Giant Salvinia Control Project in Louisiana

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Issue:

Giant salvinia is considered one of the most noxious aquatic plant species in the country. Giant Salvinia, *Salvinia molesta*, was identified in the marshes and canals just north of the town of Cameron in the late fall of 2001. This is only the second confirmed finding of giant salvinia in Louisiana; it was first found several years ago in Toledo Bend. Its smaller cousin, the Common Salvinia (*Salvinia minima*) has been growing unchecked in coastal Louisiana since the early 1980s.

Giant salvinia is much more damaging than its smaller cousin because of its ability to grow into dense mats that can cover entire water bodies with a thick layer of vegetation. These mats smother native plants by blocking sunlight from penetrating into the water, and thereby preventing photosynthesis. Other consequences of giant salvinia are reduced dissolved oxygen causing fish kills and reduced production of submerged aquatic plants due to shading. This severely reduces the value of an area for waterfowl habitat. Solid mats of giant salvinia may also reduce or eliminate boating and fishing opportunities simply because boats are not able to push through the thick mats. These mats can clog drainage canals, causing widespread flooding damage. They may also have devastating impacts on rice production by clogging canals used as surface water irrigation sources. Potential impacts of giant salvinia in rice production fields could also be devastating. It could also adversely impact crawfish and catfish production.

Actions to Control Salvinia:

Media Day (Sponsored by the Louisiana Salvinia Task Force): – TV, newspaper, and radio reporters came to Cameron from all over the state to cover the infestation. There was statewide media coverage reaching thousands of people. The goal to raise citizen awareness about this invasive species was achieved.

Stakeholders Meetings (2): Local government, drainage board, landowners, cattle producers held two meetings to discuss plans for control. Fifty people learned about the infestation and control options.

LSU AgCenter Salvinia Workshop: Attended by 50 local landowners, drainage board employees (Cameron &Calcasieu), the workshop helped participants to identify giant salvinia, and understand control options.

A Giant Salvinia Powerpoint Program: Presented at 10 public speaking engagements to educate civic clubs, drainage boards, economic development groups, and college classes about giant salvinia and the threat it poses.

Cyrtobagous Weevil Release (Sponsored by the Louisiana Salvinia Task Force): Weevil release and control sites were established and monitored by LSU AgCenter biologist Dr. Seth Johnson. An initial release of larval insects was made in December 2001. Those

weevils are known to consume salvinia. A USDA permit was granted to use them as biocontrol. The first release of the weevils did not survive the winter. A second release of adult weevils, made in September 2002, inflicted serious damage to salvinia in the release site within 10 days. Heavy rains and flooding in October 2002 floated the square meter from its anchorage and the weevils may have been displaced. Additional releases are planned for 2003 as well as a release into common salvinia, *Salvinia minima*.

Reward Spray Demonstrations (by the Louisiana Department of Wildlife & Fisheries, the Louisiana Department of Agriculture & Forestry, and the LSU AgCenter): Herbicide demonstration plots were shown to be effectively controlled when *Reward* was applied using ground rigs (tractor, boat). Ground rigs are a cheaper, more effective alternative to aerial application due to the improved coverage rates and volume of application.

Rodeo Herbicide Research (by the Louisiana Department of Wildlife & Fisheries, the Louisiana Department of Agriculture & Forestry, and the LSU AgCenter): Herbicide trials were carried out using *Rodeo*, a cheaper, less restrictive alternative to *Reward*. Control was excellent.

Salinity Tolerance Study: The tolerance threshold of giant salvinia was found to be at 10 parts per thousand (28% seawater strength) for 5 – 7 days. Flooding with saltwater is a cheap, effective control method when applicable.

Aquatic Weed Control Funding: LSU AgCenter worked closely with Louisiana Department of Wildlife and Fisheries and state legislators to secure funds to control giant salvinia and other aquatic weeds through a bill passed by legislators which would increase fees on light duty trailers.

Current Situation/Results in Cameron:

In March of 2003, a Giant salvinia control plan was drafted for the Cameron infestation. Soon after that time, the aggressive control plan was implemented. The plan called for a drawdown, herbicide applications of Reward, booming off tributaries connected to the main canal to prevent reinfestation, introducing saltwater from the Calcasieu ship channel and lowering culvert elevations to allow salt water to flow into the marshes.

Another important component has been the hiring of a private contractor to find infested areas and control it. A recent survey in June 2003 found the infestation very much in control as evidenced by the attached photos.

2003 Control

May 16, 2002

June 5, 2003