Hydrilla Management in Florida

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FWC Invasive Plant Management Section
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FWC is designated by the Florida Legislature as the lead agency for coordinating and funding two statewide programs for invasive plant management:

1. **Aquatic plants in public waterways**

2. **Upland plants on public conservation lands**

FWC's Position and Guidance on Hydrilla Management

Public Waterbodies

- Sovereignty lands
- Public ramps
- 450 lakes and rivers
- 1.25 million acres
- 350 active management programs

Uses of Florida Public Waters

Funding Priorities

1. Floating plants (hyacinth/lettuce)
2. New hydrilla infestations
3. Plants blocking access & navigation
4. Open areas in dense hydrilla mats
5. Large-scale hydrilla control
6. Control other noxious plants
7. Residential canals

Hydrilla Problems

Management Objectives for Hydrilla

- *Prior to 2008, statutory requirement to maintain hydrilla at the lowest feasible level*
- *Disagreement between user groups and managers*
- *Contentious at times*

Purpose of the Position Statement:

- *Establish a consistent agency position*
- *Provide guidance to staff*
- *Establish a process to determine how hydrilla will be managed in individual waterbodies*

Hydrilla Management Issue Team

- *Hunting and Game Management*
- *Freshwater Fisheries Management*
- *Fish and Wildlife Research Institute*
- *Invasive Species Management – animals*
- *Aquatic Habitat Conservation & Restoration*
- *Species Conservation Planning – threatened sp.*
- *Invasive Plant Management*
- *Office of Recreation Services*
- *Law Enforcement*

FWC's Hydrilla Management Position Statement

Native aquatic plant communities provide ecological functions that support diverse native fish and wildlife

FWC considers hydrilla to be an invasive plant and, at high densities, it will adversely impact:

- *Native plant abundance*
- *Sportfish growth*
- *Recreational use*
- *Flood control*
- *Dissolved Oxygen*

Once established, hydrilla has proven difficult (if not impossible) to eradicate with current technology and is expensive to manage.

Therefore, FWC opposes the deliberate introduction of hydrilla into waterbodies where it is not currently present.

FWC prefers to manage for native aquatic plants, but recognizes that in waterbodies where native submersed aquatic plants are absent or limited, hydrilla at low to moderate densities can be beneficial to fish and wildlife

FWC will manage hydrilla on a waterbody by waterbody basis using a risk-based approach to determine the level of management

In waterbodies where hydrilla is well established, it will be managed at levels that are commensurate with the primary uses and functions of the waterbody and fish and wildlife.

FWC will determine the level of hydrilla management on each public waterbody using a risk-based analysis that considers:

- Human safety
- Economic concerns
- Budgetary constraints
- Fish and wildlife values
- Recreational use

Input from resource management partners and local stakeholders will be considered

Factors that will influence timing and level of hydrilla management:

- *Available control technology*
- *Current waterbody conditions*
- *Activities occurring within the watershed*

Implementation Guidelines

Solicit input from external stakeholders on desired future condition

- Public user groups
- Water management districts
- Federal, state, county governments
- Non-governmental organizations
- Contractors/cooperators

- Estimate hydrilla acreage and location
- Determine primary uses of the waterbody using a tiered approach

Tier one:

- Flood Control
- Hydropower
- Irrigation
- Listed species
- Navigation
- Potable water

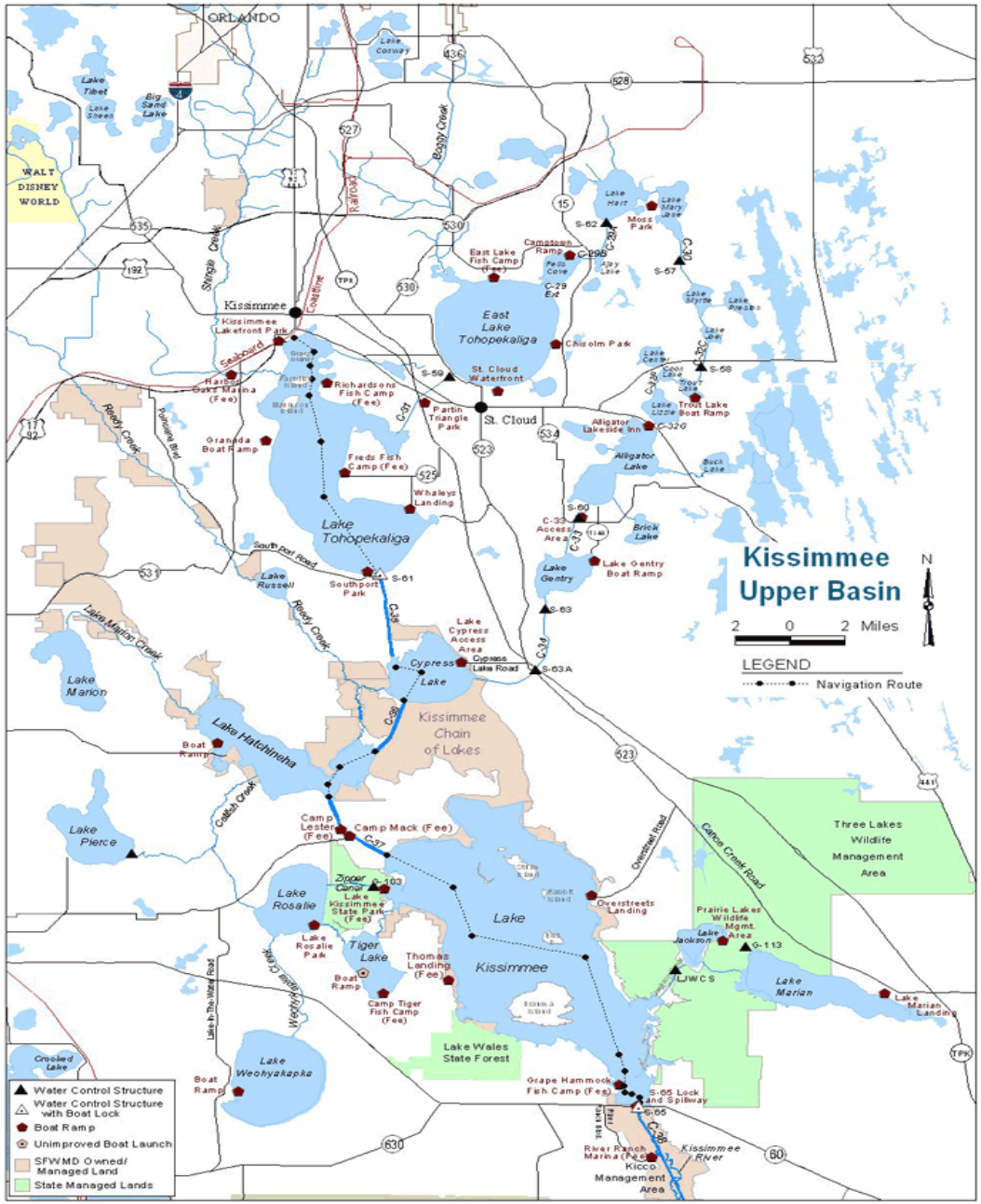
Tier two:

- Angling
- Waterfowl
- Fish and wildlife habitat
- Recreation
- Technological & economic factors

- Draft a treatment plan for upcoming year
- Request input from FWC staff
  - Utilize existing teams, working groups, etc.
- Hold public meetings, where necessary
- Adaptively manage based on current conditions

Summary

- Hydrilla is invasive and at high densities causes adverse effects
- Hydrilla is difficult and expensive to manage
- FWC opposes the deliberate introduction of hydrilla in lakes where it is not present
- FWC prefers to manage for native plants
- In waters with no or limited native submerged plants, hydrilla at low to moderate densities can be beneficial to fish and wildlife
- FWC will manage hydrilla on a waterbody by waterbody basis using a risk-based approach
- Input from stakeholders is a key component in developing a hydrilla management plan for a waterbody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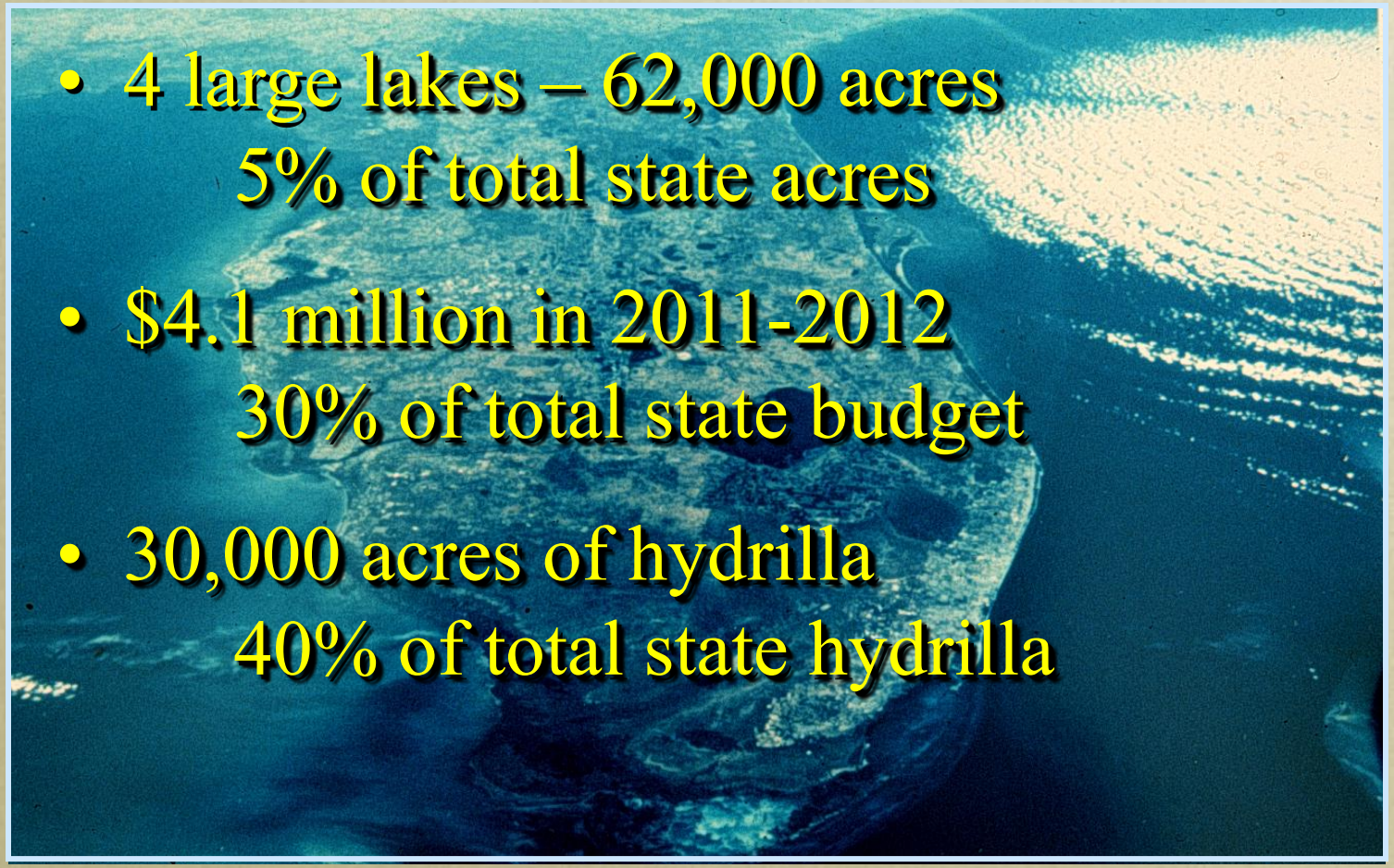
Navigation Route
ORLANDO
WALT DISNEY WORLD
Kissimmee
St. Cloud
East Lake Tohopekaliga
Lake Tohopekaliga
Lake Russell
Lake Marion
Lake Hatchineha
Kissimmee Chain of Lakes
Lake Pierce
Lake Rosalie
Tiger Lake
Lake Kissimmee
Lake Weohyakapka
Three Lakes Wildlife Management Area
Lake Wales State Forest
Kissimmee River
Water Control Structure
Water Control Structure with Boat Lock
Boat Ramp
Unimproved Boat Launch
SFWMD Owned/ Managed Land
State Managed Lands

KCOL Aquatic Plant Management Program



- 4 large lakes – 62,000 acres
  5% of total state acres
- $4.1 million in 2011-2012
  30% of total state budget
- 30,000 acres of hydrilla
  40% of total state hydrilla

Listed Species

SPEED
LIMIT
35
TO
FLORIDA
AVE

Management Priorities

- Floating plants (hyacinth/lettuce)
- New hydrilla infestations
- Plants blocking access & navigation
- Open areas in dense hydrilla mats
- → Large-scale hydrilla control
- Control other noxious plants
- Residential canals

Hydrilla

- Submersed - to 35 feet
- Problems
  - Flood Control
  - Navigation
  - Recreation
  - Environmental

Hydrilla's Impact on Wildlife

Algae-Harboring Hydrilla Causing Bald Eagle Deaths in the Southeast

WEED SCIENCE SOCIETY OF AMERICA

Weeds Won't Wait: Don't Hesitate

For Immediate Release

Contact: Lisa Garhan
630.836.9412
lisag@achievainc.com

Weed Science Society of America
Invasive Plant Spotlight

ALGAE-HARBORING HYDRILLA CAUSING BALD EAGLE DEATHS IN THE SOUTHEAST

LAWRENCE, Kan. (March, 31, 2008) — The aquatic invasive plant hydrilla (*Hydrilla verticillata*) not only is a costly nuisance impeding waterways and recreational lakes, it also may have deadly impacts on eagles and waterfowl. Its invasive nature earned it a spot on the Federal Noxious Weed list in 1979 and it is the topic of this Invasive Plant Spotlight from the Weed Science Society of America.

Hydrilla is a quick growing, invasive plant that forms a dense mat in lakes, ponds and reservoirs. It is a safe haven for the fast-growing epiphytic cyanobacterial algae, a blue-green algae, which grows on top of the hydrilla and is potentially toxic to birds. It is suspected that when waterfowl, namely coots, eat the algae-harboring hydrilla, they become poisoned by the algae's neurotoxins and subsequently suffer from a neurological disease known as avian vacuolar myelinopathy. The eagles, in turn, eat the infected coots and succumb to the disease as well.

"According to the research, avian vacuolar myelinopathy was first documented in 1994 at DeGray Lake in Arkansas," says Susan B. Wilde, Ph.D., research professor at the University of South Carolina and member of the Weed Science Society of America. "Since then, more than one hundred bald eagle deaths are believed to be associated with the disease. And it is estimated that the numbers of deaths are much higher, but because of scavenging animals, it often is difficult to recover the carcasses of dead eagles soon enough to test for the disease. But in places where dead eagles are found, invasive aquatic vegetation—primarily hydrilla—and the blue-green algae are always present," says Wilde.

Hydrilla is an invasive plant that originated in India and Asia. It was first introduced into the United States as an aquarium plant back in the 1950s. Improper disposal of hydrilla from aquariums, distribution through animal contact and the plant's ability to "hitchhike" on boats that have been in multiple bodies of water and not cleaned underneath after each use, has lead to its voracious spread over the years. "Hydrilla is most prevalent in the southeast but can be found in fresh water lakes and rivers in most coastal states," says Wilde.

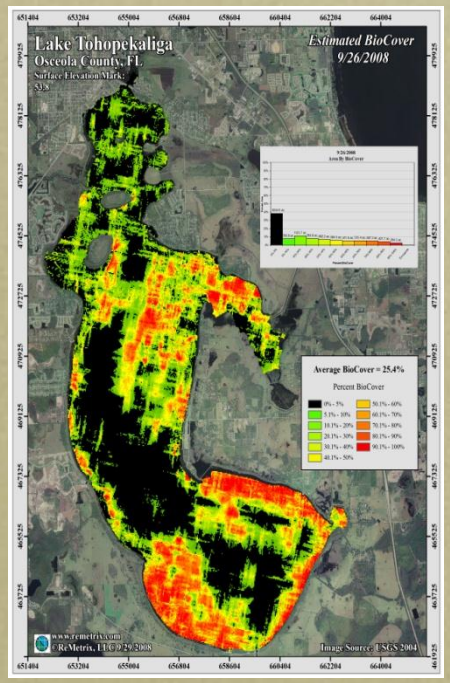
more

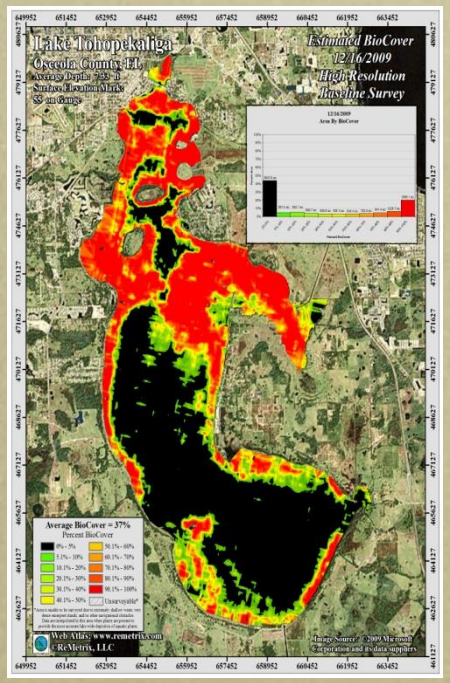
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

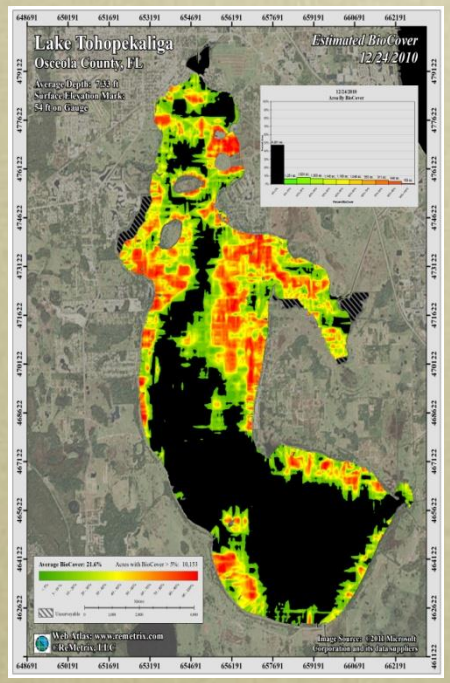
Hydrilla Cover – Lake Toho

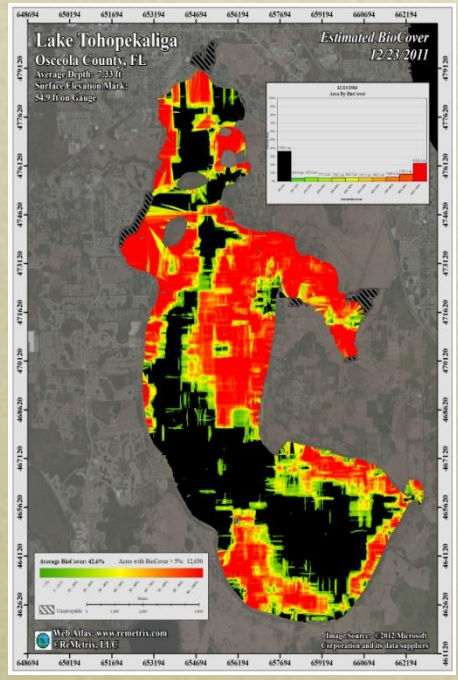
18,810 acres

Sep 26, 2008 Dec 16, 2009 Nov 24, 2010 Dec 24, 2011





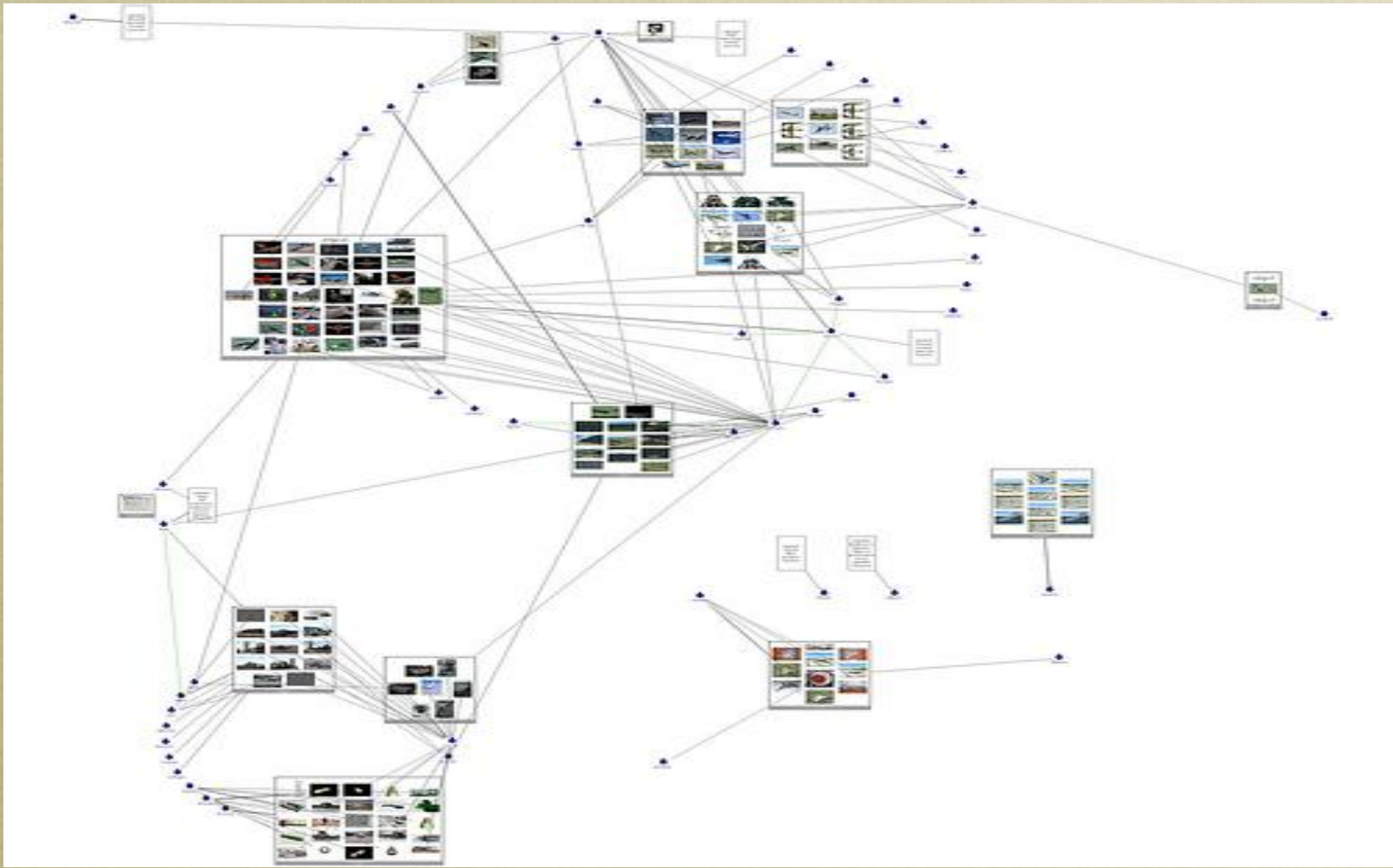




STAY BACK
Endangered
Snail Kites Nesting

Lake Toho, July 2011

KCOL Stakeholders



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Imagery Date: May 2, 2010
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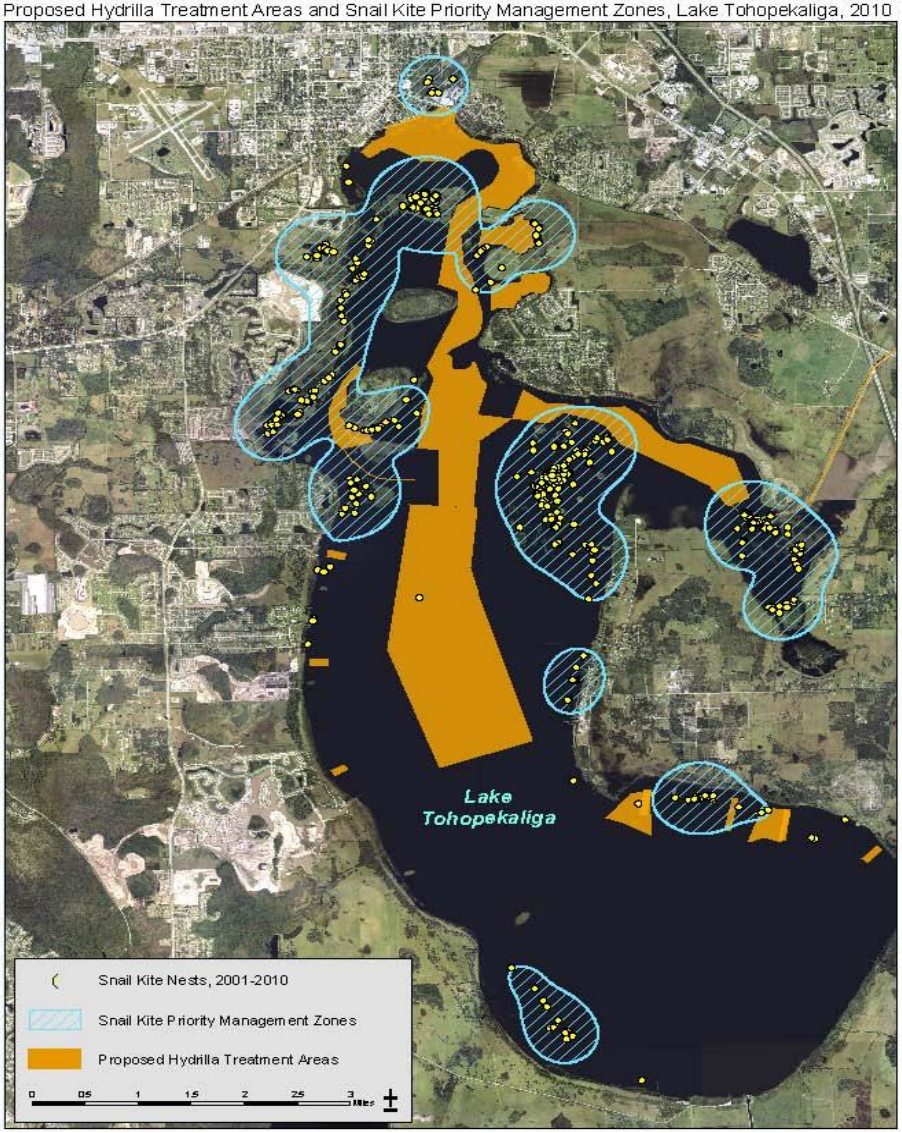
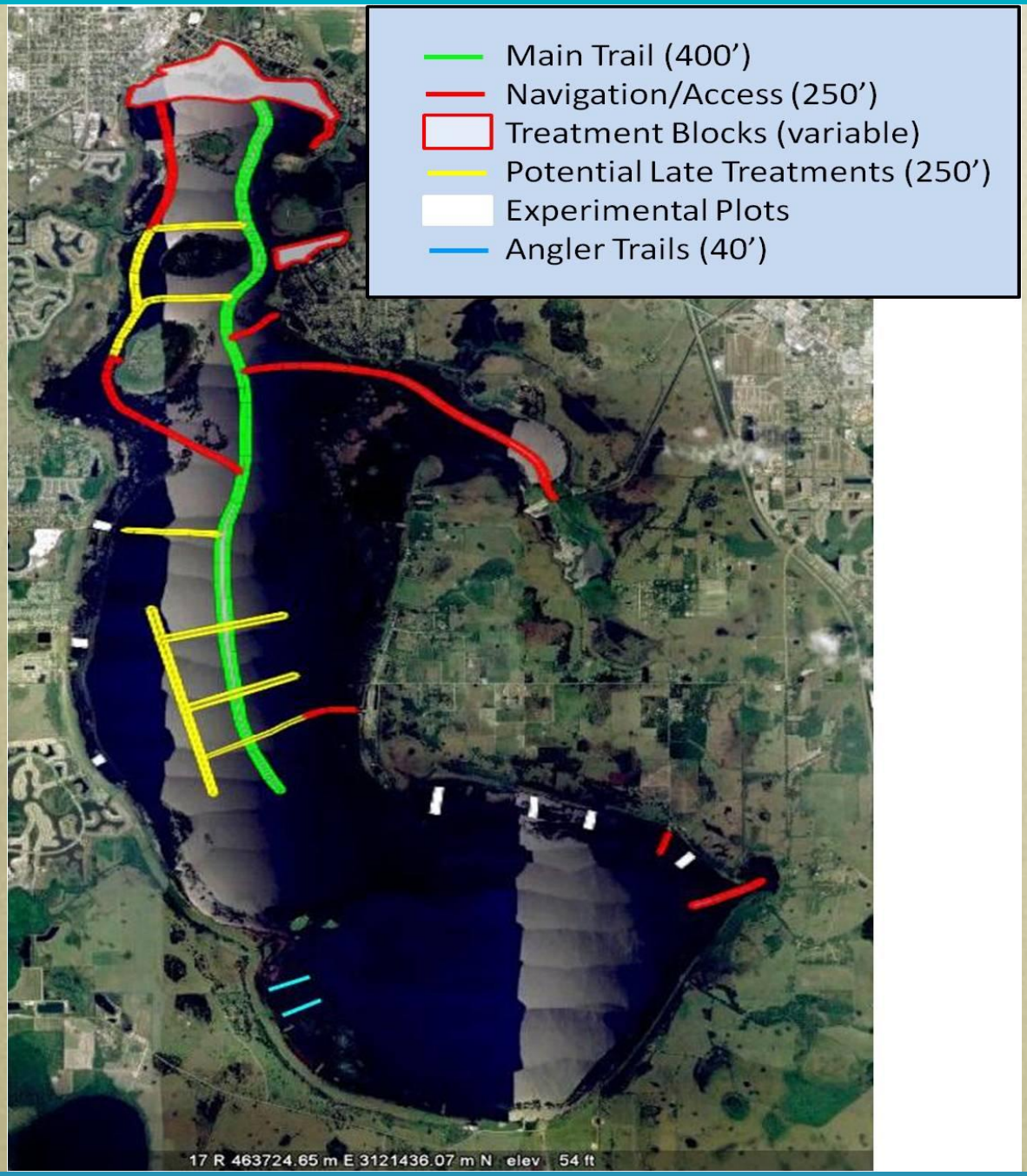
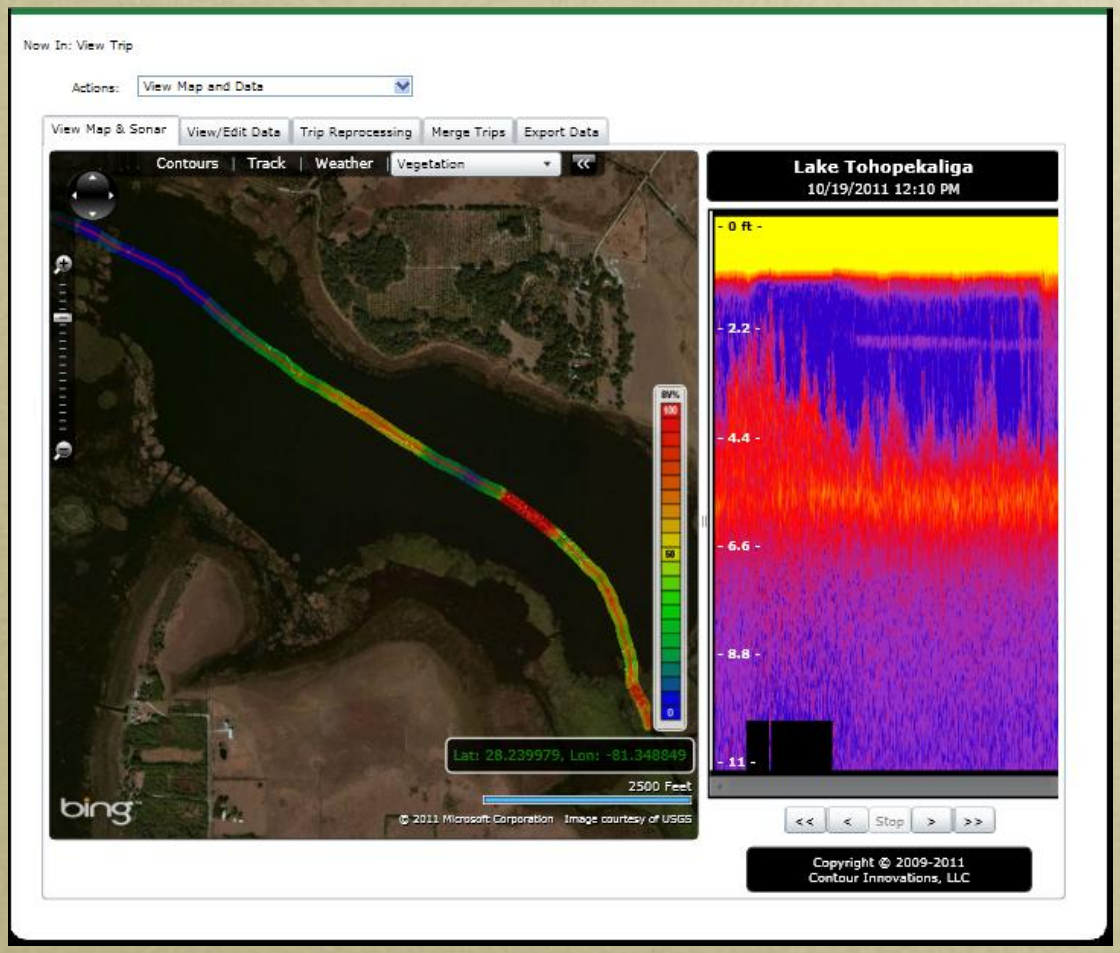
Proposed Hydrilla Treatment Areas and Snail Kite Priority Management Zones, Lake Tohopekaliga, 2010

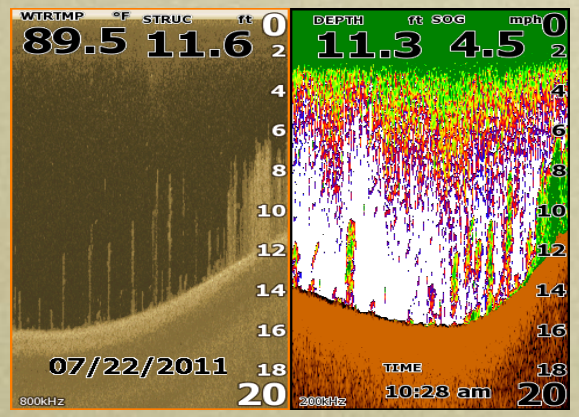


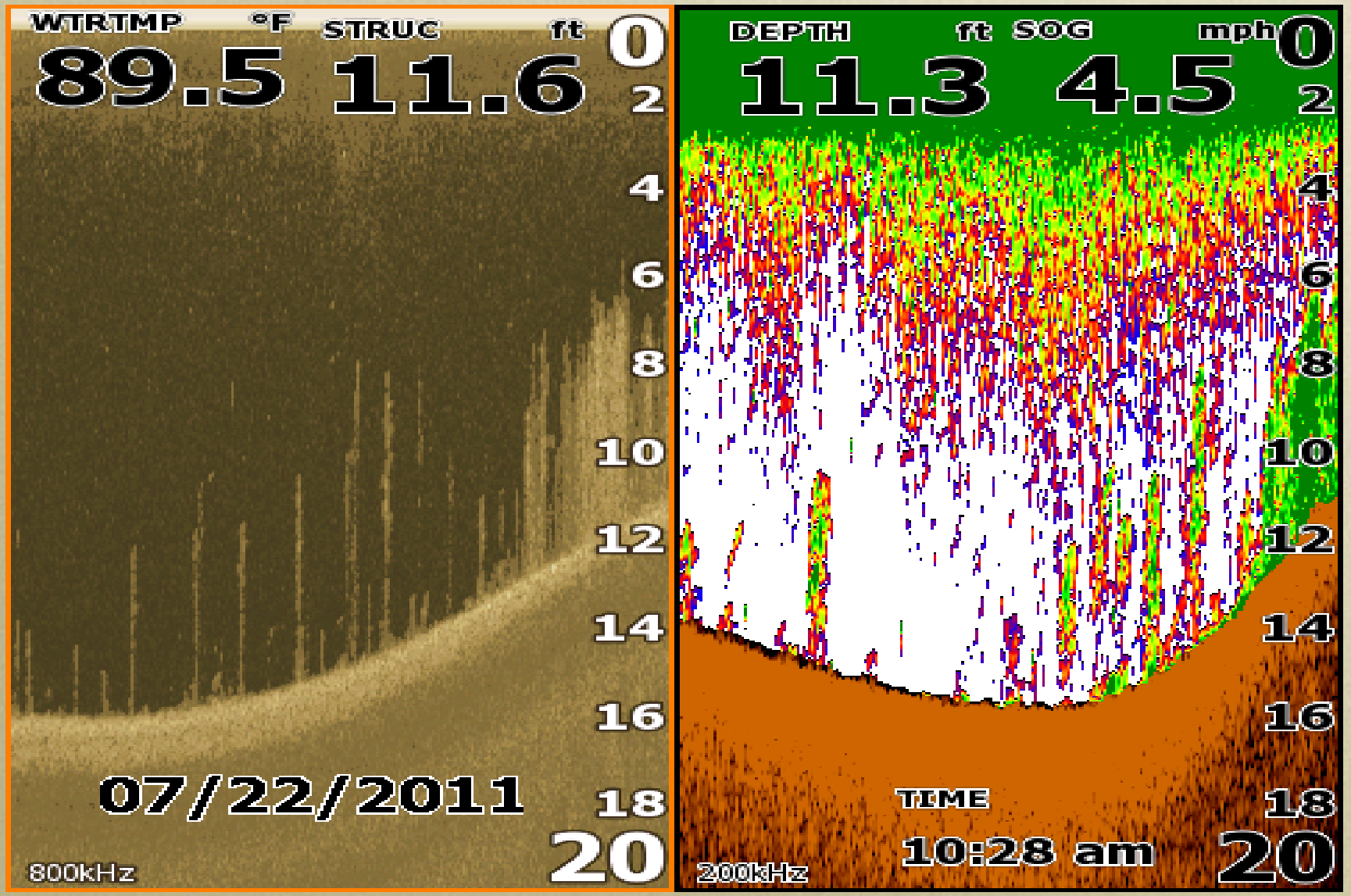

Main Trail (400')
Navigation/Access (250')
Treatment Blocks (variable)
Potential Late Treatments (250')
Experimental Plots
Angler Trails (40')
17 R 463724.65 m E 3121436.07 m N elev 54 ft

N655HA

Use of Fathometers to Map Changes in Hydrilla Distribution and Density



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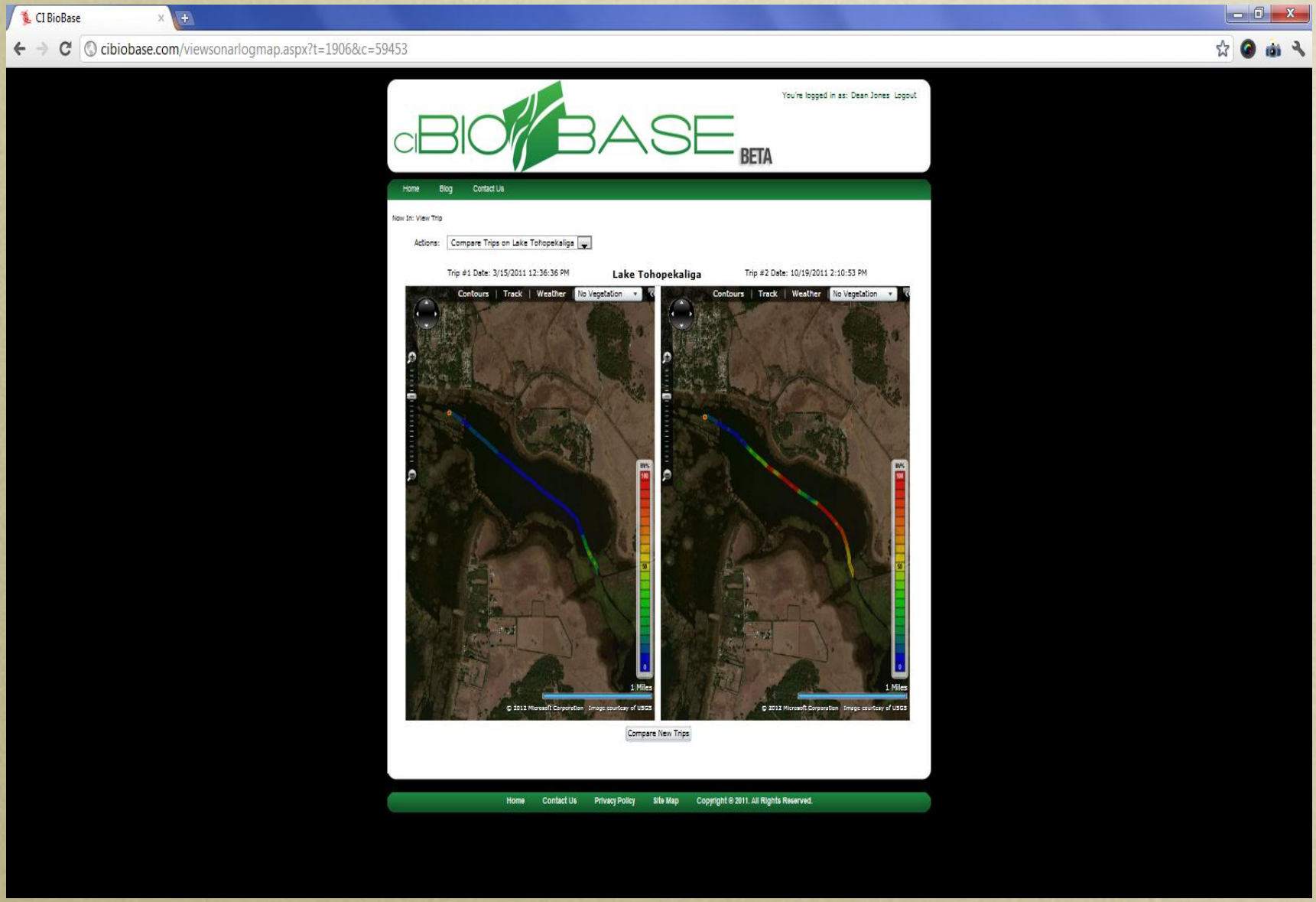
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