



MDC Resource Science

Monitoring Bald Eagles in Missouri

Science Notes



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By Janet Haslerig

Background

In 1782, the American Bald Eagle was selected as the national emblem of the United States. By 1890, they were nearly eliminated in Missouri as nesters and nationally by 1963 the eagle population in the U.S. was reduced to only 487 nesting pairs as a result of habitat loss and degradation, indiscriminate shooting and pesticide contaminants, particularly, DDT. Consequently the USFWS officially listed the bald eagle as endangered under the Endangered Species Act (ESA) in 1978. Since then the bald eagle has recovered dramatically with more than 10,000 nesting pairs in the lower 48 states. In 2007, the USFWS announced the recovery of our nation's symbol and removal from the list of threatened and endangered species. Today it remains a species of conservation concern in Missouri.

Monitoring: To track the progress of the bald eagle breeding population in the lower 48 states, the USFWS developed a post-delisting monitoring plan (Plan). This Plan will monitor the breeding population status of bald eagles after delisting by estimating the number of occupied nests. Surveys will be conducted once every 5 years over a 20 year period.

In 2006, the Missouri Department of Conservation (MDC) participated in the pilot study to test the effectiveness of the post-delisting monitoring protocol. During this initial pilot study, 123 nesting pairs were observed. And in 2011, we coordinated statewide ground and aerial surveys of bald eagles in March and April.

Methods: The state was arbitrarily divided into 4 quadrants: Southeast, Southwest, Northeast and Northwest. Topographic maps with corresponding township, range, section, Latitude/Longitude, and directions for each bald eagle record as of February 2011 (243 total records) were provided to each observer. Based upon the terrain and accessibility, each nest within the corresponding quadrant was designated for ground or aerial observation. Grounds surveys were conducted by conservation agents in the perspective county(ies).

Flight paths were established for each quadrant. Dual observers were used for each aerial quadrant survey

with the front seat observer serving as the primary data recorder and the second observer recording or verifying GPS coordinates. We conducted four flight days corresponding to each quadrant. All ground and aerial observers were asked to record pertinent location and nest information on data sheets.

Results: The spring 2011 survey recorded 272 combined ground and aerial observations. Of those, 165 were active nests (adults on nest, eggs or fledglings observed); 43 nests were not located; 26 empty nests with prior reproduction history; 26 were destroyed; 9 observations where adults were observed in the area of a previously recorded nest, and 3 were historic sites (intact nest but not used for 3 or more years). There were 58 new nest sites recorded, of which 50 were new active nests in 32 counties. Active nests (new and previously recorded) were recorded in 70 of Missouri's 114 counties including the City of St. Louis. In accordance with the Plan, we will continue to conduct a statewide ground and aerial survey every 5 years. In addition, we continue to solicit and record confirmed opportunistic active bald eagle nests in the state. Results of these surveys will be used to detect changes in occupied bald eagle nests on a national scale and determine if the eagle populations warrants expanded monitoring, additional research, and/or resumption of Federal protection under the ESA.

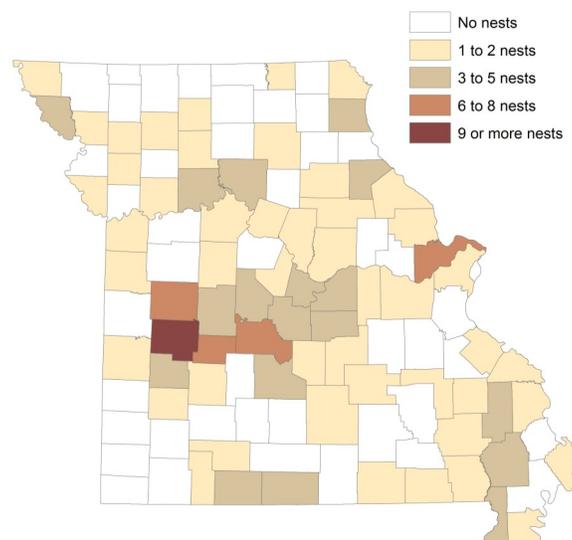


Figure 1. Active bald eagle nests.

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