

**FINAL REPORT**



**FEDERAL AID GRANT NO. T-32-P-1**

**Conservation of the Oklahoma Gap Vegetation Map for Habitat Analysis of  
Species of Greatest Conservation Need**

**OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION**

**October 1, 2005 through March 31, 2007**

## FINAL REPORT

**State:** Oklahoma

**Grant Number:** T-32-P-1

**Grant Program:** State Wildlife Grants

**Grant Title:** Conversion of the Oklahoma Gap Vegetation Map for Habitat Analysis of Species of Greatest Conservation Need

**Grant Period:** 1 October 2005 to 31 March 2007

**Principle Investigator:** Bruce Hoagland

### **A. ABSTRACT:**

The existing Vegetation Map from the Oklahoma Gap Analysis Project was analyzed and converted from its original raster-based format into a vector-based format to more accurately portray the distribution of habitat types and to increase the map's usefulness for spatial analyses. Because of its large size, the original vegetation map was clipped into small maps representing individual counties or clusters of adjacent counties. Each pixel was reviewed for classification errors and these errors were addressed by reclassifying the pixels based upon the habitats in surrounding pixels. ArcGIS software was used to make the final conversion from a raster-based map to a vector-based map.

### **B. OBJECTIVE:**

To convert the Oklahoma Gap Vegetation Map from raster to vector format.

### **C. RESULTS AND DISCUSSION:**

The Vegetation Map prepared during the Oklahoma Gap Analysis Project has been an important conservation and research tool for many users. This vegetation map, however, was developed in a raster format, meaning that information is mapped by attributing values to a grid of cells. Vector data are comprised of a number of points with exact coordinates. Thus vector maps more accurately portray linear features such as the boundaries of land cover types. A vector-based map is more suitable for analyses of habitat trends and conditions for species of greatest conservation need.

Strategies were developed for conversion of the vegetation map from raster into vector format. We decided early in the project that the map would have to be clipped into smaller components, due to its large size, in order to facilitate conversion. Initially, the map was clipped into the six regions of the Oklahoma Comprehensive Wildlife Conservation Strategy (CWCS), but the resulting files were still too large for conversion. Finally, we decided to conduct the conversion of the map by clipping the map into counties or clusters of counties. After the conversion was complete, the county-sized maps were connected back up to the size of the six Oklahoma CWCS regions.

The existing Vegetation Map from the Oklahoma Gap Analysis Project was carefully reviewed for misclassified and displaced pixels. These pixels were then reclassified according to the surrounding land cover types. Cut-off thresholds for cover types (the minimum number of pixels per county required to maintain a cover for that county) were set and evaluated by both ODWC and the project investigators. Any cover type with fewer than 1,000 pixels was merged with the adjacent cover type. A review of the preliminary county maps indicated that cover types with less than 1,000 pixels were highly fragmented and lacked sufficient aggregation to be truly representative of an occurrence of that cover type. ArcGIS software was then used to convert the raster data into vector data. Quality control for reclassification of each county was assessed and the reclassified images were edited in preparation for rejoining. Draft county maps were generated and presented to ODWC for review. Following the review process, the stitching of individual county files into a comprehensive map was completed.

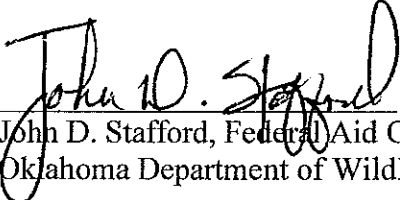
**D. Significant Deviations:**

The statewide map was produced through this project; however the size of this map was too large to be copied to a single DVD. As a result, the map was clipped into the six sets of files that correspond to the Oklahoma CWCS regions and copied onto two DVDs with this report.

**E. Prepared by:** Bruce Hoagland, University of Oklahoma

**F. Date:** June 18, 2007

**G. Approved by:**   
Wildlife Division Administration

**H. Approved by:**   
John D. Stafford, Federal Aid Coordinator  
Oklahoma Department of Wildlife Conservation