

BREEDING BIRD CENSUS: 1995

Habitat	State/ Prov.	Compiler	Plot Size (ha)	Terr. per 40 ha	Num. spp.	Hrs Obs.	Yrs Study
Broadleaf Forests							
1. Northern Oak Woodland	CA	J.D. Petersen	16.0	83	24	8.3	6
2. Willow Riparian Woodland and Edge	CA	D. Riensche	8.1	286	22	42.4	4
3. Mixed Hardwood Poletimber	CT	A.F. Magee	8.5	447	36	11.0	29
4. Second-growth Hardwood Forest	CT	A.F. Magee	10.1	368	40	10.5	29
5. Central Hardwood Forest with Scattered Pine	DC	M.E. D'Imperio	26.3	134	23	53.5	47
6. Mixed Upland Broadleaf Forest	DC	S.A. Briggs	14.2	738	43	113.0	37
7. Mesic Hammock with Needle Palm Understory	FL	G. Sprandel	10.5	131	15	22.3	3
8. White Alder–Black Locust–Hackberry Riparian	ID	C. Bradford	5.3	226	20	19.0	5
9. Riparian Deciduous Woodland	KS	R.L. Boyd	10.1	226	27	16.3	2
10. Bottomland Hardwood Forest I	LA	D.J. Twedt	13.5	314	29	18.0	1
11. Bottomland Hardwood Forest II	LA	D.J. Twedt	13.5	379	26	15.8	1
12. Bottomland Hardwood Forest III	LA	D.J. Twedt	13.5	339	22	16.0	1
13. Bottomland Hardwood Forest IV	LA	D.J. Twedt	13.5	401	25	16.0	1
14. Mature Deciduous Floodplain Forest	MD	D. Gauthey	7.6	389	24	44.8	44
15. Old-growth Woods and Swamp Forest	MI	L.R. Knapp	28.3	261	49	25.3	7
16. Bottomlands Hardwood Forest	MN	R. Swanson	12.2	454	33	39.3	3
17. Mature Bottomland Hardwood Forest	MO	J.L. Fox	10.6	415	28	14.3	1
18. Coppiced Cottonwood Forest I	MS	D.J. Twedt	13.5	277	26	16.0	1
19. Coppiced Cottonwood Forest II	MS	D.J. Twedt	13.7	168	19	8.0	1
20. Planted Cottonwood Forest–Inside Levee	MS	D.J. Twedt	13.5	163	23	11.0	1
21. Planted Cottonwood Forest–Outside Levee	MS	D.J. Twedt	13.5	166	23	15.0	1
22. Upland Second-growth Oak–Hickory Forest	MS	H. Moore	10.0	460	37	20.4	7
23. Floodplain Forest	NC	B. Ballentine	12.6	263	29	17.7	19

BREEDING BIRD CENSUS: 1995 (Continued)

Habitat	State/ Prov.	Compiler	Plot Size (ha)	Terr. per 40 ha	Num. spp.	Hrs Obs.	Yrs Study
24. Mixed Deciduous Forest	NC	B. Ballentine	12.6	181	27	17.9	20
25. Oak–Maple Swamp Forest	NY	C.D. Aquila	16.2	64	19	22.3	1
26. Young White Ash–Red Maple Forest on Lake Shore	NY	G.R. Maxwell	16.2	227	29	10.0	10
27. Mature Broadleaf Forest	OH	C.W. Saunders	16.0	236	26	26.0	5
28. Mixed Hardwood Swamp	OH	D. Hochadel	12.1	182	29	24.0	4
29. Riparian Deciduous Forest	OH	E.J. Tramer	18.0	318	38	22.0	7
30. Red Maple/Silver Maple–White Oak Forest	ON	E.A.H. Wallace	11.5	155	19	33.5	1
31. White Oak Savannah	ON	M.F.G. Clark	10.4	506	25	21.3	3
32. Mountaintop Second-growth Mixed Deciduous Forest	PA	C. Labarthe	10.0	100	11	21.8	2
33. Oak–Maple–Poplar Hollow	PA	L. Ingram	10.9	185	18	33.7	3
34. Oak–Maple Ridge-top Forest	PA	A. Eakright	19.3	109	17	21.2	14
35. Oak–Maple Slope Forest	PA	D. Jie	16.9	99	18	20.9	14
36. Suburban Deciduous Woodlot	PA	D. Robertson	10.0	412	21	27.0	5
37. Mature Mesic Oak Forest	RI	S.E. Reinert	10.6	245	20	20.2	4
38. Red Oak Forest	RI	W.R. Eddleman	10.6	219	22	17.7	2
39. Upland Oak–Red Maple Forest	RI	W.R. Eddleman	10.1	317	22	15.7	6
40. Hardwood Bottom	SC	P.A. Koehler	11.4	358	17	19.6	1
41. Virgin Hardwood Swamp Forest	SC	M.R. Dawson	8.9	562	20	19.4	8
42. Mature Maple–Beech–Birch Forest	TN	L.J. Mitchell	10.2	290	17	22.0	4
43. Mesophytic Forest I	VA	M.G. Smith	6.1	318	18	10.1	9
44. Mesophytic Forest II	VA	M.G. Smith	6.1	262	13	8.9	10
Needleleaf Forests							
45. Ponderosa Pine Forest	CO	L. Hering	8.1	165	16	18.8	29
46. Longleaf Pine Forest	GA	L.D. Carlile	20.0	133	32	14.7	1
47. Cedar Forest	ID	S.D. Weller	12.3	130	22	17.9	4
48. Old-growth Forest	ID	S. Robinson	11.3	127	13	13.0	4

BREEDING BIRD CENSUS: 1995 (Continued)

Habitat	State/ Prov.	Compiler	Plot Size (ha)	Terr. per 40 ha	Num. spp.	Hrs Obs.	Yrs Study
49. Riparian Forest	ID	S.D. Weller	10.3	196	25	19.3	5
50. Mature Red Spruce Forest	ME	T.P. Skaling	16.0	170	31	37.5	7
51. Mature White Pine Stand	ME	J.K. Markowsky	10.4	150	23	19.5	3
52. Upland Christmas Tree Farm	NY	E.W. Brooks	10.7	279	22	21.4	13
53. Upland Scotch Pine Plantation	NY	E.W. Brooks	9.3	217	30	11.6	27
54. White Pine–White Cedar Savannah	ON	G.C. Gibson	9.3	437	28	40.0	6
55. Loblolly Pine Plantation (Cut in 1981)	SC	C. Irby	12.2	54	13	13.7	1
56. High Altitude Red Spruce Forest	TN	G.R. Mayfield, III	9.9	160	11	18.1	4
57. Pinyon–Juniper Woodland	UT	G.N. Salamacha	31.3	35	13	21.3	13
Broadleaf/Needleleaf Forests							
58. Ponderosa Pine–Scrub Oak Forest	CO	H.J. Finch	12.0	353	25	16.4	15
59. Climax Hemlock–White Pine Forest with Transition Hardwoods	CT	A.F. Magee	10.5	469	43	12.0	29
60. Oak–Hemlock Forest	CT	R.A. Askins	23.1	161	35	27.4	24
61. Upland Oak and Hemlock Forest	CT	R.A. Braunfield	10.5	507	22	15.1	7
62. Young Mixed Hardwood–Conifer Stand	CT	A.F. Magee	8.5	478	45	11.0	18
63. Tamarack Bog and Hardwood	MI	J. Mullins	8.5	118	14	8.0	20
64. Pitch Pine–Oak–Heath Woodland	NY	W. Drakert	12.0	100	18	12.0	1
65. Upland Mixed Pine–Spruce–Hardwood Plantation	NY	E.W. Brooks	16.6	208	32	12.4	22
66. Mature Hemlock–Hardwood Forest	OH	D. Minney	10.0	374	26	16.5	4
67. Dry Cottonwood–Juniper Savannah	ON	S.M. Gustafson	10.5	145	10	31.0	2
68. Intergrading Dune–Swale Savannah	ON	S.M. Gustafson	11.0	207	13	30.5	7
69. Hardwood Forest with Scattered Pine	PA	D.J. Wentzel	19.2	208	30	16.3	5
70. Mixed Hardwood–Hemlock–White Pine Forest	PA	G.W. Grove	27.0	204	28	15.5	2
71. Mature Upland Oak–Beech–White Pine Forest	RI	W.R. Eddleman	10.2	314	25	19.4	5

BREEDING BIRD CENSUS: 1995 (Continued)

<i>Habitat</i>	<i>State/ Prov.</i>	<i>Compiler</i>	<i>Plot Size (ha)</i>	<i>Terr. per 40 ha</i>	<i>Num. spp.</i>	<i>Hrs Obs.</i>	<i>Yrs Study</i>
72. Scrub Oak Forest with Scattered Longleaf Pine	SC	C. Irby	12.2	57	15	15.3	2
73. Tupelo-Cypress Swamp	SC	C. Irby	11.0	185	19	23.1	2
74. Mature Deciduous-Coniferous Forest with Stream	TN	S.J. Stedman	10.2	163	38	20.3	5
75. Mixed Pine and Hardwood Ridge	VA	A.C. Mellinger	6.1	233	15	13.9	2
76. Sloped Mixed Deciduous-Coniferous Forest	VT	F. Merrill	12.3	187	29	12.3	4
Mixed Habitats							
77. Transition Forest and Thicket	CT	R.A. Askins	6.5	160	29	7.7	24
78. Deciduous Forest with Pond and Brook	NJ	J. Brotherton	16.2	106	23	9.0	32
79. Residential Subdivision	NJ	D.E. Fantina	20.0	191	21	6.0	1
80. Forest Wetland and Bordering Cliff and Talus	NY	R. Larsen	22.3	100	28	28.8	1
81. Second-growth Broadleaf-Coniferous Forest with Wetland Areas	NY	T.H. Greg	11.0	224	29	13.3	2
82. Suburban Bird Sanctuary	NY	M.E. Richard	10.8	267	28	12.8	13
83. Field, Ridge, Shrubby Trees, and Woods	ON	M.F.G. Clark	5.8	979	21	17.5	2
84. Scattered Mixed Coniferous Forest in Subalpine Meadows and Spruce Bogs	OR	R.A. Hudson	32.4	25	10	12.9	23
Non-forested Wetlands							
85. Coastal Freshwater Marsh	CA	J.P. Kelly	10.5	335	16	8.5	8
86. Desert Riparian-Freshwater Marsh	CA	E.A. Cardiff	15.4	565	34	25.5	19
87. Montane Mesic Willow Carr	CO	D. Hallock	3.8	795	18	14.0	5
88. Shrubby Swamp and Sedge Hummocks	CT	A.F. Magee	8.1	837	35	14.0	29
89. Wetland Sedge Meadow I	NE	G. Lingle	16.2	133	10	6.8	13
90. Wetland Sedge Meadow II	NE	G. Lingle	16.2	122	9	7.6	12

BREEDING BIRD CENSUS: 1995 (Continued)

Habitat	State/ Prov.	Compiler	Plot Size (ha)	Terr. per 40 ha	Num. spp.	Hrs Obs.	Yrs Study
Shrublands							
91. Coastal Scrub	CA	D.P. Helzer	8.1	252	18	214.3	21
92. Disturbed Coastal Scrub A	CA	S. Chin	4.7	251	22	177.5	21
93. Disturbed Coastal Scrub B	CA	S.L. Small	8.1	237	23	302.0	21
94. Grazed Coastal Scrub	CA	A.C. Favis	45.0	111	22	341.2	1
95. Palo Verde–Ironwood Woodland I	CA	R.L. McKernan	50.0	38	14	41.0	1
96. Palo Verde–Ironwood Woodland II	CA	R.L. McKernan	50.0	41	21	41.0	1
97. Palo Verde–Ironwood Woodland III	CA	R.L. McKernan	50.0	41	18	40.3	1
98. Palo Verde–Ironwood Woodland IV	CA	R.L. McKernan	50.0	38	14	40.3	1
99. Big Sagebrush Exclosure	ID	J. Doremus	25.0	67	4	25.3	4
100. Winterfat Exclosure	ID	J. Doremus	16.2	65	2	16.0	4
101. Tamaulipan Thorn-scrub	TX	A.G. Cantu	8.0	520	22	65.0	1
102. Pinyon–Juniper Scrub	UT	J. Simmons	20.0	58	9	21.6	4
Grasslands							
103. Semidesert Mesquite Savannah I	AZ	C.E. Gordon	36.0	45	14	20.7	1
104. Semidesert Mesquite Savannah II	AZ	C.E. Gordon	61.0	42	15	20.3	1
105. Coastal Prairie	CA	J.P. Kelly	31.0	41	8	7.0	8
106. Canyon Bluebunch Grassland	ID	C. Bradford	7.5	43	4	12.4	4
107. Subirrigated Grassland	NE	G. Lingle	16.2	101	7	6.1	13
108. Subirrigated Native Hay	NE	G. Lingle	16.2	63	8	5.4	13
109. Bluegrass Grassland	ON	G.C. Gibson	10.5	177	11	21.0	4
Successional Fields							
110. Abandoned Upland Pasture	NY	V.M. Pitzrick	8.0	945	30	27.0	12
111. Abandoned Pasture Scrubland	ON	B. Murphy	9.0	347	31	20.8	14
112. Clear-cut–Longleaf Pine Regeneration	SC	C. Irby	12.5	195	27	17.8	1
Cultivated							
113. Conventional Dairy Farm	PA	R.C. Keller	23.1	107	33	17.5	5

1. NORTHERN OAK WOODLAND

ARBOLEADA DE ROBLE NORTEÑO

JOHN D. PETERSEN

13935 Highway 12, Glen Ellen CA 95442

Location: California; Sonoma Co.; Glen Ellen; Bouvierie Ranch; 38°22'N, 122°30'W; Glen Ellen Quadrangle, USGS. **Continuity:** Established 1990; 6 yr. **Size:** 16.0 ha. **Description of Plot:** See *J. Field Ornithol.* 62(Suppl.):32 (1991). **Weather:** Mean start temp., 8.1°C (range 4–11°C). There was a significant increase in rainfall this season (approximately 150% of normal at the study site) after several years of drought conditions. **Coverage:** 8.3 h; 8 visits (5 sunrise); 31 Mar; 8, 14, 22, 30 Apr; 6, 12, 26 May. **Census:** Plain Titmouse, 3.0 (8); Orange-crowned Warbler, 3.0; Dark-eyed Junco, 3.0; Pacific-slope Flycatcher, 2.5; Ash-throated Flycatcher, 2.0; Chipping Sparrow, 2.0; Western Scrub-Jay, 1.5; Violet-green Swallow, 1.5; House Finch, 1.5; Mourning Dove, 1.0; Anna's Hummingbird, 1.0; Acorn Woodpecker, 1.0; Nuttall's Woodpecker, 1.0; Western Wood-Pewee, 1.0; White-breasted Nuthatch, 1.0; House Wren, 1.0; Western Bluebird, 1.0; American Robin, 1.0; Warbling Vireo, 1.0; Lesser Goldfinch, 1.0; Bullock's Oriole, 0.5; Northern Mockingbird, 0.5; European Starling, 0.5; California Towhee, 0.5. **Total:** 24 species; 33.0 territories (83/40 ha). **Visitors:** Red-shouldered Hawk, Red-tailed Hawk, Wild Turkey, Great Horned Owl, American Crow, Bushtit, Solitary Vireo, Hutton's Vireo, Black-throated Gray Warbler, Black-headed Grosbeak. **Remarks:** The effects of the increase in rainfall were not apparent in this year's count. Wild Turkeys are becoming more evident and may be illustrative of a general increase in numbers locally. **Acknowledgments:** This work was supported by Audubon Canyon Ranch, Stinson Beach, CA, as part of the monitoring of an oak regeneration project.

2. WILLOW RIPARIAN WOODLAND AND EDGE

ARBOLADO DE SAUCE RIVERENO Y BORDE

DAVE RIENSCHÉ, MARTY MORROW & CHRISTINA GARCIA

East Bay Regional Park District, Coyote Hills Regional Park, 8000 Patterson Ranch Road,
Fremont CA 94555

Site Number: CA9292061. **Location:** California; Alameda Co.; Fremont; Coyote Hills Regional Park; 37°34'N, 122°5'W; Newark Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 8.1 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):35 (1993) and 65(Suppl.):46 (1994). **Weather:** Mean start temp., 10.6°C (range 3–17°C). California experienced a very wet season (the fourth wettest on record). Rainfall was 155% above normal, with a total rainfall of 67.9 cm. **Coverage:** 42.4 h; 17 visits (17 sunrise); 4, 15, 19, 28 Mar; 8, 9, 20, 28, 29 Apr; 2, 6, 16, 19, 21, 23 May; 4, 25 Jun. Maximum number of observers/visit, 5. **Census:** Song Sparrow, 15.0 (74; 4N,11FL); Marsh Wren, 8.0 (40; 1N); California Towhee, 5.0 (25); Common Yellowthroat, 4.5 (22; 1N,2FL); Bushtit, 4.0 (20; 3N,10FL); Bewick's Wren, 3.0 (15; 2N,1FL); Brown-headed Cowbird, 3.0; Chestnut-backed Chickadee, 2.0 (2N,5FL); Spotted Towhee, 2.0; Mourning Dove, 1.5; Pied-billed Grebe, 1.0 (1N,2FL); Mallard, 1.0; White-tailed Kite, 1.0 (1N,2FL); Virginia Rail, 1.0; American Coot, 1.0; Anna's Hummingbird, 1.0 (1N); Downy Woodpecker, 1.0 (1N,2FL); Tree Swallow, 1.0 (1N,3FL); Western Scrub-Jay, 1.0 (1N,2FL); European Starling, 1.0 (2N,6FL); Ring-necked Pheasant, +; Western Meadowlark, +. **Total:** 22 species; 58.0 territories (286/40 ha). **Visitors:** Green Heron, Black-crowned Night-Heron, Canada Goose, Gadwall, Northern Harrier, Cooper's Hawk, Sora, Common Moorhen, Pacific-slope Flycatcher, Black Phoebe, Swainson's Thrush, American Robin, Northern Mockingbird, Orange-crowned Warbler, Yellow Warbler, Wilson's Warbler, Red-winged Blackbird. **Remarks:** The above normal rainfall in 1993, the near normal rainfall in 1994, and the above normal rainfall this year, continue to provide a lush willow riparian woodland and seasonal wetland edge. These provide better habitat conditions for increases in species territories, nesting, and fledgling success for many of our breeding species. **Other Observers:** Mary Richards, Penni Savage. **Acknowledgments:** The East Bay Regional Park

District who kindly provided time to work on the project. Wanda Spitler for typing the original report.

3. MIXED HARDWOOD POLETIMBER

BOSQUE MIXTO MADERERO

ANDREW F. MAGEE

White Memorial Conservation Center, Litchfield CT 06759

Site Number: CT1265009. **Location:** Connecticut; Litchfield Co.; Litchfield; White Memorial Foundation-Wheeler Hill; 41°42'N, 73°13'W; Litchfield Quadrangle, USGS. **Continuity:** Established 1965; 29 yr. **Size:** 8.5 ha. **Description of Plot:** See *Aud. Field Notes* 19:609–610 (1965) and *J. Field Ornithol.* 64(Suppl.):36 (1993). **Weather:** Mean start temp., 21.2°C (range 16–31°C). The average minimum and maximum temperatures recorded at our weather station in June (12°C, 26°C) were a little above our 11-yr averages. This was the driest June in the last 12 years with only 1.2 cm precipitation. **Coverage:** 11.0 h; 6 visits (1 sunrise, 1 sunset); 31 May; 2, 7, 13, 15 Jun; 29 Jul. **Census:** Ovenbird, 11.0 (52); Eastern Towhee, 8.5 (40); Red-eyed Vireo, 7.0 (33); Gray Catbird, 6.5 (31); Chestnut-sided Warbler, 6.0 (28); American Redstart, 6.0; Common Yellowthroat, 6.0; Black-and-white Warbler, 5.0 (24); Black-capped Chickadee, 4.0 (19); Blue-winged Warbler, 3.0 (14); Wood Thrush, 2.5; Blue Jay, 2.0; American Crow, 2.0; Tufted Titmouse, 2.0; Veery, 2.0; American Robin, 2.0; Cedar Waxwing, 2.0; Rose-breasted Grosbeak, 2.0; American Goldfinch, 2.0; Northern Cardinal, 1.5; Ruffed Grouse, 1.0; Wild Turkey, 1.0; Downy Woodpecker, 1.0; Eastern Wood-Pewee, 1.0; Eastern Phoebe, 1.0; White-breasted Nuthatch, 1.0; House Wren, 1.0; Yellow Warbler, 1.0; Scarlet Tanager, 1.0; Song Sparrow, 1.0; Broad-winged Hawk, 0.5; Red-tailed Hawk, 0.5; Red-bellied Woodpecker, 0.5; Black-throated Blue Warbler, 0.5; Eastern Kingbird, +; House Finch, +. **Total:** 36 species; 95.0 territories (447/40 ha). **Remarks:** The number of species and territorial males recorded are both close to average. Woodland species have been replacing brush and shrubby-edge species as trees have taken over this abandoned hillside pasture. This trend appears to have been reversed in recent years. This year, the woodland species as a whole are below their previous 5-yr average, primarily because of decreased numbers for Veery and Wood Thrush (down from 7.0 territories last year to 2.5 this year). This year, the earlier-succession stage species (e.g. Eastern Towhee and Chestnut-sided Warbler) are above their average for the previous five years. **Acknowledgments:** Gordon Loery of the White Memorial Conservation Center wrote up the report.

4. SECOND-GROWTH HARDWOOD FOREST

BOSQUE SECUNDARIO DE MADERAS DURAS

ANDREW F. MAGEE

White Memorial Conservation Center, Litchfield CT 06759

Site Number: CT2765006. **Location:** Connecticut; Litchfield Co.; Morris; White Memorial Foundation; 41°42'N, 73°12'W; Litchfield Quadrangle, USGS. **Continuity:** Established 1965; 29 yr. **Size:** 10.1 ha. **Description of Plot:** See *Aud. Field Notes* 19:590–591 (1965) and *J. Field Ornithol.* 64(Suppl.):37–38 (1993). **Weather:** Mean start temp., 22.3°C (range 18–30°C). The average minimum and maximum temperatures recorded at our weather station in June (12°C, 26°C) were a little above our 11-yr averages. This was the driest June in the last 12 years with only 1.2 cm precipitation. **Coverage:** 10.5 h; 6 visits (1 sunset); 31 May; 1, 12, 14, 16 Jun; 29 Jul. **Census:** Red-eyed Vireo, 17.0 (67); Ovenbird, 16.0 (63); Veery, 8.0 (32); American Redstart, 6.0 (24); Scarlet Tanager, 3.5 (14); Eastern Wood-Pewee, 3.0 (12); American Robin, 3.0; Wood Thrush, 2.5; Gray Catbird, 2.5; Yellow-bellied Sapsucker, 2.0; Downy Woodpecker, 2.0; Black-capped Chickadee, 2.0; Tufted Titmouse, 2.0; Blue-winged Warbler, 2.0; Chestnut-sided Warbler, 2.0; Red-bellied Woodpecker, 1.5; American Crow, 1.5; Common Yellowthroat, 1.5; Eastern Towhee, 1.5; Wood Duck, 1.0; Red-tailed Hawk, 1.0; Ruffed Grouse,

1.0; Wild Turkey, 1.0; Hairy Woodpecker, 1.0; Northern Flicker, 1.0; Eastern Phoebe, 1.0; Great Crested Flycatcher, 1.0; White-breasted Nuthatch, 1.0; Black-and-white Warbler, 1.0; Song Sparrow, 1.0; Cooper's Hawk, 0.5; Mourning Dove, 0.5; Yellow-throated Vireo, 0.5; Yellow-rumped Warbler, 0.5; Northern Cardinal, 0.5; Turkey Vulture, +; Pileated Woodpecker, +; Cedar Waxwing, +; Rose-breasted Grosbeak, +; Baltimore Oriole, +. **Total:** 40 species; 93.0 territories (368/40 ha). **Remarks:** Both the number of species and the number of territorial males observed were about average. Of the three most common species, Red-eyed Vireo and Ovenbird have typically outnumbered Veery in recent years. This year the difference was greater than usual with Red-eyed Vireo adding 7.0 territories to last year's total, Ovenbird adding 5.0, and Veery dropping 3.0. Blue Jays were missed completely for the first time in 29 years. **Acknowledgments:** Gordon Loery of the White Memorial Conservation Center wrote up the report.

5. CENTRAL HARDWOOD FOREST WITH SCATTERED PINE

BOSQUE CENTRAL DE MADERAS DURAS CON PINOS DISPERSOS

MARY E. D'IMPERIO

4000 Cathedral Ave. NW, #106B, Washington DC 20016-5249

Location: District of Columbia; Washington; Rock Creek Park; 38°57'N, 77°3'W; Washington West Quadrangle, USGS. **Continuity:** Established 1948; 47 yr. **Size:** 26.3 ha. **Description of Plot:** See *Aud. Field Notes* 2:153-154 (1948). **Weather:** Mean start temp., 14.0°C (range 4-24°C). Rain during three visits. **Coverage:** 53.5 h; 28 visits (27 sunrise); 29 Mar; 1, 2, 9, 15, 17, 19, 23, 24, 26, 30 Apr; 1, 4, 7, 8, 12, 16, 22, 30 May; 6, 9, 16, 21, 27 Jun; 1, 2, 6, 8 Jul. **Census:** Red-eyed Vireo, 13.0 (20); Wood Thrush, 12.0 (18); Tufted Titmouse, 9.0 (14); Ovenbird, 7.5 (11); Red-bellied Woodpecker, 6.5 (10); Scarlet Tanager, 5.5 (8); Acadian Flycatcher, 5.0 (8); White-breasted Nuthatch, 4.5 (7); Carolina Wren, 3.5 (5); Veery, 3.0 (5); Eastern Wood-Pewee, 2.5; Northern Cardinal, 2.5; Hairy Woodpecker, 2.0; American Crow, 2.0; American Robin, 2.0; Eastern Towhee, 1.5; Northern Flicker, 1.5; Carolina Chickadee, 1.5; Downy Woodpecker, 1.0; Brown-headed Cowbird, 1.0; Pileated Woodpecker, 0.5; Hooded Warbler, 0.5; Eastern Phoebe, +. **Total:** 23 species; 88.0 territories (134/40 ha). **Visitors:** American Woodcock, Rock Dove, Mourning Dove, Yellow-billed Cuckoo, Great Crested Flycatcher, Eastern Kingbird, Blue Jay, Blue-gray Gnatcatcher, Northern Mockingbird, Common Yellowthroat, Indigo Bunting, House Finch. **Remarks:** Wood Thrush, Scarlet Tanager, Acadian Flycatcher, and Ovenbird are showing strongly increased populations. Most year-round residents are maintaining or increasing populations. Carolina Wren numbers are recovering from the low point in 1994. Cowbirds are more numerous inside the woods. **Other Observers:** Bob Ford, Eric Powell.

6. MIXED UPLAND BROADLEAF FOREST

BOSQUE MIXTO DE HOJA ANCHA DE ALTURAS

SHIRLEY A. BRIGGS

7605 Honeywell Lane, Bethesda MD 20814

Site Number: DC1060009. **Location:** District of Columbia; Washington; Glover-Archbold Park; 38°55'N, 77°5'W; Washington West Quadrangle, USGS. **Continuity:** Established 1959; 37 yr. **Size:** 14.2 ha. **Description of Plot:** See *Aud. Field Notes* 14:502-503 (1960). **Weather:** Mean start temp., 12.0°C (range 5-21°C). Mean temperatures: April, 13.5°C; May, 18.8°C; June, 23.7°C. Total precipitation: April, 4.8 cm; May, 10.6 cm; June, 6.2 cm. Source: NOAA data from National Airport. **Coverage:** 113.0 h; 36 visits; 22, 25, 26, 31 Mar; 2, 3, 7, 8, 9, 12, 16, 17, 20, 21, 23, 24, 25, 27(2), 29 Apr; 4, 6, 8(2), 12, 13, 16, 27, 31 May; 1, 5, 8, 15(2), 17, 19 Jun. **Census:** Gray Catbird, 31.0 (87); Northern Cardinal, 22.5 (63); Tufted Titmouse, 21.0 (59; 2FL); Carolina Chickadee, 19.0 (54; 1N, 2FL); Carolina Wren, 19.0 (1N); Red-bellied Woodpecker, 16.0 (45); Eastern Towhee, 13.0 (37); Red-eyed Vireo, 11.0 (31); Northern

Flicker, 9.0 (25); Acadian Flycatcher, 9.0; Veery, 9.0; White-breasted Nuthatch, 8.0 (23); Downy Woodpecker, 7.0 (20); Wood Thrush, 6.0 (17; 1N,5FL); Hairy Woodpecker, 5.0 (14); American Crow, 5.0 (3N,10FL); American Robin, 5.0; Great Crested Flycatcher, 4.0 (11); Blue-gray Gnatcatcher, 4.0 (1N); Ovenbird, 4.0; Blue Jay, 3.5 (10); Brown-headed Cowbird, 3.0 (8); European Starling, 2.5 (1N,3FL); House Finch, 2.5; Red-shouldered Hawk, 2.0 (1N); Mourning Dove, 2.0; Ruby-throated Hummingbird, 2.0; American Redstart, 2.0; Common Yellowthroat, 2.0; Common Grackle, 2.0; Eastern Wood-Pewee, 1.5; House Sparrow, 1.5; Wood Duck, 1.0; Chimney Swift, 1.0; Pileated Woodpecker, 1.0; Eastern Phoebe, 1.0; House Wren, 1.0; Northern Mockingbird, 1.0; White-eyed Vireo, 1.0; Rock Dove, 0.5; Song Sparrow, 0.5; Mallard, +; Scarlet Tanager, +. **Total:** 43 species; 262.0 territories (738/40 ha). **Visitors:** Great Blue Heron, Canada Goose, Turkey Vulture, Sharp-shinned Hawk, Yellow-billed Cuckoo, Eastern Screech-Owl, Fish Crow, Northern Parula, Louisiana Waterthrush, Indigo Bunting, Field Sparrow, Swamp Sparrow, Baltimore Oriole, American Goldfinch. **Remarks:** Population levels continue with little change from recent years. Effects of the severe winter two years ago were noted on Carolina Wrens (at the northern part of their range); they fell from 34.0 territories to 14.0, but this year came back up to 19.0. Veery territories have declined the last three years from 18.5 to 17.0 to 9.0, while Wood Thrush territories hold steady, 7.0, 7.0, and 6.0. Large mammals seen indicate the nature of the woods; 1 deer, 1 fawn, 1 raccoon, and 1 human (homeless?). **Other Observers:** Mary D'Imperio, Ann Feather.

7. MESIC HAMMOCK WITH NEEDLE PALM UNDERSTORY

MESIC HAMMOCK CON SOTOBOSQUE DE PALMAS

GARY SPRANDEL

*FL Game & Fresh Water Fish Comm., Bureau of Nongame Wildlife,
Route 7, Box 3055, Quincy FL 32351*

Site Number: FL0393023. **Location:** Florida; Gadsden Co.; Quincy; Joe Budd WMA-Zone G; 30°29'N, 84°32'W; Lake Talquin Quadrangle, USGS. **Continuity:** Established 1993; 3 yr. **Size:** 10.5 ha. **Description of Plot:** See *J. Field Ornithol.* 65(Suppl.):49–50 (1994). **Weather:** Mean start temp., 20.7°C (range 7–31°C). From March–June there was a total of 51.8 cm of rain (15-yr average is 55.4 cm). Source: IFAS Experiment Station, Quincy. **Coverage:** 22.3 h; 13 visits (10 sunrise, 3 sunset); 11, 22 Mar; 3, 19, 27 Apr; 2, 8, 11, 19, 25, 26 May; 9, 20 Jun. **Census:** Acadian Flycatcher, 6.0 (23; 2FL); Red-eyed Vireo, 6.0; Carolina Wren, 4.0 (15); Northern Cardinal, 4.0; Northern Parula, 3.0 (11); Red-bellied Woodpecker, 2.5; Hooded Warbler, 2.5; Yellow-billed Cuckoo, 2.0; White-eyed Vireo, 2.0; Pileated Woodpecker, 1.5; Carolina Chickadee, 0.5; Tufted Titmouse, 0.5; Red-shouldered Hawk, +; Barred Owl, +; Blue Jay, +. **Total:** 15 species; 34.5 territories (131/40 ha). **Visitors:** Downy Woodpecker, Hairy Woodpecker, Great Crested Flycatcher, Fish Crow, Kentucky Warbler, Summer Tanager. **Remarks:** The first Acadian Flycatcher was heard on 19 April; the first Hooded Warbler and Yellow-billed Cuckoo on 27 April. The Northern Cardinal, Northern Parula, and White-eyed Vireo territories tended towards the edge of the plot. The Red-eyed Vireo territories again were very difficult to plot.

8. WHITE ALDER-BLACK LOCUST-HACKBERRY RIPARIAN

BOSQUE RIVEREÑO DE ALISO BLANCO-ACACIA NEGRA-“HACKBERRY”

CAROL BRADFORD

1561 Bethany Road, Kendrick ID 83537-9705

Site Number: ID6591059. **Location:** Idaho; Idaho Co.; Lucille; China Creek; 45°33'N, 116°18'W; Lucille Quadrangle, USGS. **Continuity:** Established 1991; 5 yr. **Size:** 5.3 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):39–40 (1992). Several large locust trees were cut down for firewood (illegally). Many of the older fruit trees in the old homestead area are dying, possibly due to several years of drought. **Weather:** Mean start temp., 7.9°C

(range 3–14°C). This was a wetter year than last year; moisture was above average. There were several drought years before this year. The river was running higher and remained high for a much longer time than in previous years. Runoff from China Creek also remained higher for longer. **Coverage:** 19.0 h; 10 visits (6 sunrise, 4 sunset); 13, 14, 26, 27, 28, 29 May; 3, 4, 9, 16 Jun. **Census:** Lazuli Bunting, 4.0 (30; 2N); Yellow Warbler, 3.0 (23); American Robin, 2.0; Cedar Waxwing, 2.0 (2N); Warbling Vireo, 2.0; Western Tanager, 2.0; Bullock's Oriole, 2.0; Ruffed Grouse, 1.0; Mourning Dove, 1.0; Downy Woodpecker, 1.0; Northern Flicker, 1.0; Western Wood-Pewee, 1.0; Black-capped Chickadee, 1.0; European Starling, 1.0; Red-eyed Vireo, 1.0; Yellow-breasted Chat, 1.0; Spotted Towhee, 1.0; Song Sparrow, 1.0; Brown-headed Cowbird, 1.0; American Goldfinch, 1.0. **Total:** 20 species; 30.0 territories (226/40 ha). **Visitors:** Cooper's Hawk, Red-tailed Hawk, Killdeer, Common Nighthawk, Vaux's Swift, Belted Kingfisher, Western Kingbird, Violet-green Swallow, Black-billed Magpie, Common Raven, Ruby-crowned Kinglet, White-crowned Sparrow, Cassin's Finch. **Remarks:** There were not as many Red-eyed Vireos or Warbling Vireos this year, and they seemed to arrive later than in previous years. Is this due to habitat loss in their wintering grounds?

9. RIPARIAN DECIDUOUS WOODLAND

ARBOLADO DECIDUO RIVEREÑO

ROGER L. BOYD & JON J. BOYD

Biology Dept., Baker University, Baldwin City KS 66006

Site Number: KS3391021. **Location:** Kansas; Douglas Co.; Lawrence; Baker University Wetlands; 38°55'N, 95°13'W; Lawrence East Quadrangle, USGS. **Continuity:** Established 1991; 2 yr. **Size:** 10.1 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):41–42 (1992). During the floods of 1993, about one acre of the bank washed away. There were about 10 large cottonwoods (76–91 cm dbh) in this section. The trunks are still in the river. **Weather:** Mean start temp., 25.2°C (range 17–33°C). The first two weeks of June were quite rainy. Most of the rain occurred in the afternoons. Mornings were quite humid. Temperatures during visits were fairly typical for June and early July. **Coverage:** 16.3 h; 9 visits (1 sunrise, 1 sunset); 6, 7, 9, 12, 29 Jun; 1, 8, 16, 18 Jul. **Census:** Northern Cardinal, 6.0 (24); Indigo Bunting, 6.0; Yellow-billed Cuckoo, 4.0 (16); Red-bellied Woodpecker, 3.0 (12; 1N); Eastern Wood-Pewee, 3.0; Tufted Titmouse, 3.0 (4FL); Carolina Wren, 3.0 (3FL); White-breasted Nuthatch, 2.5; Northern Parula, 2.5; Baltimore Oriole, 2.5; Great Crested Flycatcher, 2.0; Blue Jay, 2.0; Black-capped Chickadee, 2.0; Eastern Bluebird, 2.0; Brown-headed Cowbird, 2.0; House Wren, 1.5; Common Yellowthroat, 1.5; Red-headed Woodpecker, 1.0; Downy Woodpecker, 1.0; Northern Flicker, 1.0; Blue-gray Gnatcatcher, 1.0; American Robin, 1.0; European Starling, 1.0 (1N); Red-winged Blackbird, 1.0; Hairy Woodpecker, 0.5 (2FL); Bell's Vireo, 0.5; Field Sparrow, 0.5. **Total:** 27 species; 57.0 territories (226/40 ha). **Visitors:** Great Blue Heron, Turkey Vulture, Red-tailed Hawk, Northern Bobwhite, Mourning Dove, Chimney Swift, Belted Kingfisher, Pileated Woodpecker, Eastern Phoebe, American Crow, Brown Thrasher, Prothonotary Warbler, Blue Grosbeak, Common Grackle. **Other Observer:** Brett Walking-Eagle. **Acknowledgments:** We thank Mr. Bill Koehler for permission to use part of his property for a portion of this census.

10. BOTTOMLAND HARDWOOD FOREST I

BOSQUE DE MADERAS DURAS INUNDABLE I

DANIEL J. TWEDT

National Wetlands Research Ctr, 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Louisiana; Madison Co.; Tallulah; SHOP-Tensas River National Wildlife Refuge; 32°21'N, 91°20'W; Waverly SE Quadrangle, USGS. **Continuity:** New. **Size:** 13.5 ha. **Description of Plot:** A rectangular plot (300 × 450 m) with a closed canopy dominated by sugarberry, water oak, and elm. The stand is 31–60 years of age with a mean canopy height of 29 m

(range 24–38 m). The understory is dominated by cane, blackberry, and green ash. The ground cover is dominated by palmetto and poison ivy. There are two ponds with a maximum diameter of 20 m and a maximum depth of 2 m, and there are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 101–500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 23 m, maximum 25 m. **Weather:** Mean start temp., 20.9°C (range 11–26°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal. **Coverage:** 18.0 h; 9 visits (6 sunrise); 19, 25 Apr; 2, 24 May; 5, 21, 23, 24 Jun; 13 Jul. **Census:** Northern Cardinal, 16.0 (47; 29N); Acadian Flycatcher, 14.0 (41; 21N); Red-bellied Woodpecker, 8.0 (24); Carolina Chickadee, 7.0 (21); Tufted Titmouse, 6.0 (18); Carolina Wren, 6.0 (7N); Prothonotary Warbler, 6.0 (4N); White-eyed Vireo, 5.5 (16; 2N); Red-eyed Vireo, 5.0 (15); Yellow-billed Cuckoo, 4.0 (12; 3N); Brown-headed Cowbird, 4.0; Kentucky Warbler, 3.0 (9); Downy Woodpecker, 2.5; Pileated Woodpecker, 2.0; Blue-gray Gnatcatcher, 2.0; Wood Thrush, 2.0 (1N); Hooded Warbler, 2.0; Summer Tanager, 2.0 (2N); Great Crested Flycatcher, 1.5; Eastern Towhee, 1.5 (3N); Yellow-throated Vireo, 1.0; Northern Parula, 1.0 (1N); Swainson's Warbler, 1.0; Indigo Bunting, 1.0; Little Blue Heron, 0.5; Mourning Dove, 0.5; Eastern Wood-Pewee, 0.5; Common Grackle, 0.5; Yellow-breasted Chat, +. **Total:** 29 species; 106.0 territories (314/40 ha). **Visitors:** Great Blue Heron, Red-shouldered Hawk, Barred Owl, Ruby-throated Hummingbird, Blue Jay, American Crow, Fish Crow, American Redstart. **Remarks:** Nests were located during 240 hours of searching independent of censusing. **Acknowledgments:** I thank George Chandler and Richard Coon of the U.S. Fish and Wildlife Service, and Dr. Robert Hamilton of Louisiana State University, for support and assistance.

11. BOTTOMLAND HARDWOOD FOREST II

BOSQUE DE MADERAS DURAS INUNDABLE II

DANIEL J. TWEDT

National Wetlands Research Ctr., 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Louisiana; Madison Co.; Tallulah; THIN-Tensas River National Wildlife Refuge; 32°20'N, 91°20'W; Waverly SE Quadrangle, USGS. **Continuity:** New. **Size:** 13.5 ha. **Description of Plot:** A rectangular plot (300 × 450 m) with a closed canopy dominated by green ash, Nuttall's oak, and elm. The stand is 31–60 years of age with a mean canopy height of 26 m (range 21–38 m). The understory is dominated by green ash, blackberry, and deciduous holly. The ground cover is dominated by poison ivy, palmetto, and sedges. There is one pond with a maximum diameter of 10 m and a maximum depth of 2 m, and there are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 101–500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 22 m, maximum 24 m. **Weather:** Mean start temp., 20.1°C (range 10–25°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal. **Coverage:** 15.8 h; 8 visits (5 sunrise); 19, 26 Apr; 12, 15, 29 May; 2, 8, 21 Jun. **Census:** Acadian Flycatcher, 18.0 (53; 30N); Tufted Titmouse, 13.0 (39; 2N, 1FL); Northern Cardinal, 12.0 (36; 9N, 1FL); Prothonotary Warbler, 11.0 (33; 4N); Red-eyed Vireo, 9.0 (27); Carolina Chickadee, 8.0 (24; 1N, 1FL); Red-bellied Woodpecker, 7.5 (22; 3N); Carolina Wren, 7.5 (2N); Brown-headed Cowbird, 6.0 (18); Yellow-billed Cuckoo, 5.0 (15; 4N); Blue-gray Gnatcatcher, 4.0 (12); Downy Woodpecker, 3.5 (10); Yellow-throated Vireo, 3.0 (9); Summer Tanager, 3.0; Ruby-throated Hummingbird, 2.0; White-eyed Vireo, 2.0; Indigo Bunting, 2.0; Red-headed Woodpecker, 1.5 (2N); Pileated Woodpecker, 1.5; Great Crested Flycatcher, 1.5; American Crow, 1.5; Northern Parula, 1.5; Red-shouldered Hawk, 1.0 (1N); Eastern Wood-Pewee, 1.0 (1N); Kentucky Warbler, 1.0 (1N); Orchard Oriole, 1.0. **Total:** 26 species; 128.0 territories (379/40 ha). **Visitors:** Little Blue Heron, Wood Duck, Wild Turkey, Mourning Dove, Barred Owl, Hairy Woodpecker, Northern Flicker, Blue Jay, Fish Crow, Wood Thrush, Brown Thrasher, Eastern Towhee. **Remarks:** Nests were located during 209 hours of searching independent from censusing. **Acknowledgments:** I thank George Chandler and Richard

Coon of the U.S. Fish and Wildlife Service, and Dr. Robert Hamilton of Louisiana State University, for support and assistance.

12. BOTTOMLAND HARDWOOD FOREST III

BOSQUE DE MADERAS DURAS INUNDABLE III

DANIEL J. TWEDT

National Wetlands Research Ctr., 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Louisiana; Madison Co.; Tallulah; NOCU-Tensas River National Wildlife Refuge; 32°19'N, 91°21'W; Waverly SE Quadrangle, USGS. **Continuity:** New. **Size:** 13.5 ha. **Description of Plot:** A rectangular plot (300 × 450 m) with a closed canopy dominated by sweetgum, oak, and elm. The stand is 31–60 years of age with a mean canopy height of 27 m (range 21–38 m). The understory is dominated by cane, green ash, and elm. The ground cover is dominated by poison ivy. There are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 101–500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 22 m, maximum 23 m. **Weather:** Mean start temp., 20.4°C (range 12–27°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal. **Coverage:** 16.0 h; 8 visits (6 sunrise); 27 Apr; 3, 10, 15 May; 10, 12, 23 Jun; 10 Jul. **Census:** Acadian Flycatcher, 27.0 (80; 40N); Tufted Titmouse, 11.0 (33); Carolina Chickadee, 10.0 (30); Carolina Wren, 10.0 (1N); Northern Cardinal, 10.0 (9N); Red-eyed Vireo, 9.0 (27; 1N); Red-bellied Woodpecker, 8.0 (24; 3N); Prothonotary Warbler, 7.5 (22; 1N); Brown-headed Cowbird, 6.0 (18); Downy Woodpecker, 3.0 (9); Yellow-billed Cuckoo, 2.5 (3N); Blue-gray Gnatcatcher, 2.5; Great Crested Flycatcher, 1.5; White-eyed Vireo, 1.5 (1N); Summer Tanager, 1.5; Yellow-throated Vireo, 1.0; Kentucky Warbler, 1.0; Pileated Woodpecker, 0.5; Hooded Warbler, 0.5 (2N); Eastern Towhee, 0.5 (2N); Wood Thrush, + (1N); Swainson's Warbler, +. **Total:** 22 species; 114.5 territories (339/40 ha). **Visitors:** Red-shouldered Hawk, Mourning Dove, Barred Owl, Blue Jay, American Crow, Yellow-throated Warbler, Cerulean Warbler, Indigo Bunting, Orchard Oriole. **Remarks:** Nests were located during 198 hours of searching independent of censusing. **Acknowledgments:** I thank the U.S. Fish and Wildlife Service and Louisiana State University for support and assistance.

13. BOTTOMLAND HARDWOOD FOREST IV

BOSQUE DE MADERAS DURAS INUNDABLE IV

DANIEL J. TWEDT

National Wetlands Research Ctr., 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Louisiana; Madison Co.; Tallulah; SHEL-Tensas River National Wildlife Refuge; 32°19'N, 91°20'W; Waverly SE Quadrangle, USGS. **Continuity:** New. **Size:** 13.5 ha. **Description of Plot:** A rectangular plot (300 × 450 m) with a closed canopy dominated by willow oak, sugarberry, and green ash. The stand is 61–100 years of age with a mean canopy height of 28 m (range 21–37 m). The understory is dominated by green ash, blackberry, and elm. The ground cover is dominated by palmetto and poison ivy. There are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 26–50 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 23 m, maximum 24 m. **Weather:** Mean start temp., 20.9°C (range 18–23°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal. **Coverage:** 16.0 h; 8 visits (8 sunrise); 1, 8, 18, 20, 26, 30 May; 12, 21 Jun. **Census:** Acadian Flycatcher, 24.0 (71; 44N); Northern Cardinal, 20.0 (59; 30N); White-eyed Vireo, 11.0 (33; 5N, 1FL); Carolina Wren, 9.0 (27; 5N); Tufted Titmouse, 8.5 (25); Carolina Chickadee, 7.0 (21); Brown-headed Cowbird, 6.0 (18; 1FL); Blue-gray Gnatcatcher, 5.5 (16); Red-eyed Vireo,

5.5; Red-bellied Woodpecker, 5.0 (15; 2N); Prothonotary Warbler, 4.5 (13; 2N); Downy Woodpecker, 4.0 (12); Yellow-billed Cuckoo, 3.5 (10; 4N); Kentucky Warbler, 3.5; Summer Tanager, 3.5; Great Crested Flycatcher, 3.0 (9); Hooded Warbler, 2.5; Indigo Bunting, 2.5 (3N); Eastern Towhee, 2.0 (2N); Pileated Woodpecker, 1.0; Eastern Wood-Pewee, 1.0; Yellow-throated Vireo, 1.0; Swainson's Warbler, 1.0; Ruby-throated Hummingbird, 0.5; Wood Thrush, 0.5. **Total:** 25 species; 135.5 territories (401/40 ha). **Visitors:** Little Blue Heron, Red-shouldered Hawk, Red-tailed Hawk, Mourning Dove, Barred Owl, Hairy Woodpecker, Blue Jay, American Crow. **Remarks:** Nests were located during 187 hours of searching independent of censusing. **Acknowledgments:** I thank George Chandler and Richard Coon of the U.S. Fish and Wildlife Service, and Dr. Robert Hamilton of Louisiana State University, for support and assistance.

14. MATURE DECIDUOUS FLOODPLAIN FOREST

BOSQUE DECIDUO MADURO INUNDABLE

DICK GAUTHHEY

6603 Reynard Dr., Springfield VA 22152

Location: Maryland; Montgomery Co.; Glen Echo; Cabin John Island; 38°58'N, 77°8'W; Falls Church Quadrangle, USGS. **Continuity:** Established 1946; 44 yr. **Size:** 7.6 ha. **Description of Plot:** See *Aud. Field Notes* 1:212-213 (1947) and *J. Field Ornithol.* 65(Suppl.):50-51 (1994). **Weather:** Mean start temp., 13.4°C (range 6-20°C). The March through May temperature was average; rainfall was slightly below average, but most of this fell in May. Prior to May, rainfall was significantly below average, and the Potomac River level was well below average. **Coverage:** 44.8 h; 14 visits (9 sunrise); 8, 9, 17, 20(2), 22, 23, 26 Apr; 3, 11, 20, 31 May; 1, 5 Jun. **Census:** Carolina Chickadee, 8.0 (42; 1N,5FL); Tufted Titmouse, 6.5 (34; 1N); Carolina Wren, 6.0 (32); Northern Parula, 6.0; Northern Cardinal, 5.5 (29; 1FL); Blue-gray Gnatcatcher, 5.0 (26); European Starling, 5.0 (5N); Red-eyed Vireo, 5.0; Acadian Flycatcher, 4.0 (21); Wood Duck, 3.0 (16; 2N); Red-bellied Woodpecker, 3.0 (1N); Downy Woodpecker, 3.0 (1N); Northern Flicker, 2.0 (1N); Yellow-throated Warbler, 2.0; Barred Owl, 1.0; Pileated Woodpecker, 1.0; Eastern Wood-Pewee, 1.0; Great Crested Flycatcher, 1.0; American Crow, 1.0 (1N); White-breasted Nuthatch, 1.0; American Robin, 1.0; Prothonotary Warbler, 1.0; Song Sparrow, 1.0; House Finch, 1.0. **Total:** 24 species; 74.0 territories (389/40 ha). **Visitors:** Great Blue Heron, Canada Goose, Mourning Dove, Belted Kingfisher, Hairy Woodpecker, Warbling Vireo, Common Grackle, American Goldfinch. **Remarks:** Numbers were similar to the last four years with chickadee, titmouse, and wren numbers continuing at all-time highs. A Barred Owl was seen at 0900 on 5 June with a (Mallard?) duckling. **Other Observers:** John Eliot, Dick Homan, Letty Limbach.

15. OLD-GROWTH WOODS AND SWAMP FOREST

BOSQUES VIEJOS Y BOSQUES PANTANOSOS

LEAH R. KNAPP, DVM

815 Jones St., Marshall MI 49068

Location: Michigan; Calhoun Co.; Fredonia Township; Jenney Woods Nature Preserve; 42°14'N, 85°3'W. **Continuity:** Established 1989; 7 yr. **Size:** 28.3 ha. **Description of Plot:** See *J. Field Ornithol.* 61(Suppl.):36 (1990), 63(Suppl.):45 (1992), and 66(Suppl.):45 (1995). **Weather:** Mean start temp., 18.9°C (range 13-27°C). There was an unusual warm spell in February (21°C) followed by unusual cold, snow, and ice into April. The late spring had a short dry spell (three weeks with no rain), then June and July were among the hottest on record. Source: news reports, personal observations. **Coverage:** 25.3 h; 8 visits (3 sunrise, 2 sunset); 5, 18, 26, 27 May; 4, 10, 22, 29 June. **Census:** Song Sparrow, 21.0 (30; 2N); Yellow Warbler, 11.0 (16); Eastern Wood-Pewee, 10.0 (14); Tufted Titmouse, 9.0 (13; 3FL); Common Yellowthroat, 9.0 (1N); Gray Catbird, 8.0 (11); Northern Cardinal, 8.0; Veery, 7.0 (10); Red-eyed Vireo, 7.0; American Goldfinch, 6.0 (8); Blue Jay, 5.0 (7; 4FL); American Robin, 5.0

(1N,2FL); Rose-breasted Grosbeak, 5.0; Indigo Bunting, 5.0; Brown-headed Cowbird, 5.0; Black-capped Chickadee, 4.0 (6; 3FL); Ovenbird, 4.0; Willow Flycatcher, 3.0 (4); Great Crested Flycatcher, 3.0; White-breasted Nuthatch, 3.0 (3FL); Cedar Waxwing, 3.0; Blue-winged Warbler, 3.0; Red-winged Blackbird, 3.0 (1N); Ruby-throated Hummingbird, 2.0; Red-bellied Woodpecker, 2.0 (1N); Downy Woodpecker, 2.0 (2N,5FL); Hairy Woodpecker, 2.0 (2N); Northern Flicker, 2.0; Acadian Flycatcher, 2.0; American Crow, 2.0 (2FL); Blue-gray Gnatcatcher, 2.0; Yellow-throated Vireo, 2.0; American Redstart, 2.0; Common Grackle, 2.0; Baltimore Oriole, 2.0; Wood Duck, 1.0; Turkey Vulture, 1.0; Cooper's Hawk, 1.0 (1FL); Red-tailed Hawk, 1.0 (1N); Ring-necked Pheasant, 1.0; Mourning Dove, 1.0; Great Horned Owl, 1.0; Least Flycatcher, 1.0; Eastern Phoebe, 1.0; House Wren, 1.0; Wood Thrush, 1.0; Warbling Vireo, 1.0; Scarlet Tanager, 1.0; Chipping Sparrow, 1.0. **Total:** 49 species; 185.0 territories (261/40 ha). **Visitors:** Great Blue Heron, Northern Bobwhite. **Remarks:** The habitat remains relatively undisturbed, though the former hayfield in front of the preserve now has a house on it (next to the road, approximately 180 m from the edge of the preserve). The rest of the field was untouched this year. The unusual winter and spring weather may have caused problems for flora and fauna in the whole region. Some plants were late to emerge or bloom. Others that had emerged on time or abnormally early because of the warm spell were damaged. The weather also seemed to damage some insect populations. I suspect there were some spring food shortages for birds and other creatures, and some early migrants were hit with harsh weather conditions. **Other Observers:** Andrew Jefcoat, Lori Peters, Valeria Russell.

16. BOTTOMLANDS HARDWOOD FOREST

BOSQUE DE MADERAS DURAS INUNDABLE

RICHIE SWANSON

178 Latsch Island, Box 1265, Winona MN 55987

Site Number: MN1793105. **Location:** Minnesota; Winona Co.; Rollingstone Township; Crooked Slough Woods; 44°6'N, 91°44'W; Winona West Quadrangle, USGS. **Continuity:** Established 1993; 3 yr. **Size:** 12.2 ha. **Description of Plot:** See *J. Field Ornithol.* 65(Suppl.):54–55 (1994) and 66(Suppl.):45–46 (1995). **Weather:** Mean start temp., 15.6°C (range 12–20°C). Mean temperature for June (normal in parentheses): 23.0°C (20.2°C). Precipitation for June (normal in parentheses): 6.8 cm (9.9 cm). Mississippi River level on each visit day: 198.17 m, 198.19 m, 198.16 m, 198.18 m, 198.18 m, 198.20 m, 198.18 m, 198.21 m. The normal mean river level is 198.17 m above sea level. Sources: U.S. Weather Station, La Crosse, WI and U.S. Army Corps of Engineers, Mississippi River Dam 5A, Fountain City, WI. **Coverage:** 39.3 h; 8 visits (8 sunrise); 3, 7, 10, 14, 18, 24, 27, 29 Jun. **Census:** American Redstart, 13.0 (43); Brown-headed Cowbird, 13.0; American Robin, 11.0 (36); Baltimore Oriole, 10.0 (33); Great Crested Flycatcher, 7.0 (23); House Wren, 7.0; Red-eyed Vireo, 7.0; Gray Catbird, 6.0 (20); Song Sparrow, 6.0; Eastern Wood-Pewee, 5.0 (16); Blue-gray Gnatcatcher, 5.0; Northern Cardinal, 5.0; Brown Creeper, 4.0 (13); Rose-breasted Grosbeak, 4.0; Yellow-bellied Sapsucker, 3.0 (10); Downy Woodpecker, 3.0; Blue Jay, 3.0; White-breasted Nuthatch, 3.0; Wood Duck, 2.0; Mourning Dove, 2.0; Yellow-billed Cuckoo, 2.0; Red-bellied Woodpecker, 2.0; Hairy Woodpecker, 2.0; Black-capped Chickadee, 2.0; Warbling Vireo, 2.0; Common Yellowthroat, 2.0; Winter Wren, 1.5; Pileated Woodpecker, 1.0; Wood Thrush, 1.0; Yellow-throated Vireo, 1.0; Cerulean Warbler, 1.0; Scarlet Tanager, 1.0; Indigo Bunting, 1.0. **Total:** 33 species; 138.5 territories (454/40 ha). **Visitors:** Black-billed Cuckoo, Ruby-throated Hummingbird, Northern Flicker, Cedar Waxwing, Red-winged Blackbird, Common Grackle. **Remarks:** The Brown-headed Cowbird count was the highest of the 3-yr history of the plot; the count was 8.0 territories in both 1993 and 1994. Two to three Cerulean Warblers nested 50–200 m N of the plot. **Acknowledgments:** Thanks to Del Schott and the Schott Foundation for financial support of the census.

17. MATURE BOTTOMLAND HARDWOOD FOREST

BOSQUE DE MADERAS DURAS MADURO DE AREAS INUNDABLES

JAMES L. FOX

HC 2 Box 2991, Wappapello MO 63966

Location: Missouri; Stoddard Co.; Puxico; Mingo National Wildlife Refuge, Pool 8; 37°2'N, 90°7'W; McGee Quadrangle, USGS. **Continuity:** New. **Size:** 10.6 ha. **Description of Plot:** A rectangular plot (160 × 660 m) with an open canopy dominated by pin oak and willow oak. The stand is 61–100 years of age with a mean canopy height of 21.5 m (range 18–25 m). High winds in 1993 created small (<1 ha) openings in the forest. Dense undergrowth and small trees are now occupying the openings and creating habitat diversity within the forest. The understory is dominated by black willow, box elder, and pin oak. The ground cover is dominated by lizard's-tail and blackberry. The plot contains ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 101–500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 103 m, maximum 104 m. **Weather:** Mean start temp., 22.0°C (range 17–26°C). Rainfall occurred often in the months of June and early July. Several visits were cancelled due to heavy rain, and four out of ten visits were conducted with overcast skies and rain threatening. **Coverage:** 14.3 h; 10 visits (8 sunrise, 2 sunset); 11 May; 7, 15, 17, 25, 28 Jun; 1, 12, 13, 15 Jul. **Census:** Acadian Flycatcher, 20.5 (77); Carolina Wren, 8.5 (32); Indigo Bunting, 7.5 (28); Blue-gray Gnatcatcher, 6.0 (23); Common Yellowthroat, 6.0; Yellow-breasted Chat, 6.0; Northern Cardinal, 6.0; Yellow-billed Cuckoo, 5.5 (21); Great Crested Flycatcher, 5.0 (19); Tufted Titmouse, 5.0; White-eyed Vireo, 5.0; Eastern Wood-Pewee, 3.0 (11); Gray Catbird, 3.0; Eastern Towhee, 3.0; Brown-headed Cowbird, 3.0; Red-bellied Woodpecker, 2.0; Downy Woodpecker, 2.0; Carolina Chickadee, 2.0; Northern Parula, 2.0; Kentucky Warbler, 2.0; Ruby-throated Hummingbird, 1.5; White-breasted Nuthatch, 1.5; Wood Duck, 1.0; Hairy Woodpecker, 1.0; Pileated Woodpecker, 1.0; Wood Thrush, 1.0; Barred Owl, +; American Crow, +. **Total:** 28 species; 110.0 territories (415/40 ha). **Visitors:** Red-shouldered Hawk, Northern Flicker, Willow Flycatcher, Blue Jay, House Wren, Yellow-throated Vireo, Red-eyed Vireo, Blue-winged Warbler, Yellow Warbler, Yellow-throated Warbler, Palm Warbler, Prothonotary Warbler, Worm-eating Warbler, Ovenbird. **Remarks:** A survey was conducted on the site in 1978. Due to the recent changes in habitat, the bird community is much different than the community observed 17 years ago. **Acknowledgments:** I thank Mingo National Wildlife Refuge for permission to conduct the census, and I appreciate the assistance received from Dr. William Eddleman and Dr. Patrick Magee.

18. COPPICED COTTONWOOD FOREST I

BOSQUE DE ALAMO ARREGLADO I

DANIEL J. TWEDT

National Wetlands Research Ctr., 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Mississippi; Issaquena Co.; Fitler; BRAKE-Fitler Managed Forest; 32°40'N, 91°2'W; Fitler Quadrangle, USGS. **Continuity:** New. **Size:** 13.5 ha. **Description of Plot:** A rectangular plot (300 × 450 m) with an open canopy dominated by eastern cottonwood. The stand is 6 years of age with a mean canopy height of 15 m (range 6–23 m); the cottonwoods increased in height by approximately 3 m since 1994. The understory is dominated by blackberry, with scattered box elder, and eastern cottonwood. The ground cover is dominated by goldenrod, sedges, and grasses. There are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 51–100 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 27 m, maximum 30 m. **Weather:** Mean start temp., 21.2°C (range 17–24°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal. **Coverage:** 16.0 h; 9 visits (8 sunrise); 16, 25 May; 1, 14, 16, 22, 30 Jun; 6, 21 Jul. Maximum number of observers/visit, 3. **Census:** Yellow-breasted

Chat, 27.0 (80; 25N); Northern Cardinal, 9.0 (27; 14N); Eastern Towhee, 8.0 (24; 18N); Indigo Bunting, 6.0 (18; 10N); Brown-headed Cowbird, 6.0; Ruby-throated Hummingbird, 5.0 (15; 1N); Common Yellowthroat, 4.5 (13; 1N); White-eyed Vireo, 4.0 (12); Orchard Oriole, 4.0 (2N); Carolina Wren, 3.5 (10); Mourning Dove, 3.0 (9; 1N); Yellow-billed Cuckoo, 2.5; Downy Woodpecker, 2.0; Blue-gray Gnatcatcher, 2.0 (2N); Red-winged Blackbird, 2.0 (2N); Northern Bobwhite, 1.0; Great Crested Flycatcher, 1.0; Wood Thrush, 1.0; Warbling Vireo, 1.0 (1N); Carolina Chickadee, 0.5; Kentucky Warbler, 0.5; Barred Owl, +; Red-bellied Woodpecker, +; Acadian Flycatcher, +; Prothonotary Warbler, +; Baltimore Oriole, +. **Total:** 26 species; 93.5 territories (277/40 ha). **Visitors:** Northern Flicker, American Crow. **Remarks:** Nests were located during 143 hours of searching independent of censusing. **Other Observers:** Matthew Bailey, Frank Williams, Amy Whitehead. **Acknowledgments:** I thank Jackie Henne-Kerr and Jeff Portwood of Crown Vantage Corporation for access to the study area.

19. COPPICED COTTONWOOD FOREST II

BOSQUE DE ALAMO ARREGLADO II

DANIEL J. TWEDT

National Wetlands Research Ctr., 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Mississippi; Issaquena Co.; Fitler; GUMTREE-Fitler Managed Forest; 32°40'N, 91°3'W; Fitler Quadrangle, USGS. **Continuity:** New. **Size:** 13.7 ha. **Description of Plot:** A rectangular plot (250 × 550 m) with an open canopy dominated by eastern cottonwood. The stand is 6 years of age with a mean canopy height of 15 m (range 12–17 m); the cottonwoods increased in height by approximately 3 m since 1994. The understory is dominated by blackberry, with scattered persimmon, and green ash. There are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 26–50 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 27 m, maximum 28 m. **Weather:** Mean start temp., 22.5°C (range 18–25°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal. **Coverage:** 8.0 h; 8 visits (8 sunrise); 9, 15, 26 Jun; 2, 8, 11, 20, 29 Jul. Maximum number of observers/visit, 3. **Census:** Yellow-breasted Chat, 18.0 (53; 14N); Indigo Bunting, 12.0 (35; 8N); Eastern Towhee, 6.0 (18; 3N); Northern Cardinal, 5.0 (15; 2N); Brown-headed Cowbird, 3.0 (9); Baltimore Oriole, 2.5 (4N); Red-bellied Woodpecker, 2.0; Common Yellowthroat, 2.0 (1N); White-eyed Vireo, 1.5; Yellow-billed Cuckoo, 1.0; Ruby-throated Hummingbird, 1.0 (1N); Carolina Wren, 1.0; Orchard Oriole, 1.0 (3N); Red-headed Woodpecker, 0.5; Northern Flicker, 0.5; Common Grackle, 0.5; Mourning Dove, + (1N); Downy Woodpecker, +; Blue-gray Gnatcatcher, + (1N). **Total:** 19 species; 57.5 territories (168/40 ha). **Remarks:** Nests were located during 131 hours of searching independent of censusing. **Other Observers:** Frank Williams, Matthew Bailey, Amy Whitehead. **Acknowledgments:** I thank Jackie Henne-Kerr and Jeff Portwood of Crown Vantage Corporation for access to the study area.

20. PLANTED COTTONWOOD FOREST-INSIDE LEVEE

BOSQUE DE ALAMO PLANTADO-DENTRO DE DIQUE

DANIEL J. TWEDT

National Wetlands Research Ctr., 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Mississippi; Issaquena Co.; Fitler; LEVEE-Fitler Managed Forest; 32°39'N, 91°4'W; Fitler Quadrangle, USGS. **Continuity:** New. **Size:** 13.5 ha. **Description of Plot:** A rectangular plot (300 × 450 m) with an open canopy dominated by eastern cottonwood. The stand is 6 years of age with a mean canopy height of 18 m (range 7–23 m); the cottonwoods increased in height by approximately 3 m since 1994. The understory is open with scattered box elder and mockernut hickory. There are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a

tract of similar habitat 51–100 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 27 m, maximum 30 m. **Weather:** Mean start temp., 21.6°C (range 17–26°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal, but entire plot flooded from Mississippi R. backwater 30 May–26 June. **Coverage:** 11.0 h; 8 visits (6 sunrise); 9, 19, 23, 25 May; 30 Jun; 7, 21, 28 Jul. Maximum number of observers/visit, 3. **Census:** Indigo Bunting, 8.0 (24; 5N); Yellow-breasted Chat, 5.0 (15); Northern Cardinal, 5.0 (9N); Brown-headed Cowbird, 5.0; Baltimore Oriole, 5.0 (2N); Blue-gray Gnatcatcher, 3.0 (9); Common Yellowthroat, 3.0; Red-winged Blackbird, 3.0 (1N); Yellow-billed Cuckoo, 2.5 (1N); Warbling Vireo, 2.5 (2N); Ruby-throated Hummingbird, 2.0; Downy Woodpecker, 2.0; Acadian Flycatcher, 2.0 (2N); Orchard Oriole, 2.0 (2N); Eastern Wood-Pewee, 1.0; Prothonotary Warbler, 1.0 (2N); Eastern Towhee, 1.0 (1N); Red-bellied Woodpecker, 0.5; Carolina Chickadee, 0.5; Carolina Wren, 0.5; Red-eyed Vireo, 0.5 (2N); Mourning Dove, + (2N); Tufted Titmouse, +. **Total:** 23 species; 55.0 territories (163/40 ha). **Visitors:** Northern Bobwhite, Northern Flicker, Northern Mockingbird, Hooded Warbler. **Remarks:** Nests were located during 41 hours of searching independent of censusing. **Other Observers:** Amy Whitehead, Frank Williams, Matthew Bailey. **Acknowledgments:** I thank Jackie Henne-Kerr and Jeff Portwood of Crown Vantage Corporation for access to the study area.

21. PLANTED COTTONWOOD FOREST—OUTSIDE LEVEE BOSQUE DE ALAMO PLANTADO—EN LA PARTE EXTERNA DE UN DIQUE

DANIEL J. TWEDT

National Wetlands Research Ctr., 2524 S. Frontage Rd., Suite C, Vicksburg MS 39180-5269

Location: Mississippi; Issaquena Co.; Fitler; PIPELINE-Fitler Managed Forest; 32°41'N, 91°3'W; Fitler Quadrangle, USGS. **Continuity:** New. **Size:** 13.5 ha. **Description of Plot:** A rectangular plot (300 × 450 m) with an open canopy dominated by eastern cottonwood. The stand is 6 years of age with a mean canopy height of 18 m (range 14–22 m); the cottonwoods increased in height by approximately 3 m since 1994. The understory is open with scattered blackberry, sweetgum, and persimmon. The ground cover is dominated by broom sedge and grasses. There are ephemeral pools during the breeding season. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 101–500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 28 m, maximum 30 m. **Weather:** Mean start temp., 23.0°C (range 20–26°C). Rainfall in April was 30 cm, well above the 13 cm average. Thereafter, rainfall and temperatures were near normal. **Coverage:** 15.0 h; 10 visits (8 sunrise); 26, 31 May; 3, 17, 24, 28 Jun; 1, 5, 10, 15 Jul. Maximum number of observers/visit, 3. **Census:** Indigo Bunting, 12.0 (36; 14N); Yellow-breasted Chat, 8.5 (25; 12N); Northern Cardinal, 7.5 (22; 12N); Eastern Towhee, 6.0 (18; 12N); Brown-headed Cowbird, 3.0 (9); Orchard Oriole, 3.0 (2N); Eastern Wood-Pewee, 2.0 (1N); Carolina Chickadee, 1.5; Blue-gray Gnatcatcher, 1.5 (2N); Northern Bobwhite, 1.0; Ruby-throated Hummingbird, 1.0 (1N); Acadian Flycatcher, 1.0 (1N); Tufted Titmouse, 1.0; Carolina Wren, 1.0 (1N); Warbling Vireo, 1.0; Common Yellowthroat, 1.0; Common Grackle, 1.0; Baltimore Oriole, 1.0; Mourning Dove, 0.5 (1N); Yellow-billed Cuckoo, 0.5 (1N); White-eyed Vireo, 0.5; Yellow-throated Vireo, 0.5 (1N); Downy Woodpecker, +. **Total:** 23 species; 56.0 territories (166/40 ha). **Visitors:** Red-bellied Woodpecker, Red-eyed Vireo, Hooded Warbler, Summer Tanager. **Remarks:** Nests were located during 146 hours of searching independent of censusing. **Other Observers:** Frank Williams, Amy Whitehead, Matthew Bailey. **Acknowledgments:** I thank Jackie Henne-Kerr and Jeff Portwood of Crown Vantage Corporation for access to the study area.

22. UPLAND SECOND-GROWTH OAK—HICKORY FOREST BOSQUE SECUNDARIO ROBLE—NOGAL DE ALTURAS

HAL MOORE

1 Lakeside Dr., Vicksburg MS 39180

Location: Mississippi; Warren Co.; Vicksburg; Lake Park Area; 32°14'N, 90°49'W; Big Black Quadrangle, USGS. **Continuity:** Established 1989; 7 yr. **Size:** 10.0 ha. **Description of Plot:** See

J. Field Ornithol. 61(Suppl.):8–9 (1990). **Weather:** Mean start temp., 17.9°C (range 13–24°C). **Coverage:** 20.4 h; 10 visits (10 sunrise); 30 Apr; 2, 3, 10, 14, 19, 21, 22, 26, 29 May. **Census:** Red-eyed Vireo, 13.0 (52); Acadian Flycatcher, 12.0 (48); Tufted Titmouse, 9.0 (36); Northern Cardinal, 9.0; Red-bellied Woodpecker, 8.0 (32); Yellow-billed Cuckoo, 7.0 (28); Carolina Wren, 7.0; White-eyed Vireo, 5.0 (20); Hooded Warbler, 5.0; Carolina Chickadee, 4.0 (16); Kentucky Warbler, 4.0; Summer Tanager, 3.0 (12); Blue Jay, 2.0; Wood Thrush, 2.0; American Redstart, 2.0; Prothonotary Warbler, 2.0; Wood Duck, 1.0; Red-shouldered Hawk, 1.0; Broad-winged Hawk, 1.0; Wild Turkey, 1.0; Mourning Dove, 1.0; Barred Owl, 1.0; Ruby-throated Hummingbird, 1.0; Downy Woodpecker, 1.0; Pileated Woodpecker, 1.0; Great Crested Flycatcher, 1.0; American Crow, 1.0; Fish Crow, 1.0; Blue-gray Gnatcatcher, 1.0; Yellow-throated Vireo, 1.0; Worm-eating Warbler, 1.0; Swainson's Warbler, 1.0; Louisiana Waterthrush, 1.0; Common Grackle, 1.0; Brown-headed Cowbird, 1.0; Orchard Oriole, 1.0; Baltimore Oriole, 1.0. **Total:** 37 species; 115.0 territories (460/40 ha). **Remarks:** A dense canopy is causing the loss of ground and shrub cover, probably decreasing the number of nesting birds and changing the type of nesting birds.

23. FLOODPLAIN FOREST

BOSQUE INUNDABLE

B. BALLENTINE, L. ISAACSON & H.C. MUELLER

Dept. of Biology, CB#3280 Coker Hall, Univ. of North Carolina, Chapel Hill NC 27599–3280

Location: North Carolina; Orange Co.; Chapel Hill; Big Oak Woods; 35°53'N, 79°0'W; Chapel Hill Quadrangle, USGS. **Continuity:** Established 1977; 19 yr. **Size:** 12.6 ha. **Description of Plot:** See *Am. Birds* 32:63 (1978) and *J. Field Ornithol.* 63(Suppl.):47 (1992). **Weather:** All visits were done on mornings with seasonally normal temperatures, no rain, and very little or no wind. **Coverage:** 17.7 h; 8 visits (4 sunrise); 27 Apr; 4, 11, 16, 23 May; 1, 9, 14 Jun. Maximum number of observers/visit, 3. **Census:** Red-eyed Vireo, 15.0 (48); Carolina Wren, 8.5 (27); Tufted Titmouse, 6.0 (19); Blue-gray Gnatcatcher, 6.0; Wood Thrush, 5.5 (17); Northern Cardinal, 5.0 (16); Acadian Flycatcher, 4.0 (13); Carolina Chickadee, 4.0; Red-bellied Woodpecker, 3.0 (10); Kentucky Warbler, 3.0; Ovenbird, 2.5; Downy Woodpecker, 2.0; White-breasted Nuthatch, 2.0; Yellow-throated Vireo, 2.0; Hooded Warbler, 2.0; Scarlet Tanager, 2.0; Yellow-billed Cuckoo, 1.5; White-eyed Vireo, 1.5; Northern Parula, 1.5; American Woodcock, 1.0; Red-headed Woodpecker, 1.0; Hairy Woodpecker, 1.0; Great Crested Flycatcher, 1.0; Summer Tanager, 1.0; Indigo Bunting, 1.0; Red-tailed Hawk, +; Pileated Woodpecker, +; Blue Jay, +; Brown-headed Cowbird, +. **Total:** 29 species; 83.0 territories (263/40 ha). **Visitors:** Chimney Swift, Purple Martin, American Redstart, Common Grackle, American Goldfinch. **Other Observers:** J. Hyman, N.S. Mueller, R.H. Wiley.

24. MIXED DECIDUOUS FOREST

BOSQUE MIXTO DECIDUO

B. BALLENTINE, L. ISAACSON & H.C. MUELLER

Dept. of Biology, CB#3280 Coker Hall, Univ. of North Carolina, Chapel Hill NC 27599–3280

Location: North Carolina; Orange Co.; Chapel Hill; Botanical Garden Research Area; 35°54'N, 79°1'W; Chapel Hill Quadrangle, USGS. **Continuity:** Established 1976; 20 yr. **Size:** 12.6 ha. **Description of Plot:** See *Am. Birds* 31:41 (1977). **Weather:** All visits were done on mornings with seasonally normal temperatures, no rain, and very little or no wind. **Coverage:** 17.9 h; 8 visits (5 sunrise); 27 Apr; 4, 11, 16, 23 May; 1, 9, 14 Jun. Maximum number of observers/visit, 3. **Census:** Red-eyed Vireo, 9.5 (30); Tufted Titmouse, 5.5 (17); Carolina Chickadee, 4.5 (14); Ovenbird, 4.5; Carolina Wren, 4.0 (13); Blue-gray Gnatcatcher, 3.5 (11); Yellow-billed Cuckoo, 3.0 (10); Wood Thrush, 3.0; Summer Tanager, 3.0; Red-bellied Woodpecker, 2.0; Hairy Woodpecker, 2.0; Acadian Flycatcher, 2.0; Scarlet Tanager, 2.0; Northern Cardinal, 2.0; Downy Woodpecker, 1.5; Pine Warbler, 1.5; Mourning Dove, 1.0; Great Crested

Flycatcher, 1.0; Hooded Warbler, 1.0; Northern Flicker, 0.5; Red-shouldered Hawk, +; Red-tailed Hawk, +; Barred Owl, +; Pileated Woodpecker, +; Blue Jay, +; American Crow, +; Brown-headed Cowbird, +. **Total:** 27 species; 57.0 territories (181/40 ha). **Visitors:** Chimney Swift, Eastern Wood-Pewee, Purple Martin, Fish Crow, Common Grackle, American Goldfinch. **Other Observers:** J. Hyman, N.S. Mueller, R.H. Wiley.

25. OAK-MAPLE SWAMP FOREST

BOSQUE ANEGADO DE ROBLE-ARCE

CHRISTOPHER D. AQUILA

New York City Dept. of Parks & Recreation, Salt Marsh Restoration Team, Greenbelt Administration, 200 Nevada Ave., Staten Island NY 10306

Site Number: NY0995101. **Location:** New York; Richmond Co.; Staten Island; Graniteville Swamp; 40°37'N, 74°10'W; Arthur Kill & Elizabeth Quadrangles, USGS. **Continuity:** New. **Size:** 16.2 ha. **Description of Plot:** An irregular, roughly triangular plot (shortest side 335 m, longest 548 m) with a closed canopy dominated by sweetgum, red maple, and swamp white oak. The stand is 31–60 years of age with a mean canopy height of 17.4 m (range 12–23 m). The understory is dominated by spicebush, arrowwood, and American hornbeam. The ground cover is dominated by wild ginger, New York fern, and mayapple. There is one stream with a maximum width of 4.5 m and a maximum depth of 1.5 m. **Edge:** Less than 25% of the plot's perimeter is bordered by the same habitat. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 0 m, maximum 3 m. **Weather:** Mean start temp., 12.3°C (range 10–14°C). Weather conditions were generally good for all visits. There was precipitation during the sixth visit, but it did not seem to hamper our research. **Coverage:** 22.3 h; 8 visits (7 sunrise); 18, 26, 31 May; 9, 23, 27 Jun; 7, 13 Jul. Maximum number of observers/visit, 4. **Census:** Common Yellowthroat, 3.0 (1FL); House Wren, 2.0 (1N); American Robin, 2.0 (1N); Gray Catbird, 2.0 (1N); Eastern Towhee, 2.0; Swamp Sparrow, 2.0 (1FL); Red-bellied Woodpecker, 1.0; Downy Woodpecker, 1.0 (1N); Northern Flicker, 1.0; Blue Jay, 1.0 (1N); American Crow, 1.0 (1N,2FL); Black-capped Chickadee, 1.0 (1N); Tufted Titmouse, 1.0 (1FL); Carolina Wren, 1.0; Marsh Wren, 1.0; Brown Thrasher, 1.0 (1FL); Northern Cardinal, 1.0; Song Sparrow, 1.0; Red-winged Blackbird, 1.0 (1N,2FL). **Total:** 19 species; 26.0 territories (64/40 ha). **Visitors:** Ring-necked Pheasant, Great Crested Flycatcher, Eastern Kingbird, Veery, Yellow Warbler, Scarlet Tanager, Baltimore Oriole, House Finch. **Remarks:** Although overall nesting species were standard for the region, this site's true significance was evident in its importance as resting and feeding stopover habitat for Neotropical migrants. It was not uncommon to record 10–11 species of warblers in less than 90 minutes during the May visits. We recorded 82 species in this small plot overall. **Other Observers:** Carl Alderson, Ron Lee, Kevin Lumpe, Ann Purcell, Frank Sencher, Howard Snyder, Elisabeth Carrozza. **Acknowledgments:** Ann Purcell and Frank Sencher—thanks for all the help you provided. I could not have completed the census without your tremendous help and assistance. Carl Alderson and Howard Snyder—thanks for the time and effort you each gave toward the completion of the census.

26. YOUNG WHITE ASH-RED MAPLE FOREST ON LAKE SHORE

BOSQUE JOVEN DE FRESCO BLANCO-ARCE ROJO EN ORILLAS DE LAGOS

GEORGE R. MAXWELL

RD1, Box 179C, Red Creek NY 13143

Site Number: NY1686026. **Location:** New York; Wayne Co.; Fair Haven; Metzger Road; 43°20'N, 76°44'W; Oswego Quadrangle, USGS. **Continuity:** Established 1986; 10 yr. **Size:** 16.2 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):49–50 (1993). **Weather:** Mean start temp., 14.3°C (range 9–19°C). The mean start temp. was about 5°C lower than last year. **Coverage:** 10.0 h; 10 visits (8 sunrise); 1, 2, 4, 5, 6, 7, 12, 13, 14, 15 Jun. **Census:** Yellow

Warbler, 9.0 (22); House Wren, 8.0 (20); Gray Catbird, 6.0 (15); Common Yellowthroat, 6.0; American Robin, 5.0 (12); Northern Cardinal, 5.0; Song Sparrow, 5.0; Black-capped Chickadee, 4.0 (10); Red-eyed Vireo, 4.0; House Finch, 4.0; Veery, 3.0 (7); Warbling Vireo, 3.0; American Redstart, 3.0; Red-winged Blackbird, 3.0; Baltimore Oriole, 3.0; House Sparrow, 3.0; Great Crested Flycatcher, 2.0; Tree Swallow, 2.0; Cedar Waxwing, 2.0; Ovenbird, 2.0; Chipping Sparrow, 2.0; Mallard, 1.0; Barn Swallow, 1.0; Wood Thrush, 1.0; European Starling, 1.0; Yellow-throated Vireo, 1.0; Hooded Warbler, 1.0; Scarlet Tanager, 1.0; Common Grackle, 1.0. **Total:** 29 species; 92.0 territories (227/40 ha). **Visitors:** Wild Turkey, Downy Woodpecker, Pileated Woodpecker, Eastern Wood-Pewee, Purple Martin, Blue Jay, American Crow, Brown-headed Cowbird, American Goldfinch.

27. MATURE BROADLEAF FOREST

BOSQUE DE HOJA ANCHA MADURA

CHARLES W. SAUNDERS*, STEVE PELIKAN & DAVID STYER

*5561 Carlsbad Court, Fairfield OH 45014

Site Number: OH1591043. **Location:** Ohio; Hamilton Co.; Harrison; Miami Whitewater Forest; 39°15'N, 84°46'W; Hooven Quadrangle, USGS. **Continuity:** Established 1991; 5 yr. **Size:** 16.0 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):52 (1992) and 65(Suppl.):59 (1994). **Weather:** Mean start temp., 17.0°C (range 12–23°C). **Coverage:** 26.0 h; 10 visits (10 sunrise); 27, 29 May; 3, 4, 16, 20, 25 Jun; 1, 2, 4 Jul. **Census:** Wood Thrush, 18.0 (45; 5FL); Red-eyed Vireo, 9.0 (23; 2FL); Acadian Flycatcher, 6.5 (16; 1N); Scarlet Tanager, 6.5; Eastern Wood-Pewee, 5.0 (13); Northern Cardinal, 5.0; Red-bellied Woodpecker, 4.5 (11); Tufted Titmouse, 4.5 (5FL); Hooded Warbler, 4.5 (1FL); Brown-headed Cowbird, 4.0 (10; 3FL); Downy Woodpecker, 3.0 (8); Blue Jay, 3.0; White-breasted Nuthatch, 3.0; Carolina Chickadee, 2.5; Carolina Wren, 2.5; Rose-breasted Grosbeak, 2.5; American Robin, 2.0 (1FL); Hairy Woodpecker, 1.5; Kentucky Warbler, 1.5; Yellow-billed Cuckoo, 1.0; Northern Flicker, 1.0; Pileated Woodpecker, 1.0 (1FL); Yellow-throated Vireo, 1.0; Cerulean Warbler, 0.5; Ovenbird, 0.5; Louisiana Waterthrush, 0.5. **Total:** 26 species; 94.5 territories (236/40 ha). **Visitors:** Red-tailed Hawk, Ruby-throated Hummingbird, Great Crested Flycatcher, American Crow, Blue-gray Gnatcatcher, Cedar Waxwing, Black-throated Green Warbler, Worm-eating Warbler, Summer Tanager, Eastern Towhee, Common Grackle, American Goldfinch. **Remarks:** Of the three fledged cowbirds, two were with a Wood Thrush and one was with a Hooded Warbler. **Other Observer:** Lauren Saunders. **Acknowledgments:** We thank John Klein and the Hamilton County Park District for the use of the land.

28. MIXED HARDWOOD SWAMP

BOSQUE PANTANOSO MIXTO DE MADERAS DURAS

DAVID HOCHADEL

2150 Tibbets-Wick Road, Girard OH 44420-1227

Location: Ohio; Trumbull Co.; North Bloomfield; Mosquito Creek State Wildlife Area; 41°26'N, 80°46'W; Bristolville Quadrangle, USGS. **Continuity:** Established 1989; 4 yr. **Size:** 12.1 ha. **Description of Plot:** See *J. Field Ornithol.* 61(Suppl.):78–79 (1990). **Weather:** Mean start temp., 13.8°C (range 7–20°C). Temperatures were near normal and winds were light. Conditions were favorable during all visits. **Coverage:** 24.0 h; 8 visits (8 sunrise); 22, 31 May; 2, 4, 6, 15, 20, 25 Jun. **Census:** Red-eyed Vireo, 6.0 (20); Prothonotary Warbler, 5.5 (18; 3N); Yellow Warbler, 3.5 (12); Blue-gray Gnatcatcher, 3.0 (10); American Robin, 3.0; Song Sparrow, 3.0 (1N, 2FL); Yellow-billed Cuckoo, 2.0; Great Crested Flycatcher, 2.0; Tree Swallow, 2.0 (2N); Tufted Titmouse, 2.0; White-breasted Nuthatch, 2.0 (4FL); Cerulean Warbler, 2.0; Baltimore Oriole, 2.0 (1N); Eastern Wood-Pewee, 1.5; American Redstart, 1.5; Red-winged Blackbird, 1.5 (1N); Red-bellied Woodpecker, 1.0; Downy Woodpecker, 1.0; Hairy Woodpecker, 1.0; Acadian Flycatcher, 1.0; Black-capped Chickadee, 1.0; Brown Creeper, 1.0 (1N, 1FL); Veery,

1.0; Cedar Waxwing, 1.0; Yellow-throated Vireo, 1.0; Scarlet Tanager, 1.0; Rose-breasted Grosbeak, 1.0; Common Grackle, 1.0 (1N); Wood Thrush, 0.5. **Total:** 29 species; 55.0 territories (182/40 ha). **Visitors:** Double-crested Cormorant, Great Blue Heron, Canada Goose, Wood Duck, Mallard, Red-tailed Hawk, Mourning Dove, Ruby-throated Hummingbird, Eastern Kingbird, Blue Jay, Gray Catbird, Common Yellowthroat, Northern Cardinal, Brown-headed Cowbird, American Goldfinch. **Acknowledgments:** Thanks to the Ohio Department of Natural Resources, Division of Wildlife, for permission to conduct the census.

29. RIPARIAN DECIDUOUS FOREST

BOSQUE RIVEREÑO DECIDUO

ELLIOT J. TRAMER

Dept. of Biology, The University of Toledo, Toledo OH 43606

Site Number: OH1689033. **Location:** Ohio; Lucas Co.; Waterville; Old Canal Lands; 41°28'N, 83°46'W; Grand Rapids Quadrangle, USGS. **Continuity:** Established 1989; 7 yr. **Size:** 18.0 ha. **Description of Plot:** See *J. Field Ornithol.* 61(Suppl.):43 (1990), 65(Suppl.):59–60 (1994), and 66(Suppl.):50 (1995). **Weather:** Mean start temp., 18.9°C (range 14–23°C). May was relatively wet and much cooler than normal (the temperature exceeded 25°C only three times during the month). June was about average for the first half, then hot and wet after mid-month. July was near normal except for a very hot interval (12–17 July); rainfall was low until 22 July, just after the end of the census period. Source: U.S. Weather Bureau, Toledo Express Airport. **Coverage:** 22.0 h; 9 visits (6 sunrise); 14, 23, 27 May; 6, 11, 23 Jun; 5, 11, 18 Jul. **Census:** American Robin, 18.5 (41; 13N,>6FL); House Wren, 13.0 (29; 2N); Gray Catbird, 10.5 (23); Song Sparrow, 9.5 (21; 1N,2FL); Northern Cardinal, 7.5 (17; 2N,2FL); Baltimore Oriole, 7.0 (16; 5N,5FL); Warbling Vireo, 6.0 (13; 1N); Wood Thrush, 4.5 (10; 1N); Common Grackle, 4.5 (1N,>6FL); Eastern Wood-Pewee, 4.0 (9); Red-eyed Vireo, 4.0 (1N); Indigo Bunting, 4.0; Red-winged Blackbird, 4.0 (1N); Mourning Dove, 3.0 (7; 1N,3FL); Northern Flicker, 3.0 (3N); Blue Jay, 3.0 (1N,2FL); Tufted Titmouse, 3.0 (2FL); White-breasted Nuthatch, 3.0 (1N); American Redstart, 3.0; Rose-breasted Grosbeak, 3.0; Downy Woodpecker, 2.0 (1FL); Great Crested Flycatcher, 2.0; Black-capped Chickadee, 2.0; Carolina Wren, 2.0 (1N,5FL); European Starling, 2.0 (1N,3FL); Yellow Warbler, 2.0; Brown-headed Cowbird, 2.0; American Goldfinch, 2.0; Wood Duck, 1.0 (1N); Ruby-throated Hummingbird, 1.0; Red-bellied Woodpecker, 1.0; Hairy Woodpecker, 1.0; Tree Swallow, 1.0 (1N); Blue-gray Gnatcatcher, 1.0 (1N); Prothonotary Warbler, 1.0; Common Yellowthroat, 1.0; Eastern Phoebe, 0.5 (1N,5FL); Northern Rough-winged Swallow, 0.5 (1N). **Total:** 38 species; 143.0 territories (318/40 ha). **Visitors:** Cooper's Hawk, Yellow-billed Cuckoo, Great Horned Owl, Cedar Waxwing, Yellow-throated Vireo, Scarlet Tanager, Orchard Oriole. **Remarks:** House Wrens increased from 8.0 to 13.0 territories since last year. Eastern Phoebe, Northern Rough-winged Swallow, and Prothonotary Warbler were new to the census. Other avifaunal changes were slight.

30. RED MAPLE/SILVER MAPLE-WHITE OAK FOREST

BOSQUE DE ROBLE BLANCO-ARCE ROJO/ARCE PLATEADO

ELIZABETH A.H. WALLACE

Long Point Bird Observatory, P.O. Box 160, Port Rowan ON NOE 1M0

Location: Ontario; Municipality of Haldimand-Norfolk; St. Williams; St. Williams Forestry Station; 42°43'N, 80°28'W; Long Point Quadrangle, DEMR. **Continuity:** New. **Size:** 11.5 ha. **Description of Plot:** A nearly rectangular plot (shortest side 250 m, longest 500 m) with a closed canopy dominated by red maple, silver maple, red maple × silver maple hybrid, and white oak. A quantitative vegetation survey based on the method described by F.C. James & H.H. Shugart, Jr. (1970. *Aud. Field Notes* 24:727–736) yielded the following results: Trees, 3.0 cm diameter and over, based on 10 0.04-ha square samples, 1290/ha; total basal area 20 m²/

ha. Species comprising 90% of the total number of trees [figures after each are trees/ha, relative density (%), relative dominance (%), and frequency (%)]: red maple × silver maple hybrid, 248, 19, 18, 80; red maple, 193, 15, 22, 50; eastern white pine, 130, 10, 0.7, 40; American hornbeam, 95, 7, 0.4, 50; silver maple, 83, 6, 14, 20; white oak, 53, 4, 12, 80; yellow birch, 50, 4, 3, 40; sugar maple, 50, 4, 3, 30; American beech, 55, 4, 2, 90; witch-hazel, 35, 3, 0.1, 40; standing dead, 168, 13, 10, 100. Additional species include: northern red oak, swamp white oak, black oak, bigtooth aspen, American elm, hop-hornbeam, sassafras, black cherry, serviceberry, American basswood, flowering dogwood, and green ash. Trees by diameter size class [figures after each are trees/ha, relative density (%), basal area in m²/ha, and relative dominance (%)]: S (3–8 cm) 723, 56, 1, 3; A (8–15 cm) 188, 14, 2, 4; B (15–23 cm) 98, 8, 3, 6; C (23–31 cm) 153, 12, 11, 21; D (31–38 cm) 80, 6, 13, 26; E (38–53 cm) 25, 2, 7, 14; F (53–69 cm) 17, 1, 8, 16; G (69–84 cm) 8, 1, 5, 10. Shrub stems/ha, 5313, dominated by spicebush, witch-hazel, and red maple. Ground cover (< 30 cm), 45%, dominated by ferns, Canada mayflower, and sassafras. Canopy cover, 97%; average canopy height, 25.2 m (range 15.4–37.4 m). There are some ephemeral pools during the breeding season.

Edge: More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 26–50 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 219 m, maximum 220 m.

Weather: Mean start temp., 17.8°C (range 14–23°C). **Coverage:** 33.5 h; 11 visits (10 sunrise, 1 sunset); 31 May; 1, 4, 5, 7, 12, 14, 17, 21, 23, 27 Jun. **Census:** Ovenbird, 9.5 (33; 1N); Red-eyed Vireo, 7.0 (24); Veery, 3.0 (10); Scarlet Tanager, 3.0 (1N); Eastern Wood-Pewee, 2.5; Great Crested Flycatcher, 2.0; Blue Jay, 2.0 (1N); Wood Thrush, 2.0 (1N); American Robin, 2.0 (2N); Black-throated Green Warbler, 2.0; Rose-breasted Grosbeak, 2.0; Brown-headed Cowbird, 1.5; Downy Woodpecker, 1.0; Hairy Woodpecker, 1.0; Black-capped Chickadee, 1.0 (1N); White-breasted Nuthatch, 1.0; Brown Creeper, 1.0; Louisiana Waterthrush, 1.0; Pileated Woodpecker, +. **Total:** 19 species; 44.5 territories (155/40 ha). **Visitors:** American Crow, Gray Catbird, Solitary Vireo, Common Yellowthroat. **Remarks:** This study is part of an Ontario Ministry of Natural Resources project designed to assess the effect of different timber management strategies on a breeding bird community. **Other Observer:** George E. Wallace. **Acknowledgments:** Thanks to George Wallace for helping to stake the plot and to Erica Sweeney for assistance with vegetation surveys.

31. WHITE OAK SAVANNAH

SAVANA DE ROBLE BLANCO

MICHAEL F.G. CLARK

27 Skyline Dr., Dundas ON L9H 3S3

Site Number: ON2893110. **Location:** Ontario; Municipality of Muskoka; Torrance; Southwood Shield Plateau; 44°56'N, 79°30'W; **Continuity:** Established 1993; 3 yr. **Size:** 10.4 ha. **Description of Plot:** See *J. Field Ornithol.* 65(Suppl.):60–61 (1994). **Weather:** Mean start temp., 20.7°C (range 12–31°C). The mean precipitation total for the 3-month census period was 4.53 cm above the Muskoka regional norm, although June's total was only 53% of that month's norm. Temperatures were 1°C above the norm per month, with June's average temperature surpassing the norm by 2.5°C, making June an unusually hot and dry month. Source: Environment Canada. **Coverage:** 21.3 h; 11 visits (5 sunset); 20 May; 17, 18 June; 3, 4, 6, 8, 10, 12, 18, 19 Jul. **Census:** Field Sparrow, 15.5 (60); American Robin, 13.0 (50; 1FL); Gray Catbird, 11.0 (42); Brown Thrasher, 9.5 (37); Common Yellowthroat, 9.5; Song Sparrow, 9.5 (1FL); Least Flycatcher, 8.5 (33; 1FL); Eastern Towhee, 6.5 (25); Chipping Sparrow, 6.5 (1FL); House Wren, 6.0 (23); Warbling Vireo, 5.0 (19; 3FL); Yellow Warbler, 5.0; Vesper Sparrow, 4.5 (17); Northern Flicker, 4.0 (15); American Goldfinch, 3.5 (13); Cedar Waxwing, 3.0 (12); White-throated Sparrow, 3.0; Veery, 1.5; Common Nighthawk, 1.0; Eastern Bluebird, 1.0; Hermit Thrush, 1.0; Red-eyed Vireo, 1.0 (1FL); Chestnut-sided Warbler, 1.0 (1FL); Brown-headed Cowbird, 1.0; Eastern Kingbird, 0.5. **Total:** 25 species; 131.5 territories (506/40 ha). **Visitors:** Turkey Vulture, Killdeer, American Woodcock, Mourning Dove, Yellow-billed Cuckoo, Whip-poor-will, Downy Woodpecker, Eastern Wood-Pewee, Yellow-bellied Flycatcher,

Great Crested Flycatcher, Blue Jay, American Crow, Black-capped Chickadee, White-breasted Nuthatch, European Starling, Yellow-throated Vireo, Nashville Warbler, Yellow-rumped Warbler, Rose-breasted Grosbeak, Red-winged Blackbird, Common Grackle, Purple Finch. **Remarks:** An unusually dry and hot June may have favored record breeding totals for several species on this plot. Sparrows were the top breeders once again (6 species, 35% of territories), followed by thrushes (4 species, 13% of territories), and warblers (3 species, 12% of territories). Flycatcher breeding pair totals almost doubled from last year. Among notable increases in the breeding totals of several larger species, the number of territories of Gray Catbirds and Brown Thrashers increased approximately fivefold. The overall breeding pairs total surpassed the mean of the previous two years by 31 territories. White-throated Sparrows were new to the plot this year.

32. MOUNTAINTOP SECOND-GROWTH MIXED DECIDUOUS FOREST

BOSQUE SECUNDARIO EN PICO DE MONTAÑA DE DECIDUOS MIXTOS

CARROLL LABARTHE

PO Box 104, Rector PA 15677

Site Number: PA2494139. **Location:** Pennsylvania; Westmoreland Co.; Rector; Wolf Rocks Trail; 40°8'N, 79°15'W; Bakersville Quadrangle, USGS. **Continuity:** Established 1994; 2 yr.

Size: 10.0 ha. **Description of Plot:** See *J. Field Ornithol.* 66(Suppl.):54–55 (1995). **Weather:** Mean start temp., 12.3°C (range 2–18°C). No deviations from norms. **Coverage:** 21.8 h; 10 visits (9 sunrise); 22 May; 2, 4, 10, 14, 17, 21, 24, 28, 29 Jun. **Census:** Ovenbird, 5.0 (20); Veery, 3.5 (14); Red-eyed Vireo, 3.5; Black-throated Green Warbler, 3.5; Eastern Towhee, 2.5; Common Yellowthroat, 2.0; Scarlet Tanager, 1.5; Dark-eyed Junco, 1.5; Hermit Thrush, 1.0; American Robin, 0.5; Solitary Vireo, 0.5. **Total:** 11 species; 25.0 territories (100/40 ha). **Visitors:** Ruffed Grouse, Pileated Woodpecker, Eastern Wood-Pewee, Blue Jay, Magnolia Warbler, Black-throated Blue Warbler, American Redstart, Indigo Bunting, Brown-headed Cowbird.

Remarks: There was significantly less activity on the plot in 1995, for no obvious reason. The composition of the vegetation has not changed. **Other Observers:** Bob Mulvihill, Joe Walko.

Acknowledgments: Special thanks to Bob Mulvihill and Grant Milliron for assistance in setting up the plot.

33. OAK–MAPLE–POPLAR HOLLOW

BOSQUE DE ROBLE–ARCE–ALAMO HUECO

LINDA M. INGRAM

Nolde Forest Environmental Education Center, 2910 New Holland Road, Reading PA 19607

Site Number: PA1093123. **Location:** Pennsylvania; Berks Co.; Reading; Nolde Forest, Buck Hollow; 40°17'N, 75°57'W; Reading Quadrangle, USGS. **Continuity:** Established 1993; 3 yr.

Size: 10.9 ha. **Description of Plot:** See *J. Field Ornithol.* 65(Suppl.):61 (1994). **Weather:** Mean start temp., 13.8°C (range 6–22°C). There was drizzle or light rain during three visits. Normal May temperatures: mean 16.7°C, minimum 10.6°C, maximum 22.8°C. Source: National Climatic Data Center, Asheville, NC. **Coverage:** 33.7 h; 18 visits (13 sunrise, 5 sunset); 18, 29 Apr; 8, 9, 15, 19, 21, 25, 28 May; 1, 4, 8, 9, 11, 13, 14, 15, 16 Jun. **Census:** Wood Thrush, 10.5 (39; 1N); Ovenbird, 6.5 (24); Red-eyed Vireo, 6.0 (22); Tufted Titmouse, 4.5 (17); Eastern Wood-Pewee, 3.5 (13); Blue Jay, 3.0 (11); Northern Cardinal, 3.0; Veery, 2.5; Black-capped Chickadee, 2.0 (1N); Gray Catbird, 2.0; Scarlet Tanager, 2.0; Red-bellied Woodpecker, 1.0; Downy Woodpecker, 1.0; Great Crested Flycatcher, 1.0; White-breasted Nuthatch, 1.0; American Robin, 1.0; Northern Flicker, +; Pileated Woodpecker, +. **Total:** 18 species; 50.5 territories (185/40 ha). **Visitors:** Great Horned Owl, American Crow, Hermit Thrush, Cedar Waxwing, Black-throated Green Warbler, Black-and-white Warbler, Common Yellowthroat, Indigo Bunting, Eastern Towhee, Chipping Sparrow, Baltimore Oriole.

34. OAK-MAPLE RIDGE-TOP FOREST

BOSQUE DE ROBLE-ARCE DE TOPE DE COLINAS

ALEXIS EAKRIGHT, DENG JIE, LAURIE GOODRICH & CATHY VIVERETTE

Hawk Mountain Sanctuary, RR 2, Box 191, Kempton PA 19529

Site Number: PA1382312. **Location:** Pennsylvania; Berks Co.; Kempton; Owl's Head; 40°44'N, 75°50'W; New Ringgold Quadrangle, USGS. **Continuity:** Established 1982; 14 yr. **Size:** 19.3 ha. **Description of Plot:** See *Am. Birds* 37:55 (1983). **Weather:** Mean start temp., 13.1°C (range 5–19°C). **Coverage:** 21.2 h; 9 visits (9 sunrise); 29 Apr; 22, 24, 27 May; 8, 11, 14, 17 Jun; 3 Jul. **Census:** Ovenbird, 14.0 (29); Eastern Towhee, 5.5 (11); Scarlet Tanager, 4.5 (9); Blue Jay, 4.0 (8); Common Yellowthroat, 4.0; Eastern Wood-Pewee, 3.0 (6); Red-eyed Vireo, 2.5; Ruffed Grouse, 2.0; Great Crested Flycatcher, 2.0; White-breasted Nuthatch, 2.0; Hermit Thrush, 2.0; Indigo Bunting, 2.0; Pileated Woodpecker, 1.0; Black-capped Chickadee, 1.0; Black-and-white Warbler, 1.0; Rose-breasted Grosbeak, 1.0; Brown-headed Cowbird, 1.0. **Total:** 17 species; 52.5 territories (109/40 ha). **Visitors:** Black-billed Cuckoo, Yellow-billed Cuckoo, Downy Woodpecker, Hairy Woodpecker, Common Raven, Tufted Titmouse, Wood Thrush, American Robin, American Goldfinch. **Other Observers:** Jim Brett, Mathew Brett, Kerry Grim, Rudy Keller, Shelby Rudolph-Brett, Steve Thorpe. **Acknowledgments:** Hawk Mountain Sanctuary contribution number 40.

35. OAK-MAPLE SLOPE FOREST

BOSQUE DE ROBLE-ARCE DE LADERAS

DENG JIE, ALEXIS EAKRIGHT, LAURIE GOODRICH & CATHY VIVERETTE

Hawk Mountain Sanctuary, RR 2, Box 191, Kempton PA 19529

Site Number: PA1382313. **Location:** Pennsylvania; Berks Co.; Kempton; River of Rocks; 40°45'N, 75°50'W; New Ringgold Quadrangle, USGS. **Continuity:** Established 1982; 14 yr. **Size:** 16.9 ha. **Description of Plot:** See *Am. Birds* 37:55 (1983). **Weather:** Mean start temp., 13.5°C (range 10–18°C). **Coverage:** 20.9 h; 8 visits (8 sunrise); 27 Apr; 20, 21 May; 1, 13, 17 Jun; 4, 13 Jul. **Census:** Ovenbird, 11.5 (27); Red-eyed Vireo, 5.5 (13); Scarlet Tanager, 4.5 (11); Downy Woodpecker, 2.0; Eastern Wood-Pewee, 2.0; Great Crested Flycatcher, 2.0; Blue Jay, 2.0; White-breasted Nuthatch, 2.0; Brown-headed Cowbird, 2.0; Ruffed Grouse, 1.0; Yellow-billed Cuckoo, 1.0; Red-bellied Woodpecker, 1.0; Hairy Woodpecker, 1.0; Pileated Woodpecker, 1.0; Tufted Titmouse, 1.0; Black-and-white Warbler, 1.0; Rose-breasted Grosbeak, 1.0; Wood Thrush, 0.5. **Total:** 18 species; 42.0 territories (99/40 ha). **Visitors:** Wild Turkey, Black-billed Cuckoo, Northern Flicker, American Crow, Black-capped Chickadee, Yellow-rumped Warbler, Black-throated Green Warbler, Worm-eating Warbler, Northern Cardinal, Indigo Bunting, Common Grackle. **Other Observers:** Mathew Brett, Valeria Crowder, Kerry Grim, Rudy Keller, Shelby Rudolph-Brett, Steve Thorpe. **Acknowledgments:** Hawk Mountain Sanctuary contribution number 39.

36. SUBURBAN DECIDUOUS WOODLOT

RODAL DECIDUO SUBURBANO

DAVID ROBERTSON, THOMAS TAGUE & THOMAS WITMER

*Pennypack Ecological Restoration Trust, 2955 Edge Hill Road,
Huntingdon Valley PA 19006-5099*

Site Number: PA1091004. **Location:** Pennsylvania; Montgomery Co.; Bryn Athyn; Papermill Road Woods (South); 40°9'N, 75°3'W; Hatboro Quadrangle, USGS. **Continuity:** Established 1991; 5 yr. **Size:** 10.0 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):62 (1992). **Weather:** Mean start temp., 20.9°C (range 18–22°C). **Coverage:** 27.0 h; 8 visits (8 sunrise); 19, 27 Jun; 3, 5, 10, 12, 14, 19 Jul. Maximum number of observers/visit, 4. **Census:** Wood

Thrush, 14.0 (56); Northern Cardinal, 9.0 (36; 3FL); Black-capped Chickadee, 8.5 (34; 1N); Eastern Towhee, 8.0 (32; 1FL); American Robin, 7.5 (30; 2N); Downy Woodpecker, 6.0 (24); Eastern Wood-Pewee, 5.5 (22); Carolina Wren, 5.0 (20); Veery, 5.0; Gray Catbird, 5.0; Red-eyed Vireo, 5.0; Red-bellied Woodpecker, 4.0 (16; 2FL); Northern Flicker, 4.0 (3FL); Blue Jay, 4.0; Tufted Titmouse, 4.0; White-breasted Nuthatch, 2.5; Common Yellowthroat, 2.0; House Wren, 1.0; Yellow-throated Vireo, 1.0; Worm-eating Warbler, 1.0; Scarlet Tanager, 1.0. **Total:** 21 species; 103.0 territories (412/40 ha). **Visitors:** Hairy Woodpecker, Eastern Phoebe, American Redstart, Rose-breasted Grosbeak, Brown-headed Cowbird. **Remarks:** Some of the birds we identified as Black-capped Chickadees may have been Carolina Chickadees. We sighted three different cowbirds during the census; one was a fledgling accompanying a pair of Scarlet Tanagers.

37. MATURE MESIC OAK FOREST

BOSQUE MESICO MADURO DE ROBLE

STEVEN E. REINERT

18 Roberta Drive, Barrington RI 02806

Site Number: RI1291065. **Location:** Rhode Island; Kent Co.; Coventry Center; Parker Woodland; 41°44'N, 71°43'W; Coventry Center Quadrangle, USGS. **Continuity:** Established 1991; 4 yr. **Size:** 10.6 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):62–63 (1992). **Weather:** Mean start temp., 19.8°C (range 17–24°C). There was intermittent rain during two visits. June mean temperature was 19.2°C (11-yr mean is 18.6°C); July mean temperature was 22.8°C (11-yr mean is 21.7°C). June precipitation was 5.87 cm (11-yr mean is 8.81 cm); July precipitation was 6.71 cm (11-yr mean is 11.46 cm). Source: Mark DiFranco, station approx. 9.5 km N of plot. **Coverage:** 20.2 h; 9 visits (7 sunrise, 2 sunset); 3, 6, 10, 14, 24, 28 June; 1, 5, 8 July. **Census:** Ovenbird, 9.0 (34); Wood Thrush, 8.0 (30; 4N,1FL); Veery, 6.5 (25); Tufted Titmouse, 6.0 (23; 1FL); Red-eyed Vireo, 5.5 (21; 1N); Scarlet Tanager, 4.5 (17); Eastern Wood-Pewee, 4.0 (15); White-breasted Nuthatch, 3.0 (11); Downy Woodpecker, 2.5; Northern Flicker, 2.0; Great Crested Flycatcher, 2.0; Blue Jay, 2.0; Black-capped Chickadee, 2.0; Rose-breasted Grosbeak, 2.0 (1N); Eastern Towhee, 2.0; Red-bellied Woodpecker, 1.0; American Robin, 1.0; Black-and-white Warbler, 1.0; Worm-eating Warbler, 1.0; Brown-headed Cowbird, +. **Total:** 20 species; 65.0 territories (245/40 ha). **Visitors:** Red-tailed Hawk, American Crow, Hermit Thrush, American Redstart, Baltimore Oriole. **Remarks:** Two broods of Ruffed Grouse, previously recorded as a breeding species at this site, were observed outside of the plot. A Blue-gray Gnatcatcher, also previously recorded as a breeding species, was heard within the plot on 28 May, before formal censusing began. **Other Observers:** Suzanne French, Peter McCalmont. **Acknowledgments:** Thanks to Dave Rodrigues and the Audubon Society of Rhode Island for permission to use the site, and to William R. Eddleman for orienting me to the site.

38. RED OAK FOREST

BOSQUE DE ROBLE ROJO

WILLIAM R. EDDLEMAN & SANDRA L. BATEMAN

Dept. of Biology—MS6200, Southeast Missouri State Univ., Cape Girardeau MO 63701-4799

Site Number: RI1294106. **Location:** Rhode Island; Providence Co.; Johnston; Steere Farm; 41°50'N, 71°33'W; North Scituate Quadrangle, USGS. **Continuity:** Established 1994; 2 yr. **Size:** 10.6 ha. **Description of Plot:** See *J. Field Ornithol.* 66(Suppl.):60–61 (1995). **Weather:** Mean start temp., 18.1°C (range 10–24°C). May mean temperature (13.0°C) was slightly below normal (13.3°C), June mean temperature (18.9°C) was above normal (18.3°C), as was July mean temperature (22.9°C; normal 21.4°C). May precipitation (10.7 cm) was below normal (11.0 cm), June precipitation (9.0 cm) was near normal (9.5 cm), but July precipitation (3.2 cm) was much below normal (8.3 cm). Source: University of Rhode Island Weather Station,

Kingston, RI. **Coverage:** 17.7 h; 8 visits (7 sunrise, 1 sunset); 28 May; 8, 15, 23, 24 Jun; 6, 12, 27 Jul. **Census:** Tufted Titmouse, 6.0 (23; 5FL); Ovenbird, 6.0; Scarlet Tanager, 6.0 (3N); Wood Thrush, 5.0 (19); American Robin, 5.0 (2N); Eastern Wood-Pewee, 4.5 (17; 1N); Hermit Thrush, 3.5 (13); Downy Woodpecker, 3.0 (11; 1FL); White-breasted Nuthatch, 3.0 (1FL); Northern Flicker, 2.0; Red-eyed Vireo, 2.0; Black-and-white Warbler, 2.0; Baltimore Oriole, 2.0 (1FL); Red-bellied Woodpecker, 1.5; Blue Jay, 1.5 (1N, 3FL); Eastern Towhee, 1.5; Red-tailed Hawk, 1.0; Black-capped Chickadee, 1.0; Rose-breasted Grosbeak, 1.0; Brown-headed Cowbird, 0.5; Great Crested Flycatcher, +; Gray Catbird, +. **Total:** 22 species; 58.0 territories (219/40 ha). **Visitor:** Mourning Dove. **Acknowledgments:** Thanks to George Steere for allowing us to use the site.

39. UPLAND OAK-RED MAPLE FOREST

BOSQUE DE ROBLE-ARCE ROJO DE ALTURAS

WILLIAM R. EDDLEMAN

Dept. of Biology—MS6200, Southeast Missouri State Univ., Cape Girardeau MO 63701-4799

Site Number: RI1290087. **Location:** Rhode Island; Washington Co.; Peace Dale; Hazard Tract; 41°27'N, 71°29'W; Narragansett Pier Quadrangle, USGS. **Continuity:** Established 1990; 6 yr. **Size:** 10.1 ha. **Description of Plot:** See *J. Field Ornithol.* 62(Suppl.):47–48 (1991). **Weather:** Mean start temp., 18.9°C (range 13–24°C). June mean temperature (18.9°C) was above normal (18.3°C), as was July mean temperature (22.9°C; normal 21.4°C). June precipitation (9.0 cm) was near normal (9.5 cm), but July precipitation (3.2 cm) was much below normal (8.3 cm). Source: University of Rhode Island Weather Station, Kingston, RI. **Coverage:** 15.7 h; 9 visits (8 sunrise, 1 sunset); 2, 6, 17, 26 Jun; 8, 9(2), 11, 12 Jul. **Census:** Veery, 10.0 (40); Ovenbird, 10.0; Eastern Towhee, 8.5 (34); Gray Catbird, 7.0 (28); Tufted Titmouse, 6.5 (26; 8FL); Eastern Wood-Pewee, 5.5 (22); Northern Cardinal, 5.5; Downy Woodpecker, 5.0 (20; 2N, 2FL); Black-and-white Warbler, 3.5 (14); Great Crested Flycatcher, 3.0 (12); Scarlet Tanager, 3.0; Black-capped Chickadee, 2.5 (4FL); White-breasted Nuthatch, 2.5 (2FL); Red-bellied Woodpecker, 1.5; Wood Thrush, 1.5; Red-eyed Vireo, 1.5; Ruby-throated Hummingbird, 1.0; Northern Flicker, 1.0; Blue Jay, 0.5; American Crow, 0.5; Broad-winged Hawk, +; Brown-headed Cowbird, + (1FL). **Total:** 22 species; 80.0 territories (317/40 ha). **Visitors:** Cooper's Hawk, Hairy Woodpecker, Eastern Phoebe, American Robin, White-eyed Vireo, Pine Warbler, Common Yellowthroat. **Remarks:** This plot was used as a mist-netting site for the Monitoring Avian Productivity and Survivorship (MAPS) project. The cowbird fledgling was being fed by a pair of Black-and-white Warblers.

40. HARDWOOD BOTTOM

MADERAS DURAS ANEGADAS

PAUL A. KOEHLER

National Audubon Society, 4542 Silver Bluff Road, Jackson SC 29831

Site Number: SC0495040. **Location:** South Carolina; Aiken Co.; Jackson; Silver Bluff Plantation Sanctuary; 33°19'N, 81°52'W; Jackson Quadrangle, USGS. **Continuity:** New. **Size:** 11.4 ha. **Description of Plot:** A rectangular plot (259 × 442 m) with a closed canopy dominated by oaks (52%), water tupelo (12%), and bald cypress (10%). The stand is > 100 years of age with a mean canopy height of 28 m (range 23–35 m). The predominant oak species are willow oak, water oak, laurel oak, overcup oak, and swamp chestnut oak. Roughly in the center of the plot and in the extreme NW corner are two cypress-tupelo stands which generally retain some standing and/or flowing water throughout the year. The understory is dominated by American hornbeam (80%), sweetgum (5%), and red maple (4%). The ground cover is dominated by switch cane (70%), poison ivy (10%), and greenbrier (5%). Periodic releases (usually in winter) from the nearest dam upriver on the Savannah River cause flooding of up to 98% of the plot. Due to the flooding, the mostly-closed canopy, and

extensive browsing by white-tailed deer, the ground cover is sparse in most places. Several openings have been created throughout the area by large trees falling. The plot last had a selective timber harvest in 1953, and some trees have been lost since due to beaver activity. **Edge:** Between 26 and 50% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 26–50 ha in size. The plot contains approximately 25 mature loblolly pines on the E edge, and 90 m outside of that boundary is a 17-year-old loblolly pine plantation 20 ha in size. Approximately 35 m beyond the W boundary is a horseshoe-shaped gravel pit lake approximately 3.5 ha in size. Extending from the lake and through the N end of the plot is an abandoned raised railroad bed 6 m wide. Hollow Creek flows year-round just beyond the NW corner of the plot. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 31 m, maximum 34 m. **Weather:** Mean start temp., 20.5°C (range 15–31°C). The total rainfall during the census period was 16.92 cm (4.83 cm above normal). The mean temperature for May was 22°C (1.1°C above normal); for June it was 24°C (1.1°C below normal). The second visit was cut short by a violent thunderstorm. Approximately 60% of the plot had standing water for a week after 8.9 cm of rain fell 2–4 June. Sources: National Weather Service, Augusta, GA and Silver Bluff Plantation Sanctuary rain gauge. **Coverage:** 19.6 h; 10 visits (8 sunrise, 2 sunset); 11, 15, 18, 20, 24, 27 May; 1, 8, 15, 16 Jun. **Census:** Acadian Flycatcher, 23.0 (81); Northern Parula, 21.0 (74); Red-eyed Vireo, 12.0 (42); Carolina Wren, 7.0 (25); Prothonotary Warbler, 7.0; Red-bellied Woodpecker, 5.0 (18); Carolina Chickadee, 4.0 (14); Northern Cardinal, 4.0; Downy Woodpecker, 3.0 (11); Blue-gray Gnatcatcher, 3.0; Yellow-throated Vireo, 3.0; Summer Tanager, 3.0; Yellow-billed Cuckoo, 2.0; Yellow-throated Warbler, 2.0; Pileated Woodpecker, 1.0; Tufted Titmouse, 1.0; White-eyed Vireo, 1.0. **Total:** 17 species; 102.0 territories (358/40 ha). **Visitors:** Great Blue Heron, Wood Duck, Barred Owl, Eastern Wood-Pewee, Great Crested Flycatcher, American Crow, Pine Warbler, Kentucky Warbler.

41. VIRGIN HARDWOOD SWAMP FOREST

BOSQUE PANTANOSO VIRGEN DE MADERAS DURAS

MICHAEL R. DAWSON

Francis Beidler Forest, 336 Sanctuary Road, Harleyville SC 29448

Location: South Carolina; Berkeley Co.; Harleyville; Francis Beidler Forest Sanctuary; 33°13'N, 80°20'W; Pringleton Quadrangle, USGS. **Continuity:** Established 1979; 8 yr. **Size:** 8.9 ha. **Description of Plot:** See *Am. Birds* 34:50 (1980) and *J. Field Ornithol.* 65(Suppl.):64 (1994). **Weather:** Mean start temp., 16.1°C (range 7–22°C). Temperatures were normal. Rainfall for March–April was about 15 cm below normal. The swamp water level dropped 31.8 cm during the census period. Most of the plot was dry for most of the census period. **Coverage:** 19.4 h; 10 visits (10 sunrise); 20, 26 Apr; 3, 10, 22, 24, 26, 31 May; 8, 12 Jun. **Census:** Blue-gray Gnatcatcher, 38.0 (171); Carolina Wren, 13.5 (61); White-eyed Vireo, 10.0 (45); Tufted Titmouse, 8.0 (36); Red-bellied Woodpecker, 7.5 (34); Northern Parula, 6.5 (29); Great Crested Flycatcher, 6.0 (27); Prothonotary Warbler, 6.0; Carolina Chickadee, 5.0 (22); Downy Woodpecker, 4.0 (18); Red-eyed Vireo, 4.0; Northern Cardinal, 4.0; Red-headed Woodpecker, 3.0 (13); Pileated Woodpecker, 2.0; Acadian Flycatcher, 2.0; White-breasted Nuthatch, 2.0; Yellow-throated Warbler, 1.5; Summer Tanager, 1.0; Kentucky Warbler, 0.5; Indigo Bunting, 0.5. **Total:** 20 species; 125.0 territories (562/40 ha). **Visitors:** Great Blue Heron, Wood Duck, Hooded Merganser, Turkey Vulture, Yellow-billed Cuckoo, Barred Owl, Chimney Swift, American Crow, Yellow-throated Vireo, Pine Warbler, Common Yellowthroat, Hooded Warbler, Brown-headed Cowbird. **Remarks:** Over the years since this study was begun (in 1979), Northern Parulas showed a steady decline in numbers until in 1993 no distinguishable territories were noted. This year, however, they bounced back with a strong showing of 6.5 territories. No explanation is offered. **Other Observers:** Norman L. Brunswig, Amy Goedert, Carl Broadwell, Henry Burke.

42. MATURE MAPLE-BEECH-BIRCH FOREST

BOSQUE MADURO DE ARCE-HAYA-ABEDUL

LAURA J. MITCHELL

Cherokee National Forest, P.O. Box 2010, Cleveland TN 37312

Site Number: TN2392102. **Location:** Tennessee; Monroe Co.; Whigg Ridge, Cherokee National Forest; 35°19'N, 84°2'W; Big Junction Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 10.2 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):57–58 (1993) and 66(Suppl.):63 (1995). The understory continues to develop rapidly in treefall gaps. **Weather:** Mean start temp., 13.9°C (range 11–19°C). The 1 June visit was conducted between two evening thunderstorms. **Coverage:** 22.0 h; 9 visits (6 sunrise, 3 sunset); 17, 21, 22 May; 1, 9, 16, 23, 24 Jun; 8 Jul. Maximum number of observers/visit, 4. **Census:** Veery, 21.0 (82); Dark-eyed Junco, 14.0 (55; 1FL); Solitary Vireo, 12.0 (47; 2FL); Ovenbird, 10.0 (39); Black-throated Blue Warbler, 7.5 (29; 1FL); Chestnut-sided Warbler, 3.5 (14); Blackburnian Warbler, 2.5; Hairy Woodpecker, 1.0 (1N,3FL); Barred Owl, 0.5; Downy Woodpecker, 0.5; Carolina Chickadee, 0.5 (2FL); White-breasted Nuthatch, 0.5 (3FL); Red-eyed Vireo, 0.5; American Crow, +; American Robin, +; Cedar Waxwing, +; Rose-breasted Grosbeak, +. **Total:** 17 species; 74.0 territories (290/40 ha). **Visitors:** Ruffed Grouse, Pileated Woodpecker, Golden-crowned Kinglet, Scarlet Tanager, Indigo Bunting, American Goldfinch. **Remarks:** The most abundant flyovers were Cedar Waxwing and Chimney Swift. American Robin, Veery, and Rose-breasted Grosbeak were observed consuming black cherry fruit. A male Black-throated Blue Warbler was observed gathering lichen on 16 June. **Other Observers:** Nathan Klaus, Tommie Rogers, Libby and Ron Wolfe. **Acknowledgments:** I wish to acknowledge the logistical and financial support of the USDA Forest Service, Cherokee National Forest.

43. MESOPHYTIC FOREST I

BOSQUE MESOFITICO I

MICHAEL G. SMITH

Route 3, Box 301, Elkton VA 22827

Site Number: VA1083031. **Location:** Virginia; Green Co.; Elkton; Pocosin Cabin Plot; 38°24'N, 78°29'W; Fletcher Quadrangle, USGS. **Continuity:** Established 1987; 9 yr. **Size:** 6.1 ha. **Description of Plot:** See *J. Field Ornithol.* 60(Suppl.):32–33 (1989) and 66(Suppl.):63–64 (1995). Some of the oak trees have died due to gypsy moth infestation. **Weather:** Mean start temp., 13.2°C (range 9–17°C). The temperature was 1.7°C below the 6-yr mean during the census period. Precipitation was about average. **Coverage:** 10.1 h; 10 visits (8 sunrise, 2 sunset); 28, 29, 30, 31 May; 1, 2, 3, 4, 5, 12 Jun. **Census:** American Redstart, 13.5 (89); Eastern Wood-Pewee, 6.0 (39); Veery, 4.5 (30); Eastern Towhee, 4.0 (26); Red-eyed Vireo, 3.5 (23); Cerulean Warbler, 3.0 (20); Dark-eyed Junco, 3.0 (1N,2FL); Acadian Flycatcher, 1.5; Ovenbird, 1.5; Scarlet Tanager, 1.5; Indigo Bunting, 1.5; Wood Thrush, 1.0; Chestnut-sided Warbler, 1.0; Canada Warbler, 1.0; Rose-breasted Grosbeak, 1.0; Eastern Phoebe, 0.5; Hooded Warbler, 0.5; Brown-headed Cowbird, +. **Total:** 18 species; 48.5 territories (318/40 ha). **Visitors:** Broad-winged Hawk, Black-billed Cuckoo, Hairy Woodpecker, Great Crested Flycatcher, Tufted Titmouse, White-breasted Nuthatch, Gray Catbird, Cedar Waxwing, Yellow-throated Vireo, Blackburnian Warbler, Black-and-white Warbler, American Goldfinch. **Remarks:** The following are deviations from the 9-yr mean number of territories: Veery –15%, Wood Thrush –63%, Ovenbird –48%, Hooded Warbler –72%, and Eastern Wood-Pewee +74%. A Dark-eyed Junco nest with three eggs was seen on a bank on 12 June. **Acknowledgments:** Thanks to Elwood Fisher and others for the plot layout and vegetation survey. Thanks also to the personnel of the Shenandoah National Park for their cooperation in the study.

44. MESOPHYTIC FOREST II

BOSQUE MESOFITICO II

MICHAEL G. SMITH

Route 3, Box 301, Elkton VA 22827

Site Number: VA1087013. **Location:** Virginia; Green Co.; Elkton; Pocosin Mission Plot; 38°24'N, 78°29'W; Fletcher Quadrangle, USGS. **Continuity:** Established 1983; 10 yr. **Size:** 6.1 ha. **Description of Plot:** See *Am. Birds* 38:76–77 (1984) and *J. Field Ornithol.* 66(Suppl.):64 (1995). Some of the oak trees have died due to gypsy moth damage. **Weather:** Mean start temp., 13.3°C (range 9–16°C). The temperature was 1.6°C below the 6-yr mean during the census period. Precipitation was about average. **Coverage:** 8.9 h; 10 visits (8 sunrise, 2 sunset); 28, 29, 30, 31 May; 1, 2, 3, 4, 5, 12 Jun. **Census:** American Redstart, 12.0 (79); Ovenbird, 5.5 (36; 1N); Cerulean Warbler, 4.0 (26); Eastern Wood-Pewee, 3.5 (23); Red-eyed Vireo, 3.0 (20); Eastern Towhee, 2.5; Acadian Flycatcher, 2.5; Veery, 2.0; Wood Thrush, 1.5; Rose-breasted Grosbeak, 1.5; Great Crested Flycatcher, 1.0; Scarlet Tanager, 1.0; Brown-headed Cowbird, +. **Total:** 13 species; 40.0 territories (262/40 ha). **Visitors:** Broad-winged Hawk, Ruffed Grouse, Downy Woodpecker, Hairy Woodpecker, Pileated Woodpecker, Blue Jay, chickadee species, Tufted Titmouse, White-breasted Nuthatch, Solitary Vireo, Black-and-white Warbler, Indigo Bunting, Dark-eyed Junco. **Remarks:** The following are deviations from the 9-yr mean number of territories: Veery –52%, Wood Thrush –48%, Red-eyed Vireo –15%, Ovenbird –9%, and Scarlet Tanager –48%. An Ovenbird nest with five eggs was seen on the ground on 4 June. **Acknowledgments:** Thanks to Elwood Fisher and others for the plot layout and vegetation survey. Thanks also to the personnel of the Shenandoah National Park for their cooperation in the study.

45. PONDEROSA PINE FOREST

BOSQUE DE PINO PONDEROSA

LOUISE HERING

1055 Adams Circle, Apt. 1118, Boulder CO 80303

Location: Colorado; Boulder Co.; Boulder; Enchanted Mesa; 39°50'N, 105°16'W; Boulder Quadrangle, USGS. **Continuity:** Established 1954; 29 yr. **Size:** 8.1 ha. **Description of Plot:** See *Aud. Field Notes* 8:372 (1954) and *J. Field Ornithol.* 64(Suppl.):61 (1993). **Weather:** Mean start temp., 9.8°C (range 2–20°C). There was 30% snow cover during the third visit, and it rained during two other visits. This was one of the wettest, coolest springs and early summers on record. Source: *Boulder Daily Camera*. **Coverage:** 18.8 h; 11 visits (10 sunrise); 31 Mar; 10, 24 Apr; 2, 8, 18, 27, 31 May; 3, 17, 30 Jun. **Census:** Pygmy Nuthatch, 9.0 (44; 9N); Chipping Sparrow, 4.0 (20; 1N); Hammond's Flycatcher, 3.5 (17; 1N); Mountain Chickadee, 2.5; American Robin, 2.5 (1N); Western Wood-Pewee, 2.0; White-breasted Nuthatch, 2.0 (1N); Solitary Vireo, 2.0; Hairy Woodpecker, 1.0; Cordilleran Flycatcher, 1.0; Violet-green Swallow, 1.0; House Wren, 1.0; Western Tanager, 1.0; House Finch, 1.0; Northern Flicker, +; Lesser Goldfinch, +. **Total:** 16 species; 33.5 territories (165/40 ha). **Visitors:** Mourning Dove, Broad-tailed Hummingbird, Western Bluebird, Virginia's Warbler, Yellow-rumped Warbler, Black-headed Grosbeak, Dark-eyed Junco, Brown-headed Cowbird, Red Crossbill, Pine Siskin. **Remarks:** Because of the wet, cold weather conditions, many species were late nesters, and mountain breeders remained at lower elevations later than usual. (Source: Boulder County Audubon Society personal communication.) **Other Observer:** Barbara Beall.

46. LONGLEAF PINE FOREST

BOSQUE DE PINO DE HOJA LARGA

LAWRENCE D. CARLILE

DFW, ENRD, Fish and Wildlife Branch, AFZP-DEV-W, Fort Stewart GA 31314

Location: Georgia; Tattnall Co.; Fort Stewart Military Reservation; Training Area E-17; 32°2'N, 81°48'W; Glisson's Pond Quadrangle, USGS. **Continuity:** New. **Size:** 20.0 ha. **Descrip-**

Description of Plot: A rectangular plot (400×500 m) situated in a longleaf pine-wiregrass landscape that is bisected by titi stringers and hardwood drains. The stand is 61–100 years of age. A quantitative vegetation survey based on the method described by F.C. James & H.H. Shugart, Jr. (1970. *Aud. Field Notes* 24:727–736) yielded the following results: Trees, 3.8 cm diameter and over, based on 20 0.04-ha circular samples, 105/ha; total basal area 7 m²/ha. Species comprising 90% of the total number of trees [figures after each are trees/ha, relative density (%), relative dominance (%), and frequency (%)]: longleaf pine, 90, 86, 70, 30; slash pine, 10, 10, 26, 30. Additional trees observed were pond pine and live oak. Trees by diameter size class [figures after each are trees/ha, relative density (%), basal area (%), and relative dominance (%)]: A' (3.8–7.6 cm) 14, 13, 1, 45; A (7.6–15.2 cm) 9, 9, 1, 30; B (15.2–22.9 cm) 16, 15, 7, 40; C (22.9–30.5 cm) 34, 32, 28, 55; D (30.5–38.1 cm) 18, 17, 24, 50; E (38.1–53.3 cm) 13, 12, 30, 45; F (53.3–68.6 cm) 3, 3, 11, 10. Shrub stems/ha, 8, dominated by highbush blueberry (50%) and red bay. Ground cover, 93%, dominated by wiregrass and similar bunch grasses (30%), running oak (20%), and gallberry (13%). Canopy cover, 21%; average height of canopy dominant, 16 m (range 3–23 m). There is a small (0.25 ha) ephemeral pond dominated by black gum at the SE corner of the plot. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 101–500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 37 m, maximum 40 m. **Weather:** Mean start temp., 17.7°C (range 9–22°C). Mean end temp., 21°C. The 10-yr average rainfall amounts for April, May, and June 1995 were 7.1, 8.5, and 13.9 cm, respectively. The rainfall amounts for April, May, and June 1995 were 2.9, 7.3, and 27.1 cm, respectively. One visit was conducted in a light fog. **Coverage:** 14.7 h; 7 visits (7 sunrise); 25 Apr; 3, 5 May; 13, 22, 23, 27 Jun. **Census:** Bachman's Sparrow, 9.0 (18; 1N, IFL); Eastern Towhee, 7.0 (14); Common Yellowthroat, 6.5 (13); Pine Warbler, 5.5 (11; 6FL); Blue Grosbeak, 3.5 (7); Great Crested Flycatcher, 3.0 (6; 1N); Northern Bobwhite, 2.0; Eastern Wood-Pewee, 2.0; Brown-headed Nuthatch, 2.0 (1N); Eastern Bluebird, 2.0 (1FL); Prairie Warbler, 2.0; Brown-headed Cowbird, 2.0; Red-headed Woodpecker, 1.5; Carolina Wren, 1.5; Yellow-breasted Chat, 1.5; Mourning Dove, 1.0; Common Nighthawk, 1.0; Red-bellied Woodpecker, 1.0; Downy Woodpecker, 1.0; Red-cockaded Woodpecker, 1.0 (1N); Northern Flicker, 1.0; Pileated Woodpecker, 1.0; Eastern Kingbird, 1.0; Blue Jay, 1.0; White-breasted Nuthatch, 1.0; Blue-gray Gnatcatcher, 1.0; Yellow-throated Vireo, 1.0; Summer Tanager, 1.0; Indigo Bunting, 1.0; Tufted Titmouse, 0.5; White-eyed Vireo, 0.5; Northern Cardinal, 0.5. **Total:** 32 species; 66.5 territories (133/40 ha). **Visitors:** Barred Owl, Chuck-will's-widow, Purple Martin, American Crow, Fish Crow, Carolina Chickadee, Northern Mockingbird, Common Grackle. **Remarks:** This plot encompasses a Red-cockaded Woodpecker cluster that consists of nine cavity trees and five "start" cavity trees. Two Red-cockaded Woodpeckers regularly foraged on the plot. The pair attempted to nest, but the nest failed. The plot was burned to prescription on 6 December 1993 and is scheduled for another prescribed burn in the spring of 1996.

47. CEDAR FOREST

BOSQUE DE CEDRO

SUSAN D. WELLER

27955 Canyon Road, Cataldo ID 83810

Site Number: ID6492039. **Location:** Idaho; Bonner Co.; Sagle; Gamble (Gamlan) Lake; 48°13'N, 116°23'W; Talache Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 12.3 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):62 (1993). **Edge:** Next to the boundary of the NE corner, private land has been accessed by road and a site cleared for a dwelling. Some trees and all of the underbrush have been removed. Two tents were present and occupied during the survey period. **Weather:** Mean start temp., 13.6°C (range 6–23°C). An early warming trend in May gave way to below normal temperatures during the first two weeks of June. **Coverage:** 17.9 h; 8 visits (5 sunrise, 3 sunset); 22, 23(2) May; 9, 20(2), 26, 27 Jun. **Census:** Golden-crowned Kinglet, 4.0 (13); Hammond's Flycatcher, 3.0 (10); Swainson's Thrush, 3.0; Solitary Vireo, 3.0; Chipping Sparrow, 3.0; Yellow-rumped Warbler, 2.5;

Townsend's Warbler, 2.5; Black-capped Chickadee, 2.0; Chestnut-backed Chickadee, 2.0 (2N,8FL); Red-breasted Nuthatch, 2.0; Dark-eyed Junco, 2.0; Ruffed Grouse, 1.0; Cordilleran Flycatcher, 1.0; Brown Creeper, 1.0; Winter Wren, 1.0; American Robin, 1.0; Red-eyed Vireo, 1.0; Orange-crowned Warbler, 1.0; Western Tanager, 1.0; Brown-headed Cowbird, 1.0; Cassin's Finch, 1.0; Pine Siskin, 1.0. **Total:** 22 species; 40.0 territories (130/40 ha). **Visitors:** Yellow Warbler, Red Crossbill. **Remarks:** There were no flycatchers present on the plot after freezing temperatures during the first week of June. There was increased evening use of trails adjacent to the plot by foot traffic and mountain bikes. **Other Observers:** Lillian Milligan, Hugh Milligan, Shirley Sturts, Judy Waring. **Acknowledgments:** This BBC was conducted under contract for the U.S.D.I. Bureau of Land Management. Scott Robinson is the BLM biologist responsible for this project.

48. OLD-GROWTH FOREST

BOSQUE DE EDAD AVANSADA

SCOTT ROBINSON

Bureau of Land Management, 1808 N. Third St., Coeur d'Alene ID 83814

Site Number: ID6492037. **Location:** Idaho; Boundary Co.; Bonner's Ferry; Farnham Forest; 48°50'N, 116°26'W; Farnham Peak Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 11.3 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):62–63 (1993). **Weather:** Mean start temp., 12.8°C (range 8–24°C). Bonner's Ferry received rain and snow three days prior to visits three and four. **Coverage:** 13.0 h; 8 visits (4 sunrise, 4 sunset); 30, 31 May; 7, 8, 13, 14, 20, 21 Jun. **Census:** Swainson's Thrush, 7.0 (25); Red-breasted Nuthatch, 5.0 (18); Golden-crowned Kinglet, 5.0; Winter Wren, 4.0 (14); Chestnut-backed Chickadee, 3.0 (11); Townsend's Warbler, 3.0; Brown Creeper, 2.0; Varied Thrush, 2.0; Western Tanager, 2.0; Red-naped Sapsucker, 1.0; Pileated Woodpecker, 1.0; Orange-crowned Warbler, 0.5; MacGillivray's Warbler, 0.5. **Total:** 13 species; 36.0 territories (127/40 ha). **Visitors:** Ruffed Grouse, Vaux's Swift, Northern Flicker, Olive-sided Flycatcher, Hammond's Flycatcher, Common Raven, American Robin, Solitary Vireo, Warbling Vireo, Red-eyed Vireo, Nashville Warbler, Yellow-rumped Warbler, Black-headed Grosbeak, Lazuli Bunting, Dark-eyed Junco.

49. RIPARIAN FOREST

BOSQUE RIVEREÑO

SUSAN D. WELLER

27955 Canyon Road, Cataldo ID 83810

Site Number: ID6491103. **Location:** Idaho; Shoshone Co.; Pinehurst; Pine Creek; 47°26'N, 116°17'W; Twin Crags Quadrangle, USGS. **Continuity:** Established 1991; 5 yr. **Size:** 10.3 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):65–66 (1992). **Weather:** Mean start temp., 10.8°C (range 4–18°C). An early warming trend in May gave way to below normal temperatures during the first two weeks of June. **Coverage:** 19.3 h; 9 visits (7 sunrise, 2 sunset); 17, 19 May; 4, 8, 10, 12, 13, 23, 24 Jun. **Census:** Swainson's Thrush, 5.0 (19); Black-capped Chickadee, 3.0 (12); Chestnut-backed Chickadee, 3.0 (3N,11FL); Golden-crowned Kinglet, 3.0; Varied Thrush, 3.0; Warbling Vireo, 3.0; MacGillivray's Warbler, 3.0; Song Sparrow, 3.0; Hammond's Flycatcher, 2.0; Winter Wren, 2.0; American Robin, 2.0; Solitary Vireo, 2.0; Townsend's Warbler, 2.0; Black-headed Grosbeak, 2.0; Pine Siskin, 2.0; Yellow Warbler, 1.5; Ruffed Grouse, 1.0; Northern Flicker, 1.0; Cordilleran Flycatcher, 1.0; Red-breasted Nuthatch, 1.0; Cedar Waxwing, 1.0; Orange-crowned Warbler, 1.0; Western Tanager, 1.0; Chipping Sparrow, 1.0; Dark-eyed Junco, 1.0. **Total:** 25 species; 50.5 territories (196/40 ha). **Visitors:** Belted Kingfisher, Steller's Jay. **Remarks:** Steller's Jay was recorded on the NW corner of the plot when campers were present in the meadow. **Other Observer:** Gregory Weller. **Acknowledgments:** This BBC was conducted under contract for the U.S.D.I. Bureau of Land Management. Scott Robinson is the BLM biologist responsible for this project.

50. MATURE RED SPRUCE FOREST

BOSQUE MADURO DE ABETOS ROJOS

THOMAS P. SKALING

10 Cumberland St., Brunswick ME 04011

Site Number: ME2889052. **Location:** Maine; Somerset Co.; Upper Enchanted Township; Boise Cascade Tract; 45°25'N, 70°10'W; Enchanted Pond Quadrangle, USGS. **Continuity:** Established 1989; 7 yr. **Size:** 16.0 ha. **Description of Plot:** See *J. Field Ornithol.* 61(Suppl.):57 (1990). **Weather:** Mean start temp., 8.6°C (range 3–15°C). The 6-week census period was the region's sixth driest and ninth warmest in 101 years of record keeping. The average daily temperature was 17.3°C or 2.0°C above the 30-yr average. Total precipitation was 6.59 cm which was only 50% of normal. Source: on-site instruments and the Northeast Regional Climate Center, Cornell University. **Coverage:** 37.5 h; 8 visits (8 sunrise); 25, 28 May; 4, 10, 18, 23, 28 Jun; 6 Jul. **Census:** Red-breasted Nuthatch, 5.0 (13); Golden-crowned Kinglet, 5.0; Black-capped Chickadee, 4.0 (10); Winter Wren, 4.0; Yellow-rumped Warbler, 4.0; Dark-eyed Junco, 4.0 (1N); Solitary Vireo, 3.5 (9); Boreal Chickadee, 3.0 (8); Brown Creeper, 3.0; Swainson's Thrush, 3.0; Blackburnian Warbler, 3.0; Northern Parula, 2.5; Yellow-bellied Sapsucker, 2.0; Yellow-bellied Flycatcher, 2.0; Hermit Thrush, 2.0; Magnolia Warbler, 2.0; Bay-breasted Warbler, 2.0; Common Goldeneye, 1.0; Hooded Merganser, 1.0; Belted Kingfisher, 1.0; Hairy Woodpecker, 1.0; Tree Swallow, 1.0; Blue Jay, 1.0; Nashville Warbler, 1.0; Black-throated Blue Warbler, 1.0; Common Yellowthroat, 1.0; White-throated Sparrow, 1.0; Common Grackle, 1.0; Purple Finch, 1.0; Pine Siskin, 1.0; Evening Grosbeak, 1.0. **Total:** 31 species; 68.0 territories (170/40 ha). **Visitors:** Wood Duck, American Black Duck, Spotted Sandpiper, Ruby-throated Hummingbird, Downy Woodpecker, Northern Flicker, Pileated Woodpecker, Gray Jay, Common Raven, American Robin, Cedar Waxwing, Red-eyed Vireo, Black-throated Green Warbler, American Redstart, Ovenbird, Canada Warbler, White-winged Crossbill. **Remarks:** As a first-time cooperator in a spot-mapping with behavioral observations and fledgling surveys project through the University of Maine, I spent 50% more time in the field this year (37.5 hours compared to 24.3 in 1994). This increased coverage resulted in no significant changes in either the number of species holding territories (31 in both years) or the total number of territories (68.0 compared to 66.0 in 1994). Several more contacts with visiting species were made this year however (17 compared to 4 in 1994). **Acknowledgments:** I thank Boise Cascade for their continued assistance and interest in this project.

51. MATURE WHITE PINE STAND

RODAL DE PINO BLANCO MADURO

JULIET K. MARKOWSKY

1 Edgewood Dr., Orono ME 04473

Location: Maine; Penobscot Co.; Orono; Woodland Preserve of the University of Maine; 44°54'N, 68°40'W; Old Town Quadrangle, USGS. **Continuity:** Established 1975; 3 yr. Previously called: Mixed Deciduous-Coniferous Forest. **Size:** 10.4 ha. **Description of Plot:** See *Am. Birds* 31:49 (1977). **Weather:** Mean start temp., 13.6°C (range 10–17°C). The census period was warmer and drier than long-term averages. There was no measurable precipitation during the last half of the census period. Source: *The Guillemot*, newsletter of the Sorrento Scientific Society, Bar Harbor, ME. Construction noise on the University of Maine campus may have reduced detectability of the quieter species. **Coverage:** 19.5 h; 9 visits (6 sunrise); 22, 26 May; 9, 10, 11, 12, 22, 27 Jun; 4 Jul. Maximum number of observers/visit, 12. **Census:** Ovenbird, 4.0 (15); Black-capped Chickadee, 3.0 (12; 1N,3FL); American Robin, 3.0; Red-eyed Vireo, 3.0; Black-throated Green Warbler, 3.0; Pine Warbler, 3.0; Common Grackle, 3.0; Black-and-white Warbler, 2.0; Red-winged Blackbird, 2.0; Eastern Wood-Pewee, 1.0; Great Crested Flycatcher, 1.0; Blue Jay, 1.0 (1N,1FL); American Crow, 1.0; Red-breasted Nuthatch, 1.0 (1N); White-breasted Nuthatch, 1.0; Hermit Thrush, 1.0; Solitary Vireo, 1.0; Northern Parula, 1.0; Yellow-rumped Warbler, 1.0; Bay-breasted Warbler, 1.0; Common Yellowthroat, 1.0; Song Sparrow, 1.0; Northern Flicker, +. **Total:** 23 species; 39.0 territories (150/40 ha).

Visitors: Eastern Kingbird, Cedar Waxwing, American Redstart, Indigo Bunting, Brown-headed Cowbird. **Remarks:** In 1995, there were approximately 50% as many territories of Neotropical migrant birds as there were in a census of the same area, using the same methodology, 20 years ago. Predators are abundant in this "island" of forest in a developed area. There are at least five raccoon dens, and many squirrels (gray and red); also cats, Blue Jays, grackles, crows, and Brown-headed Cowbirds. **Other Observers:** Norman Famous and students in WLE260 (Field Ornithology), University of Maine.

52. UPLAND CHRISTMAS TREE FARM

FINCAS DE ARBOLES DE NAVIDAD DE ALTURAS

ELIZABETH W. BROOKS

1435 Waterwells Road, Alfred Station NY 14803

Site Number: NY2483108. **Location:** New York; Allegany Co.; Andover; Kent Christmas Tree Farm; 42°10'N, 77°50'W; Andover Quadrangle, USGS. **Continuity:** Established 1983; 13 yr. **Size:** 10.7 ha. **Description of Plot:** See *Am. Birds* 38:91 (1984). **Weather:** Mean start temp., 22.0°C (range 19–28°C). The average daily temperatures in May (11.8°C), June (18.1°C), and July (20.5°C) were all 2–4°C above average. Precipitation in May (5.0 cm), June (5.7 cm), and July (5.9 cm) was about half of normal totals. Source: Alfred Cooperative Weather Station. **Coverage:** 21.4 h; 10 visits (1 sunset); 17 Apr; 31 May; 7, 14, 22, 30 Jun; 7, 14, 21, 28 Jul. **Census:** Chipping Sparrow, 21.0 (79; 25N,52FL); Song Sparrow, 15.0 (56; 11N,18FL); Cedar Waxwing, 6.0 (22; 7N,16FL); Field Sparrow, 5.0 (19; 1N,3FL); American Robin, 4.0 (15; 6N,7FL); Savannah Sparrow, 4.0; Purple Finch, 4.0 (3N); Yellow-rumped Warbler, 3.0 (11; 1N); Bobolink, 2.0; American Goldfinch, 2.0 (1N,5FL); American Woodcock, 1.0; Eastern Kingbird, 1.0; Gray Catbird, 1.0; Brown Thrasher, 1.0 (1N); Eastern Towhee, 1.0; Grasshopper Sparrow, 1.0; Brown-headed Cowbird, 1.0 (2N); House Finch, 1.0 (1N,3FL); Red-winged Blackbird, 0.5; Common Yellowthroat, +; Indigo Bunting, +; Vesper Sparrow, +. **Total:** 22 species; 74.5 territories (279/40 ha). **Visitors:** Northern Harrier, Mourning Dove, Northern Flicker, Black-capped Chickadee, House Wren, European Starling, Red-eyed Vireo, Chestnut-sided Warbler, Common Grackle. **Remarks:** The hot, dry weather seemed conducive to an excellent breeding season with no interruptions by severe storms. Total territories (74.5) was the greatest since the censuses began in 1983 (12-yr average is 56.3). A higher ratio of ready-for-harvest trees provided ideal nest sites and resulted in record numbers of Chipping Sparrows. Of the 57 nests documented, all but four were located in two blocks (approximately one-fifth of the total area) containing the most mature trees (Austrian pine, blue spruce, and white spruce). Cowbirds were found in one Purple Finch nest and one Chipping Sparrow nest. **Acknowledgments:** Appreciation to Rick Walker for weather data and to Tom and Kathy Kent for permission to do the study on their land.

53. UPLAND SCOTCH PINE PLANTATION

PLANTACION DE PINO ESCOCES EN ALTURAS

ELIZABETH W. BROOKS

1435 Waterwells Road, Alfred Station NY 14803

Site Number: NY2470024. **Location:** New York; Allegany Co.; Alfred; Foster Plantation; 42°7'N, 77°45'W; Andover Quadrangle, USGS. **Continuity:** Established 1969; 27 yr. **Size:** 9.3 ha. **Description of Plot:** See *Aud. Field Notes* 23:743–744 (1969), *Am. Birds* 38:38 (1984), and *J. Field Ornithol.* 66(Suppl.):69 (1995). **Weather:** Mean start temp., 22.6°C (range 16–27°C). The average daily temperatures in May (11.8°C), June (18.1°C), and July (20.5°C) were all 2–4°C above average. Precipitation in May (5.0 cm), June (5.7 cm), and July (5.9 cm) was about half of normal totals. Source: Alfred Cooperative Weather Station. **Coverage:** 11.6 h; 10 visits (4 sunset); 8 Apr; 29 May; 5, 12, 19, 26 Jun; 3, 10, 17, 24 Jul. **Census:** Common Yellowthroat, 6.5 (28); Yellow-rumped Warbler, 4.0 (17; 1N,4FL); Chipping Sparrow, 4.0 (1N);

American Robin, 3.0 (13); Cedar Waxwing, 3.0; Indigo Bunting, 3.0; Purple Finch, 3.0; Magnolia Warbler, 2.5; Blue Jay, 2.0; Nashville Warbler, 2.0; Song Sparrow, 2.0; Dark-eyed Junco, 2.0; Ruffed Grouse, 1.0; American Woodcock, 1.0; Alder Flycatcher, 1.0; Golden-crowned Kinglet, 1.0; Wood Thrush, 1.0; Chestnut-sided Warbler, 1.0; Ovenbird, 1.0; Eastern Towhee, 1.0 (1N,3FL); Field Sparrow, 1.0; White-throated Sparrow, 1.0; Eastern Kingbird, 0.5; Black-capped Chickadee, 0.5; Red-breasted Nuthatch, 0.5; Gray Catbird, 0.5; Solitary Vireo, 0.5; Blue-winged Warbler, 0.5; Northern Cardinal, 0.5; Yellow Warbler, +. **Total:** 30 species; 50.5 territories (217/40 ha). **Visitors:** Black-billed Cuckoo, Yellow-bellied Sapsucker, Downy Woodpecker, American Crow, Brown Creeper, House Wren, Blackburnian Warbler, Scarlet Tanager, Rose-breasted Grosbeak. **Remarks:** The hot, dry weather seemed conducive to an excellent breeding season with no interruptions by severe storms. New species were Wood Thrush, Yellow Warbler, and White-throated Sparrow which reflect the changing habitat (maturing spruce and Scotch pine). There are many more species present (30 in 1995 compared with just 10 when the study began in 1969) in the mature habitat. **Acknowledgments:** Appreciation to Rick Walker for weather data and to Phil Foster and Cynthia Clements for permission to conduct the study on their land.

54. WHITE PINE-WHITE CEDAR SAVANNAH

SAVANA DE PINO BLANCO-CEDRO BLANCO

GRAEME C. GIBSON

Long Point Bird Observatory, P.O. Box 160, Port Rowan ON N0E 1M0

Location: Ontario; Municipality of Haldimand-Norfolk; Port Rowan; Long Point National Wildlife Area; 42°33'N, 80°7'W; Gravelly Bay Quadrangle, DEMR. **Continuity:** Established 1973; 6 yr. **Size:** 9.3 ha. **Description of Plot:** See *Am. Birds* 28:1018–1019 (1974), *J. Field Ornithol.* 63(Suppl.):69–70 (1992), and 65(Suppl.):72–73 (1994). Shrub and ground covers have been monitored annually since 1991. The number of shrub stems/ha based on counts in 10 × 10 m quadrats was 68,100 compared with 39,000 in 1991. Size class distribution: <0.5 m, 37,600; 0.5–1.0 m, 29,000; 1.0–2.0 m, 1500; >2.0 m, 0 (compared with 28,200; 10,400; 400; 0 in 1991). Shrub species in order of total abundance: wild red raspberry 26,300 stems <0.5 m, 10,500 stems 0.5–1.0 m, 200 stems 1.0–2.0 m, 0 stems >2.0 m; common juniper 6200, 11,500, 200, 0; swamp rose 1300, 2800, 300, 0; eastern red cedar 600, 2900, 700, 0; snowberry 1600, 600, 0, 0; sweetbrier 600, 600, 0, 0; riverbank grape 700, 100, 0, 0; white pine 100, 100, 0, 0; choke cherry 100, 0, 0, 0; eastern white cedar 100, 0, 0, 0. Ground layer species making up 90% of the vegetation cover, based on estimates in 10 1 × 1 m quadrats, or present in three or more quadrats: common juniper 31%, in 5 quadrats; mosses 9%, 3; marsh fern 8%, 3; Canada blue-joint 7%, 3; bristle-leaf sedge 5%, 4; climbing nightshade 5%, 2; wild red raspberry 5%, 5; inland sedge 4%, 2; false nettle 2%, 3; common milkweed <1%, 4. None of the species has changed more than 5% in the ground cover since 1991. Non-living ground cover based on estimates in 10 1 × 1 m quadrats: bare sand 12%, litter 78%, sticks and wood 7%. **Weather:** Mean start temp., 18.0°C (range 13–26°C). Mostly clear, calm, and very dry. **Coverage:** 40.0 h; 12 visits (9 sunrise, 3 sunset); 1, 3, 5, 6, 9, 12, 15, 18, 20, 23, 29 Jun; 1 Jul. **Census:** House Wren, 22.5 (97; 1N,10FL); Song Sparrow, 9.0 (39); Chipping Sparrow, 6.5 (28; 1FL); Eastern Towhee, 6.0 (26; 1FL); Baltimore Oriole, 5.5 (24; 1N,3FL); Gray Catbird, 4.0 (17); Common Yellowthroat, 4.0; Brown-headed Cowbird, 4.0 (1FL); Red-winged Blackbird, 3.5 (15); Eastern Wood-Pewee, 3.0 (13; 1N); Great Crested Flycatcher, 3.0; Eastern Kingbird, 3.0; Blue Jay, 3.0 (1FL); Northern Cardinal, 3.0; Common Grackle, 3.0 (2N,1FL); Mourning Dove, 2.0 (1N); Whip-poor-will, 2.0 (1N); Tree Swallow, 2.0 (1N); Black-capped Chickadee, 2.0; American Robin, 2.0 (1FL); Yellow Warbler, 2.0; Chuck-will's-widow, 1.0; Carolina Wren, 1.0; Brown Thrasher, 1.0; White-eyed Vireo, 1.0; Field Sparrow, 1.0 (3FL); American Goldfinch, 1.0; Northern Flicker, 0.5 (1N,2FL). **Total:** 28 species; 101.5 territories (437/40 ha). **Visitors:** Black-billed Cuckoo, Yellow-billed Cuckoo, Ruby-throated Hummingbird, Downy Woodpecker, Red-breasted Nuthatch, Cedar Waxwing, European Starling, Red-eyed Vireo, Pine Warbler, Scarlet Tanager. **Remarks:** This study is part of a long-term project designed to monitor the response of vegetational and breeding bird

communities to a reduction in deer browsing at Long Point, Lake Erie. **Other Observer:** Susan M. Gustafson. **Acknowledgments:** I thank Jon McCracken for project supervision, Jane Bowles and Michael Bradstreet for measuring vegetation parameters, and the Canadian Wildlife Service for financial support.

55. LOBLOLLY PINE PLANTATION (CUT IN 1981)

PLANTACION DE PINO LOBLOLLY (CORTADO EN EL 1981)

CHÉRIE IRBY*, SIDNEY GAUTHREAUX* & WILLIAM JARVIS

*Dept. of Biological Sciences, Clemson University, Clemson SC 29634-1903

Site Number: SC0495051. **Location:** South Carolina; Aiken Co.; New Ellenton; Savannah River Site; 33°18'N, 81°43'W; New Ellenton SW Quadrangle, USGS. **Continuity:** New. **Size:** 12.2 ha. **Description of Plot:** A square plot (350 × 350 m) located in the SW section of the Savannah River Site. A seed-tree cut was performed in 1981. Scattered remnant loblolly pine trees were left standing for reseeding the site. The forest has regenerated with loblolly trees of approximately uniform size (7.6–9.1 m tall with the exception of the larger seed trees which are up to 17 m tall). The young trees currently form a low, thick canopy. A hardwood inclusion, dominated by understory-sized water oaks, is located in the N section of the plot. Clumps of water oak saplings are scattered throughout the N section. The ground cover is sparse and dominated by poison oak, wax myrtle, and yellow jessamine. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat < 25 ha in size. The N border of the plot parallels a train track and a dirt access road. The plot boundary is set back approximately 10 m from the dirt road to avoid inclusion of edge habitat. North of the train track is a clear-cut. The young loblolly plantation extends to the S and W of the plot. However, the stand is not much larger than the plot itself. A small, depressional, mature hardwood forest borders part of the E edge of the plot. Main roads border the mature hardwoods to the E and the loblolly pine plantation to the S. **Topography and Elevation:** The plot is nearly level with a SE-facing slope of < 5% grade. Minimum elevation 62 m, maximum 71 m. **Weather:** Mean start temp., 20.9°C (range 16–27°C). The mean high temperature for May was 31°C (32-yr average is 29°C); mean low temperature was 20°C (32-yr average is 16°C). The range of temperatures for May was 11–37°C; mean daily temperature was 25°C. The mean high temperature for June was 29°C (32-yr average is 32°C); mean low temperature was 19°C (32-yr average is 16°C). The range of temperatures for June was 14–34°C; mean daily temperature was 24°C. May precipitation was 4.50 cm (normal is 9.86 cm). June precipitation was 22.4 cm (normal is 11.4 cm). Source: Westinghouse Savannah River Co., Savannah River Technology Ctr. **Coverage:** 13.7 h; 10 visits (8 sunrise, 2 sunset); 16, 25, 27, 31 May; 13, 15, 17, 19, 23, 27 Jun. **Census:** Northern Cardinal, 3.0; Tufted Titmouse, 2.5; Great Crested Flycatcher, 2.0; Blue-gray Gnatcatcher, 1.5; Wood Thrush, 1.5; Pine Warbler, 1.5 (9FL); Downy Woodpecker, 1.0; Carolina Chickadee, 1.0 (4FL); Carolina Wren, 1.0; White-eyed Vireo, 0.5 (1FL); Yellow-throated Vireo, 0.5; Northern Parula, 0.5 (1FL); Acadian Flycatcher, +. **Total:** 13 species; 16.5 territories (54/40 ha). **Visitors:** Northern Bobwhite, Mourning Dove, Yellow-billed Cuckoo, Red-bellied Woodpecker, Northern Flicker, Eastern Wood-Pewee, Blue Jay, American Crow, Brown Thrasher, Eastern Towhee, Brown-headed Cowbird. **Acknowledgments:** We thank the Department of Energy and the Savannah River Forest Station of the U.S. Forest Service for financial support and access to the area.

56. HIGH ALTITUDE RED SPRUCE FOREST

BOSQUE DE ABETOS ROJOS DE ALTURAS

G. RAD MAYFIELD, III

730 Maltba Road, Newland NC 28657

Site Number: TN2392093. **Location:** Tennessee; Unicoi Co.; Unicoi; Unaka Mountain; 36°8'N, 82°18'W; Unicoi Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 9.9 ha.

Description of Plot: See *J. Field Ornithol.* 64(Suppl.):69–70 (1993). **Weather:** Mean start temp., 14.0°C (range 9–19°C). Unusually good weather with regards to wind. **Coverage:** 18.1 h; 8 visits (8 sunrise); 24, 31 May; 9, 14, 16, 23, 28 Jun; 13 Jul. **Census:** Golden-crowned Kinglet, 13.0 (53; 6FL); Dark-eyed Junco, 8.0 (32; 8FL); Red-breasted Nuthatch, 6.0 (24); Veery, 5.5 (22); Magnolia Warbler, 2.5; American Robin, 2.0; Solitary Vireo, 1.5; Canada Warbler, 1.0; Ruffed Grouse, + (2FL); Black-throated Blue Warbler, +; Eastern Towhee, +. **Total:** 11 species; 39.5 territories (160/40 ha). **Visitors:** Sharp-shinned Hawk, Northern Saw-whet Owl, Hairy Woodpecker, Blue Jay, Cedar Waxwing, Red Crossbill, Pine Siskin. **Remarks:** The one Northern Saw-whet Owl recorded was remains of a juvenile, as determined by coloration of feathers and by the fringed leading edge of the flight feathers. No body was found, but the quantity of feathers indicated death. There were not as many Red Crossbills and Pine Siskins this season as last. Hairy Woodpecker and Sharp-shinned Hawk were both new this season, though they occur with regularity on the mountain. **Acknowledgments:** USDA-Forest Service, Cherokee National Forest for monetary and logistical support.

57. PINYON-JUNIPER WOODLAND

BOSQUE DE PIÑON-JUNIPERO

GARY N. SALAMACHA

Arches National Park, P.O. Box 907, Moab UT 84532

Location: Utah; Grand Co.; Moab; Devil's Garden; 38°48'N, 109°35'W; Arches National Park Quadrangle, USGS. **Continuity:** Established 1983; 13 yr. **Size:** 31.3 ha. **Description of Plot:** See *Am. Birds* 38:137–138 (1984). **Weather:** Mean start temp., 8.5°C (range 2–13°C). The mean temperature was 2.5°C cooler than the same period the previous year (8.5°C compared to 11.0°C). More than twice as much rainfall was recorded during April, May, and June compared to the same period in 1994. Arches National Park records show 11.5 cm in 1995 and 5.13 cm in 1994. The average rainfall for the same period is 6.1 cm. **Coverage:** 21.3 h; 8 visits (8 sunrise); 5, 12, 19, 26 Apr; 3, 10, 24, 31 May. Maximum number of observers/visit, 3. **Census:** House Finch, 6.0 (8); Black-throated Gray Warbler, 5.0 (6); Say's Phoebe, 3.0 (4); Blue-gray Gnatcatcher, 3.0; Gray Vireo, 3.0; Black-throated Sparrow, 3.0; Pinyon Jay, 2.0 (1N,3FL); Bushtit, 1.0 (1N,3FL); Rock Wren, 1.0; White-throated Swift, +; Ash-throated Flycatcher, +; Plain Titmouse, +; Bewick's Wren, +. **Total:** 13 species; 27.0 territories (35/40 ha). **Visitors:** Red-tailed Hawk, Western Kingbird, Violet-green Swallow, Western Scrub-Jay, Common Raven, Mountain Bluebird, American Robin, Solitary Vireo, Virginia's Warbler, Yellow-rumped Warbler, Chipping Sparrow, Brown-headed Cowbird. **Remarks:** An average year for most species observed. The number of territories for most species was down slightly from last year, but 1994 was an exceptional year for the plot. Black-throated Gray Warblers (7.0 territories in 1994 to 5.0 territories in 1995), Black-throated Sparrows (5.0 to 3.0), Mountain Bluebirds (2.0 to 0.0), and Plain Titmouse (2.0 to +) decreased from last year. Other decreases were House Finch (7.0 to 6.0), Say's Phoebe (4.0 to 3.0), and Canyon Wren (1.0 to 0.0). Blue-gray Gnatcatchers (2.0 territories in 1994 to 3.0 territories in 1995), Pinyon Jays (0.0 to 2.0), and Bushtits (0.0 to 1.0) increased from last year. A Common Raven nest outside the plot was active for the eighth consecutive year. A Red-tailed Hawk was observed on four occasions, and new nest material was observed at the historic site, but no hawks were observed on that nest. **Other Observer:** Karen McKinlay-Jones.

58. PONDEROSA PINE-SCRUB OAK FOREST

BOSQUE DE PINO PONDEROSA-MATORRAL DE ROBLE

HERBERT J. FINCH, JAMES S. KENT, RUSSEL P. DEFUSCO &
JAMES W. WEISSMANN

HQ USAFA/DFB, US Air Force Academy CO 80840

Location: Colorado; El Paso Co.; Colorado Springs; USAFA Breeding Bird Survey; 38°57'N, 104°50'W; Pikeview Quadrangle, USGS. **Continuity:** Established 1980; 15 yr. **Size:** 12.0 ha.

Description of Plot: See *J. Field Ornithol.* 62(Suppl.):56–57 (1991) and 63(Suppl.):73 (1992). **Weather:** Mean start temp., 7.4°C (range 2–16°C). Temperatures were well below average, and precipitation was well above average. **Coverage:** 16.4 h; 11 visits (11 sunrise); 12, 15, 19, 22, 26, 28, 30 May; 1, 7, 13, 23 Jun. Maximum number of observers/visit, 5. **Census:** Chipping Sparrow, 18.0 (60); Pygmy Nuthatch, 13.0 (43; 2N); Mourning Dove, 7.0 (23); Broad-tailed Hummingbird, 7.0; Pine Siskin, 7.0; American Robin, 6.0 (20; 2N); Solitary Vireo, 6.0; Spotted Towhee, 6.0; Mountain Chickadee, 5.0 (17); Yellow-rumped Warbler, 5.0; Western Wood-Pewee, 4.0 (13; 1N); House Finch, 4.0; White-breasted Nuthatch, 3.0 (10); Black-headed Grosbeak, 3.0; Lesser Goldfinch, 2.0; Northern Goshawk, 1.0; Great Horned Owl, 1.0; Common Nighthawk, 1.0 (1N); Downy Woodpecker, 1.0; Northern Flicker, 1.0; Steller's Jay, 1.0; Western Scrub-Jay, 1.0; Western Tanager, 1.0; Brown-headed Cowbird, 1.0; Red Crossbill, 1.0. **Total:** 25 species; 106.0 territories (353/40 ha). **Visitors:** Sharp-shinned Hawk, Hairy Woodpecker, Violet-green Swallow, Black-capped Chickadee, Western Bluebird, American Goldfinch. **Other Observers:** Mike Babler, Robert Hildreth, Leanne Henry. **Acknowledgments:** John Decker.

59. CLIMAX HEMLOCK–WHITE PINE FOREST WITH TRANSITION HARDWOODS

BOSQUE CLIMAX DE PICEA–PINO BLANCO EN TRANSICION A MADERAS DURAS

ANDREW F. MAGEE

White Memorial Conservation Center, Litchfield CT 06759

Site Number: CT2765008. **Location:** Connecticut; Litchfield Co.; Litchfield; White Memorial Foundation–Catlin Woods; 41°43'N, 73°12'W; Litchfield Quadrangle, USGS. **Continuity:** Established 1965; 29 yr. **Size:** 10.5 ha. **Description of Plot:** See *Aud. Field Notes* 19:594–595 (1965). The vegetation was resurveyed in 1990 and again after that, but the results have not been published. **Weather:** Mean start temp., 21.3°C (range 14–29°C). The average minimum and maximum temperatures recorded at our weather station in June (12°C, 26°C) were a little above our 11-yr averages. This was the driest June in the last 12 years with only 1.2 cm precipitation. **Coverage:** 12.0 h; 7 visits (1 sunrise, 2 sunset); 31 May; 1, 7, 12, 14, 16 Jun; 29 Jul. **Census:** Blackburnian Warbler, 19.5 (74); Black-throated Green Warbler, 13.5 (51); Ovenbird, 13.0 (50); Veery, 9.0 (34); Red-eyed Vireo, 8.0 (30); Yellow-rumped Warbler, 6.0 (23); Black-capped Chickadee, 5.0 (19); Wood Thrush, 5.0; Black-and-white Warbler, 4.0 (15); Red-breasted Nuthatch, 3.0 (11); Hermit Thrush, 3.0; American Robin, 2.5; Pine Warbler, 2.5; Wild Turkey, 2.0; Downy Woodpecker, 2.0; Blue Jay, 2.0; American Crow, 2.0; Brown Creeper, 2.0; Solitary Vireo, 2.0; Canada Warbler, 2.0; Scarlet Tanager, 2.0; Purple Finch, 2.0; Hairy Woodpecker, 1.5; Wood Duck, 1.0; Broad-winged Hawk, 1.0; Mourning Dove, 1.0; Ruby-throated Hummingbird, 1.0; Tufted Titmouse, 1.0; White-breasted Nuthatch, 1.0; Common Yellowthroat, 1.0; Eastern Wood-Pewee, 0.5; Gray Catbird, 0.5; Chestnut-sided Warbler, 0.5; Song Sparrow, 0.5; Common Grackle, 0.5; Black-billed Cuckoo, +; Great Horned Owl, +; Pileated Woodpecker, +; Eastern Phoebe, +; Eastern Kingbird, +; Cedar Waxwing, +; Yellow-throated Vireo, +; American Goldfinch, +. **Total:** 43 species; 123.0 territories (469/40 ha). **Remarks:** The number of species observed was five below last year's high but still above average. The total number of territorial males reached a 29-year high. The two warblers requiring conifers for nesting (Blackburnian and Black-throated Green) continued at their high levels of recent years while the conifer-nesting Solitary Vireo continued its three-year decline. Blackburnian Warbler reached a new high count for this census. Sharp-shinned Hawks were missed for the first time in the last six years. **Acknowledgments:** Gordon Loery of the White Memorial Conservation Center wrote up the report.

60. OAK–HEMLOCK FOREST

BOSQUE DE ROBLE–PICEA

ROBERT A. ASKINS & WENDY R. DREYER

Dept. of Zoology, Connecticut College, 270 Mohegan Ave., New London CT 06320

Site Number: CT1253099. **Location:** Connecticut; New London Co.; New London; Bolleswood Natural Area, Connecticut College Arboretum; 41°22'N, 72°6'W; Uncasville Quadrant-

gle, USGS. **Continuity:** Established 1953; 24 yr. **Size:** 23.1 ha. **Description of Plot:** See *Am. Birds* 37:73–74 (1983), *Bull. Torrey Bot. Club* 110:184–194 (1983), and *J. Field Ornithol.* 66(Suppl.):76 (1995). Eastern hemlocks have continued to decline due to an infestation of wooly adelgid (*Adelges tsugae*). **Weather:** Mean start temp., 15.0°C (range 7–21°C). There was a severe drought in SE Connecticut during the summer of 1995. The weather was generally calm and hot, and there was virtually no rain after 3 June. **Coverage:** 27.4 h; 21 visits (21 sunrise); 16(2), 21(2), 27(2) May; 2, 3, 5, 10(2), 17, 18, 22(2), 26, 28, 30 Jun; 4, 7, 8 Jul. Each visit covered half of the plot. **Census:** Red-eyed Vireo, 11.5 (20); Black-capped Chickadee, 7.5 (13); Veery, 7.5; Tufted Titmouse, 7.0 (12); Gray Catbird, 4.5 (8); Black-and-white Warbler, 4.0 (7); Ovenbird, 4.0; Northern Cardinal, 4.0; Great Crested Flycatcher, 3.5 (6); White-breasted Nuthatch, 3.5; Wood Thrush, 3.5; Blue Jay, 3.0 (5); Scarlet Tanager, 3.0; Eastern Towhee, 3.0; Brown-headed Cowbird, 3.0; Downy Woodpecker, 2.5; Eastern Wood-Pewee, 2.0; House Wren, 2.0; Red-bellied Woodpecker, 1.5; Eastern Phoebe, 1.5; Common Yellowthroat, 1.5; Hooded Warbler, 1.5; Barred Owl, 1.0; Hairy Woodpecker, 1.0; Northern Flicker, 1.0; Blue-gray Gnatcatcher, 1.0; American Robin, 1.0; Worm-eating Warbler, 1.0; White-eyed Vireo, 0.5; Blue-winged Warbler, 0.5; Chestnut-sided Warbler, 0.5; American Goldfinch, 0.5; Mourning Dove, +; American Crow, +; Pine Warbler, +. **Total:** 35 species; 93.0 territories (161/40 ha). **Visitors:** Sharp-shinned Hawk, Fish Crow, Brown Creeper, Brown Thrasher, Prairie Warbler, Rose-breasted Grosbeak, Common Grackle. **Remarks:** Black-throated Green Warblers, which are associated with hemlock stands, have not been recorded since 1993. Carolina Wrens, which occupied 2–4 territories between 1988 and 1992, have not been recorded in the plot since the severe winter of 1992–93. **Acknowledgments:** Glenn Dreyer and his staff at the Connecticut College Arboretum facilitated our study.

61. UPLAND OAK AND HEMLOCK FOREST

BOSQUE ROBLE Y PICEA DE ALTURAS

ROBERT A. BRAUNFIELD

Box 84, Hadlyme CT 06439

Site Number: CT1289097. **Location:** Connecticut; Middlesex Co.; Salem; Strong Woodland, Burnham Brook Preserve; 41°27'N, 72°19'W; Hamburg Quadrangle, USGS. **Continuity:** Established 1989; 7 yr. **Size:** 10.5 ha. **Description of Plot:** See *J. Field Ornithol.* 61(Suppl.):49–50 (1990). **Weather:** Mean start temp., 13.9°C (range 11–19°C). There were no precipitation extremes during the census period. **Coverage:** 15.1 h; 8 visits (8 sunrise); 31 May; 2, 6, 9, 15, 18, 20, 22 Jun. **Census:** Red-eyed Vireo, 32.0 (122); Ovenbird, 23.0 (88); Wood Thrush, 12.0 (46); Eastern Wood-Pewee, 9.0 (34); Worm-eating Warbler, 8.0 (30); Scarlet Tanager, 7.0 (27); Tufted Titmouse, 6.0 (23); Hermit Thrush, 6.0; Black-throated Green Warbler, 6.0; Black-capped Chickadee, 4.0 (15); Blue-gray Gnatcatcher, 3.0 (11); Black-and-white Warbler, 3.0; Great Crested Flycatcher, 2.0; American Crow, 2.0; Veery, 2.0; Brown-headed Cowbird, 2.0; Red-shouldered Hawk, 1.0; Barred Owl, 1.0; Red-bellied Woodpecker, 1.0; Eastern Phoebe, 1.0; Blue Jay, 1.0; White-breasted Nuthatch, 1.0. **Total:** 22 species; 133.0 territories (507/40 ha). **Visitors:** Red-tailed Hawk, Wild Turkey, Yellow-billed Cuckoo, Hairy Woodpecker, Pileated Woodpecker, Acadian Flycatcher, White-breasted Nuthatch, American Robin, Yellow-throated Vireo, Common Grackle. **Acknowledgments:** Jennifer Anne Perry, Warren Morse.

62. YOUNG MIXED HARDWOOD–CONIFER STAND

BOSQUE JOVEN–MIXTO DE MADERAS DURAS/RODAL DE CONIFEROS

ANDREW F. MAGEE

White Memorial Conservation Center, Litchfield CT 06759

Site Number: CT2778262. **Location:** Connecticut; Litchfield Co.; Morris; White Memorial Foundation; 41°42'N, 73°10'W; Litchfield Quadrangle, USGS. **Continuity:** Established 1978; 18 yr. **Size:** 8.5 ha. **Description of Plot:** See *Am. Birds* 33:72 (1979). **Weather:** Mean start

temp., 23.3°C (range 20–31°C). The average minimum and maximum temperatures recorded at our weather station in June (12°C, 26°C) were a little above our 11-yr averages. This was the driest June in the last 12 years with only 1.2 cm precipitation. **Coverage:** 11.0 h; 6 visits (4 sunset); 31 May; 1, 11, 13, 16 Jun; 29 July. **Census:** Red-eyed Vireo, 11.5 (54); Wood Thrush, 9.0 (42); Ovenbird, 9.0; Scarlet Tanager, 7.0 (33); Gray Catbird, 6.0 (28); Veery, 5.0 (24); American Redstart, 4.5 (21); Black-capped Chickadee, 4.0 (19); Common Yellowthroat, 4.0; Rose-breasted Grosbeak, 4.0; Ruby-throated Hummingbird, 3.0 (14); American Robin, 3.0; Black-and-white Warbler, 3.0; Yellow-bellied Sapsucker, 2.0; Downy Woodpecker, 2.0; Northern Flicker, 2.0; Cedar Waxwing, 2.0; American Goldfinch, 2.0; Barred Owl, 1.5; Blue Jay, 1.5; Ruffed Grouse, 1.0; Mourning Dove, 1.0; Hairy Woodpecker, 1.0; Eastern Wood-Pewee, 1.0; Eastern Phoebe, 1.0; Great Crested Flycatcher, 1.0; Tufted Titmouse, 1.0; Blue-gray Gnatcatcher, 1.0; Blue-winged Warbler, 1.0; Chestnut-sided Warbler, 1.0; Louisiana Waterthrush, 1.0; Northern Cardinal, 1.0; Hermit Thrush, 0.5; Solitary Vireo, 0.5; Magnolia Warbler, 0.5; Black-throated Blue Warbler, 0.5; Black-throated Green Warbler, 0.5; Blackburnian Warbler, 0.5; Canada Warbler, 0.5; Cooper's Hawk, +; Red-tailed Hawk, +; Yellow-billed Cuckoo, +; Pileated Woodpecker, +; American Crow, +; Yellow-rumped Warbler, +. **Total:** 45 species; 101.5 territories (478/40 ha). **Remarks:** Numbers for four species dropped sharply after the 1978–79 clear-cutting of the red pine on this old plantation, but have at least partially recovered. Ovenbirds, the original top species, dropped the most, have been the slowest to recover, and have not yet reached pre-cutting numbers. Veeries, the first to exceed pre-cutting numbers (1986), have been declining the last three years. Wood Thrushes, the next to exceed pre-cutting numbers (1987), have been stable since then. Red-eyed Vireos, the last to exceed pre-cutting numbers (1990), are now the top species. Seven species with three or fewer territories before the cutting have peaked since then and declined again. They are (listed in the order of their peak years): Baltimore Oriole (1979), Common Yellowthroat (1983), Gray Catbird (1983), Chestnut-sided Warbler (1983 and 1985), Eastern Towhee (1983 and 1986), Blue-winged Warbler (1984 and 1989), and American Redstart (1989 and 1990). Of these, only catbirds, redstarts, and yellowthroats are still recorded in numbers greater than 1.0 territory. Towhees were missed completely for the first time in 18 years. The two biggest gainers this year were Scarlet Tanager and Rose-breasted Grosbeak, both up 4.0 territories. **Acknowledgments:** Gordon Loery of the White Memorial Conservation Center wrote up the report.

63. TAMARACK BOG AND HARDWOOD

PANTANO DE TAMARAK-MADERAS DURAS

JAMES MULLINS

2558 Locust Lane, Stevensville MI 49127

Location: Michigan; Berrien Co.; Stevensville; Grand Mere State Park; 42°0'N, 86°33'W; Bridgeman Quadrangle, USGS. **Continuity:** Established 1976; 20 yr. **Size:** 8.5 ha. **Description of Plot:** See *Am. Birds* 30:1049 (1976). **Weather:** Mean start temp., 12.3°C (range 9–15°C). **Coverage:** 8.0 h; 8 visits (8 sunrise); 28, 29 May; 3, 4, 10, 11, 18, 25 Jun. **Census:** Red-eyed Vireo, 4.0 (19; 2N); Eastern Wood-Pewee, 3.0 (14); Wood Thrush, 3.0 (2N); Blue Jay, 2.0; Veery, 2.0; American Robin, 2.0 (2N); Scarlet Tanager, 2.0; Red-bellied Woodpecker, 1.0; Hairy Woodpecker, 1.0; Great Crested Flycatcher, 1.0; Tufted Titmouse, 1.0; Black-throated Green Warbler, 1.0; Ovenbird, 1.0; Common Yellowthroat, 1.0. **Total:** 14 species; 25.0 territories (118/40 ha). **Visitors:** Yellow-billed Cuckoo, Downy Woodpecker, Acadian Flycatcher, Rose-breasted Grosbeak. **Remarks:** This was the first time in 20 years that Canada Warbler was absent.

64. PITCH PINE-OAK-HEATH WOODLAND

ARBOLEDA DE PINO RESINOSO-ROBLE-BREZO

WILLIAM DRAKERT, SELDEN SPENCER & CATHERINE REES

Minnewaska State Park Preserve, P.O. Box 893, New Paltz NY 12561

Site Number: NY1395014. **Location:** New York; Ulster Co.; Gardiner; Peters Kill Access Area; 41°44'N, 74°12'W; Gardiner Quadrangle, USGS. **Continuity:** New. **Size:** 12.0 ha. **Description**

of Plot: A rectangular plot (300 × 400 m) with an open canopy dominated by chestnut oak (74% relative cover), pitch pine (14%), and red maple (4%). The stand is 31–60 years of age with a mean canopy height of 9 m (range 8–14 m). The understory is dominated by mountain laurel (77% relative cover), hemlock (12%), and witch-hazel (9%). The ground cover is dominated by black huckleberry (44% relative cover), early lowbush blueberry (27%), and haircap moss (11%). Usually there are some ephemeral pools during the breeding season, but they were dry this season. The entire plot suffered from the combined effects of drought and gypsy moth infestation in 1987 and 1988 which caused high mortality in chestnut oaks. If snags had been included in the percent relative cover calculation, results for canopy species would be: chestnut oak (61%), snag (18%), and pitch pine (12%). **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat 26–50 ha in size. **Topography and Elevation:** The plot contains a cliff (approx. 15 m high) with a S-SW aspect. It divides the plot into a small (approx. 50 × 400 m) lower section and a larger (approx. 250 × 400 m) upper section. Minimum elevation 314 m, maximum 376 m. **Weather:** Mean start temp., 13.3°C (range 10–17°C). The temperature for June was 2.6°C above the 95-yr average; precipitation was 47% of average. Sources: Minnewaska State Park Preserve weather station and Mohonk Lake Cooperative Weather Station. **Coverage:** 12.0 h; 8 visits (8 sunrise); 1, 4, 9, 11, 15, 21, 28 Jun; 2 Jul. **Census:** Eastern Towhee, 5.0 (17); Black-and-white Warbler, 3.0 (10); Ovenbird, 3.0; Red-eyed Vireo, 2.0; Yellow-throated Warbler, 2.0; Prairie Warbler, 2.0; Chipping Sparrow, 2.0; Hermit Thrush, 1.0; American Robin, 1.0; Yellow Warbler, 1.0; Black-throated Blue Warbler, 1.0; Pine Warbler, 1.0; American Redstart, 1.0; Scarlet Tanager, 1.0; Rose-breasted Grosbeak, 1.0; Indigo Bunting, 1.0; Field Sparrow, 1.0; Purple Finch, 1.0. **Total:** 18 species; 30.0 territories (100/40 ha). **Visitors:** Wild Turkey, Mourning Dove, Hairy Woodpecker, Eastern Phoebe, Great Crested Flycatcher, Common Raven, Black-capped Chickadee, Eastern Bluebird, Wood Thrush, Cedar Waxwing, Chestnut-sided Warbler, Bay-breasted Warbler, Hooded Warbler, Northern Cardinal, American Goldfinch. **Other Observer:** David Paleias. **Acknowledgments:** We are grateful to the Mohonk Lake Cooperative Weather Station for supplying the comparison of weather data to their 95-yr averages.

65. UPLAND MIXED PINE-SPRUCE-HARDWOOD PLANTATION

PLANTACION MIXTA DE PINO-ABETO-MADERAS DURAS EN ALTURAS

ELIZABETH W. BROOKS

1435 Waterwells Road, Alfred Station NY 14803

Site Number: NY2474107. **Location:** New York; Allegany Co.; Ward; Phillips Creek State Re-forestation Tract; 42°8'N, 77°45'W; Andover Quadrangle, USGS. **Continuity:** Established 1974; 22 yr. **Size:** 16.6 ha. **Description of Plot:** See *Am. Birds* 28:699–700 (1974), *J. Field Ornithol.* 63(Suppl.):79–80 (1992), and 66(Suppl.):79–80 (1995). **Weather:** Mean start temp., 17.9°C (range 13–24°C). The average daily temperatures in May (11.8°C), June (18.1°C), and July (20.5°C) were all 2–4°C above average. Precipitation in May (5.0 cm), June (5.7 cm), and July (5.9 cm) was about half of normal totals. Source: Alfred Cooperative Weather Station. **Coverage:** 12.4 h; 9 visits (1 sunrise, 1 sunset); 9 Apr; 21, 30 May; 6, 13, 20, 27 Jun; 4, 11 Jul. **Census:** Blackburnian Warbler, 11.0 (27); Magnolia Warbler, 10.0 (24); Black-throated Green Warbler, 9.0 (22); Golden-crowned Kinglet, 7.0 (17); Dark-eyed Junco, 6.0 (14); Yellow-rumped Warbler, 5.0 (12); Red-breasted Nuthatch, 4.0 (10); Black-capped Chickadee, 3.0 (7); American Robin, 3.0; Solitary Vireo, 3.0 (1N); Purple Finch, 3.0; Ovenbird, 2.5; Blue Jay, 2.0; Indigo Bunting, 2.0; Chipping Sparrow, 2.0; Brown-headed Cowbird, 2.0; Common Yellowthroat, 1.5; Broad-winged Hawk, 1.0 (1N,2FL); Wild Turkey, 1.0; Brown Creeper, 1.0; House Wren, 1.0 (1N,5FL); Winter Wren, 1.0; Hermit Thrush, 1.0; Wood Thrush, 1.0; Chestnut-sided Warbler, 1.0; Mourning Warbler, 1.0; Song Sparrow, 1.0; American Crow, 0.5; Red-shouldered Hawk, +; Barred Owl, +; Downy Woodpecker, +; Pileated Woodpecker, +. **Total:** 32 species; 86.5 territories (208/40 ha). **Visitors:** Great Crested Flycatcher, Red-eyed Vireo, Hooded Warbler, Rose-breasted Grosbeak, Eastern Towhee. **Remarks:** The total number of territories (86.5) was just above the 21-yr average (85). Veery was absent for the second consecutive year. Population trends for seven Neotropical migrants are shown below.

species	(average number of territorial males/16.6 ha)			
	1974-80	1981-87	1988-94	1995
Veery	1.7	0.4	0.6	0
Wood Thrush	2.1	1.8	1.1	1
Magnolia Warbler	10.4	8.3	9.1	10
Black-th. Green Warbler	13.8	11.7	10.3	9
Blackburnian Warbler	10.6	9.4	9.6	11
Ovenbird	2.4	2.1	2.0	2.5
Canada Warbler	1.4	0.1	0	0

Acknowledgments: Appreciation to Rick Walker for weather data.

66. MATURE HEMLOCK-HARDWOOD FOREST

BOSQUE DE MADERAS DURAS-Y PICEA MADURA

DAVE MINNEY

2315 Wickline Rd., Beaver OH 45613

Site Number: OH2291008. **Location:** Ohio; Hocking Co.; Gibsonville; Hood Hollow Plot; 39°30'N, 82°34'W; South Bloomingville Quadrangle, USGS. **Continuity:** Established 1990; 4 yr. **Size:** 10.0 ha. **Description of Plot:** See *J. Field Ornithol.* 62(Suppl.):85 (1991). **Weather:** Mean start temp., 17.1°C (range 13–21°C). Mean temperature for May was 16°C (1°C below normal); precipitation was 20.6 cm (9.8 cm above normal). Mean temperature for June was 22°C (slightly above normal); precipitation was 8.4 cm (normal). Source: National Weather Service, Chillicothe. **Coverage:** 16.5 h; 8 visits (7 sunrise, 1 sunset); 3, 8, 11, 20, 23, 26, 29 Jun; 3 Jul. Visit #7 was shortened due to rain. **Census:** Acadian Flycatcher, 17.5 (70); Wood Thrush, 8.0 (32); Black-throated Green Warbler, 7.5 (30; 1N,3FL); Ovenbird, 7.5; Red-eyed Vireo, 7.0 (28); Hooded Warbler, 6.0 (24); Brown-headed Cowbird, 6.0 (2FL); Eastern Phoebe, 5.0 (20); Scarlet Tanager, 5.0; Worm-eating Warbler, 4.0 (16); Black-and-white Warbler, 3.0 (12); Louisiana Waterthrush, 3.0; Red-bellied Woodpecker, 2.0; Tufted Titmouse, 2.0; Northern Parula, 2.0; Ruby-throated Hummingbird, 1.0; Hairy Woodpecker, 1.0; Blue Jay, 1.0; Carolina Chickadee, 1.0; Carolina Wren, 1.0; Hermit Thrush, 1.0; Solitary Vireo, 1.0; Northern Cardinal, 1.0; Barred Owl, + (2FL); Pileated Woodpecker, +; White-breasted Nuthatch, +. **Total:** 26 species; 93.5 territories (374/40 ha). **Visitors:** Wild Turkey, Blue-gray Gnatcatcher, Yellow-throated Vireo, Magnolia Warbler, Kentucky Warbler. **Remarks:** The two cowbird fledglings were being fed by a pair of Black-throated Green Warblers. **Acknowledgments:** Bill and Jane Ann Ellis, and Crane Hollow, Inc.

67. DRY COTTONWOOD-JUNIPER SAVANNAH

SAVANA DE ALAMO SECO-JUNIPERO

SUSAN M. GUSTAFSON

Long Point Bird Observatory, P.O. Box 160, Port Rowan ON NOE 1M0

Location: Ontario; Municipality of Haldimand-Norfolk; Port Rowan; Long Point National Wildlife Area; 42°32'N, 80°6'W; Gravelly Bay Quadrangle, DEMR. **Continuity:** Established 1991; 2 yr. **Size:** 10.5 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):81 (1992). Shrub and ground covers have been monitored annually since 1991. Canopy cover measured in 1992 was <1%, based on 10 vegetation profile readings above 2 m at each of 20 sampling points. The ground cover estimate was 69%, based on readings below 1 m. Vegetation profile estimates in 1992, based on 10 line intersect readings at each of 20 sampling points were: <0.5 m, 31%; 0.5–1 m, <1%; 1–2 m, <1%; 2–5 m, <1%, >5 m, 0%. The number of shrub stems/ha based on counts in 10 1×10 m quadrats was 172,900 compared with 53,000 in 1991. All shrubs counted were less than 0.5 m. Shrub species in order of total abundance: Kalm's St. John's-wort 172,700 stems/ha; eastern white cedar 100; eastern red cedar 100. Changes from 1991 include an increase in the number of stems of Kalm's St. John's-wort

(from 52,900 in 1991 to 172,700 in 1995). Ground cover species making up 90% of the vegetation cover, based on estimates in 10 1×1 m quadrats, or present in three or more quadrats: mosses 20%, in 5 quadrats; Canada bluegrass 9%, 4; Kalm's St. John's-wort 8%, 3; little bluestem 4%, 7; beak rush 4%, 1; grass-of-parnassus 2%, 3; Baltic rush 2%, 2; cylindric blazing-star 2%, 3; twig-rush 2%, 1; sand dropseed <1%, 5; switch grass <1%, 4; panicled aster <1%, 3; wormwood <1%, 4; Crawe's sedge <1%, 3. Species which have changed more than 5% in the ground cover from 1991 include: mosses (increased by 19%), Canada bluegrass (+7%), little bluestem (-7%). Non-living ground cover based on estimates in 10 1×1 m quadrats: bare sand 61%, litter 42%, muck 1%. **Weather:** Mean start temp., 16.5°C (range 12–25°C). Mostly clear, calm, and very dry. **Coverage:** 31.0 h; 10 visits (9 sunrise, 1 sunset); 31 May; 4, 6, 9, 12, 15, 18, 23, 27 Jun; 1 Jul. **Census:** Song Sparrow, 11.0 (42); Chipping Sparrow, 8.0 (30; 3N,4FL); Tree Swallow, 6.0 (23; 5N); Field Sparrow, 4.0 (15; 2FL); Killdeer, 2.0 (1N); Brown Thrasher, 2.0; Brown-headed Cowbird, 2.0; Northern Rough-winged Swallow, 1.0 (1N); Northern Mockingbird, 1.0 (1N); Red-winged Blackbird, 1.0. **Total:** 10 species; 38.0 territories (145/40 ha). **Visitors:** Northern Harrier, Mourning Dove, Eastern Kingbird, American Robin, Cedar Waxwing, European Starling, Common Grackle, Baltimore Oriole, American Goldfinch. **Remarks:** This study is part of a long-term project designed to monitor the response of vegetational and breeding bird communities to a reduction in deer browsing at Long Point, Lake Erie. **Other Observers:** Graeme Gibson, Richard Groves. **Acknowledgments:** I thank Jon McCracken for project supervision, Jane Bowles and Michael Bradstreet for measuring vegetation parameters, and the Canadian Wildlife Service for financial support.

68. INTERGRADING DUNE-SWALE SAVANNAH

SAVANA CON GRADIENTE DE DUNA A CIENAGA

SUSAN M. GUSTAFSON

Long Point Bird Observatory, P.O. Box 160, Port Rowan ON N0E 1M0

Location: Ontario; Municipality of Haldimand-Norfolk; Port Rowan; Long Point National Wildlife Area; 42°33'N, 80°4'W; Gravelly Bay Quadrangle, DEMR. **Continuity:** Established 1965; 7 yr. **Size:** 11.0 ha. **Description of Plot:** See *Aud. Field Notes* 19:630 (1965), *J. Field Ornithol.* 63(Suppl.):82–83 (1992) and 65(Suppl.):85–86 (1994). Shrub and ground covers have been monitored annually since 1991. Canopy cover measured in 1992 was 3%, based on 10 vegetation profile readings above 2 m at each of 20 sampling points. The ground cover estimate was 59%, based on readings below 1 m. Vegetation profile estimates in 1992, based on 10 line intersect readings at each of 20 sampling points were: <0.5 m, 56%; 0.5–1 m, 9%; 1–2 m, 2%; 2–5 m, 2%, >5 m, <1%. The number of shrub stems/ha based on counts in 10 1×10 m quadrats was 138,800 compared with 21,700 in 1991. Size class distribution: <0.5 m, 116,300; 0.5–1.0 m, 21,700; 1.0–2.0 m, 500; >2.0 m, 300 (compared with 20,000; 1200; 500; 0 in 1991). Shrub species in order of total abundance: Kalm's St. John's-wort 107,300 stems <0.5 m, 20,900 stems 0.5–1 m, 0 stems 1–2 m, 0 stems >2 m; riverbank grape 7800, 500, 0, 0; eastern red cedar 100, 0, 500, 300; common juniper 600, 0, 0, 0; sweetbrier 400, 200, 0, 0; poison ivy 100, 0, 0, 0. Changes from 1991 include large increases in the numbers of stems of Kalm's St. John's-wort (from 19,900 in 1991 to 128,200 in 1995) and riverbank grape (800, 8300). Ground layer species making up 90% of the vegetation cover, based on estimates in 10 1×1 m quadrats, or present in three or more quadrats: mosses 30%, in 4 quadrats; Kalm's St. John's-wort 16%, 4; Canada blue-joint 16%, 3; Canada bluegrass 9%, 5; wild strawberry 4%, 2; marsh fern 4%, 1; little bluestem 2%, 3; switch grass 2%, 2; twig-rush 1%, 3; bushy aster <1%, 5; sand dropseed <1%, 4; variegated scouring-rush <1%, 3; wormwood <1%, 3. Species which have changed more than 5% in the ground cover from 1991 include: mosses (increased by 26%), Kalm's St. John's-wort (+15%), Canada bluegrass (+6%), low nut-rush (-9%), needle spikerush (-6%). Non-living ground cover based on estimates in 10 1×1 m quadrats: bare sand 46%, litter 53%, wood and sticks <1%. **Weather:** Mean start temp., 17.3°C (range 13–26°C). Mostly clear, calm, and very dry. **Coverage:** 30.5 h; 10 visits (8 sunrise, 2 sunset); 28, 30 May; 3, 5, 7, 10, 14, 22, 24, 29 Jun. **Census:** Tree Swallow, 22.0 (80; 21N); European Starling, 6.0 (22; 6N,3FL); Song Sparrow, 5.5 (20); Chip-

ping Sparrow, 5.0 (18); Field Sparrow, 3.0 (11); House Wren, 2.5 (1N); Killdeer, 2.0; Spotted Sandpiper, 2.0 (1N); Eastern Kingbird, 2.0 (1N); Northern Rough-winged Swallow, 2.0 (2N); Red-winged Blackbird, 2.0; Brown-headed Cowbird, 2.0; Common Grackle, 1.0 (3FL). **Total:** 13 species; 57.0 territories (207/40 ha). **Visitors:** Northern Harrier, Mourning Dove, Bank Swallow, American Crow, Brown Thrasher, Cedar Waxwing, Bobolink, American Goldfinch. **Remarks:** This study is part of a long-term project designed to monitor the response of vegetational and breeding bird communities to a reduction in deer browsing at Long Point, Lake Erie. **Other Observers:** Graeme Gibson, Richard Groves. **Acknowledgments:** I thank Jon McCracken for project supervision, Jane Bowles and Michael Bradstreet for measuring vegetation parameters, and the Canadian Wildlife Service for financial support.

69. HARDWOOD FOREST WITH SCATTERED PINE

BOSQUE DE MADERAS DURAS CON PINOS DISPERSOS

DOUGLAS J. WENTZEL

*Shaver's Creek Environmental Center, The Pennsylvania State University,
508A Keller Building, University Park PA 16802*

Site Number: PA1391026. **Location:** Pennsylvania; Huntingdon Co.; McAlevy's Fort; Stone Valley Recreation Area; 40°40'N, 77°55'W; Pine Grove Mills Quadrangle, USGS. **Continuity:** Established 1991; 5 yr. **Size:** 19.2 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):84 (1992). **Weather:** Mean start temp., 14.8°C (range 8–28°C). **Coverage:** 16.3 h; 8 visits (7 sunrise, 1 sunset); 28, 31 May; 7, 13, 16, 22, 29 Jun; 4 Jul. Maximum number of observers/visit, 3. **Census:** Ovenbird, 17.0 (35); Red-eyed Vireo, 13.0 (27); Common Yellowthroat, 8.0 (17); Wood Thrush, 6.5 (14); Gray Catbird, 5.0 (10); Eastern Wood-Pewee, 4.0 (8); Black-capped Chickadee, 4.0; Tufted Titmouse, 4.0; Scarlet Tanager, 4.0; Eastern Towhee, 4.0; Great Crested Flycatcher, 3.0 (6); White-breasted Nuthatch, 3.0; Downy Woodpecker, 2.0; Brown Creeper, 2.0; Blue-gray Gnatcatcher, 2.0; Northern Cardinal, 2.0; Indigo Bunting, 2.0; Chipping Sparrow, 2.0; Brown-headed Cowbird, 2.0; Blue Jay, 1.5; Yellow-billed Cuckoo, 1.0; Northern Flicker, 1.0; Red-breasted Nuthatch, 1.0; House Wren, 1.0; Blackburnian Warbler, 1.0; Worm-eating Warbler, 1.0; Song Sparrow, 1.0; Baltimore Oriole, 1.0; American Robin, 0.5; Black-throated Green Warbler, 0.5. **Total:** 30 species; 100.0 territories (208/40 ha). **Visitors:** Broad-winged Hawk, Ruffed Grouse, Wild Turkey, Mourning Dove, Barred Owl, Belted Kingfisher, Red-bellied Woodpecker, Pileated Woodpecker, Eastern Phoebe, American Crow, Brown Thrasher, Cedar Waxwing, Pine Warbler, Louisiana Waterthrush, American Goldfinch. **Other Observer:** Nick Bolgiano.

70. MIXED HARDWOOD–HEMLOCK–WHITE PINE FOREST

BOSQUE MIXTO DE MADERAS DURAS, PICEA Y PINO BLANCO

GREGORY W. GROVE

R.R. #1, Box 483, Petersburg PA 16669

Site Number: PA1394005. **Location:** Pennsylvania; Huntingdon Co.; McAlevy's Fort; Detweiler's Run; 40°43'N, 77°45'W; McAlevy's Fort and Barryville Quadrangles, USGS. **Continuity:** Established 1994; 2 yr. **Size:** 27.0 ha. **Description of Plot:** See *J. Field Ornithol.* 66(Suppl.):81 (1995). **Weather:** Mean start temp., 8.4°C (range 4–17°C). **Coverage:** 15.5 h; 8 visits (8 sunrise); 8, 16, 23, 27, 30 May; 5, 13, 22 Jun. **Census:** Red-eyed Vireo, 23.0 (34); Ovenbird, 17.0 (25); Canada Warbler, 11.0 (16); Acadian Flycatcher, 10.0 (15; 1N); Black-throated Green Warbler, 10.0; Blackburnian Warbler, 10.0; Black-throated Blue Warbler, 5.0 (7); Black-and-white Warbler, 5.0; Hooded Warbler, 5.0; Scarlet Tanager, 5.0; Veery, 4.0 (6); Blue Jay, 3.0 (4); Eastern Towhee, 3.0; Dark-eyed Junco, 3.0; Brown-headed Cowbird, 3.0; Downy Woodpecker, 2.0; Black-capped Chickadee, 2.0; Winter Wren, 2.0; Wood Thrush, 2.0 (2FL); Solitary Vireo, 2.0; Worm-eating Warbler, 2.0; Louisiana Waterthrush, 2.0; Chipping Sparrow, 2.0; Barred Owl, 1.0; Hairy Woodpecker, 1.0; Pileated Woodpecker, 1.0; Great Crested Flycatcher,

1.0; Brown Creeper, 1.0. **Total:** 28 species; 138.0 territories (204/40 ha). **Visitors:** Ruffed Grouse, Yellow-billed Cuckoo, Northern Flicker, Eastern Wood-Pewee, Common Raven, White-breasted Nuthatch.

71. MATURE UPLAND OAK-BEECH-WHITE PINE FOREST

BOSQUE MADURO DE ROBLE-HAYA-PINO BLANCO EN ALTURAS

WILLIAM R. EDDLEMAN & MARY J. MURRAY

Dept. of Biology—MS6200, Southeast Missouri State Univ., Cape Girardeau MO 63701-4799

Site Number: RI1291062. **Location:** Rhode Island; Kent Co.; West Greenwich; Escoheag; 41°36'N, 71°46'W; Voluntown Quadrangle, USGS. **Continuity:** Established 1991; 5 yr. **Size:** 10.2 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):84–85 (1992). **Weather:** Mean start temp., 13.2°C (range 9–20°C). May mean temperature (13.0°C) was slightly below normal (13.3°C), June mean temperature (18.9°C) was above normal (18.3°C), as was July mean temperature (22.9°C; normal 21.4°C). May precipitation (10.7 cm) was below normal (11.0 cm), June precipitation (9.0 cm) was near normal (9.5 cm), but July precipitation (3.2 cm) was much below normal (8.3 cm). Source: University of Rhode Island Weather Station, Kingston, RI. **Coverage:** 19.4 h; 9 visits (9 sunrise); 22, 25, 31 May; 5, 9, 21, 22, 27 Jun; 3 Jul. **Census:** Red-eyed Vireo, 18.5 (73; 1N); Ovenbird, 17.5 (69); Tufted Titmouse, 6.0 (24; 6FL); Acadian Flycatcher, 4.0 (16; 2N); Wood Thrush, 4.0 (1N); Downy Woodpecker, 3.0 (12); Veery, 3.0; Scarlet Tanager, 3.0; Great Crested Flycatcher, 2.0; White-breasted Nuthatch, 2.0; Hermit Thrush, 2.0; Pine Warbler, 2.0; Red-bellied Woodpecker, 1.5; Red-shouldered Hawk, 1.0; Broad-winged Hawk, 1.0; Hairy Woodpecker, 1.0 (2FL); Eastern Wood-Pewee, 1.0; Blue Jay, 1.0; Black-capped Chickadee, 1.0; Black-throated Green Warbler, 1.0; Black-and-white Warbler, 1.0; Hooded Warbler, 1.0; Northern Cardinal, 1.0; Eastern Towhee, 1.0; Pileated Woodpecker, 0.5. **Total:** 25 species; 80.0 territories (314/40 ha). **Visitors:** Black-billed Cuckoo, American Crow, Yellow-throated Vireo, American Redstart, Common Yellowthroat, Brown-headed Cowbird. **Remarks:** Two additional houses have been built just north of the plot in the last year. **Acknowledgments:** Thanks to the Rhode Island Department of Environmental Management, Division of Forestry for permitting use of the site.

72. SCRUB OAK FOREST WITH SCATTERED LONGLEAF PINE

MATORRAL DE ROBLE CON PINOS DE HOJA LARGA DISPERSOS

CHÉRIE IRBY*, SIDNEY GAUTHREAUX* & WILLIAM JARVIS

**Dept. of Biological Sciences, Clemson University, Clemson SC 29634–1903*

Site Number: SC0493102. **Location:** South Carolina; Aiken Co.; Williston; Savannah River Site; 33°22'N, 81°30'W; New Ellenton SE Quadrangle, USGS. **Continuity:** Established 1993; 2 yr. **Size:** 12.2 ha. **Description of Plot:** See *J. Field Ornithol.* 65(Suppl.):94 (1994). **Weather:** Mean start temp., 22.2°C (range 17–31°C). The mean high temperature for May was 31°C (32-yr average is 29°C); mean low temperature was 20°C (32-yr average is 16°C). The range of temperatures for May was 11–37°C; mean daily temperature was 25°C. The mean high temperature for June was 29°C (32-yr average is 32°C); mean low temperature was 19°C (32-yr average is 16°C). The range of temperatures for June was 14–34°C; mean daily temperature was 24°C. May precipitation was 4.50 cm (normal is 9.86 cm). June precipitation was 22.4 cm (normal is 11.4 cm). Source: Westinghouse Savannah River Co., Savannah River Technology Ctr. **Coverage:** 15.3 h; 10 visits (8 sunrise, 2 sunset); 12, 16, 17, 26, 29 May; 14, 15, 21, 26, 28 Jun. **Census:** Great Crested Flycatcher, 2.0; Pine Warbler, 2.0; Summer Tanager, 2.0; Ovenbird, 1.5; Mourning Dove, 1.0; Yellow-billed Cuckoo, 1.0; Red-bellied Woodpecker, 1.0; Blue Jay, 1.0; Carolina Chickadee, 1.0; Tufted Titmouse, 1.0; Brown-headed Nuthatch, 1.0; Blue-gray Gnatcatcher, 1.0; Black-and-white Warbler, 1.0; Wood Thrush, 0.5; Brown Thrasher, 0.5. **Total:** 15 species; 17.5 territories (57/40 ha). **Visitors:** Red-shouldered Hawk, Common Nighthawk, Downy Woodpecker, Northern Flicker, Pileated Woodpecker, Purple

Martin, Barn Swallow, American Crow, Fish Crow, Carolina Wren, Prairie Warbler, Northern Cardinal, Chipping Sparrow, Brown-headed Cowbird. **Acknowledgments:** We thank the Department of Energy and the Savannah River Forest Station of the U.S. Forest Service for financial support and access to the area.

73. TUPELO-CYPRESS SWAMP

PANTANO DE CIPRES Y TUPELO

CHÉRIE IRBY*, SIDNEY GAUTHREAUX* & WILLIAM JARVIS

*Dept. of Biological Sciences, Clemson University, Clemson SC 29634-1903

Site Number: SC0492033. **Location:** South Carolina; Barnwell Co.; Martin; Savannah River Site; 33°7'N, 81°39'W; Girard Quadrangle, USGS. **Continuity:** Established 1992; 2 yr. **Size:** 11.0 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):80–81 (1993). Water levels were significantly lower than they were during the 1992 census. Portions of the plot had no standing water during this field season, although soils were saturated. Puddles, 0.3–0.9 m deep, were scattered throughout the plot. Many were interconnected by narrow flow-ways, especially after heavy rains. The three open ponds, although more shallow, remained as in the 1992 census. **Weather:** Mean start temp., 22.6°C (range 15–34°C). The mean high temperature for May was 31°C (32-yr average is 29°C); mean low temperature was 20°C (32-yr average is 16°C). The range of temperatures for May was 11–37°C; mean daily temperature was 25°C. The mean high temperature for June was 29°C (32-yr average is 32°C); mean low temperature was 19°C (32-yr average is 16°C). The range of temperatures for June was 14–34°C; mean daily temperature was 24°C. May precipitation was 4.50 cm (normal is 9.86 cm). June precipitation was 22.4 cm (normal is 11.4 cm). Source: Westinghouse Savannah River Co., Savannah River Technology Ctr. **Coverage:** 23.1 h; 10 visits (8 sunrise, 2 sunset); 18, 23, 25, 30 May; 1, 7, 8, 14, 22, 27 Jun. **Census:** Northern Parula, 13.5 (49); Acadian Flycatcher, 9.5 (35); Prothonotary Warbler, 6.5 (24; 1N); Carolina Wren, 5.5 (20); Red-bellied Woodpecker, 2.0; Tufted Titmouse, 2.0 (7FL); White-breasted Nuthatch, 2.0; Blue-gray Gnatcatcher, 2.0; Carolina Chickadee, 1.5; Mourning Dove, 1.0; Yellow-billed Cuckoo, 1.0; Downy Woodpecker, 1.0; Great Crested Flycatcher, 1.0; Red-eyed Vireo, 1.0; Northern Cardinal, 1.0; White-eyed Vireo, 0.5; Great Blue Heron, +; Great Egret, +; Summer Tanager, +. **Total:** 19 species; 51.0 territories (185/40 ha). **Visitors:** White Ibis, Wood Stork, Wood Duck, Cooper's Hawk, Chimney Swift, Hairy Woodpecker, Pileated Woodpecker, Blue Jay, American Crow, Fish Crow, Brown-headed Nuthatch, Yellow-throated Vireo, Yellow-throated Warbler, Common Grackle. **Acknowledgments:** We thank the Department of Energy and the Savannah River Forest Station of the U.S. Forest Service for financial support and access to the area.

74. MATURE DECIDUOUS-CONIFEROUS FOREST WITH STREAM

BOSQUE MADURO DECIDUO-Y-DE CONIFEROS CON ARROYO

STEPHEN J. & BARBARA H. STEDMAN

2675 Lakeland Dr., Cookeville TN 38506

Site Number: TN1491015. **Location:** Tennessee; Putnam Co.; Cookeville; City Lake Natural Area (Old Cookeville Filtration Plant); 36°8'N, 85°27'W; Cookeville East Quadrangle, USGS. **Continuity:** Established 1991; 5 yr. **Size:** 10.2 ha. **Description of Plot:** See *J. Field Ornithol.* 62(Suppl.):17 (1991), 63(Suppl.):18–19 (1992), and 65(Suppl.):95 (1994). **Weather:** Mean start temp., 16.3°C (range 5–22°C). It was both warmer and drier than long-term averages for April, May, and June and especially so for July. **Coverage:** 20.3 h; 12 visits (12 sunrise); 26 Apr; 25 May; 2, 8, 9, 10, 11, 12, 13, 14 Jun; 10, 12 Jul. **Census:** Northern Cardinal, 6.0 (24; 1N, 5FL); Tufted Titmouse, 4.0 (16); Carolina Chickadee, 3.0 (12); Eastern Phoebe, 2.5 (2FL); Blue Jay, 2.0; European Starling, 2.0; Eastern Towhee, 2.0 (1FL); Carolina Wren, 1.5; American Robin, 1.5 (2N); Song Sparrow, 1.5; Common Grackle, 1.5 (1FL); Downy Woodpecker, 1.0; Northern Rough-winged Swallow, 1.0; Blue-gray Gnatcatcher, 1.0; Wood Thrush,

1.0 (1FL); Yellow-throated Vireo, 1.0 (1FL); Red-eyed Vireo, 1.0; Louisiana Waterthrush, 1.0 (1FL); Kentucky Warbler, 1.0; Red-winged Blackbird, 1.0; Wood Duck, 0.5 (8FL); Cooper's Hawk, 0.5 (2FL); Mourning Dove, 0.5; Eastern Wood-Pewee, 0.5; Great Crested Flycatcher, 0.5; Tree Swallow, 0.5; American Crow, 0.5; White-breasted Nuthatch, 0.5; Gray Catbird, 0.5 (1N); Indigo Bunting, 0.5; Broad-winged Hawk, + (1N); Belted Kingfisher, +; Red-bellied Woodpecker, +; Yellow-throated Warbler, +; Pine Warbler, +; Common Yellowthroat, +; Summer Tanager, +; Brown-headed Cowbird, +. **Total:** 38 species; 41.5 territories (163/40 ha). **Visitors:** Great Blue Heron, Green Heron, Yellow-billed Cuckoo, Chimney Swift, Ruby-throated Hummingbird, Northern Flicker, Acadian Flycatcher, Eastern Kingbird, White-eyed Vireo, Warbling Vireo, Worm-eating Warbler, Blue Grosbeak, House Finch, American Goldfinch. **Remarks:** The presence of Cooper's Hawks on or near the plot may have contributed to the lowest species total in five years and the second-lowest number of territories in five years.

75. MIXED PINE AND HARDWOOD RIDGE

CERRO DE MADERAS DURAS PINOS MIXTOS

A. CLAIR MELLINGER

Biology Dept., Eastern Mennonite University, Harrisonburg VA 22801

Site Number: VA1391037. **Location:** Virginia; Augusta Co.; Briery Branch; Reddish Knob (Hunter's Access Road); 38°27'N, 79°15'W; Palo Alto Quadrangle, USGS. **Continuity:** Established 1991; 2 yr. This plot is part of a larger plot that was first censused in 1981. **Size:** 6.1 ha. **Description of Plot:** See *Am. Birds* 36:68 (1982) and *J. Field Ornithol.* 63(Suppl.):87 (1992). **Weather:** Mean start temp., 10.7°C (range 5–17°C). There was very little rainfall during the first two weeks of the study period. Very normal weather overall. **Coverage:** 13.9 h; 8 visits (6 sunrise, 1 sunset); 30, 31 May; 1, 2, 7, 14, 21, 23 Jun. **Census:** Eastern Towhee, 9.0 (59); Veery, 8.0 (52); Canada Warbler, 4.5 (30); Dark-eyed Junco, 4.0 (26; 1N); Gray Catbird, 2.0; Solitary Vireo, 2.0; Chestnut-sided Warbler, 2.0; Blue Jay, 1.0; Black-capped Chickadee, 1.0; Black-throated Blue Warbler, 1.0; Black-and-white Warbler, 1.0; Ruffed Grouse, + (5FL); Ovenbird, +; Hooded Warbler, +; Scarlet Tanager, +. **Total:** 15 species; 35.5 territories (233/40 ha). **Visitors:** Broad-winged Hawk, Common Raven. **Acknowledgments:** Scott Klinger and the George Washington National Forest supported this year's census.

76. SLOPED MIXED DECIDUOUS–CONIFEROUS FOREST

BOSQUE DE PENDIENTE MIXTO DE DECIDUO–CONIFEROS

FRED MERRILL

Vermont Conservation Biology, RR#1, Box 565, Woodstock VT 05091

Site Number: VT2791010. **Location:** Vermont; Windsor Co.; Pomfret; High Pastures Road, SA#1; 43°37'N, 72°30'W; Quechee Quadrangle, USGS. **Continuity:** Established 1991; 4 yr. **Size:** 12.3 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):87–88 (1992). **Weather:** Mean start temp., 14.6°C (range 5–20°C). The weather was warm and dry. June was the fifth warmest and the driest on record. July precipitation was normal but unevenly distributed. Mean temperature and total precipitation (departures from 30-yr norms in parentheses): May, 11.5°C (−1.0°C), 5.4 cm (−4.05 cm); June, 18.0°C (+0.5°C), 2.49 cm (−7.42 cm); July, 21.5°C (+1.7°C), 9.53 cm (+0.18 cm). Source: Central Vermont Public Service Co., Cavendish, VT. **Coverage:** 12.3 h; 7 visits (6 sunrise, 1 sunset); 27, 28 May; 16 Jun; 2, 8, 9, 22 Jul. **Census:** Ovenbird, 7.0 (23); Black-capped Chickadee, 5.0 (16; 1N); Red-eyed Vireo, 5.0 (2N); Hermit Thrush, 4.5 (15); Dark-eyed Junco, 4.0 (13; 1N); Black-throated Green Warbler, 3.0 (10); Ruffed Grouse, 2.5 (5FL); American Robin, 2.5; Eastern Wood-Pewee, 2.0; Blue Jay, 2.0; Black-and-white Warbler, 2.0; Scarlet Tanager, 2.0; Rose-breasted Grosbeak, 2.0; Hairy Woodpecker, 1.5; Barred Owl, 1.0; Yellow-bellied Sapsucker, 1.0; Downy Woodpecker, 1.0;

Great Crested Flycatcher, 1.0; American Crow, 1.0; White-breasted Nuthatch, 1.0; Brown Creeper, 1.0; Veery, 1.0; Black-throated Blue Warbler, 1.0; Yellow-rumped Warbler, 1.0; Winter Wren, 0.5; Wood Thrush, 0.5; Solitary Vireo, 0.5; Chestnut-sided Warbler, 0.5; White-throated Sparrow, 0.5. **Total:** 29 species; 57.5 territories (187/40 ha). **Visitors:** Black-billed Cuckoo, Blackburnian Warbler, Common Yellowthroat. **Acknowledgments:** Ray Fitzgibbon supplied weather data.

77. TRANSITION FOREST AND THICKET

TRANSICION DE BOSQUE-MATORRAL

ROBERT A. ASKINS & WENDY R. DREYER

Dept. of Zoology, Connecticut College, 270 Mohegan Ave., New London CT 06320

Location: Connecticut; New London Co.; New London; Bolleswood Natural Area, Connecticut College Arboretum; 41°22'N, 72°6'W; Uncasville Quadrangle, USGS. **Continuity:** Established 1953; 24 yr. **Size:** 6.5 ha. **Description of Plot:** See *Am. Birds* 37:73–74 (1983). **Weather:** Mean start temp., 14.3°C (range 7–21°C). There was a severe drought in SE Connecticut during the summer of 1995. The weather was generally calm and hot, and there was virtually no rain after 3 June. **Coverage:** 7.7 h; 10 visits (10 sunrise); 16, 21, 27 May; 2, 10, 17, 22, 28 Jun; 4, 8 Jul. **Census:** Gray Catbird, 4.5 (28); Tufted Titmouse, 2.5; House Wren, 2.5; Northern Cardinal, 2.5; White-eyed Vireo, 2.0; Blue Jay, 1.5; American Robin, 1.5; Red-eyed Vireo, 1.5; Northern Flicker, 1.0; Black-capped Chickadee, 1.0; Eastern Towhee, 1.0; Red-bellied Woodpecker, 0.5; Downy Woodpecker, 0.5; White-breasted Nuthatch, 0.5; Veery, 0.5; Wood Thrush, 0.5; Blue-winged Warbler, 0.5; Common Yellowthroat, 0.5; Hooded Warbler, 0.5; Brown-headed Cowbird, 0.5; Hairy Woodpecker, +; Eastern Wood-Pewee, +; Great Crested Flycatcher, +; American Crow, +; Carolina Wren, +; Chestnut-sided Warbler, +; Black-and-white Warbler, +; Worm-eating Warbler, +; Ovenbird, +. **Total:** 29 species; 26.0 territories (160/40 ha). **Visitors:** Northern Mockingbird, Cedar Waxwing, Prairie Warbler, Common Grackle. **Remarks:** Eastern Towhee has declined steadily since 1953, reaching a new low of 1.0 territory this year. This decline may be due to maturation of much of the thicket into young forest. **Acknowledgments:** Glenn Dreyer and his staff at the Connecticut College Arboretum facilitated this study.

78. DECIDUOUS FOREST WITH POND AND BROOK

BOSQUE DECIDUO CON CHARCA Y ARROYO

JOHN BROTHERTON

249 East Crescent Ave., Mahwah NJ 07430

Site Number: NJ1064032. **Location:** New Jersey; Bergen Co.; Mahwah; Campgaw Mountain Reservation; 41°4'N, 74°11'W; Ramsey and Ramapo Quadrangles, USGS. **Continuity:** Established 1964; 32 yr. **Size:** 16.2 ha. **Description of Plot:** See *Aud. Field Notes* 19:623–624 (1965). **Weather:** Mean start temp., 13.8°C (range 6–22°C). **Coverage:** 9.0 h; 9 visits (9 sunrise); 16, 18, 23, 25 May; 1, 8, 13, 15, 20 Jun. Maximum number of observers/visit, 4. **Census:** Red-eyed Vireo, 4.0 (10); Ovenbird, 4.0; Veery, 3.0 (7); Wood Thrush, 3.0; Gray Catbird, 3.0; Downy Woodpecker, 2.0; Northern Flicker, 2.0; Eastern Wood-Pewee, 2.0; Black-capped Chickadee, 2.0; Tufted Titmouse, 2.0; Common Yellowthroat, 2.0; Scarlet Tanager, 2.0; Northern Cardinal, 2.0; Mourning Dove, 1.0; Red-bellied Woodpecker, 1.0; Eastern Phoebe, 1.0; Great Crested Flycatcher, 1.0; Tree Swallow, 1.0; Blue Jay, 1.0; White-breasted Nuthatch, 1.0; Louisiana Waterthrush, 1.0; Rose-breasted Grosbeak, 1.0; Common Grackle, 1.0. **Total:** 23 species; 43.0 territories (106/40 ha). **Visitors:** Canada Goose, Wood Duck, Mallard, Yellow-billed Cuckoo, Pileated Woodpecker, American Crow, American Robin, Northern Mockingbird, Eastern Towhee, Brown-headed Cowbird, Baltimore Oriole. **Other Observers:** J. Bristow, N. Bristow, H. Carola, M. Kantrowitz.

79. RESIDENTIAL SUBDIVISION

SUBDIVISION RESIDENCIAL

DAVID E. FANTINA

15 Sunset Drive, Bernardsville NJ 07924

Site Number: NJ1095024. **Location:** New Jersey; Somerset Co.; Bernardsville; 40°42'N, 74°34'W; Bernardsville Quadrangle, USGS. **Continuity:** New. **Size:** 20.0 ha. **Description of Plot:** An irregular, roughly rectangular plot (shortest side 410 m, longest 520 m). The plot is a fully-developed residential subdivision with the majority of houses 20–40 years old and with lot sizes of 0.1–0.2 ha. The lots are landscaped with a variety of mature trees and ornamental shrubs. A quantitative survey of the canopy trees adapted from the method described by F.C. James & H.H. Shugart, Jr. (1970. *Aud. Field Notes* 24:727–736) yielded the following results: Trees, > 13 m tall, based on 4 approximately 0.28-ha rectangular samples, 46/ha. Species comprising 73% of the total number of trees [figures after each are trees/ha, relative density (%), and frequency (%)]: silver maple, 11, 21, 50; sugar maple, 9, 17, 100; black walnut, 8, 15, 50; red maple, 6, 12, 50. The most common understory species include saplings of the canopy species plus a wide variety of other trees including: blue spruce, white pine, dogwoods, and apple. A variety of shrubs are prevalent throughout the plot including: privet, forsythia, and rhododendron. Virtually all areas of the plot that are not covered by streets, driveways, and houses are covered by regularly mowed lawns. Various types of fences and sheds are common, and utility poles line all of the streets within the plot. Canopy cover varies from 0% to 100% on each lot with total canopy cover estimated at 25%; average canopy height, 15 m (range 10–20 m). There is one intermittent stream with a maximum width of 1 m and a maximum depth of 0.1 m. **Edge:** The plot is surrounded on three sides by similar habitat and is adjacent to an active quarry (at least 30 m lower in elevation) on part of its fourth side. The tract of similar habitat is > 500 ha in size. **Topography and Elevation:** The plot is nearly level with a S-facing slope of < 5% grade. Minimum elevation 120 m, maximum 140 m. **Weather:** Mean start temp., 16.9°C (range 11–21°C). May mean temperature averaged 1.1°C lower than normal; June mean temperature averaged 0.7°C lower than normal; July mean temperature averaged 1.0°C higher than normal. Year-to-date precipitation at the end of July was 16.4 cm less than normal. Source: weather station in New Brunswick, NJ (30 km S of plot). **Coverage:** 6.0 h; 10 visits (6 sunrise, 4 sunset); 1, 15, 16, 22, 27, 30 Jun; 3, 6, 7, 8 Jul. **Census:** American Robin, 14.0 (28; 2N, 8FL); Common Grackle, 10.0 (20; 2FL); House Sparrow, 9.0 (18; 1N); Gray Catbird, 8.0 (16); Song Sparrow, 6.0 (12); House Wren, 5.5 (11; 1N); Mourning Dove, 5.0 (10); Blue Jay, 5.0; European Starling, 5.0 (2FL); House Finch, 5.0; American Crow, 4.0 (8); Black-capped Chickadee, 4.0; Tufted Titmouse, 3.0 (6); Northern Cardinal, 3.0; Downy Woodpecker, 2.0; Northern Mockingbird, 2.0; Red-bellied Woodpecker, 1.0; Northern Flicker, 1.0; White-breasted Nuthatch, 1.0; Chipping Sparrow, 1.0; Brown-headed Cowbird, 1.0. **Total:** 21 species; 95.5 territories (191/40 ha). **Visitors:** Rock Dove, Chimney Swift, Carolina Wren, Prairie Warbler, Baltimore Oriole. **Remarks:** One Prairie Warbler was heard singing regularly on the plot in late May and early June and is believed to have bred on the plot.

80. FOREST WETLAND AND BORDERING CLIFF AND TALUS

ANEGADO FORESTADO Y FARALLONES Y TALUDES QUE LO BORDEAN

ROBERT LARSEN, LIN FAGAN, LYNN BOWDERY & BETSY CORNWALL

Mohonk Preserve, Inc., 1000 Mountain Rest Road, Mohonk Lake, New Paltz NY 12561

Location: New York; Ulster Co.; Rochester; Sleepy Hollow; 41°46'N, 74°11'W; Mohonk Lake Quadrangle, USGS. **Continuity:** New. **Size:** 22.3 ha. **Description of Plot:** An oblong plot (244 × 915 m) located on the Shawangunk Ridge. It is made up of a wooded swamp at the base of a cliff and talus slope. The cliff area above the wetlands is included in the plot. The wooded swamp has a closed canopy dominated by eastern hemlock, red maple, black birch, and yellow birch (canopy height approximately 15 m). The understory is dominated by spicebush and highbush blueberry. The ground cover is dominated by royal fern, cinnamon

fern, sensitive fern, goldthread, and false nettle. The cliff vegetation is typical of a pitch pine community. There is one permanent stream and one intermittent stream with a maximum width of 3 m and a maximum depth of 0.5 m, and there are ephemeral pools during the breeding season. **Edge:** Less than 25% of the plot's perimeter is bordered by the same habitat. **Topography and Elevation:** The plot has a SE-facing slope of > 16% grade. Minimum elevation 281 m, maximum 360 m. **Weather:** Mean start temp., 17.6°C (range 13–24°C). May temperatures were nearly normal with 4.6 cm less rain than normal. June was much warmer than normal (+2.2°C) with 5.3 cm less rain than normal. July was much warmer than normal (+1.3°C) with 9.3 cm more rain than normal. Source: Mohonk Lake Cooperative Weather Station. **Coverage:** 28.8 h; 15 visits (14 sunrise, 1 sunset); 16, 25 May; 1, 6, 8, 15, 18, 20, 23, 30 Jun; 4, 10, 13, 14, 24 Jul. Maximum number of observers/visit, 4. **Census:** Wood Thrush, 4.0 (7; 1N, 1FL); Mourning Dove, 3.0 (5); Eastern Wood-Pewee, 3.0; Eastern Phoebe, 3.0; Black-capped Chickadee, 3.0; Red-eyed Vireo, 3.0; Black-and-white Warbler, 3.0; Ovenbird, 3.0; Louisiana Waterthrush, 3.0; White-breasted Nuthatch, 2.0; Hermit Thrush, 2.0; Black-throated Blue Warbler, 2.0; Prairie Warbler, 2.0; American Redstart, 2.0; Worm-eating Warbler, 2.0 (3FL); Scarlet Tanager, 2.0; Eastern Towhee, 2.0; Brown-headed Cowbird, 2.0; Ruffed Grouse, 1.0; Downy Woodpecker, 1.0; Northern Flicker, 1.0; Pileated Woodpecker, 1.0; Great Crested Flycatcher, 1.0 (2FL); Blue Jay, 1.0; Brown Creeper, 1.0; Winter Wren, 1.0; Chipping Sparrow, 1.0; Dark-eyed Junco, 1.0 (3FL). **Total:** 28 species; 56.0 territories (100/40 ha). **Visitors:** Wild Turkey, Red-bellied Woodpecker, American Crow, American Robin, Solitary Vireo, Chestnut-sided Warbler, Black-throated Green Warbler, Pine Warbler, Indigo Bunting, Common Grackle, American Goldfinch. **Other Observers:** Barbara Rubin, Paul Huth. **Acknowledgments:** Thanks for the cooperation of the Mohonk Preserve including Paul Huth, Director of the Daniel Smiley Research Center, Mohonk Preserve.

81. SECOND-GROWTH BROADLEAF-CONIFEROUS FOREST WITH WETLAND AREAS

BOSQUE SECUNDARIO DE CONIFEROS DE HOJA ANCHA CON AREAS ANEGADAS

THOMAS H. GREG

1415 Campus Dr, Amherst NY 14226

Site Number: NY2494046. **Location:** New York; Wyoming Co.; Java Center; Beaver Meadow Wildlife Refuge; 42°40'N, 78°22'W; Strykersville Quadrangle, USGS. **Continuity:** Established 1994; 2 yr. **Size:** 11.0 ha. **Description of Plot:** See *J. Field Ornithol.* 66(Suppl.):94 (1995). **Weather:** Mean start temp., 13.8°C (range 7–24°C). Conditions were favorable during all visits. **Coverage:** 13.3 h; 10 visits (6 sunrise, 1 sunset); 6, 23, 31 May; 6, 13, 21 Jun; 11, 12, 18 Jul; 7 Aug. **Census:** Red-eyed Vireo, 5.0 (18); Common Yellowthroat, 5.0; Veery, 4.0 (15); Downy Woodpecker, 3.0 (11); Blue Jay, 3.0; Black-capped Chickadee, 3.0; American Robin, 3.0; Ovenbird, 3.0; Dark-eyed Junco, 3.0; House Wren, 2.5; Ruffed Grouse, 2.0; Great Crested Flycatcher, 2.0; White-breasted Nuthatch, 2.0; Brown Creeper, 2.0; Cedar Waxwing, 2.0; Swamp Sparrow, 2.0; Brown-headed Cowbird, 2.0; Hairy Woodpecker, 1.5; Wood Thrush, 1.5 (1N); Solitary Vireo, 1.5; Black-throated Green Warbler, 1.5; Ruby-throated Hummingbird, 1.0; Yellow-bellied Sapsucker, 1.0; Eastern Wood-Pewee, 1.0; American Crow, 1.0; Northern Waterthrush, 1.0; Canada Warbler, 1.0; Scarlet Tanager, 1.0; Hooded Warbler, +. **Total:** 29 species; 61.5 territories (224/40 ha). **Visitors:** Broad-winged Hawk, Wild Turkey, Great Horned Owl, Northern Flicker, Pileated Woodpecker, Magnolia Warbler, Yellow-rumped Warbler, Northern Cardinal, Rose-breasted Grosbeak, White-throated Sparrow, Baltimore Oriole. **Remarks:** The only active nest found was that of a Wood Thrush. The nest contained five Wood Thrush eggs and no cowbird eggs. Adult cowbirds were observed on four of the ten visits, and young cowbirds were seen accepting food from a Hooded Warbler and a Red-eyed Vireo in separate observations. **Other Observer:** Gerry Rising. **Acknowledgments:** Thanks to Dave Junkin and the Beaver Meadow Managers committee for their permission for and support of this study. Thanks to Sandra and Walter Burton for their continued support of this study.

82. SUBURBAN BIRD SANCTUARY

SANTUARIO DE AVES SUBURBANO

MARY E. RICHARD

Theodore Roosevelt Sanctuary, Inc., 134 Cove Road, Oyster Bay NY 11771

Location: New York; Nassau Co.; Oyster Bay; Theodore Roosevelt Memorial Bird Sanctuary; 40°52'N, 73°30'W; Hicksville Quadrangle, USGS. **Continuity:** Established 1983; 13 yr. **Size:** 10.8 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):91–92 (1992). **Weather:** Mean start temp., 19.4°C (range 12–27°C). **Coverage:** 12.8 h; 8 visits (7 sunrise, 1 sunset); 1, 15, 28 Jun; 6, 12, 25 Jul; 4, 17 Aug. Maximum number of observers/visit, 3. **Census:** Hermit Thrush, 8.5 (31; 1N); American Robin, 7.5 (28; 1N); House Wren, 6.0 (22; 3N); Northern Cardinal, 6.0 (1N); Common Grackle, 5.5 (20; 2N); House Sparrow, 4.0 (15; 1N); Mourning Dove, 3.5 (13; 1N); Baltimore Oriole, 3.5 (3N); Red-bellied Woodpecker, 3.0 (11; 1N); Tufted Titmouse, 3.0 (1N); European Starling, 2.5 (1N); Chipping Sparrow, 2.5; Downy Woodpecker, 2.0 (1N); Northern Flicker, 2.0 (1N); Eastern Wood-Pewee, 1.5; Black-capped Chickadee, 1.5; Red-eyed Vireo, 1.5; Blue Jay, 1.0 (1N); American Crow, 1.0; White-breasted Nuthatch, 1.0; Orchard Oriole, 1.0 (1N); House Finch, 1.0 (1N); Yellow-billed Cuckoo, 0.5 (1N); Eastern Screech-Owl, 0.5 (1N); Hairy Woodpecker, 0.5; Carolina Wren, 0.5; Wood Thrush, 0.5; Song Sparrow, 0.5. **Total:** 28 species; 72.0 territories (267/40 ha). **Visitors:** Tree Swallow, Blue-gray Gnatcatcher, Veery, American Redstart, American Goldfinch. **Remarks:** There was tent caterpillar infestation. **Other Observers:** Michael Brust, Aaron Flesch, Scott Oggeri, Denise Trezza.

83. FIELD, RIDGE, SHRUBBY TREES, AND WOODS

CAMPOS, COLINAS, ARBUSTOS Y BOSQUES

MICHAEL F.G. CLARK

27 Skyline Dr, Dundas ON L9H 3S3

Location: Ontario; Municipality of Hamilton-Wentworth; Dundas; Dundas Valley Plot #1; 43°15'N, 79°54'W. **Continuity:** Established 1994; 2 yr. **Size:** 5.8 ha. **Description of Plot:** See *J. Field Ornithol.* 60(Suppl.):14 (1989) and 66(Suppl.):27–28 (1995). This reconfigured plot continues to “thicken up” almost yearly. The increasing invasion of brambles in particular, as well as a variety of herbs, is steadily reducing the areas of open grasses. The brambles, along with hawthorns and occasional wild (Carolina) rose, are creating a kind of “thorn city” environment. **Weather:** Mean start temp., 21.3°C (range 15–24°C). The mean temperature was almost 2°C above the regional 30-yr norm for June, but was near the norm for the entire 4-month census period. Precipitation totals were considerably below the norm for the census period (~8.54 cm), and 3.87 cm below the previous 2-yr average per month. Source: Environment Canada. **Coverage:** 17.5 h; 8 visits (3 sunset); 6, 13 May; 6, 10, 22, 24 Jun; 1, 14 Jul. **Census:** Yellow Warbler, 41.0 (283); Gray Catbird, 27.5 (190); Song Sparrow, 16.0 (110; 1FL); Blue-winged Warbler, 8.0 (55); Field Sparrow, 8.0; American Goldfinch, 7.0 (48); Common Yellowthroat, 6.0 (41); Northern Cardinal, 6.0; Baltimore Oriole, 4.0 (28; 1N); American Robin, 3.5 (24); Willow Flycatcher, 3.0 (21); Indigo Bunting, 2.0; Red-winged Blackbird, 2.0; Common Grackle, 2.0 (2FL); Yellow-billed Cuckoo, 1.0; Ruby-throated Hummingbird, 1.0; House Wren, 1.0; Brown Thrasher, 1.0; Golden-winged Warbler, 1.0; Northern Flicker, 0.5; Red-eyed Vireo, 0.5. **Total:** 21 species; 142.0 territories (979/40 ha). **Visitors:** American Woodcock, Mourning Dove, Downy Woodpecker, Great Crested Flycatcher, Eastern Kingbird, Blue Jay, American Crow, Black-capped Chickadee, Cedar Waxwing, European Starling, Warbling Vireo, Nashville Warbler, Rose-breasted Grosbeak, Brown-headed Cowbird. **Remarks:** The exceptional dryness may have helped produce the highest breeding pair total to date (142.0 territories) on this reconfigured plot, although the breeding species total remained constant. Yellow Warblers, Gray Catbirds, and Song Sparrows were once again the dominant breeders (60% of total territories) with Yellow Warbler and Gray Catbird numbers reaching all-time highs. Warblers (4 species, 56.0 total territories) were the most numerous breeders among species groups with the Blue-winged Warbler total nearly double its previous

high (4.5 territories in 1993). Willow Flycatchers and Yellow-billed Cuckoos bred this year after several years absence. Ruby-throated Hummingbird and Red-eyed Vireo were new to the plot this year.

84. SCATTERED MIXED CONIFEROUS FOREST IN SUBALPINE MEADOWS AND SPRUCE BOGS

BOSQUE MIXTO Y DISPERSO DE CONIFEROS EN PRADERAS SUBALPINAS Y CIENAGAS DE ABETOS

ROBERT A. HUDSON

P.O. Box 164, Independence CA 93526-0164

Location: Oregon; Grant Co.; Bates; Vinegar Hill-Indian Rock Scenic Area, Malheur National Forest; 44°45'N, 118°45'W; Desolation Butte Quadrangle, USGS. **Continuity:** Established 1973; 23 yr. **Size:** 32.4 ha. **Description of Plot:** See *Am. Birds* 27:1002-1003 (1973). **Weather:** Mean start temp., 7.7°C (range 2-12°C). Heavy snowpack from above-average winter-spring precipitation made census timing later than normal. Road access was blocked by snowdrifts until 26 June. **Coverage:** 12.9 h; 9 visits (9 sunrise); 29, 30 Jun; 1, 2, 4, 5, 6, 8, 9 Jul. **Census:** Chipping Sparrow, 5.0 (6); Lincoln's Sparrow, 3.0 (4); White-crowned Sparrow, 3.0; Ruby-crowned Kinglet, 2.0; Fox Sparrow, 2.0; Spotted Sandpiper, 1.0 (1N,2FL); Steller's Jay, 1.0; American Robin, 1.0; Varied Thrush, 1.0; Yellow-rumped Warbler, 1.0. **Total:** 10 species; 20.0 territories (25/40 ha). **Visitors:** Northern Flicker, Mountain Chickadee, Red-breasted Nuthatch, Mountain Bluebird, Cassin's Finch. **Remarks:** A major fire caused by lightning in August 1994 burned on two sides of the plot, but only minor spot fires were within the plot. This may affect future censuses, but there were no noteworthy changes this year. **Acknowledgments:** Malheur National Forest, John Day, OR 97845.

85. COASTAL FRESHWATER MARSH

PANTANO COSTANERO DE AGUA DULCE

JOHN P. KELLY

Audubon Cypress Grove Preserve, P.O. Box 808, Marshall CA 94940

Location: California; Marin Co.; Marshall; Livermore Marsh; 38°10'N, 122°53'W; Tomales Quadrangle, USGS. **Continuity:** Established 1988; 8 yr. **Size:** 10.5 ha. **Description of Plot:** See *J. Field Ornithol.* 60(Suppl.):64 (1989). Detailed quantitative habitat data from 1993 are available from the author. The bulrush density was reduced approximately 60% on average by winter storms. **Weather:** Mean start temp., 10.8°C (range 4-14°C). Generally mild with normal temperatures. Rainfall during the 1994-95 rainy season was 106.7 cm, 48% above the 38-yr average of 71.9 cm. Significant periods of rainfall extended into May. Source: Audubon Canyon Ranch. **Coverage:** 8.5 h; 8 visits; 14, 28 Apr; 2, 11, 18, 25, 28 May; 1 Jun. **Census:** Red-winged Blackbird, 28.0 (107); Song Sparrow, 19.0 (72); Marsh Wren, 12.0 (46); American Coot, 6.0 (23); Mourning Dove, 5.0 (19); Virginia Rail, 3.0 (11); Pied-billed Grebe, 2.0; Allen's Hummingbird, 2.0; Bushtit, 2.0; Wrentit, 2.0; Brown-headed Cowbird, 2.0; Mallard, 1.0; Ruddy Duck, 1.0; California Quail, 1.0; Anna's Hummingbird, 1.0; Swainson's Thrush, 1.0. **Total:** 16 species; 88.0 territories (335/40 ha). **Visitors:** Great Blue Heron, Great Egret, Bufflehead, Northern Harrier, Red-shouldered Hawk, Common Moorhen, Black Phoebe, Ash-throated Flycatcher, Tree Swallow, Violet-green Swallow, Northern Rough-winged Swallow, Cliff Swallow, Barn Swallow, Western Scrub-Jay, American Crow, Chestnut-backed Chickadee, Common Yellowthroat, Black-headed Grosbeak, California Towhee, Tricolored Blackbird, Bullock's Oriole, House Finch, American Goldfinch. **Remarks:** The hummingbird territories were all male. One Northern Harrier territory was located in coastal prairie habitat adjacent to the study site. Mourning Dove, House Finch, and American Goldfinch were common on all visits but inadequately quantified because of non-territorial breeding behaviors. **Acknowledgments:** This project is supported by Chevron U.S.A. and Audubon Canyon

Ranch, Stinson Beach, CA, as part of a larger restoration and management project. Sarah Tappen compiled and summarized the results.

86. DESERT RIPARIAN–FRESHWATER MARSH

DESIERTO RIVEREÑO–PANTANO

EUGENE A. CARDIFF

San Bernardino County Museum, 2024 Orange Tree Lane, Redlands CA 92374

Location: California; San Bernardino Co.; Morongo Valley; Big Morongo Wildlife Reserve; 34°3'N, 116°35'W; Morongo Valley Quadrangle, USGS. **Continuity:** Established 1977; 19 yr. **Size:** 15.4 ha. **Description of Plot:** See *J. Field Ornithol.* 62(Suppl.):76 (1991), 64(Suppl.):92–93 (1993), and 65(Suppl.):106–107 (1994). During April 1992, a fire burned 6 ha of the plot. Understory recovery from sprouting stumps and seedlings of mesquite, willow, and cottonwood has been very rapid. Also, the marshy areas are now more extensive. **Weather:** Mean start temp., 8.6°C (range 2–14°C). **Coverage:** 25.5 h; 8 visits (8 sunrise); 14, 26 Apr; 3, 10, 17, 24, 31 May; 7 Jun. Maximum number of observers/visit, 4. **Census:** House Wren, 28.0 (73; 6N,FL); Lesser Goldfinch, 22.0 (57; 1N,4FL); Song Sparrow, 20.0 (52; 4FL); European Starling, 19.0 (49; 8N,10FL); Bewick's Wren, 12.0 (31; 5FL); House Finch, 12.0 (2FL); Common Yellowthroat, 10.0 (26; 2FL); Gambel's Quail, 9.0 (23; 20FL); Virginia Rail, 8.0 (21; 2FL); Costa's Hummingbird, 7.0 (18); Bushtit, 6.0 (16; 12FL); Phainopepla, 6.0; Brown-headed Cowbird, 6.0; Anna's Hummingbird, 5.0 (13); California Thrasher, 5.0 (3FL); Yellow-breasted Chat, 5.0; Spotted Towhee, 5.0 (2FL); Summer Tanager, 4.0 (10); Mourning Dove, 3.0 (8); Nuttall's Woodpecker, 3.0 (1N,3FL); Ash-throated Flycatcher, 3.0; Western Scrub-Jay, 3.0 (1N); California Towhee, 3.0; Brown-crested Flycatcher, 2.0; Yellow Warbler, 2.0; Bullock's Oriole, 2.0 (1FL); Cooper's Hawk, 1.0 (1N); American Kestrel, 1.0 (2FL); Spotted Dove, 1.0; Black Phoebe, 1.0; Bell's Vireo, 1.0; Blue Grosbeak, 1.0; Hooded Oriole, 1.0 (1N); Verdin, 0.5 (1FL). **Total:** 34 species; 217.5 territories (565/40 ha). **Visitors:** Red-tailed Hawk, Barn Owl, Black-chinned Hummingbird, Vermilion Flycatcher, Western Kingbird, Plain Titmouse, Northern Mockingbird, Black-headed Grosbeak, Lazuli Bunting, Red-winged Blackbird, Lawrence's Goldfinch. **Remarks:** There was a complete nesting failure in the burned area during 1992, but recovery over the past three years has been remarkable. Rainfall has been normal or above normal for the past three years, contributing to the increase in breeding success. Breeding pairs in both burned and unburned areas are back up to pre-burn (1992) and pre-drought (1986–92) numbers. Comparing 1991 with 1995, the number of breeding pairs in the burned area increased 110% from 45.5 to 95.5 pairs. The number of pairs in the entire plot increased 78% from 122.5 to 217.5 pairs. Some of the species with the greatest increases in the burned area were understory or marsh species such as: Gambel's Quail, Virginia Rail, California Thrasher, Common Yellowthroat, and Yellow-breasted Chat. **Other Observers:** Jessie and Roy Kniffen, Dori Myers, and Alice Ashbaugh.

87. MONTANE MESIC WILLOW CARR

FORMACION DE SAUCE RIVEREÑO MONTANO MESICO

DAVE HALLOCK

2478 Eldora Rd., Nederland CO 80466

Location: Colorado; Boulder Co.; Nederland; Tucker Willow Carr; 39°58'N, 105°32'W; Nederland Quadrangle, USGS. **Continuity:** Established 1983; 5 yr. **Size:** 3.8 ha. **Description of Plot:** See *Am. Birds* 38:112 (1984) and *J. Field Ornithol.* 63(Suppl.):97–98 (1992). **Weather:** Mean start temp., 5.3°C (range 1–11°C). May was the coolest and wettest of the last 30 years; the average high temperature was 9°C (normal is 14°C), precipitation was 20 cm (normal is 7 cm). June was the fifth coolest and third wettest on record; the average high temperature was 18°C, precipitation was 9 cm. Source: weather column in local weekly paper (*The Mountain Ear*). **Coverage:** 14.0 h; 8 visits (8 sunrise); 20, 28 May; 4, 10, 18, 24 Jun; 2, 8 Jul. **Census:**

Wilson's Warbler, 16.0 (168; 3N); Lincoln's Sparrow, 10.0 (105); Broad-tailed Hummingbird, 8.0 (84; 1N); Warbling Vireo, 7.5 (79; 1N); Dusky Flycatcher, 7.0 (74); Song Sparrow, 5.5 (58; 2N); Black-headed Grosbeak, 5.0 (53); MacGillivray's Warbler, 4.0 (42; 1N); Swainson's Thrush, 3.0 (32); Fox Sparrow, 3.0; American Robin, 2.5 (2N); Green-winged Teal, 1.0; Mallard, 1.0 (4FL); Common Snipe, 1.0; Yellow Warbler, 1.0; Red-naped Sapsucker, +; Black-capped Chickadee, +; Brown-headed Cowbird, +. **Total:** 18 species; 75.5 territories (795/40 ha). **Visitors:** Black-billed Magpie, American Crow, Mountain Chickadee, Ruby-crowned Kinglet, Yellow-rumped Warbler, White-crowned Sparrow, Dark-eyed Junco. **Remarks:** Song Sparrow territories continue to be lower in number than during the 1980s (14.0 in 1986, 5.5 this year). The wet weather created ponds, allowing Green-winged Teal and Mallard to nest for the first time since 1986. Broad-tailed Hummingbird and Black-headed Grosbeak numbers have greatly increased since the early 1980s. Corvids, particularly American Crow and Black-billed Magpie, were a constant presence in the plot for the first time. **Acknowledgments:** Thanks to the Geick family for access to the property.

88. SHRUBBY SWAMP AND SEDGE HUMMOCKS

PANTANO ARBUSTIVO-MOGOTE

ANDREW F. MAGEE

White Memorial Conservation Center, Litchfield CT 06759

Location: Connecticut; Litchfield Co.; Litchfield; White Memorial Foundation-Bantam River Inlet; 41°43'N, 73°13'W; Litchfield Quadrangle, USGS. **Continuity:** Established 1965; 29 yr. **Size:** 8.1 ha. **Description of Plot:** See *Aud. Field Notes* 19:625–627 (1965). **Weather:** Mean start temp., 21.3°C (range 16–28°C). The average minimum and maximum temperatures recorded at our weather station in June (12°C, 26°C) were a little above our 11-yr averages. This was the driest June in the last 12 years with only 1.2 cm precipitation. **Coverage:** 14.0 h; 8 visits (1 sunrise, 6 sunset); 31 May; 1, 12, 13, 16, 18 Jun; 28, 29 Jul. **Census:** Swamp Sparrow, 32.0 (158); Red-winged Blackbird, 27.0 (133); Yellow Warbler, 23.0 (114); Common Yellowthroat, 18.0 (89); American Goldfinch, 10.0 (49); Willow Flycatcher, 9.0 (44); Gray Catbird, 9.0; Song Sparrow, 9.0; Eastern Kingbird, 6.0 (30); Cedar Waxwing, 6.0; Tree Swallow, 3.0 (15); Mallard, 2.0; Marsh Wren, 2.0; Veery, 2.0; American Robin, 2.0; Least Bittern, 1.0; Mute Swan, 1.0; Virginia Rail, 1.0; Alder Flycatcher, 1.0; Black-capped Chickadee, 1.0; Chestnut-sided Warbler, 1.0; Canada Goose, 0.5; American Black Duck, 0.5; Spotted Sandpiper, 0.5; Warbling Vireo, 0.5; American Redstart, 0.5; Common Grackle, 0.5; Baltimore Oriole, 0.5; Great Blue Heron, +; Mourning Dove, +; Belted Kingfisher, +; Downy Woodpecker, +; Great Crested Flycatcher, +; Yellow-throated Vireo, +; Black-and-white Warbler, +. **Total:** 35 species; 169.5 territories (837/40 ha). **Remarks:** The number of species observed, augmented by a number of marginal birds, reached a new high for this census. Marsh Wrens, missing in five of the preceding ten years, and Virginia Rails, missing in seven, were both territorial this year. The rails, however, have still not recovered from the 1979, '82, and '84 nesting-season floods. Least Bittern was recorded for only the second time in 29 years; the first was in 1983. Mourning Dove was a new species for this census, and kingbird reached a new high of 6.0 territories. **Acknowledgments:** Gordon Loery of the White Memorial Conservation Center wrote up the report.

89. WETLAND SEDGE MEADOW I

PANTANO DE JUNCOS I

GARY LINGLE

*Platte River Whooping Crane Trust, 2550 N. Diers Ave., Suite H,
Grand Island NE 68803-1214*

Location: Nebraska; Hall Co.; Doniphan; Mormon Island Crane Meadows (Plot 3); 40°47'N, 98°26'W; Alda Quadrangle, USGS. **Continuity:** Established 1981; 13 yr. **Size:** 16.2 ha. **Descrip-**

Description of Plot: See *Am. Birds* 36:105–106 (1982). **Weather:** Mean start temp., 21°C. Generally cold and wet. Temperature and precipitation departures, respectively, were: May, –3.9°C, +6.3 cm; June, –1.2°C, –2.6 cm. Source: National Weather Service, Grand Island, NE. **Coverage:** 6.8 h; 8 visits (6 sunrise); 6, 12, 13, 14, 15, 16, 19, 20 Jun. **Census:** Red-winged Blackbird, 15.0 (37; 1N); Bobolink, 14.0 (35; 2N); Brown-headed Cowbird, 9.0 (22); Dickcissel, 8.0 (20); Sedge Wren, 3.0 (7); Western Meadowlark, 2.0; Mallard, 1.0 (1N); Upland Sandpiper, 1.0; Eastern Meadowlark, 1.0; Grasshopper Sparrow, +. **Total:** 10 species; 54.0 territories (133/40 ha). **Visitor:** Wilson's Phalarope. **Remarks:** The plot was not burned or grazed prior to the census. Residual cover was good. The plot was 90% inundated. **Other Observer:** Chelle Gomez.

90. WETLAND SEDGE MEADOW II

PANTANO DE JUNCOS II

GARY LINGLE

Platte River Whooping Crane Trust, 2550 N. Diers Ave., Suite H,
Grand Island NE 68803-1214

Location: Nebraska; Hall Co.; Doniphan; Mormon Island Crane Meadows (Plot 4); 40°47'N, 98°25'W; Alda Quadrangle, USGS. **Continuity:** Established 1982; 12 yr. **Size:** 16.2 ha. **Description of Plot:** See *Am. Birds* 37:101 (1983). **Weather:** Mean start temp., 21°C. Generally cold and wet. Temperature and precipitation departures, respectively, were: May, –3.9°C, +6.3 cm; June, –1.2°C, –2.6 cm. Source: National Weather Service, Grand Island, NE. **Coverage:** 7.6 h; 8 visits (1 sunrise); 6, 12, 13, 14, 15, 16, 19, 20 Jun. **Census:** Red-winged Blackbird, 18.0 (44; 4N); Bobolink, 16.0 (40); Brown-headed Cowbird, 6.0 (15); Sedge Wren, 4.0 (10; 2N); Mallard, 2.0; Wilson's Phalarope, 1.0 (1FL); Swamp Sparrow, 1.0; Western Meadowlark, 1.0; Upland Sandpiper, 0.5. **Total:** 9 species; 49.5 territories (122/40 ha). **Visitors:** Virginia Rail, Dickcissel, Yellow-headed Blackbird. **Remarks:** The plot was not burned or grazed prior to the census. Residual cover was good. The plot was 70% inundated. **Other Observer:** Chelle Gomez.

91. COASTAL SCRUB

MATORRAL COSTANERO

DAVID P. HELZER & GEOFFREY R. GEUPEL

Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach CA 94970

Location: California; Marin Co.; Bolinas; Palomarin Field Station; 37°55'N, 122°45'W; Bolinas Quadrangle, USGS. **Continuity:** Established 1971; 21 yr. **Size:** 8.1 ha. **Description of Plot:** See *Am. Birds* 25:1003–1004 (1971). **Weather:** See BBC #94 for summary. **Coverage:** 214.3 h; 69 visits (43 sunrise, 8 sunset); 1, 3–6, 8–14, 16–21, 23–26, 28, 30 Apr; 1, 4, 5, 7, 8, 10–17, 19, 20, 22–25, 27, 31 May; 1, 5–7, 10–21, 24, 26, 28–30 Jun. **Census:** Wrentit, 15.5 (77; 14N); Bewick's Wren, 5.5 (27; 2N); Spotted Towhee, 5.5 (3N); Song Sparrow, 5.5 (4N); White-crowned Sparrow, 5.0 (25; 8N); Allen's Hummingbird, 4.0 (20); Orange-crowned Warbler, 2.5 (1N); Wilson's Warbler, 2.5; Bushtit, 1.5 (1N); Purple Finch, 1.0; Northern Flicker, 0.5; Steller's Jay, 0.5; Western Scrub-Jay, 0.5 (2N); European Starling, 0.5; Brown-headed Cowbird, 0.5; Red-tailed Hawk, +; California Quail, +; Mourning Dove, +. **Total:** 18 species; 51.0 territories (252/40 ha). **Visitors:** Great Horned Owl, Anna's Hummingbird, Olive-sided Flycatcher, Pacific-slope Flycatcher, Barn Swallow, Golden-crowned Kinglet, Swainson's Thrush, American Robin, Warbling Vireo, Black-headed Grosbeak, California Towhee, Rufous-crowned Sparrow. **Remarks:** Overall breeding density on the plot decreased slightly (6%) this year as compared to 1994. Species showing decreases include: Bushtit (~50%), Western Scrub-Jay (~67%), and Brown-headed Cowbird (~50%). Steller's Jays and European Starlings made their debut on the plot this year, and Purple Finches were present for the first time since 1992. Wilson's Warblers increased to 2.5 territories this year, their highest density

ever recorded on the plot. Allen's Hummingbird density also increased from 1994 (+60%). **Acknowledgments:** We thank Point Reyes National Seashore for their cooperation. This is Point Reyes Bird Observatory contribution No. 762.

92. DISTURBED COASTAL SCRUB A

MATORRAL PERTURBADO A

SUSAN CHIN & GEOFFREY R. GEUPEL

Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach CA 94970

Location: California; Marin Co.; Bolinas; Palomarin Field Station; 37°55'N, 122°45'W; Bolinas Quadrangle, USGS. **Continuity:** Established 1972; 21 yr. **Size:** 4.7 ha. **Description of Plot:** See *Am. Birds* 26:987-988 (1972). **Weather:** See BBC #94 for summary. **Coverage:** 177.5 h; 49 visits (27 sunrise); 1, 3, 4, 6, 8-11, 13, 14, 16, 17, 21, 23, 25, 26, 28, 30 Apr; 5, 7, 8, 10, 11, 17, 19, 20, 24, 27-31 May; 1, 2, 4, 6, 8, 12-15, 17, 19-23, 25, 28, 29 Jun. **Census:** Wrentit, 6.5 (55; 10N); Song Sparrow, 5.5 (47; 14N); Allen's Hummingbird, 3.0 (26); Bewick's Wren, 2.5; Bushtit, 1.5 (1N); Spotted Towhee, 1.5; California Quail, 1.0; Western Scrub-Jay, 1.0; American Robin, 1.0; Orange-crowned Warbler, 1.0 (1N); White-crowned Sparrow, 1.0; Brown-headed Cowbird, 1.0; Purple Finch, 1.0; American Goldfinch, 1.0; Anna's Hummingbird, 0.5; Northern Flicker, 0.5; Red-tailed Hawk, +; Mourning Dove, +; Western Bluebird, +; Wilson's Warbler, +; Black-headed Grosbeak, +; California Towhee, +. **Total:** 22 species; 29.5 territories (251/40 ha). **Visitors:** Olive-sided Flycatcher, Pacific-slope Flycatcher, Ash-throated Flycatcher, Chestnut-backed Chickadee, Golden-crowned Kinglet, Swainson's Thrush, European Starling, Dark-eyed Junco, Brewer's Blackbird, Pine Siskin. **Remarks:** The breeding bird density decreased slightly from the 1993 and 1994 record highs to a density similar to the mid-1980s. Bushtit and Wilson's Warbler densities decreased almost 57% and 75% respectively from last year's highs to densities consistent with the past 22 and 11 years respectively. Other species whose breeding densities decreased this year include: California Quail (-50%), Orange-crowned Warbler (-33%), Spotted Towhee (-25%), and Western Scrub-Jay (-33%). Allen's Hummingbird and American Goldfinch densities each increased by 100% or more since last year. Bewick's Wren also had a slight increase of 25%. Brown-headed Cowbird, Black-headed Grosbeak, and Anna's Hummingbird were present on the plot after being gone since 1990, 1991, and 1993 respectively. **Acknowledgments:** We thank Point Reyes National Seashore for their cooperation. This is Point Reyes Bird Observatory contribution No. 764.

93. DISTURBED COASTAL SCRUB B

MATORRAL PERTURBADO B

STACY L. SMALL

Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach CA 94970

Location: California; Marin Co.; Bolinas; Palomarin Field Station; 37°55'N, 122°46'W; Bolinas Quadrangle, USGS. **Continuity:** Established 1971; 21 yr. **Size:** 8.1 ha. **Description of Plot:** See *Am. Birds* 25:1002 (1971) and *J. Field Ornithol.* 66(Suppl.):104 (1995). Douglas-firs encroaching upon regenerating native coastal scrub continue to grow taller and wider. Many small Douglas-firs are coming up among native shrubs and in presently clear areas. The plot has a network of contiguous fir groves, many now close to or above 4.6 m average height. **Weather:** See BBC #94 for summary. **Coverage:** 302.0 h; 93 visits (43 sunrise, 2 sunset). **Census:** Wrentit, 13.0 (64; 18N); Song Sparrow, 10.5 (52; 17N); Spotted Towhee, 4.5 (22); Allen's Hummingbird, 3.0 (15); Bewick's Wren, 2.0; Swainson's Thrush, 2.0 (1N); Western Scrub-Jay, 1.5; Orange-crowned Warbler, 1.5; Wilson's Warbler, 1.5; White-crowned Sparrow, 1.5 (2N); Brown-headed Cowbird, 1.5; Mourning Dove, 1.0; Northern Flicker, 1.0; Bushtit, 1.0; California Quail, 0.5; Anna's Hummingbird, 0.5; Western Bluebird, 0.5; California Towhee, 0.5; Purple Finch, 0.5; Olive-sided Flycatcher, +; American Robin, +; Black-headed Grosbeak,

+; American Goldfinch, +. **Total:** 23 species; 48.0 territories (237/40 ha). **Visitors:** Pacific-slope Flycatcher, Ash-throated Flycatcher, Chestnut-backed Chickadee, Brown Creeper, European Starling, Pine Siskin. **Remarks:** Overall densities remained high as in the previous three years with Wrentits sustaining last year's record-high density. White-crowned Sparrows dropped by over 50% to their lowest density on record. The occurrence for the first time of two forest-preferring species, Wilson's Warbler and Swainson's Thrush, was probably due to the continued encroachment and rapid growth of Douglas-firs in this former scrub habitat. **Other Observers:** Susan Chin, Geoffrey R. Geupel. **Acknowledgments:** I thank the Point Reyes National Seashore for their continued cooperation. This is Point Reyes Bird Observatory contribution No. 768.

94. GRAZED COASTAL SCRUB

MATORRAL COSTANERO PASTOREADO

AMANDA C. FAVIS & GEOFFREY R. GEUPEL

Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach CA 94970

Location: California; Marin Co.; Bolinas; Palomarin Field Station; 37°55'N, 122°45'W; Bolinas Quadrangle, USGS. **Continuity:** New. **Size:** 45.0 ha. **Description of Plot:** A rectangular plot (500 × 900 m). The sparse canopy (2% cover) is dominated by Douglas-fir; the understory is dominated by coyote bush (55%), sage (35%), and blackberry (10%); and the ground cover is dominated by grass (90%) and rush (10%). There are several intermittent streams and one permanent stream with maximum widths of 0.5 m and maximum depths of 0.2 m. **Edge:** The plot is bordered on three sides by similarly active grazed habitat, and the plot lies within a tract of similar habitat 101–500 ha in size. **Topography and Elevation:** The plot has an uneven S-facing slope of 11–16% grade. Minimum elevation 40 m, maximum 70 m. **Weather:** Mean start temp., 9.0°C (range 4–14°C). The study occurred in one of the wetter seasons recorded in 28 years. Total rainfall for the year (July–June) was 143.2 cm. Precipitation fell on 6% of the census mornings. **Coverage:** 341.2 h; 73 visits (56 sunrise, 5 sunset); 1–5, 7–14, 16, 17, 19, 20, 22–24, 26, 28 Apr; 1, 4, 7, 8, 10–12, 14–16, 19–25, 28–31 May; 1, 4, 6–11, 15, 17, 18, 20, 21, 24–26, 28–30 Jun. **Census:** White-crowned Sparrow, 24.5 (22; 39N,27FL); Song Sparrow, 14.5 (13; 10N,17FL); Wrentit, 13.0 (12; 7N,6FL); California Towhee, 7.0 (6; 2N); Bewick's Wren, 6.5 (6); Wilson's Warbler, 6.0 (5); Spotted Towhee, 6.0 (1N); Allen's Hummingbird, 5.0 (4); Orange-crowned Warbler, 5.0; Savannah Sparrow, 5.0 (1N,5FL); California Quail, 4.5 (4; 1N); Chestnut-backed Chickadee, 4.5; Grasshopper Sparrow, 4.5; Bush-tit, 4.0 (4; 2N); Western Scrub-Jay, 3.5 (3); American Goldfinch, 3.5; Swainson's Thrush, 3.0 (3); Brown-headed Cowbird, 3.0; Ash-throated Flycatcher, 1.0; Rufous-crowned Sparrow, 1.0; Red-tailed Hawk, +; American Kestrel, +. **Total:** 22 species; 125.0 territories (111/40 ha). **Visitors:** Band-tailed Pigeon, Mourning Dove, Anna's Hummingbird, Northern Flicker, Olive-sided Flycatcher, Pacific-slope Flycatcher, American Robin, European Starling, Hutton's Vireo, Warbling Vireo, Dark-eyed Junco, Red-winged Blackbird, Brewer's Blackbird, Purple Finch, Pine Siskin. **Remarks:** The plot size was doubled from 1994 when an unpublished census was conducted. The total number of territories (compared to last year's plot) increased by nearly 40%. This increase may have been linked to increased grass cover due to high over-winter rainfall and the lack of active grazing during the breeding season. Overall nest success for all species except Song Sparrow was higher than last year but much lower than other nearby coastal scrub plots. White-crowned Sparrows, the most abundant species on this and all nearby scrub plots, had very poor nest success (26%), less than half the rate of nearby plots. Species breeding for the first time include: American Kestrel, Swainson's Thrush, Orange-crowned Warbler, and Savannah Sparrow. **Other Observers:** Christopher Olson, Britta Denise Hardesty. **Acknowledgments:** We thank the Point Reyes National Seashore for their cooperation. This is Point Reyes Bird Observatory contribution No. 763.

95. PALO VERDE-IRONWOOD WOODLAND I

ARBOLADO DE PALO VERDE-PALO DE HIERRO I

ROBERT L. MCKERNAN, EUGENE A. CARDIFF & MARNIE S. CROOK

*Biological Science Section, San Bernardino County Museum, 2024 Orange Tree Lane,
Redlands CA 92374*

Location: California; Imperial Co.; 33°2'N, 114°58'W; Nine Mile Wash Quadrangle, USGS. **Continuity:** New. **Size:** 50.0 ha. **Description of Plot:** A rectangular plot (500 × 1000 m) with an open canopy dominated by desert ironwood and palo verde. The mean canopy height is 2.1 m (range 1–3.5 m). The open understory is dominated by creosote bush, smoke tree, and broom baccharis. The ground cover is dominated by burrobush, brittle-bush, and bladderpod. There are a few intermittent streams with a maximum width of 10 m and a maximum depth of 1 m. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat > 500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 171 m, maximum 180 m. **Weather:** Mean start temp., 18.7°C (range 13–41°C). Minimum/maximum temperatures throughout the census period were normal. No precipitation was recorded on the plot during the census period. The annual rainfall totals for this region of SE California are 3–8 cm based on a 10-yr index. Source: Brawley Agricultural Station, approx. 45 km W of the plot. **Coverage:** 41.0 h; 9 visits (8 sunrise, 1 sunset); 10, 14, 17, 23, 30 Apr; 5, 10, 15, 24 May. **Census:** Mourning Dove, 9.0 (7; 4N,2FL); Phainopepla, 5.0 (4; 2N); Black-throated Sparrow, 5.0 (2N); Verdin, 4.0 (3; 2N); Gambel's Quail, 3.0 (2; 1N); White-winged Dove, 3.0 (1N); Lesser Nighthawk, 3.0 (1N); Costa's Hummingbird, 3.0 (1N); Ash-throated Flycatcher, 3.0 (1N,1FL); Black-tailed Gnatcatcher, 3.0 (2N); House Finch, 3.0 (1N); Le Conte's Thrasher, 1.5 (1N); Ladder-backed Woodpecker, 1.0 (1N); Loggerhead Shrike, 1.0 (1N,2FL). **Total:** 14 species; 47.5 territories (38/40 ha). **Visitors:** Red-tailed Hawk, Greater Roadrunner, Western Screech-Owl, Common Poorwill, Horned Lark, Common Raven, Rock Wren, Crissal Thrasher, Brown-headed Cowbird. **Remarks:** This is one of four plots used to establish baseline information on breeding birds utilizing microphyll woodlands in portions of Imperial County, California. **Acknowledgments:** Funding was provided by Arid Operations Inc., and logistic support was provided by BLM El Centro. Tim Haldane and Tom Zale deserve a special thanks.

96. PALO VERDE-IRONWOOD WOODLAND II

ARBOLADO DE PALO VERDE-PALO DE HIERRO II

ROBERT L. MCKERNAN, EUGENE A. CARDIFF & MARNIE S. CROOK

*Biological Science Section, San Bernardino County Museum, 2024 Orange Tree Lane,
Redlands CA 92374*

Location: California; Imperial Co.; 33°2'N, 114°58'W; Nine Mile Wash Quadrangle, USGS. **Continuity:** New. **Size:** 50.0 ha. **Description of Plot:** A rectangular plot (500 × 1000 m) with an open canopy dominated by palo verde and desert ironwood. The mean canopy height is 2.6 m (range 1–4.0 m). The open understory is dominated by creosote bush, smoke tree, and broom baccharis. The ground cover is dominated by burrobush, brittle-bush, and bladderpod. There are a few intermittent streams with a maximum width of 5 m and a maximum depth of 1 m. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat > 500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 171 m, maximum 180 m. **Weather:** Mean start temp., 18.7°C (range 13–41°C). Minimum/maximum temperatures throughout the census period were normal. No precipitation was recorded on the plot during the census period. The annual rainfall totals for this region of SE California are 3–8 cm based on a 10-yr index. Source: Brawley Agricultural Station, approx. 45 km W of the plot. **Coverage:** 41.0 h; 9 visits (8 sunrise, 1 sunset); 10, 14, 17, 23, 30 Apr; 5, 10, 15, 24 May. **Census:** Mourning Dove, 11.0 (9; 3N,4FL); Gambel's Quail, 4.0 (3; 1N,6FL); White-winged Dove, 4.0 (2N,3FL); Costa's Hummingbird, 4.0 (1N,2FL); Black-throated Sparrow, 4.0 (2N);

Lesser Nighthawk, 3.0 (2); Verdin, 3.0 (1N); Phainopepla, 3.0; House Finch, 3.0 (1N); Ash-throated Flycatcher, 2.0; Black-tailed Gnatcatcher, 2.0 (1N,2FL); American Kestrel, 1.0; Western Screech-Owl, 1.0; Ladder-backed Woodpecker, 1.0 (1N,2FL); Say's Phoebe, 1.0; Cactus Wren, 1.0; Rock Wren, 1.0; Crissal Thrasher, 1.0; Greater Roadrunner, 0.5; Le Conte's Thrasher, 0.5; Loggerhead Shrike, 0.5. **Total:** 21 species; 51.5 territories (41/40 ha). **Visitors:** Red-tailed Hawk, Common Poorwill, Horned Lark, Northern Mockingbird, Brown-headed Cowbird. **Remarks:** This is one of four plots used to establish baseline information on breeding birds utilizing microphyll woodlands in portions of Imperial County, California. **Acknowledgments:** Funding was provided by Arid Operations Inc., and logistic support was provided by BLM El Centro. Tim Haldane and Tom Zale deserve a special thanks.

97. PALO VERDE-IRONWOOD WOODLAND III

ARBOLAGO DE PALO VERDE-PALO DE HIERRO III

ROBERT L. MCKERNAN, EUGENE A. CARDIFF & MARNIE S. CROOK

*Biological Science Section, San Bernardino County Museum, 2024 Orange Tree Lane,
Redlands CA 92374*

Location: California; Imperial Co.; 33°2'N, 115°2'W; East of Acolita Quadrangle, USGS. **Continuity:** New. **Size:** 50.0 ha. **Description of Plot:** A rectangular plot (500 × 1000 m) with an open canopy dominated by palo verde and desert ironwood. The mean canopy height is 3.1 m (range 1–5 m). The open understory is dominated by creosote bush, smoke tree, and broom baccharis. The ground cover is dominated by burrobush, brittle-bush, and bladderpod. There are a few intermittent streams with a maximum width of 10 m and a maximum depth of 1 m. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat > 500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 159 m, maximum 171 m. **Weather:** Mean start temp., 18.7°C (range 14–35°C). Minimum/maximum temperatures throughout the census period were normal. No precipitation was recorded on the plot during the census period. The annual rainfall totals for this region of SE California are 3–8 cm based on a 10-yr index. Source: Brawley Agricultural Station, approx. 45 km W of the plot. **Coverage:** 40.3 h; 9 visits (8 sunrise, 1 sunset); 11, 15, 18, 24 Apr; 1, 6, 11, 16, 25 May. **Census:** Mourning Dove, 10.0 (8; 3N); Gambel's Quail, 4.0 (3; 2N); White-winged Dove, 4.0 (2N); Lesser Nighthawk, 4.0 (1N); Costa's Hummingbird, 4.0 (1N); Phainopepla, 4.0 (1N); Black-throated Sparrow, 4.0 (1N); Ash-throated Flycatcher, 3.0 (2; 1N); Verdin, 3.0 (1N); Black-tailed Gnatcatcher, 3.0; House Finch, 2.0; Western Screech-Owl, 1.0; Ladder-backed Woodpecker, 1.0; Cactus Wren, 1.0; Crissal Thrasher, 1.0; Loggerhead Shrike, 1.0 (1N); Horned Lark, 0.5; Rock Wren, 0.5. **Total:** 18 species; 51.0 territories (41/40 ha). **Visitors:** Red-tailed Hawk, Common Poorwill, Say's Phoebe, Le Conte's Thrasher, Brown-headed Cowbird. **Remarks:** This is one of four plots used to establish baseline information on breeding birds utilizing microphyll woodlands in portions of Imperial County, California. **Acknowledgments:** Funding was provided by Arid Operations Inc., and logistic support was provided by BLM El Centro. Tim Haldane and Tom Zale deserve a special thanks.

98. PALO VERDE-IRONWOOD WOODLAND IV

ARBOLAGO DE PALO VERDE-PALO DE HIERRO IV

ROBERT L. MCKERNAN, EUGENE A. CARDIFF & MARNIE S. CROOK

*Biological Science Section, San Bernardino County Museum, 2024 Orange Tree Lane,
Redlands CA 92374*

Location: California; Imperial Co.; 33°2'N, 115°2'W; East of Acolita Quadrangle, USGS. **Continuity:** New. **Size:** 50.0 ha. **Description of Plot:** A rectangular plot (500 × 1000 m) with an open canopy dominated by palo verde and desert ironwood. The mean canopy height is 3.0 m (range 1–5 m). The open understory is dominated by creosote bush, smoke tree, and

broom baccharis. The ground cover is dominated by burrobush, brittle-bush, and bladderpod. There are a few intermittent streams with a maximum width of 10 m and a maximum depth of 1 m. **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat > 500 ha in size. **Topography and Elevation:** The plot is nearly level with a slope of < 5% grade. Minimum elevation 159 m, maximum 171 m. **Weather:** Mean start temp., 18.7°C (range 14–35°C). Minimum/maximum temperatures throughout the census period were normal. No precipitation was recorded on the plot during the census period. The annual rainfall totals for this region of SE California are 3–8 cm based on a 10-yr index. Source: Brawley Agricultural Station, approx. 45 km W of the plot. **Coverage:** 40.3 h; 9 visits (8 sunrise, 1 sunset); 11, 15, 18, 24 Apr; 1, 6, 11, 16, 25 May. **Census:** Mourning Dove, 9.0 (7; 4N); Phainopepla, 5.0 (4; 2N); Black-throated Sparrow, 5.0 (2N); Verdin, 4.0 (3; 2N); Gambel's Quail, 3.0 (2; 1N); White-winged Dove, 3.0 (1N); Lesser Nighthawk, 3.0 (1N); Costa's Hummingbird, 3.0 (1N); Ash-throated Flycatcher, 3.0 (1N,1FL); Black-tailed Gnatcatcher, 3.0 (2N); House Finch, 3.0 (1N); Ladder-backed Woodpecker, 1.0 (1N); Le Conte's Thrasher, 1.0; Loggerhead Shrike, 1.0 (1N,2FL). **Total:** 14 species; 47.0 territories (38/40 ha). **Visitors:** Red-tailed Hawk, Greater Roadrunner, Western Screech-Owl, Common Poorwill, Horned Lark, Common Raven, Rock Wren, Crissal Thrasher, Brown-headed Cowbird. **Remarks:** This is one of four plots used to establish baseline information on breeding birds utilizing microphyll woodlands in portions of Imperial County, California. **Acknowledgments:** Funding was provided by Arid Operations Inc., and logistic support was provided by BLM El Centro. Tim Haldane and Tom Zale deserve a special thanks.

99. BIG SAGEBRUSH EXCLOSURE

FORMACION GRANDE DE ARTEMISA

JOHN DOREMUS

2810 Meadowbrook Dr., Boise ID 83705

Site Number: ID8992086. **Location:** Idaho; Ada Co.; Snake River Birds of Prey National Conservation Area; 43°18'N, 116°24'W; Initial Point Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 25.0 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):99 (1993). The insect infestation noted in 1994 affected the big sagebrush throughout the plot. Approximately one-half of the plot had a severe dieoff (40% of the sagebrush killed). Only mature plants were affected by the insect. **Weather:** Mean start temp., 7.4°C (range 2–13°C). Temperatures were normal, and precipitation was above normal. Source: Swan Falls, ID weather station. **Coverage:** 25.3 h; 8 visits (8 sunrise); 12, 17 Apr; 13, 31 May; 7 Jun; 3, 4, 5 Jul. **Census:** Western Meadowlark, 20.0 (32); Sage Sparrow, 15.0 (24; 1N,14FL); Brewer's Sparrow, 6.0 (10; 3FL); Sage Thrasher, 1.0. **Total:** 4 species; 42.0 territories (67/40 ha). **Visitors:** Northern Harrier, Mourning Dove, Short-eared Owl, Common Nighthawk, Horned Lark, Brown-headed Cowbird. **Remarks:** The normal temperatures and above-average precipitation produced an abundance of plant biomass. This year's meadowlark density was the greatest reported for this plot. Other investigators studying songbirds in this area also noted the abundance of meadowlarks. Black-tailed jackrabbit numbers were low as were those of Townsend's ground squirrel.

100. WINTERFAT EXCLOSURE

FORMACION "WINTERFAT"

JOHN DOREMUS

2810 Meadowbrook Dr., Boise ID 83705

Site Number: ID8992087. **Location:** Idaho; Ada Co.; Snake River Birds of Prey National Conservation Area; 43°12'N, 116°17'W; Wild Horse Butte Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 16.2 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):99–100 (1993). **Weather:** Mean start temp., 6.8°C (range –4–12°C). Temperatures were normal, and

precipitation was above normal. Source: Swan Falls, ID weather station. **Coverage:** 16.0 h; 8 visits (8 sunrise); 29 Mar; 7, 22 Apr; 10, 30 May; 1, 9, 30 Jun. **Census:** Horned Lark, 25.5 (63; 10FL); Brewer's Sparrow, 1.0. **Total:** 2 species; 26.5 territories (65/40 ha). **Visitors:** Northern Harrier, Mourning Dove, Common Nighthawk, Sage Thrasher, Vesper Sparrow, Sage Sparrow, Western Meadowlark. **Remarks:** The normal temperatures and above-average precipitation produced an abundance of plant biomass. Townsend's ground squirrel numbers increased over last year.

101. TAMAULIPAN THORN-SCRUB

MATORRAL ESPINOSO DE TAMAULIPA

ALBERTO G. CANTU

2201 N 12 Street, McAllen TX 78501

Site Number: TX0795087. **Location:** Texas; Hidalgo Co.; Alamo; Santa Ana National Wildlife Refuge; 26°4'N, 98°8'W; Las Milpas Quadrangle, USGS. **Continuity:** New. **Size:** 8.0 ha. **Description of Plot:** Two contiguous rectangular plots (100 × 400 m each). The area is densely covered by thorny evergreen vegetation such as ebony, spiny hackberry, and brasil. A quantitative vegetation survey based on the method described by F.C. James & H.H. Shugart, Jr. (1970. *Aud. Field Notes* 24:727–736) yielded the following results: Trees, 8 cm diameter and over, based on 10 0.049-ha circular samples, 419/ha; total basal area 20.8 m²/ha. Species comprising 100% of the total number of trees [figures after each are trees/ha, relative density (%), relative dominance (%), and frequency (%)]: standing dead, 106, 25, 25, 100; Texas ebony, 83, 20, 29, 80; anaqua, 77, 18, 15, 40; la coma, 67, 16, 12, 80; cedar elm, 18, 4, 3, 20; brasil, 16, 4, 4, 40; spiny hackberry, 6, 1, 0.8, 30; uña de gato, 6, 1, 1, 20; Texas sugarberry, 6, 1, 1, 10; mesquite, 3, 0.7, 1.7, 30; tepeguaje, 2, 0.5, 0.5, 20; jaboncillo, 2, 0.5, 0.2, 10; Mexican ash, 2, 0.5, 0.8, 10; Texas persimmon, 1, 0.2, 0.2, 10; Mexican amyris, 1, 0.2, 0.2, 10. Trees by diameter size class [figures after each are trees/ha, relative density (%), basal area in m²/ha, and relative dominance (%)]: A (8–15 cm) 276, 66, 5.2, 46; B (15–23 cm) 90, 21, 4.9, 26; C (23–38 cm) 41, 10, 5.7, 19; D (38–53 cm) 8, 2, 2.4, 5; E (53–69 cm) 3, 0.7, 1.6, 3; F (69–84 cm) 1, 0.2, 1.0, 1. Shrub stems/ha, 14,180. Ground cover, 52%. Canopy cover, 44%; average canopy height, 6.06 m. **Edge:** The plot is surrounded by similar types of vegetation. **Topography and Elevation:** Mostly flat with some dried resacas. Elevation 27 m. **Weather:** Mean start temp., 22.7°C (range 14–28°C). February, March, and April were warm (average 26.7°C). May and June temperatures averaged 33.5°C. July was hot (36.9°C), but temperatures dropped again by August (34.4°C). **Coverage:** 65.0 h; 14 visits (14 sunrise); 26 Feb; 5, 12, 18 Mar; 2, 16, 29 Apr; 13, 30 May; 6, 15, 30 Jun; 21, 31 Jul. **Census:** White-winged Dove, 17.0 (85); Plain Chachalaca, 9.0 (45); Golden-fronted Woodpecker, 8.0 (40); Olive Sparrow, 8.0; Long-billed Thrasher, 6.0 (30); White-tipped Dove, 5.0 (25); Couch's Kingbird, 5.0; Mourning Dove, 4.0 (20); Yellow-billed Cuckoo, 4.0; Groove-billed Ani, 4.0; Ladder-backed Woodpecker, 4.0; Brown-crested Flycatcher, 4.0; White-eyed Vireo, 4.0; Northern Cardinal, 4.0; Great Kiskadee, 3.0 (15); Green Jay, 3.0; Tufted Titmouse, 3.0; Northern Mockingbird, 3.0; Bronzed Cowbird, 3.0; Greater Roadrunner, 1.0; Common Pauraque, 1.0; Carolina Wren, 1.0. **Total:** 22 species; 104.0 territories (520/40 ha). **Visitors:** Black-bellied Whistling-Duck, Turkey Vulture, Hook-billed Kite, Red-shouldered Hawk, Broad-winged Hawk, Common Ground-Dove, Elf Owl, Green Kingfisher, Eastern Kingbird, Scissor-tailed Flycatcher, Blue-gray Gnatcatcher, Cedar Waxwing, European Starling, Black-and-white Warbler, Summer Tanager, Scarlet Tanager, Great-tailed Grackle, Altamira Oriole. **Remarks:** The plot formerly contained many large Texas ebony which declined due to drought and freezing. The area was last censused between 1973 and 1978 by Dr. Frederick Gehlbach. **Acknowledgments:** Thanks to managers for access to the refuge, to Tim Kikos and Van Wheat for helping to stake the plot, to Tim Kikos for helping to collect vegetation data, and to Dr. Timothy Brush for supervision of the study and perusal of this report.

102. PINYON-JUNIPER SCRUB

MATORRAL DE PIÑON-JUNIPERO

JOHN SIMMONS

*Island in the Sky District, Canyonlands National Park, 2282 SW Resource Blvd.,
Moab UT 84532*

Site Number: UT8791101. **Location:** Utah; San Juan Co.; Moab; Island in the Sky Mesa; 38°21'N, 109°21'W; Monument Basin Quadrangle, USGS. **Continuity:** Established 1991; 4 yr. **Size:** 20.0 ha. **Description of Plot:** See *J. Field Ornithol.* 63(Suppl.):102–103 (1992). **Weather:** Mean start temp., 11.8°C (range 5–17°C). There were strong gusts of wind during the fourth visit, and it rained for 20 minutes during the eighth visit. **Coverage:** 21.6 h; 8 visits (8 sunrise); 9, 10, 12, 16, 23, 24, 27, 30 Jun. **Census:** House Finch, 6.0 (12); Black-throated Gray Warbler, 5.0 (10); Pinyon Jay, 4.0 (8); Plain Titmouse, 4.0; Blue-gray Gnatcatcher, 4.0; Black-throated Sparrow, 3.0 (6; 4FL); Black-chinned Hummingbird, 1.0; Bushtit, 1.0; Chipping Sparrow, 1.0. **Total:** 9 species; 29.0 territories (58/40 ha). **Visitors:** Golden Eagle, American Kestrel, Mourning Dove, Common Nighthawk, White-throated Swift, Violet-green Swallow, Western Scrub-Jay, Common Raven, Mountain Bluebird, Lark Sparrow, Brown-headed Cowbird. **Remarks:** A total of 20 species were seen during the census period. Nine species were believed to have territories in the plot; eleven others were seen only once or twice, or were seen flying over the plot. One Blue-gray Gnatcatcher was observed mobbing a Pinyon Jay, then it flew over to a second Pinyon Jay 15 m away and mobbed it. Pinyon Jays were numerous but almost always flocking and flying over the entire plot. Because of this behavior, it was difficult to determine the actual number of territories. **Acknowledgments:** Many thanks to Tara Williams and Mary Beth Maynard of Canyonlands National Park for their assistance and guidance in setting up the census this year, and thanks to Andy Nettell of Arches National Park for his recommendations about data analyses.

103. SEMIDESERT MESQUITE SAVANNAH I

SAVANA DE MESQUITA SEMIDESERTICA I

CALEB E. GORDON & WADE LEITNER

Dept. of Ecology and Evolutionary Biology, Univ. of Arizona, Tucson AZ 85721

Location: Arizona; Pima Co.; Sasabe; Buenos Aires National Wildlife Refuge; 31°35'N, 111°31'W; Presumido Peak Quadrangle, USGS. **Continuity:** New. **Size:** 36.0 ha. **Description of Plot:** An irregular, roughly triangular plot (shortest side 590 m, longest 1100 m) with an open canopy dominated by mesquite (100%). The understory is dominated by mesquite (95%), and the ground cover is dominated by Lehmann's lovegrass (90%). The area was a treeless grassland prior to the 1880s. The plot burned in the summer of 1994, resulting in dead mesquite. The mesquite is in patches, concentrated in small arroyos and drainages. Mesquite density and percent cover were sampled via 60 systematically-arranged 100 m² strip transects. Average number of plants/ha with >0.5 m diameter crowns, 198 + 20 (SE). Canopy cover: live mesquite, 5.8% + 0.7% (SE); dead mesquite, 2.7% + 0.4% (SE). Mean canopy height, 8 m (range 5–10 m). **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat > 500 ha in size. **Topography and Elevation:** The plot has an uneven E-facing slope of 6–10% grade. Minimum elevation 1061 m, maximum 1081 m. **Weather:** Mean start temp., 12.3°C (range 7–16°C). Weather conditions were normal. **Coverage:** 20.7 h; 8 visits (8 sunrise); 15, 28 Apr; 10, 24 May; 2, 9 Jun; 15, 22 Jul. **Census:** Black-throated Sparrow, 12.0 (13); Horned Lark, 7.0 (8); Northern Mockingbird, 5.0 (6; 1N); Scaled Quail, 4.0 (4); Eastern Meadowlark, 4.0; Ash-throated Flycatcher, 2.0; Mourning Dove, 1.0 (1N); Loggerhead Shrike, 1.0; Pyrrhuloxia, 1.0; Blue Grosbeak, 1.0; Lark Sparrow, 1.0; Bullock's Oriole, 1.0; Vermilion Flycatcher, 0.5; Swainson's Hawk, + (1N). **Total:** 14 species; 40.5 territories (45/40 ha). **Visitors:** Turkey Vulture, White-tailed Kite, Red-tailed Hawk, Northern Bobwhite, Gambel's Quail, White-winged Dove, Greater Roadrunner, Lesser Nighthawk, Ladder-backed Woodpecker, Say's Phoebe, Cassin's Kingbird, Western Kingbird, Chihuahuan Raven, Common Raven, White-breasted Nuthatch,

Cactus Wren, Bewick's Wren, Bendire's Thrasher, Phainopepla, Lucy's Warbler, Canyon Towhee, Rufous-crowned Sparrow, Grasshopper Sparrow, Western Meadowlark, Brown-headed Cowbird, Hooded Oriole, House Sparrow. **Remarks:** Estimates should be considered rough for non-territorial or difficult-to-census species (e.g. quail and doves). The census period missed some winter and early-spring breeding species (e.g. Bendire's Thrasher, Canyon Towhee, and Eastern Meadowlark). The censuses did not record nocturnal species except for some diurnal activity of Lesser Nighthawk. **Acknowledgments:** Eduardo Garcia del Rey assisted in delineating and gridding plot with flagging tape.

104. SEMIDESERT MESQUITE SAVANNAH II

SAVANA DE MESQUITA SEMIDESERTICA II

CALEB E. GORDON & WADE LEITNER

Dept. of Ecology and Evolutionary Biology, Univ. of Arizona, Tucson AZ 85721

Location: Arizona; Pima Co.; Sasabe; Buenos Aires National Wildlife Refuge; 31°32'N, 111°32'W; Presumido Peak Quadrangle, USGS. **Continuity:** New. **Size:** 61.0 ha. **Description of Plot:** A rectangular plot (540 × 1140 m) with an open canopy dominated by mesquite (100%). The understory is dominated by mesquite (60%) and burroweed (30%). The ground cover is dominated by Lehmann's lovegrass (90%). The area was a treeless grassland prior to the 1880s. The mesquite is in patches, concentrated in small arroyos and drainages. Mesquite density and percent cover were sampled via 72 systematically-arranged 100 m² strip transects. Average number of plants/ha with >0.5 m diameter crowns, 232 + 31 (SE). Canopy cover: mesquite, 9.5% + 1.3% (SE). Mean canopy height, 8 m (range 5–10 m). **Edge:** More than 75% of the plot's perimeter is bordered by the same habitat, and the plot lies within a tract of similar habitat > 500 ha in size. **Topography and Elevation:** The plot has an uneven E-facing slope of < 5% grade. Minimum elevation 1076 m, maximum 1094 m. **Weather:** Mean start temp., 11.8°C (range 5–17°C). Weather conditions were normal. **Coverage:** 20.3 h; 8 visits (8 sunrise); 8, 24 Apr; 6, 23 May; 1, 9 Jun; 17, 23 Jul. **Census:** Cassin's Sparrow, 15.0 (10); Grasshopper Sparrow, 10.0 (7; 4N); Botteri's Sparrow, 8.0 (5); Eastern Meadowlark, 6.0 (4; 1N); Black-throated Sparrow, 5.0 (3); Horned Lark, 4.0 (3); Northern Mockingbird, 4.0; Scaled Quail, 3.0 (2); Pyrrhuloxia, 3.0; Mourning Dove, 1.0 (1N); Ash-throated Flycatcher, 1.0; Loggerhead Shrike, 1.0; Blue Grosbeak, 1.0; Canyon Towhee, 1.0 (3FL); Bullock's Oriole, 1.0. **Total:** 15 species; 64.0 territories (42/40 ha). **Visitors:** Turkey Vulture, White-tailed Kite, Swainson's Hawk, Red-tailed Hawk, Northern Bobwhite, White-winged Dove, Common Ground-Dove, Greater Roadrunner, Lesser Nighthawk, Black-chinned Hummingbird, Northern Flicker, Vermilion Flycatcher, Brown-crested Flycatcher, Cassin's Kingbird, Western Kingbird, Chihuahuan Raven, Common Raven, Bushtit, Cactus Wren, Bendire's Thrasher, Phainopepla, Bell's Vireo, Western Meadowlark, Brown-headed Cowbird. **Remarks:** Estimates should be considered rough for non-territorial or difficult-to-census species (e.g. quail and doves). The census period missed some winter and early-spring breeding species (e.g. Bendire's Thrasher, Canyon Towhee—seen with fledglings 24 April, and Eastern Meadowlark—nest with fledglings 2 Apr). Nocturnal species were not censused except for some diurnal activity of Lesser Nighthawk. **Acknowledgments:** Eduardo Garcia del Rey assisted in delineating and gridding plot with flagging tape.

105. COASTAL PRAIRIE

PRADERA COSTANERA

JOHN P. KELLY

Audubon Cypress Grove Preserve, P.O. Box 808, Marshall CA 94940

Location: California; Marin Co.; Marshall; Cypress Grove Preserve; 38°10'N, 122°54'W; Tomales Quadrangle, USGS. **Continuity:** Established 1988; 8 yr. **Size:** 31.0 ha. **Description of Plot:** See *J. Field Ornithol.* 60(Suppl.):56–57 (1989). Detailed quantitative habitat data from

1993 are available from the author. **Weather:** Mean start temp., 10.8°C (range 4–14°C). Generally mild with normal temperatures. Rainfall during the 1994–95 rainy season was 106.7 cm, 48% above the 38-yr average of 71.9 cm. Significant periods of rainfall extended into May. Source: Audubon Canyon Ranch. **Coverage:** 7.0 h; 8 visits; 14, 28 Apr; 2, 11, 18, 25, 28 May; 1 Jun. **Census:** Song Sparrow, 24.0 (31); Anna's Hummingbird, 2.0; White-tailed Kite, 1.0; Mallard, 1.0; Northern Harrier, 1.0 (3FL); American Crow, 1.0; Red-winged Blackbird, 1.0; Western Meadowlark, 1.0. **Total:** 8 species; 32.0 territories (41/40 ha). **Visitors:** Turkey Vulture, Red-shouldered Hawk, Red-tailed Hawk, California Quail, Mourning Dove, Allen's Hummingbird, Black Phoebe, Ash-throated Flycatcher, Tree Swallow, Violet-green Swallow, Northern Rough-winged Swallow, Cliff Swallow, Barn Swallow, Western Scrub-Jay, Common Raven, Chestnut-backed Chickadee, Bushtit, Wrentit, California Towhee, Brown-headed Cowbird, Purple Finch, House Finch, Pine Siskin, American Goldfinch. **Remarks:** The White-tailed Kite nest failed in April. The California vole (*Microtus californicus*) population crashed during the winter, after a gradual 4-yr increase in abundance. One Northern Harrier territory produced three fledglings. Mourning Dove, House Finch, and American Goldfinch were common on all visits but inadequately quantified because of non-territorial breeding behaviors. **Acknowledgments:** This work is supported by Audubon Canyon Ranch, Stinson Beach, CA. Sarah Tappen compiled and summarized the results.

106. CANYON BLUEBUNCH GRASSLAND

YERBASAL DE CAÑON "BLUEBUNCH"

CAROL BRADFORD

1561 Bethany Road, Kendrick ID 83537-9705

Site Number: ID6592057. **Location:** Idaho; Idaho Co.; Lucille; China Creek Range; 45°32'N, 116°18'W; Lucille Quadrangle, USGS. **Continuity:** Established 1992; 4 yr. **Size:** 7.5 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):104–105 (1993). Some of the hackberry is dying, possibly due to several years of drought. **Weather:** Mean start temp., 7.2°C (range 3–13°C). This was a wetter year than last year; moisture was above average. There were several drought years before this year. The river and creek were running higher and remained high for a much longer period than in previous years. **Coverage:** 12.4 h; 9 visits (6 sunrise, 3 sunset); 13, 14, 26, 27, 28, 29 May; 3, 4, 9 Jun. **Census:** Western Meadowlark, 4.0 (21); Lazuli Bunting, 2.0; Chukar, 1.0; Black-billed Magpie, 1.0. **Total:** 4 species; 8.0 territories (43/40 ha). **Visitors:** Turkey Vulture, Red-tailed Hawk, American Kestrel, Mourning Dove, Northern Flicker, American Robin, European Starling, Western Tanager, Spotted Towhee, Dark-eyed Junco, American Goldfinch. **Remarks:** There were fewer Black-billed Magpies and no Grasshopper Sparrows, though this was supposed to be an abundant year for Grasshopper Sparrows.

107. SUBIRRIGATED GRASSLAND

PRADERA SUBIRRIGADA

GARY LINGLE

Platte River Whooping Crane Trust, 2550 N. Diers Ave., Suite H, Grand Island NE 68803-1214

Location: Nebraska; Hall Co.; Doniphan; Mormon Island Crane Meadows (Plot 1); 40°47'N, 98°26'W; Alda Quadrangle, USGS. **Continuity:** Established 1981; 13 yr. **Size:** 16.2 ha. **Description of Plot:** See *Am. Birds* 36:105 (1982). **Weather:** Mean start temp., 21°C. Generally cold and wet. Temperature and precipitation departures, respectively, were: May, -3.9°C, +6.3 cm; June, -1.2°C, -2.6 cm. Source: National Weather Service, Grand Island, NE. **Coverage:** 6.1 h; 8 visits (3 sunrise); 6, 12, 13, 14, 15, 16, 19, 20 Jun. **Census:** Bobolink, 17.0 (42; 1N); Dickcissel, 7.0 (17); Sedge Wren, 5.0 (12); Brown-headed Cowbird, 5.0; Red-winged Blackbird, 4.0 (10); Western Meadowlark, 3.0 (7); Ring-necked Pheasant, +. **Total:** 7 species; 41.0

territories (101/40 ha). **Visitors:** Mallard, Mourning Dove, Grasshopper Sparrow, Eastern Meadowlark. **Remarks:** The plot was not burned or grazed prior to the census. Residual cover was good. The plot was 70% inundated during the census. **Other Observer:** Chelle Gomez.

108. SUBIRRIGATED NATIVE HAY

PASTO NATIVO SUBIRRIGADO

GARY LINGLE

Platte River Whooping Crane Trust, 2550 N. Diers Ave., Suite H, Grand Island NE 68803-1214

Location: Nebraska; Hall Co.; Doniphan; Mormon Island Crane Meadows (Plot 2); 40°47'N, 98°27'W; Alda Quadrangle, USGS. **Continuity:** Established 1981; 13 yr. **Size:** 16.2 ha. **Description of Plot:** See *Am. Birds* 36:105 (1982). **Weather:** Mean start temp., 21°C. Generally cold and wet. Temperature and precipitation departures, respectively, were: May, -3.9°C, +6.3 cm; June, -1.2°C, -2.6 cm. Source: National Weather Service, Grand Island, NE. **Coverage:** 5.4 h; 8 visits (6 sunrise); 6, 12, 13, 14, 15, 16, 19, 20 Jun. **Census:** Bobolink, 11.0 (27); Grasshopper Sparrow, 4.0 (10); Brown-headed Cowbird, 4.0; Western Meadowlark, 3.0 (7); Eastern Meadowlark, 2.0; Upland Sandpiper, 1.0 (1N); Red-winged Blackbird, 0.5; Mallard, +. **Total:** 8 species; 25.5 territories (63/40 ha). **Visitor:** Mourning Dove. **Remarks:** Part of the plot (25%) was hayed the previous fall, and 15% of the plot was burned in April. Residual cover was poor. The plot was 60% inundated during the census. **Other Observer:** Chelle Gomez.

109. BLUEGRASS GRASSLAND

YERBASAL DE "YERBA-AZUL"

GRAEME C. GIBSON

Long Point Bird Observatory, P.O. Box 160, Port Rowan ON N0E 1M0

Location: Ontario; Municipality of Haldimand-Norfolk; Port Rowan; Long Point National Wildlife Area; 42°33'N, 80°10'W; Little Creek Ridges Quadrangle, DEMR. **Continuity:** Established 1973; 4 yr. **Size:** 10.5 ha. **Description of Plot:** See *Am. Birds* 27:1013 (1973) and *J. Field Ornithol.* 63(Suppl.):107-108 (1992). Shrub and ground covers have been monitored annually since 1991. Canopy cover measured in 1992 was <1%, based on 10 vegetation profile readings above 2 m at each of 20 sampling points. The ground cover estimate was 44%, based on readings below 1 m. Vegetation profile estimates in 1992, based on 10 line intersect readings at each of 20 sampling points were: <0.5 m, 41%; 0.5-1 m, 8%; 1-2 m, <1%; 2-5 m, 0%, >5 m, 0%. The number of shrub stems/ha based on counts in 10 1×10 m quadrats was 26,700 compared with 1000 in 1991. Size class distribution: <0.5 m, 23,400; 0.5-1.0 m, 3300 (compared with 100; 900 in 1991). The only shrub species recorded in 1995 was wild red raspberry. Ground cover species making up 90% of the vegetation cover, based on estimates in 10 1×1 m quadrats, or present in three or more quadrats: Canada bluegrass 32%, in 9 quadrats; wild red raspberry 12%, 3; Canada blue-joint 10%, 2; switch grass 8%, 7; sand dropseed 2%, 4; mosses 2%, 2. Species which have changed more than 5% in the ground cover from 1991 include: Canada bluegrass (increased by 15%), Canada blue-joint (+10%), wild red raspberry (+10%). Non-living ground cover based on estimates in 10 1×1 m quadrats: bare sand 62%, litter 56%, sticks and wood <1%. **Weather:** Mean start temp., 18.2°C (range 14-25°C). Mostly clear, calm, and very dry. **Coverage:** 21.0 h; 8 visits (7 sunrise, 1 sunset); 7, 9, 10, 14, 17, 19, 22, 27 Jun. **Census:** Red-winged Blackbird, 12.0 (46); Song Sparrow, 10.0 (38); Field Sparrow, 7.5 (29; 1FL); Killdeer, 3.0 (11; 1N); Eastern Kingbird, 3.0 (1N); Tree Swallow, 3.0 (2N; 3FL); Northern Rough-winged Swallow, 2.0 (2N); Common Yellowthroat, 2.0; Eastern Meadowlark, 2.0; Yellow Warbler, 1.0; Brown-headed Cowbird, 1.0. **Total:** 11 species; 46.5 territories (177/40 ha). **Visitors:** Canada Goose, Mourning Dove,

Northern Flicker, Cedar Waxwing, European Starling, Common Grackle, Baltimore Oriole, American Goldfinch. **Remarks:** This study is part of a long-term project designed to monitor the response of vegetational and breeding bird communities to a reduction in deer browsing at Long Point, Lake Erie. **Other Observers:** Susan M. Gustafson, Richard Groves. **Acknowledgments:** I thank Jon McCracken for project supervision, Jane Bowles and Michael Bradstreet for measuring vegetation parameters, and the Canadian Wildlife Service for financial support.

110. ABANDONED UPLAND PASTURE

PASTIZAL DE ALTURAS ABANDONADO

VIVIAN MILLS PITZTRICK

5162 Amity Lake Road, Belmont NY 14813

Location: New York; Allegany Co.; Scio; Saunders Plot; 42°13'N, 77°59'W; Wellsville North Quadrangle, USGS. **Continuity:** Established 1984; 12 yr. **Size:** 8.0 ha. **Description of Plot:** See *Am. Birds* 39:112 (1985) and *J. Field Ornithol.* 63(Suppl.):109–110 (1992). **Edge:** The field bordering the E side was left fallow this season. **Weather:** Mean start temp., 15.0°C (range 2–24°C). Deviations from long-term averages: temperature, -0.8°C; precipitation, -16.4 cm with every month below normal. Source: Wellsville Water Treatment Plant. After the water table reached an inadequate low in mid-July, occasional showers of 1.3–8 cm provided a regular water source for the intermittent stream. **Coverage:** 27.0 h; 15 visits (1 sunset); 15, 21, 27 Apr; 10, 24 May; 2, 9, 15, 19 Jun; 3, 13, 21, 28 Jul; 2, 9 Aug. The first three visits were in the evening, for a few minutes only, to listen for American Woodcock. **Census:** Field Sparrow, 20.0 (100; 2N); American Goldfinch, 20.0 (5N); Song Sparrow, 19.0 (95; 2N); Yellow Warbler, 17.0 (85; 3N,13FL); Alder Flycatcher, 16.0 (80); Eastern Towhee, 14.0 (70); Common Yellowthroat, 11.0 (55); Indigo Bunting, 10.0 (50; 2FL); Blue-winged Warbler, 8.0 (40); Chestnut-sided Warbler, 8.0; Cedar Waxwing, 7.0 (35; 2N); American Woodcock, 6.0 (30); Tree Swallow, 5.0 (25; 6N,13FL); Chipping Sparrow, 5.0 (1N,4FL); Red-eyed Vireo, 4.0 (20); House Wren, 3.0 (15; 7N,5FL); Gray Catbird, 2.0 (1N); Prairie Warbler, 2.0; Ruby-throated Hummingbird, 1.0; Northern Flicker, 1.0; Great Crested Flycatcher, 1.0; Blue Jay, 1.0; Black-capped Chickadee, 1.0 (2N); Eastern Bluebird, 1.0 (4N); Veery, 1.0; American Robin, 1.0; Scarlet Tanager, 1.0; Northern Cardinal, 1.0; Rose-breasted Grosbeak, 1.0 (1N); Purple Finch, 1.0. **Total:** 30 species; 189.0 territories (945/40 ha). **Visitors:** Canada Goose, Black-billed Cuckoo, Yellow-billed Cuckoo, Eastern Phoebe, Eastern Kingbird, Northern Rough-winged Swallow, White-breasted Nuthatch, Wood Thrush, Brown Thrasher, Yellow-rumped Warbler, Ovenbird, House Finch. **Remarks:** The number of species increased very slightly, but that of territorial males was a dramatic 31% above the 11-yr average. The only species in fewer numbers were: Blue Jay, Black-capped Chickadee, American Robin, Gray Catbird, Blue-winged Warbler, Northern Cardinal, and Rose-breasted Grosbeak. Primary predators were American Crow and raccoon. Through June, white-footed mice repeatedly usurped nesting boxes from the birds. Documentation of late-season nests (American Goldfinch and Cedar Waxwing) was incomplete. **Acknowledgments:** Thanks to Michael Pitzrick for help on one April woodcock visit, to Dana Harris for weather data, and to Victor and Gail Funk for permission to use the property.

111. ABANDONED PASTURE SCRUBLAND

PASTIZAL-MALEZA ABANDONADO

BILL MURPHY

Innis Point Bird Observatory, Kanata North Postal Outlet, Box 72137, Kanata ON K2K 2P4

Location: Ontario; Municipality of Ottawa-Carleton; Kanata; Innis Point; 45°21'N, 75°54'W; Ottawa Quadrangle, NTS. **Continuity:** Established 1982; 14 yr. **Size:** 9.0 ha. **Description of Plot:** See *Am. Birds* 37:76–77 (1983). **Weather:** Mean start temp., 14.1°C (range 9–20°C).

Rainfall during May and June was 14% (2 cm) above normal. However, most of this fell before 4 June, and there was no rainfall during the last 19 days of June. Hours of sunshine during June was 25% (59 h) above normal and only 3 h short of the 60-yr record, resulting in the highest mean temperatures in the past decade. Source: Ottawa International Airport. There was considerable standing water in the NE portion of the plot, initially covering 0.5 ha, for several weeks following the 3 June downpour. **Coverage:** 20.8 h; 8 visits (8 sunrise); 27 May; 4, 10, 17, 18, 25, 29 Jun; 3 Jul. **Census:** Yellow Warbler, 10.0 (44); White-throated Sparrow, 8.5 (38); Song Sparrow, 7.0 (31); American Robin, 6.0 (27; 1N,4FL); Black-capped Chickadee, 5.0 (22); Black-and-white Warbler, 5.0; Cedar Waxwing, 3.0 (13); Chestnut-sided Warbler, 3.0; Common Yellowthroat, 3.0; Great Crested Flycatcher, 2.5; Ruffed Grouse, 2.0; Veery, 2.0; Gray Catbird, 2.0; Nashville Warbler, 2.0; Rose-breasted Grosbeak, 2.0; Brown-headed Cowbird, 2.0; Baltimore Oriole, 2.0; Blue Jay, 1.5; Mallard, 1.0; Spotted Sandpiper, 1.0; Hairy Woodpecker, 1.0; Northern Flicker, 1.0; Eastern Kingbird, 1.0; White-breasted Nuthatch, 1.0; Ovenbird, 1.0; Indigo Bunting, 1.0; Field Sparrow, 1.0; Black-billed Cuckoo, 0.5; Eastern Wood-Pewee, +; Red-eyed Vireo, +; Scarlet Tanager, +. **Total:** 31 species; 78.0 territories (347/40 ha). **Visitors:** Common Snipe, American Woodcock, Mourning Dove, Downy Woodpecker, Least Flycatcher, American Crow, Red-breasted Nuthatch, Hermit Thrush, Wood Thrush, Yellow-rumped Warbler, American Redstart, Red-winged Blackbird, Common Grackle, Purple Finch, American Goldfinch. **Acknowledgments:** Thanks to the Department of National Defence (Lt. Col. C. McCabe) and the Communications Research Centre (Mr. Pierre Lyonnais) for continued access to the site.

112. CLEAR-CUT-LONGLEAF PINE REGENERATION

REGENERACION DE FORMACION TALADA DE PINO DE HOJA-LARGA

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Site Number: SC0495053. **Location:** South Carolina; Barnwell Co.; Martin; Savannah River Site; 33°9'N, 81°32'W; Girard NE Quadrangle, USGS. **Continuity:** New. **Size:** 12.5 ha. **Description of Plot:** See *J. Field Ornithol.* 64(Suppl.):111 (1993). Because the site was initially clear-cut and replanted, the vegetation demonstrates growth and infilling each year. Planted longleaf pines are now approximately 1.2–1.5 m tall. Clumps of naturally-occurring trees, such as sweetgum, and various shrubs have become dense in some areas. Vertical structure of the vegetation has significantly increased since plot organization. Because vegetation presently inhibits identification of bird species to 100 m, plot size was reduced from 25 to 12.5 ha. Grid intersections were likewise reduced from 100 to 50 m. **Weather:** Mean start temp., 21.4°C (range 14–30°C). The mean high temperature for May was 31°C (32-yr average is 29°C); mean low temperature was 20°C (32-yr average is 16°C). The range of temperatures for May was 11–37°C; mean daily temperature was 25°C. The mean high temperature for June was 29°C (32-yr average is 32°C); mean low temperature was 19°C (32-yr average is 16°C). The range of temperatures for June was 14–34°C; mean daily temperature was 24°C. May precipitation was 4.50 cm (normal is 9.86 cm). June precipitation was 22.4 cm (normal is 11.4 cm). Source: Westinghouse Savannah River Co., Savannah River Technology Cr. **Coverage:** 17.8 h; 10 visits (8 sunrise, 2 sunset); 10, 19, 24(2), 28, 31 May; 9, 13, 16, 20 Jun. **Census:** Eastern Towhee, 7.5 (24); Prairie Warbler, 6.0 (19; 2FL); Mourning Dove, 4.0 (13; 1FL); Yellow-breasted Chat, 4.0; Northern Bobwhite, 3.0 (10; 1N,1FL); Gray Catbird, 3.0; Indigo Bunting, 3.0; Brown Thrasher, 2.5; Common Yellowthroat, 2.5; Blue Grosbeak, 2.5 (1FL); Eastern Kingbird, 2.0; Eastern Bluebird, 2.0 (1N,1FL); Northern Cardinal, 2.0 (2FL); Bachman's Sparrow, 2.0; Field Sparrow, 2.0; Orchard Oriole, 2.0; Red-headed Woodpecker, 1.5 (1N); Northern Mockingbird, 1.5; Common Ground-Dove, 1.0 (1N); Red-bellied Woodpecker, 1.0; Northern Flicker, 1.0 (1N,1FL); Great Crested Flycatcher, 1.0; Brown-headed Nuthatch, 1.0 (3FL); Carolina Wren, 1.0; White-eyed Vireo, 1.0; Downy Woodpecker, 0.5; Blue Jay, 0.5 (1FL). **Total:** 27 species; 61.0 territories (195/40 ha). **Visitors:** Black Vulture, Turkey Vulture, Common Nighthawk, Chimney Swift, Purple Martin, American Crow, Fish Crow, White-breasted Nuthatch, Blue-gray Gnatcatcher, Summer Tanager, Brown-headed

Cowbird. **Acknowledgments:** We thank the Department of Energy and the Savannah River Forest Station of the U.S. Forest Service for financial support and access to the area.

113. CONVENTIONAL DAIRY FARM

GANADERIAS CONVENCIONALES

RUDOLPH C. KELLER

71 Lutz Rd., Boyertown PA 19512

Location: Pennsylvania; Berks Co.; Kempton; Terry Kunkel's farm; 40°37'N, 75°53'W; Hamburg Quadrangle, USGS. **Continuity:** Established 1989; 5 yr. **Size:** 23.1 ha. **Description of Plot:** See *J. Field Ornithol.* 61(Suppl.):82–83 (1990) and 66(Suppl.):117 (1995). To reduce competition with row crops, more hedgerow trees and shrubs were cut or killed with herbicide, a project started in 1994. This resulted in lush growth of grasses, forbs, and brambles (*Rubus* sp.) in some of the hedgerows later in the season. **Weather:** Mean start temp., 16.1°C (range 10–25°C). **Coverage:** 17.5 h; 7 visits (7 sunrise); 14, 28 May; 10, 25 Jun; 2, 9, 15 Jul. **Census:** Indigo Bunting, 7.5 (13; 6FL); Barn Swallow, 5.0 (9; 5FL); Song Sparrow, 5.0 (7FL); House Sparrow, 5.0 (2N); Gray Catbird, 4.0 (7; 3FL); European Starling, 4.0 (5FL); House Wren, 3.0 (5; 1N); American Robin, 3.0 (4FL); Common Yellowthroat, 3.0 (1FL); Chipping Sparrow, 3.0 (8FL); Field Sparrow, 3.0 (5FL); Red-winged Blackbird, 2.0 (2FL); Ring-necked Pheasant, 1.0; Mourning Dove, 1.0 (1FL); Northern Flicker, 1.0; Eastern Phoebe, 1.0 (1FL); Eastern Kingbird, 1.0 (2FL); Northern Rough-winged Swallow, 1.0 (1N); Eastern Bluebird, 1.0 (5FL); Northern Mockingbird, 1.0 (1FL); Brown Thrasher, 1.0 (1FL); Northern Cardinal, 1.0 (3FL); Vesper Sparrow, 1.0; Brown-headed Cowbird, 1.0; Baltimore Oriole, 1.0 (2FL); American Goldfinch, 1.0; Blue Jay, 0.5 (5FL); Red-tailed Hawk, +; Downy Woodpecker, +; Eastern Wood-Pewee, +; American Crow, +; Tufted Titmouse, +; Wood Thrush, +. **Total:** 33 species; 62.0 territories (107/40 ha). **Visitors:** Wood Duck, Mallard, American Kestrel, Wild Turkey, Killdeer, Rock Dove, Chimney Swift, Red-bellied Woodpecker, White-breasted Nuthatch, Yellow Warbler, Common Grackle, Orchard Oriole. **Remarks:** On 28 May, a Northern Rough-winged Swallow, attended by its mate, repeatedly carried dried grass to a presumed nest site in the low bank of a small stream below the pond. The nesting attempt must have failed, as the birds were seen on no other visit. As in 1994, Rock Doves (5–8) and Common Grackles (8–15) were seen foraging on the plot on each visit, but were not known to have nested on it. **Acknowledgments:** I want to thank Terry Kunkel for permission to use his farm for this study.