



Photo courtesy of Kevin A. Savoie
LSU AgCenter



Giant Salvinia Management in Louisiana

Kevin A. Savoie

Area Agent – Natural Resources

Southwest Region

Salvinia in Louisiana

Fast growing aquatic fern.

Common Salvinia – Salvinia minima

Giant Salvinia -- Salvinia molesta

Came to U.S. in water gardening trade??

Common Salvinia (Salvinia minima)

- First discovered in La. in 1980 in St. Mary Parish.
- Currently found throughout Louisiana.
- Native to South and Central America.



Common Salvinia

- Small leaves lay flat on the water.
- Tips of hairs on the upper leaf surface do not touch on the ends.



Giant Salvinia

- Salvinia molesta



Giant Salvinia

- Young plants look very much like common salvinia.
- Tips of hairs on upper leaf surface touch on the end forming an “egg beater” shape.



Giant Salvinia



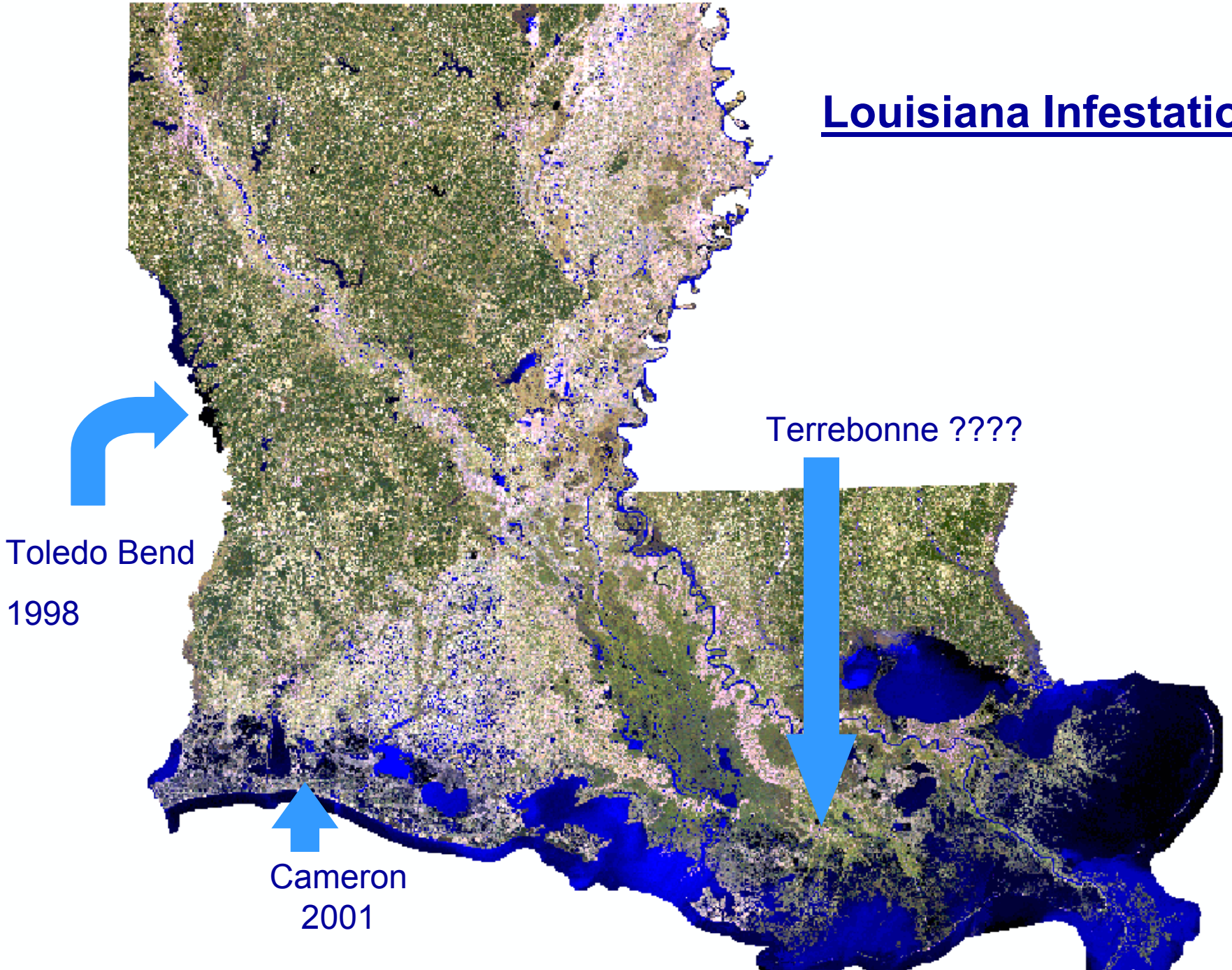
Salvinia molesta
3 growth forms
photo by C. Jacono
1998, US Geological Survey

The Green Monster

- Native to South America.
- Currently found in many countries worldwide.
- First discovered in La. in 1998 – Toledo Bend.
- Cameron – 2001.



Louisiana Infestations

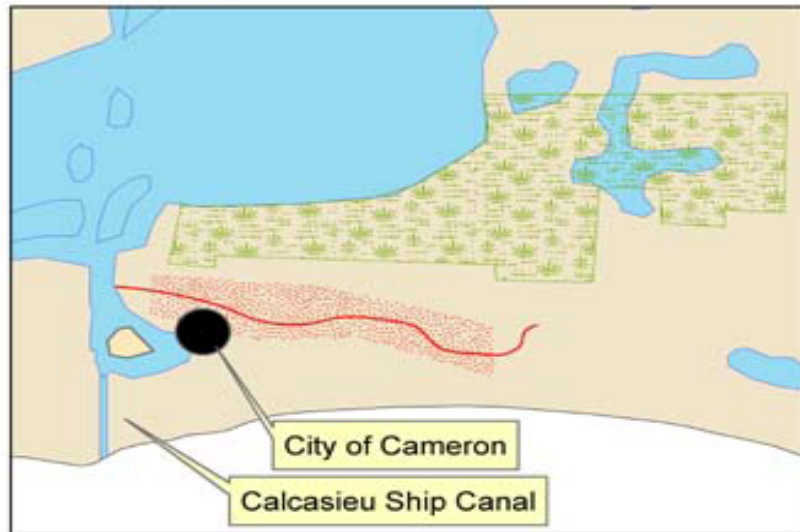
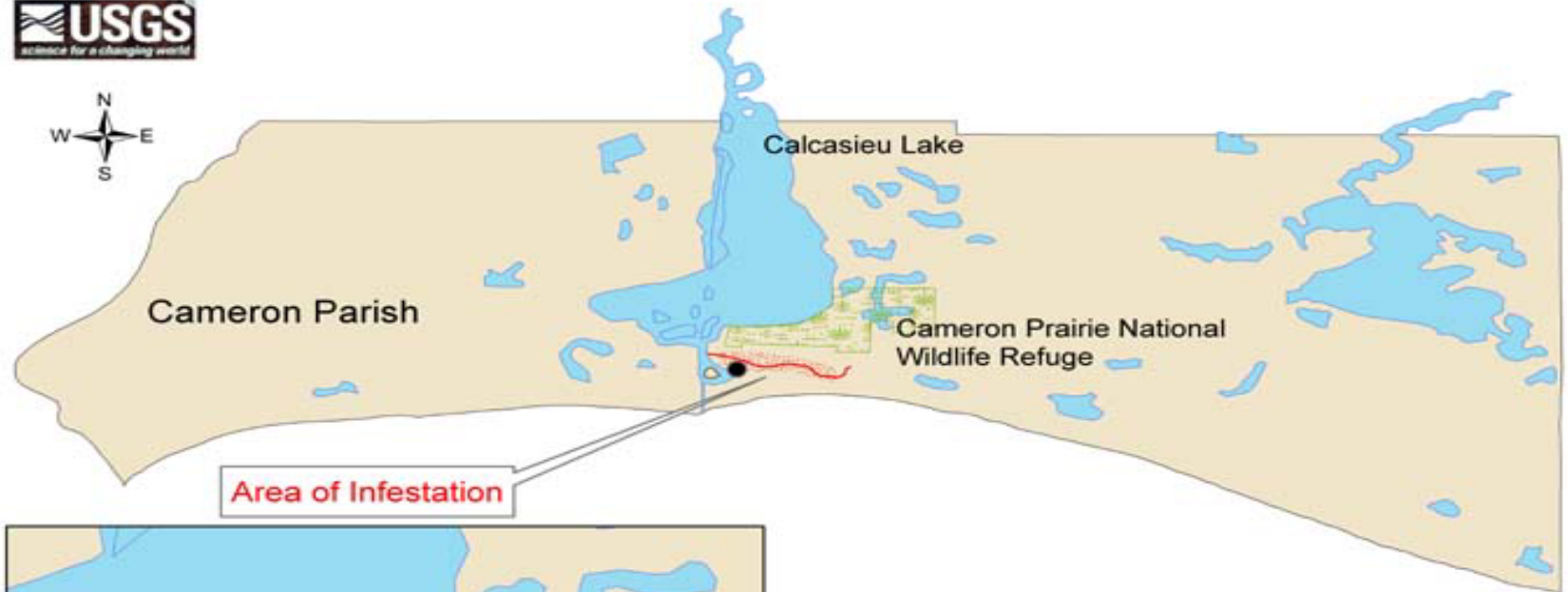


Toledo Bend
1998

Cameron
2001

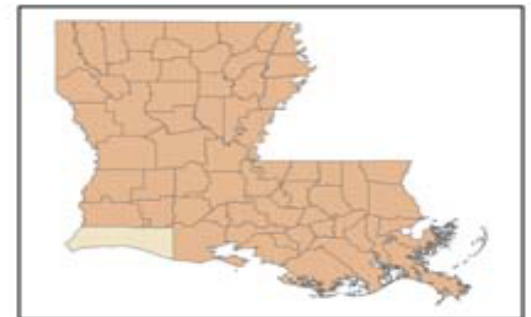
Terrebonne ????

Cameron Infestation



New
Salvinia molesta
occurrence in Louisiana

December 2001



Problems

- Dec. 10, 2001
- Clogs up and inhibits flow in drainage canals.
- Increases potential for flooding and flood damage.



Problems

- Covers over drainage canals.
- Has a tendency to stack upon itself.



Photo Credit: Charles Dugas, LA Dept. of Wildlife and Fisheries

Vertical Stacking



Problems

- Water flow causes the plant to stack up several feet thick.
- Blocked drainage caused road damage.

Secondary Damages



Flood Potential



Mechanical Removal



Problems



- Out competes local, native vegetation.
- Shades out other plant species reducing habitat used by fish and wildlife.

Reduces Property Value



Photo Credit: Charles Dugas, LA Dept. of Wildlife and Fisheries

Recreational & Commercial Values

Hunting – SW LA.



- Over 111,000 hunting licenses annually in the region
- Estimated expenditures exceed \$249 Million
- Economic Impact to Louisiana \$440 Million +

Control

- December 19, 2001.
- Can survive below freezing temperatures.



- January 14, 2002.



Survives Freezes




Control Problems

- Easily transported.
- One plant can grow to cover many acres in one growing season under the right conditions.



Herbicide Control Methods

- Herbicide research in the late '90's on Toledo Bend.
 - Diquat was the most effective. (REWARD)
 - Costs \$100 / acre.
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Herbicide Application

March 23, 2002

Cameron Parish Police Jury - Aerial application
La. Department of Wildlife and Fisheries - Herbicide





March 25, 2002



April 15, 2002



Time Out!!!!

- Salvinia Control Committee.
- Salvinia Management Plan.
- Legislation to increase aquatic weed control funding.
- Hired a Marsh Management consultant to locate and control salvinia.
- Contacted Syngenta Corporation.(Reward)
- Tough to control with aerial application.

Demo. Spraying (4/19/02)



Spray Plot (4/22/02)



Salvinia Control Workshop



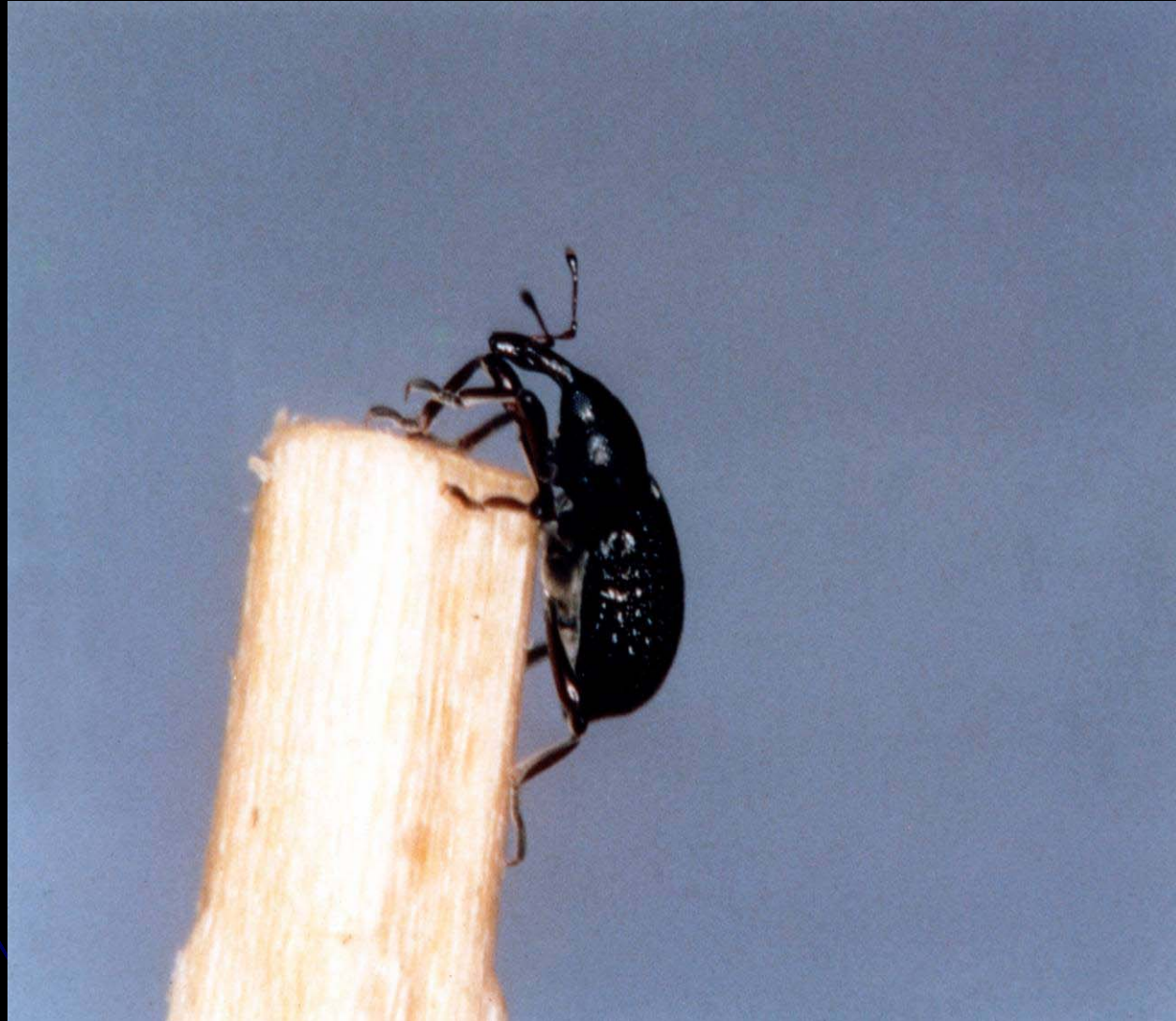
Rodeo Trials

- Glyphosate formulation.
- Less restrictive than Reward.
- Translocated in actively growing plants.
- Economically Competitive .



Biological Control

- Cyrtobagous salviniae
- Successfully used in 13 countries on 3 continents.
- Successful in Florida.



Weevil Release (9/02)



Weevil Control (10/02)



December 2002



Salinity Tolerances

10ppt

7ppt

4ppt

1ppt



Salinity Tolerances 4 days

1ppt



7ppt



Salinity Control

7 days at 10 ppt



Drawdown



2003 Control



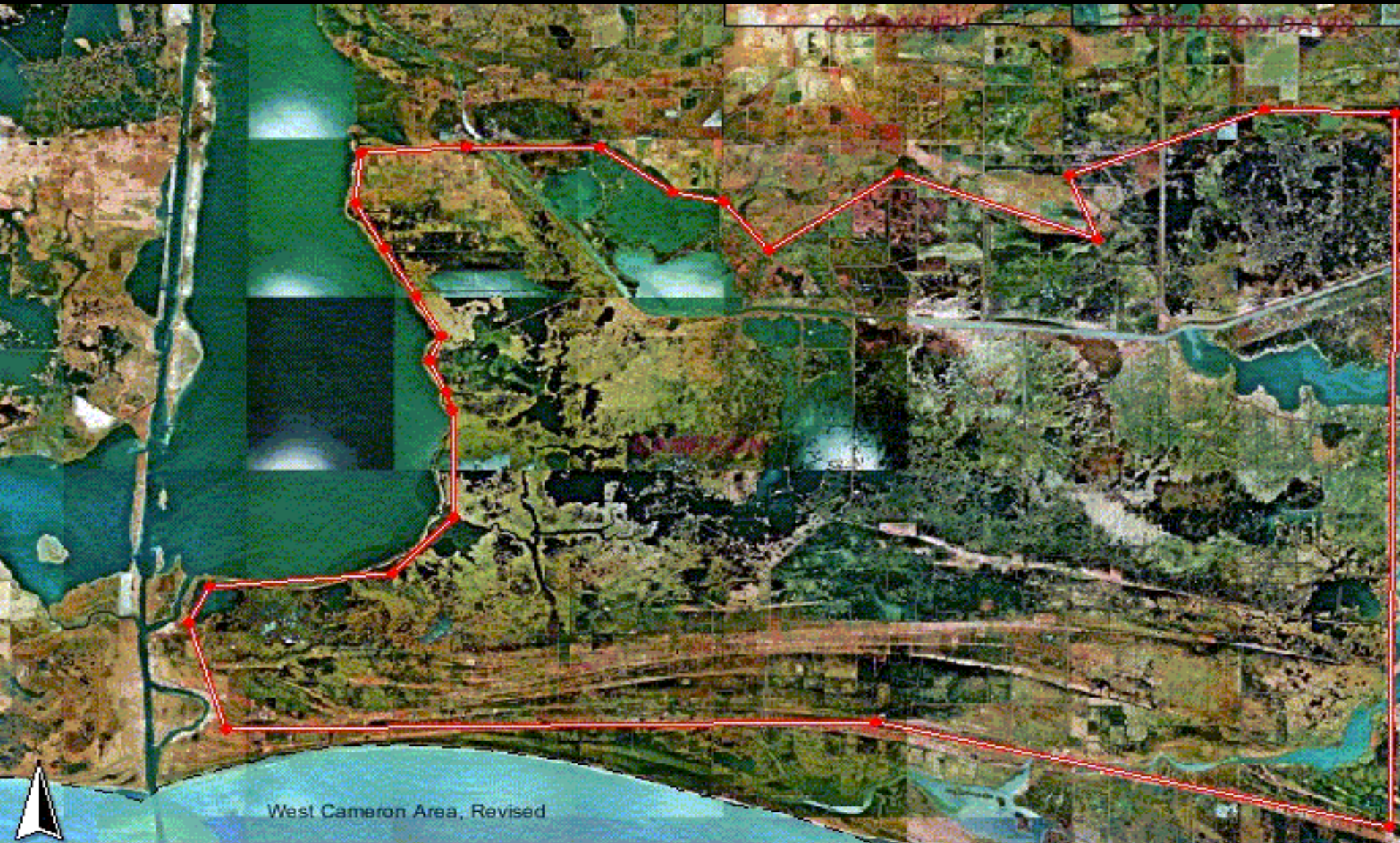
Ground Spraying




Airboat Spraying



Habitat Protection(Ac.)



Summary

- Integrated Management
 - Herbicides
 - Drawdown
 - Salinity
 - biological
 - Vigilance
 - Conflict Resolution
- 

Questions????

