

Appendix B. Test statistics and sample sizes for individual species trends from individual national forests (NF) and pooled NFs. Change = annual percent change. N = number of stands analyzed. Individual species graphs are in Appendix A.

Species	Chequamegon NF — 1992-2006				Chippewa NF — 1991-2006				Superior NF — 1991-2006				Pooled NFs — 1991-2006			
	change	P	R ²	N	change	P	R ²	N	change	P	R ²	N	change	P	R ²	N
Ruffed Grouse									-10.5	0.08	0.82	5				
Yellow-bellied Sapsucker	0.1	0.82	0.00	63	-0.1	0.98	0.00	61	-0.8	0.55	0.39	63	-0.3	0.64	0.08	187
Downy Woodpecker					2.3	0.42	0.20	9								
Hairy Woodpecker	4.7	0.13	0.92	25	-3.2	0.50	0.26	6	10.9	0.00	0.88	5	4.4	0.04	0.75	36
Northern Flicker	2.1	0.75	0.46	6					8.2	0.02	0.81	11				
Olive-sided Flycatcher					1.7	0.71	0.67	6								
Eastern Wood-Pewee	-6.3	0.00	0.94	58	-4.7	0.00	0.94	65	-9.0	0.00	0.84	14	-5.9	0.00	0.94	137
Yellow-bellied Flycatcher	2.1	0.09	0.43	25	1.8	0.39	0.71	22	1.2	0.24	0.39	62	1.7	0.03	0.58	109
Alder Flycatcher	4.1	0.05	0.90	19	1.8	0.37	0.77	13	-0.9	0.64	0.22	24	2.1	0.11	0.73	56
Least Flycatcher	-1.8	0.26	0.60	68	1.3	0.10	0.36	76	0.6	0.70	0.43	67	0.4	0.54	0.09	211
Great Crested Flycatcher	-5.0	0.01	0.84	26	-7.6	0.00	0.82	24								
Eastern Kingbird	0.9	0.69	0.05	8												
Yellow-throated Vireo	-2.4	0.72	0.23	5	-1.3	0.54	0.14	28								
Blue-headed Vireo	-6.5	0.01	0.92	18	2.5	0.26	0.63	23	0.0	0.92	0.00	19	-0.6	0.65	0.13	60
Red-eyed Vireo	0.3	0.39	0.03	118	1.2	0.00	0.49	120	0.3	0.57	0.03	146	0.8	0.00	0.33	384
Gray Jay					-2.0	0.71	0.43	6	-5.2	0.17	0.95	9				
Blue Jay	-0.3	0.84	0.02	79	1.1	0.42	0.20	59	1.7	0.16	0.57	86	1.0	0.18	0.48	224
American Crow					-9.6	0.00	0.97	5								
Black-capped Chickadee	-0.7	0.55	0.56	84	7.0	0.00	0.93	73	8.2	0.00	0.92	55	4.4	0.00	0.96	212
Red-breasted Nuthatch	2.2	0.22	0.58	38	5.7	0.00	0.80	48	4.7	0.00	0.75	68	4.6	0.00	0.78	154

Appendix B (continued)

Species	Chequamegon NF — 1992-2005				Chippewa NF — 1991-2005				Superior NF — 1991-2005				Pooled NFs — 1991-2005			
	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N
White-breasted Nuthatch	-1.8	0.56	0.27	19	6.7	0.00	0.66	25								
Brown Creeper	-0.2	0.88	0.01	52	1.2	0.48	0.19	35	2.5	0.14	0.72	37	1.0	0.30	0.22	124
House Wren	-3.3	0.24	0.28	5												
Winter Wren	-9.9	0.00	0.97	44	-5.0	0.00	0.95	44	-4.4	0.00	0.77	73	-5.8	0.00	0.91	161
Golden-crowned Kinglet	0.7	0.74	0.30	17	2.6	0.32	0.33	20	5.4	0.00	0.69	53	4.0	0.00	0.60	90
Ruby-crowned Kinglet									-2.7	0.14	0.24	10				
Veery	-4.6	0.00	0.89	61	1.0	0.20	0.65	87	-4.3	0.00	0.95	111	-2.2	0.00	0.89	259
Swainsons Thrush									0.5	0.72	0.05	37				
Hermit Thrush	-7.9	0.00	0.99	86	-4.2	0.00	0.87	71	-1.8	0.10	0.65	78	-4.6	0.00	0.99	235
Wood Thrush	-1.6	0.60	0.09	12	10.2	0.01	0.95	5								
American Robin	-0.4	0.68	0.03	93	3.5	0.00	0.91	67	-1.8	0.03	0.62	103	0.3	0.65	0.04	263
Gray Catbird					5.5	0.04	0.32	13								
Brown Thrasher	-4.3	0.04	0.72	11												
Cedar Waxwing					8.7	0.00	0.91	22	6.4	0.00	0.97	16				
Golden-winged Warbler	-2.2	0.66	0.27	9	0.9	0.65	0.32	23	0.2	0.98	0.01	11	0.3	0.86	0.08	43
Tennessee Warbler									-17.7	0.00	0.92	8				
Nashville Warbler	1.3	0.12	0.27	93	-1.2	0.03	0.62	85	0.3	0.40	0.33	144	-0.2	0.65	0.03	322
Northern Parula	0.8	0.56	0.53	28	1.8	0.23	0.80	31	3.0	0.00	0.76	59	2.2	0.00	0.85	118
Yellow Warbler	10.0	0.00	0.85	7	-8.7	0.09	0.93	10								
Chestnut-sided Warbler	3.0	0.06	0.97	74	4.5	0.00	0.97	100	1.2	0.17	0.33	134	2.3	0.00	0.75	308

Appendix B (continued)

Species	Chequamegon NF — 1992-2005				Chippewa NF — 1991-2005				Superior NF — 1991-2005				Pooled NFs — 1991-2005			
	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N
Magnolia Warbler	5.5	0.56	0.54	5	2.6	0.71	0.34	11	1.8	0.02	0.43	97	1.8	0.03	0.52	113
Cape May Warbler									5.4	0.58	0.57	5				
Black-throated Blue Warbler									9.9	0.00	0.97	11				
Yellow-rumped Warbler	-4.4	0.00	0.71	52	-0.9	0.31	0.13	51	-0.9	0.32	0.16	74	-1.7	0.02	0.34	177
Black-throated Green Warbler	-1.7	0.00	0.87	90	1.8	0.06	0.58	52	-1.1	0.16	0.40	65	-0.3	0.48	0.10	207
Blackburnian Warbler	3.5	0.00	0.85	61	-1.2	0.32	0.54	59	0.3	0.70	0.03	105	0.6	0.36	0.30	225
Pine Warbler	0.1	0.92	0.02	20	-1.8	0.10	0.65	43	1.7	0.49	0.13	7	-1.2	0.19	0.41	70
Palm Warbler					1.6	0.55	0.16	7								
Black-and-white Warbler	-0.1	0.88	0.00	53	5.1	0.00	0.95	63	0.3	0.70	0.04	122	1.3	0.01	0.50	238
American Redstart	9.7	0.00	0.95	32	3.5	0.00	0.93	61	2.4	0.02	0.85	62	3.8	0.00	0.89	155
Ovenbird	-2.5	0.00	0.91	114	-2.6	0.00	0.38	111	-1.5	0.00	0.77	142	-2.1	0.00	0.72	367
Northern Waterthrush	2.5	0.02	0.20	10	9.7	0.13	0.90	6	-2.9	0.28	0.33	7	3.5	0.11	0.51	23
Connecticut Warbler					-13.5	0.00	0.97	14								
Mourning Warbler	-4.2	0.02	0.56	42	-1.1	0.56	0.24	56	-2.3	0.03	0.81	111	-2.5	0.00	0.80	209
Common Yellowthroat	-4.6	0.02	0.97	40	-1.1	0.24	0.57	69	-3.4	0.15	0.90	41	-2.3	0.00	0.94	150
Canada Warbler	2.0	0.20	0.54	31	10.5	0.02	0.83	9	-0.3	0.72	0.04	83	0.6	0.48	0.11	123
Scarlet Tanager	-3.4	0.02	0.94	51	-3.1	0.01	0.83	68	-10.9	0.00	0.89	9	-3.6	0.00	0.96	128
Eastern Towhee	3.7	0.22	0.88	17												
Chipping Sparrow	-2.3	0.34	0.84	21	2.6	0.03	0.79	54	-0.1	0.98	0.00	43	1.0	0.24	0.55	118
Clay-colored Sparrow	-2.5	0.34	0.74	12												

Appendix B (continued)

Species	Chequamegon NF — 1992-2005				Chippewa NF — 1991-2005				Superior NF — 1991-2005				Pooled NFs — 1991-2005			
	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N	change	<i>P</i>	R ²	N
Vesper Sparrow	3.6	0.11	0.92	10												
Song Sparrow	-2.7	0.30	0.96	27	-5.9	0.01	0.92	42	-0.5	0.85	0.13	26	-3.6	0.03	0.94	95
Swamp Sparrow	-3.6	0.14	0.88	14	1.8	0.32	0.29	22	5.2	0.16	0.60	10	0.8	0.56	0.08	46
White-throated Sparrow	-3.1	0.05	0.65	43	-2.7	0.00	0.32	51	-2.5	0.01	0.38	132	-2.9	0.00	0.41	226
Rose-breasted Grosbeak	1.8	0.27	0.61	73	1.6	0.19	0.17	48	-6.5	0.00	0.94	64	-1.4	0.08	0.37	185
Indigo Bunting	7.9	0.06	0.90	16	2.8	0.27	0.34	16								
Red-winged Blackbird	-10.4	0.03	0.96	6	-5.0	0.30	0.39	6								
Brewer's Blackbird	-0.6	0.64	0.01	5												
Brown-headed Cowbird	-0.9	0.55	0.13	32	-7.6	0.02	0.77	20								
Purple Finch					-4.2	0.00	0.60	9	-0.3	0.85	0.01	5				
American Goldfinch	-3.3	0.36	0.64	10	12.3	0.01	0.72	10								
Evening Grosbeak	-17.0	0.00	0.95	6												

Appendix C. Common and scientific name, abbreviation, migration strategy, and typical nest site of each species tested.

Common Name	Scientific Name	Abbrev.	Migration Strategy	Nest Site	Vegetation-type
Ruffed Grouse	<i>Bonasa umbellus</i>	RUGR	Permanent Resident	Ground	Deciduous Forest
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	YBSA	Short-distance	Cavity	Deciduous Forest
Downy Woodpecker	<i>Picoides pubescens</i>	DOWO	Permanent Resident	Cavity	Deciduous Forest
Hairy Woodpecker	<i>Picoides villosus</i>	HAWO	Permanent Resident	Cavity	Deciduous Forest
Northern Flicker	<i>Colaptes auritus</i>	YSFL	Short-distance	Cavity	Fields and Meadows
Olive-sided Flycatcher	<i>Contopus cooperi</i>	OSFL	Long-distance	Canopy	Early Successional
Eastern Wood-Pewee	<i>Contopus virens</i>	EAWP	Long-distance	Canopy	Mixed Forest
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	YBFL	Long-distance	Ground	Lowland Coniferous
Alder Flycatcher	<i>Empidonax alnorum</i>	ALFL	Long-distance	Shrub or Subcanopy	Early Successional
Least Flycatcher	<i>Empidonax minimus</i>	LEFL	Long-distance	Shrub or Subcanopy	Deciduous Forest
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	GCFL	Long-distance	Cavity	Deciduous Forest
Eastern Kingbird	<i>Tyrannus tyrannus</i>	EAKI	Long-distance	Shrub or Subcanopy	Fields and Meadows
Yellow-throated Vireo	<i>Vireo flavifrons</i>	YTVI	Long-distance	Canopy	Deciduous Forest
Blue-headed Vireo	<i>Vireo solitarius</i>	BHVI	Long-distance	Shrub or Subcanopy	Coniferous Forest
Red-eyed Vireo	<i>Vireo olivaceus</i>	REVI	Long-distance	Shrub or Subcanopy	Deciduous Forest
Gray Jay	<i>Perisoreus canadensis</i>	GRAJ	Permanent Resident	Shrub or Subcanopy	Lowland Coniferous
Blue Jay	<i>Cyanocitta cristata</i>	BLJA	Permanent Resident	Canopy	Deciduous Forest
American Crow	<i>Corvus brachyrhynchos</i>	AMCR	Short-distance	Canopy	Deciduous Forest
Black-capped Chickadee	<i>Poecile atricapillus</i>	BCCH	Permanent Resident	Cavity	Deciduous Forest
Red-breasted Nuthatch	<i>Sitta canadensis</i>	RBNU	Permanent Resident	Cavity	Coniferous Forest
White-breasted Nuthatch	<i>Sitta carolinensis</i>	WBNU	Permanent Resident	Cavity	Deciduous Forest
Brown Creeper	<i>Certhia americana</i>	BRCR	Short-distance	Cavity	Deciduous Forest
House Wren	<i>Troglodytes aedon</i>	HOWR	Short-distance	Cavity	Urban
Winter Wren	<i>Troglodytes troglodytes</i>	WIWR	Short-distance	Ground	Lowland Coniferous
Golden-crowned Kinglet	<i>Regulus satrapa</i>	GCKI	Short-distance	Canopy	Coniferous Forest
Ruby-crowned Kinglet	<i>Regulus calendula</i>	RCKI	Short-distance	Canopy	Coniferous Forest

Appendix C (continued).

Common Name	Scientific Name	Abbrev.	Migration Strategy	Nest Site	Vegetation-type
Veery	<i>Catharus fuscescens</i>	VEER	Long-distance	Ground	Deciduous Forest
Swainson's Thrush	<i>Catharus ustulatus</i>	SWTH	Long-distance	Shrub or Subcanopy	Lowland Coniferous
Hermit Thrush	<i>Catharus guttatus</i>	HETH	Short-distance	Ground	Mixed Forest
Wood Thrush	<i>Hylocichla mustelina</i>	WOTH	Long-distance	Shrub or Subcanopy	Deciduous Forest
American Robin	<i>Turdus migratorius</i>	AMRO	Short-distance	Shrub or Subcanopy	Fields and Meadows
Gray Catbird	<i>Dumetella carolinensis</i>	GRCA	Long-distance	Shrub or Subcanopy	Early Successional
Brown Thrasher	<i>Toxostoma rufum</i>	BRTH	Short-distance	Shrub or Subcanopy	Early Successional
Cedar Waxwing	<i>Bombycilla cedrorum</i>	CEDW	Short-distance	Shrub or Subcanopy	Ponds, Lakes, Streams
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	GWWA	Long-distance	Ground	Early Successional
Tennessee Warbler	<i>Vermivora peregrina</i>	TEWA	Long-distance	Ground	Lowland Coniferous
Nashville Warbler	<i>Vermivora ruficapilla</i>	NAWA	Long-distance	Ground	Lowland Coniferous
Northern Parula	<i>Parula americana</i>	NOPA	Long-distance	Canopy	Lowland Coniferous
Yellow Warbler	<i>Dendroica petechia</i>	YWAR	Long-distance	Shrub or Subcanopy	Shrub Swamp
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	CSWA	Long-distance	Shrub or Subcanopy	Early Successional
Magnolia Warbler	<i>Dendroica magnolia</i>	MAWA	Long-distance	Shrub or Subcanopy	Coniferous Forest
Cape May Warbler	<i>Dendroica tigrina</i>	CMWA	Long-distance	Canopy	Coniferous Forest
Black-thr. Blue Warbler	<i>Dendroica caerulescens</i>	BTBW	Long-distance	Shrub or Subcanopy	Deciduous Forest
Yellow-rumped Warbler	<i>Dendroica coronata</i>	MYWA	Short-distance	Canopy	Coniferous Forest
Black-thr. Green Warbler	<i>Dendroica virens</i>	BTNW	Long-distance	Canopy	Mixed Forest
Blackburnian Warbler	<i>Dendroica fusca</i>	BLBW	Long-distance	Canopy	Coniferous Forest
Pine Warbler	<i>Dendroica pinus</i>	PIWA	Short-distance	Canopy	Coniferous Forest
Palm Warbler	<i>Dendroica palmarum</i>	WPWA	Long-distance	Ground	Lowland Coniferous
Black-and-white Warbler	<i>Mniotilta varia</i>	BAWW	Long-distance	Ground	Mixed Forest
American Redstart	<i>Setophaga ruticilla</i>	AMRE	Long-distance	Shrub or Subcanopy	Early Successional
Ovenbird	<i>Seiurus aurocapilla</i>	OVEN	Long-distance	Ground	Deciduous Forest
Northern Waterthrush	<i>Seiurus noveboracensis</i>	NOWA	Long-distance	Ground	Lowland Coniferous
Connecticut Warbler	<i>Oporornis agilis</i>	CONW	Long-distance	Ground	Lowland Coniferous

Appendix C (continued).

Common Name	Scientific Name	Abbrev.	Migration Strategy	Nest Site	Vegetation-type
Mourning Warbler	<i>Oporornis philadelphia</i>	MOWA	Long-distance	Ground	Early Successional
Common Yellowthroat	<i>Geothlypis trichas</i>	COYE	Short-distance	Ground	Shrub Swamp
Canada Warbler	<i>Wilsonia canadensis</i>	CAWA	Long-distance	Ground	Mixed Forest
Scarlet Tanager	<i>Piranga olivacea</i>	SCTA	Long-distance	Canopy	Deciduous Forest
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	EATO	Short-distance	Ground	Early Successional
Chipping Sparrow	<i>Spizella passerina</i>	CHSP	Short-distance	Canopy	Coniferous Forest
Clay-colored Sparrow	<i>Spizella pallida</i>	CCSP	Short-distance	Ground	Fields and Meadows
Vesper Sparrow	<i>Pooecetes gramineus</i>	VESP	Short-distance	Ground	Fields and Meadows
Song Sparrow	<i>Melospiza melodia</i>	SOSP	Short-distance	Ground	Fields and Meadows
Swamp Sparrow	<i>Melospiza georgiana</i>	SWSP	Short-distance	Ground	Early Successional
White-throated Sparrow	<i>Zonotrichia albicollis</i>	WTSP	Short-distance	Ground	Early Successional
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	RBGR	Long-distance	Shrub or Subcanopy	Deciduous Forest
Indigo Bunting	<i>Passerina cyanea</i>	INBU	Long-distance	Shrub or Subcanopy	Fields and Meadows
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	RWBL	Short-distance	Shrub or Subcanopy	Ponds, Lakes, Streams
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	BRBL	Short-distance	Ground	Fields and Meadows
Brown-headed Cowbird	<i>Molothrus ater</i>	BHCO	Short-distance	Brood Parasite	Fields and Meadows
Purple Finch	<i>Carpodacus purpureus</i>	PUFI	Permanent Resident	Canopy	Mixed Forest
American Goldfinch	<i>Carduelis tristis</i>	AMGO	Short-distance	Shrub or Subcanopy	Fields and Meadows
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	EVGR	Permanent Resident	Canopy	Mixed Forest