

where microorganisms conduct important phases of the carbon, nitrogen, phosphorus, and sulfur cycles, breaking down harmful pollutants into simple forms, which in turn can be utilized by other organisms for food.

In their natural state, tidal marshes act as buffers against storm-driven floodwaters. They store water from overflowing riverbanks and excess surface waters. In addition to the sponging effect of the soil, wetland vegetation helps slow the speed of floodwaters, lowering flood levels and reducing erosion. Coastal wetlands offer protection from storm runoff and extreme tidal fluctuation, preventing shorelines from eroding away.

## BIBLIOGRAPHY

- Carlson, Cathy, and Fowler, John, *The Salt Marsh of Southern New Jersey*, Stockton Center for Environmental Research.
- Collins, B. and Anderson, K., *Plant Communities of New Jersey*, Rutgers Press, 1984.
- Curtis, Helena, *Biology*, Second Edition, Worth Publishers, Inc., New York, 1976.
- Kane, Patricia F., Rosselet, Dale A., Anderson, Karl, *Bridges to the Natural World*, New Jersey Audubon Society, 1992.
- Kinsey and Walters, *Hands on Agronomy*, Acres USA Press, 1993.
- Lewis, Barry, "Wetlands - Much More Than a Swamp," *Know Your Environment*, Academy of Natural Sciences, Philadelphia, May 1995.
- Minard, James P., 1969, *Geology of Sandy Hook Quadrangle*, New Jersey, U.S. Geol. Survey Bull. 1276.
- Middletown Township Environmental Commission, *Field Study*, 1992.
- Munday, J.C. & M.S. Fedosh, 1983, *Landsat Analysis of Coastal Turbidity Dynamics Along Northeastern North America*, National Marine Fisheries Service Contract NA-80-FA-C-00051 Final Report, 41 pages.
- New Jersey Marine Sciences Consortium, *The Hook Book: A Guide to Common Marine Organisms of Sandy Hook*, New Jersey Marine Sciences Consortium, Sandy Hook, NJ, 1987.
- Peterson, Rodger Tory, *A Field Guide to The Birds East of the Rockies*, 4th Edition Houghton Mifflin Co., Boston, 1980.

Robischaud and Buell, *Vegetation of New Jersey*, Rutgers Press, 1973.

Shriner, Charles A., *The Birds of New Jersey*, Fish and Game Commission of New Jersey, 1896.

Small, R.J., 1972, *The Study of Landforms*, Cambridge University Press, London, England, 486 pages.

Stanford, S.D. & D.P. Harper, 1991, *Glacial Lakes of the Lower Passaic, Hackensack, and Lower Hudson Valleys, New Jersey and New York*, *Northeastern Geology*, Vol. 13 No. 4, p 271-286.

U.S. Army Coastal Engineering Research Center, 1975, *Shore Protection Manual*, Department of the Army Corps of Engineers, Vol. 1, 496 pages

Walters and Fenzau, *An Acres USA Primer*, Acres USA Press , 1979.

Widmer, Kemble, 1964, *The Geology & Geography of New Jersey*, The New Jersey Historical Series, Vol. 19, D. Van Nostrand Company, Inc., Princeton, New Jersey, 193 pages.

## ABOUT THE MIDDLETOWN ENVIRONMENTAL COMMISSION

The Middletown Environmental Commission is the oldest environmental commission in New Jersey, having originated in 1970. The majority of the members possess a strong background in environmental sciences and issues. It meets monthly to review requests for property changes (housing developments, commercial building, private docks, etc.). The environmental commission acts as an advisory body to the township planning committee regarding these issues. Several of the members are members of other environmental councils and committees. It has planned and implemented special projects such as planting signs describing natural wetlands delineation in the township (with the help of high school students), as well as water quality testing at key sites along waterways. It is a volunteer organization, with members serving three year terms.

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