



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

Applied Mosquito Control in a Waterfowl Impoundment



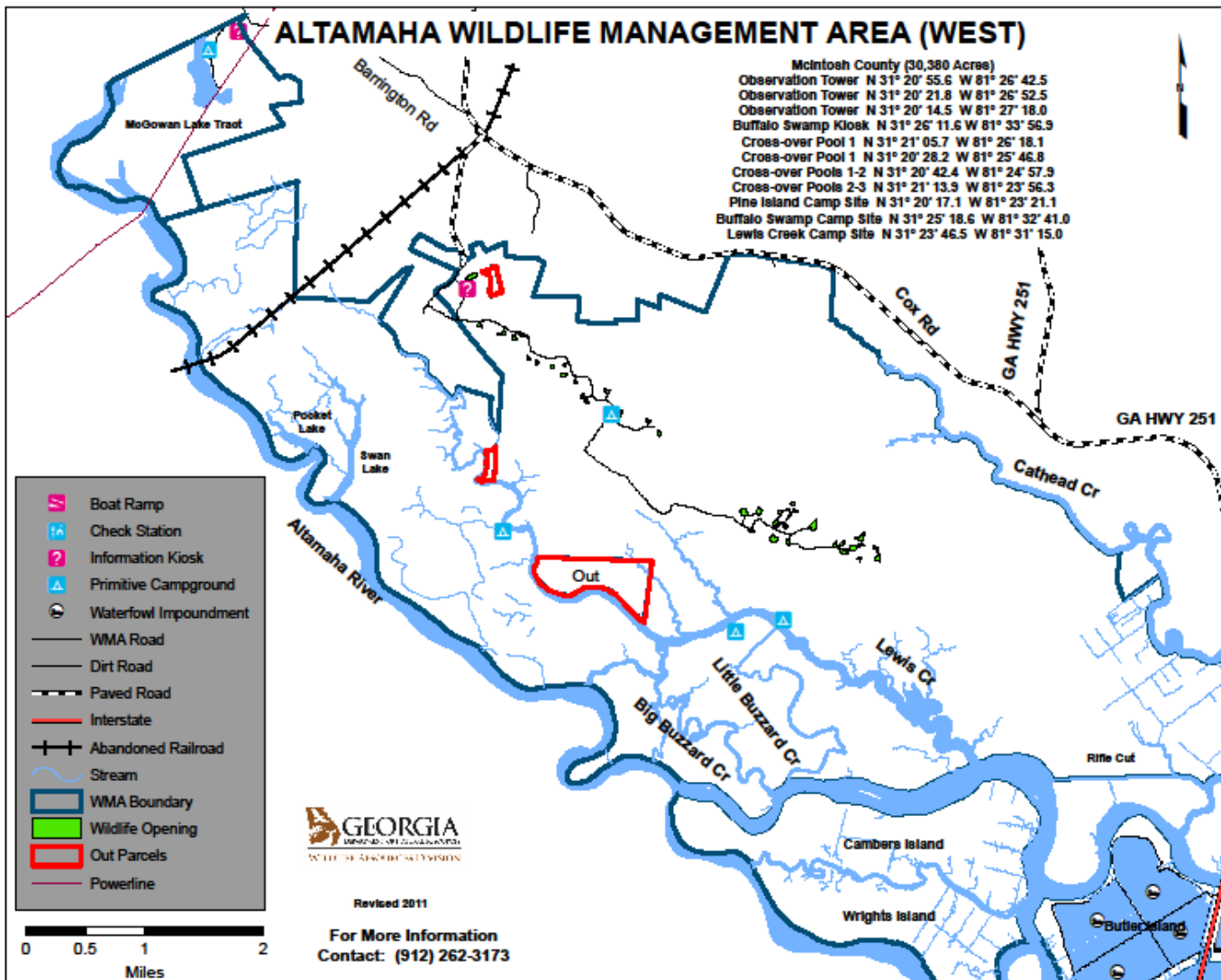
Overview



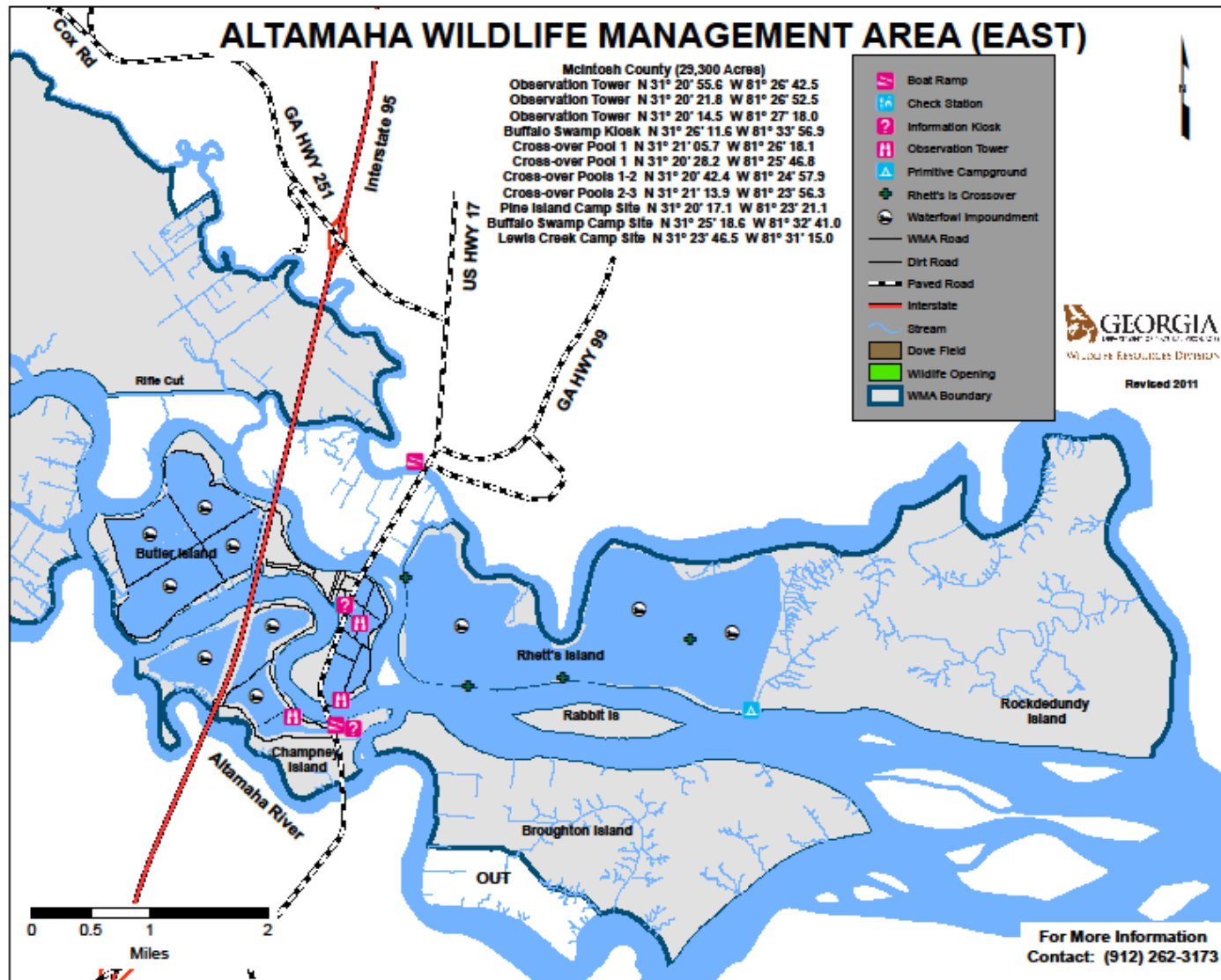
- **Introduction to Altamaha WMA**
- **Introduction to Wildlife Management on Altamaha**
- **Mosquito Control Issues in McIntosh County**
- **Mosquito Management on Altamaha**
- **Future Management**
- **Conclusion**



Altamaha WMA



Altamaha WMA



About Altamaha WMA



- **Total Acreage: 31,389**
- **Over 3,000 acres of impoundments**
- **Primarily managed for resident and migratory waterfowl**
- **Also managed for other game and non-game species**



Waterfowl Hunting on Butler Island



- **2010-2011 Waterfowl Harvest:**
1,347 ducks harvested out of 642 hunters. A total of 18 species were harvested with the largest numbers in Green-winged Teal, Wood Ducks, and Ring-necked Ducks.
- **2011-2012 Waterfowl Harvest:**
1,669 ducks harvested out of 759 hunters. A total of 17 species were harvested with the largest numbers in Green-winged Teal, Blue-winged Teal, and Ring-necked Ducks.



Rhetts and Champney Islands



Rhetts Island



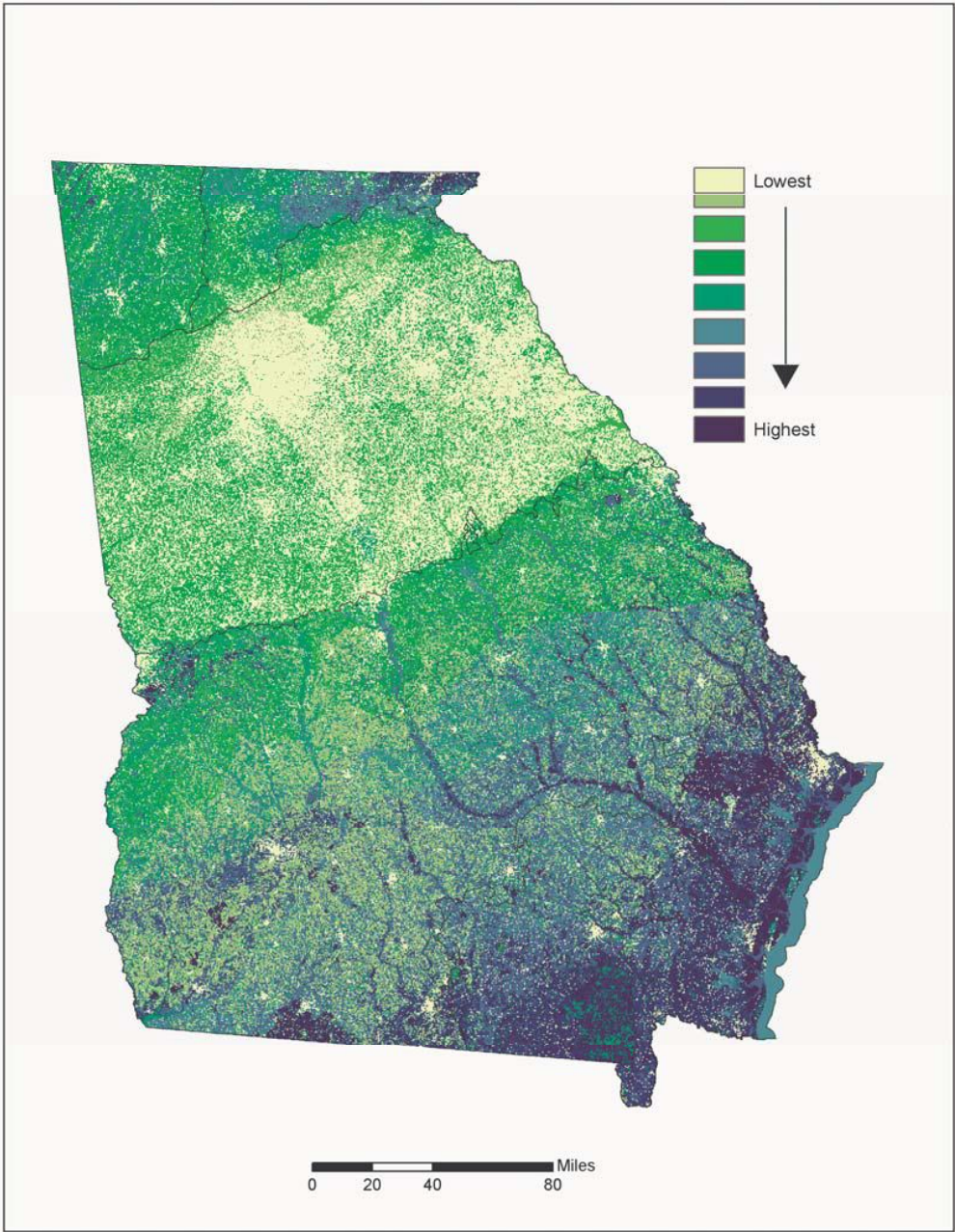
Wildlife Management on Altamaha



Abundance of Species: Waterfowl, White Ibis, Wood Storks, Roseate Spoonbills, Bald Eagles, and many species of shorebirds and songbirds. Also alligators, turtles, white-tailed deer, feral hogs, rabbits, squirrels, and small mammals. The Georgia Ornithological Society and the Atlanta Audubon Society recognized Altamaha WMA as an Important Bird Area.



Species Richness



Moist Soil Management



- **Impoundments bring in a wide range of wildlife species**
- **Seeds, Roots, and Invertebrates in shallow water are the main attractant**
- **Impoundments provide brood habitat for BBWD, WODU, and MODU.**
- **Impoundments concentrate species to a particular area**
- **Great for Hunting and Wildlife Watching**



Moist Soil Management



- **Manipulating the water levels to promote native vegetation including, millets, cut grass, wigeon grass, smartweeds, among others.**
- **Slow spring drawdowns maximize plant diversity and growth.**
- **Setting back vegetation where needed by mowing, disking, and burning.**
- **Impoundments concentrate species to a particular area**
- **Fall flooding for migrating waterfowl**
- **Constant Invasive Species Control**



2011: The Year of the Mosquito



- **The Summer of 2011, there were many complaints of Altamaha WMA being the number one source of mosquitoes for McIntosh County.**
- **Rhetts Island in particular was the main point of interest for these complaints since we were in our normal summer drawdown on two of the three pools.**



What was done?



- **Rosemarie Kelly came to McIntosh County and surveyed six locations in Darien, Georgia using light and gravid traps.**

- **Traps were set August 18th and picked up on August 19th.**

- **Survey showed 97.5% of the mosquitos were one species**



Ochlerotatus taeniorhynchus



http://fme1.ifas.ufl.edu/key/genus/ochlerotatus_taeen.shtml

Ochlerotatus taeniorhynchus



- **Persistent biters during the day and night**
- **Strong flyers, cover many miles of marsh**
- **Strong coastal winds from offshore move mosquitoes**
- **Major nuisance to the people of Darien, Georgia**



The Next Five



- **Culex quinquefasciatus**
- **Anopheles crucians**
- **Ochlerotatus sollicitans**
- **Anopheles quadrimaculatus**
- **Aedes albopictus**



http://en.wikipedia.org/wiki/File:Aedes_albopictus_2.jpg

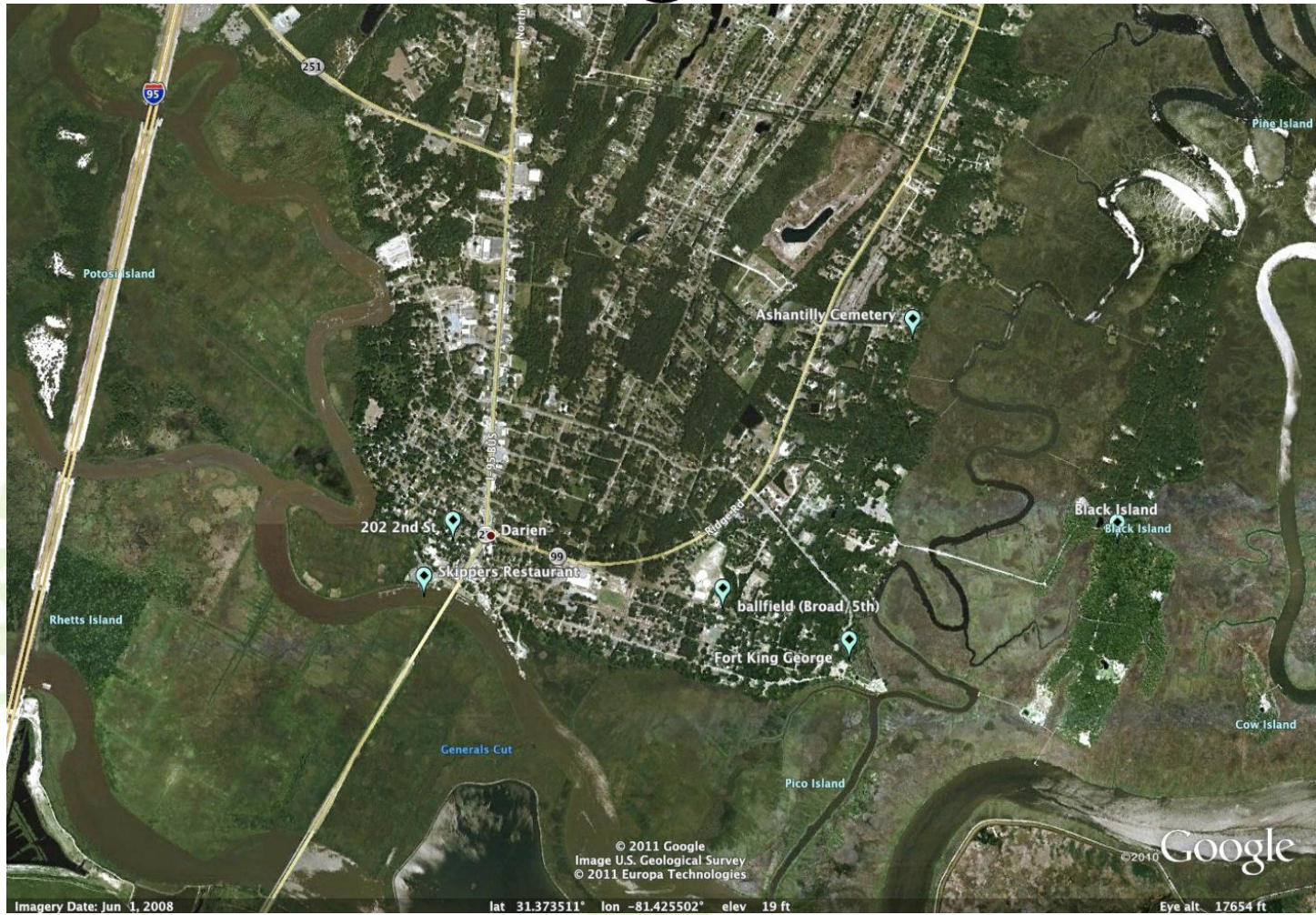
Was this from Altamaha WMA?



- **Darien, GA is surrounded by salt marsh**
- **Initial hatch was discovered too late**
- **Thousands of acres of old rice fields**
- **Roads and developments creates habitat**
- **Impoundments were too deep for breeding**
- **No larvae was found in the flyover**



Darien, Georgia



Changes in 2012



- **Starting in late spring, pools were flooded**
- **Mosquito issues in impoundments were minimal**
- **Mosquito issues in McIntosh County were minimal**
- **Weather difference from 2011**



Rhetts Island

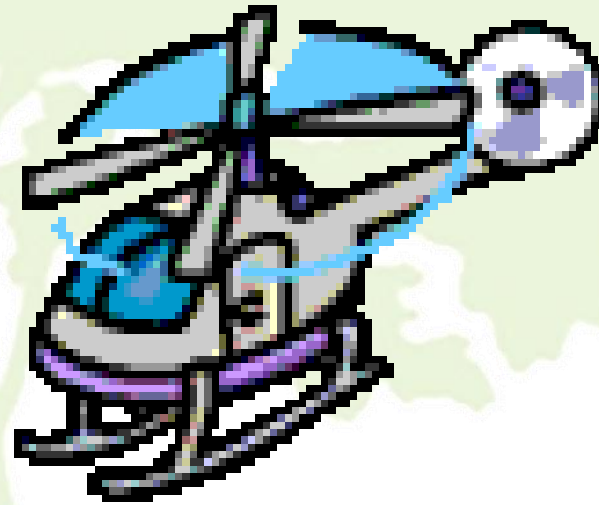
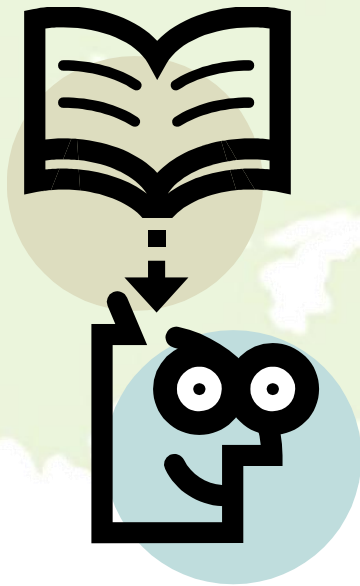


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Where do we go from here?



- **Plan for future potential aerial application**
- **Manage the impoundments for waterfowl and mosquitoes**
- **Education is key**



Conclusion



- **GADNR is better prepared**
- **Great relationship with the City of Darien/McIntosh County**
- **Continued support from Georgia's Department of Public Health**
- **Moving forward with better knowledge and support**



Acknowledgements



- ◉ David Mixon
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- ◉ Jason Conrad
- ◉ Parker Whitt



Questions?



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