

Interagency Giant Salvinia Control Team

August 26, 2009

Caddo Lake NWR

Karnack, TX

Overview

Early infestations in the southeast probably originated at Toledo Bend and are probably spread by recreational boaters and anglers. Toledo Bend is a shared reservoir on TX-LA border, very popular nationally with anglers. People bring boats in and out all the time. Some observations that are applicable to many sites:

- Plant increases in density and biomass very quickly -- Elder 1,000 acres-3,000 acres in a year example.
- Early attempt by TX at eradication failed; control became the solution. Have sprayed herbicides and then tried weevils. Weevils appear to do a better containment job. (Multiple TX examples given)
- LA follows same pattern. First in Cameron Parish (near TX and below Toledo Bend); later north Louisiana at Lake Bistineau, which is not far from Caddo Lake.
- Plant fragments catch in hard-to-reach and never-cleaned places on boat trailers underneath; Impossible to get all fragments.
- Plant is very light, moves with wind and waves, very difficult to concentrate and spray effectively anyway, but its repelling hairs increase the challenge.

Howard Elder, Texas Parks & Wildlife Department

- Toledo Bend Reservoir has had Giant Salvinia since 1998
- Aerial surveys indicated that there was more than originally thought
- By 2004, over 3000 acres were covered
- Weevils were deployed then
- TPWD determined that eradication was not possible, but started efforts to contain
- A drought in 2005-2006 helped, but infestation was back to 3000 acres by Fall of 2006
- TPWD would prefer to contain infestations
- TPWD has been able to remove new introductions in a few reservoirs
- Early detection and rapid response is key to this
- Oil spill booms are effective early on but become useless as the population increases
- TPWD is always looking for new control methods
- Control is often limited by weevil supply
- Texas has Giant Salvinia in 11 reservoirs

- Public education is key to early detection, but we could do better if we improved the public's understanding and knowledge of Giant Salvinia
- For chemical control, TPWD is using 1 gallon of Aquamaster, a pint of Reward, a quart of Aqua King Plus, one pint of Thoroughbred

James Seals, Louisiana Department of Wildlife & Fisheries

- February 2006, found GS in Lake Bistineau
- Soon discovered that eradication was not possible
- Found GS in most other reservoirs and spreading
- By end of 2007 it had spread to over 4500 acres in Bistineau
- Bistineau is not far enough north to get killing benefits from cold weather
- Spray crews in Apr 2008 treated 4800 acres, coverage was reduced only by about 25%, but they thinned out the population
- A recent drawdown has helped. This reduced it to about 850 acres
- The drawdown has been the only thing so far that has been very effective
- As water came back up, the coverage increased rapidly.
- Right now they are about 5000 acres at Lake Bistineau
- They have witnessed GS being transported on boat trailers
- There are many areas around the margins that are hard to get to with sprayers
- 1.8 million adult weevils released recently, no major benefits seen yet
- Doing everything they can, but it is not enough

Suggestions:

- Dearl's 'cocktail of herbicides seems to have cost-effective control possibilities.
- Boats should be checked going in as well as coming out of a lake. Often the release occurs when the boat goes in.
- Launch sites should be boomed off to keep fragments from spreading into the lake.
- Education needs to be constant, and extend to Duck Hunters. They provide as much a vector as do anglers.

Control Efforts and Tools:

Aerial Imagery -- Jim Everitt.

There is no regular, cost effective remote sensing method. Electronic imagery from an airplane or helicopter is more affordable, but difficult to do by any but professionals. Satellite imagery can be purchased in blocks and may be useful. It can be integrated for GIS mapping.

Herbicides: Daryl Sanders (LA Agricultural Center) and Linda Nelson (USACE)

Lots of research has been done on various products and results are available. These two are the sources. Basically, no 'silver bullet.' (There never is a silver bullet) Lots of

limitations for application and longevity of effectiveness because you can't kill everything in a lake to get the plant. (Salinity would actually kill it)

Weevils: Seth Johnson (LA Ag Ctr) and Julie Natchtrieb (USACE)

Both have experience growing the weevils. Weevils have to be distributed or get more food at a certain density or the whole population crashes.

Much discussion about costs, temperature conditions (weevils sensitive to extremes of hot and cold).

Ecology of Plant: Chetta Owens (USACE)

There are very few physiological parameters useful for prevention of this species in a water body. The plant can come back from high and low temperatures. Neither sediment nor nutrients seem particularly critical to plant growth. Weevils reach a point where they eat so much that biologists have to fertilize the salvinia plants or bring in more plants in order to maintain the weevil population.

Authorities, Regulations and Boater Spread

- Colder temperatures reduce effectiveness of weevils.
 - Question: is there a line we can draw where we know success will not be possible with weevils
 - Weevils become less effective as climate gets colder, but there is no explicit line. Success depends on many other factors as well.
 - Plant will live at further extremes than will the weevil
 - Perhaps a combination of weevils, draw-downs, and chemicals
- Boat Transport
 - Louisiana does not have anything in place to prohibit movement within the state. Interstate transfer is illegal in LA.
 - Steam sprays are not effective in killing Giant Salvinia because the water in the plant insulates lower tissues.
 - Plants trapped between boats and bunks on trailers cannot be removed
 - Howard Elder suggests protecting boat ramps to keep aquatic weeds out of a specific "sterile" area.
 - Howard Elder suggests that increased public outreach is necessary
 - Bob Pitman mentioned the Stop Aquatic Hitchhikers! campaign.
 - TPWD plans to ramp up outreach on invasives
 - Boat check stations have been effective for zebra/quagga mussels in other states.
 - We need to engage the river authorities and the commercial folks in order to make decent progress

- Outreach Signs
 - Earl Chilton, TPWD is working with graphics people to design a sign that incorporates the Stop Aquatic Hitchhikers! campaign that are more Giant-Salvinia specific.
 - Signs should be posted near stops on bass-angler tournament circuits

Our Next Steps:

Committees formed.

Bob Pitman has the list and it will be posted at www.Salvinia.org with assignments.