

Appendix 2. Components of climate-change vulnerability for 54 boreal-breeding passerine species. Long-term trend values are based on Canada-wide BBS % change for 2002-2015 (Environment and Climate Change Canada 2017). For all species but Bicknell's Thrush (BITH), projected future change values are based on mid-century (2041-2070) mean potential density estimates for the North American boreal region based on the A2 emission scenario and four global climate models (GCM) (Stralberg et al. 2015b). For BITH, the future projection is based on a model from Lambert and McFarland (2004) applied to RCP 4.5 GCM projections by Cadieux and Tremblay (unpublished).

Species Code	Common Name	Genus	Species	Migratory Status	Trend	Future Change
AMRE	American Redstart	<i>Setophaga</i>	<i>ruticilla</i>	Neotropical migrant	-0.071	0.76
BAWW	Black-and-white Warbler	<i>Mniotilta</i>	<i>varia</i>	Neotropical migrant	-0.226	0.71
BBWA	Bay-breasted Warbler	<i>Dendroica</i>	<i>castanea</i>	Neotropical migrant	-0.193	-0.1
BCCH	Black-capped Chickadee	<i>Poecile</i>	<i>atricapillus</i>	Resident	0.729	1.04
BHVI	Blue-headed Vireo	<i>Vireo</i>	<i>solitarius</i>	Short distance migrant	3.68	0.3
BITH	Bicknell's Thrush	<i>Catharus</i>	<i>bicknelli</i>	Neotropical migrant	-5.23	-0.44
BLBW	Blackburnian Warbler	<i>Dendroica</i>	<i>fusca</i>	Neotropical migrant	0.671	1.32
BLJA	Blue Jay	<i>Cyanocitta</i>	<i>cristata</i>	Short distance migrant	1.09	2.08
BLPW	Blackpoll Warbler	<i>Dendroica</i>	<i>striata</i>	Neotropical migrant	-4.23	-0.44
BOCH	Boreal Chickadee	<i>Poecile</i>	<i>hudsonicus</i>	Resident	0.261	-0.02
BRCR	Brown Creeper	<i>Certhia</i>	<i>americana</i>	Short distance migrant	0.867	-0.05
BTNW	Black-throated Green Warbler	<i>Dendroica</i>	<i>virens</i>	Neotropical migrant	0.284	0.84
CAWA	Canada Warbler	<i>Wilsonia</i>	<i>canadensis</i>	Neotropical migrant	-2.21	0.53
CEDW	Cedar Waxwing	<i>Bombycilla</i>	<i>cedrorum</i>	Short distance migrant	0.452	0.55
CMWA	Cape May Warbler	<i>Dendroica</i>	<i>tigrina</i>	Neotropical migrant	0.979	-0.11
CONW	Connecticut Warbler	<i>Oporornis</i>	<i>agilis</i>	Neotropical migrant	-1.89	-0.16
CORA	Common Raven	<i>Corvus</i>	<i>corax</i>	Resident	2.54	0.03
CORE	Common Redpoll	<i>Carduelis</i>	<i>flammea</i>	Nomadic	0.141	-0.4
EVGR	Evening Grosbeak	<i>Coccothraustes</i>	<i>vespertinus</i>	Nomadic	-5.27	0.56
FOSP	Fox Sparrow	<i>Passerella</i>	<i>iliaca</i>	Short distance migrant	0.852	-0.45
GCKI	Golden-crowned Kinglet	<i>Regulus</i>	<i>satrapa</i>	Short distance migrant	-0.563	0.27

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GCTH	Gray-cheeked Thrush	<i>Catharus</i>	<i>minimus</i>	Neotropical migrant	-2.65	-0.5
GRAJ	Gray Jay	<i>Perisoreus</i>	<i>canadensis</i>	Resident	-0.422	-0.25
HETH	Hermit Thrush	<i>Catharus</i>	<i>guttatus</i>	Short distance migrant	0.823	-0.07
LEFL	Least Flycatcher	<i>Empidonax</i>	<i>minimus</i>	Neotropical migrant	-1.58	0.37
MAWA	Magnolia Warbler	<i>Dendroica</i>	<i>magnolia</i>	Neotropical migrant	1.13	0.25
MOWA	Mourning Warbler	<i>Oporornis</i>	<i>philadelphia</i>	Neotropical migrant	-1.23	1
NAWA	Nashville Warbler	<i>Vermivora</i>	<i>ruficapilla</i>	Neotropical migrant	0.322	0.72
NOWA	Northern Waterthrush	<i>Seiurus</i>	<i>noveboracensis</i>	Neotropical migrant	1.22	-0.18
OCWA	Orange-crowned Warbler	<i>Vermivora</i>	<i>celata</i>	Short distance migrant	0.722	-0.19
OSFL	Olive-sided Flycatcher	<i>Contopus</i>	<i>cooperi</i>	Neotropical migrant	-2.63	-0.1
OVEN	Ovenbird	<i>Seiurus</i>	<i>aurocapillus</i>	Neotropical migrant	-0.052	0.62
PAWA	Palm Warbler	<i>Dendroica</i>	<i>palmarum</i>	Short distance migrant	4.88	-0.52
PHVI	Philadelphia Vireo	<i>Vireo</i>	<i>philadelphicus</i>	Neotropical migrant	2.46	0.23
PIGR	Pine Grosbeak	<i>Pinicola</i>	<i>enucleator</i>	Nomadic	-2.69	-0.17
PISI	Pine Siskin	<i>Carduelis</i>	<i>pinus</i>	Nomadic	-2.62	0.27
PUFI	Purple Finch	<i>Carpodacus</i>	<i>purpureus</i>	Short distance migrant	-1.19	0.55
RBGR	Rose-breasted Grosbeak	<i>Pheucticus</i>	<i>ludovicianus</i>	Neotropical migrant	-0.885	0.91
RBNU	Red-breasted Nuthatch	<i>Sitta</i>	<i>canadensis</i>	Resident	1.45	0.56
RCKI	Ruby-crowned Kinglet	<i>Regulus</i>	<i>calendula</i>	Short distance migrant	0.551	-0.17
REVI	Red-eyed Vireo	<i>Vireo</i>	<i>olivaceus</i>	Neotropical migrant	0.832	0.96
RUBL	Rusty Blackbird	<i>Euphagus</i>	<i>carolinus</i>	Short distance migrant	-2.56	-0.37
SWTH	Swainson's Thrush	<i>Catharus</i>	<i>ustulatus</i>	Neotropical migrant	-0.114	0.02
TEWA	Tennessee Warbler	<i>Vermivora</i>	<i>peregrina</i>	Neotropical migrant	0.844	-0.25
VATH	Varied Thrush	<i>Ixoreus</i>	<i>naevius</i>	Short distance migrant	-1.46	0.08
WETA	Western Tanager	<i>Piranga</i>	<i>ludoviciana</i>	Neotropical migrant	1.45	0.06
WEWP	Western Wood-Pewee	<i>Contopus</i>	<i>sordidulus</i>	Neotropical migrant	-2	0.12
WIWA	Wilson's Warbler	<i>Wilsonia</i>	<i>pusilla</i>	Neotropical migrant	-0.486	-0.14
WTSP	White-throated Sparrow	<i>Zonotrichia</i>	<i>albicollis</i>	Short distance migrant	-0.589	0.12

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WWCR	White-winged Crossbill	<i>Loxia</i>	<i>leucoptera</i>	Nomadic	1.79	-0.29
YBFL	Yellow-bellied Flycatcher	<i>Empidonax</i>	<i>flaviventris</i>	Neotropical migrant	3.21	-0.1