

Bird Monitoring Protocol for Agate Fossil Beds National Monument, Nebraska and Tallgrass Prairie National Preserve, Kansas

Standard Operating Procedure (SOP) # 1

Preparations and Equipment Setup Prior to the Field Season

Version 1.00 (July 18, 2003)

Revised Version 1.01 (June 18, 2004)

Revision History Log:

Previous Version #	Revision Date	Author	Changes Made	Reason for Change	New Version #
1.00	06/18/04	David G. Peitz	Edited wording page 2	Edited to reflect changes in the annual sampling effort at TAPR	1.01

Prior to the field season each year, usually beginning in March or April, all observers should review this entire protocol, including SOPs. Review of bird identification by sight and sound (SOP #2 “Training Observers”) is particularly important; misidentification of a species is perhaps the most serious error you can make during a bird count. Misidentification is much more serious than errors in estimating distances or double-counting a bird. This SOP also gives a brief description of how bird monitoring should be scheduled at Agate Fossil Beds National Monument, Nebraska and Tallgrass Prairie National Preserve, Kansas. Preseason planning facilitates the completion of both bird surveys and habitat work. All observers should follow the outlined field schedule to avoid double sampling of plots or initiating habitat work on a plot prior to it being sampled for birds. All of the equipment and supplies listed in this SOP should be organized and made ready for the field season, and copies of the field data forms in Appendix A should be made. Approximately twenty-five percent of the field data forms should be copied to write-in-the-rain paper.

I. General Preparation And Review

Procedures:

1. Notebooks from previous surveys should be reviewed if available to identify any unique events that may be encountered. A field notebook for the survey year should be prepared with pages for entry of sampling schedules, observer names, field hours and unique happenings that may influence how the data are reported. Trip reports are based on information recorded in field notebooks so it is imperative that they are clearly organized for ease of field note entry.
2. Prior knowledge of species most likely to be encountered in a park will aid birders in preparing for the birding season. Therefore, species lists from previous birding efforts in a

park or local area should be compiled and compared to reference manuals to identify species not recorded which have a probability of being recorded. Copies of these combined species list should be carried into the field as quick references in helping to identify unknown birds. Appendix B lists avian species reported during the breeding season (May-June) at Agate Fossil Beds National Monument and Tallgrass Prairie National Preserve.

3. Waypoints for each Variable Circular Plot (VCP) must be loaded onto the GPS unit prior to the start of the field season. Waypoints are the X and Y coordinates for each VCP and is used to navigate to their location. SOP #4, “Establishing and Marking Sampling Plots” contains a list of VCP locations for Agate Fossil Beds National Monument and Tallgrass Prairie National Preserve with their associated UTM coordinates and the type habitat they will be found in. Way points for bird plots at Agate Fossil Beds National Monument and Tallgrass Prairie National Preserve are stored on the f-drive of the Prairie Clusters server computer under L: pcltem/archive/projectdata/grasslandbirds/waypoints/agfo bird way-points (54 pt).WPT and /tapr bird way-points (260 pt).WPT.
4. A list of azimuths from plot center to each subplot (for those VCP sampled in previous years) should be compiled or updated in advance of the field season, by park. SOP #6, “Documenting Habitat Variables” contains a list of azimuths for each subplot sampled in 2001-2003 at Agate Fossil Beds National Monument and Tallgrass Prairie National Preserve. Copies of these azimuth lists should be carried into the field to ensure that each subplot is located at the same point as in previous years.

II. Scheduling Field Work

Procedures:

1. Breeding bird surveys will begin no sooner than the first full week of May and extend no later than the second full week of June, a period that coincides with the peak-breeding activity of most birds. Inclement weather and personnel workloads will preclude the scheduling of sampling events to specific annual dates. Sampling dates should be scheduled and logistics organized prior to the start of each field season. Completion of habitat monitoring needs to be scheduled for no later than June 30, changing habitat conditions do to plant growth and large ungulate grazing (were permitted) requires this in order to correlate bird populations with habitat type.
2. Monitoring efforts within Agate Fossil Beds National Monument will require a two to four person crew (ideally two to three people to sample and one to record habitat data) approximately five to seven field days to complete. Tallgrass Prairie National Preserve requires an equally manned crew 10 to 12 days to complete.
3. Twelve to fifteen VCP should be scheduled for completion each field day. Determine which plots will be sampled for habitat measures based on the order they will be sampled for birds. Habitat sampling should only be done on plots already sampled for birds or after the morning survey is completed to avoid disturbing birds on plots not yet sampled.
4. Habitat sampling will start as soon as the first bird-plot for that day has been completed. Observers should stay back from the plot as not to disturb birds. However, they should have a sense of where the birder is and when he/she will be done surveying the plot. Two-way radios work well to communicate when a plot is ready for habitat sampling. A minimum of

two people will start the habitat work, with the birder joining them after that day's survey is done.

III. Organizing Supplies and Equipment

Procedures:

1. An equipment list should be compiled, and equipment organized and made ready for the field season several weeks in advance of the field season. This allows time to make needed repairs and order equipment. The following is a list of field equipment needs for one crew, if two or more crews work simultaneously than equipment needs will change accordingly.

Table 1.01.1. Field equipment list for Variable Circular Plot bird counts and habitat work.

Number Req.	Description
Bird surveys	
1	Bird identification notebook with species separated by parks
1	10 x 50 or better binoculars
1	Rangefinder (1000 yd. range)
1	Tape recorder for recording unknown bird calls
1	Celsius thermometer
1	GPS unit for navigating to bird plots
50 – 100	36-in. pin flags with 4 x 5 in. flag (florescent pink works well)
2 – 3	Sharpie or other permanent marker for marking plot numbers on pin flags
Habitat work	
1	5.0-m rope with attached surveying pin and additional pins to mark plot boundaries
1	1.78-m rope with attached surveying pin and additional pins to mark plot boundaries
8	Surveyors pin for delineating the bounds of the 1.78-m sampling plots
2	1.27-cm x 1-m PVC pipe for measuring slope
1	English clinometer for measuring slope
1	Metric clinometer for measuring tree height
1	Densiometer for measuring canopy cover
1	Cruz-all (10 factor English) or Prizm (2.5 factor metric)
1	0.15 x 2.0-m horizontal structure board
1	7.5-m telescoping graduated measuring rod for measuring vertical structure
1	5-m D-tape for measuring tree diameters
2	100-m tapes (50-m tape may be substituted for one 100-m tape)
Both elements of bird monitoring	
2	Compass for direction between plots and to find subplot azimuths and aspects
2	Clip boards for recording data and carrying data sheet
3 – 4	Cruising vest for carrying equipment (backpack and hip packs may be substituted)
2	Two-way radios for communication between birder and habitat crew
Several	Reference books for bird and plant identification
Several	Insect repellent
Several	Sunscreen
1	First Aid kit

2. Suggested reference manuals for bird surveys and habitat work at Agate Fossil Beds National Monument and Tallgrass Prairie National Preserve:
 - National Geographic. 1987. Field Guide to Birds of North America, 3rd Edition. National Geographic, Washington, D.C. 480 pages.

- Robbins, C.S., B. Bruun, and H.S. Zim. 1983. Golden: A Guide to Field Identification of North American Birds. Western Publishing Company, Inc., Racine, WI. 360 pages.
- Stokes, D. W. and L. Q. Stokes. 1995. Stokes Field Guide to Birds: Western Region. Little, Brown and Company, New York, NY. 519 pages.
- Stokes, D. W. and L. Q. Stokes. 1995. Stokes Field Guide to Birds: Eastern Region. Little, Brown and Company, New York, NY. 471 pages.
- Dorm, R. D. 1992. Vascular Plants of Wyoming. Mountain West Publishing, Cheyenne, WY. 340 pages.
- Hitchcock, A. S. 1971. Manual of the Grasses of the United States (volumes I-II), 2nd edition revised by A. Chase. Dover Publications, Inc., New York, NY. 1051 pages.
- Stubbendieck J. and E. C. Conard. Common Legumes of the Great Plains: an illustrated guide. University of Nebraska Press, Lincoln, NE. 330 pages.
- Stubbendieck J., S. L. Hatch and C. H. Butterfield. 1992. North American Range Plants: 4th edition. University of Nebraska Press, Lincoln, NE. 493 pages.
- Great Plains Flora Association. 1986. Flora of the Great Plains. University Press of Kansas, Lawrence, KS. 1402 pages.
- Bare, J. E. 1979. Wildflowers and Weeds of Kansas. The Regents Press of Kansas, Lawrence, KS. 509 pages.