

NOTES

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LONG DISTANCE DISPERSAL OF A FLORIDA GRASSHOPPER SPARROW

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The Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*), FGSP hereafter, was listed as endangered in 1986 due to habitat loss, population decline, and a limited distribution (Anonymous 1986). This endemic Florida subspecies is known from three extant populations within central peninsular Florida. The populations occur within Three Lakes Wildlife Management Area (Three Lakes, Osceola County), Avon Park Air Force Range (Avon Park, Highlands and Polk counties), and Kissimmee Prairie Preserve State Park (Okeechobee County). The three populations are separated by approximate distances between 6.4 km and 37.8 km.

The FGSP recovery plan (United States Fish and Wildlife Service 1999) allows for establishment of dispersal corridors, re-establishment of populations in currently uninhabited areas, and development of information on basic biology, including genetic and dispersal studies. In this note I provide a summary of published dispersal/movement distances and establish the long-distance record for FGSP dispersal.

Current understanding of FGSP movement is limited. Based on resightings of color-banded males, Delany et al. (1995) reported movements from one breeding season to the next of 183, 366, and 570 m at Avon Park. A movement of 2.0 km was observed from a natal site to a breeding territory the following spring. Three winter recaptures were 15 and 135 m from former breeding territories and 274 m from an original capture location (Delany 1995). Dean et al. (1998) observed movements of three birds of 150, 150, and 320m from original capture sites. Perkins and Vickery (2001) stated "No banded birds were resighted at any site other than the one where they were originally captured [at Avon Park and Three Lakes]." Resightings of five banded nestlings or fledglings were within 2 km of their natal sites during the same breeding season (Perkins and Vickery 2001).

Dean (2001) provided the most information on the extent of FGSP movements. Seasonality was suggested in the sizes of breeding territories vs. non-breeding home ranges, as well as a tendency to travel greater distances during the non-breeding season. Using telemetry, maximum distances between consecutive points per bird ranged from 83 m to 3.845 km. However, dispersal between known populations had still to be documented.

A banded adult FGSP was recaptured during a banding effort at Kissimmee Prairie Preserve State Park, Okeechobee County, Florida on 21 January 2003 (FWS band # 2191-54500). It was originally banded 28 July 1996 on Delta OQ Range, Avon Park Air Force Range, Highlands County, as a hatching year (HY) bird of unknown sex (Dean and Perkins, pers. comm.). Using ArcView GIS 3.2a (Environmental Systems Research Institute, Inc. 2000), the linear dispersal distance between Delta OQ Range and the site of recapture was estimated to be 30 km.

This bird is the first known individual to be documented traveling between populations. The significance of this recapture lies in the potential for gene flow among populations. Bulgin (2000) found "the lack of genetic structure among the *floridanus* subpopulations is most likely a result of contemporary gene flow on a metapopulation scale." Delany et al. (2000) found that the populations seem to be homogenous in genetic structure, suggesting some gene flow is occurring among the populations, and that dis-

tances and intervening unsuitable habitat may not pose a limit on movement between populations. Ongoing FGSP research may improve our understanding of the extent and frequency of FGSP inter-population movements.

At the date of recapture, this sparrow equaled the known longevity record for a FGSP. When recaptured on 21 January 2003, it was at least 6.6 years old (Dean et al. 1998).

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LITERATURE CITED

- ANONYMOUS. 1986. Endangered and threatened wildlife plants; determination of endangered status of the Florida Grasshopper Sparrow. Federal Register 51(147): 27492-27495.
- BULGIN, N. L. 2000. Conservation genetics of the Florida Grasshopper Sparrow (*Ammodramus savaannarum floridanus*). M.S. thesis, McMaster University, Hamilton, Ontario, Canada.
- DEAN, T. F. 2001. Non-breeding season ecology of Florida Grasshopper Sparrows and Bachman's Sparrows in central Florida dry prairies. M.S. thesis, University of Massachusetts, Amherst.
- DEAN, T. F., M. F. DELANY, E. W. CHAPMAN, AND P. D. VICKERY. 1998. Longevity and site fidelity of Florida Grasshopper Sparrows. *Journal of Field Ornithology* 69:51-54.
- DELANY, M. F., J. T. GIESEL, AND D. A. BRAZEAU. 2000. Genetic variability among populations of the Florida Grasshopper Sparrow. *Journal of Wildlife Management* 64:631-636.
- DELANY, M. F., C. T. MOORE, AND D. R. PROGULSKE. 1995. Territory size and movements of Florida Grasshopper Sparrows. *Journal of Field Ornithology* 66:305-309.
- ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE, INC. 2000. ArcView GIS Version 3.2a.
- PERKINS, D. W., AND P. D. VICKERY. 2001. Annual survival of an endangered passerine, the Florida Grasshopper Sparrow. *Wilson Bulletin* 113: 211-216.
- U.S. FISH AND WILDLIFE SERVICE. 1999. Florida Grasshopper Sparrow. Pages 4-371-391 in South Florida Multi-Species Recovery Plan. United States Fish and Wildlife Service, Atlanta, GA.