Est. Coast. Mar. Sci.* 9:161-169.
461. Woodward, J.C., P.D. Manning, D.J. Schultz, and W.A. Andrlle. 1984. Water quality and phytoplankton of the tidal Potomac River, August - November 1983. Reston, VA: U.S. Geological Survey. (U.S. Geological Survey Open File Report 84-250).
462. Young, G.K., and K.G. Sanders. 1985. Phosphorus reduction for the control of algae. *J. Environ. Engineer.* 111:574-588.
463. Yozzo, D.J., and W.E. Odum. 1990. Trophic significance of Ostracoda in Tivoli South Bay. V-1 in J.R. Waldman and E.A. Blair, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1989*. New York: Hudson River Foundation.
464. Yozzo, D.J., and W.E. Odum. 1993. Fish predation on epiphytic microcrustacea in Tivoli South Bay, a Hudson River tidal freshwater wetland. *Hydrobiologia* 257:37-46.
465. Yozzo, D., P.L. Steineck, and K. Martens. 1988. The taxonomy, distribution and abundance of ostracodes in the freshwater tidal wetlands of the Stockport Flats component of the Hudson River National Estuarine Research Reserve, Columbia County, New York. III-1 in J.R. Waldman and E.A. Blair, eds. *Polgar Fellowship Reports of the Hudson River National Estuarine Research Reserve Program, 1987*. New York: Hudson River Foundation.

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