



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2004DE45B

**Title:** Biological Control of an Invasive Plant (Purple Loosestrife) Affecting Freshwater Wildlife Habitats in the Mid-Atlantic U.S.A.

**Project Type:** Research

**Focus Categories:** Invasive Species, Wetlands, Ecology

**Keywords:** invasive plants, biological control, wildlife habitat

**Start Date:** 06/01/2004

**End Date:** 02/28/2005

**Federal Funds:** \$1,750

**Non-Federal Matching Funds:** \$3,500

**Congressional District:** At-large

**Principal Investigator:**  
Judith Hough-Goldstein

### Abstract

The Delaware and Chesapeake Bays provide an essential resting and feeding area for migrating shorebirds and waterfowl. Freshwater ponds and suitable habitat for indigenous as well as migrating birds contribute to the overall significance of the Chesapeake and Delaware Canal wetlands for wildlife.

Within the past several decades two plants of European origin, purple loosestrife (*Lythrum salicaria*) and phragmites (*Phragmites communis*), have invaded and degraded freshwater habitats all across North America. These plants have gained a foothold and are establishing a strong presence along the Chesapeake and Delaware Canal in the bordering lands of Delaware and Maryland.

Several of the ponds in this area are severely infested while others are only beginning to show signs of infestation. A nearby pond ("Flat Pond") is heavily infested with purple loosestrife, is beyond labor intensive means of control, and serves a source of continued infestation of Mitchell Pond and other ponds in the area. As a perennial plant which produces thousands of seeds, efforts to control purple loosestrife by chemical or mechanical means have proven ineffective.

The Del Bay Retriever Club with its partner the University of Delaware and with the support of the Delaware Division of Fish and Wildlife and the U.S. Corps of Engineers seek to reduce, if not eliminate, the presence of purple loosestrife through the establishment of a beetle – purple loosestrife eating specific – colony in the Jesse Mitchell and Flat Pond area of the Chesapeake and Delaware Canal Lands. The specific objectives of this research are: (1) Establish a colony of *Gallerucella pusilla* and *G. calmariensis* beetles for the reduction and/or elimination of purple loosestrife (*Lythrum salicaria*); (2) Encourage the re-establishment of native plants and thereby upgrade food, shelter and nesting sites for wildlife; (3) Add scientific knowledge to the general literature regarding the use of biological means, i.e., beneficial insects, for the control of non-native invasive plants.