

**RESULTS OF A PRELIMINARY INVESTIGATION OF  
ENDANGERED SPECIES HABITAT  
AT THE PROPOSED SITE OF LAKE EASTEX  
RESERVOIR**

Prepared by:  
Melissa Parker, East Texas Conservation Scientist  
Texas Parks and Wildlife Department

Submitted to:  
Texas Water Development Board

CONTRACT # 93-483-358

August 31, 1993

## OBJECTIVES

The objectives of the Rare/Endangered Species Survey included:

1. To examine soil maps and aerial photos, and conduct site evaluations of the area potentially impacted by reservoir construction in order to determine habitat suitability for the endangered red-cockaded woodpecker (RCW).
2. To provide recommendations for future surveys to assess the potential presence (abundance) and distribution of RCW if suitable habitat is present.
3. To assess habitat suitability for three rare plant species [golden wave tickseed (*Coreopsis intermedia*), Warner's hawthorn (*Crataegus warnerii*), and sandhill four o'clock (*Mirabilis collina*)] during the course of RCW surveys.

## ACTIVITIES COMPLETED

This report summarizes activities from June 1993 to 31 August 1993.

1. Areas with pine habitat were selected to assess RCW habitat suitability using aerial photos and a 7.5 minute topographic map depicting the vegetative cover types of the study site.
2. Habitat suitability was determined on the basis of stand composition, age, and structure. Open pine stands with little or no midstory, and mixed pine/hardwood stands containing pines at least 50 years old were targeted for habitat assessment.
3. Ground truthing was conducted to identify potential areas requiring assessment.
4. Landowner permission for access was assisted by Game warden Lieutenant Jerry McRae. Once landowner access was obtained, selected tracts were ground truthed and evaluated for habitat suitability.
5. Areas with suitable habitat that were located within the maximum pool elevation or immediately adjacent areas were noted for future surveying.
6. Habitat characteristics, such as soil types and land use history, were noted during the course of surveys to assess suitability for the three plant species.

## CONCLUSIONS AND RECOMMENDATIONS

Three categories were established for the RCW habitat assessment results:

- I. Areas within the proposed normal pool elevation which do not possess suitable RCW habitat.
- II. Areas within the proposed normal pool elevation which do possess suitable RCW habitat.
- III. Surrounding blocks of forest which contain suitable RCW habitat and fall within 1/2 mile of the proposed round pool elevation.

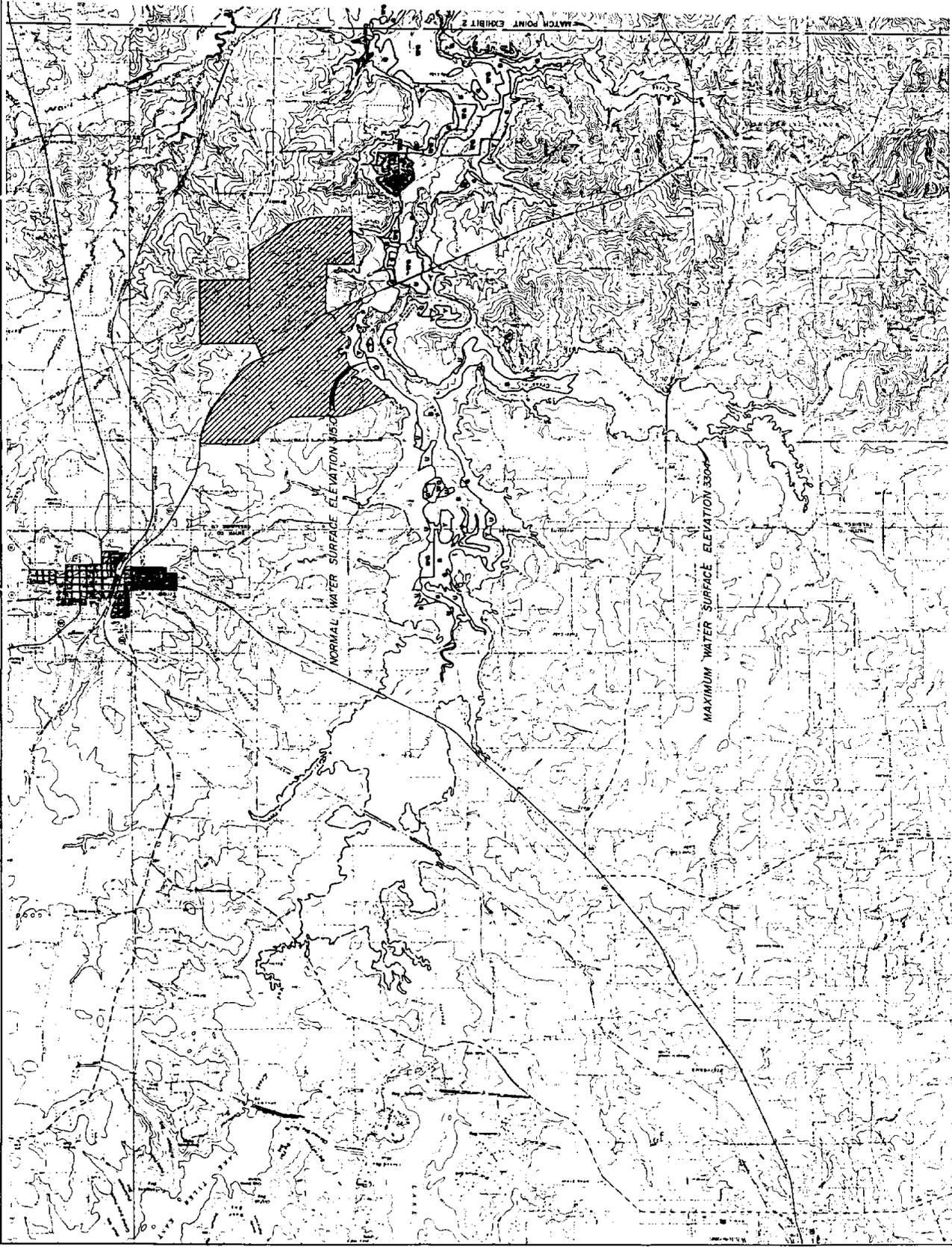
A total of 37 areas were selected to be surveyed for potential RCW habitat within the proposed normal pool area based upon the aerial photography. Of the 37 areas, upon ground-truthing 33 did not contain suitable RCW habitat and were placed into Category I. They are marked in pink on the map (Figs. 1 and 2). One area within the proposed normal pool elevation was assessed as having potentially suitable RCW habitat and was therefore placed into Category II. It is marked in solid green on the map. We were unable to contact the landowners for three of the selected potential areas. They are marked with solid orange on the map. Permission to survey for potential habitat will still be pursued for these tracts, as they appear to have potentially suitable RCW habitat according to the aerial photographs. Two large blocks (marked with green horizontal lines) beginning within a half mile of the proposed round pool elevation were determined to fall within Category III, and winter surveys for RCW's are recommended. The large pine timber and upper landscape position, in addition to the close proximity of the flooded zone justify further investigation of these tracts. Although the Category III areas will not be flooded, if RCW's are located within them, their foraging habitat may potentially be impacted by the flooding of the adjacent area.

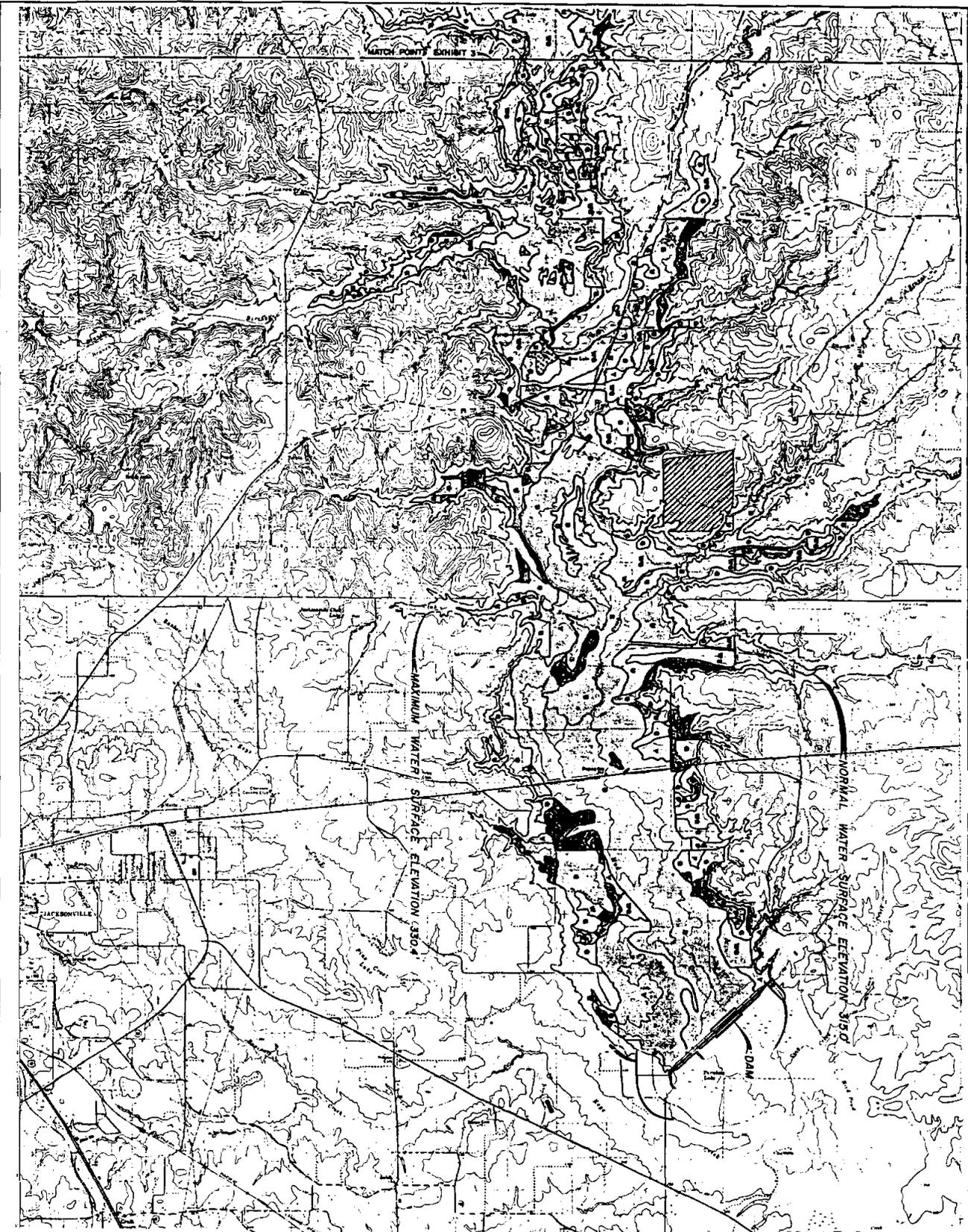
The proposed pool area did not appear to be suitable habitat for the three plant species which occupy rather deep, well-drained sands. They should not be of concern in future surveys. However, since the preparation of this contract, a new occurrence of Neches River rose-mallow (*Hibiscus dasycalyx*) has been reported from Mud Creek, approximately 7 kilometers downstream from the proposed dam site at the crossing of State Highway 204. *Hibiscus dasycalyx* is reported to be extremely rare globally by the Texas Natural Heritage Program and is a Category 2 candidate for listing by the U.S. Fish and Wildlife Service. It occupies small wetlands within bottomland areas and is currently reported from only four counties in Texas. Although *Hibiscus dasycalyx* was not seen during the course of these surveys (efforts were not concentrated in its habitat), it could very likely occur within the pool area, and surveys are recommended. Category 2 species are not protected by the U.S. Fish and Wildlife Service or Texas Parks and Wildlife Department, so surveys would not be required by law; however, TPWD does consider it to be a species of concern.

Category I - *Highly Sensitive*  
 Category II - *Very Sensitive*  
 Category III - *Intermediate Sensitive*  
 Unshaded - *Not Sensitive*

COVER TYPES

- W - Wetlands (100%)
- 4854 Acres (48%)
- W - Wetlands (100%)
- 731 Acres (7%)
- U - Wooded (100%)
- 884 Acres (8%)
- Y - Young Forest
- 1087 Acres (10%)
- WO - Wet Grassland
- 1886 Acres (19%)
- G - Grassland
- 1847 Acres (18%)
- W - Water
- 44 Acres (0.4%)





Category I: Municipal, Riv  
 Category II: Residential, Semi-  
 Category III: Pasture, with  
 Category IV: Open (wooded) land  
 Category V: Open (barren) land

- COVER TYPES**
- 0 - Mixed Hardwood Bottomland Forest
  - 1 - 4394 Acres (14%)
  - 2 - Mixed Hardwood-Tupelo (Upland Forest)
  - 3 - 731 Acres (7%)
  - 4 - Mixed Hardwood Upland Forest
  - 5 - 684 Acres (6%)
  - 6 - Young Forest
  - 7 - 1081 Acres (10%)
  - 8 - 1043 Acres (10%)
  - 9 - 1886 Acres (17%)
  - 10 - 1947 Acres (18%)
  - 11 - Water
  - 12 - 48 Acres (0%)

