DRAFT

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Florida Grasshopper Sparrow

Survey Protocol

As land use changes continue in central Florida, there is an increasing need for a standardized and effective protocol for assessing the presence of Florida grasshopper sparrows in suitable habitat (Service 1999). Survey techniques for the Florida grasshopper sparrow must provide accurate information on territorial occupancy and breeding.

The optimum time to survey for Florida grasshopper sparrows is between April and June when peak nesting activity occurs. The most effective method for surveying a site is to traverse the area systematically, using a high quality tape recording of Florida grasshopper sparrow territorial vocalizations. The recording should include clear examples of all typical territorial calls.

The intent of this survey protocol is not to determine the total number of sparrows in an area or on a particular site. Instead, it is intended to detect the presence of a population of sparrows that may be using an area. Determining whether to conduct surveys based on perceived habitat quality should be avoided. Within the counties where Florida grasshopper sparrows are known to occur, surveys should be conducted within almost any unforested habitat, including pastures. An exception would be row-crops and cleared sites devoid of vegetation that would not offer suitable conditions.

Determining Presence

The recommended survey protocol for determining presence is a three-event survey during the nesting season (April 1 through June 15). The minimum time between events is 2 weeks. Surveys outside of the nesting season may be non-conclusive and not acceptable. The survey protocol should follow the following steps.

1. Conduct the survey only during accepted survey and monitoring periods. Surveys should be conducted by personnel familiar with the Florida grasshopper sparrow habitat needs and requirements and are capable of identifying and locating sparrows based on either song or sighting.

2. Identify all patches of prairie-like habitat (unforested sites with some grass cover), regardless of perceived habitat quality within the project area and 100-m (328-ft) buffer zone. Potential habitats on the property may not only be the nest sites of the Florida grasshopper sparrow, but could be part of the Florida grasshopper sparrow foraging habitat. This is considered occupied habitat by the Service because the habitat fulfills the species life history requirements.

3. Establish a survey grid throughout potential habitat with stations approximately 200 m (656 ft) apart. This distance between transects and stations is generally adequate when using a good-quality, hand-held cassette player broadcasting at full volume. The volume of the cassette player must be sufficient to hear the tape call from a distance of 100 m (328 ft).

4. Start surveys no earlier than 30 min before sunrise and end no later than 3 hours after sunrise. Only morning surveys are acceptable.

5. Survey only on calm days. Surveys should be terminated if winds exceed 24 km per hour (15 mph).

6. Sample each survey point location using tape-recorded grasshopper sparrow songs. At each station:

   A. record geographic position in the field using GPS;
   B. watch and listen for 1 minute for any grasshopper sparrow activity;
   C. play tape for 30 seconds, watch and listen for 1 minute in four directions 90 degrees apart (e.g., north, east, south, west);
   D. move to next station; and repeat procedure.

7. Record dates and times of all surveys by station, and all survey results (include negative reports).

8. If no Florida grasshopper sparrows are found repeat the survey. Three negative surveys, at least 2-week apart, are required to presume that the sparrow is absent.

Determining Population Size and Area

If Florida grasshopper sparrows are detected, a more intensive survey is necessary to determine the number of birds and extent of the area that is occupied. Stations where sparrows were observed on initial surveys and all stations within an 800-m (2624-ft) radius should be re-surveyed three times during the appropriate period and conditions without the use of the tape recording. Observers should record the number of singing (male) sparrows at each station, and the location (direction and distance) of the sparrow relative to the point. Also, note the flight direction for each bird observed. The re-surveys can be conducted during consecutive days, if conditions permit.

Total population size should be estimated by multiplying the number of singing individuals by two (assuming that each singing male has a mate) and adding any observed juveniles or non-singing individuals. Territorial boundaries should be determined via standard methods (e.g., Bibby et al. 2000). The occupied habitat should be determined from minimum convex polygon encompassing all territories and a 100-m (328-ft) buffer.

Survey Report

A survey report should include the following, as applicable:

1. Brief description of project.

2. An aerial photograph or habitat map depicting:

   A. the project area and buffer zone;
   B. habitat types;
   C. male Florida grasshopper sparrow locations, and territory boundaries;
   D. locations of all Florida grasshopper sparrows seen or heard while conducting the survey or at any other time, including flight direction; and
   E. the boundary of occupied habitat.

3. Field data sheets including:

   A. dates and starting and ending times of all surveys conducted;
   B. geographic position for each station;
   C. presence or absence of Florida grasshopper sparrows;
   D. weather conditions during survey, including average temperature, wind speed and direction, visibility, and precipitation; and
   E. total number of Florida grasshopper sparrows found and number of territories.

Literature Cited

Bibby, C.J., N.D. Burgess, D.A. Hill, and S.H. Mustoe. 2000. Bird Census Techniques. 2nd Edition. Academic Press, London, UK.

U.S. Fish and Wildlife Service (Service). 1999. South Florida multi-species recovery plan. Atlanta, Georgia. http://verobeach.fws.gov/Programs/Recovery/vbms5.html