

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

Species	Chequamegon NF — 1992-2005				Chippewa NF — 1991-2005				Superior NF — 1991-2005				Pooled NF's — 1991-2005			
	change	P	R ²	N	change	P	R ²	N	change	P	R ²	N	change	P	R ²	N
Yellow-bellied Sapsucker	0.3	0.89	0.01	62	-1.4	0.30	0.17	55	-1.6	0.25	0.64	61	-1.0	0.20	0.35	178
Downy Woodpecker					3.6	0.36	0.34	7								
Hairy Woodpecker	3.8	0.18	0.89	22	-2.6	0.64	0.17	6	14.8	0.01	0.99	5	4.7	0.08	0.81	33
Northern Flicker	2.0	0.75	0.24	5					3.8	0.46	0.48	7				
Olive-sided Flycatcher					2.6	0.68	0.62	5								
Eastern Wood-Pewee	-7.3	0.00	0.98	56	-5.2	0.00	0.95	63	-9.8	0.00	0.87	14	-6.5	0.00	0.97	133
Yellow-bellied Flycatcher	1.9	0.21	0.27	24	2.4	0.17	0.69	22	2.1	0.09	0.79	59	2.3	0.00	0.74	105
Alder Flycatcher	3.7	0.14	0.80	15	1.0	0.62	0.63	12	0.0	0.95	0.00	24	2.2	0.11	0.65	51
Least Flycatcher	-1.7	0.25	0.43	66	1.9	0.04	0.64	71	0.5	0.84	0.30	61	0.7	0.35	0.26	198
Great Crested Flycatcher	-4.8	0.00	0.76	26	-8.2	0.00	0.78	22								
Eastern Kingbird	2.4	0.24	0.81	7												
Yellow-throated Vireo	-1.3	0.89	0.04	5	-1.9	0.37	0.20	24								
Blue-headed Vireo	-5.6	0.03	0.79	18	3.0	0.20	0.75	22	0.2	0.98	0.01	17	-0.1	1.00	0.01	57
Red-eyed Vireo	0.7	0.05	0.21	118	2.2	0.00	0.59	120	1.4	0.02	0.63	145	1.6	0.00	0.83	383
Gray Jay					-4.0	0.43	0.76	6	-3.0	0.51	0.88	9				
Blue Jay	0.1	0.95	0.00	75	0.1	0.97	0.00	51	1.9	0.22	0.66	76	0.9	0.30	0.42	202
Black-capped Chickadee	-0.3	0.84	0.11	83	5.0	0.00	0.95	66	9.5	0.00	0.93	49	3.9	0.00	0.93	198
Red-breasted Nuthatch	-0.9	0.68	0.28	35	1.8	0.20	0.51	42	-0.4	0.74	0.06	53	0.4	0.64	0.05	130
White-breasted Nuthatch	-3.7	0.16	0.38	18	5.6	0.00	0.34	21								
Brown Creeper	-1.5	0.35	0.32	47	-0.1	0.92	0.00	33	1.8	0.28	0.46	33	-0.1	0.94	0.00	113

Appendix B (continued)

Species	Chequamegon NF — 1992-2005				Chippewa NF — 1991-2005				Superior NF — 1991-2005				Pooled NF's — 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
House Wren	-0.7	0.78	0.04	5												
Winter Wren	-9.4	0.00	0.96	44	-4.8	0.00	0.94	44	-4.6	0.00	0.78	70	-5.7	0.00	0.90	158
Golden-crowned Kinglet	-0.2	0.85	0.01	15	1.9	0.53	0.15	19	4.9	0.00	0.61	47	3.3	0.00	0.49	81
Ruby-crowned Kinglet									-5.6	0.02	0.64	9				
Veery	-6.0	0.00	0.89	57	-0.1	0.84	0.03	83	-5.0	0.00	0.90	109	-3.2	0.00	0.87	249
Swainson's Thrush									1.2	0.52	0.17	35				
Hermit Thrush	-8.3	0.00	1.00	82	-4.6	0.00	0.91	70	-1.9	0.08	0.59	75	-4.8	0.00	0.99	227
Wood Thrush	-1.0	0.82	0.03	12												
American Robin	-1.0	0.38	0.07	88	2.9	0.04	0.82	61	-1.8	0.08	0.46	96	-0.1	0.95	0.00	245
Gray Catbird					5.4	0.06	0.24	11								
Brown Thrasher	-1.8	0.51	0.44	10												
Cedar Waxwing					10.7	0.00	0.97	20	9.7	0.00	0.98	9				
Golden-winged Warbler	-1.7	0.56	0.14	9	2.0	0.40	0.70	22	-1.0	0.90	0.13	11	0.7	0.70	0.34	42
Tennessee Warbler									-17.5	0.00	0.92	8				
Nashville Warbler	0.9	0.32	0.13	93	-1.2	0.04	0.57	84	1.0	0.02	0.54	144	0.1	0.84	0.00	321
Northern Parula	1.7	0.24	0.66	27	2.1	0.25	0.76	31	3.6	0.01	0.83	57	2.7	0.00	0.87	115
Yellow Warbler	13.4	0.00	0.96	7	-10.9	0.01	0.98	9								
Chestnut-sided Warbler	2.9	0.07	0.93	71	5.4	0.00	0.97	99	1.1	0.22	0.24	133	2.6	0.00	0.71	303
Magnolia Warbler	7.4	0.32	0.72	5	0.9	0.83	0.08	10	2.8	0.01	0.77	94	2.7	0.00	0.81	109
Black-throated Blue Warbler									11.6	0.00	0.95	11				

Appendix B (continued)

Species	Chequamegon NF — 1992-2005				Chippewa NF — 1991-2005				Superior NF — 1991-2005				Pooled NF's — 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
Yellow-rumped Warbler	-4.0	0.01	0.59	52	-0.6	0.62	0.06	50	-1.6	0.18	0.23	71	-1.7	0.01	0.27	173
Black-throated Green Warbler	-1.9	0.00	0.81	90	1.0	0.37	0.29	50	-2.6	0.00	0.86	62	-1.0	0.02	0.41	202
Blackburnian Warbler	4.2	0.00	0.80	58	-0.9	0.53	0.25	58	0.8	0.33	0.25	102	1.0	0.11	0.54	218
Pine Warbler	-0.2	0.92	0.02	19	-1.4	0.18	0.59	43	1.2	0.70	0.04	7	-1.1	0.27	0.34	69
Palm Warbler					3.2	0.36	0.52	7								
Black-and-white Warbler	-0.8	0.60	0.10	50	5.0	0.00	0.93	59	0.5	0.56	0.06	121	1.2	0.06	0.43	230
American Redstart	10.8	0.00	0.98	29	3.7	0.00	0.92	60	3.7	0.00	0.82	62	4.3	0.00	0.89	151
Ovenbird	-2.9	0.00	0.94	114	-3.1	0.00	0.42	111	-1.5	0.00	0.66	142	-2.3	0.00	0.72	367
Northern Waterthrush	4.0	0.01	0.41	10	9.7	0.24	0.87	6	-5.6	0.00	0.45	7	3.7	0.15	0.45	23
Connecticut Warbler					-12.9	0.00	0.97	14								
Mourning Warbler	-4.2	0.03	0.47	41	-2.0	0.30	0.45	54	-2.1	0.07	0.74	108	-2.6	0.01	0.76	203
Common Yellowthroat	-5.1	0.00	0.94	40	-1.4	0.21	0.76	67	-3.2	0.25	0.83	41	-2.6	0.01	0.97	148
Canada Warbler	0.9	0.58	0.19	28	10.4	0.01	0.82	9	-1.1	0.35	0.37	79	-0.2	0.84	0.01	116
Scarlet Tanager	-4.2	0.01	0.92	47	-2.7	0.05	0.65	65	-11.6	0.00	0.87	9	-3.7	0.00	0.94	121
Eastern Towhee	4.5	0.12	0.96	16												
Chipping Sparrow	-1.9	0.45	0.69	21	2.4	0.06	0.73	53	-0.4	0.75	0.03	41	0.9	0.38	0.45	115
Clay-colored Sparrow	-2.0	0.40	0.49	12												
Vesper Sparrow	1.2	0.56	0.12	8												
Song Sparrow	-3.1	0.32	0.97	25	-7.4	0.01	0.95	37	0.3	0.98	0.04	25	-4.2	0.00	0.96	87
Swamp Sparrow	-2.3	0.42	0.78	14	2.1	0.31	0.36	22	7.9	0.10	0.92	10	1.8	0.19	0.34	46

Appendix B (continued)

Species	Chequamegon NF — 1992-2005				Chippewa NF — 1991-2005				Superior NF — 1991-2005				Pooled NF's — 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-throated Sparrow	-4.0	0.02	0.73	41	-3.6	0.00	0.45	50	-3.4	0.00	0.54	129	-3.8	0.00	0.54	220
Rose-breasted Grosbeak	1.2	0.51	0.26	71	-1.1	0.51	0.15	38	-6.9	0.00	0.94	64	-2.7	0.01	0.64	173
Indigo Bunting	5.7	0.27	0.79	13	3.6	0.15	0.52	16								
Red-winged Blackbird	-11.6	0.02	0.94	6	-4.0	0.47	0.22	6								
Brewer's Blackbird	2.0	0.50	0.08	5												
Brown-headed Cowbird	-1.3	0.37	0.15	31	-6.8	0.08	0.68	19								
Purple Finch					-1.7	0.42	0.17	9								
American Goldfinch	-1.7	0.69	0.15	10	10.5	0.03	0.71	8								
Evening Grosbeak	-16.6	0.00	0.94	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
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
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
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

Appendix C (continued).

Common Name	Scientific Name	Abbrev.	Migration Strategy	Nest Site	Vegetation-type
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
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
Mourning Warbler	<i>Oporornis philadelphia</i>	MOWA	Long-distance	Ground	Early Successional

Appendix C (continued).

Common Name	Scientific Name	Abbrev.	Migration Strategy	Nest Site	Vegetation-type
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