

Characterizing the North Central Washington eBird Dataset

Bruce McCammon
November 2021
V2.0



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eBird is a community-science database created in 2002 by the Cornell Lab of Ornithology. As of May 12, 2021, eBird contains one billion (1,000,000,000) bird observations. Data comes to eBird in the form of species that are “ticked” on a checklist and submitted via mobile app or online. The eBird data represents 77,466,000 checklists. There are 684,000 eBirders (people who contribute to the database) from 202 countries. Needless to say, eBird is a HUGE database.

Researchers and conservationists analyze the eBird data to detect significant trends, migration patterns, and risks to global or regional bird populations. Johnson, et al. (2020) describe aspects of the data that can challenge such analyses. These include species bias, spatial bias, and variation in effort. Simply, these mean that eBirders may have a preference for one of more species, that they may conduct surveys in areas that are close to home or easily accessible, and may create a checklist alone or with others. Sometimes a checklist is completed in a few minutes while other times the time spent is much longer. It is essential to normalize the data to minimize bias if rigorous analysis is attempted.

The material in this paper is not presented as the results of scientific analysis. Rather, *the material herein is more appropriately thought of as a characterization or tabulation of the data that is available for the North Central Washington Audubon Society(NCWS) four-county area: Chelan, Douglas, Ferry, and Okanogan*. The summary tables and graphs in this report were prepared, mostly, using Microsoft Excel. Maps were prepared using GaiaGPS Pro. When possible, the entire period-of-record (POR) for each county was used to generate results. When the size of the database exceeded Excel’s capacity I either looked at the data county-by-county or used a portion of the data (2015 - August 2021).

Table 1.NCWS eBird database summary information (period of record)

County	Timespan	# Records	eBirders	# of checklists	# of species*
Chelan	6/67 - 8/21	560,101	2,329	47,478	289
Douglas	5/69 - 8/21	146,856	1,093	16,482	278
Ferry	10/67 - 8/21	65,537	394	5,881	238
Okanogan	7/76 - 8/21	385,422	1,893	35,051	288

* Data does not include hybrid (e.g., Sharp-shinned/Cooper’s) or generic (e.g., Accipiter) categories.

The reality of spatial bias shows up in the data. 62 percent (1,659) of the checklists submitted between 2015 and August 2021 were entered by eBirders who sampled in only one of the four counties. 20 percent (538) of the checklists came from observers who visited two of the four counties. 14 percent (364) of the checklists came from birders who visited three out of the four counties. Only four percent of the checklists (114) were submitted by birders who spent time in all four counties between 2015 and August 2021. Clearly, most birders stay close to home. A few, however, cover a lot of area in their search for birds.

Nine observers submitted over 1,000 checklists between 2015 and August 2021. Of these nine, a majority of their submissions came from one county. Only three of the nine submitted data from all four counties.

The Geography of eBird Data in North Central Washington

The North Central Washington Audubon Society area contains four counties that occupy a portion of the p'Squosa/Wenatchi ancestral lands: Chelan, Douglas, Ferry, and Okanogan (Figure 1). The counties extend from the dense, coniferous forests and alpine along the Cascade crest to extensive shrub-steppe and agricultural lands on the eastern edges. The Columbia River is central to the area. Major tributaries to the Columbia River include the Okanogan, Methow, Entiat, and Wenatchee Rivers.

The four counties contain a total of 12,211 square miles which is slightly larger than Belgium and is seventeen percent of the State of Washington. 171,294 people reside in the four-county area (U.S. Census, 2020).

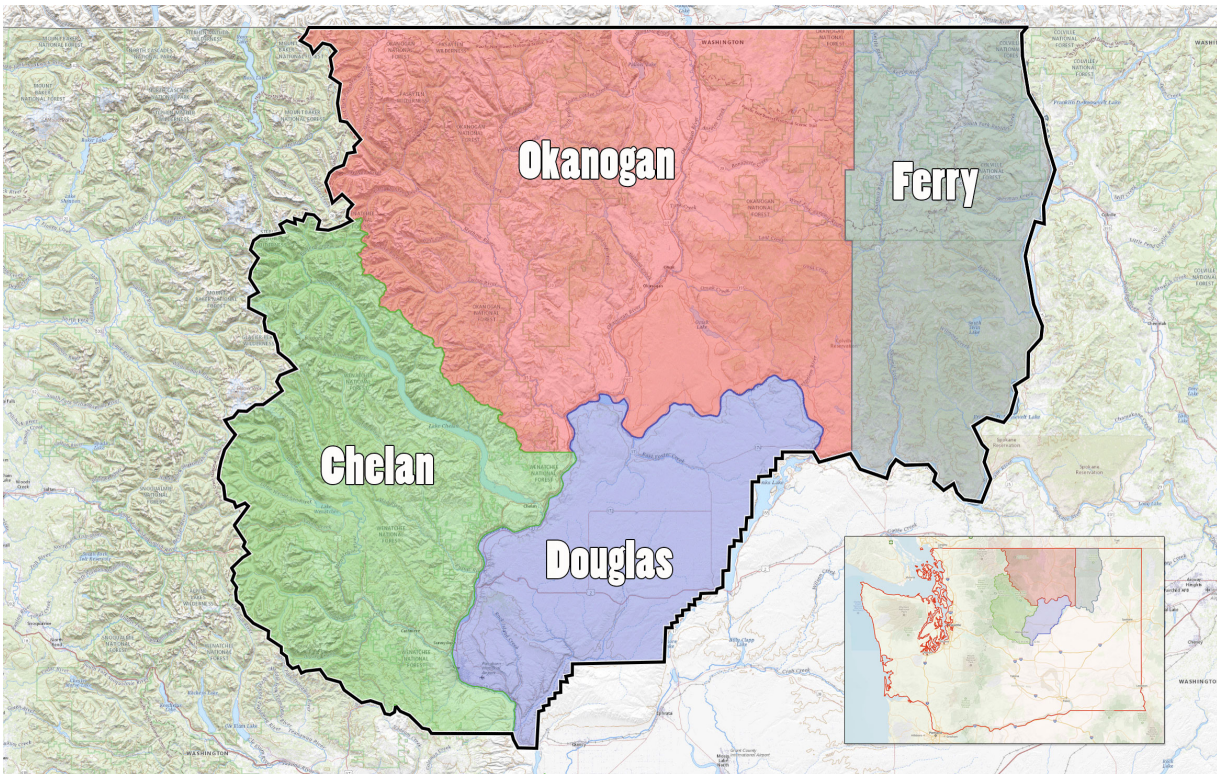


Figure 1. The four-county area of the North Central Washington Audubon Society

Where are the birds?

Each database record in eBird is tied to a single species “tick” within a checklist. The NCWAS portion of the eBird global dataset contains 1,157,916 individual records. Each checklist may be created at a stationary position or along a traveling route. Many species are entered into eBird as incidental observations when an eBirder sees a bird and records it just to make the record. Roughly 57% of the checklists in the four-county area use the “traveling” protocol, 27% use the “stationary” protocol, and 16% use the “incidental” protocol.

The species recorded occur in many, many locations within the NCWAS area. A subset of locations, known as “Hotspots” help to simplify the data and locations where birds are seen and reported. eBird defines a Hotspot as “public birding locations created by eBird users. Hotspots allow multiple birders to enter data into the same shared location, creating aggregated results available through eBird’s ‘Explore’ tools”. In total, there are 585 hotspots in the four-county area - Chelan (151), Douglas (119), Ferry (72), Okanogan (243). For simplification, the top-10 hotspots in each county are shown on the following maps. The ranking is based on the total number of bird species (SPP) documented in eBird for each county. Hover over the name of the Hotspot and click on it to access the eBird page for that site.

Table 2. The top 10 Hotspots in each county and the number of bird species (SPP) in eBird at the hotspot as of August 31, 2021

Chelan County Hotspots			Ferry County Hotspots		
	SPP		SPP		SPP
C-1	Wenatchee Confluence SP/Horan Wildlife Area	218	F-1	Curlew Lake SP	150
C-2	Walla Walla Point Park	211	F-2	Sanpoil River Valley	146
C-3	Leavenworth National Fish Hatchery	170	F-3	Rail Trail Wetland-Curlew Lake	139
C-4	Beebe Springs Natural Area	157	F-4	Swawilla Basin	138
C-5	Fish Lake (Chelan Co.)	156	F-5	Kettle River Campground	132
C-6	Lake Wenatchee SP	156	F-6	Mud Lake	126
C-7	Lake Chelan NRA-Stehekin Valley-Head of Lake Chelan	155	F-7	Republic STP	123
C-8	Blackbird Island, Leavenworth	142	F-8	Haag Cove Campground	116
C-9	Swakane Canyon	142	F-9	Republic (town)	115
C-10	Lake Chelan NRA - Stehekin-Golden West/Lake Shore	141	F-10	Colville Indian Reservation-Silver Creek Road	114

Douglas County Hotspots			Okanogan County Hotspots		
	SPP		SPP		SPP
D-1	Waterville Plateau	168	OK-1	Cameron Lake Rd.	204
D-2	Jameson Lake	160	OK-2	Okanogan Highlands	198
D-3	Bridgeport Bar	144	OK-3	Cassimer Bar Wildlife Area	193
D-4	Central Ferry Canyon Rd.	141	OK-4	Pearrygin Lake SP	192
D-5	Mansfield	138	OL-5	Conconully State Park	190
D-6	Waterville Plateau-Atkins Lake	132	OK-6	Sinlahekin Wildlife Area	180
D-7	Douglas Creek Natural Area	126	OK-7	Winthrop	179
D-8	East Wenatchee-Porters Pond	126	OK-8	Okanogan Highlands-Mary Ann Creek	174
D-9	Lincoln Rock SP	126	OK-9	Bridgeport State Park	167
D-10	Daroga State Park	118	OK-10	Cameron Lake Road-North End	166

Figure 2. Chelan County - top 10 hotspots

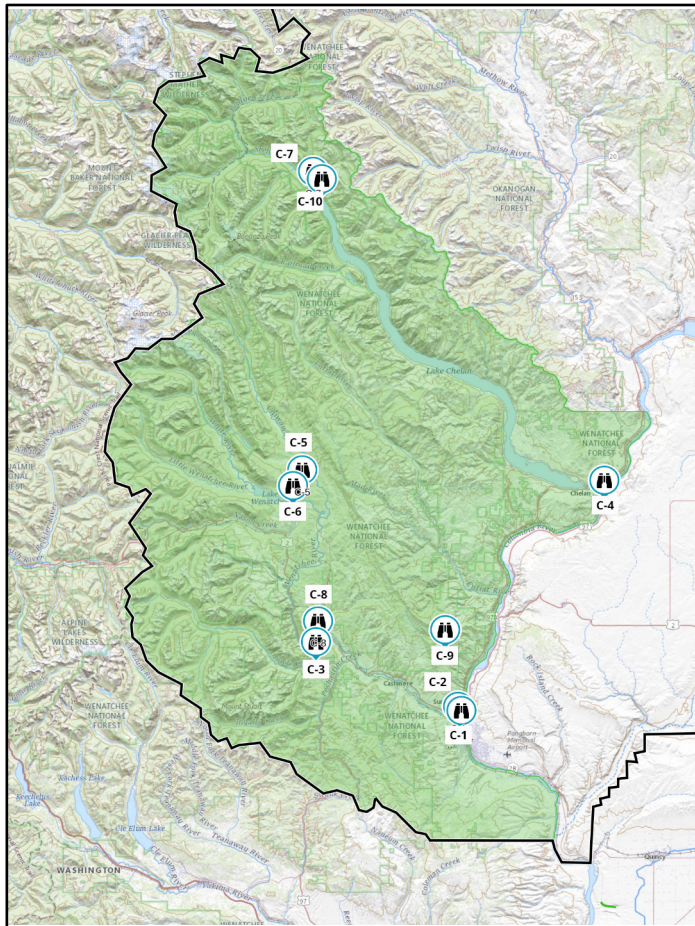


Figure 3. Ferry County - top 10 hotspots

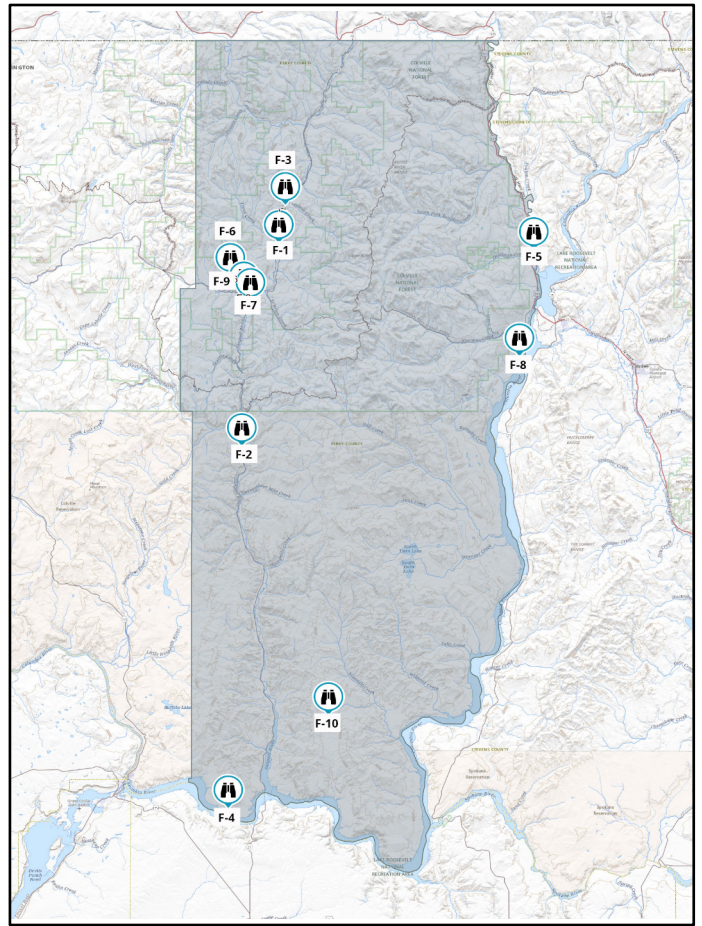


Figure 4. Douglas County - top 10 hotspots

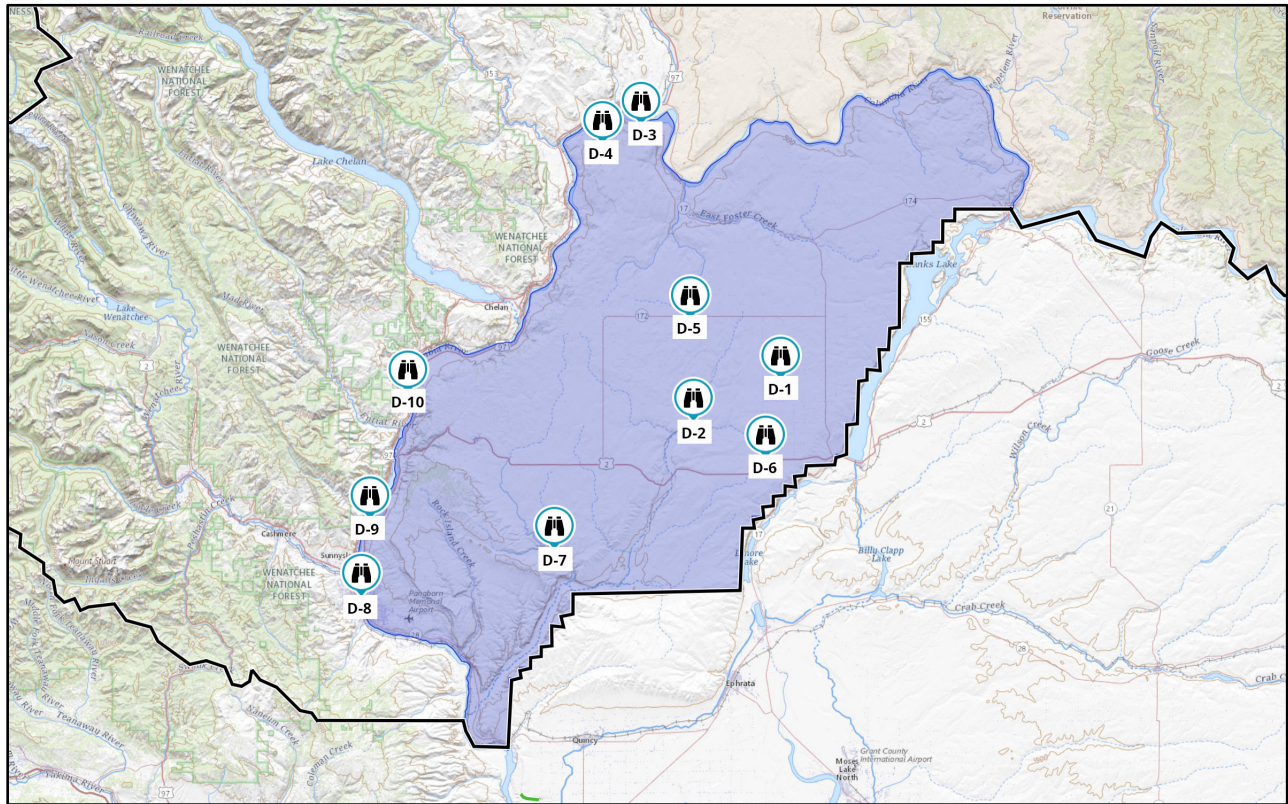
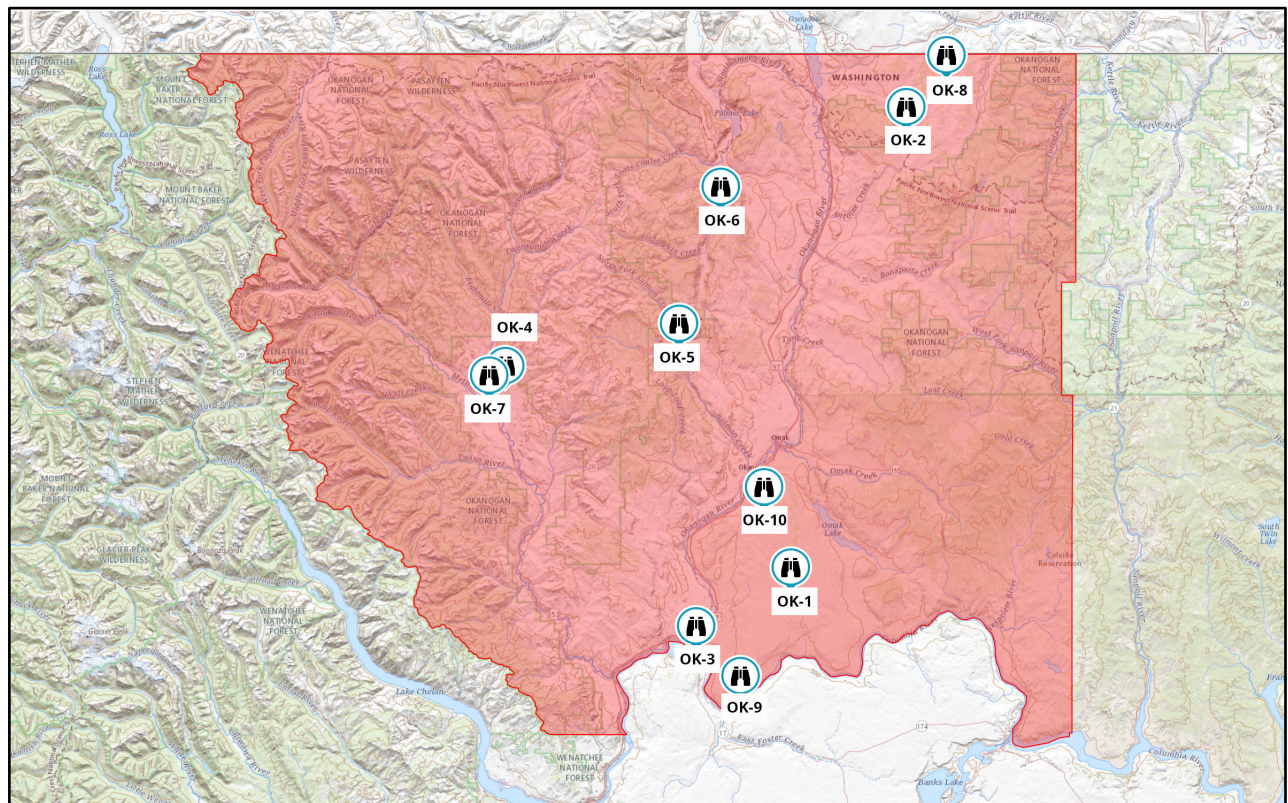


Figure 5. Okanogan County - top 10 hotspots



Which birds are in the data?

With over 250 species of birds seen in each of the four counties, it is reasonable to ask “which species” and “when”. The chart below shows the relative abundance of species when organized by taxonomic order (colors) and then by taxonomic family (boxes) for the period 2015 - August 2021. The chart aggregates data from all four counties. A big box indicates that there are a lot of species observations. A small box shows proportionally fewer species observations. The boxes show all the families that have more than 5,000 species observations in the family. You can view and download this chart from the NCWAS website by [clicking here](#).

Figure 6. Relative abundance of species observed in taxonomic family groups

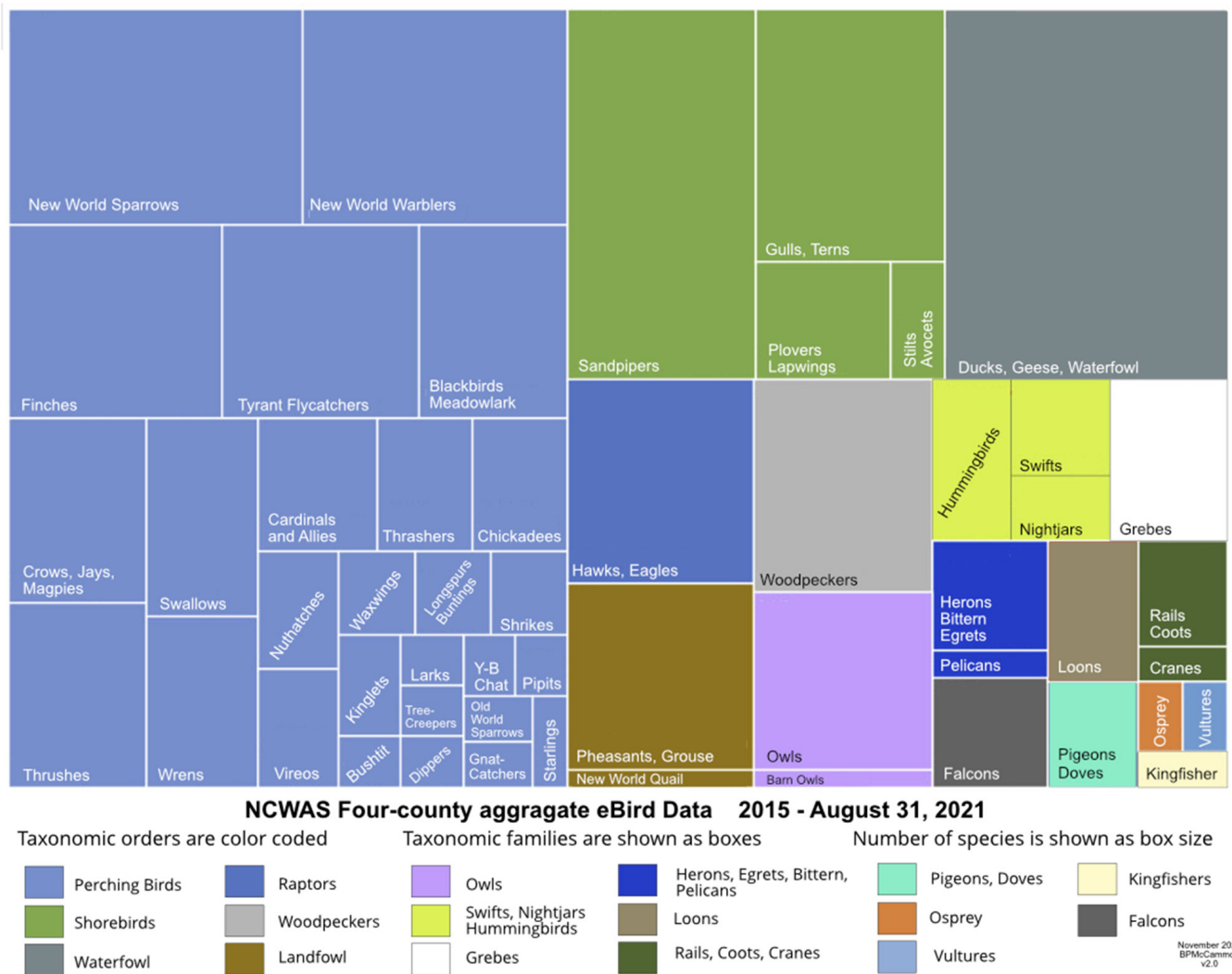


Table 3 provides a “rough-cut” look at the most seen and recorded species in each county. The entire period of record for each county was used to create the lists of top-25 species.

Table 4 presents the count of observations for each species within each taxonomic family within each month of the year. The data is based on the period January 2015 through August 2021. The data aggregates all the values from the four counties. This table provides much more detail about species that are common all year, those that are seasonal visitors, and those that are rare or vagrant sightings.

Table 4 is available to download or print in PDF format on the NCWAS website. Go to Resources/Downloadable Items and Useful Links. Find the document labeled “NCWAS eBird Species by Month”.

Table 3. Top 25 Most “Ticked” Species in the Period of Record ending August 31, 2021

CHELAN			DOUGLAS	
1	American Robin	19,282	Common Raven	5,335
2	American Crow	15,177	European Starling	4,174
3	Northern Flicker	14,065	Horned Lark	3,795
4	Mallard	13,242	American Robin	3,657
5	Black-capped Chickadee	11,839	House Sparrow	3,491
6	Dark-eyed Junco	11,726	California Quail	3,277
7	Red-breasted Nuthatch	11,704	Eurasian Collared-Dove	3,211
8	Steller's Jay	11,413	Red-tailed Hawk	3,169
9	Song Sparrow	11,106	Northern Flicker	3,119
10	American Goldfinch	11,006	House Finch	2,763
11	Common Raven	10,800	Mallard	2,603
12	European Starling	10,672	Black-billed Magpie	2,507
13	Canada Goose	10,480	American Kestrel	2,444
14	Violet-green Swallow	10,076	Canada Goose	2,357
15	California Quail	9,250	Western Meadowlark	2,328
16	House Finch	9,060	Rough-legged Hawk	2,244
17	Yellow-rumped Warbler	8,359	American Goldfinch	2,241
18	Spotted Towhee	8,183	Red-winged Blackbird	2,222
19	Red-winged Blackbird	7,976	American Crow	2,085
20	Osprey	7,538	Song Sparrow	2,029
21	Pine Siskin	7,284	Dark-eyed Junco	1,978
22	House Sparrow	7,267	Northern Harrier	1,694
23	Bald Eagle	6,877	Mourning Dove	1,593
24	White-crowned Sparrow	6,657	White-crowned Sparrow	1,502
25	Eurasian Collared-Dove	6,498	Bald Eagle	1,471

FERRY			OKANOGAN	
1	American Robin	2,324	American Robin	11,171
2	Red-breasted Nuthatch	2,259	Common Raven	10,023
3	Black-capped Chickadee	1,894	Northern Flicker	7,313
4	Song Sparrow	1,623	Red-winged Blackbird	7,171
5	Mountain Chickadee	1,504	Red-tailed Hawk	6,382
6	Pine Siskin	1,365	Red-breasted Nuthatch	6,319
7	Spotted Towhee	1,333	Mountain Chickadee	6,264
8	Common Raven	1,225	Black-billed Magpie	6,174
9	Dark-eyed Junco	1,216	European Starling	5,856
10	Northern Flicker	1,186	Mallard	5,660
11	Chipping Sparrow	1,019	Black-capped Chickadee	5,277
12	American Crow	1,014	Song Sparrow	5,186
13	Mallard	996	Bald Eagle	5,148
14	Violet-green Swallow	967	California Quail	4,745
15	Canada Goose	919	Western Wood-Pewee	4,660
16	Yellow Warbler	850	Dark-eyed Junco	4,652
17	Red-winged Blackbird	833	Pine Siskin	4,592
18	Steller's Jay	817	Chipping Sparrow	4,588
19	Cedar Waxwing	813	Mourning Dove	4,202
20	Western Bluebird	797	American Goldfinch	4,178
21	House Finch	769	Yellow Warbler	4,103
22	Western Wood-Pewee	767	Western Tanager	4,087
23	Cassin's Finch	763	American Kestrel	4,026
24	Western Tanager	740	Western Meadowlark	3,830
25	Calliope Hummingbird	731	Canada Goose	3,818

Table 4.

NCWAS Four-County Area 2015 - August 2021
 Number of times that a species is "ticked" an eBird checklist

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Accipitridae (Hawks, Eagles, and Kites)													
Bald Eagle	2,155	1,880	896	708	1,119	974	566	295	179	347	396	539	10,054
Broad-winged Hawk				1	9			6	17				33
Cooper's Hawk	579	441	162	103	218	193	89	165	257	150	102	213	2,672
Ferruginous Hawk			1	4		1			1				7
Golden Eagle	646	508	249	198	244	229	80	58	111	111	58	107	2,599
Northern Goshawk	126	103	24	12	69	29	24	29	44	29	17	21	527
Northern Harrier	481	497	214	289	355	306	132	137	216	169	99	121	3,016
Red-shouldered Hawk												1	1
Rough-legged Hawk	1,507	1,221	302	83	3				6	68	96	219	3,505
Sharp-shinned Hawk	347	223	80	89	170	66	30	122	298	153	57	71	1,706
Swainson's Hawk				44	129	88	61	66	33				421
Aegithalidae (Long-tailed Tits)													
Bushtit	2		1	1	29	5	9		2				49
Alaudidae (Larks)													
Horned Lark	1,012	1,175	406	235	260	264	121	76	64	29	50	143	3,835
Alcedinidae (Kingfishers)													
Belted Kingfisher	547	383	257	283	454	493	349	460	441	412	337	237	4,653
Anatidae (Ducks, Geese, and Waterfowl)													
American Wigeon	763	564	555	438	287	211	24	60	265	489	375	259	4,290
Barrow's Goldeneye	243	199	163	177	262	334	105	29	9	44	104	74	1,743
Blue-winged Teal				3	217	273	39	78	51	36			697
Bufflehead	1,180	1,031	847	709	388	108	24	40	30	290	508	405	5,560
Cackling Goose	167	121	75	52	16	1			3	45	66	58	604
Canada Goose	1,481	1,594	1,565	1,669	2,088	986	612	596	525	611	497	469	12,693
Canvasback	427	301	161	39	16	26	6	2	4	19	25	88	1,114
Cinnamon Teal			1	138	418	413	24	33	22				1,049
Common Goldeneye	1,335	1,183	849	252	68	35	15	24	43	40	287	429	4,560
Common Merganser	590	585	587	721	923	437	260	316	283	221	219	195	5,337
Eurasian Wigeon	97	65	55	27	1	4			1	19	42	42	353
Gadwall	251	219	140	178	290	369	73	90	48	58	53	62	1,831
Greater Scaup	290	302	185	92	80	4	5	1	10	54	44	66	1,133
Greater White-fronted Goose	47	31	13	66	9	5			4	31	62	22	290
Green-winged Teal	157	155	251	348	336	193	44	181	225	302	173	83	2,448
Harlequin Duck			1	46	114	71	25	27	1	1	1		287
Hooded Merganser	556	467	357	205	139	198	68	124	108	150	281	262	2,915
Lesser Scaup	719	567	485	355	222	210	53	25	35	111	154	157	3,093
Long-tailed Duck	47	5	6	2						11	7	1	79
Mallard	1,529	1,455	1,418	1,673	2,386	1,807	953	1,025	862	955	783	626	15,472
Northern Pintail	18	133	173	134	89	32	18	81	89	90	18	4	879
Northern Shoveler	25	10	41	206	343	179	55	115	104	102	31	8	1,219
Red-breasted Merganser	15	35	3	13	19	3	7		1	1	21	2	120
Redhead	236	223	182	148	251	303	54	52	38	31	40	61	1,619
Ring-necked Duck	736	652	508	529	580	484	138	86	112	205	197	284	4,511
Ross's Goose	1												1
Ruddy Duck	275	241	154	176	407	635	226	143	58	79	54	55	2,503
Snow Goose	56	30	27	61	42				3	61	108	27	415
Surf Scoter			1					3	12	69	15		100
Trumpeter Swan	112	111	79	24	19			1		5	66	68	485
Tundra Swan	21	84	45	12	1					10	11	4	188
White-winged Scoter		5	2	5			1			8	11	2	34
Wood Duck	22	32	111	304	442	370	160	216	150	52	22	9	1,890
Apodidae (Swifts)													
Black Swift					52	138	74	62	7				333
Vaux's Swift				96	751	497	399	334	115	3			2,195
White-throated Swift			14	147	256	196	41	30	15				699
Ardeidae (Hérons, Egrets, and Bitterns)													
American Bittern				1	4	7	1						13
Black-crowned Night-Heron		1		2	11	7	15	11	3		1		51
Great Blue Heron	483	406	251	250	484	446	328	472	378	359	291	185	4,333
Great Egret				2	3	1	3	11	52	54	2		128

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Bombycillidae (Waxwings)													
Bohemian Waxwing	316	211	23						3	7	26	58	644
Cedar Waxwing	165	104	53	55	651	2,539	1,682	1,196	422	65	48	77	7,057
Calcariidae (Longspurs and Snow Buntings)													
Lapland Longspur	41	64	19	2						4	6	6	142
Snow Bunting	541	490	117	5						2	8	69	1,232
Caprimulgidae (Nightjars and Allies)													
Common Nighthawk					22	660	340	238	21	2			1,283
Common Poorwill				9	114	186	61	20	14				404
Cardinalidae (Cardinals and Allies)													
Black-headed Grosbeak	1			4	1,794	2,213	616	217	5				4,850
Indigo Bunting						1							1
Lazuli Bunting				9	1,264	1,956	783	132	4				4,148
Rose-breasted Grosbeak					1				2				3
Western Tanager				22	2,361	2,867	1,323	654	181	1			7,409
Cathartidae (New World Vultures)													
Turkey Vulture		3	193	792	1,493	1,395	664	602	570	17	1		5,730
Certhiidae (Treecreepers)													
Brown Creeper	151	197	65	51	148	200	145	93	71	79	54	55	1,309
Charadriidae (Plovers and Lapwings)													
American Golden-Plover					1				2	1			4
Black-bellied Plover					7			2	6	3			18
Killdeer	79	173	616	622	951	996	520	578	390	283	122	41	5,371
Pacific Golden-Plover				3			4						7
Semipalmated Plover					6		3	12					21
Cinclidae (Dippers)													
American Dipper	336	222	171	84	260	141	92	98	177	146	129	196	2,052
Columbidae (Pigeons and Doves)													
Band-tailed Pigeon			14	51	29	18	27	17	5				161
Eurasian Collared-Dove	1,728	1,354	1,010	1,118	1,406	1,221	891	871	601	367	325	511	11,403
Mourning Dove	323	193	185	428	1,727	1,998	939	682	285	29	27	88	6,904
Corvidae (Crows, Jays, and Magpies)													
American Crow	1,267	1,341	1,663	1,571	2,297	2,099	1,253	1,049	1,022	865	608	616	15,651
Black-billed Magpie	2,244	1,872	765	579	949	944	244	153	276	369	276	360	9,031
Blue Jay	14	12	17	6					1	7	17	35	109
California Scrub-Jay	12	8	10	7	1	7	3		9	1	2	3	63
Canada Jay	105	175	56	42	143	234	206	206	147	97	26	16	1,453
Clark's Nutcracker	427	526	202	145	209	407	322	417	378	184	47	55	3,319
Common Raven	3,695	3,214	1,641	1,515	2,534	2,264	961	802	867	799	612	917	19,821
Steller's Jay	1,250	1,102	1,012	1,028	1,430	813	556	723	1,000	808	557	600	10,879
Cuculidae (Cuckoos)													
Yellow-billed Cuckoo						1							1
Falconidae (Falcons and Caracaras)													
American Kestrel	1,330	849	422	474	750	896	443	318	314	167	195	322	6,480
Merlin	285	210	66	54	31	21	18	51	198	87	48	86	1,155
Peregrine Falcon	37	24	17	41	104	98	60	69	90	25	9	9	583
Prairie Falcon	178	147	54	39	63	55	28	26	32	17	9	32	680
Fringillidae (Finches, Euphonias, and Allies)													
American Goldfinch	1,290	1,212	767	1,177	2,214	2,204	1,275	996	760	659	498	647	13,699
Cassin's Finch	120	158	173	634	1,461	1,719	695	298	210	75	23	35	5,601
Common Redpoll	267	247	89	10						1	9	60	683
Evening Grosbeak	100	103	143	222	779	565	288	187	108	82	25	44	2,646
Gray-crowned Rosy-Finch	105	129	33	4		1	15	10	5	30	6	18	356
Hoary Redpoll		1											1
House Finch	2,012	1,651	1,333	1,251	1,348	1,218	729	763	575	501	463	724	12,568
Lesser Goldfinch	79	66	28	31	14	17	19	19	10	5	14	42	344
Pine Grosbeak	184	176	34	9	20	20	29	14	30	17	15	32	580
Pine Siskin	591	611	517	761	1,608	1,880	1,157	764	527	303	197	293	9,209
Purple Finch	62	64	49	351	774	543	267	107	77	14	12	27	2,347
Red Crossbill	197	158	93	115	252	436	249	256	117	81	41	59	2,054
White-winged Crossbill	40	11			5	9	14	19			8	14	120

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Gaviidae (Loons)													
Common Loon	422	408	224	210	210	279	110	64	82	177	153	94	2,433
Pacific Loon	6	17	17	3	1					12	7	1	64
Red-throated Loon										4	2		6
Yellow-billed Loon		47	34										81
Gruidae (Cranes)													
Sandhill Crane	1	4	42	131	16	8		10	28	22	2		264
Hirundinidae (Swallows)													
Bank Swallow				19	289	473	202	124					1,107
Barn Swallow		3	2	112	1,484	1,409	918	822	151	5			4,906
Cliff Swallow			10	253	962	1,141	399	122	4		1		2,892
Northern Rough-winged Swallow			1	245	1,087	889	373	176	5				2,776
Purple Martin								1					1
Tree Swallow		6	208	1,001	2,355	2,435	844	280	26				7,155
Violet-green Swallow		34	682	1,564	3,029	2,800	1,214	673	331	23	1		10,351
Icteridae (Troupials and Allies)													
Bobolink					51	153	18						222
Brewer's Blackbird	33	17	37	531	1,294	1,493	765	551	365	37	3	3	5,129
Brown-headed Cowbird	3	1	12	357	2,570	2,399	717	206	40	3		1	6,309
Bullock's Oriole				4	1,620	1,941	556	134					4,255
Red-winged Blackbird	473	1,746	1,301	1,690	2,718	2,556	901	564	341	181	76	109	12,656
Rusty Blackbird			1									2	3
Tricolored Blackbird						1							1
Western Meadowlark	93	198	679	1,088	1,692	1,764	368	136	129	37	12	17	6,213
Yellow-headed Blackbird			17	116	425	634	132	89	12	5			1,430
Icteriidae (Yellow-breasted Chat)													
Yellow-breasted Chat					497	807	196	28	12				1,540
Laniidae (Shrikes)													
Loggerhead Shrike		2	28	48	63	40	23	15	5	3	2	1	230
Northern Shrike	939	630	150	19						38	54	156	1,986
Laridae (Gulls, Terns, and Skimmers)													
Black Tern				1	10	46	6	2					65
Bonaparte's Gull					17	9	8	32	8	69	19		162
California Gull	73	47	22	18	64	61	234	319	258	214	132	15	1,457
Caspian Tern				16	30	59	48	22	6				181
Common Tern					1			1	23				25
Forster's Tern				3	11	1	3	6	2				26
Franklin's Gull					4	5							9
Glaucous Gull	3										24	1	28
Glaucous-winged Gull	13	3	2	3	1		1	1	1	3	22	8	58
Herring Gull	100	96	54	4	1		5	22	34	49	75	20	460
Iceland Gull										1	1		2
Lesser Black-backed Gull									14				14
Ring-billed Gull	265	272	197	101	120	155	427	516	462	528	361	158	3,562
Sabine's Gull								1	1				2
Short-billed Gull	1	1		2	1					1	4	1	11
Mimidae (Mockingbirds and Thrashers)													
Brown Thrasher											1		1
Gray Catbird					369	1,414	573	442	152				2,950
Northern Mockingbird					6								6
Sage Thrasher			16	120	184	157	56	21	12				566
Motacillidae (Wagtails and Pipits)													
American Pipit			2	40	68	8	52	53	266	96	4		589
Odontophoridae (New World Quail)													
California Quail	1,672	1,304	826	1,324	2,313	1,938	954	775	696	532	431	592	13,357
Pandionidae (Osprey)													
Osprey			18	841	1,771	1,422	1,102	1,019	540	95	12		6,820
Paridae (Tits, Chickadees, and Titmice)													
Black-capped Chickadee	1,958	1,808	1,311	1,243	1,722	1,509	1,100	980	850	722	685	807	14,695
Boreal Chickadee					5	31	14	16	4	1			71
Chestnut-backed Chickadee	161	126	103	103	181	141	166	133	105	48	57	81	1,405
Mountain Chickadee	1,154	1,173	475	536	1,050	1,173	643	505	400	319	242	276	7,946

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Parulidae (New World Warblers)													
American Redstart					39	127	39	10	3				218
Black-and-white Warbler					1	4							5
Black-throated Blue Warbler										12			12
Black-throated Gray Warbler				11	72	29	17	16	9	1			155
Common Yellowthroat				29	647	809	345	144	66	24			2,064
MacGillivray's Warbler				24	938	1,156	321	114	32	5			2,590
Magnolia Warbler						1							1
Nashville Warbler				259	1,539	1,170	228	114	23	7			3,340
Northern Parula									1				1
Northern Waterthrush					15	64	15	4					98
Orange-crowned Warbler	7	4	8	93	429	464	114	138	165	17	1	1	1,441
Ovenbird						6							6
Palm Warbler										5			5
Tennessee Warbler								1		1			2
Townsend's Warbler				23	804	879	223	230	70	4			2,233
Wilson's Warbler				16	886	351	65	116	71		1	1	1,507
Yellow Warbler				27	2,336	2,906	876	430	107	3			6,685
Yellow-rumped Warbler	118	179	191	1,440	2,180	1,562	626	543	1,101	542	95	47	8,624
Passerellidae (New World Sparrows)													
American Tree Sparrow	313	207	52	6						9	18	46	651
Black-throated Sparrow					2	1	2						5
Brewer's Sparrow			10	224	456	420	83	76	14				1,283
Chipping Sparrow				191	1,941	2,389	862	336	142	13			5,874
Clay-colored Sparrow					15	51	11	6	1				84
Dark-eyed Junco	2,252	1,811	1,882	1,182	1,105	1,239	654	467	613	904	752	967	13,828
Fox Sparrow	26	48	16	43	65	64	43	10	30	19	14	18	396
Golden-crowned Sparrow	75	80	93	126	159			2	88	76	25	37	761
Grasshopper Sparrow				20	93	138	44	3					298
Harris's Sparrow	34	47	17	8							7	1	114
Lark Sparrow					288	357	97	49	8				799
Lincoln's Sparrow	10	3	19	102	73	121	74	51	235	58	5	4	755
Sagebrush Sparrow		6	41	56	98	52	4	2	2				261
Savannah Sparrow	2	1	21	120	274	309	129	168	215	37		2	1,278
Song Sparrow	1,508	1,403	1,216	1,103	2,064	2,341	1,096	365	540	646	680	737	13,699
Spotted Towhee	366	389	686	1,237	2,224	2,415	1,035	649	553	193	125	207	10,079
Swamp Sparrow	8	2	2	1						2	14	8	37
Vesper Sparrow			65	430	689	969	233	142	38				2,566
White-crowned Sparrow	827	582	519	1,348	985	433	279	183	1,068	680	274	353	7,531
White-throated Sparrow	3	2	8	2	15				5	15	2	3	55
Passeridae (Old World Sparrows)													
House Sparrow	1,668	1,565	1,105	1,031	1,225	1,091	819	622	447	421	405	639	11,038
Pelecanidae (Pelicans)													
American White Pelican	4	1	1	13	13	36	23	44	60	47	3		245
Phalacrocoracidae (Cormorants and Shags)													
Double-crested Cormorant	162	136	141	123	159	134	51	79	104	101	88	14	1,292
Phasianidae (Pheasants, Grouse, and Allies)													
Chukar	307	217	287	296	403	312	112	72	64	52	37	41	2,200
Dusky Grouse	4		35	115	193	261	151	70	39	18	4	1	891
Gray Partridge	724	342	97	36	50	45	34	22	10	22	8	38	1,428
Greater Sage-Grouse	19	42	41	13	3	8	5	5		3	3		142
Ring-necked Pheasant	186	202	197	303	325	269	98	63	36	43	37	31	1,790
Ruffed Grouse	157	209	52	179	336	247	64	66	57	50	24	35	1,476
Sharp-tailed Grouse	235	172	13	4	4	3	4	1			2	37	475
Sooty Grouse		1	4	71	108	80	98	66	41	4		1	474
Spruce Grouse			1		8	17	10	21	5	2			64
White-tailed Ptarmigan						2	13	17	12	2			46
Wild Turkey	260	259	112	166	237	199	127	99	71	47	31	69	1,677

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Picidae (Woodpeckers)													
Acorn Woodpecker	45	16	3	1									65
American Three-toed Woodpecker	15	22	1	5	20	58	61	25	14	18	1	8	248
Black-backed Woodpecker	12	19	9	9	52	58	36	20	15	14	9	3	256
Downy Woodpecker	753	739	480	524	637	490	339	251	230	177	171	281	5,072
Hairy Woodpecker	587	513	263	286	564	717	386	276	354	201	120	151	4,418
Lewis's Woodpecker				31	350	389	196	97	36	2			1,101
Northern Flicker	2,244	1,668	1,652	1,841	2,386	2,272	1,245	1,037	1,344	1,119	800	848	18,456
Pileated Woodpecker	207	196	114	198	499	501	183	160	156	101	68	63	2,446
Red-breasted Sapsucker	9	9	7	22	55	49	52	3	14	7	2	13	242
Red-naped Sapsucker			6	252	556	906	343	128	92	8	1		2,292
White-headed Woodpecker	178	140	91	156	314	263	88	84	93	70	48	61	1,586
Williamson's Sapsucker		1	52	58	157	277	90	35	17				687
Podicipedidae (Grebes)													
Clark's Grebe		1	2		5								8
Eared Grebe	29	27	17	29	72	113	43	58	20	59	36	3	506
Horned Grebe	469	455	326	228	54	8		25	142	384	259	139	2,489
Pied-billed Grebe	516	412	245	196	365	536	259	294	260	297	204	177	3,761
Red-necked Grebe	38	51	43	32	54	53	29	77	99	130	83	28	717
Western Grebe	53	71	65	16	54	41	10	14	88	264	116	32	824
Poliopitilidae (Gnatcatchers)													
Blue-gray Gnatcatcher									10				10
Psittacidae (New World and African Parrots)													
Monk Parakeet									2				2
Rallidae (Rails, Gallinules, and Coots)													
American Coot	440	422	504	428	533	649	260	224	174	320	245	144	4,343
Sora				18	240	233	80	23	2	5			601
Virginia Rail	34	11	13	24	103	113	36	19	18	18	12	6	407
Recurvirostridae (Stilts and Avocets)													
American Avocet				11	66	49	25	9					160
Black-necked Stilt				15	41	23	23	38	1				141
Regulidae (Kinglets)													
Golden-crowned Kinglet	280	158	118	174	255	287	239	223	295	223	171	189	2,612
Ruby-crowned Kinglet	277	310	297	891	518	591	139	100	514	504	208	199	4,548
Scolopacidae (Sandpipers and Allies)													
Baird's Sandpiper				4	2		11	71	26				114
Dunlin	1		3	11	10					4	20		49
Greater Yellowlegs			2	46	15	58	65	93	6	4			289
Least Sandpiper				14	36	8	76	219	46	4			403
Lesser Yellowlegs				3	10	11	34	79	2				139
Long-billed Curlew			1	6	13	16	3						39
Long-billed Dowitcher				1	35		48	62	21	27	5		199
Marbled Godwit							1						1
Pectoral Sandpiper							1	25	18	8			52
Red-necked Phalarope					17	5	4	40	10				76
Ruddy Turnstone								7					7
Sanderling							12	4					16
Semipalmated Sandpiper						2	12	23	3				40
Short-billed Dowitcher								1					1
Solitary Sandpiper				4	11		15	108	4				142
Spotted Sandpiper		2		6	1,129	1,309	644	452	87	4			3,633
Stilt Sandpiper								12					12
Western Sandpiper					17		34	128	48				227
Whimbrel					4		1						5
Willet							1						1
Wilson's Phalarope					116	107	36	26	5				290
Wilson's Snipe	11	15	39	125	413	452	82	54	32	9	16	3	1,251
Sittidae (Nuthatches)													
Pygmy Nuthatch	360	435	231	218	335	382	196	167	125	85	76	100	2,710
Red-breasted Nuthatch	1,286	1,304	845	1,092	2,024	2,209	1,229	1,252	1,032	708	492	543	14,016
White-breasted Nuthatch	237	284	174	164	276	327	203	159	136	90	61	54	2,165

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Strigidae (Owls)													
Barred Owl	32	7	14	14	49	48	32	14	13	12	7	11	253
Boreal Owl	1				1	3	1		6	2	1		15
Flammulated Owl					34	65	12		1				112
Great Horned Owl	406	545	203	142	160	143	64	77	60	53	53	86	1,992
Long-eared Owl	46	75	32	7	13	10	10	4		1	4	8	210
Northern Pygmy-Owl	328	293	43	14	23	46	16	14	37	45	32	57	948
Northern Saw-whet Owl	203	239	46	19	25	21	10	5	12	22	15	29	646
Short-eared Owl	47	29	4	9	11	8	7	2		1	1	5	124
Snowy Owl	114	301	43	2	1							22	483
Western Screech-Owl	1	5	8	4	10	12	3		8	4	5	1	61
Sturnidae (Starlings)													
European Starling	2,397	1,953	1,466	1,558	2,332	1,847	828	817	779	668	512	522	15,679
Trochilidae (Hummingbirds)													
Anna's Hummingbird	120	120	184	189	306	264	160	278	247	127	102	107	2,204
Black-chinned Hummingbird				2	290	418	230	164	32				1,136
Calliope Hummingbird				297	1,085	970	348	144	12				2,856
Rufous Hummingbird			6	407	1,382	836	736	364	22				3,753
Troglodytidae (Wrens)													
Bewick's Wren	179	201	162	93	129	98	36	29	36	59	62	46	1,130
Canyon Wren	65	125	105	137	175	127	49	48	59	34	21	16	961
House Wren				182	1,774	2,075	744	236	50	1	1		5,063
Marsh Wren	11	25	41	35	89	123	56	18	27	34	25	20	504
Pacific Wren	120	61	72	113	125	188	208	78	84	91	122	82	1,344
Rock Wren	12	13	17	62	256	234	68	44	82	18	11	4	821
Turdidae (Thrushes and Allies)													
American Robin	955	1,291	2,281	3,028	4,748	5,404	2,779	1,547	1,402	868	268	292	24,863
Hermit Thrush	15	16	16	22	253	782	482	62	109	22	4	4	1,787
Mountain Bluebird	1	47	257	306	411	559	204	113	174	50	1		2,123
Swainson's Thrush					272	1,787	875	79	28				3,041
Townsend's Solitaire	154	145	41	168	406	491	210	104	110	29	11	16	1,885
Varied Thrush	512	636	357	228	127	215	167	37	104	204	114	208	2,909
Veery					194	960	264	6					1,424
Western Bluebird	14	39	277	359	484	597	177	82	111	83	6	6	2,235
Tyrannidae (Tyrant Flycatchers)													
Ash-throated Flycatcher					19	30	30	3					82
Dusky Flycatcher				67	977	1,202	306	68	22				2,642
Eastern Kingbird				1	502	1,701	951	726	13				3,894
Gray Flycatcher				19	137	197	61	43	9				466
Hammond's Flycatcher				45	688	921	208	73	29				1,964
Least Flycatcher					37	107	18	1					163
Olive-sided Flycatcher					223	548	246	145	13				1,175
Pacific-slope Flycatcher					150	558	292	52	4				1,056
Say's Phoebe	11	163	995	1,044	1,460	1,288	474	361	163	13	5	6	5,983
Western Kingbird				95	1,178	1,257	547	114	6				3,197
Western Wood-Pewee				4	1,691	3,661	1,662	965	110				8,093
Willow Flycatcher					133	974	242	48	1				1,398
Tytonidae (Barn-Owls)													
Barn Owl	26	5	2	2	3	1	5	3	4	3		2	56
Vireonidae (Vireos, Shrike-Babblers, and Erpornis)													
Cassin's Vireo				75	811	954	274	173	120	3			2,410
Red-eyed Vireo					42	349	112	38	4				545
Warbling Vireo				13	1,111	1,931	535	228	142	1			3,961
Grand Total	71,664	65,567	50,301	63,575	134,046	146,279	66,679	46,797	36,655	27,320	20,207	22,615	751,705