BTNEP
BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM

Apple Snails in the BTES

Project Status

Project Year: 2017 **Status:** Ongoing
Category: Invasive Species
Location: Throughout the Barataria-Terrebonne Estuary System (BTES)
Project Partners: Nicholls State University Biology Department

Background and Problem Addressed:

The Maculata apple snail has been dramatically increasing its range in the BTES and into other parts of Louisiana. It is likely to have impacts on submerged aquatic vegetation, which will in turn have impacts on fisheries habitat, water quality, and aesthetics. It is also likely displacing native mollusks, and may even have human health impacts, as it is a host for a parasite called rat lung worm that can infect humans. Management actions are extremely limited at this point. The project aims to better understand the range, reproductive rate, and depredation rate of apple snails in order to inform and help develop management actions.

An apple snail in the act of laying eggs.

BTNEP • Nicholls State University • N. Babington Hall, Rm 105 • P.O. 2663 • Thibodaux, LA 70301
Phone: 985.447.0868 • Toll Free: 1.800.259.0869 • www.BTNEP.org

BTNEP
BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM

Apple Snails in the BTES

Project Description:

The project's title is Monitoring, Enumeration, and Natural Depredation Assessment of Maculata Apple Snails in the BTES and contains three objectives.

The first objective is to evaluate the most recent range and density of apple snail habitation within the BTES. BTNEP will concentrate survey efforts at the boundaries of the last known occurrences. Therefore BTNEP plans to focus along the GIWW from the locks at its intersection at the Atchafalaya River to the west, to the locks that separate the Harvey Canal and the Gulf Intracoastal Waterways (GIWW) from Mississippi River in the east. BTNEP will also pinpoint the southern extent of the snails' occurrences, which is hypothesized to be due to salinity sensitivity. And finally, BTENP will examine the extent of its range within the wetlands lying adjacent to Lake Palourde and Lake Verret.

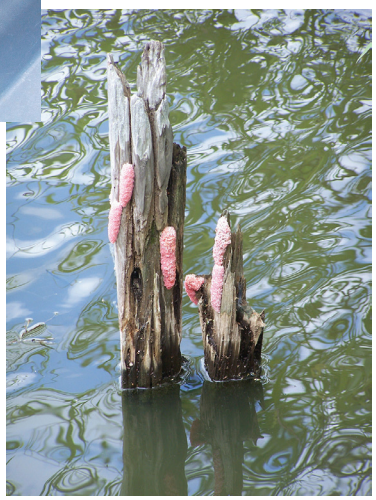
The second objective is the development of enumeration methods. BTNEP will test the efficacy of several methods to estimate and enumerate the extent of infestation of the snail. BTNEP will measure the rate of oviposition in several test plots and will also compare the occurrence of egg clutches to the number of snails collected using conventional trapping methods. The completion of this method allows the development of a sampling assay to estimate the total population number within an enclosed pond.

The final objective is to measure the natural depredation rates. BTNEP will monitor several natural feeding stations that have been established within BTES wetlands, where a cache of snail shells has been documented. Measurement of the deposition of new snail shells at several sites will be used to estimate a natural depredation rate.

BTNEP will also deploy camera traps with tethered apple snails to determine which animals are preying upon the snails as well as the percent contribution to depredation.

Despite a statewide ban on transport or sale of live apple snails, they are still occasionally sold to home aquarists. Enforcement action was taken by the Louisiana Department of Wildlife and Fisheries on this violator in 2013.

A scientist prepares apple snails for the depredation study.



Apple snail egg masses may contain over 1,000 eggs each, and are deposited above the waterline.

CCMP Action Items Addressed:

Reduction of Impacts from Invasive Species (Ecological Management #16)

BTNEP • Nicholls State University • N. Babington Hall, Rm 105 • P.O. 2663 • Thibodaux, LA 70301
Phone: 985.447.0868 • Toll Free: 1.800.259.0869 • www.BTNEP.org