



LDWF Aquatic Plant Control Program Update

Jillian Day
Inland Fisheries

Invasive Aquatic Plants in Louisiana



Floating, Emergent, Submerged



Invasive Aquatic Plants in Louisiana

Plant	1 st Year	Acres of Infestation				
		2011	2012	2013	2014	2015
Water Hyacinth	1884	96,130	65,275	89,810	98,047	81,361
Hydrilla	1975	62,800	37,725	47,618	43,563	30,240
Common Salvinia	1980	44,310	46,410	33,960	29,440	27,884
Giant Salvinia	1998	38,805	52,400	45,354	52,496	57,877



Acreage of Aquatic Plants Treated by LDWF

Fiscal Year	Acres
2006/2007	30,653
2007/2008	61,000
2008/2009	67,951
2009/2010	75,021
2010/2011	55,609
2011/2012	66,944
2012/2013	89,324
2013/2014	79,791
2014/2015	52,082
2015/2016	56,970



Control Methods

Integrated Pest Management (IPM)

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graph TD; A[Integrated Pest Management (IPM)] --> B[Chemical]; A --> C[Mechanical]; A --> D[Biological]
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Chemical

Mechanical

Biological



(IPM) Chemical Control



LDWF Spray Crews

- Maintenance/Small Areas



Contract Applications

- Boats
- Aerial



Water Hyacinth

- **2,4-D**
 - 0.5 gal/acre
 - Except 2,4-D waiver areas
- **Glyphosate**
 - 0.75 gal/acre

Before



After



Alligator Weed

- **Imazapyr**
 - 0.5 gal/acre
- **Imazamox**
 - 0.5 gal/acre



Duckweed

- Diquat - 1.0 gal/acre
- Flumioxazin - >200 ppb or 6-12 oz/acre

Pre-Treatment



5 DAT



10 DAT



Giant and Common Salvinia

- **Glyphosate** (0.75 gal/acre) + **Diquat** (0.25 gal/acre)
 - From April 1 – October 31
- **Diquat** (0.75 gal/acre)
 - From November 1 – March 31
- **Fluridone** – 20-45 ppb



Giant Salvinia Trials

Alternative Surfactants

- Objectives:
 - Determine effectiveness of different surfactants



(IPM) Mechanical Controls



Containment Boom

- Limits plant movement
- Containment for herbicide application

(IPM) Mechanical Controls



Drawdown

- Targets shoreline plants
- Affects entire waterbody
- Can remove large quantities at low cost

(IPM) Biological Control

Species-specific Control

- Weevils
- Triploid Grass Carp



Giant Salvinia Weevil Rearing Ponds

LSU AgCenter

- Three ponds established on AgCenter property
- New site at University of Louisiana



Clinton, LA



St. Gabriel, LA



New Iberia, LA

- Clinton, LA
- St. Gabriel, LA
- New Iberia, LA



Giant Salvinia Weevil

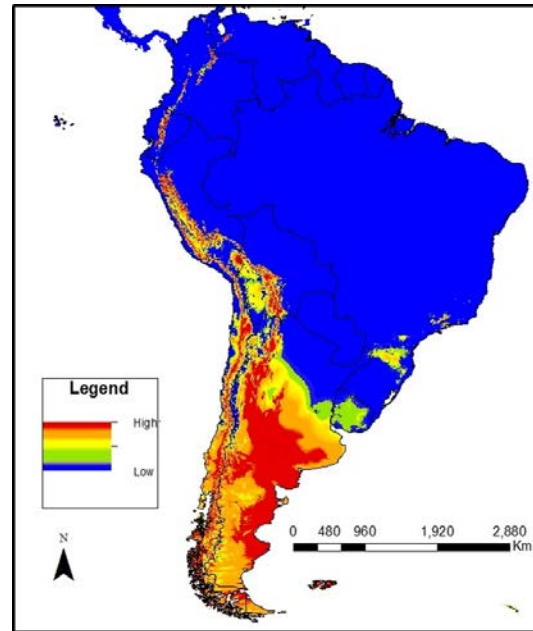


Giant salvinia weevil stocking

- Transplanting since 2008
- Low winter survival in northern Louisiana



LSU Weevil Research



- **Failure to establish in temperate regions**
 - High winter mortality of adults due to freezing temperatures
 - Failure to establish north of 32° N in US
- **Cold tolerant weevils**
 - Weevils populations from temperate distribution of native range possibly more cold tolerant than populations from LA?

Current and Future Research

—LSU AgCenter

- Cold tolerant weevil
- Giant salvinia herbicide/surfactant trials
- Giant salvinia weevil production

—Army Corps of Engineers

- Giant salvinia weevil production



Aquatic Plant Control Updates

Yellow floating heart

- Introduced to Toledo Bend
- Forms dense floating canopies
- Treatment: max rate of flumioxazin (12 oz/acre)



Acknowledgements



Questions?

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