WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: NJ1481

Title: Effects of the Biopollutant, Phragmites australis, On the Nutritional Status (Biochemical Condition) of Juvenile Weakfish

Focus Categories: Nutrients, Conservation

Keywords: fatty acid, sphigolipid, phospholipid, sterol, isotope. lipid, finfish, weakfish, Spartina, salt marsh, marsh, nutrient, macrophyte, trophodynamic, wetlands, biopollutants, Phragmites australis, Phragmites

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End Date: 02/28/2002

Federal Funds: $4,500

Non-Federal Matching Funds: $2,498

Congressional District: 6

Principal Investigators:
Steven Y. Litvin
Student, The New Jersey Marine Sciences Consortium

Michael P. Weinsteini
Assistant Professor, Auburn University

Abstract

A newer and more invasive variety of Phragmites australis ranks among the most aggressive "biopollutants" introduced into wetland landscapes and has replaced desirable wetland plants over extensive marsh areas, especially those with previous disturbance history. Effects of P. australis expansion are largely unknown, but generally believed to be negative, however, virtually nothing is known about the trophodynamic role in salt marsh food webs in North America or about the role of Phragmites in altering other habitat functions.

The key focus of the proposed study concerns whether this "biopollutant" affects the quality of habitat and contributes nutrients to the estuarine food web by export. Through this study, a comparison can be made of the nutritional status (hereafter,"biochemical condition") of juvenile weakfish that have resided in waters influenced by Phragmites as a nutrient source, versus those in waters most influenced by Spartina spp. Thus it will be possible to integrate the quality of habitat in terms of nutrient flux, and also as it influences fish biochemical condition, secondary production, and survival potential.

Weakfish will be measured, weighed, and analyzed by TLC/FID lipid method and stable isotope analysis to provide data in support of this study.