



# Management of Invasive Aquatic Nuisance Species at Refuges in Western Louisiana: Problems, Approaches, Needs.

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# Invasive Aquatic Plant Species

- We have many invasive aquatic plant species on the Refuges, these are the most commonly found:
  - Giant salvinia, *Salvinia molesta*
  - Common salvinia, *Salvinia minima*
  - Peruvian water grass, *Luziola peruviana*
  - Eurasian water-milfoil, *Myriophyllum spicatum*
  - Water hyacinth, *Eichhornia crassipes*
  - Alligator weed, *Alternanthera philoxeroides*
  - Hydrilla, *Hydrilla verticillata*
  - Cuban Bullrush, *Oxycaryum cubense*

# Newest Aquatic Plants

- The three most recent are:
  - Giant salvinia, *Salvinia molesta*
  - Peruvian water grass, *Luziola peruviana*
  - Cuban Bullrush, *Oxycaryum cubense*

# Combinations are more problematic

- We have found that these three species are combining together to form thick mats, which can impede water access to many areas of the refuge.
  - Cuban Bullrush, *Oxycaryum cubense*
  - Water hyacinth, *Eichhornia crassipes*
  - Giant salvinia, *Salvinia molesta*



# Cuban Bullrush, Water Hyacinth, Alligator Weed and Giant Salvinia together!





# Herbicide spraying by LA DWF



# We can only use approved herbicides

- We supply the herbicide to the LA DWF spray crew, but we are constrained by the amounts of chemicals that can be sprayed, budget, and the list of approved chemicals.



# Other Invasive

- Apple Snail, *Pomacea canaliculata*



One of our Law Enforcement officers sent me this photograph last week. This photo was taken near Grand Lake, on Lacassine National Wildlife Refuge. I also observed a live apple snail in Lake Arthur two weeks ago.



# Management

- We can manage most invasive plants by using chemicals.
- We have no strategy yet for the apple snails.
- Nutria (coypu), Myocastor coypus have been a problem in the past, the number fell after the hurricane, but numbers are rising again.
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# Needs

- We need funding, support, and more research into all of our most problematic aquatic species.