

Baseline Avifauna Inventory of Freeman Ranch
Status Report - August 31, 1998

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One year of research has been completed for the Baseline Avifauna Inventory of Freeman Ranch. The project has been extended through Fall 1998 due to a shortened data collection period for the Fall of 1997.

PURPOSE

- To establish a baseline inventory of all birds on Freeman Ranch.
- To determine the relative abundance and diversity of birds in different vegetation types.
- To provide data for future analysis and the establishment of trends.

WORK COMPLETED

Site Selection / Location of Points -

Site selection and data collection was begun in Fall 1997. Digital Orthophoto Quarter Quadrangle (DOQQ), infrared aerial photos, and field observations were used to identify five distinct vegetation types representative of Freeman Ranch. The five areas initially were selected and called, juniper woodland, mesquite, oak motte savannah, Texas persimmon/live oak shrubland, and riparian.

The Point Count technique was selected as the method for data collection. According to Texas Parks and Wildlife, the point count technique is the preferred method for determining bird species composition, relative population abundance and monitoring long-term trends of species composition and abundance.

Five points were located and marked in each of the vegetation types and one point at each of two ponds (Laguna and Crawford). The five points within each vegetation type were placed approximately 250 meters apart. Each point was recorded using a GPS and transferred to a DOQQ of the ranch to permanently record their location. These points were also overlaid on a soil map of Freeman in order to do further analysis.

Spring Mist Netting -

The two ponds were mist netted four times per month from January 1998 to May 1998. The bird species, wing cord measurement, tail length, weight and sex (if possible) were recorded and each bird was banded. This data will be used to supplement the ranch inventory as incidental sightings.

Vegetation Analysis -

Data Collection:

In order to determine the type of cover available for birds, a horizontal and vertical vegetation analysis was begun in March 1998. The horizontal cover and dominant woody species were determined by the line-intercept method which records individual species of plants from each point in each vegetation type in a 50 meter line. The vertical coverage of vegetation was estimated using a Vegetation Profile Board.

Data Analysis

The data collection was completed and statistical analysis was performed in order to determine the dominant and codominant woody vegetation in each of the five vegetation types. The two dominant woody species were used in order to descriptively name the sites. They are as follows:

Juniper Woodland:	Ashe Juniper - Live Oak Association
Mesquite:	Mesquite - Hackberry Association
Oak Motte Savannah:	Live Oak - Mesquite Association
Texas Persimmon / Live Oak Shrubland:	Live Oak Association
Riparian:	Ashe Juniper - Cedar Elm Association

WORK IN PROGRESS

Point Counts - Each vegetation type is visited twice a month and all birds seen and heard (inside/outside 50 meters and fly-overs) are recorded for a fixed amount of time as well as the compass direction of each sighting. Other pertinent information such as temperature, relative humidity and cloud cover are also recorded. Point counts will continue until December 31, 1998.

Fall Mist Netting - Mist netting will resume for the Fall 1998 to record incidental winter migrants as well as resident birds.

Data Analysis - The determination of bird diversity, abundance and habitat specificity is part of Beth Banks' thesis project. Analysis will be completed during Spring 1999 and a copy of the thesis will be given to the Ranch Committee.

Brochure - Upon completion of data collection, a brochure will be prepared of the birds on the ranch with abundance indicated as common, rare or incidentals. This will be a beneficial tool for management and education on the Freeman Ranch.

A current copy of the seasonal bird species available upon request. Contact Bryan Davis at bd06@swt.edu