

**Appendix 3.** Details of population-level impacts of anthropogenic avian mortality in Canada.

**Table A3.1** –Total mortality relative to abundance for species (or regional populations) and families, as illustrated in Fig. 2. Original stage-specific mortality totals presented in each paper are listed by life stage (*Ke*: eggs/nestlings, *K-unk.*: unknown-age mobile individuals; *Kf*: fledglings; *Ka*: adults), as well as the total converted mortality in equivalent number of adult breeders is also shown (*M*). The proportion value in the final column (%) represents the ratio between *M* and abundance. Abundance estimates are those provided directly by authors, except for building collisions, where family-level abundance was derived from current Canadian estimates (Blancher 2002, P. Blancher *unpubl. data*), and used to estimate proportional kill (*M* / abundance).

Source	Species or family (region)		Group	<i>Ke</i>	<i>K-unk.</i>	<i>Kf</i>	<i>Ka</i>	<i>M</i>	Abundance	%
Marine bycatch	Common Murre (Funk Is.)	<i>Uria aalge</i>	Seabirds	-	-	-	4,500	4,500	984,000	<b>0.46%</b>
Marine bycatch	Black-footed Albatross	<i>Phoebastria nigripes</i>	Seabirds	-	-	-	99	99	2,500	<b>3.96%</b>
Marine bycatch	Common Eider (SW NS)	<i>Somateria mollissima</i>	Seabirds	-	-	-	532	532	7,600	<b>7.00%</b>
Marine bycatch	Northern Gannet	<i>Morus bassanus</i>	Seabirds	-	-	-	320	320	160,000	<b>0.20%</b>
Marine bycatch	Great Shearwater	<i>Puffinus gravis</i>	Seabirds	-	-	-	2,346	2,135	1,500,000	<b>0.14%</b>
Oil and gas - marine	Leach's Storm-Petrel	<i>Oceanodroma leucorhoa</i>	Seabirds	-	-	62	-	12	20,000,000	<b>0.00%</b>
Oil and gas - marine	Thick-billed Murre	<i>Uria lomvia</i>	Seabirds	-	126	-	-	71	8,000,000	<b>0.00%</b>
Oil and gas - marine	Common Murre	<i>Uria aalge</i>	Seabirds	-	32	-	-	18	2,000,000	<b>0.00%</b>
Oil and gas - marine	Dovekie	<i>Alle alle</i>	Seabirds	-	2,086	-	-	1,157	132,000,000	<b>0.00%</b>
Oil and gas - terrestrial	Sprague's Pipit	<i>Anthus spragueii</i>	Landbirds	-	-	-	482	482	613,000	<b>0.08%</b>
Oil and gas - terrestrial	Western Meadowlark	<i>Sturnella neglecta</i>	Landbirds	-	-	-	550	550	2,100,000	<b>0.03%</b>
Oil and gas - terrestrial	Canada Warbler	<i>Cardellina canadensis</i>	Landbirds	-	-	-	74	74	210,000	<b>0.04%</b>
Oil and gas - terrestrial	Ovenbird	<i>Seiurus aurocapilla</i>	Landbirds	-	-	-	730	730	1,750,000	<b>0.04%</b>
Wind energy	Horned Lark	<i>Eremophila alpestris</i>	Landbirds	-	1,480	-	-	1,171	30,000,000	<b>0.00%</b>

Wind energy	Golden-crowned Kinglet	<i>Regulus satrapa</i>	Landbirds	-	888	-	-	702	23,000,000	<b>0.00%</b>
Wind energy	Red-eyed Vireo	<i>Vireo olivaceus</i>	Landbirds	-	888	-	-	702	96,000,000	<b>0.00%</b>
Wind energy	European Starling	<i>Sturnus vulgaris</i>	Landbirds	-	740	-	-	585	30,000,000	<b>0.00%</b>
Wind energy	Tree Swallow	<i>Tachycineta bicolor</i>	Landbirds	-	592	-	-	468	12,000,000	<b>0.00%</b>
Wind energy	Canada Warbler	<i>Cardellina canadensis</i>	Landbirds	-	44	-	-	35	1,350,000	<b>0.00%</b>
Wind energy	Chimney Swift	<i>Chaetura pelagica</i>	Landbirds	-	44	-	-	35	145,000	<b>0.02%</b>
Agriculture (haying)	Bobolink	<i>Dolichonyx oryzivorus</i>	Landbirds	666,784	-	-	-	48,570	3,991,300	<b>1.22%</b>
Agriculture (haying)	Savannah Sparrow	<i>Passerculus sandwichensis</i>	Landbirds	940,697	-	-	-	68,522	23,628,000	<b>0.29%</b>
Agriculture (haying)	Clay-coloured Sparrow	<i>Spizella pallida</i>	Landbirds	215,321	-	-	-	15,684	20,174,600	<b>0.08%</b>
Agriculture (haying)	Vesper Sparrow	<i>Poocetes gramineus</i>	Landbirds	249,074	-	-	-	18,143	10,012,100	<b>0.18%</b>
Agriculture (haying)	Horned Lark	<i>Eremophila alpestris</i>	Landbirds	137,524	-	-	-	10,017	11,476,240	<b>0.09%</b>
Road maintenance	Killdeer	<i>Charadrius vociferous</i>	Shorebirds	2,026	-	-	-	74	1,613,200	<b>0.00%</b>
Road maintenance	Savannah Sparrow	<i>Passerculus sandwichensis</i>	Landbirds	9,306	-	-	-	703	35,770,000	<b>0.00%</b>
Road maintenance	Song Sparrow	<i>Melospiza melodia</i>	Landbirds	4,175	-	-	-	316	24,030,000	<b>0.00%</b>
Road maintenance	Clay-colored Sparrow	<i>Spizella pallida</i>	Landbirds	1,088	-	-	-	82	18,982,000	<b>0.00%</b>
Road maintenance	Vesper Sparrow	<i>Poocetes gramineus</i>	Landbirds	3,053	-	-	-	231	10,692,600	<b>0.00%</b>
Road maintenance	Mallard	<i>Anas platyrhynchos</i>	Waterfowl	5,501	-	-	149	352	3,857,800	<b>0.01%</b>
Mining – Pits/quarries	Killdeer (ON/QC/BC/AB)	<i>Charadrius vociferus</i>	Shorebirds	6,725	-	-	-	246	1,230,000	<b>0.02%</b>
Mining – Pits/quarries	Bank Swallow (ON/QC/BC/AB)	<i>Riparia riparia</i>	Landbirds	66,573	-	-	-	5,031	1,540,000	<b>0.33%</b>
Buildings - Houses	Hawks	<i>Accipitridae</i>	Landbirds	-	66,207	-	-	48,758	2,622,622	<b>1.86%</b>

Buildings - Houses	Pigeons	<i>Colombidae</i>	Landbirds	-	573,793	-	-	422,570	7,740,543	<b>5.46%</b>
Buildings - Houses	Hummingbirds	<i>Trochilidae</i>	Landbirds	-	220,690	-	-	162,527	10,227,596	<b>1.59%</b>
Buildings - Houses	Woodpeckers	<i>Picidae</i>	Landbirds	-	286,897	-	-	211,285	66,624,318	<b>0.32%</b>
Buildings - Houses	Jays and crows	<i>Corvidae</i>	Landbirds	-	331,034	-	-	243,790	39,786,259	<b>0.61%</b>
Buildings - Houses	Chickadees	<i>Paridae</i>	Landbirds	-	2,891,034	-	-	2,129,102	48,613,670	<b>4.38%</b>
Buildings - Houses	Nuthatches	<i>Sittidae</i>	Landbirds	-	640,000	-	-	471,328	19,349,207	<b>2.44%</b>
Buildings - Houses	Robins and thrushes	<i>Turdidae</i>	Landbirds	-	3,553,103	-	-	2,616,683	333,229,833	<b>0.79%</b>
Buildings - Houses	Warblers	<i>Parulidae</i>	Landbirds	-	573,793	-	-	422,570	1,342,494,691	<b>0.03%</b>
Buildings - Houses	Sparrows	<i>Emberizidae</i>	Landbirds	-	7,260,690	-	-	5,347,135	913,357,792	<b>0.59%</b>
Buildings - Low/mid	Warblers	<i>Parulidae</i>	Landbirds	-	508,800	-	-	328,411	1,342,494,691	<b>0.02%</b>
Buildings - Low/mid	Sparrows	<i>Emberizidae</i>	Landbirds	-	422,400	-	-	272,643	913,357,792	<b>0.03%</b>
Buildings - Low/mid	Robins and thrushes	<i>Turdidae</i>	Landbirds	-	355,200	-	-	229,268	333,229,833	<b>0.07%</b>
Buildings - Low/mid	Cardinals	<i>Cardinalidae</i>	Landbirds	-	151,200	-	-	97,594	14,699,849	<b>0.66%</b>
Buildings - Low/mid	Finches	<i>Fringillidae</i>	Landbirds	-	96,000	-	-	61,964	62,185,839	<b>0.10%</b>
Buildings - Low/mid	Mimids	<i>Mimidae</i>	Landbirds	-	96,000	-	-	61,964	7,284,285	<b>0.85%</b>
Buildings – Tall	Warblers	<i>Parulidae</i>	Landbirds	-	17,688	-	-	9,808	1,342,494,691	<b>0.00%</b>
Buildings – Tall	Sparrows	<i>Emberizidae</i>	Landbirds	-	15,745	-	-	8,730	913,357,792	<b>0.00%</b>
Buildings – Tall	Robins and thrushes	<i>Turdidae</i>	Landbirds	-	4,221	-	-	2,340	333,229,833	<b>0.00%</b>
Buildings – Tall	Creepers	<i>Certhiidae</i>	Landbirds	-	2,278	-	-	1,263	16,106,293	<b>0.01%</b>
Buildings – Tall	Chickadees	<i>Paridae</i>	Landbirds	-	2,211	-	-	1,226	48,613,670	<b>0.00%</b>

**Literature Cited (Appendix 3)**

Blancher, P. J. 2002. Importance of breeding birds exported from Canada – information on landbirds and shorebirds. Unpublished report to the North American Bird Conservation Initiative Canada National Council, Ottawa, Ontario, Canada.