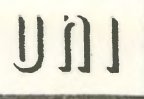


REC'D AUG 3 1982



UNIVERSITY OF NORTHERN IOWA · Cedar Falls, Iowa 50614

Department of Biology
AREA 319 273-2456

29 July 1982

Mr. Lawrence Cantera
Director, Iowa Field Office
The Nature Conservancy
424 Tenth Street, Suite 304
Des Moines, Iowa 50309

Dear Mr. Cantera,

Enclosed is a copy of the Breeding Bird Census I am submitting to American Birds. The third (of the three) censuses is of the Freda Haffner Kettlehole Preserve. We tried censusing the whole preserve (excepting the jog out to the road) and I believe we got numbers that reasonably express the relative abundance of the birds out there.

The class had enjoyable visits to the Kettlehole. If I get up to Lakeside next year, I will hope to spend more time on the preserve.

Thank you for your help in making a successful summer.

Very truly yours,

Peter Lowther

Peter E. Lowther

*See 3rd page
of report*

CC: REX
BOB

BREEDING BIRD POPULATIONS OF
THREE PRAIRIE HABITATS IN NORTHWESTERN IOWA

The following 3 censuses were undertaken with assistance of students in Field Ornithology at Iowa Lakeside Laboratory. All sites are under management to maintain or restore tallgrass prairie vegetation. Parts of all 3 areas have never been plowed.

Weather conditions were recorded at the Iowa Lakeside Laboratory campus. For June, mean high temperature was 23.7°C, mean low 10.5°C; total precipitation 7.6 cm. Due to the previous winter's heavy snow fall and a wet spring, depressions and low areas often had standing water.

Class participants were Dean L. Cox, Kevin V. Drees, Karen L. Folkers, Sondra L. Jacobson, Adam A. Leff, D. Mark Maffett, Wade J. Olson, and Peter J. Taft.--PETER E. LOWTHER, Dept. Biol., Univ. Northern Iowa, Cedar Falls, IA 50614.

---. TALLGRASS PRAIRIE.--Location: Iowa; Dickinson Co., Iowa Lakeside Laboratory. NE quarter of NW quarter sec. 23, T99N, R37W; 43°23'N, 95°11'W, Okoboji Quadrangle, USGS. Continuity: New. Size: 16 ha (square, 400 x 400 m, measured with tape). Description of Plot: A restored prairie area, never plowed, but heavily grazed until 1930, burning management began after 1950. Based on 20 random 10 m transects, the following species had more than 1% cover: Poa pratensis, 56.7; Solidago rigida, 17.3; Solidago canadensis, 11.4; Acer negundo, 6.5; Andropogon gerardi, 5.0; Ribes americanum, 5.0; Parthenocissus quinquefolia, 4.9; Petalostemon purpureus, 4.4; Andropogon

scoparius, 3.5; Equisetum laevigatum, 3.2; Toxicodendron radicans, 3.2;
Rosa sp., 3.0; Symphoricarpos occidentalis, 2.9; Cirsium canadense, 2.3;
Elymus sp., 2.2; Convolvulus sepium, 1.8; Helianthus occidentalis, 1.7;
Bromus inermis, 1.4; Cirsium vulgare, 1.2; Ambrosia artemisiifolia, 1.0.

Woody species (Acer, Ribes, Symphoricarpos) are distributed in dense stands in drainage pattern. Edge: Bordered to north and west by crop fields; bordered on south and east by successional woodlands along Miller's Bay of West Lake Okoboji. Topography: Rolling hills from 427 m in SE corner to 450 m in NW. Coverage: Census visits on June 9, 10. Trips 1100-1145, 0600-0700. Other visits throughout June. Total man-hours: 20. Census: Yellow Warbler, 10 (62, 25); Com. Yellowthroat, 8 (50, 20); Red-winged Blackbird, 6 (38, 15); Gray Catbird, 3 (19, 8); W. Meadowlark, 3; Am. Goldfinch, 3; Brown-headed Cowbird, 2; Willow Flycatcher, 2; Ring-necked Pheasant, 1; Mourning Dove, 1; E. Kingbird, 1; Grasshopper Sparrow, 1. Total: 12 species; 41 territorial males (256/km², 102/100 acres). Visitors: Am. Kestrel, Gray Partridge, Great Horned Owl. Remarks: Nests found: Red-winged Blackbird, 6; Gray Catbird, 2; Am. Goldfinch, 1; Willow Flycatcher, 1; 5 of these nests with cowbird eggs. Kendeigh (1941, Condor 43:165-174) censused birds in this area in 1940. Earlier vegetational surveys include Anderson (1946, Amer. Midl. Natur. 36:431-455) and Rudman & Pohl (1951, Proc. Iowa Acad. Sci. 58:189-200). Thanks to Lawrence J. Eilers for assistance in plant identifications.

---. TALLGRASS PRAIRIE.--Location: Iowa; Dickinson Co., Cayler Prairie. NW quarter sec. 17, T99N, R37W; 43°24'N, 95°15'W, Okoboji Quadrangle, USGS. Continuity: New. Size: 64.8 ha (= 160 acres, square, measured from map). Description of Plot: Platt (1975, Ecol. Monogr. 45:285-305) provides a recent description of the area. Species comprising 8% of dry weight biomass

in virgin prairie sites were Poa pratensis, 14.5; Andropogon gerardi, 9.5; Liatris aspera, 9.1; Panicum oligosanthos, 8.7; Amorpha canescens, 8.3; Rosa suffulta, 6.3; Liatris punctata, 5.3; Agropyron trachycaulum, 4.2; Andropogon scoparius, 4.0; Solidago missouriensis, 3.8; Muhlenbergia cuspidata, 3.0; Bouteloua curtipendula, 2.9; Echinacea pallida, 2.7; Panicum virgatum, 2.7. For sample sites in formerly grazed areas, 85% of total biomass was comprised of Poa pratensis, 60.1; Panicum oligosanthos, 10.0; Aster ericoides, 9.0; Sporobolus heterolepis, 4.7; Solidago missouriensis, 3.4. Edge: Bordered to north and east by wet pastures and Little Sioux River floodplain and to south and west by crop fields. Topography: Rolling hills. Elevation: 424 -440 m. Coverage: Census visits on June 10, 14, 21. Trips: 0830-1100, 0600-1000, 0800-1100. Other brief visits in June. Total man-hours: 55. Census: Red-winged Blackbird, 28 (43, 18); Grasshopper Sparrow, 24 (37, 15); Com. Yellowthroat, 20 (31, 13); Bobolink, 11 (17, 8); W. Meadowlark, 11; Brown-headed Cowbird, 7 (11, 4); Ring-necked Pheasant, 6 (9, 4); Dickcissel, 5 (8, 3); Yellow-headed Blackbird, 4 (6, 2); Blue-winged Teal, 2; Mourning Dove, 2; Sedge Wren, 2; Savannah Sparrow, 2; Swamp Sparrow, 2; Song Sparrow, 2; Mallard, 1; Upland Sandpiper, 1; Henslow's Sparrow, 1. Total: 18 species; 131 territorial males ($202/\text{km}^2$, 82/100 acres). Visitors: Chimney Swift, Barn Swallow. Remarks: Nests found: Blue-winged Teal, 2; Mourning Dove, 2; Red-winged Blackbird, 2 (2 with cowbird eggs). Dickcissels were not present until late June. A 1955 vegetational survey of Cayler Prairie was done by Aikman & Thorne (1956, Proc. Iowa Acad. Sci. 63:177-200). Parts of the prairie had never been disturbed except for annual late August cutting for hay. More recent acquisitions to the preserve had been grazed until 1958. Thanks to Dean M. Roosa of Iowa's State Preserves Advisory Board for permission to census the area.

---. TALLGRASS PRAIRIE. --Location: Iowa; Dickinson Co., Freda Haffner
 Kettlehole Preserve. E half of SW quarter and SE quarter of NW quarter of
 sec. 33, T99N, R37W; 43°20'N, 95°13'W, Milford quadrangle, USGS. Continuity:
 New. Size: 44.8 ha (rectangular, 407 x 1100 m, from map and deed description).
Description of Plot: Glenn-Lewin (no date, Iowa Nature Conservancy Report
 No. 10) gives a vegetational analysis of this preserve. Percent cover of
 plots characterized as dry prairie: Andropogon scoparius, 20.0; Bouteloua
hirsuta, 14.0; Stipa spartea, 12.8; Muhlenbergia cuspidata, 11.0; Aster
oblongifolius, 6.0; Solidago missouriensis, 5.7; Ambrosia artemisiifolia, 5.0;
Amorpha canescens, 3.8; Bouteloua curtipendula, 3.5; Bouteloua gracilis, 3.3;
Echinacea pallida, 3.0; Petalostemum purpureum, 2.7; Solidago rigida, 2.5.
 Percent cover of wet prairie plots: Poa pratensis, 52.5; Andropogon gerardii,
 27.0; Andropogon scoparius, 15.3; Solidago canadensis, 16.5; Solidago rigida,
 10.3; Artemisia sp., 9.5; Helianthus laetiflorus, 8.0; Ambrosia artemisiifolia,
 5.0; Panicum virgatum, 4.8; Boutelouca curtipendula, 3.8; Aster ericoides, 3.3;
Monarda fistulosa, 3.3; Stipa spartea, 2.0. The kettlehole itself contains
 a 1 ha marshy area with rings of vegetation. These rings include (from the
 inside) stands of Potamogeton spp., Glyceris grandis, Carex sp., Solidago sp.,
 the drier prairie vegetation on the slopes. Edge: Bordered on the west by
 the Little Sioux River floodplain and pasture, to the north by pasture, and
 on the east and south by crop fields. Topography: Generally steep slopes
 surrounding the kettlehole and to the floodplain. Elevation: 442-424 m.
Coverage: Census visits on June 11, 23. Trips: 0900-1100, 0800-1100.
 Other brief visits in June. Total man-hours: 26. Census: Com. Yellowthroat,
 22 (49, 20); Dickcissel, 20 (45, 18); Red-winged Blackbird, 17 (38, 15);
 Grasshopper Sparrow, 14 (31, 13); Bobolink, 9 (20, 8); Yellow-headed Blackbird,

7 (16, 6); Am. Goldfinch, 5 (11, 4); W. Meadowlark, 4 (9, 4); Brown-headed Cowbird, 4; Savannah Sparrow, 3 (7, 3); Mourning Dove, 2; Willow Flycatcher, 2; Sedge Wren, 2; Am. Robin, 2; Swamp Sparrow, 2; Blue-winged Teal, 1; Ring-necked Pheasant, 1; E. Kingbird, 1; Song Sparrow, 1. Total: 19 species; 119 territorial males ($265/\text{km}^2$, 107/100 acres). Visitors: Red-tailed Hawk, Gray Partridge, Killdeer, Upland Sandpiper, Com. Flicker. Remarks: Nests found: Blue-winged Teal, 1; Mourning Dove, 1; Red-winged Blackbird, 19 (2 with cowbird eggs); Yellow-headed Blackbird, 10.

The Freda Haffner Kettlehole Preserve was purchased by the Nature Conservancy in 1972. Those parts too steep to plow had been heavily grazed until 1973 and the flatter portions had been cultivated. The preserve is presently managed to restore prairie vegetation and is occasionally burned. Thanks to Lawrence Cantera, Director Iowa Field Office, The Nature Conservancy, for permission to conduct our census.