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Patuxent Wildlife Research Center

Research in Suport of Nutria Eradication in Maryland

- ***The Challenge:*** Introduced to Maryland's eastern shore marshes in the 1940s, South American nutria (*Myocastor coypus*) have emerged as an undesirable invasive species because of their damage to natural wetland systems and contribution to wetland loss. Marsh damage has occurred from overgrazing of vegetation large beaver-like herbivores and the ability of nutria to excavate surface peat to extract nutritious roots and rhizomes. This also leaves the marsh exposed to tidal erosion. It has been estimated that in the past half century, nutria have contributed to the irreversible conversion of 7,000 acres of emergent marsh to open water on the Blackwater National Wildlife Refuge alone. In response to this marsh loss, Congress passed the Nutria Eradication Act in 2003 and the Maryland Nutria Eradication Program became operational under management of the US Fish and Wildlife Service and APHIS-Division of Wildlife Services.

- ***The Science:*** It is a daunting task to eradicate nutria from 150,000 acres of Maryland tidal marshes. Six years of removal effort have shown that 95% of nutria can be removed relatively easily from most marshes, but removing the remaining 5% will take refined methods and strategy. USGS research is focusing on devising new detection and monitoring methods to assist with this effort. Development of a micro GPS collar for tracking nutria and trial releases of sterilized "Judas" individuals equipped with GPS collars and internal VHF transmitters are being tested as a method to locate remnant animals. As nutria are highly gregarious, it is hoped that "Judas" individuals will seek out widely scattered animals or small groups of nutria in the marsh and thus lead trappers to them for removal. Sentinel devices are being engineered to test the efficacy of using play-back recordings of nutria calls and nutria scent as lures to attract scarce nutria from great distances. If successful, such devices could be used as a long-term monitoring and removal technique to replace more labor intensive manual search and detection methods.

- ***The Future:*** This research is a collaboration between the USGS and the USFWS/ USDA-APHIS Nutria Eradication Program, the Maryland Department of Natural Resources, and private and academic partners. It is hoped that viable monitoring and detection methods can be made operational to assist the nutria eradication program into the future and bridge the difference between affecting large-scale population reduction and true eradication. Plans are being made to expand the project into Virginia and Maryland portions of the Delmarva Peninsula to eliminate peripheral populations that could potentially, over time, re-colonize Maryland marshes.

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