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Woods Hole Sea Grant: Salt Marshes

Salt Marshes: Biological Controls of Food Webs in a Diminishing Environment
Valiela, I., D. Rutecki, and S. Fox
Journal of Experimental Marine Biology and Ecology, Vol. 300, pp. 131-159, 2004 WHOI-R-04-003

Ammonium Dynamics in Tidal Salt Marshes: An Experimental Study of Ammonium Adsorption, Tidal Flushing and Ammonia Volatilization
Koop-Jakobsen, K.
Master's Thesis, Department of Life Sciences and Chemistry, Roskilde University, Denmark, 3 pp. (abstract only), 2003 WHOI-X-03-004

Northeast Tidal Flushing of Ammonium from Intertidal Salt Marsh Sediments: The Relative Importance of Adsorbed Ammonium
Koop-Jakobsen, K. and A. Giblin
Biol. Bull., Vol. 203, pp. 258-259, 2002 WHOI-R-02-008

Rapid Shoreward Encroachment of Salt Marsh Cordgrass in Response to Accelerated Sea-Level Rise
Donnelly, J.P. and M.D. Bertness
PNAS, Vol. 98, No. 25, pp. 14218-14223, 2001 WHOI-R-01-003

Biogeochemical Effects of Seawater Restoration to Diked Salt Marshes
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Effects of Historic Tidal Restrictions on Salt Marsh Sediment Chemistry
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Salt Marshes: Jewels of the Northeast
Helpful to educators and students.
Giese, G.S. and T.I. Crago
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Response of a Salt Marsh Microbial Community to Inputs of Heavy Metals: Aerobic Heterotrophic Metabolism
Giblin, A.E., M. Piotrowski, B. Leighty, I. Valiela, and J.M. Teal
Environmental Toxicology and Chemistry, Vol. 2, pp. 343-351, 1983 WHOI-R-83-018

Does Salt Marsh Fertilization Enhance Shellfish Production? An Application of Flow Analysis
Only available on loan from the National Sea Grant Library
Finn, J.T. and T.M. Leschine
Environmental Management, Vol. 4, No. 3, pp. 193-203, 1980 WHOI-R-80-011
The method of flow analysis, which is similar to economic input-output analysis, is presented as a means of making flow models of ecological systems more useful to environmental managers. This paper considers as an illustration the extent to which nitrogen fertilizer added to Spartina salt marsh sediments can enhance shellfish growth. Nitrogen flow models of both the Barataria Bay salt marsh complex of coastal Louisiana and the Sippewissett Marsh of western Cape Cod, Massachusetts, are analyzed. The analysis shows the transfer of added nitrogen to shellfish growth via Spartina growth, decomposition, and detrital feeding to be considerably less efficient that its transfer to Spartina growth itself. These results are similar for both marsh systems, despite their great physical differences and despite the inclusion of considerably more microbial processing of nitrogen in the Barataria Bay model than in the Sippewissett models. The results suggest that the most efficient mechanism by which added nitrogen could enhance shellfish growth in salt marshes may have to bypass the route through the Spartina life cycle.

Uptake and Losses of Heavy Metals in Sewage Sludge by a New England Salt Marsh
Only available on loan from the National Sea Grant Library
Giblin, A.E., A. Bourg, I. Valiela, and J.M. Teal
Amer. J. Bot., Vol. 67, No. 7, pp. 1059-1068, 1980 WHOI-R-80-015

Regulation of Primary Production and Decomposition in a Salt Marsh Ecosystem
Only available on loan from the National Sea Grant Library
Valiela, I., B. Howes, R. Howarth, A. Giblin, K. Foreman, J.M. Teal, and J.E. Hobbie
In: Wetlands: Ecology and Management. Proceedings of the First International Wetlands Conf., New Delhi, India, 10-17 September 1980, pp. 151-168, 1980 WHOI-R-80-024
This paper, a result of ten years of research by a large group of colleagues, students, and assistants in the Great Sippewissett salt marsh project (Massachusetts), outlines the authors' ideas as to how primary production and decomposition of organic matter are governed in a salt marsh ecosystem. They consider the fate of carbon fixed in a salt marsh, focusing principally on decay and export to coastal waters. The authors also speculate on the effects of eutrophication on production and decay in salt marsh ecosystems.

Salt Marsh Nitrogen Analysis: Fertilization and the Allocation of Biological Productivity
Only available on loan from the National Sea Grant Library
Leschine, T.M.
1979 WHOI-T-79-001

Input-output Analysis for Salt Marsh Bioproductivity
Only available on loan from the National Sea Grant Library
Leschine, T.M. and L.J. Smith
1978 WHOI-R-78-013

Last updated: January 9, 2013

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Mail: Woods Hole Oceanographic Institution, 266 Woods Hole Road, Woods Hole, MA 02543, USA.
E-Contact: info@whoi.edu; press relations: media@whoi.edu, tel. (508) 457-2000
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