# **Tidal Wetlands Bibliography**

(emphasizing tidal wetland restoration in New England)

last updated in 1999

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# General

- Barrett, N.E., 1989. Vegetation of the tidal wetlands of the lower Connecticut River: Ecological relationships of plant community-types with respect to flooding and habitat. MS Thesis, University of Connecticut, CT. 210 pp.
- Beeftink, W.G. 1979. The structure of salt marsh communities in relation to environmental disturbances. pp. 77-93. In: Ecological processes in coastal environments. Blackwell, Oxford, UK.
- Buck, E.L. 1995. Selected environmental factors and the spread of *Phragmites australis* (common reed) in the tidelands of the lower Connecticut River. Honors Thesis, Department of Botany, Connecticut College, New London, CT, 67 p.
- Buchsbaum, R., D. Burdick, and M. Chandler. 1997. Challenges of restoring estuarine habitats in the southern Gulf of Maine. pp 170-182. In: C. White (ed.) Rim of the Gulf: restoring estuaries and resources. Island Institute, Rockland, Maine.
- Clark J.S. 1986. Late-Holocene vegetation ad coastal processes at a Long Island tidal marsh. Journal of Ecology 74:561-578.
- Davis, C.A. 1910. Salt marsh formation near Boston and its geological significance. Economic Geology 5: 623-639.
- Dionne, J.C. 1989. An estimate of shore ice action in a *Spartina* tidal marsh, St. Lawrence Estuary, Quebec, Canada. Journal of Coastal Research 5:281-293.
- Fertik, R.A. 1995. Distribution of dominant angiosperms on the tidelands of the lower Connecticut River estuary in relation to salinity and hydroperiod. Independent Study, Department of Botany, Connecticut College, New London, CT, 17p.
- Gross, A.C. 1966. Vegetation of the Brucker Marsh and the Barn Island Natural Area, Stonington, Connecticut. MA. Thesis, Connecticut College, 103 p. [Preceeded the construction of a wildlife impoundment.]
- Hebard, G. 1976. Vegetation patterns and changes in the impounded salt marshes of the Barn Island Wildlife Mangement Area. MA Thesis, Connecticut College, 193 p.
- Howes, B.L., J.W.H. Dacey and D.D. Goehringer. 1986. Factors controlling the growth forms of Spartina alterniflora: Feedbacks between aboveground production, sediment oxidation, nitrogen and salinity. Journal of Ecology 74: 881-898.
- Knutson, P.L., J.C. Ford, M.R. Inskeep and J. Oyler. 1981. National survey of planted salt marshes (vegetative stabilization and wave stress). Wetlands 1: 129-157.
- Lefor, M.W., W.C. Kennard and D.L. Civco. 1987. Relationship of salt-marsh plant distributions to tidal levels in Connecticut, USA. Environ. Mgmt. 11:61-68.
- McKee, K.L., and W.H. Patrick, Jr. 1988. The relationship of smooth cordgrass (Spartina alterniflora) to tidal datums: A review. Estuaries 11:143-151.
- Metzler, K. and R. Rozsa. 1982. Vegetation of fresh and brackish tidal marshes in Connecticut. Newsl. CT Bot. Soc. 10:1-3.

- Miller, W.R. 1948. Aspects of waterfowl management for the Barn Island public shooting area. MS Thesis at University of Connecticut. 291 pp. [This is the thesis material upon which the classic Miller; Egler paper is based. This includes detailed vegetation maps for each of the proposed impoundment areas and represents one of the few/only wetland sites which such an historic baseline).
- Miller, W., and F.E. Egler. 1950. Vegetation of the Wequetequock-Pawcatuck tidal marshes, Stonington, Connecticut. Ecological Monographs 20:143-172.
- Nichols, G.E. 1920. The vegetation of Connecticut. VII. The associations of depositing areas along the seacoast. Torrey Bot. Club. Bull. 47:511-548.
- Niering, W.A. 1989. Vegetation dynamics in relation to wetland creation.pp. 479-486. In: J.A. Kusler and M.E. Kentula (eds.) Wetland creation and restoration. The status of the science. Island Press, Washington D.C.
- Niering, W.A., and R.M. Bowers. 1966. Our disappearing tidal marshes. Connecticut College Arboretum Bulletin 12:1-36.
- Niering, W.A. and R.S. Warren. 1980. Vegetation patterns and processes in New England salt marshes. Bioscience 30:301-307.
- Nixon, S.W. 1982. The ecology of New England high salt marshes: A community profile. U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C. FWS/OBS-81/55. 70 pp.
- Orson, R.A. 1982. Development of the lower Pataguanset estuarine tidal marshes, Niantic, Connecticut. MA Thesis, Connecticut College, 43 p.
- Orson, R.A., Warren, R.S. and Niering, W.A. 1987. Development of a tidal marsh in a New England river valley. Estuaries 10: 20-27.
- Redfield, A.C. 1972. Development of a New England salt marsh. Ecological Monographs 42: 201-237.
- Roberts, B. A. and A. Robertson. 1986. Salt marshes of Atlantic Canada: their ecology and distribution. Can. J. Bot. 64: 455-467.
- Rozsa, R. 1994. Restoration of water quality renovation functions and elimination of nonpoint source pollution through restoration of drained salt marshes. Coastal Nonpoint Source Workshop-Building Partnerships, Tampa Fl, p. 3- 6.
- Shaler, N.S., 1886, Preliminary report on sea-coast swamps of the Eastern United States: U.S. Geological Survey 6th Annual Report, 1886: 353-398.
- Short, F.T. 1987. Production, nutrition, and ecological health of the Wells salt marshes. NOAA Tech. Rep. Contract No. NA86AA-D-CZ032. 59 pp.
- Teal, J. M. 1986. The ecology of regularly flooded salt marshes of New England: a community profile. U.S. Fish Wildl. Serv. Biol. Rep. 85(7.4).
- Tiner, R.W., Jr. 1987. A Field Guide to Coastal Wetland Plants of the Northeastern United States. University of Massachusetts Press, Amherst, MA. 285 pp.
- Tiner, R.W. 1999. Wetlands monitoring guidelines: Operational draft. U.S.Fish and Wildlife Service, Ecological Services, Region 5, Northeast, Hadley, MA

## Animals

- Benoit, L.K. and R.A. Askins. 1999. Impact of the spread of *Phragmites* on the distribution of birds in Connecticut tidal marshes. Wetlands 19:194-208.
- Brawley, H. 1995. Birds of Connecticuts tidal wetlands: Relative patterns of use to environmental conditions. MA Thesis, Connecticut College, New London, CT, 87 p.
- Brawley, A.H., R.S. Warren and R.A. Askins. 1998. Bird use of restoration and reference marshes within the Barn Island Wildlife management Area, CT, USA. Environ. Mgmt. 22:625-633.
- Buchsbaum, R. and M. Hall. 1991. An inventory of the biota of the Belle Isle Marsh in a tidally restricted area. Report to the Massachusetts Environmental Trust, Boston, MA, USA.
- Craig, R.J. 1990. Historic trends in the distribution and populations of estuarine birds marsh birds of the Connecticut River. Dept. Nat. Res, Mgmt. ; Engin. Res. Rpt. 83., Univ. Connecticut, Storrs, CT, USA.
- Marshall, R.M. and S.E. Reinert. 1990. Breeding ecology of Seaside Sparrows n a Massachusetts salt marsh. Wilson Bull. 102:501-513.
- Orson, R.A., R.S. Warren, W.A. Niering and P. Van Patten. 1998. Research in New England marshestuarine ecosystems: Directions and priorities into the next millennium. Sea Grant #CTSG-98-03.
- Stearns, L.A., D. MacCreary and F.C. Daigh. 1940. Effects of ditching for mosquito control on the muskrat population of a Delaware tidewater marsh. Univ. Delaware Agric. Exp. Stat., Newark, NJ, USA. Bull. No. 225.

#### **Biogeochemistry**

- Anisfeld, S.C. and G. Benoit. 1997. Impacts of flow restrictions on salt marshes: An instance of acidification. Environmental Science and Technology. Environ. Sci. Technol. 31: 1650-1657.
- Chambers, R.M. 1997. Porewater chemistry associated with Phragmites and Spartina in a Connecticut tidal marsh. Wetlands 17:360-367.
- Dent, D. 1986. Acid sulphate soils: a baseline for research and development. ILRI. Wageningen, The Netherlands. 200p.
- Portnoy, J.W. 1991. Summer oxygen depletion in a diked New England estuary. Estuaries: 14: 122-129.
- Portnoy, J.W. 1995. Effects of diking, drainage and seawater restoration on salt marsh biogeochemical cycling. Dept. of the Interior, National Park Service, New England System Support Office, Tech. Rpt NPS/NESO-RNR/NRTR/96-04.
- Portnoy, J.W. and A.E. Giblin. 1997. Effects of historic tidal restrictions on salt marsh sediment chemistry. Biogeochemistry 36:275-303.

# **Compensation (aka compensatory mitigation, mitigation)**

(Caution - readers are advised to recognize the significant distinctions between wetland restoration for environmental purposes and restoration when used in compensation to offset wetland losses.)

Race, M.S. 1985. Critique of present wetlands mitigation policies in the United States based on an analysis of past restoration projects in San Francisco Bay. Environmental Management 9:71-82.

## Fish

- Allen, E.A., P.E. Fell, M.A. Peck, J.A. Gieg, C.,R. Guthke, M.D. Newkirk.1994. Gut contents of common mummichogs, Fundulus heteroclitus L., in a restored impounded marsh and in natural reference marshes. Estuaries 17:462-471.
- Cartwright, M.A. 1997. Dietary habits of benthic-feeding fishes in a southern Maine salt marsh: evaluation of prey availability and feeding selectivity. Ph.D. Thesis, University of Maine, Orono. 135 pp.
- Dionne, M., F.T. Short and D. M. Burdick. 1999. Fish utilization of restored, created, and reference saltmarsh habitat in the Gulf of Maine. American Fisheries Society Symposium 22:384-404.
- Fell, P.F., S.P. Weissback, D.A. Jones, M.A. Fallon, J.A. Zipperi, E.K. Faison, K.A. Lennon, K.J. Newberry and L.K. Reddington. 1996. Comparison of typical tidal marsh and reed grass (*Phragmites australis*) - dominated tidal marshes along the lower Connecticut River: Selected macroinvertebrates and their predation by mummichogs. Unpublished manuscript. Connecticut College, New London, CT., 16 p.
- Fell, P.F., S.P. Weissback, D.A. Jones, M.A. Fallon, J.A. Zipperi, E.K. Faison, K.A. Lennon, K.J. Newberry and L.K. Reddington. 1998. Does invasion of oligohaline tidal marshes by reed grass, *Phragmites australis* (Cav.) Tin. Ex Steud., affect the availability of prey resources for the mummichog, *Fundulus heteroclitus* L? J. Exp. Mar. Bio. ; Ecol. 222:59-77.
- Herke, W., E. Knudsen, P. Knudsen and B. Rogers. 1992. Effect of semi-impoundment on fish and crustacean nursery use and export. North American Journal of Fisheries Management 12: 151-160.
- Kneib, R.T. and S.L. Wagner. 1994. Nekton use of vegetated marsh habitats at different stages of tidal inundation. Marine Ecology Progress Series 106: 227-38.
- Lamborghini, P.L. 1982. Seasonal abundance, temporal variation, and food habits of fishes in a Maine salt marsh creek system. Masters thesis. University of Maine, Orono. 70 pp.
- Lazzari, M.A., S. Sherman, C.S. Brown, J. King, B.J. Joule, S.B. Chenoweth, and R.W. Langton. 1996. Seasonal and annual variation in abundance and species composition of nearshore fish communities in Maine. Maine Dept. of Marine Resources, West Boothbay Harbor, ME. 60 pp.
- Minello, T.J., R.J. Zimmerman and R. Medina. 1994. The importance of edge for natant macrofauna in a created marsh. Wetlands 14: 184-198.

- Murphy. S.C. 1991. The ecology of estuarine fishes in southern Maine high salt marshes: Access corridors and movement patterns. Masters thesis. University of Massachusetts, Amherst. 87 pp.
- Rogers, D., B. Rogers and W. Herke 1992. Effects of a marsh management plan on fishery communities in coastal Louisiana. Wetlands 12: 53-62.
- Rozas, L. and T. Minello. 1997. Estimating densities of small fish and decapod crustaceans in shallow estuarine habitats: A review of sampling design with focus on gear selectivity. Estuaries 20:199-213.
- Shreffler, D.K., C.A. Simenstad and R.M. Thom. 1992. Juvenile salmon foraging in a restored estuarine wetland. Estuaries 15:204-213.
- Varnell, L.M., and K.J. Havens. 1995. A comparison of dimension-adjusted catch data methods for assessment of fish and crab abundance in intertidal salt marshes. Estuaries 18: 319-325.

# Hydrology

- Coats, R., M. Swanson and P. Williams. 1989. Hydrologic analysis for coastal wetland restoration. Environmental Management 13:715-727.
- Roman, C.T., R.W. Garvine and J.W. Portnoy. 1995. Hydrologic modeling as a predictive basis for ecological restoration of salt marshes. Environmental Management 19:559-566.
- Turner, R.E., and R.R. Lewis, III. 1997. Hydrologic restoration of coastal marshes. Wetland Ecology and Management 4:65-72.

Invertebrates:

- Bertness, M. D. 1984. Ribbed mussels and *Spartina alterniflora* production in a New England salt marsh. Ecology 65: 1794-1807.
- Bertness, M. D. 1985. Fiddler crab regulation of *Spartina alterniflora* production on a New England salt marsh. Ecology 66: 1042-1055.
- Bertness, M. D. and T. Miller. 1984. The distribution and dynamics of *Uca pugnax* (Smith) burrows in a New England salt marsh. J. Exp. Mar. Biol. Ecol. 83: 211-237.
- Fell, P.E. and J.J. Williams. 1985. Distribution of the snail, *Melampus bidentatus*, and the mussel, *Geukensia demissa*, along the Pataguanset Estuary (Connecticut) in relation to salinity and other tidal marsh invertebrates. Nautilus 99:21-28.
- Fell, P.E., K.A. Murphy, M.A. Peck and M.L. Recchia. 1991. Re-establishment of *Melampus bidentatus* (Say) and other macroinvertebrates on a restored impounded tidal marsh: comparison of populations above and below the impoundment dike. J. Exp. Mar. Biol. Ecol. 152:33-48.
- Fell, P.E., N.C. Olmsted, E. Carlson, W. Jacob, D. Hitchcock and G. Silver. 1982. Distribution and abundance of macroinvertebrates on certain Connecticut tidal marshes, with emphasis on dominant molluscs. Estuaries 5:234-239.

- Fell, P.F., S.P. Weissbauch, D.A. Jones, M.A. Fallon, J.A. Zipperi, E.K. Faison, K.A. Lennon, K.J. Newberry and L.K. Reddington. 1996. Comparison of typical tidal marsh and reed grass (*Phragmites australis*) - dominated tidal marshes along the lower Connecticut River: Selected macroinvertebrates and their predation by mummichogs. Unpublished manuscript. Connecticut College, New London, CT., 16 p.
- Fell, P.F., S.P. Weissback, D.A. Jones, M.A. Fallon, J.A. Zipperi, E.K. Faison, K.A. Lennon, K.J. Newberry and L.K. Reddington. 1998. Does invasion of oligohaline tidal marshes by reed grass, *Phragmites australis* (Cav.) Tin. Ex Steud., affect the availability of prey resources for the mummichog, *Fundulus heteroclitus* L? J. Exp. Mar. Bio. ; Ecol. 222:59-77.
- Fell, P.F., S.P. Weissbach, B. Zuckerman and S.P. Fell. 1996. Macroinvertebrates in *Phragmites* dominated and *Phragmites* - free marsh regions at Chapman Pond and utilization by fish of tidal creeks situated along the salinity gradient of the lower Connecticut River system. Unpublished manuscript. Connecticut College, New London, CT., 17p.
- Jordan, T. E. and I. Valiela. 1982. The nitrogen budget of the ribbed mussel, *Geukensia demissa*, and its significance in nitrogen flow in a New England salt marsh. Limnol. Oceanogr. 27: 75-90.
- Rountree, R. A. and K. W. Able. 1993. Diel variation in decapod crustacean and fish assemblages in New Jersey polyhaline marsh creeks. Estuarine, Coastal and Shelf Science 37: 181-201.
- Rountree, R. A. and K. W. Able. 1997. Nocturnal fish use of New Jersey marsh creek and adjacent bay shoal habitats. Estuarine, Coastal and Shelf Science (in press).
- Rozas, L. and T. Minello. 1997. Estimating densities of small fish and decapod crustaceans in shallow estuarine habitats: A review of sampling design with focus on gear selectivity. Estuaries 20:199-213.
- Smith, K. J. and K. W. Able. 1994. Salt-marsh tide pools as winter refuges for the mummichog, *Fundulus heteroclitus*, in New Jersey. Estuaries 17: 226-234.
- Varnell, L.M., and K.J. Havens. 1995. A comparison of dimension-adjusted catch data methods for assessment of fish and crab abundance in intertidal salt marshes. Estuaries 18: 319-325.

#### **Mosquito Ditching**

- Clarke, J., B.A. Harrington, T. Hruby, and F.E. Wasserman. 1984. The effects of ditching for mosquito control on salt marsh use by birds in Rowley, Massachusetts. J. Field Ornith. 55:160-180.
- Reinert, S.E., F.C. Golet and W.R. DeRagon. 1981. Avian use of ditched and unditched salt marshes in southeastern New England: a preliminary report. Trans. Northeastern Mosquito Control Assoc. 27:1-23.
- Reinert, S.E. and M.J. Mello. 1995. Avian community structure and habitat use in a southern New England estuary. Wetlands 15:9-19.
- Stearns, L.A., D. MacCreary and F.C. Daigh. 1940. Effects of ditching for mosquito control on the muskrat population of a Delaware tidewater marsh. Univ. Delaware Agric. Exp. Stat., Newark, NJ, USA. Bull. No. 225.

#### **Nutrients**

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. Journal of Environmental Quality 12: 41-48.

#### **Restoration**

- Barrett, N.E. and W.A. Niering. 1993. Tidal marsh restoration: Trends in vegetation change using a geographical information system (GIS). Restoration Ecology. March: 18-28.
- Bongiorno, S., J.R. Trautman, T.J. Steinke, S. Kawa-Raymond and D. Warner. 1984. A study of restoration in Pine Creek Salt Marsh Fairfield, CT. Proc. 11th Annual Conference on Wetlands Restoration and Creation, F.J. Webb, Editor. Hillsborough Community College, Tampa, Florida.
- Britton, W.E., B.H. Walden and P.L. Buttrick. 1915. Changes in the vegetation of salt marshes resulting from ditching. CT Agric. Expt. Stat. Rpt for 1915, p.172-179.
- Burdick, D.M. and M. Dionne. 1994. Comparison of salt marsh restoration and creation techniques in promoting native vegetation and functional values. Office of State Planning, Concord, NH 65 pp.
- Burdick, D.M., M. Dionne, R.M. Boumans, and F.T. Short. 1997. Ecological responses to tidal restorations of two northern New England salt marshes. Wetlands Ecology and Management 4: 129-144.
- Burdick, D.M., M. Dionne and F.T. Short. 1994. Restoring the interaction of emergent marshes with Gulf of Maine waters: Increasing material and energy flows, water and habitat quality, and access to specialized habitats. Pp. 89-91 In: Stevenson, D. and E. Braasch (eds.) Gulf of Maine Habitat. RARGOM Report #94-2; Sea Grant #UNHMP-T/DR-SG-94-18.
- Capotosto, P. 1994. Restoration of a dredge disposal site in Mumford Cove, Groton, Connecticut. In Waterfowl habitat, restoration, enhancement and management in the Atlantic Flyway. Atlantic Waterfowl Council, 3rd edition, Delaware.
- Chadwick, J. 1997. Shepody Bay and the Petitcodiac River causeway. pp 112-123. In: C. White (ed.) Rim of the Gulf: restoring estuaries and resources. Island Institute, Rockland, Maine.
- Dionne, M., D. Burdick, R. Cook, R. Buchsbaum and S. Fuller. 1998. Physical alterations to water flow and salt marshes: protecting and restoring flow and habitat in Gulf of Maine salt marshes and watersheds. Final draft of working paper for Secretariat of the Commission for Environmental Cooperation. Montreal, Canada. 68 pp and appendices.
- Milone ; MacBroom Engineering, Inc. 1987. Sybil Creek salt marsh study, Branford, Connecticut. Engineering Report prepared for the CT Dept. Environ. Prot. 60 pp. and maps.
- Milone ; MacBroom Engineering, 1996. Preliminary engineering study Old Field Creek and Cove River, West Haven, CT. Engineering Report prepared for the CT Dept. Environ. Prot.
- Milone ; MacBroom Engineering, 1997. Mill Meadows marsh restoration design report. Engineering Report prepared for the CT Dept. Environ. Prot.

- Milone ; MacBroom Engineering, 1997. Sybil Creek salt marsh restoration Branford, Connecticut final design report. Engineering Report prepared for the CT Dept. Environ. Prot. (in progress)
- Morgan, P., D. Burdick and K. Cheetham. 1998. Restoring New Hampshire's salt marshes. New Hampshire Office of State Planning, Concord, NH 8pp.
- Roman, C.T. 1978. Tidal restriction: its impact on the vegetation of six Connecticut coastal marshes. M.A. Thesis, Connecticut College, New London, CT 178 pp.
- Roman, C.T. 1987. An evaluation of alternatives for estuarine restoration management: the Herring River ecosystem (Cape Cod National Seashore). Center for Coastal and Environmental Studies, National Park Service Cooperative Research Unit. Rutgers - The State University of New Jersey, New Brunswick, NJ. 304 pp.
- Roman, C.T., R.W. Garvine and J.W. Portnoy. 1995. Hydrologic modeling as a predictive basis for ecological restoration of salt marshes. Environmental Management. 19: 559-566.
- Roman, C.T., W.A. Niering and R.S. Warren. 1984. Salt marsh vegetation change in response to tidal restriction. Environ. Mgmt. 8:141-150.
- Rozsa, R. 1987. An overview of wetland restoration projects in Connecticut. Proc. IVth Conn. Inst. Water Res. Wetland Conf. p.1-11.
- Rozsa, R. and R.A. Orson. 1993. Restoration of degraded salt marshes in Connecticut. Proc. 20th Annual Conf. on Wetlands Restoration and Creation, Hillsborough Community College, Inst. Florida Studies, Plant City, Fl, p.196-205.
- Rozsa, R. 1995. Tidal wetland restoration in Connecticut. pp 51-65. In: Dreyer, G.D. and W.A. Niering (eds.), Tidal marshes of Long Island Sound: ecology, history and restoration. Connecticut College Arboretum Bulletin 34. Connecticut College Arboretum, New London, CT.
- Sears, J.R. and H.S. Parker 1983. Die-back of vegetation in a Massachusetts salt marsh. pp. 63-78. In: Salt Ponds and Tidal Inlets: Maintenance and Management Considerations. Conf. Proc. Nov. 19, 1983.
- Short, F.T., D.M. Burdick, C.A. Short, R.C. Davis, and P. Morgan. 1999. Developing success criteria for restored eelgrass, salt marsh and mudflat habitats. Ecological Engineering, in press.
- Simenstad, C.A., and R.M. Thom. 1996. Functional equivalency trajectories of the restored Gog-Le-Hi-Te estuarine wetland. Ecological Applications 6:38-56.