

Appendix S1. Classification of forest and woodland species into guilds. Order follows the International Ornithological Congress taxonomy (<http://worldbirdnames.org>). Guild membership is not mutually exclusive.

Scientific Name	Common name	# route-years detected	Migratory habit			Nesting habit			Synanthropy*
			Neo trop.	Short Dist.	Perm. Resident	Interior	Ground	Cavity	Full
<i>Oreortyx pictus</i>	Mountain Quail	1598			X		X		
<i>Callipepla californica</i>	California Quail	4237			X		X		
<i>Colinus virginianus</i>	Northern Bobwhite	27274			X		X		
<i>Meleagris gallopavo</i>	Wild Turkey	5491			X		X		
<i>Bonasa umbellus</i>	Ruffed Grouse	2008			X		X		
<i>Dendragapus obscurus</i>	Dusky Grouse	439			X		X		
<i>Meleagris gallopavo</i>	Wild Turkey	5491		X	X		X		
<i>Aix sponsa</i>	Wood Duck	7844	X				X	X	
<i>Bucephala albeola</i>	Bufflehead	133						X	
<i>Bucephala clangula</i>	Common Goldeneye	97					X		
<i>Bucephala islandica</i>	Barrows Goldeneye	116					X		
<i>Lophodytes cucullatus</i>	Hooded Merganser	354					X		
<i>Mergus merganser</i>	Common Merganser	1574						X	
<i>Cathartes aura</i>	Turkey Vulture	226945 7213		X			X	X	
<i>Coragyps atratus</i>	Black Vulture	5585			X			X	
<i>Pandion haliaetus</i>	Osprey	2689		X					
<i>Elanoides forficatus</i>	Swallow-tailed Kite	339	X						
<i>Ictinia mississippiensis</i>	Mississippi Kite	1489	X						
<i>Accipiter striatus</i>	Sharp-shinned Hawk	1356		X					
<i>Accipiter cooperii</i>	Coopers Hawk	2636		X					
<i>Accipiter gentilis</i>	Northern Goshawk	349			X	X			
<i>Haliaeetus leucocephalus</i>	Bald Eagle	832		X					
<i>Buteo jamaicensis</i>	Red-tailed Hawk	26233		X					

<i>Buteo lineatus</i>	Red-shouldered Hawk	7787		X		X			
<i>Buteo platypterus</i>	Broad-winged Hawk	4035	X			X			
<i>Falco columbarius</i>	Merlin	97	X						
<i>Falco sparverius</i>	American Kestrel	21537		X				X	
<i>Scolopax minor</i>	American Woodcock	439					X		
<i>Gallinago delicata</i>	Wilson's Snipe	6938	X				X		
<i>Brachyramphus marmoratus</i> B	Marbled Murrelet	39							
<i>Patagioenas fasciata</i>	Band-tailed Pigeon	2006		X					
<i>Zenaida macroura</i>	Mourning Dove	57213		X			X		
<i>Crotophaga sulcirostris</i>	Groove-billed Ani	130		X					
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	26639	X						
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	8140	X						
<i>Megascops asio</i>	Eastern Screech-Owl	822			X			X	
<i>Megascops kennicottii</i>	Western Screech-Owl	119			X			X	
<i>Bubo virginianus</i>	Great Horned	6996			X				
<i>Glaucidium gnoma</i>	Northern Pygmy-Owl	335			X			X	
<i>Strix varia</i>	Barred Owl	4143			X			X	
<i>Strix occidentalis</i>	Spotted Owl	35			X	X			
<i>Aegolius acadicus</i>	Northern Saw-whet Owl	61		X				X	
<i>Asio otus</i>	Long-eared Owl	36		X				X	
<i>Antrostomus carolinensis</i>	Chuck-wills-widow x	7838	X				X		
<i>Antrostomus vociferus</i>	Whip-poor-will x	4528	X				X		
<i>Chordeiles minor</i>	Common Nighthawk	15241	X				X		
<i>Chaetura vauxi</i>	Vaux's Swift	964	X					X	
<i>Archilochus colubris</i>	Ruby-throated Hummingbird	11739	X						
<i>Archilochus alexandri</i>	Black-chinned Hummingbird	1482							

<i>Calypte anna</i>	Anna's Hummingbird	1529			X				
<i>Selasphorus rufus</i>	Rufous Hummingbird	1361	X						
<i>Selasphorus sasin</i>	Allen's Hummingbird	396	X						
<i>Selasphorus calliope</i>	Calliope Hummingbird	607	X						
<i>Cyananthus latirostris</i>	Broad-billed Hummingbird	33		X					
<i>Megaceryle alcyon</i>	Belted Kingfisher	13802						X	
<i>Picoides villosus</i>	Hairy Woodpecker	15761			X			X	
<i>Picoides pubescens</i>	Downy Woodpecker	32058			X			X	
<i>Picoides borealis</i>	Red-cockaded Woodpecker	215			X	X		X	
<i>Picoides scalaris</i>	Ladder-backed Woodpecker	2369			X			X	
<i>Picoides nuttallii</i>	Nuttalls Woodpecker	1261			X			X	
<i>Picoides arizonae</i>	Arizona Woodpecker	51			X			X	
<i>Picoides albolarvatus</i>	White-headed Woodpecker	623			X	X		X	
<i>Picoides arcticus</i>	Black-backed Woodpecker	239			X			X	
<i>Picoides dorsalis</i>	American Three-toed Woodpecker	106						X	
<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker	4764		X				X	
<i>Sphyrapicus nuchalis</i>	Red-naped Sapsucker	1532		X				X	
<i>Sphyrapicus ruber</i>	Red-breasted Sapsucker	1202		X				X	
<i>Sphyrapicus thyroideus</i>	Williamson's Sapsucker	572		X				X	
<i>Dryocopus pileatus</i>	Pileated Woodpecker	17511			X	X		X	
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	16674		X				X	
<i>Melanerpes formicivorus</i>	Acorn Woodpecker	2165			X			X	
<i>Melanerpes lewis</i>	Lewis Woodpecker	616		X				X	
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	26191			X			X	
<i>Melanerpes uropygialis</i>	Gila Woodpecker	360			X			X	
<i>Colaptes auratus</i>	Northern Flicker	44367		X				X	

<i>Sayornis phoebe</i>	Eastern Phoebe	26766		X					
<i>Contopus cooperi</i>	Olive-sided Flycatcher	4930	X						
<i>Contopus pertinax</i>	Greater Pewee	31		X					
<i>Contopus virens</i>	Eastern Wood-Pewee	32045	X						
<i>Contopus sordidulus</i>	Western Wood-Pewee	7681	X						
<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher	625	X				X		
<i>Empidonax virescens</i>	Acadian Flycatcher	12521	X			X			
<i>Empidonax alnorum</i>	Alder Flycatcher	5370	X						
<i>Empidonax minimus</i>	Least Flycatcher	11407	X						
<i>Empidonax hammondi</i>	Hammonds Flycatcher	2238	X			X			
<i>Empidonax oberholseri</i>	Dusky Flycatcher	2948	X						
<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	592	X						
<i>Pitangus sulphuratus</i>	Great Kiskadee	126			X				
<i>Tyrannus couchii</i>	Couchs Kingbird	167		X					
<i>Tyrannus verticalis</i>	Western Kingbird	13052	X					X	
<i>Tyrannus forficatus</i>	Scissor-tailed Flycatcher	5227	X						
<i>Tyrannus tyrannus</i>	Eastern Kingbird	38759	X						
<i>Tyrannus dominicensis</i>	Gray Kingbird	121		X					
<i>Myiarchus crinitus</i>	Great-Crested Flycatcher	33521	X					X	
<i>Myiarchus tyrannulus</i>	Brown-crested Flycatcher	623		X				X	
<i>Vireo griseus</i>	White-eyed Vireo	16640	X				X		
<i>Vireo olivaceus</i>	Red-eyed Vireo	32430	X			X			
<i>Vireo philadelphicus</i>	Philadelphia Vireo	239	X						
<i>Vireo gilvus</i>	Warbling Vireo	22883	X						
<i>Vireo flavifrons</i>	Yellow-throated Vireo	13971	X						
<i>Vireo solitarius</i>	Blue-headed Vireo	5036	X						
<i>Vireo cassinii</i>	Cassins Vireo	2601	X						

<i>Vireo plumbeus</i>	Plumbeous Vireo	1513	X						
<i>Vireo huttoni</i>	Huttons Vireo	1482			X				
<i>Vireo altiloquus</i>	Black-whiskered Vireo	89		X					
<i>Perisoreus canadensis</i>	Gray Jay	1348			X				
<i>Cyanocitta cristata</i>	Blue Jay	41502		X					
<i>Cyanocitta stelleri</i>	Stellers Jay	5095			X				
<i>Cyanocorax yncas</i>	Inca Jay	102			X				
<i>Aphelocoma ultramarina</i>	Mexican Jay	108			X				
<i>Aphelocoma californica</i>	California Scrub-Jay	4446			X				
<i>Aphelocoma coerulescens</i>	Florida Scrub-Jay	140			X				
<i>Gymnorhinus cyanocephalus</i>	Pinyon Jay	1640			X				
<i>Nucifraga columbiana</i>	Clark's Nutcracker	1860			X				
<i>Corvus brachyrhynchos</i>	American Crow	49125		X					
<i>Corvus caurinus</i>	Northwestern Crow	50			X				
<i>Corvus ossifragus</i>	Fish Crow	6975		X					
<i>Corvus corax</i>	Northern Raven	13070			X				
<i>Bombycilla cedrorum</i>	Cedar Waxwing	19647		X					
<i>Phainopepla nitens</i>	Phainopepla	1084	X						
<i>Poecile carolinensis</i>	Carolina Chickadee	18689			X			X	
<i>Poecile atricapillus</i>	Black-capped Chickadee	19710			X			X	
<i>Poecile gambeli</i>	Mountain Chickadee	4134			X			X	
<i>Poecile hudsonicus</i>	Boreal Chickadee	213			X			X	
<i>Baeolophus wollweberi</i>	Bridled Titmouse	131			X			X	
<i>Baeolophus inornatus</i>	Oak Titmouse	1594			X			X	
<i>Baeolophus ridgwayi</i>	Juniper Titmouse	766			X			X	
<i>Baeolophus bicolor</i>	Tufted Titmouse	28275			X			X	

<i>Baeolophus atricristatus</i>	Black-crested Titmouse	961			X				
<i>Riparia riparia</i>	Sand Martin (Bank Swallow)	7613							
<i>Tachycineta bicolor</i>	Tree Swallow	19674							
<i>Tachycineta thalassina</i>	Violet-green Swallow	5989	X					X	
<i>Progne subis</i>	Purple Martin	22392	X					X	X
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	19757							
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	18734							
<i>Psaltriparus minimus</i>	Bushtit	2648			X				
<i>Chamaea fasciata</i>	Wrentit	1914							
<i>Regulus satrapa</i>	Golden-crowned Kinglet	3901		X					
<i>Regulus calendula</i>	Ruby-crowned Kinglet	3549		X					
<i>Salpinctes obsoletus</i>	Rock Wren	5615		X			X	X	
<i>Catherpes mexicanus</i>	Canyon Wren	1310			X		X	X	
<i>Thryothorus ludovicianus</i>	Carolina Wren	21694			X			X	
<i>Troglodytes hiemalis</i>	Winter Wren	5446		X		X	X	X	
<i>Troglodytes aedon</i>	House Wren	31560	X	X				X	
<i>Thryomanes bewickii</i>	Bewicks Wren	6971		X					
<i>Poliophtila caerulea</i>	Blue-gray Gnatcatcher	18293	X						
<i>Sitta pygmaea</i>	Pygmy Nuthatch	1111			X			X	
<i>Sitta pusilla</i>	Brown-headed Nuthatch	3893			X			X	
<i>Sitta canadensis</i>	Red-breasted Nuthatch	8141		X				X	
<i>Sitta carolinensis</i>	White-breasted Nuthatch	21552			X			X	
<i>Certhia americana</i>	Brown Creeper	3938		X				X	
<i>Dumetella carolinensis</i>	Gray Catbird	32452	X						
<i>Mimus polyglottos</i>	Northern Mockingbird	32683			X				

<i>Toxostoma rufum</i>	Brown Thrasher	34562		X					
<i>Sturnus vulgaris</i>	Common Starling	50837		X				X	X
<i>Sialia sialis</i>	Eastern Bluebird	27176		X				X	
<i>Sialia mexicana</i>	Western Bluebird	2773		X				X	
<i>Sialia currucoides</i>	Mountain Bluebird	4440		X				X	
<i>Myadestes townsendi</i>	Townsend's Solitaire	2036		X					
<i>Catharus fuscescens</i>	Veery	11630	X				X		
<i>Catharus ustulatus</i>	Swainson's Thrush	4776	X						
<i>Catharus guttatus</i>	Hermit Thrush	9053		X		X	X		
<i>Hylocichla mustelina</i>	Wood Thrush	2827	X			X			
<i>Turdus migratorius</i>	American Robin	49914		X					
<i>Cinclus mexicanus</i>	American Dipper	619					X		
<i>Passer domesticus</i>	House Sparrow	47553						X	X
<i>Passer montanus</i>	Eurasian Tree Sparrow	219						X	X
<i>Peucedramus taeniatus</i>	Olive Warbler	44		X					
<i>Coccothraustes vespertinus</i>	Evening Grosbeak	3003		X					
<i>Pinicola enucleator</i>	Pine Grosbeak	216		X					
<i>Haemorhous purpureus</i>	Purple Finch	8463		X					
<i>Haemorhous cassinii</i>	Cassin's Finch	2661		X					
<i>Haemorhous mexicanus</i>	House Finch	21266							
<i>Loxia curvirostra</i>	Red Crossbill	2518		X					
<i>Loxia leucoptera</i>	White-winged Crossbill	119		X					
<i>Spinus lawrencei</i>	Lawrence's Goldfinch	506				X			
<i>Seiurus aurocapilla</i>	Ovenbird	18056	X			X	X		
<i>Helmitheros vermivorum</i>	Worm-eating Warbler	3238	X			X	X		
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	2235	X				X		

<i>Vermivora cyanoptera</i>	Blue-winged Warbler	4811	X				X		
<i>Mniotilta varia</i>	Black-and-white Warbler	11570	X				X		
<i>Protonotaria citrea</i>	Prothonotary Warbler	5287	X					X	
<i>Limnithlypis swainsonii</i>	Swainsons Warbler	787	X			X	X		
<i>Leiothlypis peregrina</i>	Tennessee Warbler	420	X				X		
<i>Leiothlypis celata</i>	Orange-crowned Warbler	3469	X				X		
<i>Leiothlypis luciae</i>	Lucy's Warbler	403							
<i>Leiothlypis ruficapilla</i>	Nashville Warbler	5751	X				X		
<i>Leiothlypis virginiae</i> s	Virginias Warbler	735	X				X		
<i>Oporornis agilis</i>	Connecticut Warbler	340	X				X		
<i>Geothlypis tolmiei</i>	MacGillivrays Warbler	3646	X				X		
<i>Geothlypis philadelphia</i>	Mourning Warbler	3377	X				X		
<i>Geothlypis formosa</i>	Kentucky Warbler	8855	X			X	X		
<i>Geothlypis trichas</i>	Common Yellowthroat	42521							
<i>Setophaga citrinacitrine</i>	Hooded Warbler	7753	X			X			
<i>Setophaga ruticilla</i>	American Redstart	13150	X			X			
<i>Setophaga tigrina</i>	CapeMay Warbler	481	X			X			
<i>Setophaga cerulea</i>	Cerulean Warbler	2249	X			X			
<i>Setophaga americana</i>	Northern Parula	11201	X						
<i>Setophaga magnolia</i>	Magnolia Warbler	3408	X						
<i>Setophaga castanea</i>	Bay-breasted Warbler	415	X						
<i>Setophaga fusca</i>	Blackburnian Warbler	3646	X			X			
<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler	9429	X				X		
<i>Setophaga striata</i>	Blackpoll Warbler	124	X						
<i>Setophaga caerulescens</i>	Black-throated Blue	3142	X			X			
<i>Setophaga palmarum</i>	Palm Warbler	158	X				X		

<i>Setophaga pinus</i>	Pine Warbler	12261		X					
<i>Setophaga coronata</i>	Yellow-rumped Warbler	15022		X					
<i>Setophaga dominica</i>	Yellow-throated Warbler	4702	X						
<i>Setophaga discolor</i>	Prairie Warbler	10623							
<i>Setophaga graciae</i>	Grace's Warbler	385	X						
<i>Setophaga nigrescens</i>	Black-throated Gray	2430	X						
<i>Setophaga townsendi</i>	Townsend's Warbler	1155	X						
<i>Setophaga occidentalis</i>	Hermit Warbler	1369	X						
<i>Setophaga virens</i>	Black-throated Green	5990	X						
<i>Cardellina canadensis</i>	Canada Warbler	3107	X			X	X		
<i>Cardellina pusilla</i>	Wilson's Warbler	3091	X				X		
<i>Cardellina rubrifrons</i>	Red-faced Warbler	99	X				X		
<i>Icteria virens</i>	Yellow-breasted Chat	20117	X						
<i>Icterus spurius</i>	Orchard Oriole	20408	X						
<i>Icterus graduacauda</i>	Audubon's Oriole	59							
<i>Icterus galbula</i>	Baltimore Oriole	25393	X						
<i>Molothrus ater</i>	Brown-headed Cowbird	52807		X					
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	54488							
<i>Quiscalus quiscula</i>	Common Grackle	44492		X					
<i>Quiscalus mexicanus</i>	Great-tailed Grackle	2934			X				
<i>Passerella iliaca</i>	Fox Sparrow	1561		X			X		
<i>Melospiza melodia</i>	Song Sparrow	35250					X		
<i>Melospiza lincolnii</i>	Lincoln's Sparrow	1796							
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	2763		X			X		
<i>Zonotrichia albicollis</i>	White-throated Sparrow	5521		X			X		
<i>Junco hyemalis</i>	Slate-colored Junco	9864					X		

<i>Spizella passerina</i>	Chipping Sparrow	39346	X						
<i>Spizella atrogularis</i>	Black-chinned Sparrow	517		X					
<i>Pipilo maculatus</i>	Spotted Towhee	7381					X		
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	27996					X		
<i>Piranga flava</i>	Hepatic Tanager	273	X						
<i>Piranga rubra</i>	Summer Tanager	13558	X						
<i>Piranga olivacea</i>	Scarlet Tanager	18249	X			X			
<i>Piranga ludoviciana</i>	Western Tanager	6466	X						
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	15234	X						
<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak	7045	X						
<i>Cardinalis cardinalis</i>	Northern Cardinal	37690			X				
<i>Passerina caerulea</i>	Blue Grosbeak	17207							
<i>Passerina cyanea</i>	Indigo Bunting	35695	X						
<i>Passerina amoena</i>	Lazuli Bunting	4441	X						
<i>Passerina ciris</i>	Painted Bunting	4889	X				X		

*As defined by Johnston 2001.