Jones Center Hurricane Michael Response: Red-cockaded Woodpecker and Sensitive Bird Areas

A Final Report Submitted to the Bill Terrell Avian Conservation Grant Committee of the Georgia Ornithological Society

February 11, 2020

Brandon T. Rutledge
The Jones Center at Ichauway
3988 Jones Center Drive
Newton, Georgia 39870

Introduction:

Ichauway, the 29,000 acre land base for the Jones Center at Ichauway (Jones Center), is a remaining fragment of the once extensive, fire-dominated longleaf pine system. A large portion of the property is comprised of naturally regenerated second-growth longleaf pine, most of which contains highly diverse native ground cover important to several avian species of concern (see list of avian species found on Ichauway in: Smith, L. L., D. A. Steen, J. M. Stober, M. C. Freeman, S. W. Golladay, L. M. Conner, and J. C. Cochrane. 2006. The vertebrate fauna of Ichauway, Baker County, GA. Southeastern Naturalist 5:599-620). Maintenance and restoration of the forest is achieved through management practices including routine prescribed fire. Fires are conducted biennially in either the dormant (October – March) or growing season (April – September), with a greater emphasis on frequency than seasonality. Approximately 40% of prescribed fires are conducted in the growing season. This forested property and the results of the associated management activities provide valuable habitat for bird species native to the longleaf pine system such as red-cockaded woodpeckers (RCW), Bachman's sparrows, brown-headed nuthatches, pine warblers and loggerhead shrikes.

In 1999, the Jones Center became Georgia's first Safe Harbor signatory and the state mitigation site for RCWs. In the following years, the RCW population has grown to 40 active clusters and 31 breeding groups in 2019 (34 breeding groups prior to Hurricane Michael). This successful conservation effort involved the cooperative efforts of the Georgia Department of Natural Resources, US Fish and Wildlife Service, US Forest Service, US Department of Defense, private land owners, and Jones Center staff. The rapid expansion of this RCW population is directly attributed to on-the-ground management directed at installing and maintaining artificial cavities, translocation of juvenile RCWs, and an aggressive prescribed fire program. The Georgia Ornithological Society also played an important role in the increase of RCWs on-site through the award of a Bill Terrell Avian Conservation Grant in 2009. Additionally, a primary component in the overall natural resource management of Ichauway includes the promotion, restoration, and management of habitats important to additional sensitive bird species.

Hurricane Michael and Its Impacts on Ichauway:

On October 10, 2018, Hurricane Michael passed approximately 5 miles to the northwest of Ichauway as a Category 2 hurricane. Shortly after the hurricane, several efforts were commenced to obtain initial estimates of tree damage and mortality. Due to the sensitive nature of the species and its dependence on cavities, one of the first efforts conducted was an assessment of RCW cavity tree loss. A total of 242 cavity trees, occurring in 48 clusters, were inspected within two weeks post-hurricane. The type of damage was also recorded including whether or not the tree was snapped, leaning, or blown over. A total of 23.6 % of RCW cavity trees inspected sustained damage. Of the trees damaged, 38.3% were blown over, 34.0% snapped, 21.3% snapped at the cavity, and 6.4% were leaning. Additionally, new cavities were installed in active clusters to replace the destroyed cavity trees within two weeks of the hurricane.

Staff also revisited research plots located in the western portion of the property. Up to 40% of the mapped trees within these plots were damaged or destroyed. In the most-damaged plot, the basal area decreased from 82 to 51 square feet per acre. Across the entire experiment, an average of 11% of basal area was lost due to hurricane damage.

Finally, 233 of 860 long-term forest monitoring plots were revisited between December 2018 and February 2019. The plots chosen for resampling had been previously visited in 2017 and 2018 as part of routine monitoring protocols. Further, plots were selected in areas more likely to be salvaged in an effort to capture the different types of wind damage prior to salvage. A total of 3,731 trees were sampled. It was determined that 20.5% of all trees surveyed sustained some type of damage from the hurricane. Longleaf pine trees appeared to be the least likely to sustain damage followed by loblolly pine, other hardwoods (i.e., hardwoods other than oak), slash pine, oaks, and shortleaf pine. A determination of damage type was not possible for 15% of the damaged trees surveyed since they were salvaged prior to sampling.

As a result of the widespread forest damage on Ichauway, the decision was made to conduct efforts to reduce the amount of large (1,000 hour) fuels across the property. These efforts included: contract labor through grant funds from the Georgia Ornithological Society, internal removal efforts, and salvage logging. There are several reasons for conducting storm salvage of fallen and damaged timber including minimizing the loss of timber revenue, addressing forest health concerns, and preserving the ability to manage forested areas. The Jones Center's primary goal for debris removal efforts was to ensure the ability to manage the property, primarily with prescribed fire, going forward. The abundance of large (1,000 hour) fuels posed multiple threats to the Center's prescribed burning program. Threats included smoke management issues, altered fire behavior, mortality or stress to remaining timber, the inability to access burn units for ignition, and the capacity to install firebreaks. For these reasons, debris removal operations were initially prioritized based on remediation of smoke management and prescribed fire concerns. Areas within a one-quarter mile buffer of public roads, or other smoke sensitive areas, were given the highest priority, along with RCW clusters.

GOS Conservation Grant Goals and Accomplishments:

There were several goals identified within the GOS Conservation Grant proposal. These goals included: 1). removal of heavy fuels around RCW clusters to protect cavity trees and facilitate continued prescribed burning, 2.) removal of heavy fuels in native ground cover and smoke sensitive areas, 3.) heavy fuel removal focused on areas scheduled for burning in 2019, 4.) monitor and map clean-up locations, and 5.) return treated sites to suitable condition for high frequency prescribed fire.

The Jones Center was able to contract a 3 person crew to manually remove debris within RCW clusters and additional smoke-sensitive areas. These efforts were successful in the removal of heavy fuels from 10 active RCW clusters. Because of removals, 7 of these clusters were treated with prescribed fire in 2019 and the additional 3 clusters will be regularly burned in 2020. Additionally, a 2.5 mile buffer along Georgia Highway 200 containing native ground cover and providing valuable habitat for Bachman's sparrows and other sensitive, longleaf pine associated bird species was treated to alleviate smoke management concerns and allow for the continued utilization of prescribed fire. A normal prescribed fire routine has been restored within all of these areas and monitoring of prescribed fire efforts, RCW populations, and breeding bird communities will continue going forward. A total of 12,931 acres were burned on Ichauway in 2019.

GOS Grant expenditures:

Fuel removal in RCW clusters:	73.8 hours contracted @ $205/hour	= $15,122.50
Fuel removal in smoke sensitive area:	88.6 hours @ $205/hour	= $18,170.00
Total grand funds used:		= $33,292.50
Grant funds returned to GOS:		= $2,707.50

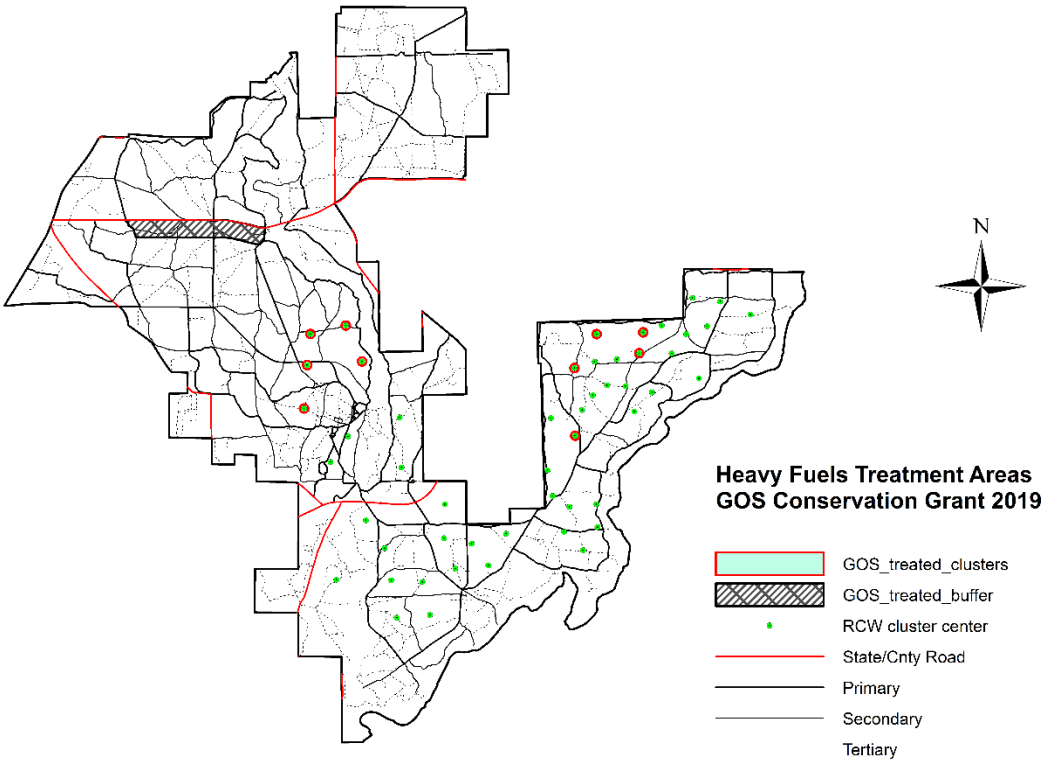

Figure 1. Areas treated with funding from the Georgia Ornithological Society on Ichauway.

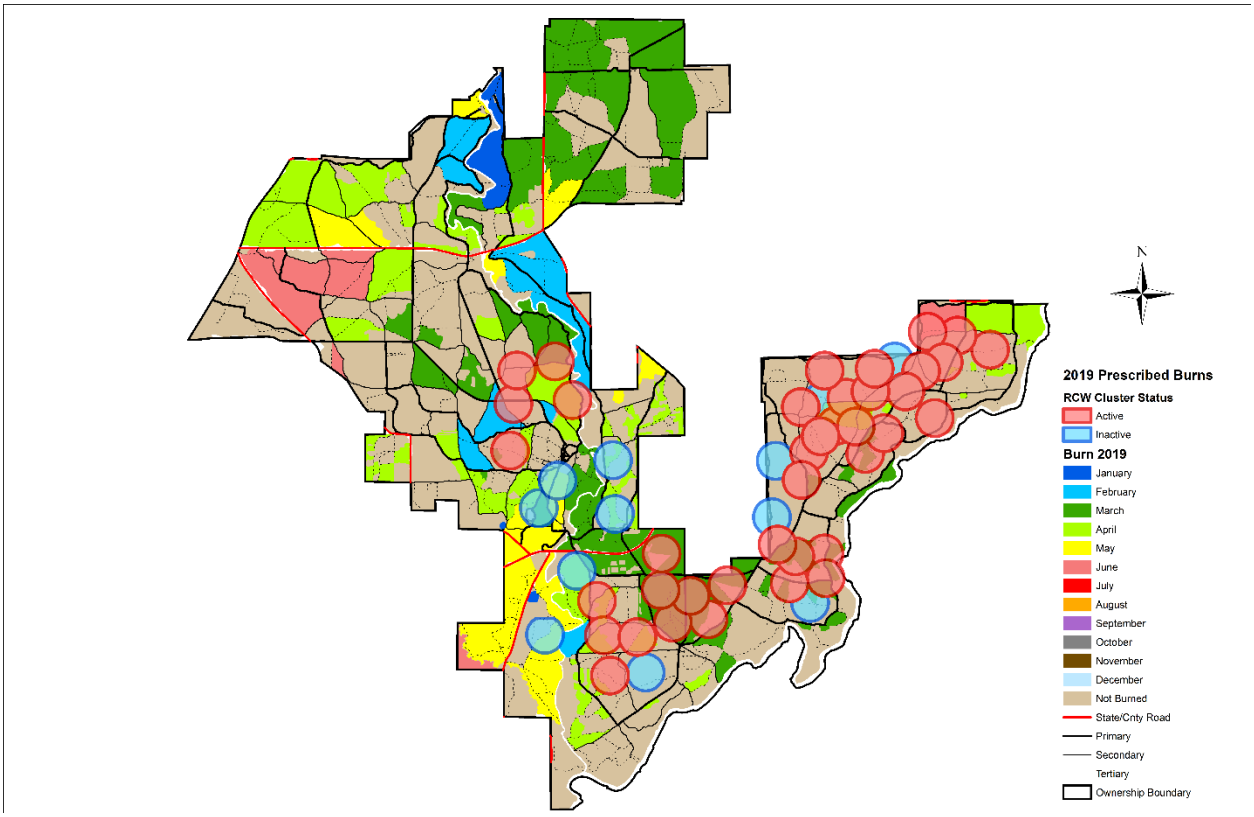

Figure 2. Prescribed fire and RCW clusters on Ichauway in 2019.

Figure 3. Ichauway RCW cluster prior to heavy fuel removal.

Figure 4. Ichauway RCW cluster prior to heavy fuel removal.

Figure 5. Ichauway RCW cluster prior to heavy fuel removal.

Figure 6. Ichauway RCW cluster prior to heavy fuel removal.

Figure 7. Heavy fuel removal at Ichauway provided through grant funds from the Georgia Ornithological Society.

Figure 8. Heavy fuel removal at Ichauway provided through grant funds from the Georgia Ornithological Society.

Figure 9. Heavy fuel removal at Ichauway provided through grant funds from the Georgia Ornithological Society.

Figure 10. Heavy fuel removal at Ichauway provided through grant funds from the Georgia Ornithological Society.