

# LANDSCAPE SCALE ASSESSMENT OF RED-COCKADED WOODPECKER HABITAT IN THE APALACHICOLA NATIONAL FOREST USING FEATURE ANALYST

Jason Drake  
U.S. Department of Agriculture, Forest Service  
325 John Knox Rd, Suite F-100  
Tallahassee, FL 32303  
E-mail: jasondrake@fs.fed.us

## **Abstract**

A landscape scale assessment was conducted to summarize the existing conditions and management opportunities and needs on an 85,000 acre area identified as the Core Red-Cockaded Woodpecker (RCW) Area on the Wakulla Ranger District of the Apalachicola National Forest. A major part of this process involved using high resolution aerial imagery to characterize the current conditions of forest ecosystems in the Core RCW area, particularly with a focus on their suitability for RCW habitat. Field data was collected in the spring and summer of 2006 and used along with guidelines from the RCW Recovery Plan to form three classes of training data (high, medium and low quality habitat). 2004 Digital Ortho Quarter Quad (DOQQ) aerial imagery (1 m) was color-balanced and histogram-matched. The training data sets were then used in Feature Analyst (an extension for ArcGIS that uses an “automated feature extraction” techniques) to identify other similar areas over the landscape. A foveal algorithm with a search window of 27 pixels yielded the best results when compared to a validation data set. A limited field verification exercise was conducted and demonstrated that these techniques correctly identified nearly 90% of the stands visited. These results were used along with other GIS information to provide accurate and timely information to inform land resource management decisions on this landscape.

[Abstract Only]

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*In Proceedings of the 6<sup>th</sup> Southern Forestry and Natural Resources GIS Conference (2008)*, P. Bettinger, K. Merry, S. Fei, J. Drake, N. Nibbelink, and J. Hepinstall, eds. Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA.