



## **Appendix C**

# **Species-habitat Groups for the Non-fish, Inland, Vertebrate Wildlife Species of New England**



Key to habitat layers in the matrix for species-habitat groups for the non-fish vertebrate wildlife species of New England.

Group no.	Group members	Reproduction Layers											Foraging Layers									
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU

Habitat layers listed in the species habitat matrix:

BE = Breeds outside of New England

A = Aerial Feeder

WTC = Wetland Tree Canopy (> 6 m above the surface)

WSC = Wetland Shrub Canopy (> 1 m, < 6 m above the surface)

WU = Wetland Understory (from the wetland surface - air interface up to 1 m above the surface)

WS = Water Surface (from the water surface - air interface to 25 cm below that interface)

WC = Water Column (from 25 cm below the water surface - air interface, down)

BWC = Bottom of Water Column (substrates under water columns that are at least 25 cm deep)

UTC = Upland Tree Canopy (> 6 m above the surface)

USC = Upland Shrub Canopy (> 1 m, < 6 m above the surface)

UU = Upland Understory (from 10 cm below the surface - air interface up to 1 m)

SS = Sub-Surface (from 10 cm below the surface - air interface, down)

Species-habitat groups for the non-fish vertebrate wildlife species of New England. Species within a group use the same combination of habitat layers for their reproduction and foraging activities. The important use of a habitat layer is indicated by the number (1). These species-habitat groups were used to associate management actions to different species subgroups. Both local knowledge and caution must be used when considering these species-habitat groups; some species may not occur in the study area and/or factors other than those used to develop these groups may be involved.

Group no.	Group members	Reproduction Layers										Foraging Layers											
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
1	Hairy-tailed mole	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
	Eastern mole	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
	Eastern chipmunk	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
	Woodchuck	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
2	Belted kingfisher	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
3	Coyote	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0
	Red fox	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0
4	Northern rough-winged swallow	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
	Bank swallow	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
5	Five-lined skink	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Eastern hognose snake	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Eastern worm snake	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	European hare	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Gray partridge	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Northern bobwhite	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Upland sandpiper	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Horned lark	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Ovenbird	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Field sparrow	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Vesper sparrow	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Grasshopper sparrow	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
	Timber rattlesnake	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Rufous-sided towhee	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	
6	Common tern	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
7	Turkey vulture	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Ring-necked pheasant	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Ruffed grouse	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Wild turkey	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Killdeer	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Eastern box turtle	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0

Group no.	Group members	Reproduction Layers										Foraging Layers											
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
	Northern copperhead	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Black bear	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Lynx	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Bobcat	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
	Gray fox	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0
8	Ring-billed gull	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0
	Herring gull	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0
	Great black-backed gull	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0
9	Green-winged teal	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	0
10	Whip-poor-will	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0
11	Peregrine falcon	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0
12	Norway rat	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0
	House mouse	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0
13	Eastern cottontail	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	New England cottontail	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Striped skunk	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Rock vole	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
14	Porcupine	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0	1	1	1	0
15	House finch	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
16	Black-billed cuckoo	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
	Yellow-billed cuckoo	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
	Solitary vireo	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
17	Pine grosbeak	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0
18	Gray-cheeked thrush	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0
19	Brown thrasher	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0
	Blackpoll warbler	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0
20	Prairie warbler	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	1	1	0
21	Mourning dove	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	Northern flicker	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	Rock dove	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0

Group no.	Group members	Reproduction Layers										Foraging Layers										
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU
	European starling	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0
	House sparrow	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0
22	Pine warbler	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0
	Orchard oriole	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0
	Purple finch	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0
	White-winged crossbill	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0
23	Red crossbill	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	1	0
24	Common barn owl	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
	Loggerhead shrike	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
25	Chimney swift	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0
26	Common nighthawk	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0
27	Mudpuppy	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
28	Eastern spadefoot	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
29	Bullfrog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0
	Mink frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0
	Northern spring salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0
30	Northern two-lined salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Green frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Northern leopard frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Pickerel frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
31	Marbled salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Jefferson salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Blue-spotted salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Spotted salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Red-spotted newt	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Eastern American toad	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Fowler's toad	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	Wood frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
32	Northern spring peeper	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
33	Gray treefrog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
34	Pied-billed grebe	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0

Group no.	Group members	Reproduction Layers										Foraging Layers											
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
35	Sedge wren	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Marsh wren	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Northern waterthrush	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Louisiana waterthrush	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
36	Eastern ribbon snake	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	Virginia rail	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	Common moorhen	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	Common snipe	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
	Swamp sparrow	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
37	Northern water snake	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0
	Water shrew	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0
38	Star-nosed mole	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0
	King rail	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0
	Sora	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0
39	Bog turtle	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
	American bittern	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
40	Wilson's warbler	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
41	Yellow-bellied flycatcher	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
42	Muskrat	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0
43	Beaver	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	0
44	Common snapping turtle	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Stinkpot (common musk turtle)	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Spotted turtle	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Map turtle	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Plymouth redbelly turtle	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Eastern (midland) painted turtle	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Eastern spiny softshell	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Mute swan	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Common loon	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0
	Gadwall	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0

Group no.	Group members	Reproduction Layers										Foraging Layers												
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	
	Red-breasted merganser	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	
45	Northern brown snake	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Northern redbelly snake	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Northern ringneck snake	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Northern black racer	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Eastern smooth green snake	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Eastern milk snake	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Northern harrier	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	American woodcock	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Short-eared owl	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Hermit thrush	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Worm-eating warbler	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Savannah sparrow	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Henslow's sparrow	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Lincoln's sparrow	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	White-throated sparrow	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Dark-eyed junco	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Bobolink	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Eastern meadowlark	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Masked shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Smoky shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Long-tailed shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Pygmy shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Northern short-tailed shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Least shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Snowshoe hare	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	White-footed mouse	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Southern red-backed vole	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Redback salamander	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Slimy salamander	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
	Winter wren	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0

Group no.	Group members	Reproduction Layers										Foraging Layers											
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
46	Eastern garter snake	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0
	Spotted sandpiper	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0
47	Blanding's turtle	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0
48	Wood turtle	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	0
	Canada goose	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	0
	American black duck	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	0
	Mallard	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	0
	Blue-winged teal	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	0
49	Veery	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0
	Mourning warbler	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0
	Common yellowthroat	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0
	White-tailed deer	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0
50	Moose	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	1	1	1	0	1	1	0
51	Blue-winged warbler	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0
	Black-throated blue warbler	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0
	Golden-winged warbler	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0
	Tennessee warbler	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0
	Nashville warbler	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0
	Chestnut-sided warbler	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0
	Black and white warbler	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0
52	Black rat snake	0	0	0	1	0	0	0	0	0	1	0	0	1	1	1	0	0	0	1	1	1	0
	Spruce grouse	0	0	0	1	0	0	0	0	0	1	0	0	1	1	1	0	0	0	1	1	1	0
53	Palm warbler	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0
	Canada warbler	0	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0
54	Deer mouse	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Meadow vole	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Woodland vole	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Southern bog lemming	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Northern bog lemming	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Meadow jumping mouse	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0
	Woodland jumping mouse	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0

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		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
55	Ermine	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	1
	Long-tailed weasel	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	1	1
56	Mink	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	0
57	River otter	0	0	0	1	0	0	0	0	0	1	1	0	0	0	1	1	1	1	0	0	0	0
58	Marten	0	0	0	1	0	0	0	0	0	1	1	0	1	1	1	0	0	0	1	1	1	0
	Fisher	0	0	0	1	0	0	0	0	0	1	1	0	1	1	1	0	0	0	1	1	1	0
59	Ring-necked duck	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
60	Black tern	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
61	American coot	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
62	Northern dusky salamander	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
	Four-toed salamander	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
63	Prothonotary warbler	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
64	Northern cardinal	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0
	Chipping sparrow	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0
65	Carolina wren	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	1	0
	House wren	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	1	0
	Gray catbird	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	1	0
66	Three-toed woodpecker	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0	0
	Black-backed woodpecker	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0	0
	Boreal chickadee	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0	0
	Brown creeper	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	1	0	0
67	Swainson's thrush	0	0	1	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Rose-breasted grosbeak	0	0	1	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	1	1	1	0
68	Acadian flycatcher	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Willow flycatcher	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Least flycatcher	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Purple martin	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
69	Tree swallow	0	0	1	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0
70	Eastern bluebird	0	0	1	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	0	1	1	0
71	Eastern phoebe	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0

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		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU
72	Rusty blackbird	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	Least bittern	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0
74	Alder flycatcher	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	Glossy ibis	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
76	Red-winged blackbird	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1	0
77	White-eyed vireo	0	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0
	Yellow-breasted chat	0	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0	0	0	1	0	0
78	Northern mockingbird	0	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0
	Indigo bunting	0	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0
	Song sparrow	0	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0
79	Magnolia warbler	0	0	1	1	0	0	0	0	1	1	0	0	1	1	0	0	0	1	1	0	0
80	Hooded warbler	0	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0
81	Cooper's hawk	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
	Red-shouldered hawk	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
	Red-tailed hawk	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
	Sharp-shinned hawk	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
	Great horned owl	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
	Barred owl	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
	Long-eared owl	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
	Fish crow	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
82	Bald eagle	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0
83	Wood duck	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	0	1
84	Warbling vireo	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0
85	Evening grosbeak	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0
86	Gray squirrel	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	1	1	1
87	Merlin	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0
88	Cerulean warbler	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0
89	Northern goshawk	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	1	1	1
90	Common raven	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	1
91	Hooded merganser	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0

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		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU
92	Snowy egret	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	Common goldeneye	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0
94	Broad-winged hawk	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
	Eastern screech owl	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
	Northern saw-whet owl	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
	American crow	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
	Wood thrush	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
	Common grackle	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0
95	Cattle egret	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	1	0
96	Black-crowned night heron	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	1	1	1	0	0	0
	Yellow-crowned night heron	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	1	1	1	0	0	0
97	American robin	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0
98	Blackburnian warbler	0	1	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0
99	Yellow-bellied sapsucker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Downy woodpecker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Hairy woodpecker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Pileated woodpecker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Black-capped chickadee	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Red-breasted nuthatch	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	White-breasted nuthatch	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Golden-crowned kinglet	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Blue-gray gnatcatcher	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Cedar waxwing	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Yellow-throated vireo	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Philadelphia vireo	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Red-eyed vireo	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Northern parula	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Yellow warbler	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Cape May warbler	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
	Black-throated green warbler	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0
Bay-breasted warbler	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	

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		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
	Scarlet tanager	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	1	0	0
	Northern oriole	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	1	0	0
100	Ruby-throated hummingbird	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Red-headed woodpecker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Red-bellied woodpecker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Gray jay	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Blue jay	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Tufted titmouse	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Ruby-crowned kinglet	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Pine siskin	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	American goldfinch	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Southern flying squirrel	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
	Northern flying squirrel	0	1	1	0	0	0	0	1	1	0	0	0	1	1	1	0	0	0	1	1	1	0
101	Eastern kingbird	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Little brown myotis	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Northern long-eared bat	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Indiana myotis	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Small-footed myotis	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Silver-haired bat	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Eastern pipistrelle	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Big brown bat	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Red bat	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
	Hoary bat	0	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0
102	American kestrel	0	1	1	0	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	1	0
103	Olive-sided flycatcher	0	1	1	0	0	0	0	1	1	0	0	1	1	1	0	0	0	0	1	1	0	0
	Eastern wood-pewee	0	1	1	0	0	0	0	1	1	0	0	1	1	1	0	0	0	0	1	1	0	0
	Great crested flycatcher	0	1	1	0	0	0	0	1	1	0	0	1	1	1	0	0	0	0	1	1	0	0
	American redstart	0	1	1	0	0	0	0	1	1	0	0	1	1	1	0	0	0	0	1	1	0	0
104	Yellow-rumped warbler	0	1	1	0	0	0	0	1	1	0	0	1	1	1	1	0	0	0	1	1	1	0
105	Red squirrel	0	1	1	0	0	0	0	1	1	0	1	0	1	1	1	0	0	0	1	1	1	0
106	Osprey	0	1	1	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0

Group no.	Group members	Reproduction Layers										Foraging Layers											
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
107	Common merganser	0	1	1	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0
	Double-crested cormorant	0	1	1	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0
108	Great blue heron	0	1	1	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0
109	Cliff swallow	0	1	1	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0
	Barn swallow	0	1	1	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0
110	Green heron	0	1	1	1	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0
111	Brown-headed cowbird	0	1	1	1	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0
112	Virginia opossum	0	1	1	1	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	1	0
113	Raccoon	0	1	1	1	0	0	0	1	1	1	1	0	1	1	1	1	0	0	1	1	1	0
114	Fox sparrow	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
115	Canvasback	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
	Bufflehead	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
116	Rough-legged hawk	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Golden eagle	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Snowy owl	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Northern hawk owl	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Great gray owl	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Boreal owl	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	American tree sparrow	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Lapland longspur	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Snow bunting	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Common redpoll	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	Hoary redpoll	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
117	Northern pintail	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
	American wigeon	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
118	Bohemian waxwing	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0
119	Northern shrike	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0