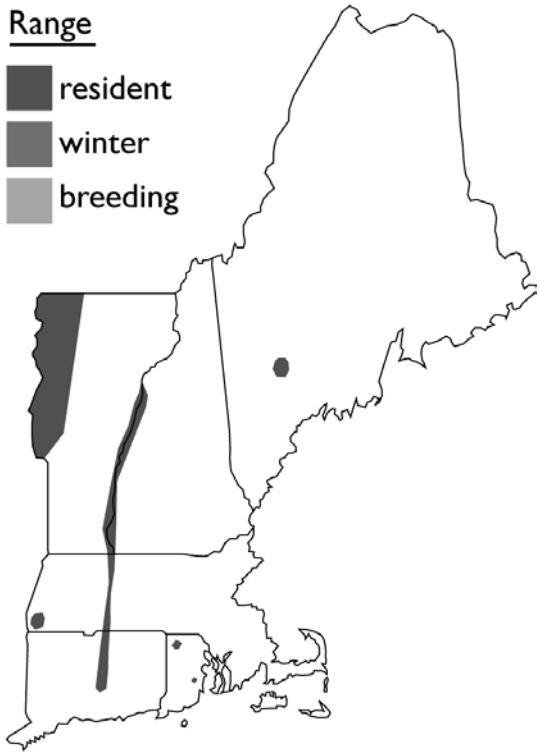
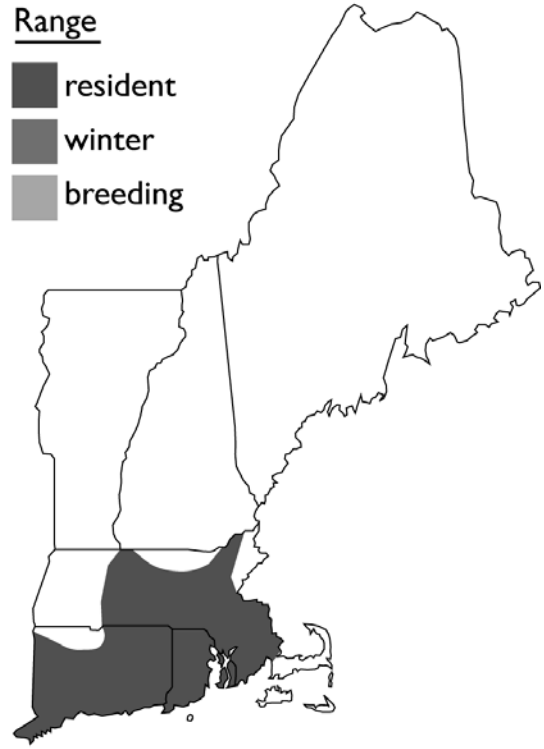
Appendix A

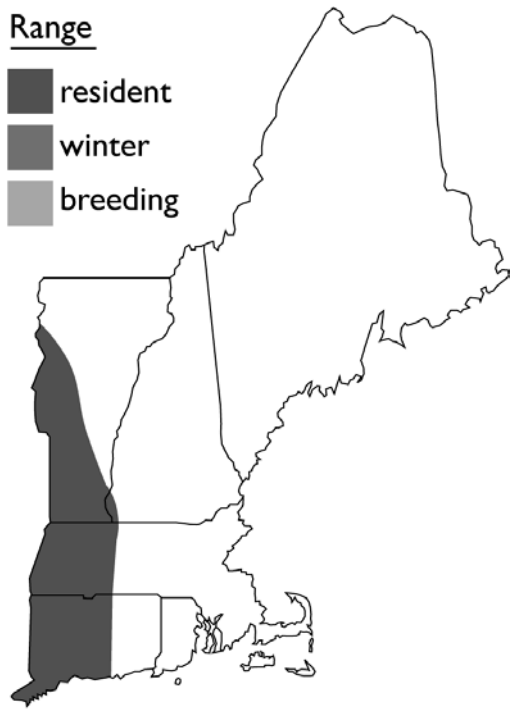
Range Maps for the Non-fish, Inland, Vertebrate Wildlife Species of New England



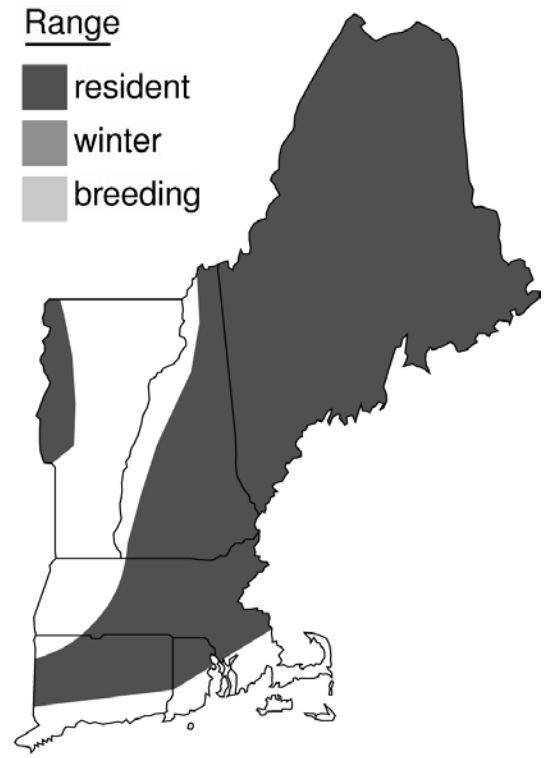
Mudpuppy (MUPU)



Marbled Salamander (MASA)



Jefferson Salamander (JESA)



Blue-Spotted Salamander (BSSA)

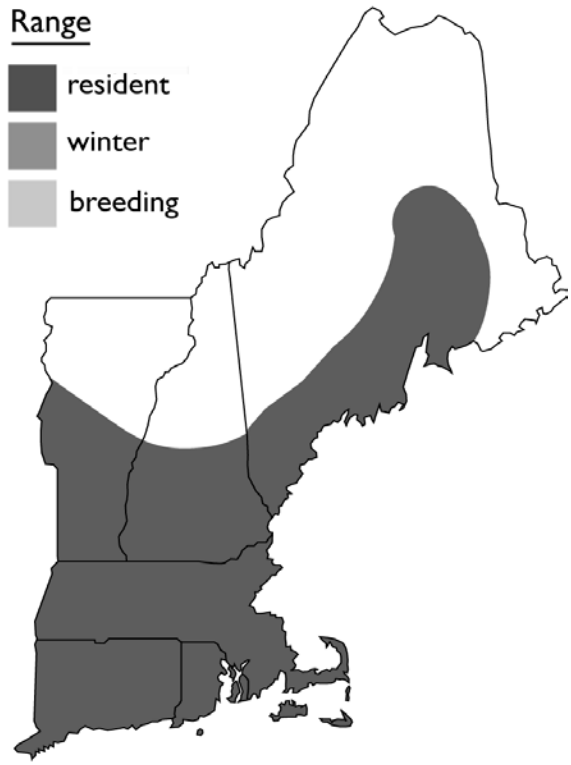
Spotted Salamander (STSA)

Red-Spotted Newt (RSNE)

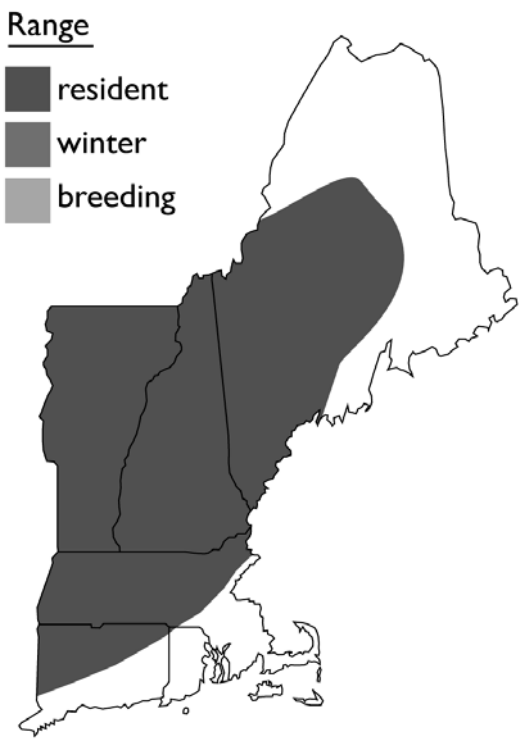
Northern Dusky Salamander (NDSA)

Northern Redback Salamander (NRSA)

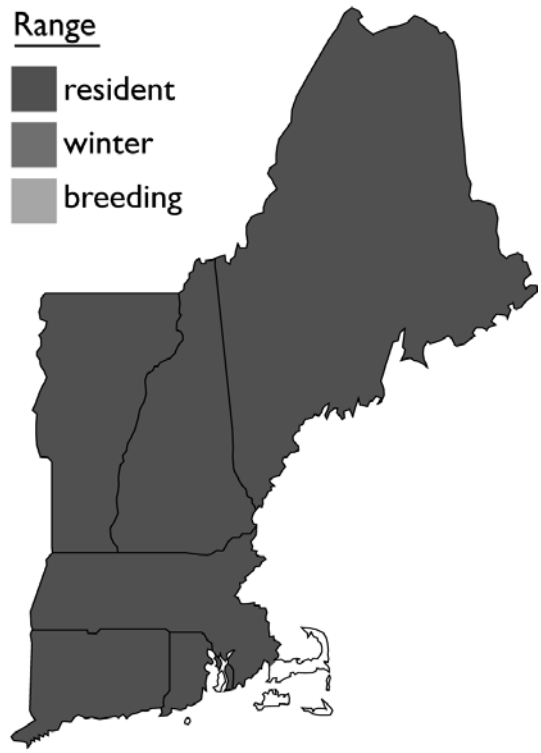
Northern Slimy Salamander (NSLS)



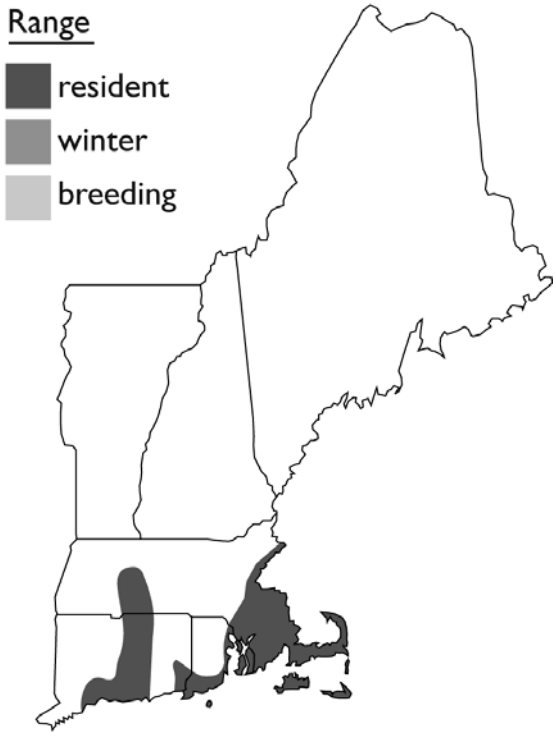
Four-toed Salamander (FTSA)



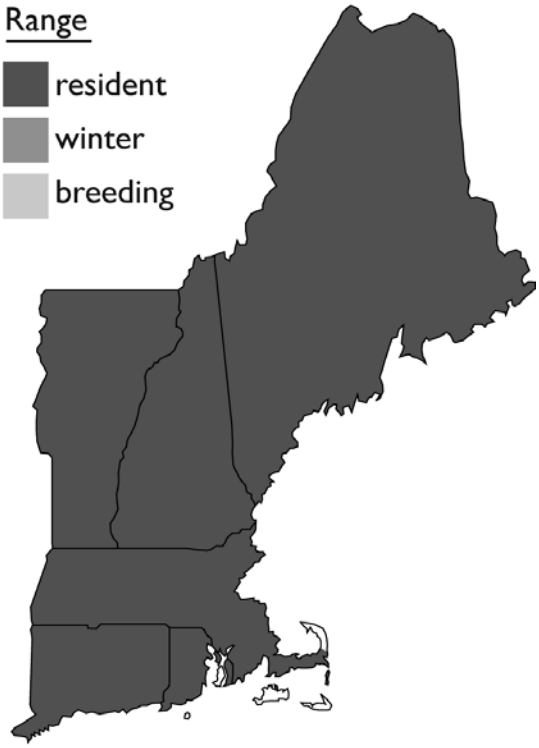
Northern Spring Salamander (NSSA)



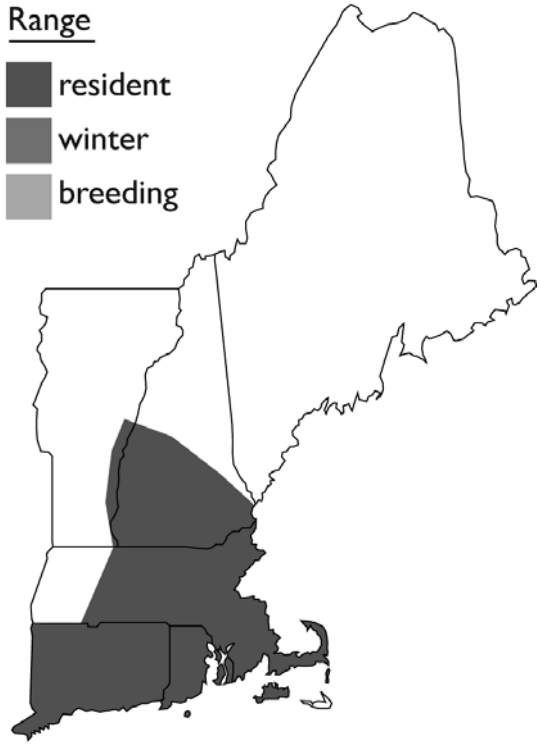
Northern Two-Lined Salamander (NTSA)



Eastern Spadefoot (EASP)



Eastern American Toad (EATO)

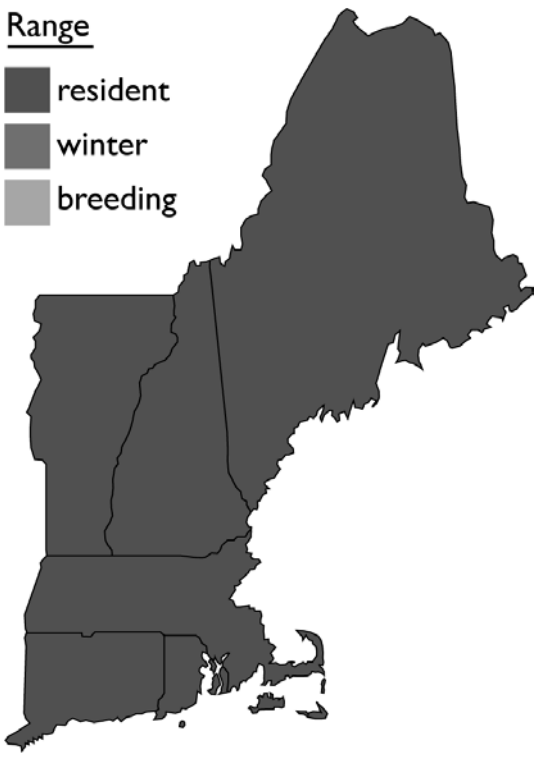


Fowler's Toad (FOTO)

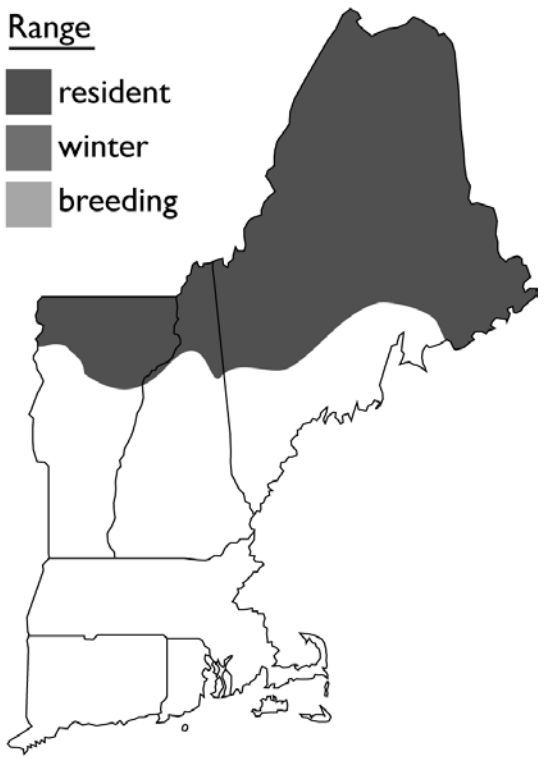
Northern Spring Peeper (NSPE)

Gray Treefrog (GRTR)

Bullfrog (BUFR)

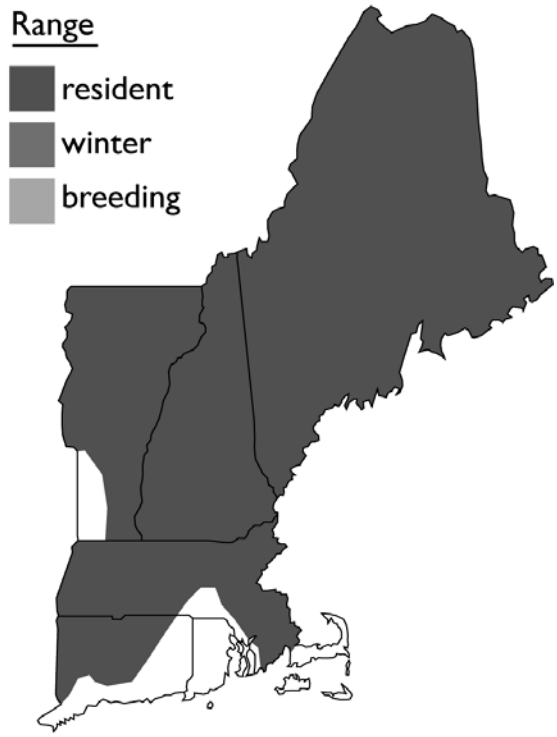


Green Frog (GRFR)

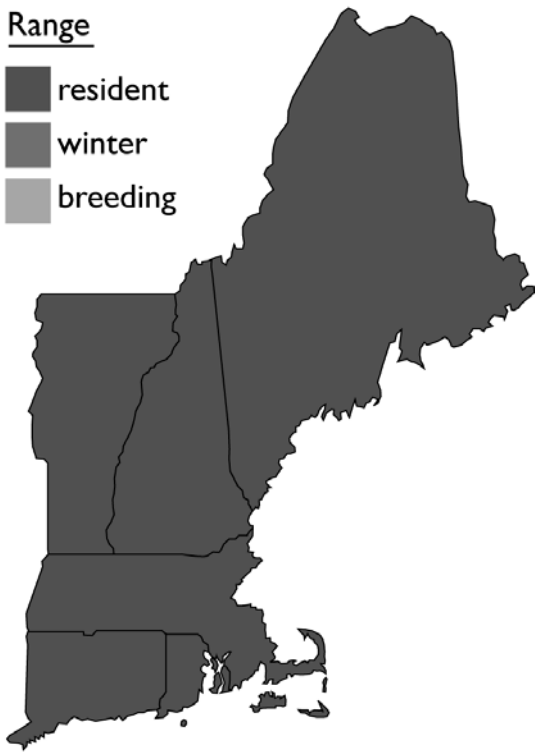


Mink Frog (MIFR)

Wood Frog (WOFR)



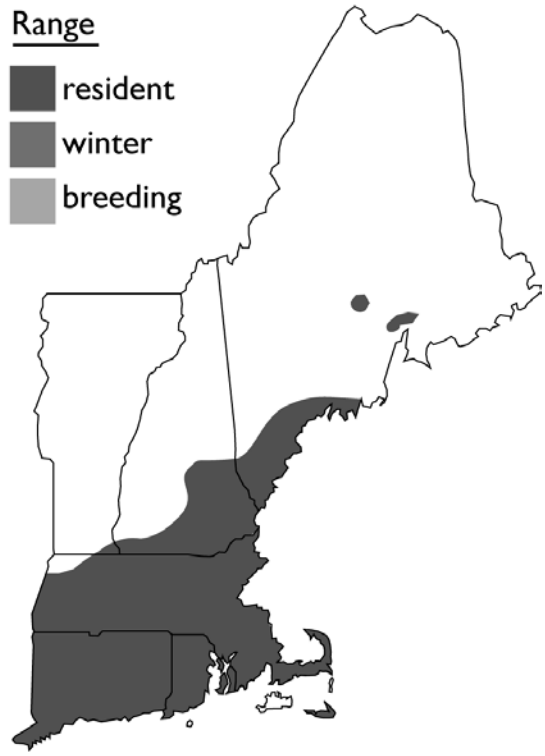
Northern Leopard Frog (NLFR)



Pickerel Frog (PIFR)

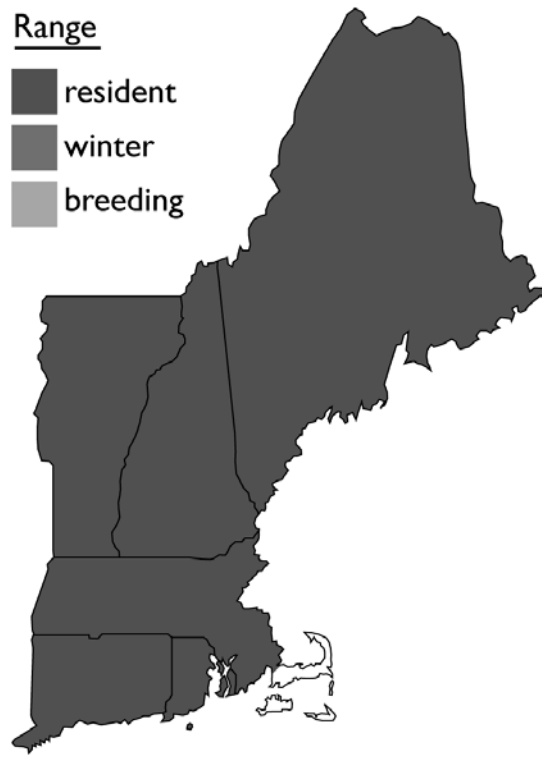
Common Snapping Turtle (CSTU)

Common Musk Turtle (CMTU)

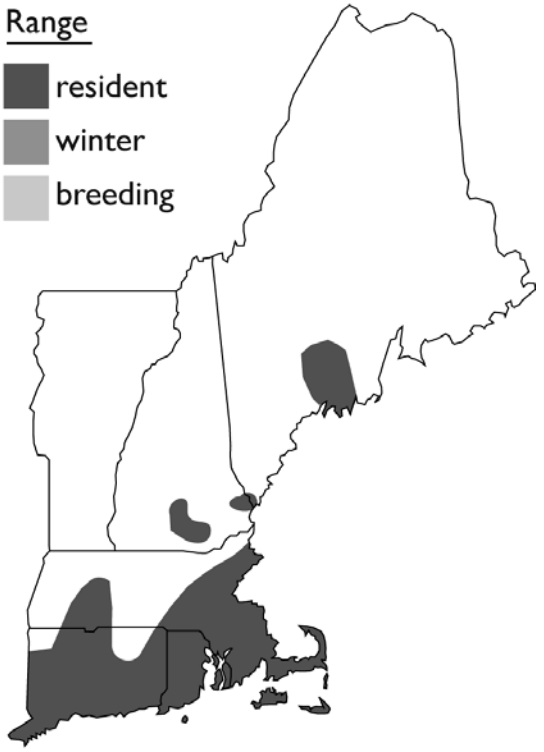


Spotted Turtle (SPTU)

Bog Turtle (BOTU)



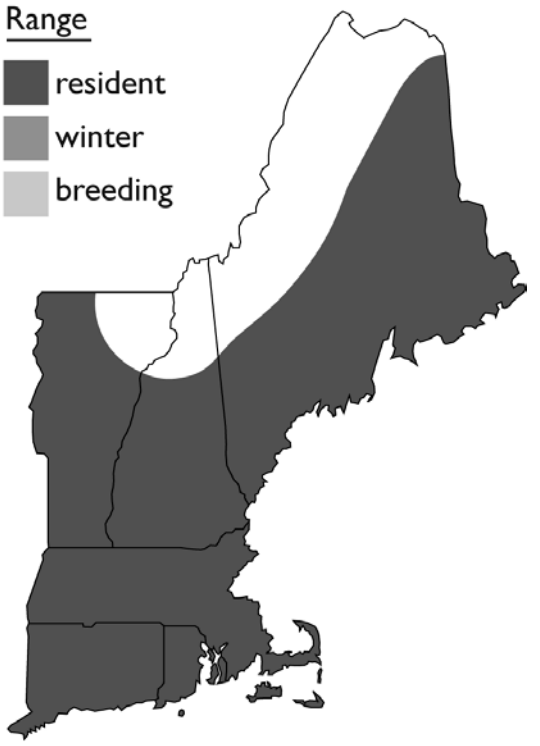
Wood Turtle (WOTU)



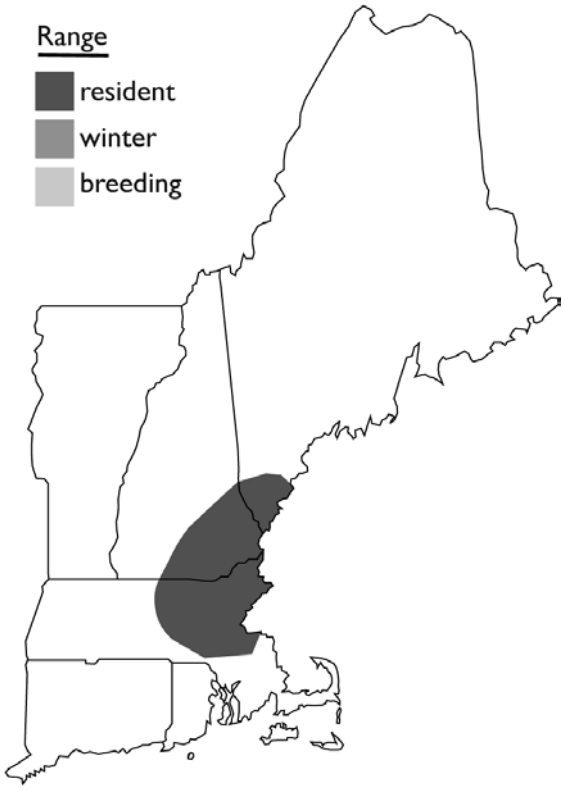
Eastern Box Turtle (EBTU)

Map Turtle (MATU)

Plymouth Redbelly Turtle (PRTU)



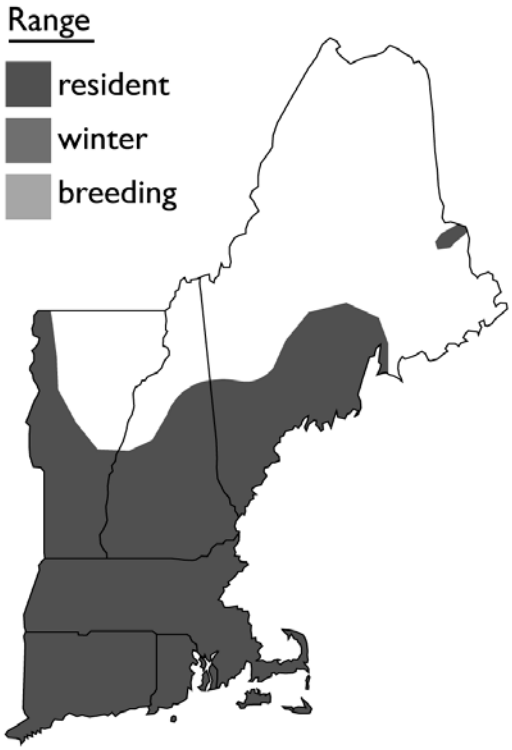
Painted Turtle (PATU)



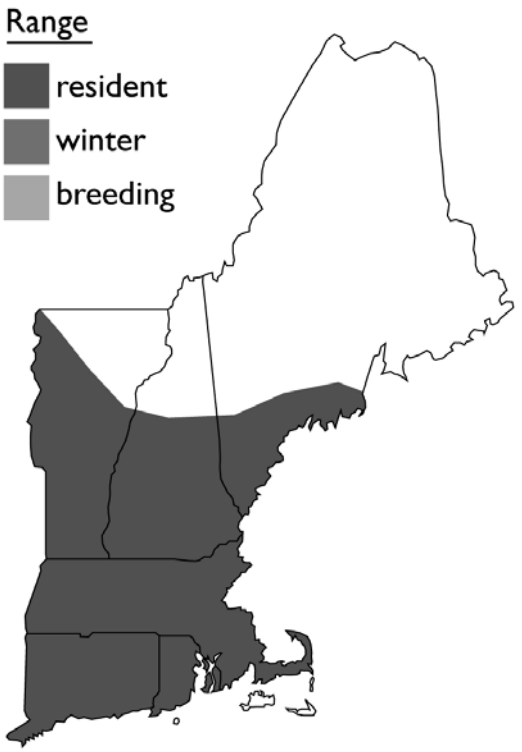
Blanding's Turtle

Eastern Spiny Softshell (ESSO)

Five-Lined Skink (FLSK)

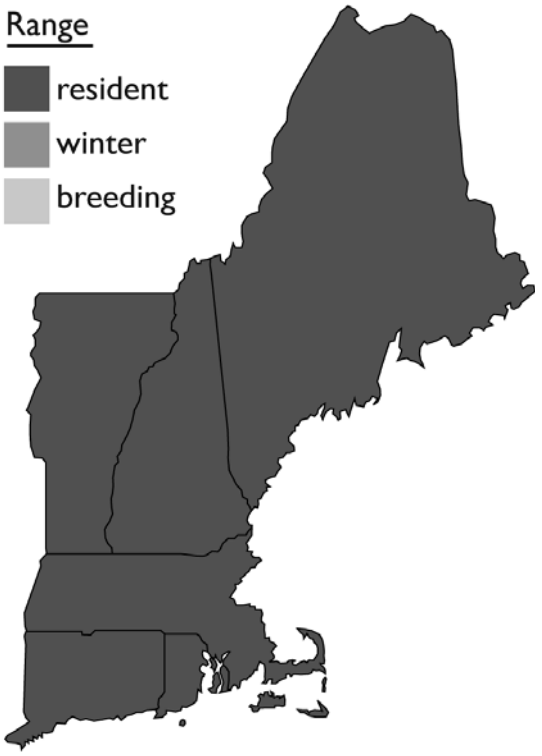


Northern Water Snake (NWSN)

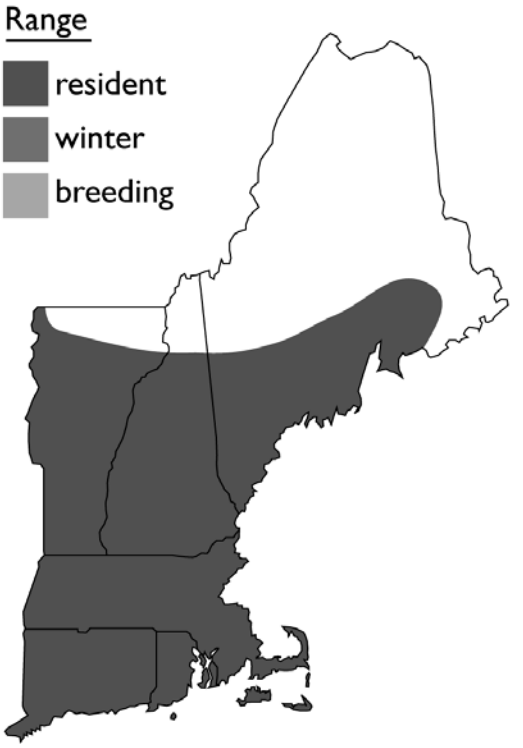


Northern Brown Snake (NBSN)

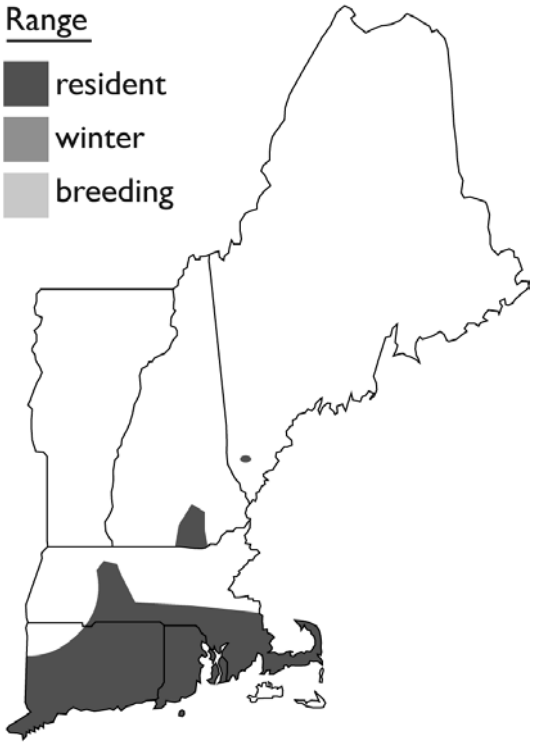
Northern Redbelly Snake (NRSN)



Eastern Garter Snake (EGSN)

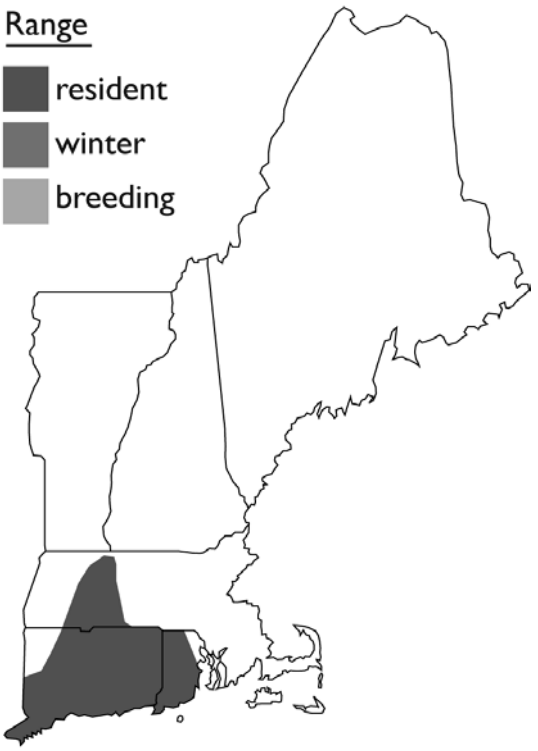


Ribbon Snake (ERSN)

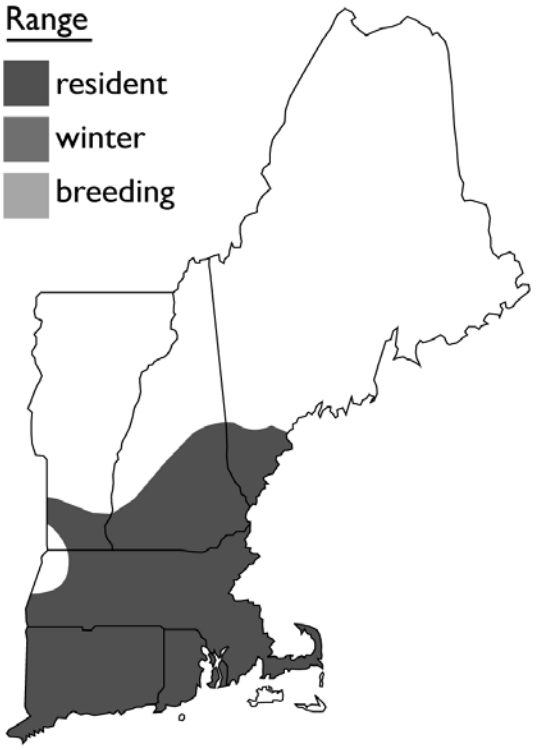


Eastern Hognose Snake (EHSN)

Northern Ringneck Snake (NRNS)

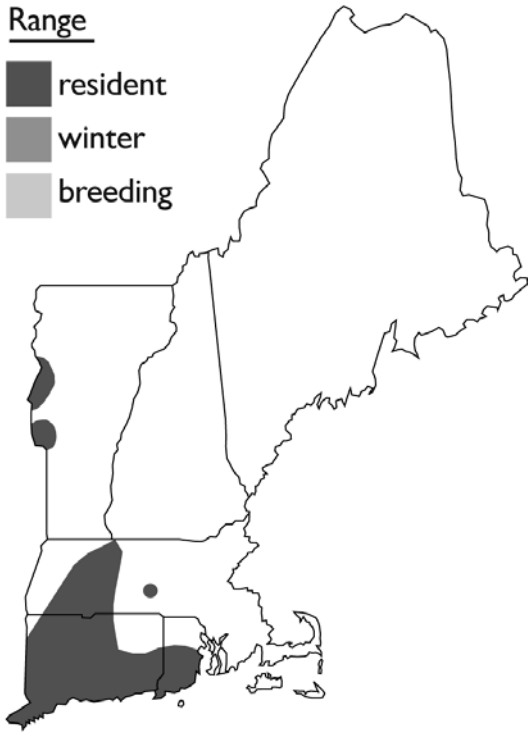


Eastern Worm Snake (EWSN)



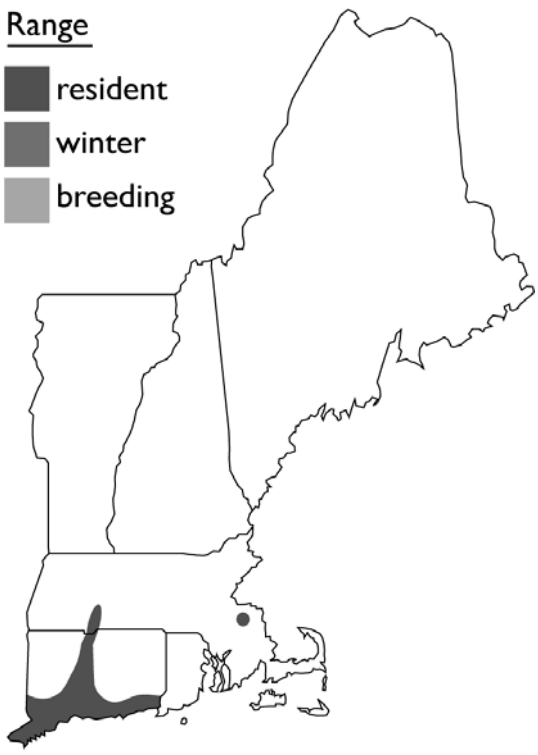
Northern Black Racer (NRSN)

Eastern Smooth Green Snake (ESGS)

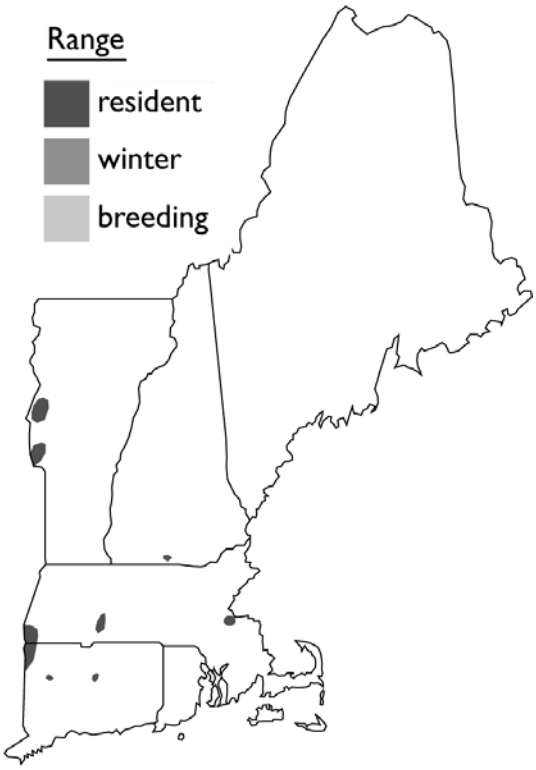


Black Rat Snake (BLSN)

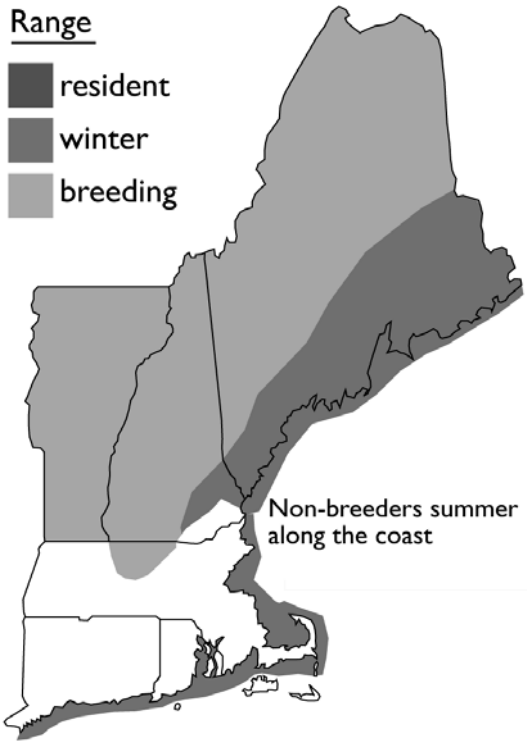
Eastern Milk Snake (EMSN)



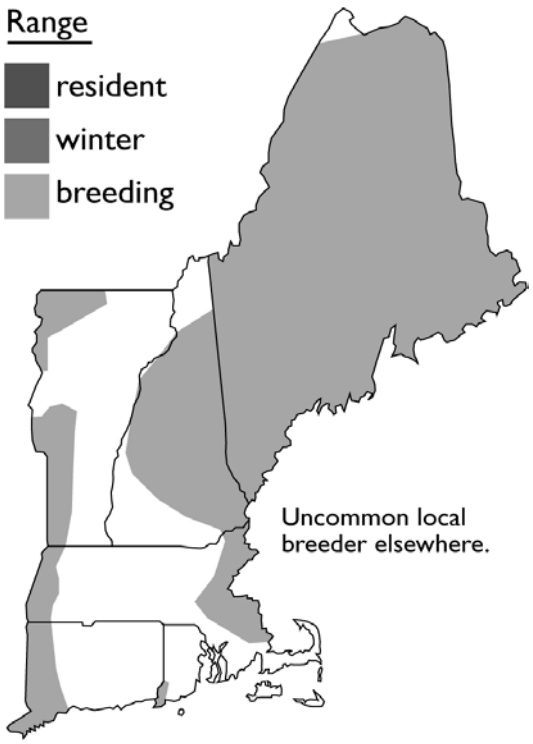
Northern Copperhead (NCSN)



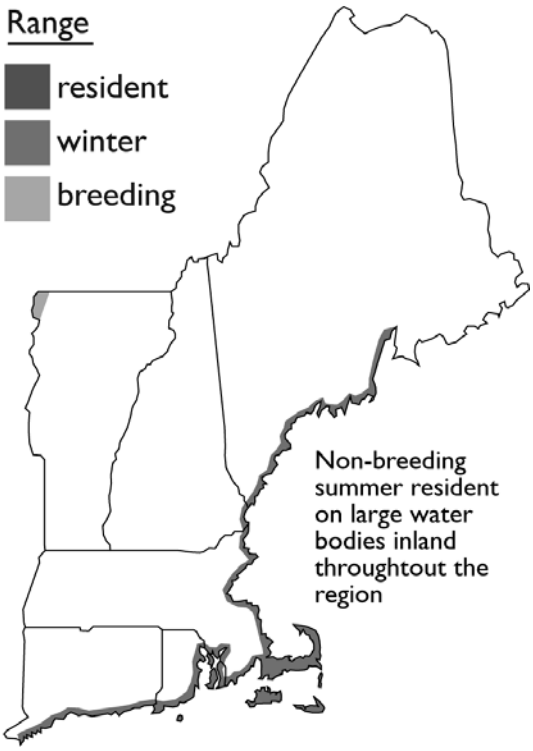
Timber Rattlesnake (TRSN)



Common Loon (COLO)

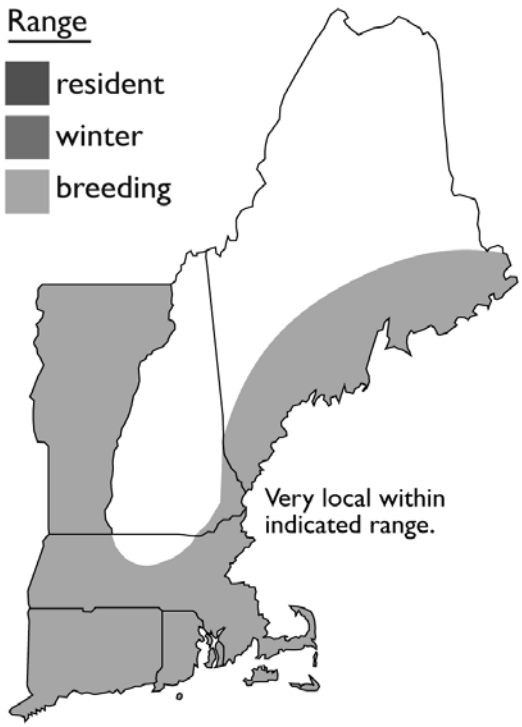


Pied-billed Grebe (PBGR)

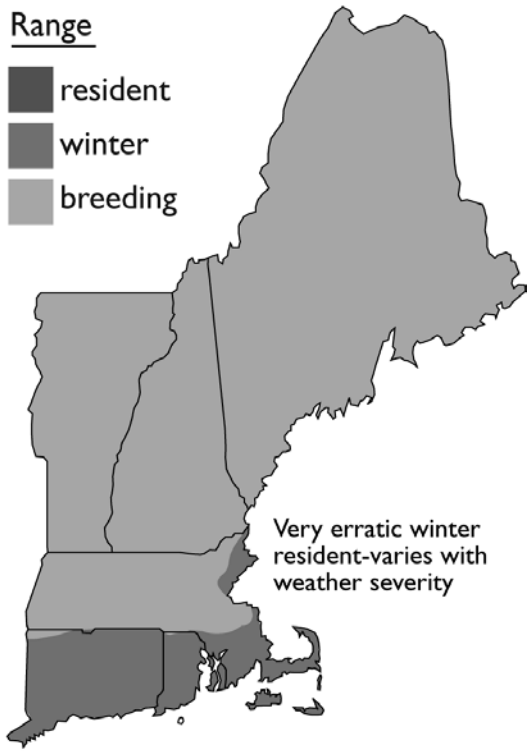


Double-crested Cormorant (DCCO)

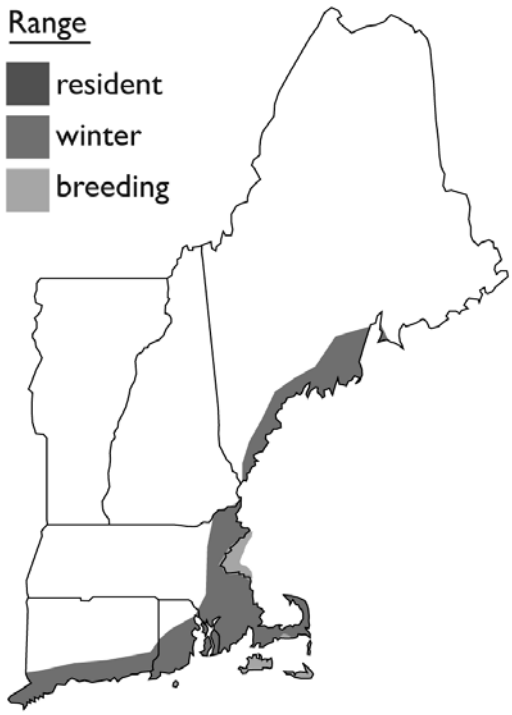
American Bittern (AMBI)



Least Bittern (LEBI)

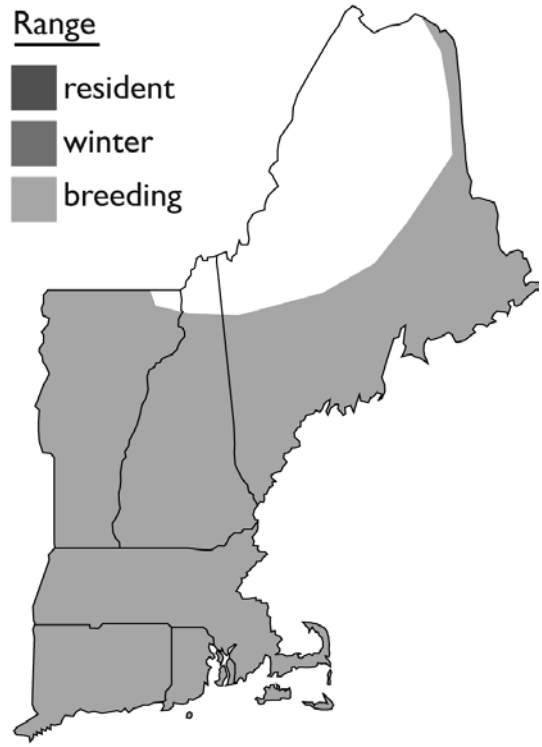


Great Blue Heron (GTBH)



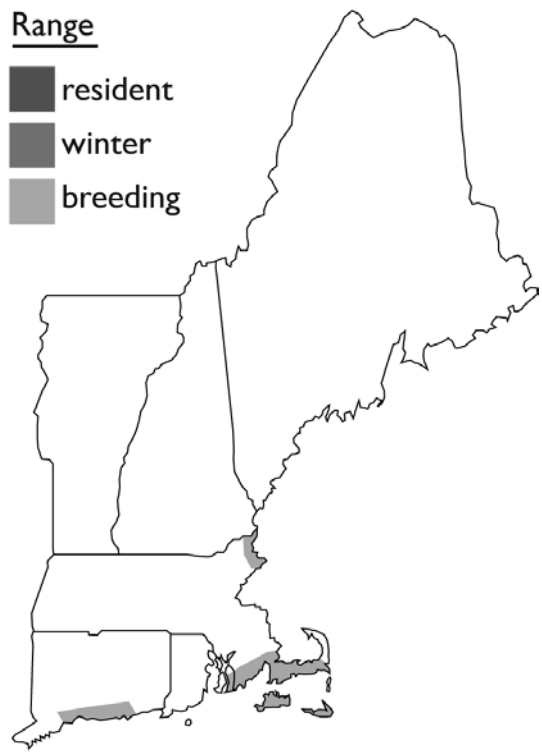
Snowy Egret (SNEG)

Cattle Egret (CAEG)



Green Heron (GNBH)

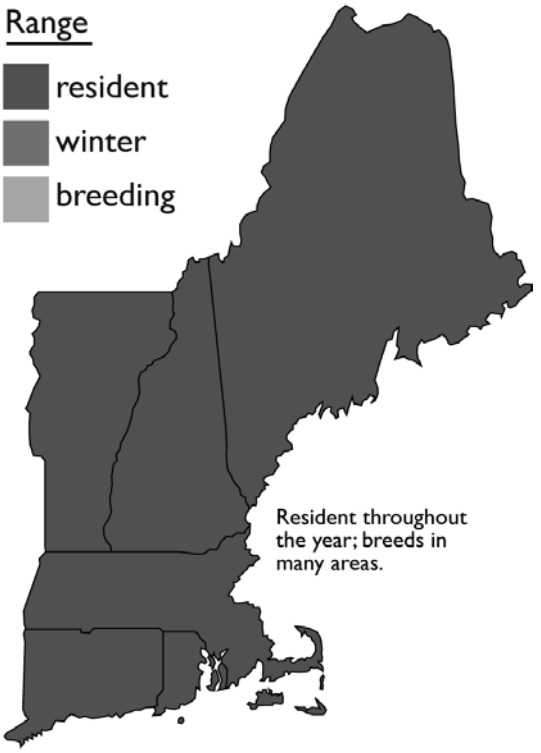
Black-crowned Night Heron (BCNH)



Yellow-crowned Night Heron (YCNH)

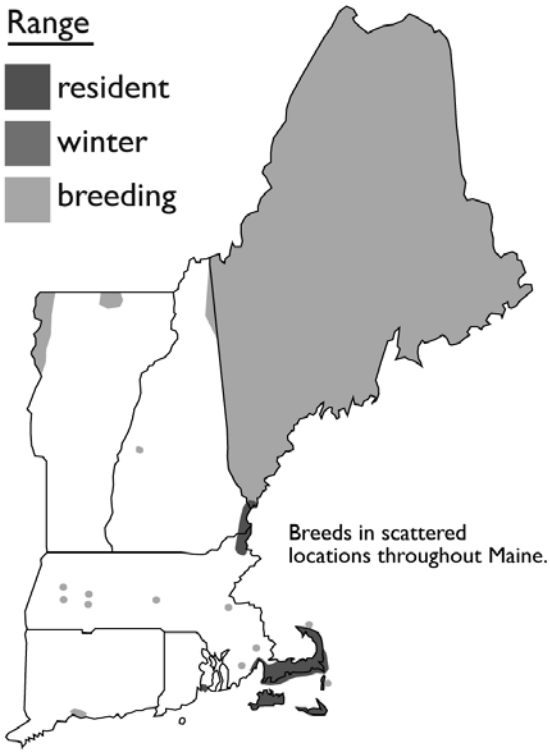
Glossy Ibis (GLIB)

Mute Swan (MUSW)

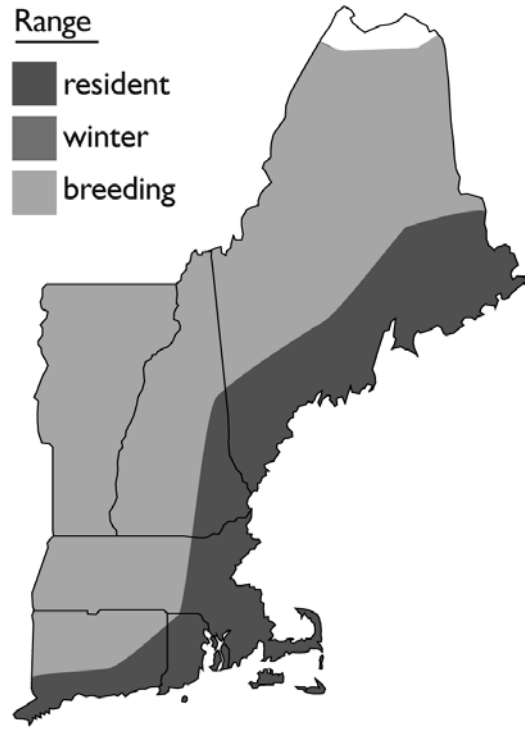


Canada Goose (CAGO)

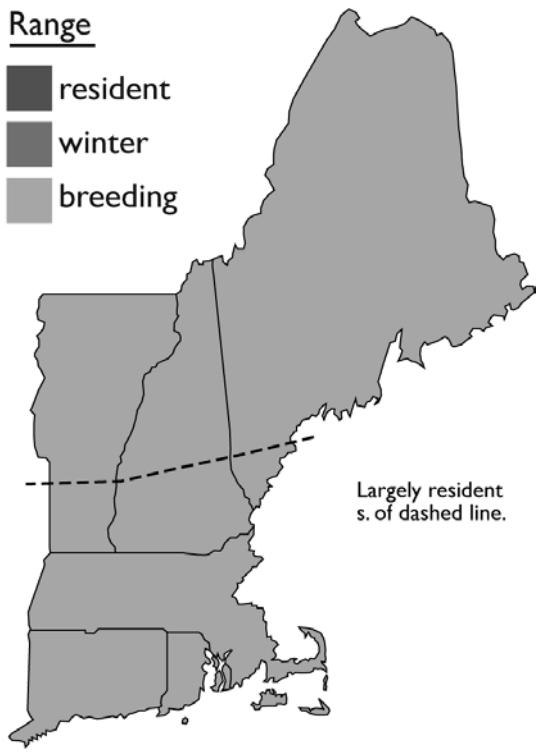
Wood Duck (WODU)



Green-winged Teal (AGWT)

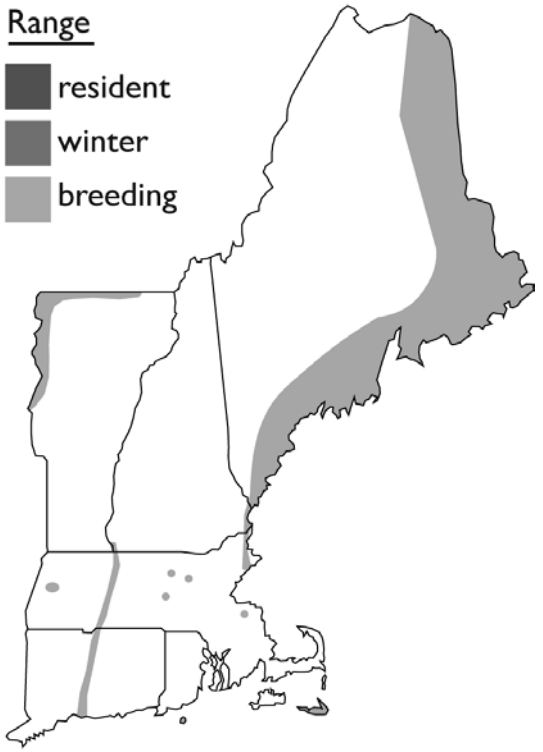


American Black Duck (ABDU)

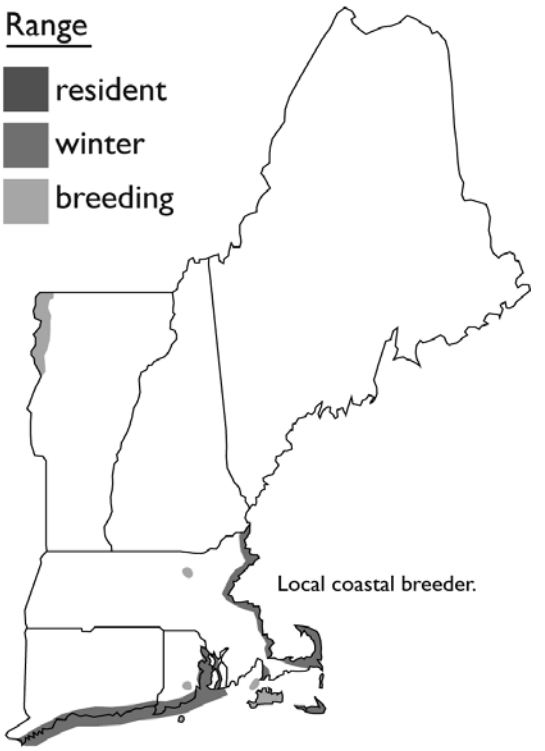


Mallard (MALL)

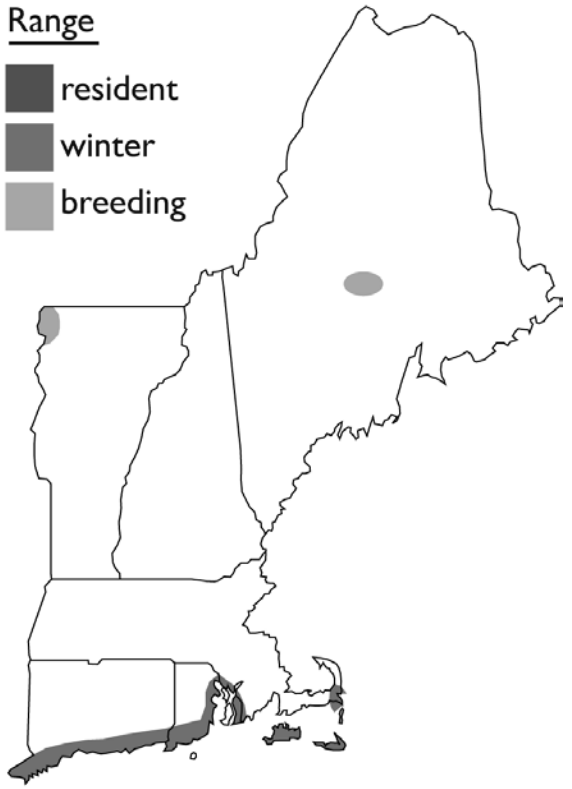
Northern Pintail (NOPI)



Blue-winged Teal (BWTE)

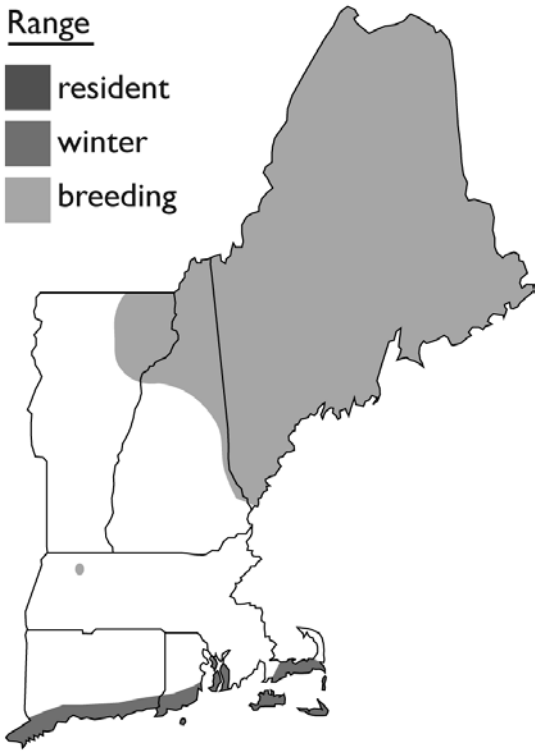


Gadwall (GADW)

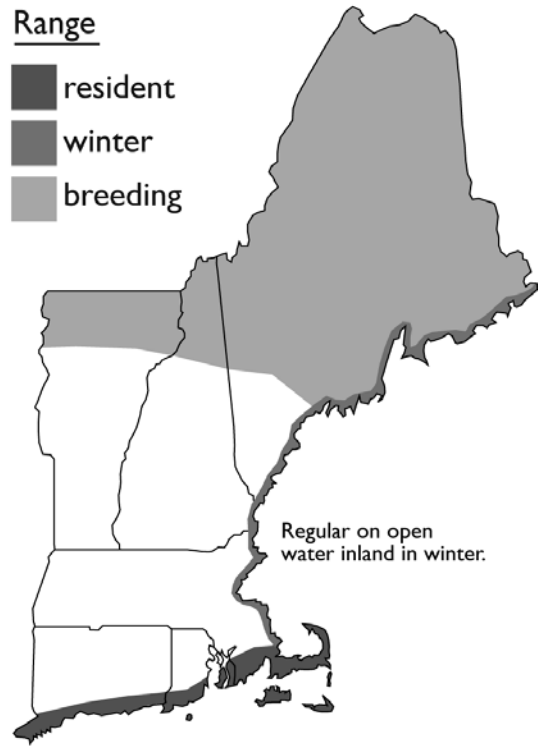


American Wigeon

Canvasback (CANV)

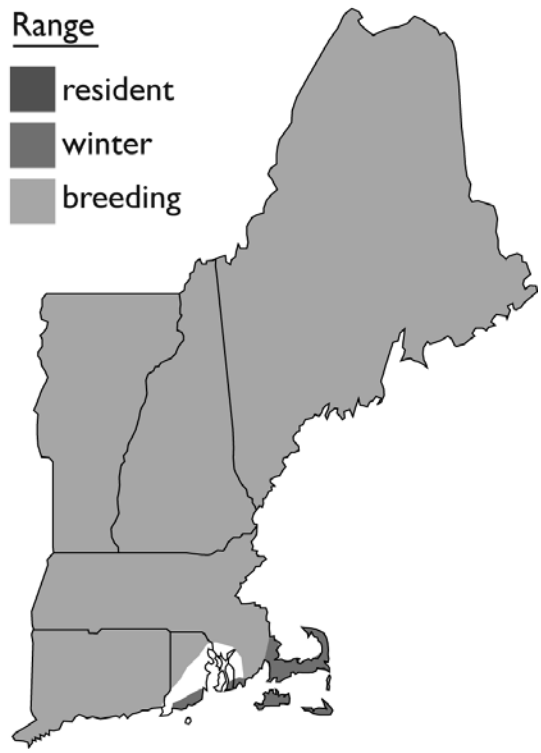


Ring-necked Duck (RNDU)

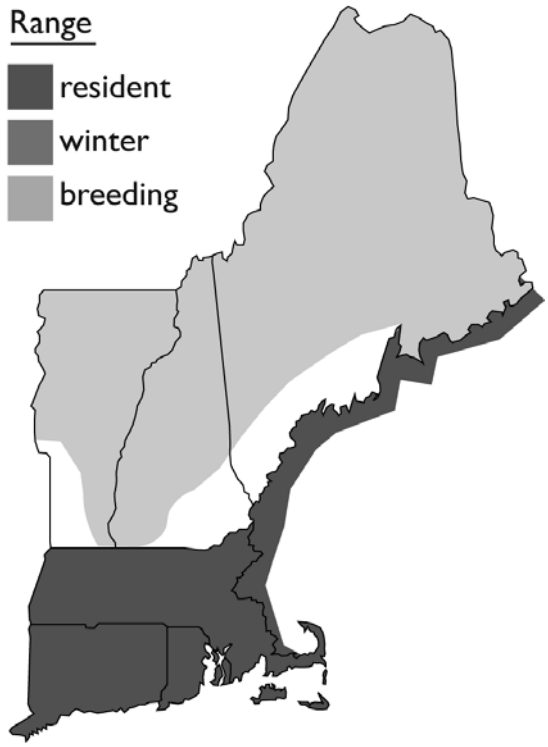


Common Goldeneye (COGO)

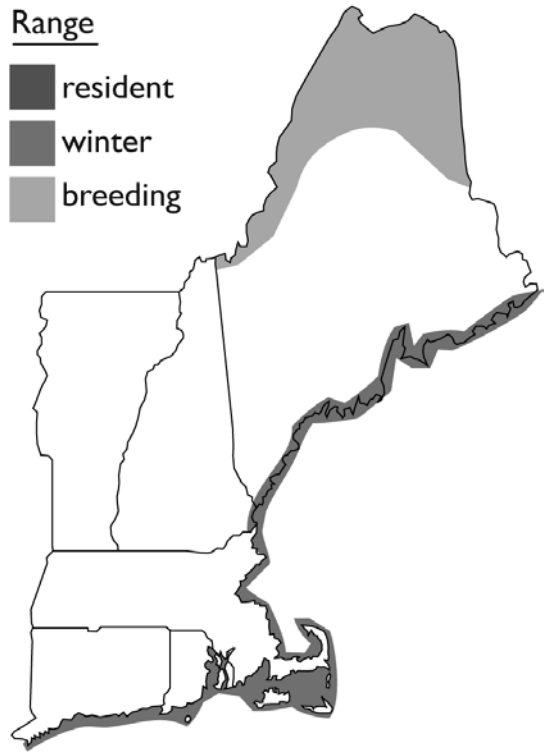
Bufflehead (BUFF)



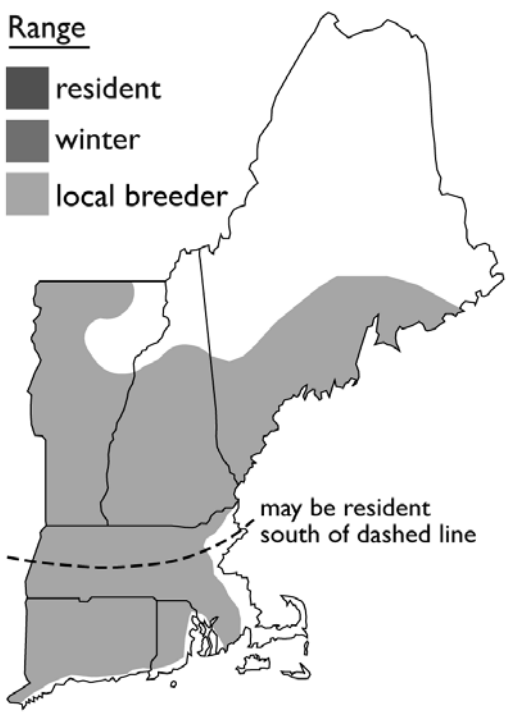
Hooded Merganser (HOME)



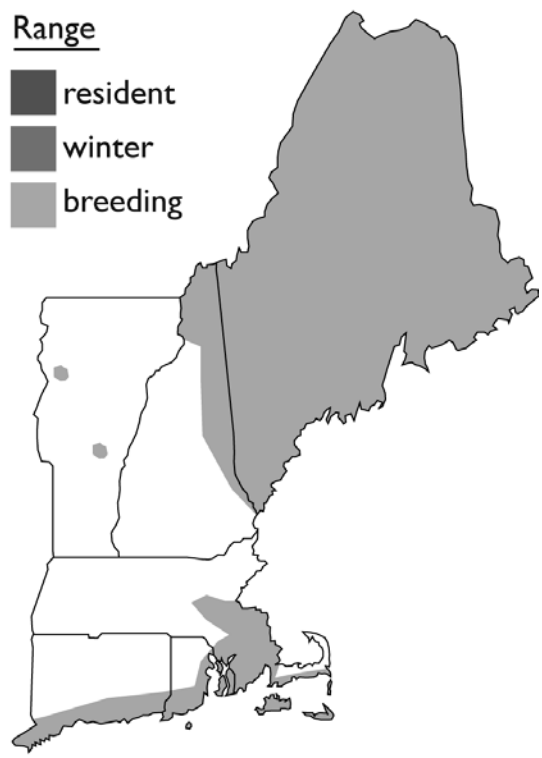
Common Merganser (COME)



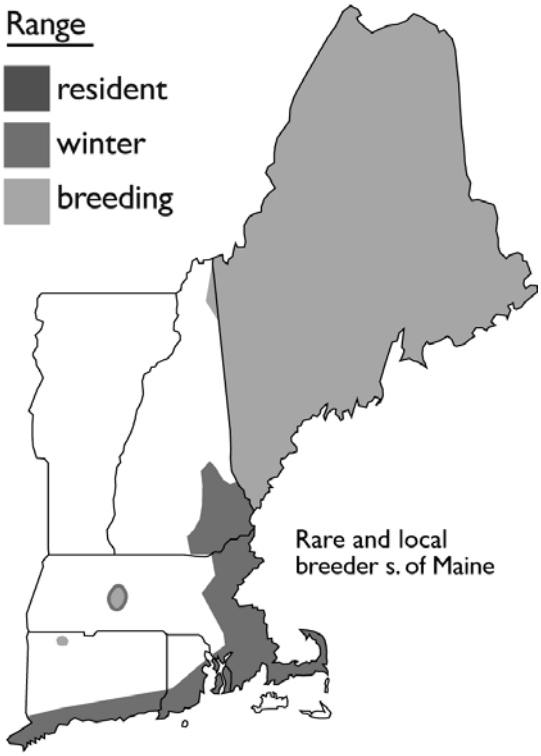
Red-breasted Merganser (RBME)



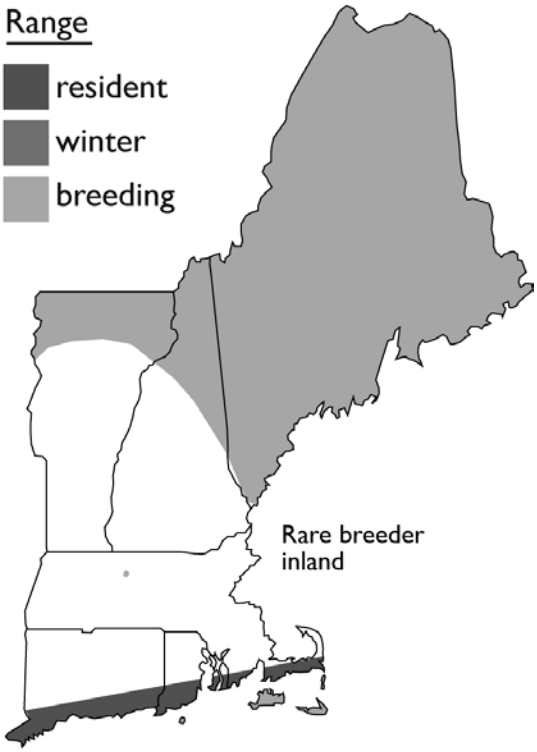
Turkey Vulture (TUVU)



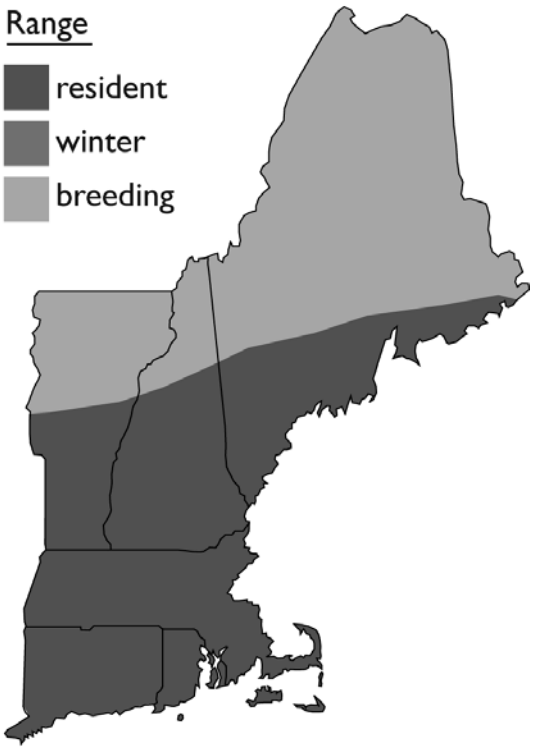
Osprey (OSPR)



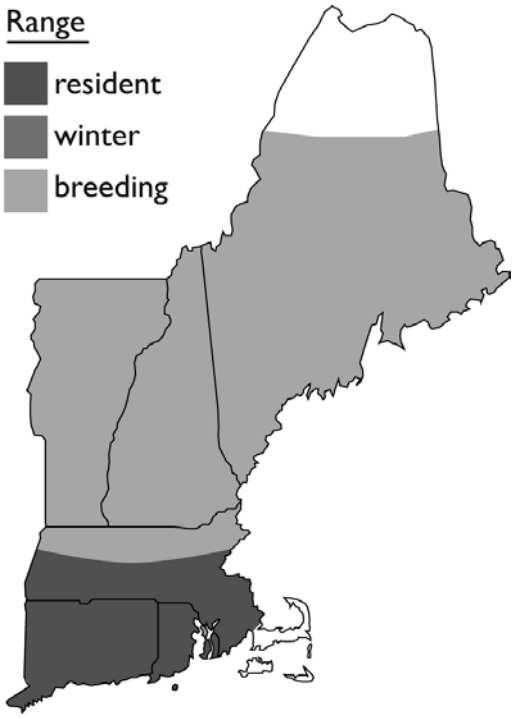
Bald Eagle (BAEA)



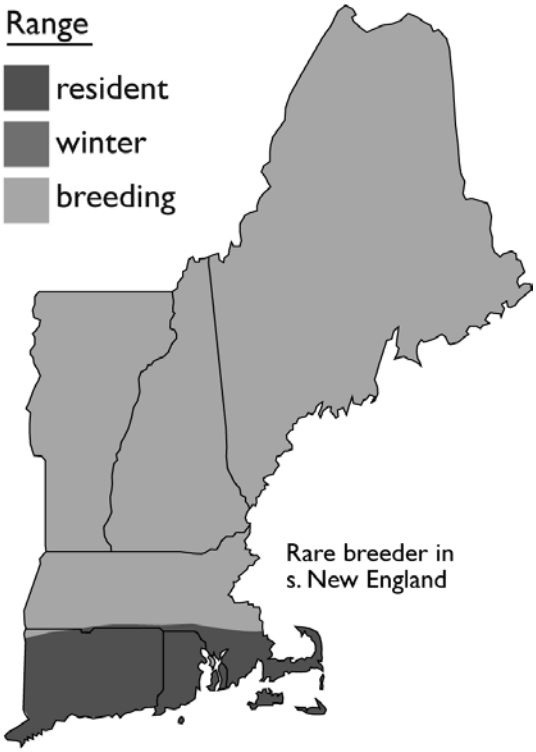
Northern Harrier (NOHA)



Sharp-shinned Hawk (SSHA)



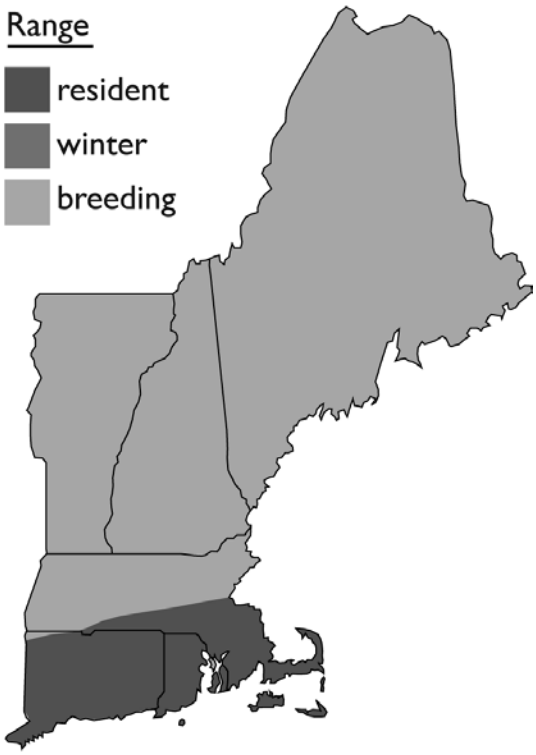
Cooper's Hawk (COHA)



Northern Goshawk (NOGO)

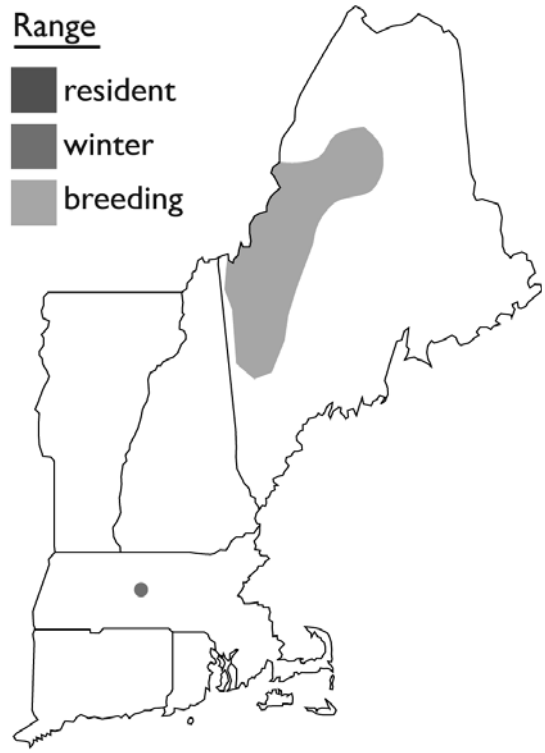
Red-shouldered Hawk (RSHA)

Broad-winged Hawk (BWHA)



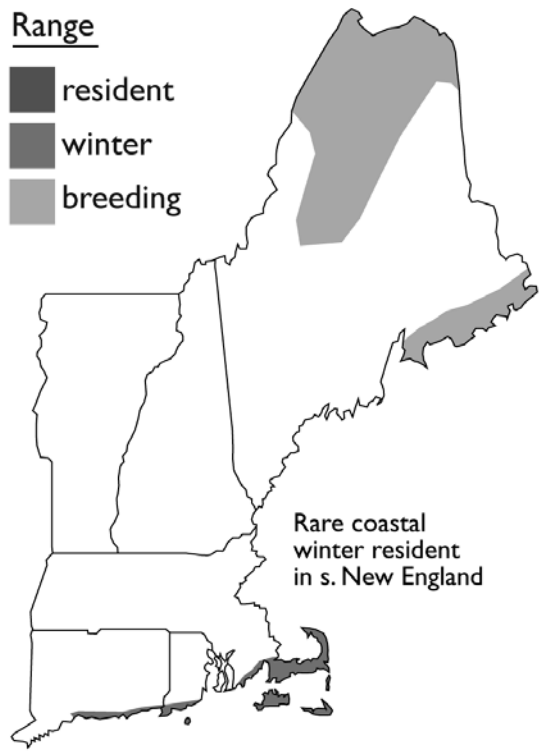
Red-tailed Hawk (RTHA)

Rough-legged Hawk (RLHA)

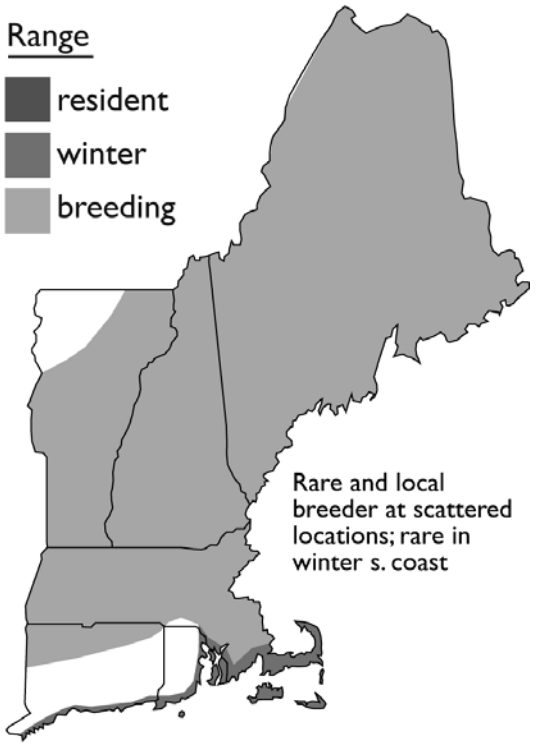


Golden Eagle (GOEA)

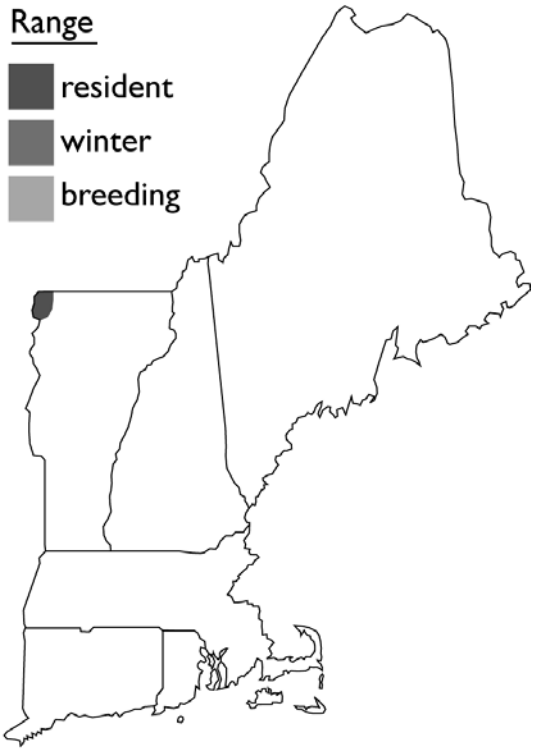
American Kestrel (AMKE)



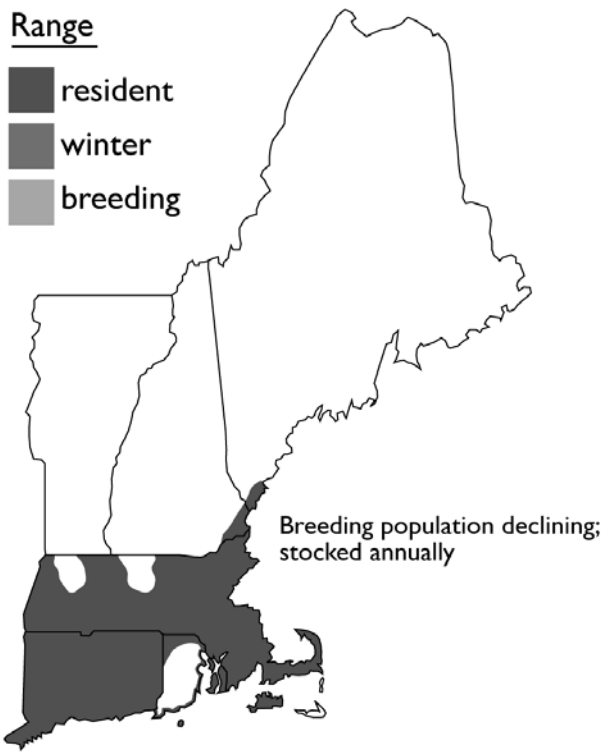
Merlin (MERL)



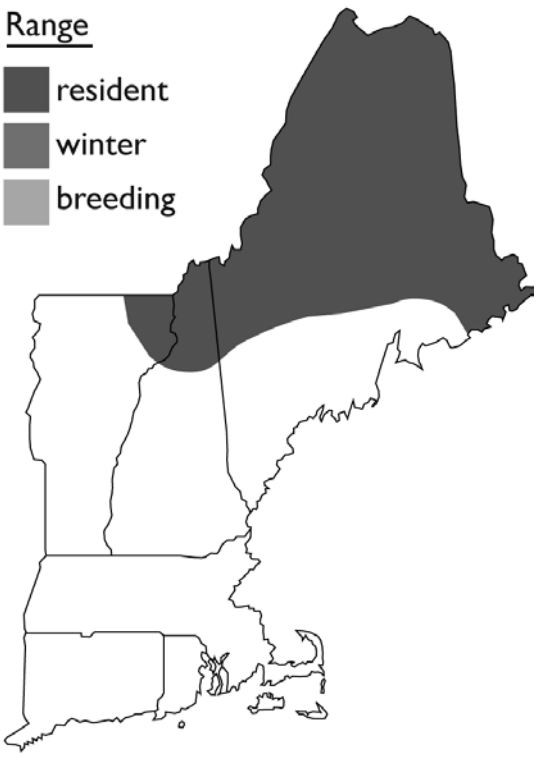
Peregrine Falcon (PEFA)



Gray Partridge (GRPA)



Ring-necked Pheasant (RNPH)

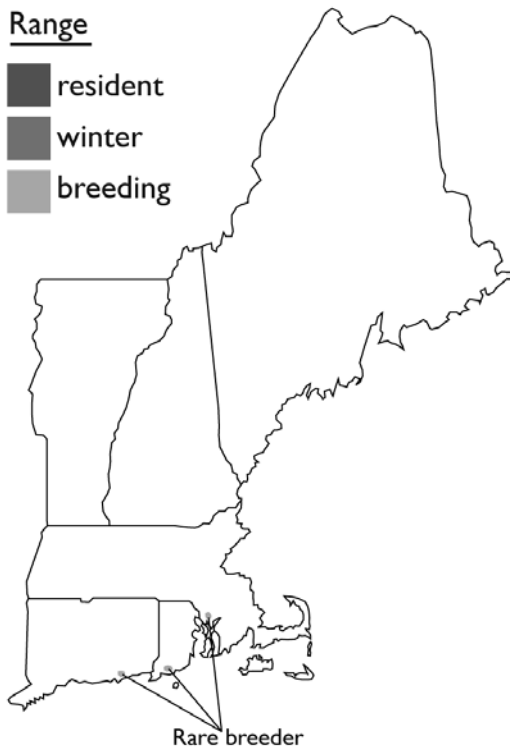


Spruce Grouse (SPGR)

Ruffed Grouse (RUGR)

Wild Turkey (WITU)

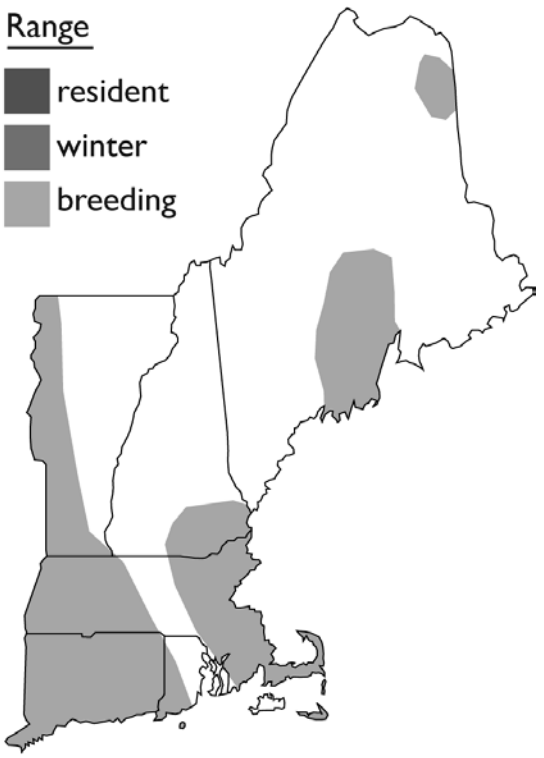
Northern Bobwhite (NOBO)



King Rail (KIRA)

Virginia Rail (VIRA)

Sora (SORA)



Common Moorhen (COMO)

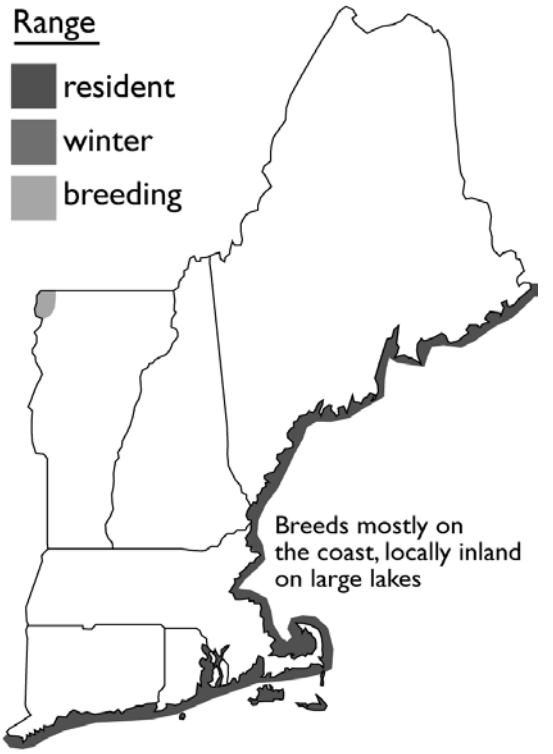
American Coot (AMCO)

Killdeer (KILL)

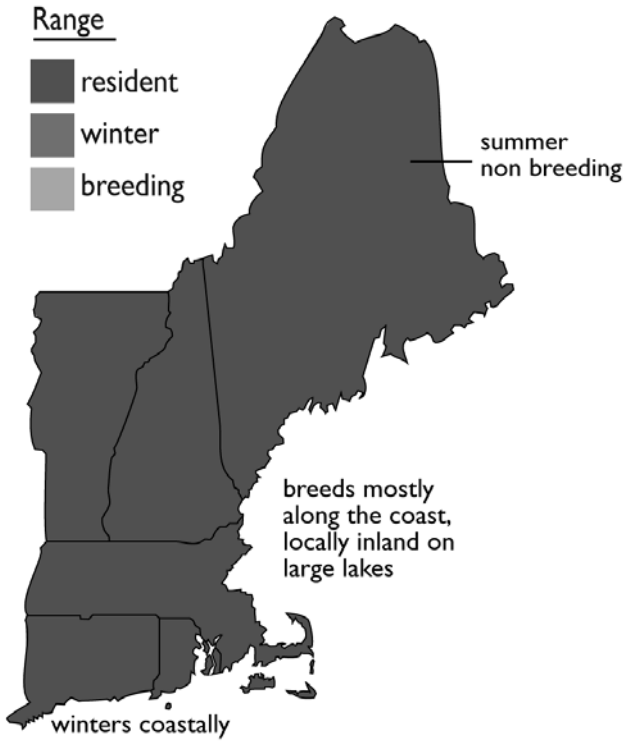
Spotted Sandpiper (SPSA)

Common Snipe (COSN)

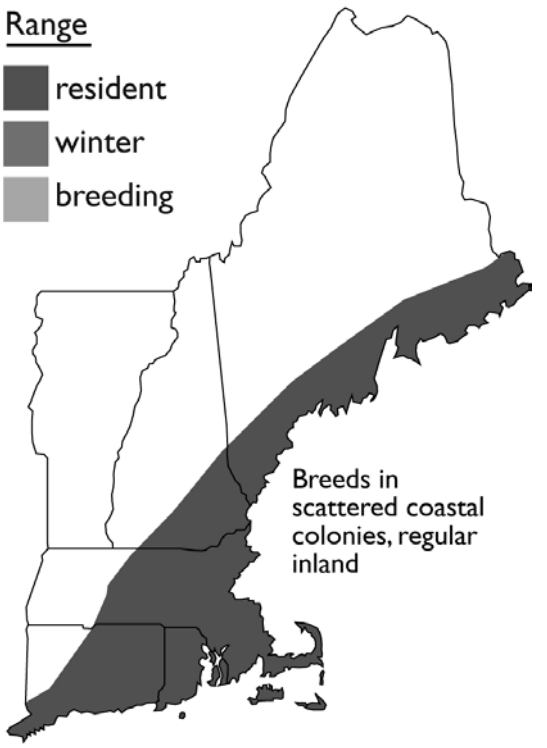
American Woodcock (AMWO)



Ring-billed Gull (RBGU)



Herring Gull (HERG)

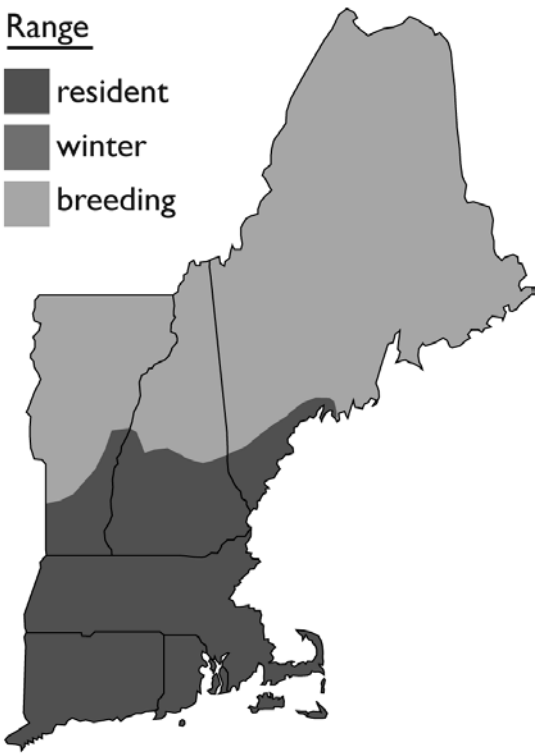


Great Black-backed Gull (GBBG)

Common Tern (COTE)

Black Tern (BLTE)

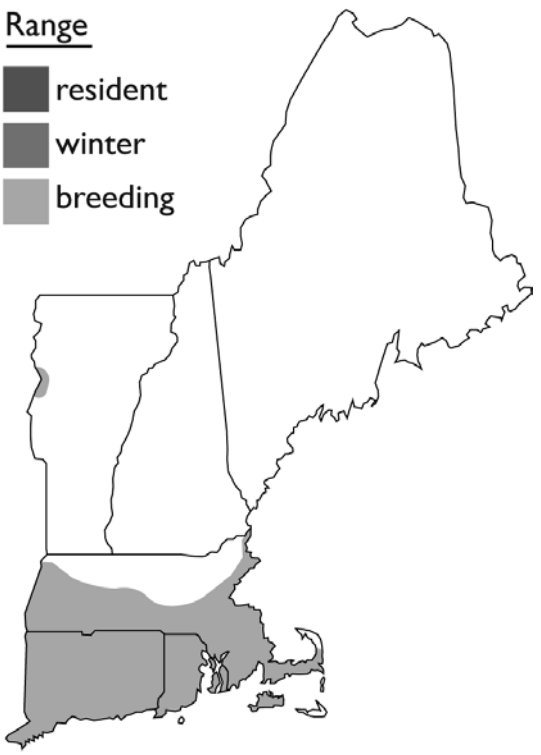
Rock Dove (RODO)



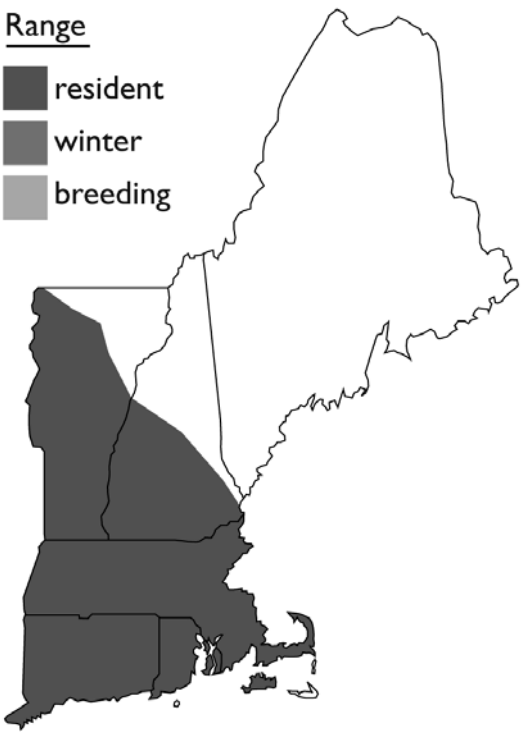
Mourning Dove (MODO)

Black-billed Cuckoo (BBCU)

Yellow-billed Cuckoo (YBCU)

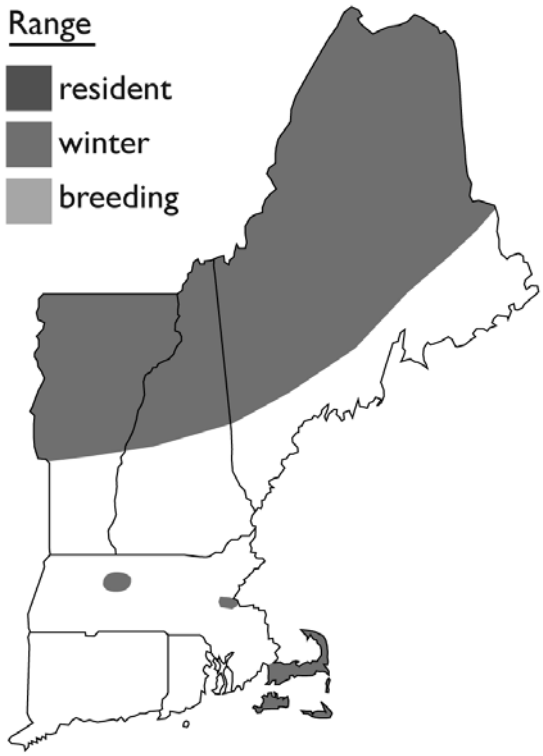


Common Barn Owl (COBO)



Eastern Screech Owl (EASO)

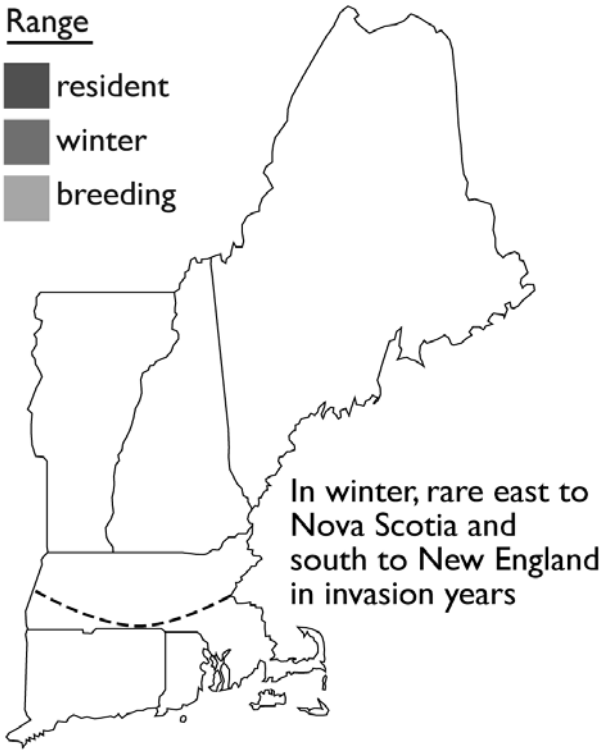
Great-horned Owl (GHOW)



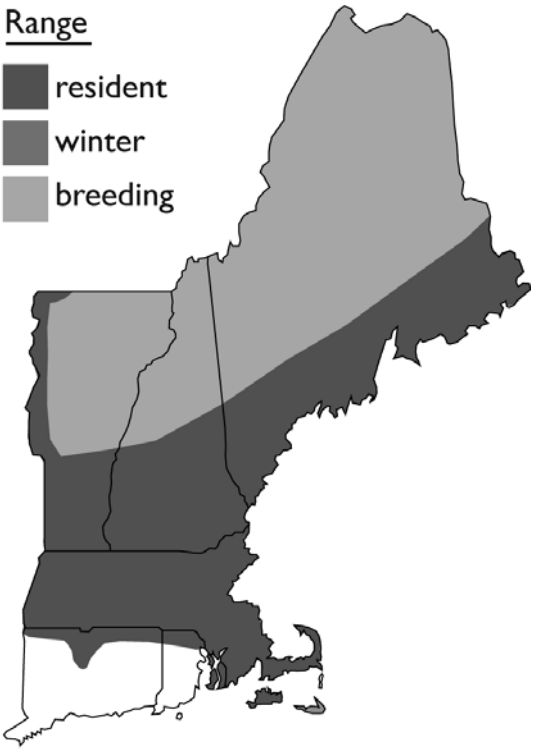
Snowy Owl (SNOW)

Northern Hawk Owl (NOHO)

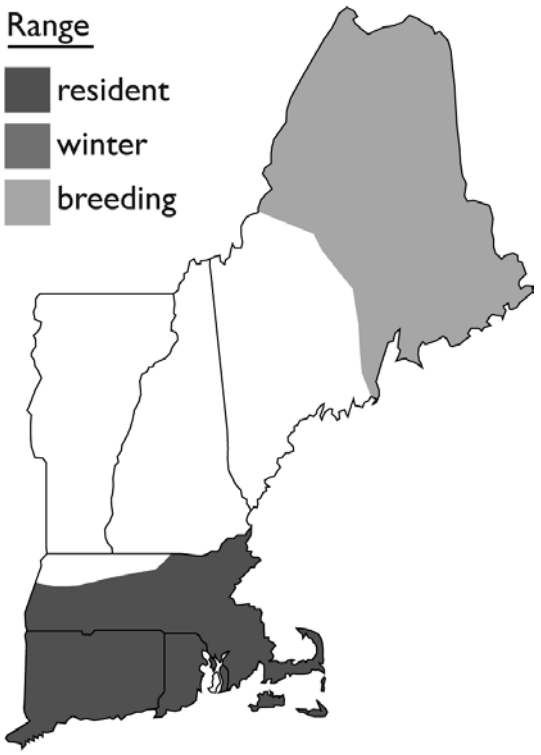
Barred Owl (BAOW)



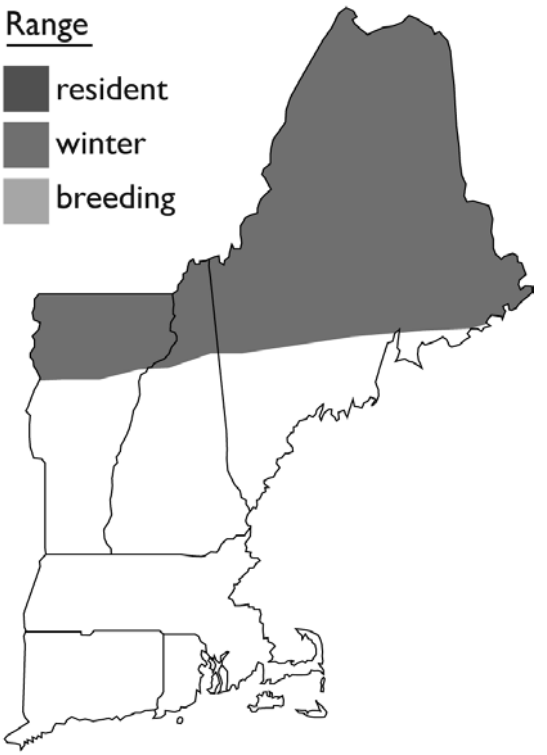
Great Gray Owl (GGOW)



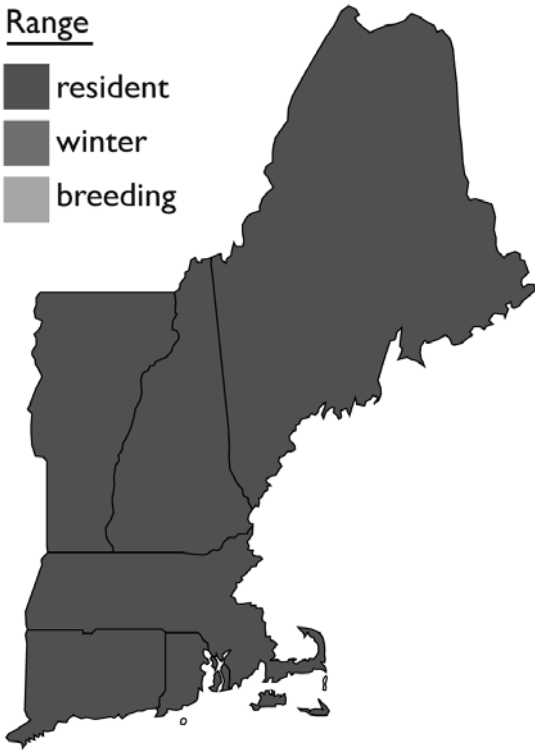
Long-eared Owl (LEOW)



Short-eared Owl (SEOW)



Boreal Owl (BOOW)



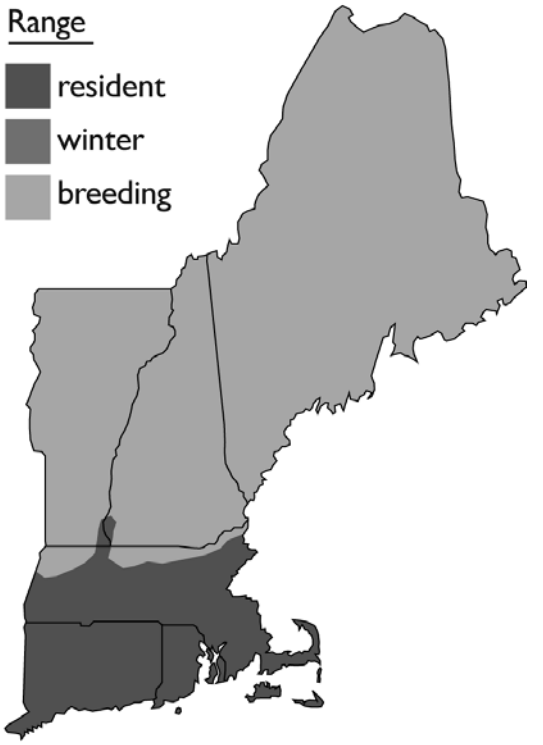
Northern Saw-whet Owl (NSWO)

Common Nighthawk (CONI)

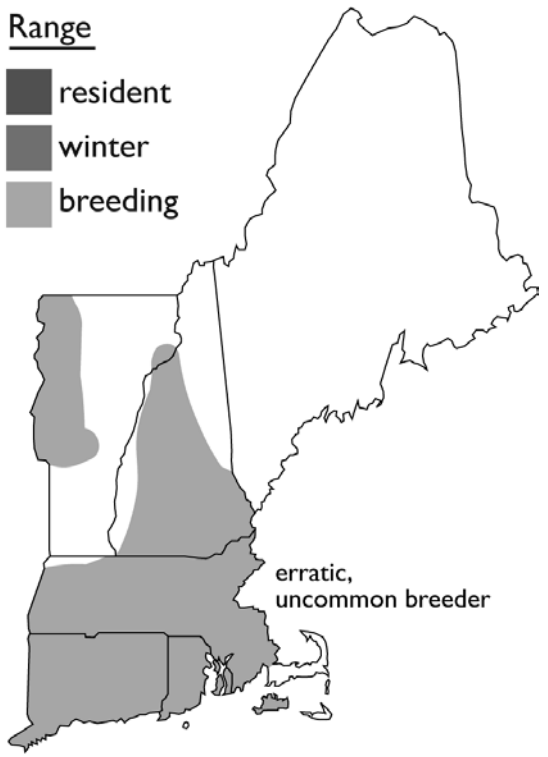
Whip-poor-will (WPWI)

Chimney Swift (CHSW)

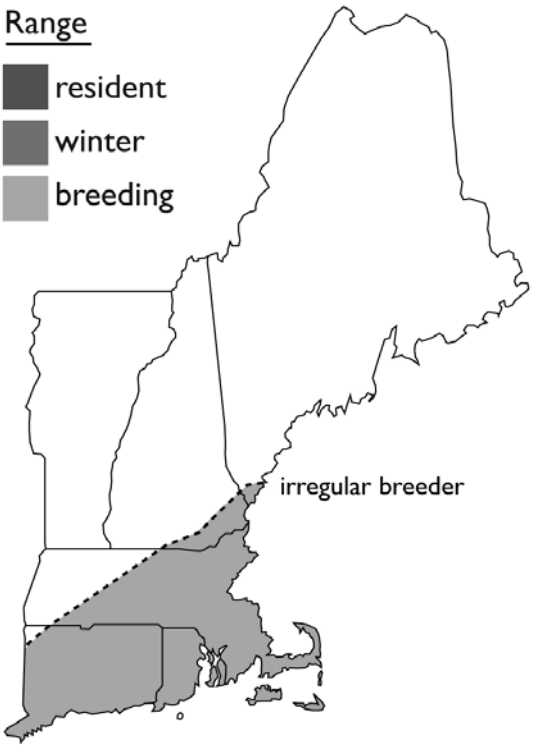
Ruby-throated Hummingbird (RTHU)



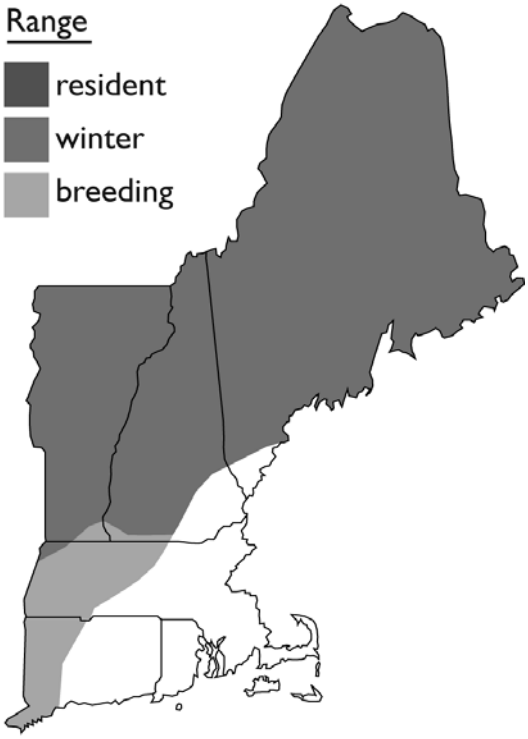
Belted Kingfisher (BEKI)



Red-headed Woodpecker (RHWO)

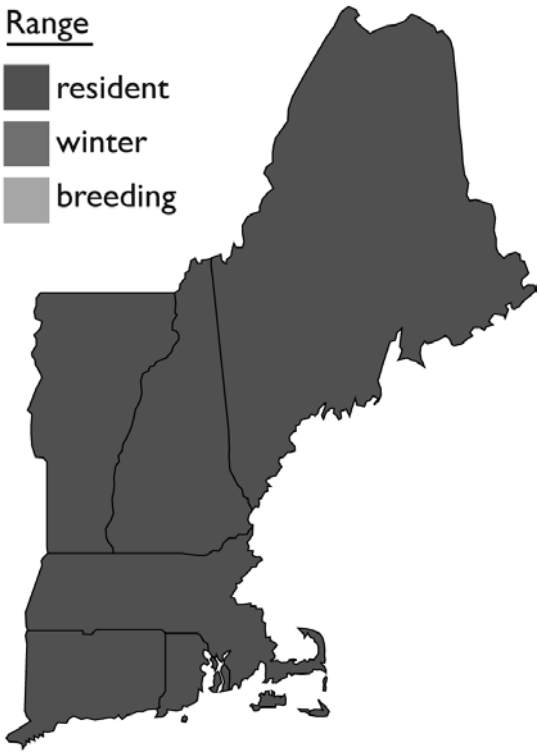


Red-bellied Woodpecker (RBWO)

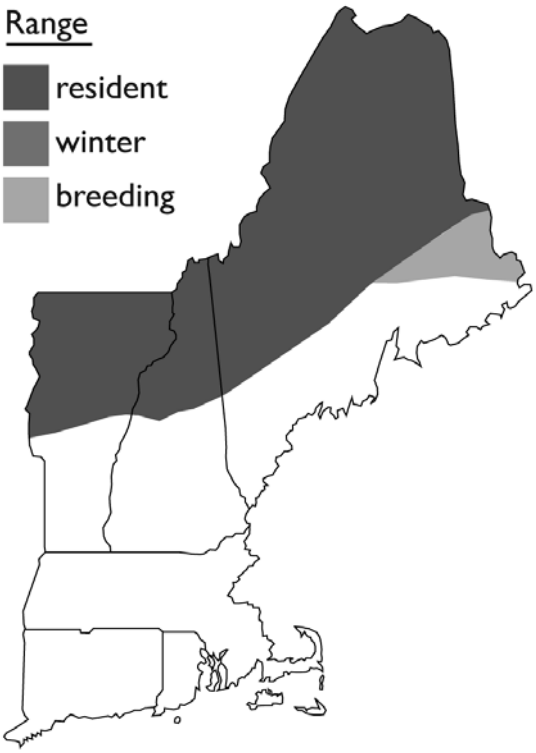


Yellow-bellied Sapsucker (YBSA)

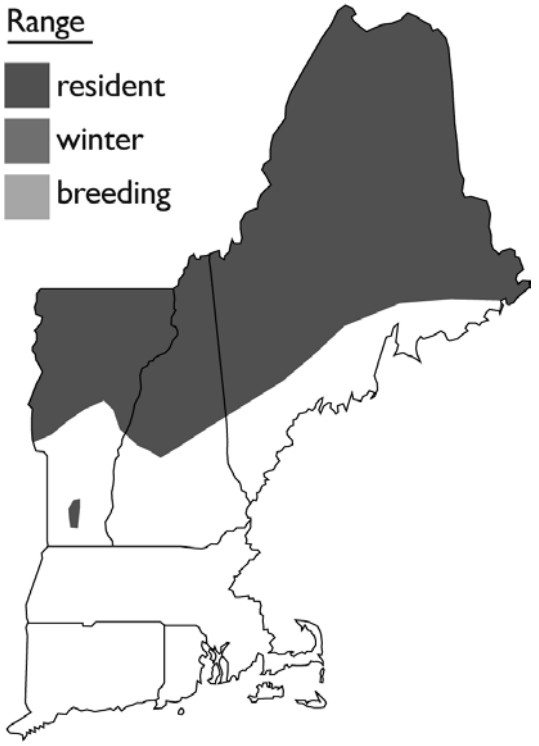
Downy Woodpecker (DOWO)



Hairy Woodpecker (HAWO)



Three-toed Woodpecker (TTWO)



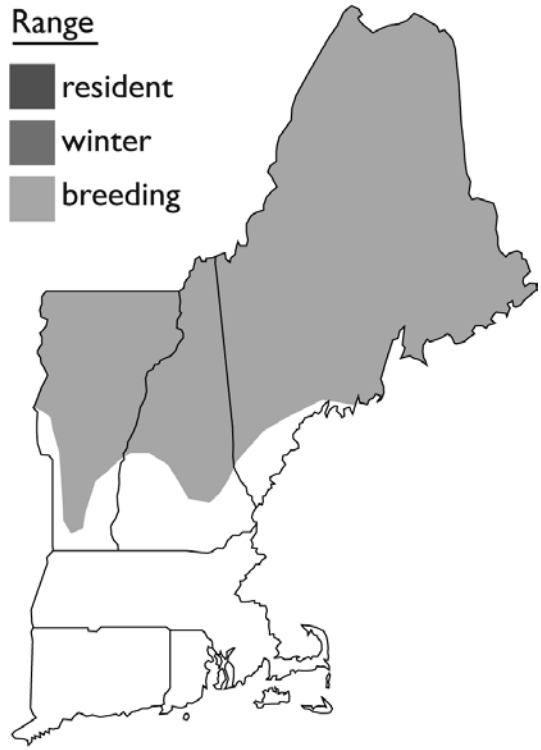
Black-backed Woodpecker (BBWO)

Northern Flicker (NOFL)

Pileated Woodpecker (PIWO)

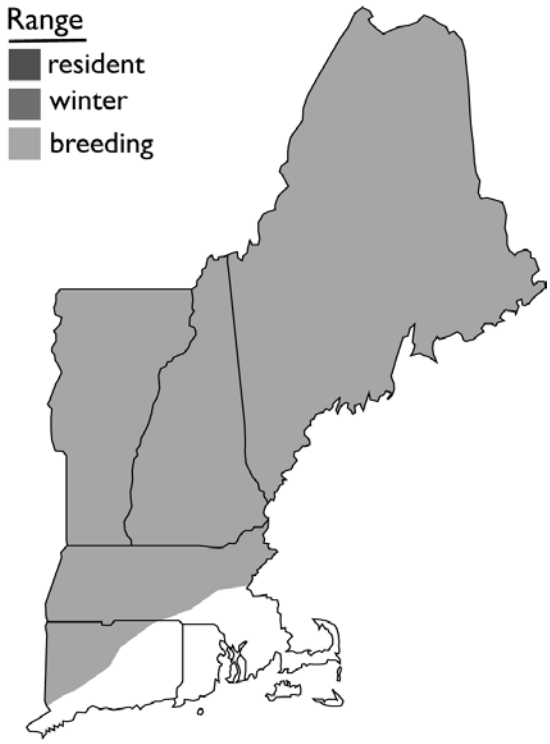
Olive-sided Flycatcher (OSFL)

Eastern Wood-pewee (EAWP)

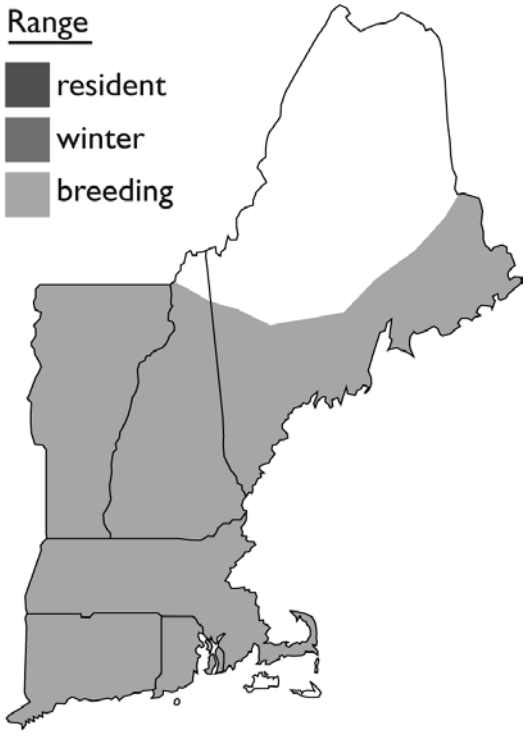


Yellow-bellied Flycatcher (YBFL)

Acadian Flycatcher (ACFL)



Alder Flycatcher (ALFL)



Willow Flycatcher (WIFL)

Least Flycatcher (LEFL)

Eastern Phoebe (EAPH)

Great Crested Flycatcher (GCFL)

Eastern Kingbird (EAKI)

Horned Lark (HOLA)

Purple Martin (PUMA)

Tree Swallow (TRES)

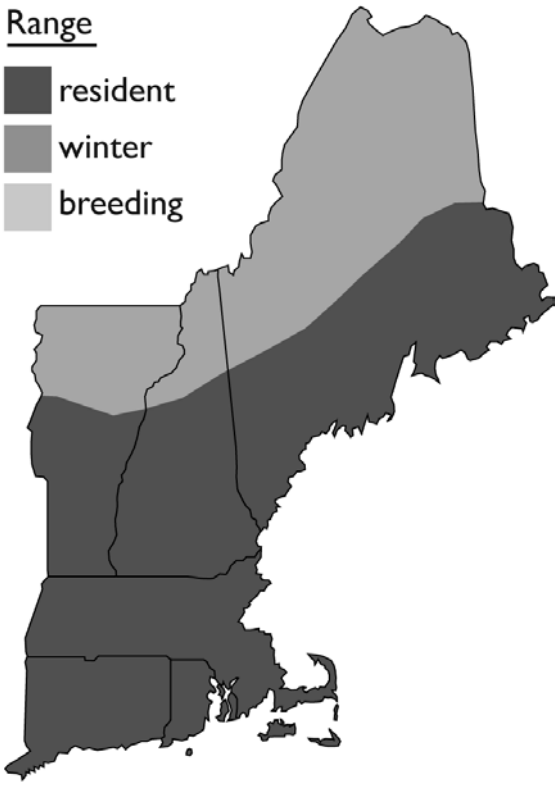
Northern Rough-winged Swallow (NRWS)

Bank Swallow (BANS)

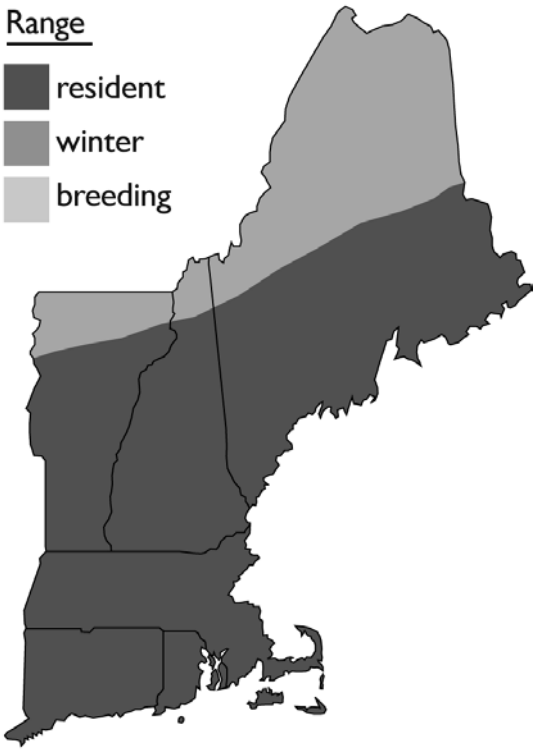
Cliff Swallow (CLSW)

Barn Swallow (BARS)

Gray Jay (GRAJ)

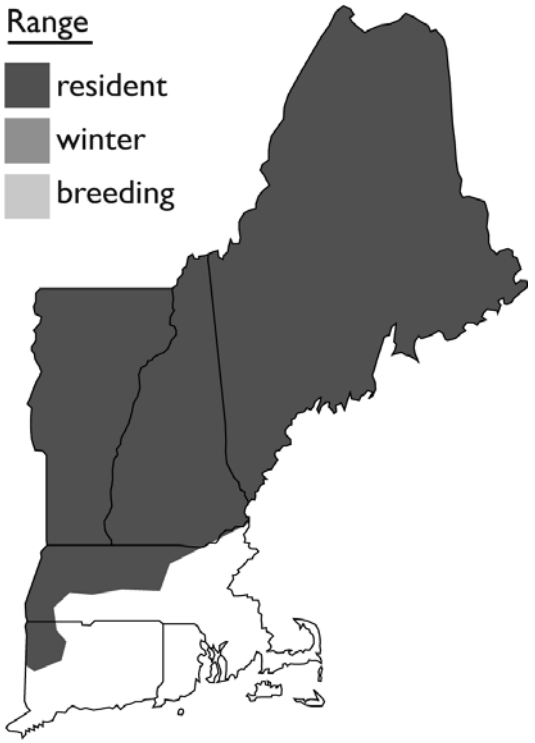


Blue Jay



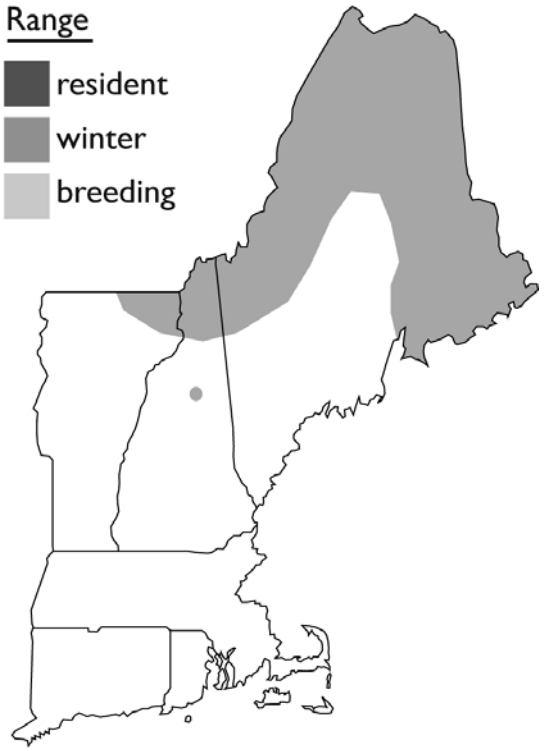
American Crow (AMCR)

Fish Crow (FICR)

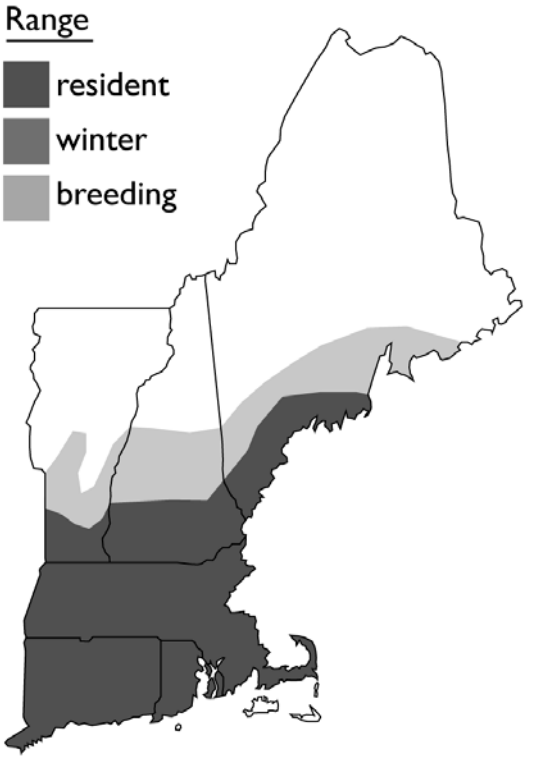


Common Raven (CORA)

Black-capped Chickadee (BCCH)



Boreal Chickadee (BOCH)



Tufted Titmouse (ETTI)

Red-breasted Nuthatch (RBNU)

White-breasted Nuthatch (WBNU)

Brown Creeper (BRCR)

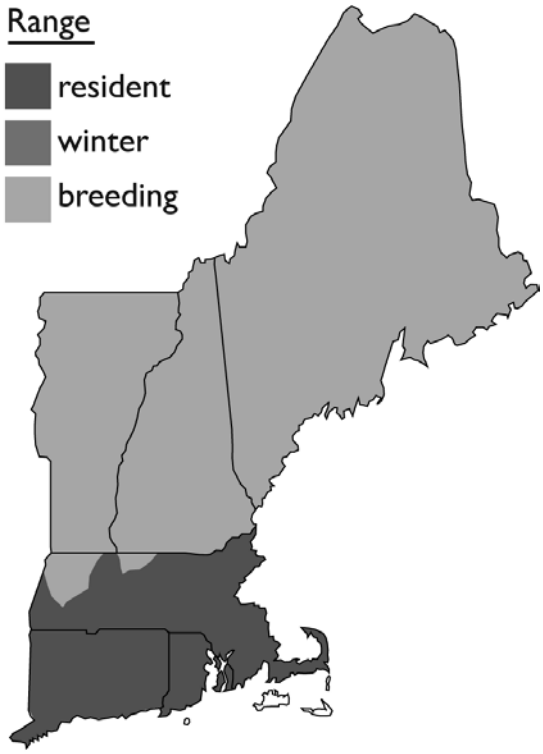
Carolina Wren (CARW)

House Wren (HOWR)

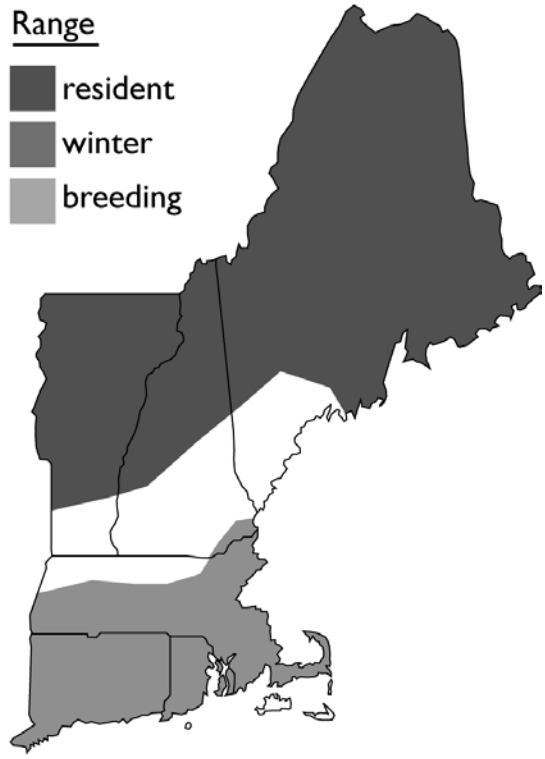
Winter Wren (WIWR)

Sedge Wren (SEWR)

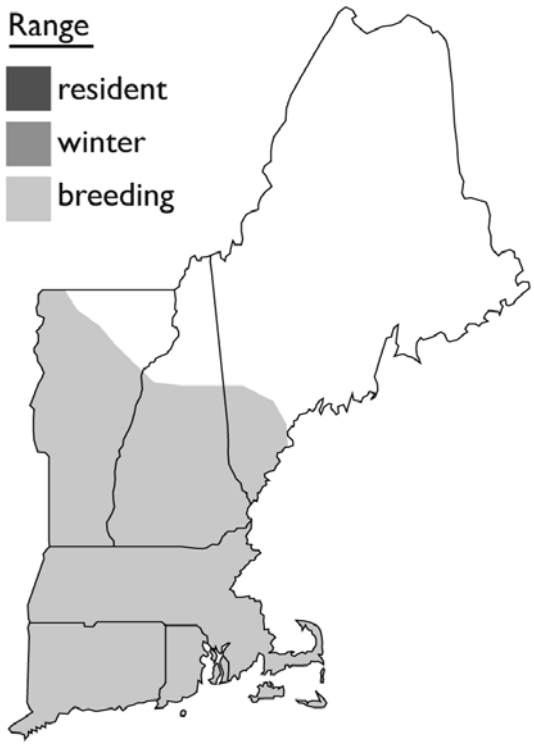
Marsh Wren (MAWR)



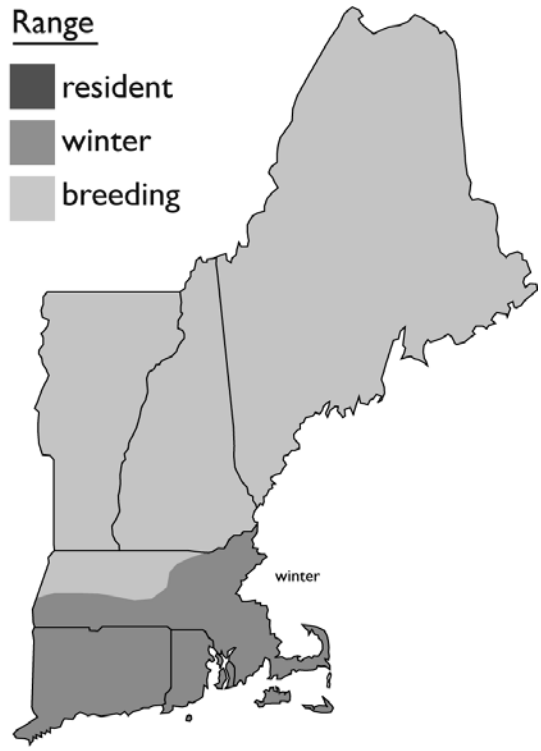
Golden-crowned Kinglet (GCKI)



Ruby-crowned Kinglet (RCKI)

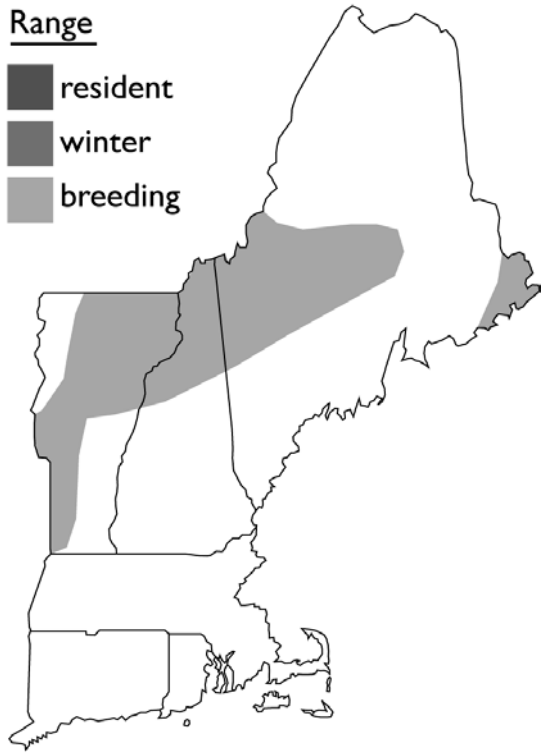


Blue-gray Gnatcatcher (BGGN)

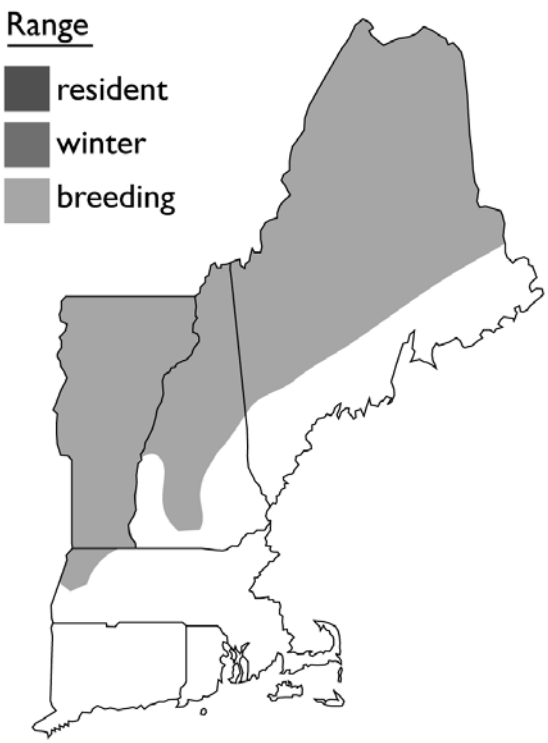


Eastern Bluebird (EABL)

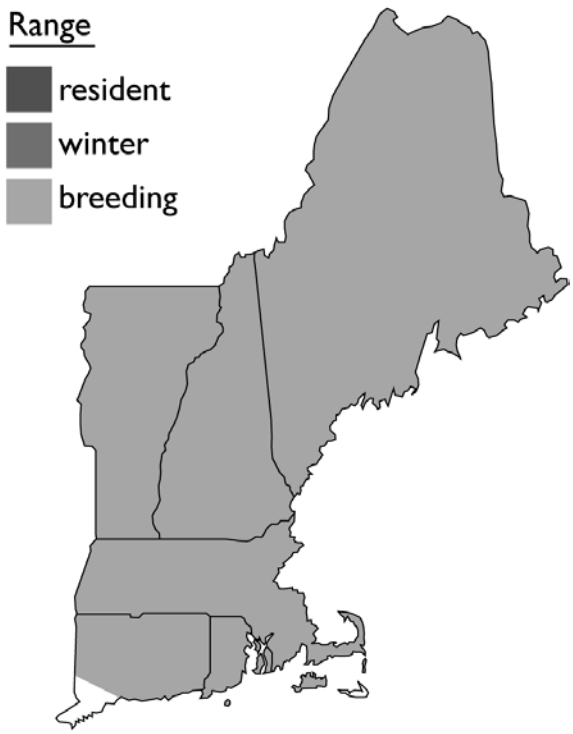
Veery (VEER)



Bicknell's Thrush (BITH)

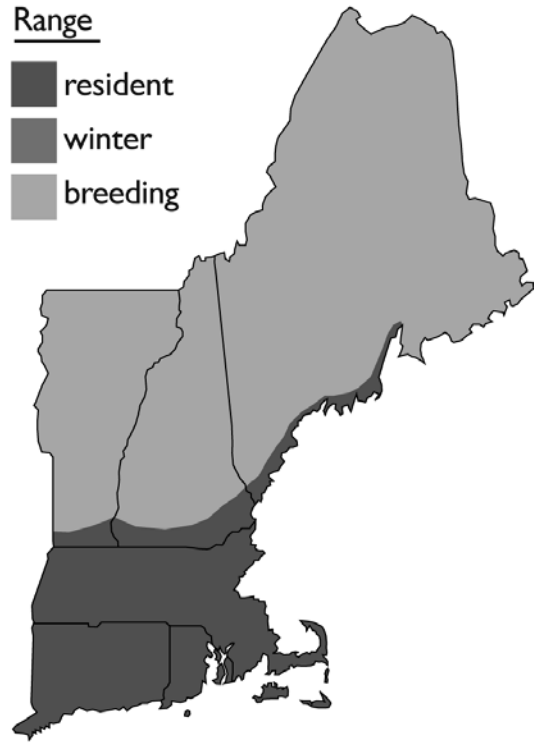


Swainson's Thrush (SWTH)



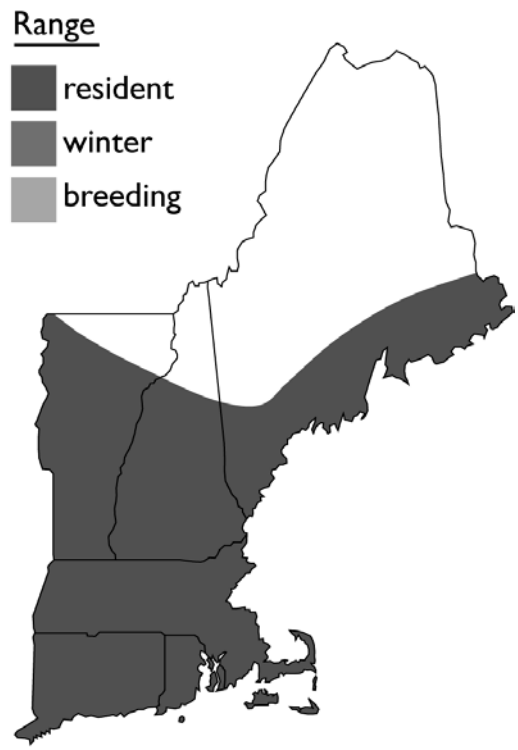
Hermit Thrush (HETH)

Wood Thrush (WOTH)



American Robin (AMRO)

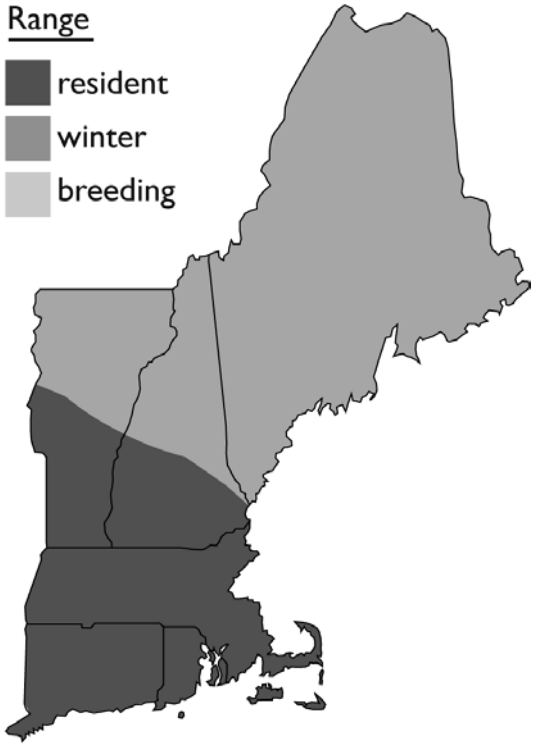
Gray Catbird (GRCA)



Northern Mockingbird (NOMO)

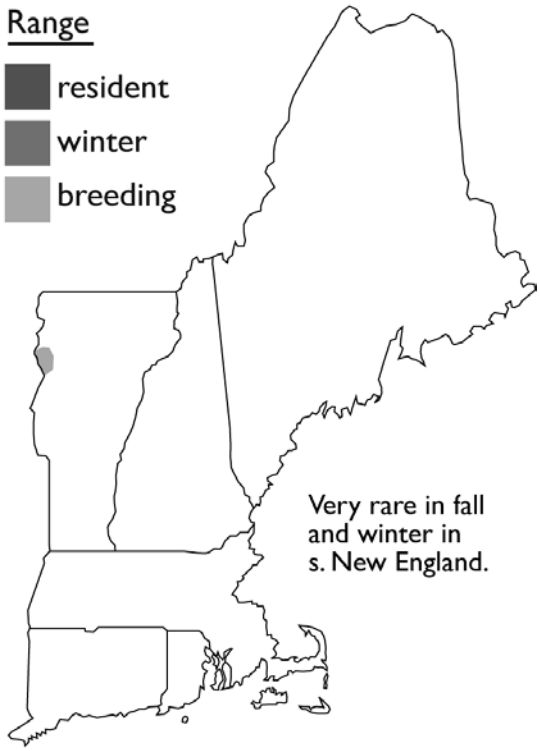
Brown Thrasher (BRTH)

Bohemian Waxwing (BOWA)

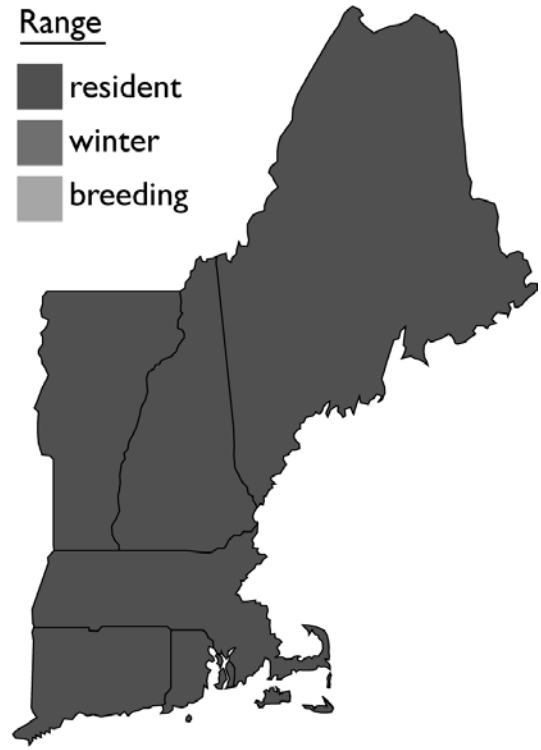


Cedar Waxwing (CEDW)

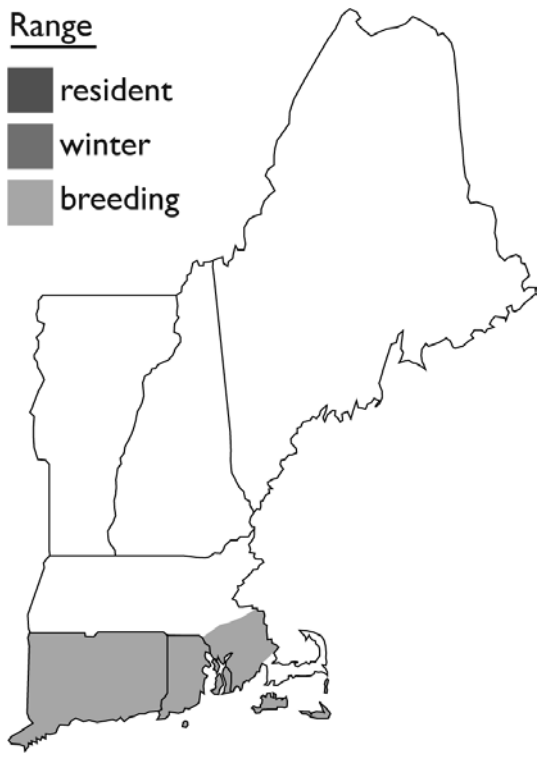
Northern Shrike (NSHR)



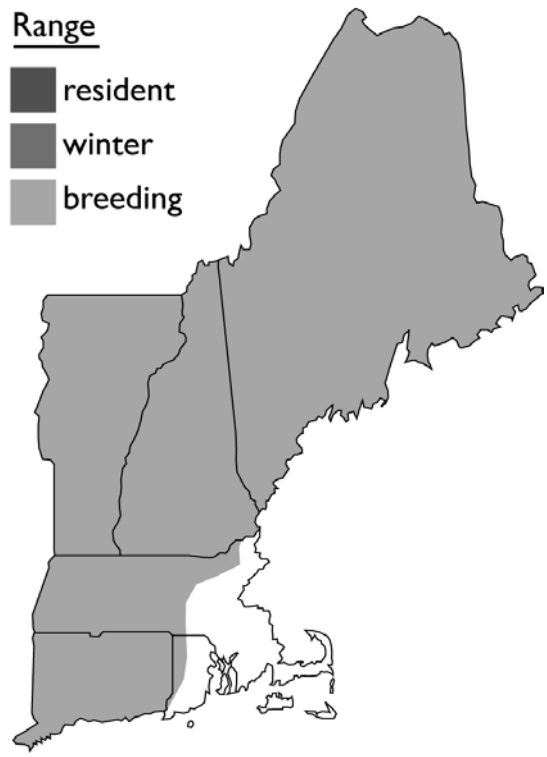
Loggerhead Shrike (LOSH)



European Starling (EUST)



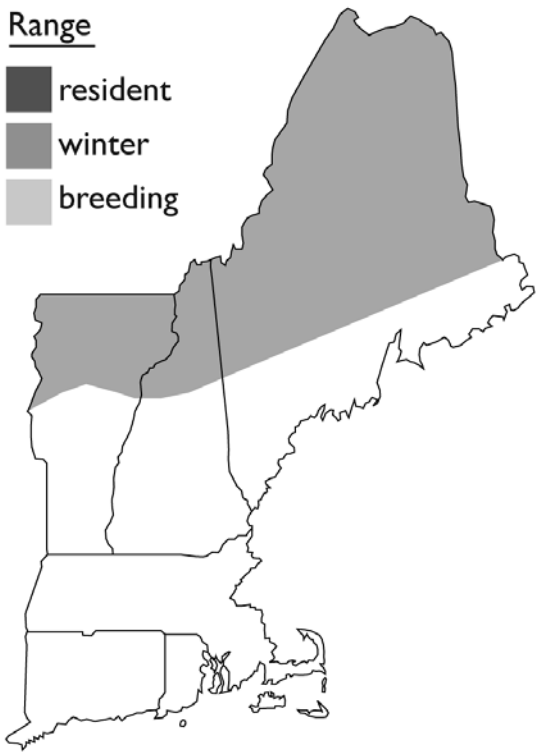
White-eyed Vireo (WEVI)



Blue-Headed Vireo (BHVI)

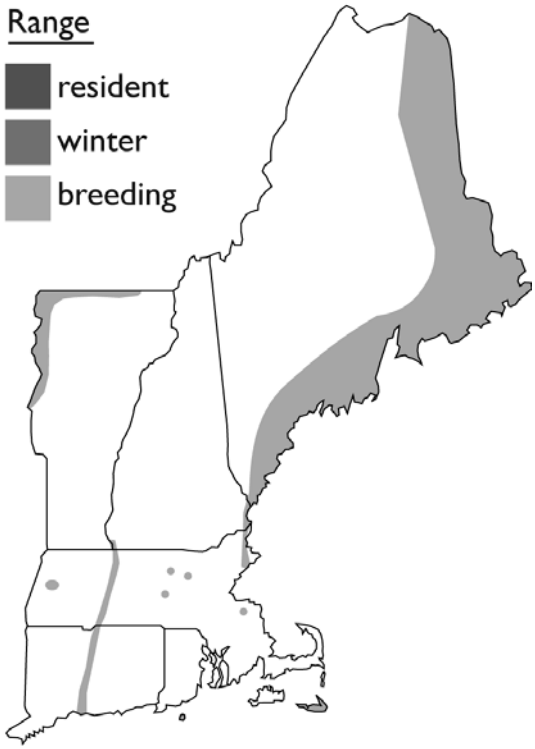
Yellow-throated Vireo (YTVI)

Warbling Vireo (WAVI)

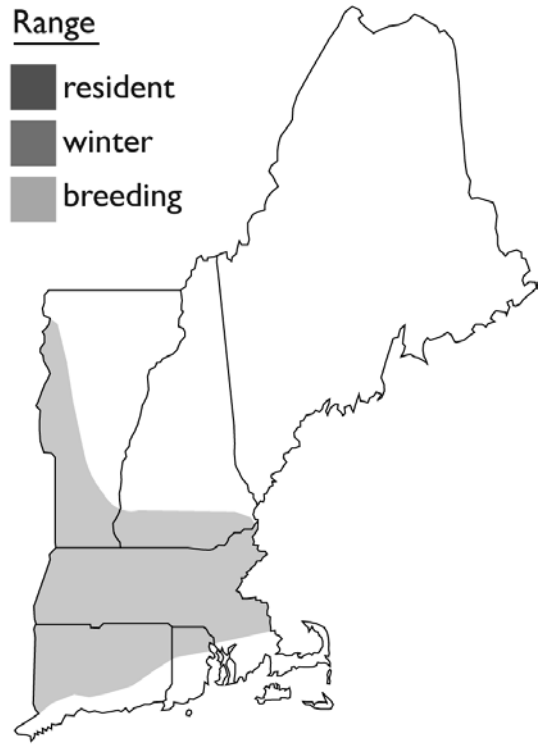


Philadelphia Vireo (PHVI)

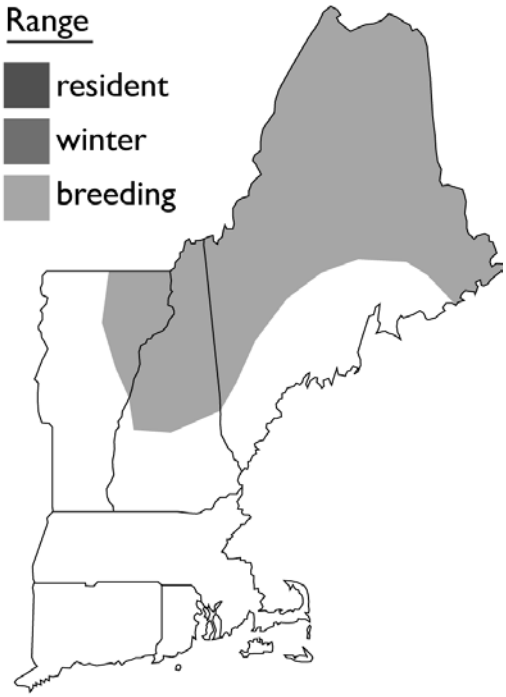
Red-eyed Vireo (REVI)



Blue-winged Warbler (BWWA)

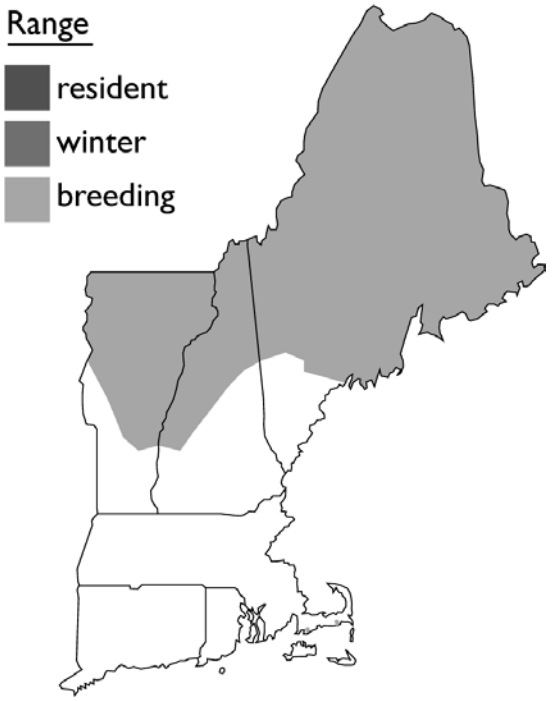


Golden-winged Warbler (GWWA)



Tennessee Warbler (TEWA)

Nashville Warbler (NAWA)



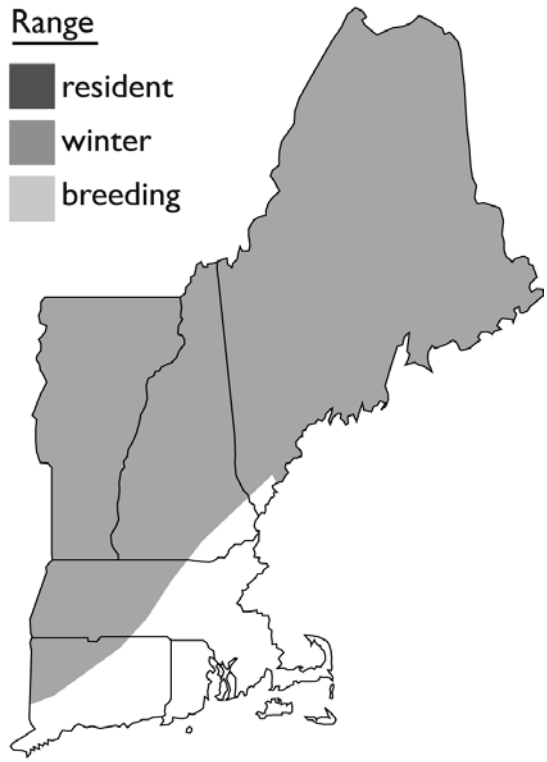
Northern Parula (NOPA)

Yellow-rumped Warbler (YRWA)

Chestnut-sided Warbler (CSWA)

Magnolia Warbler (MAWA)

Cape May Warbler (CMWA)

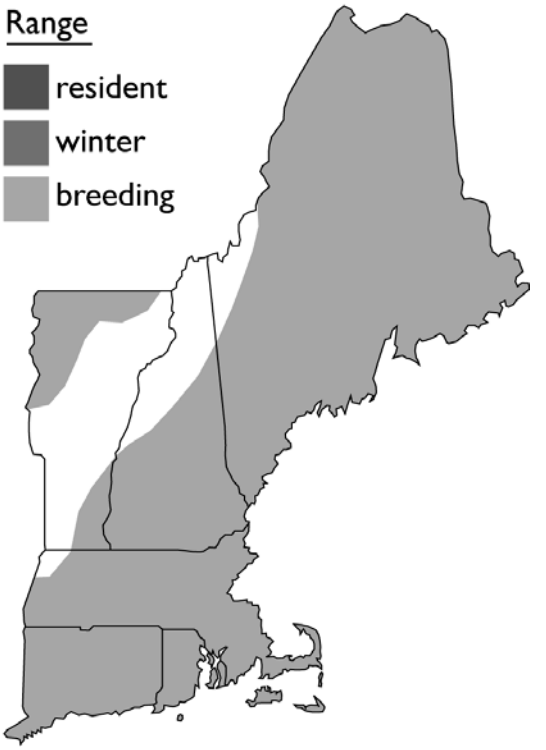


Black-throated Blue Warbler (BTBW)

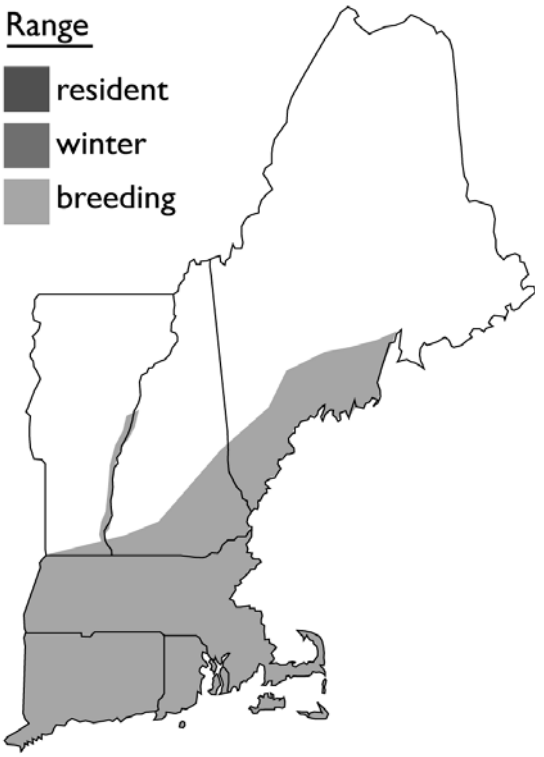
Yellow-rumped Warbler (YRWA)

Black-throated Green Warbler (BTNW)

Blackburnian Warbler (BLBW)

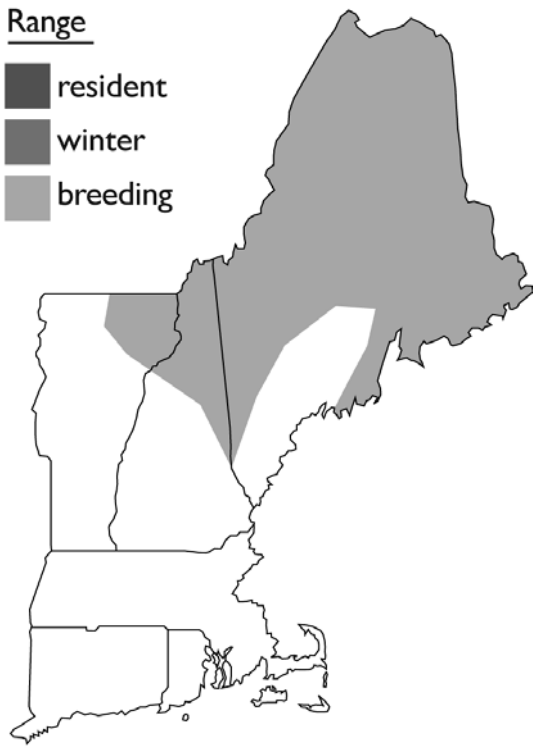


Pine Warbler (PIWA)

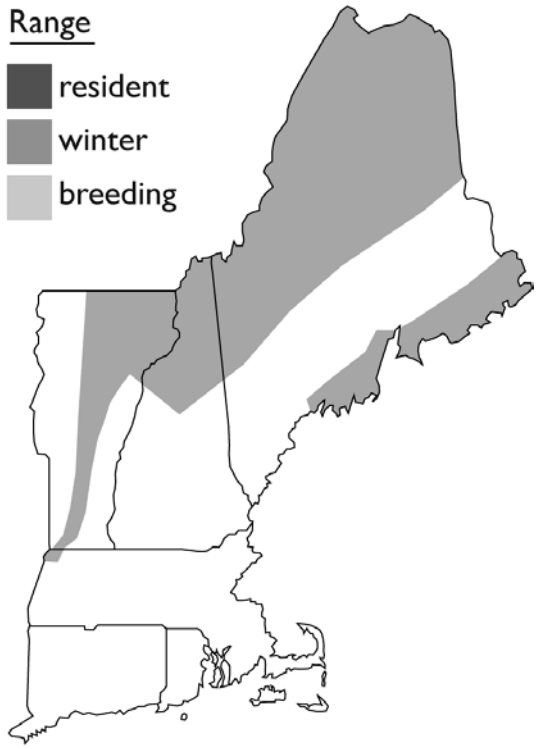


Prairie Warbler (PRAW)

Palm Warbler (PAWA)



Bay-breasted Warbler (BBWA)

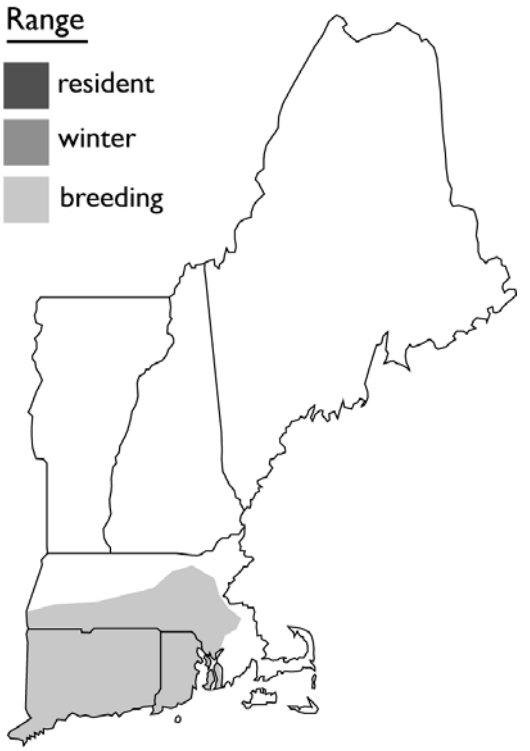


Blackpoll Warbler (BLPW)

Cerulean Warbler (CERW)

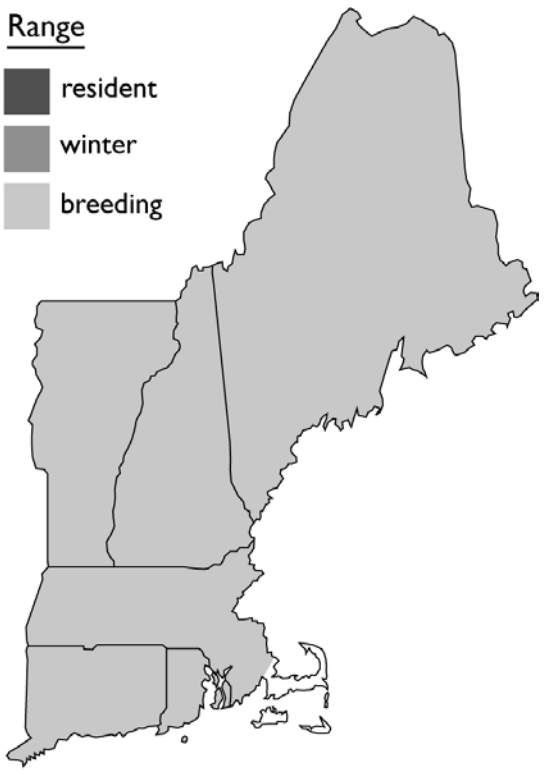
Black-and-white Warbler (BAWW)

American Redstart (AMRE)

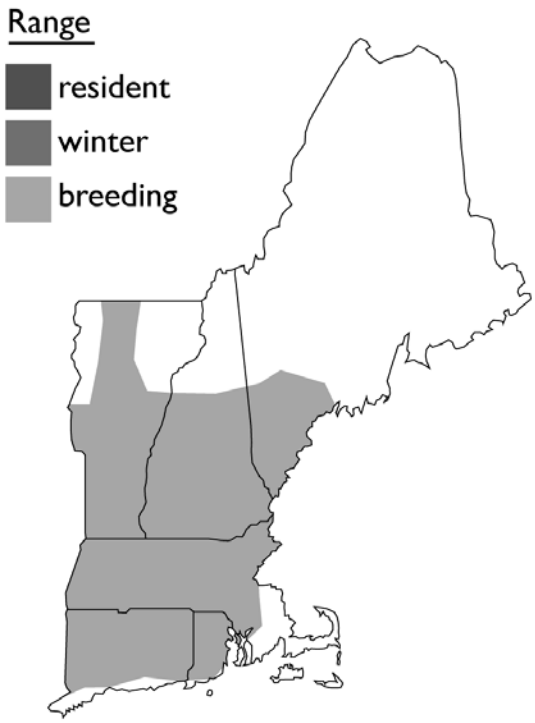


Worm-eating Warbler (YWAR)

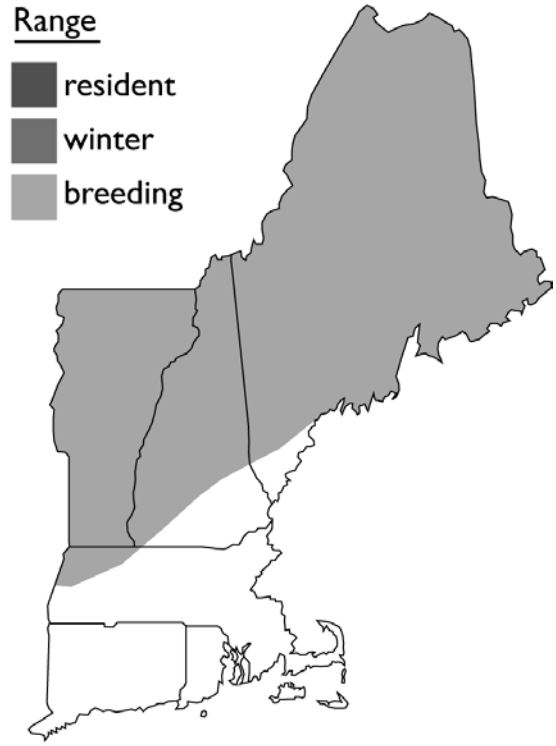
Ovenbird (OVEN)



Northern Waterthrush (NOWA)



Louisiana Waterthrush (LOWA)



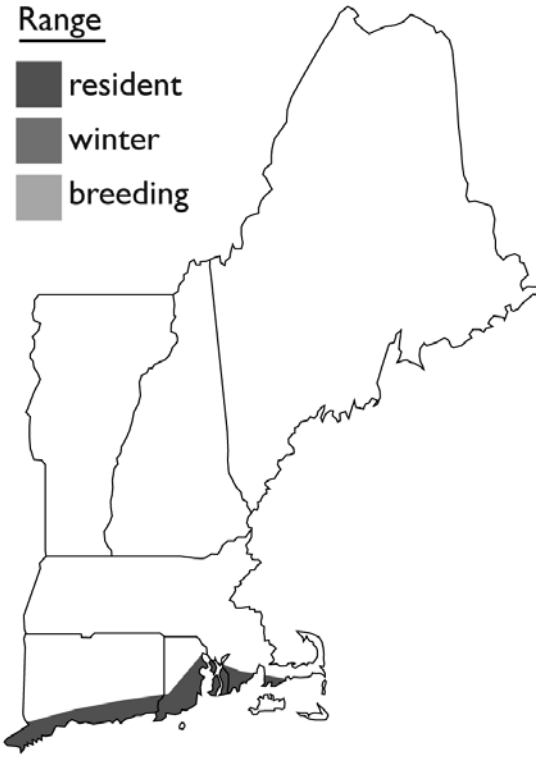
Mourning Warbler (MOWA)

Common Yellowthroat (COYE)

Hooded Warbler (HOWA)

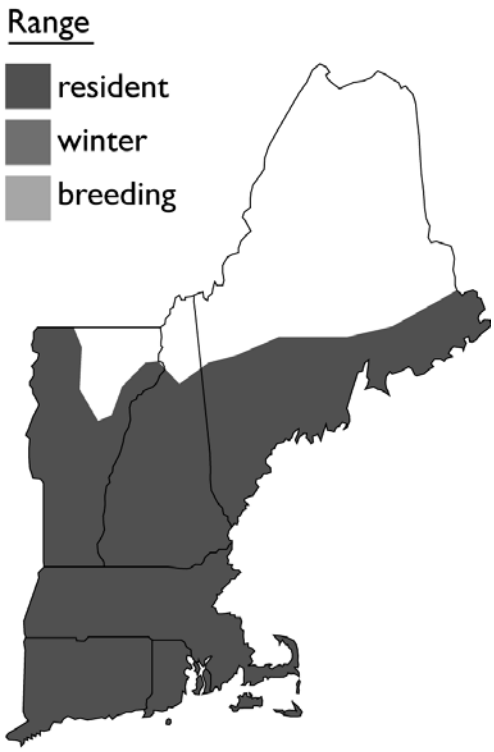
Wilson's Warbler (WIWA)

Canada Warbler (CAWA)



Yellow-breasted Chat (YBCH)

Scarlet Tanager (SCTA)



Northern Cardinal (NOCA)

Rose-breasted Grosbeak (RBGR)

Indigo Bunting (INBU)

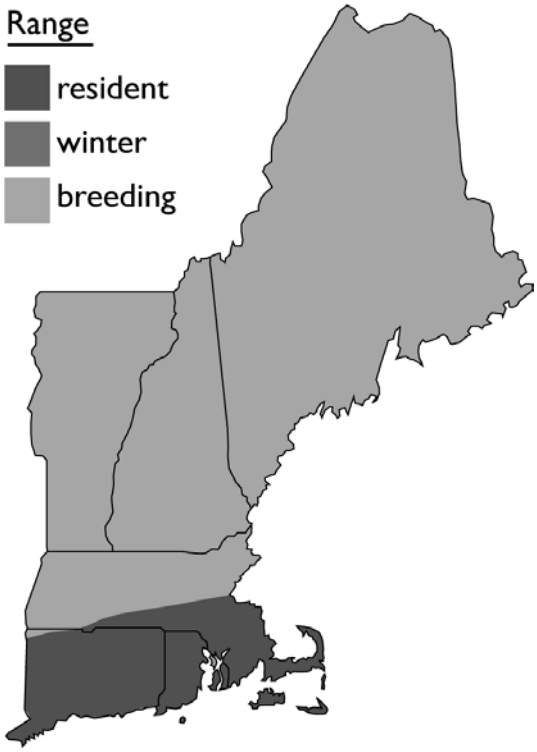
Eastern Towhee (ETOW)

American Tree Sparrow (ATSP)

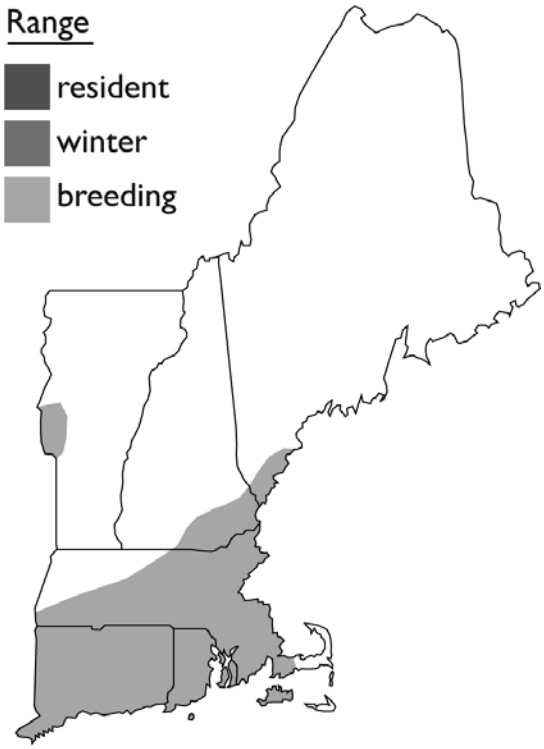
Chipping Sparrow (CHSP)

Field Sparrow (FISP)

Vesper Sparrow (VESP)

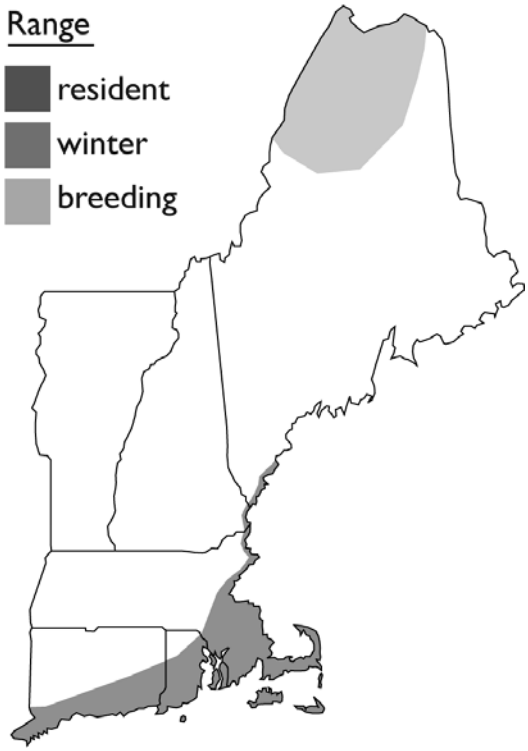


Savannah Sparrow (SAVS)

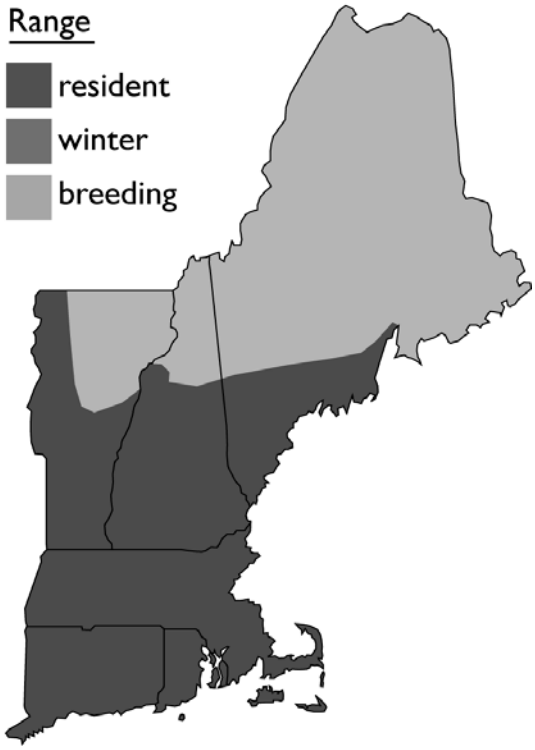


Grasshopper Sparrow (GRSP)

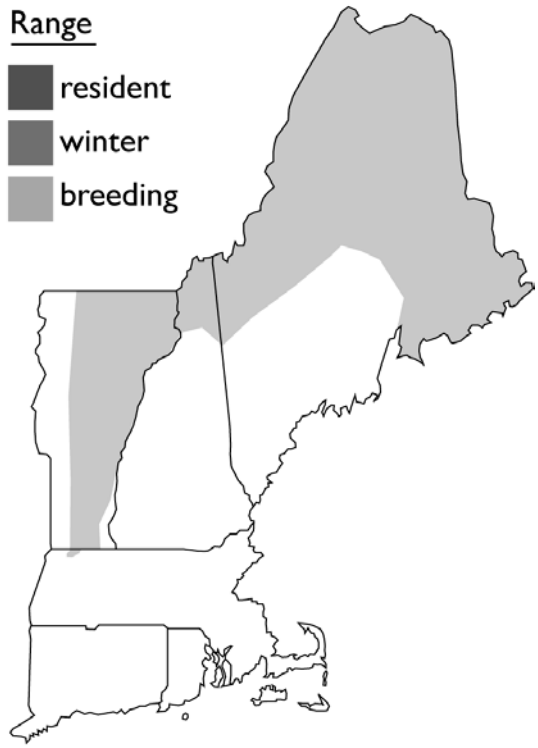
Henslow's Sparrow (HESP)



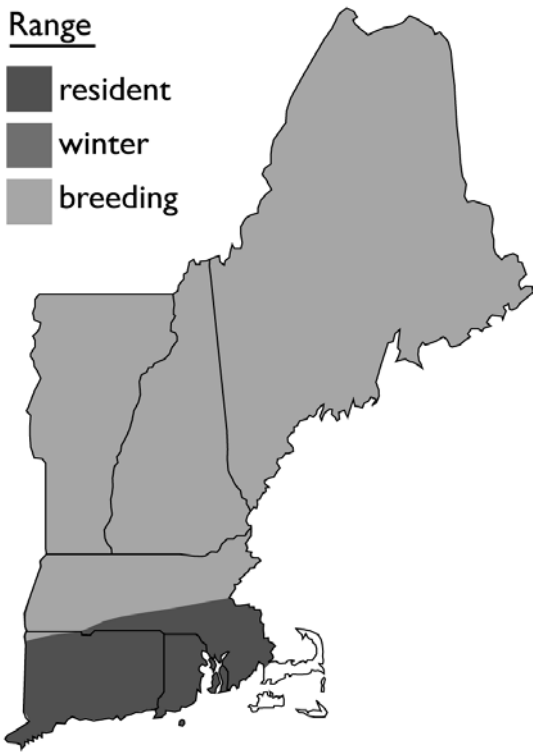
Fox Sparrow (FOSP)



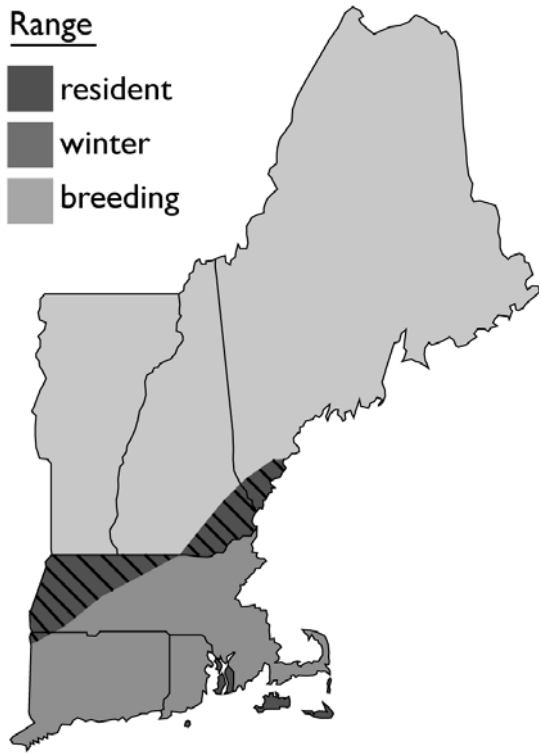
Song Sparrow (SOSP)



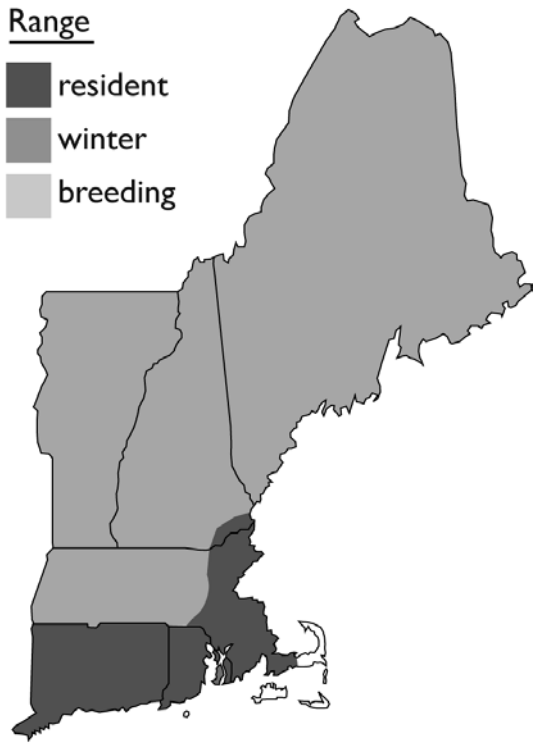
Lincoln's Sparrow (LISP)



Swamp Sparrow (SWSP)

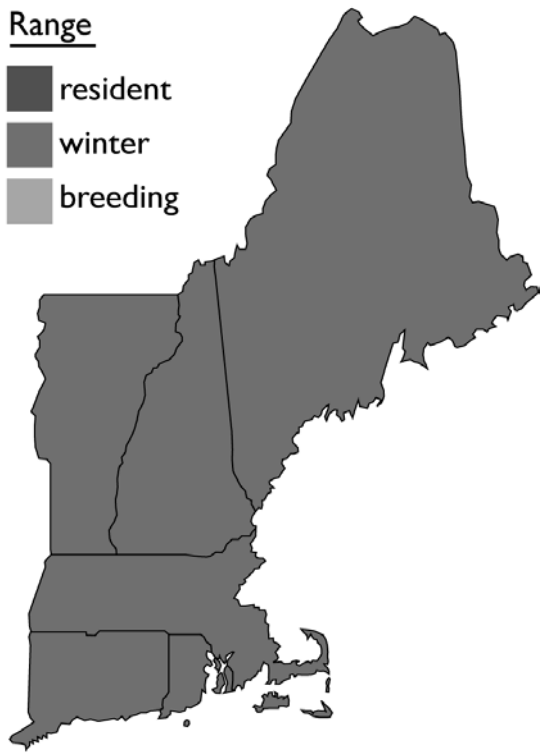


White-throated Sparrow (WTSP)



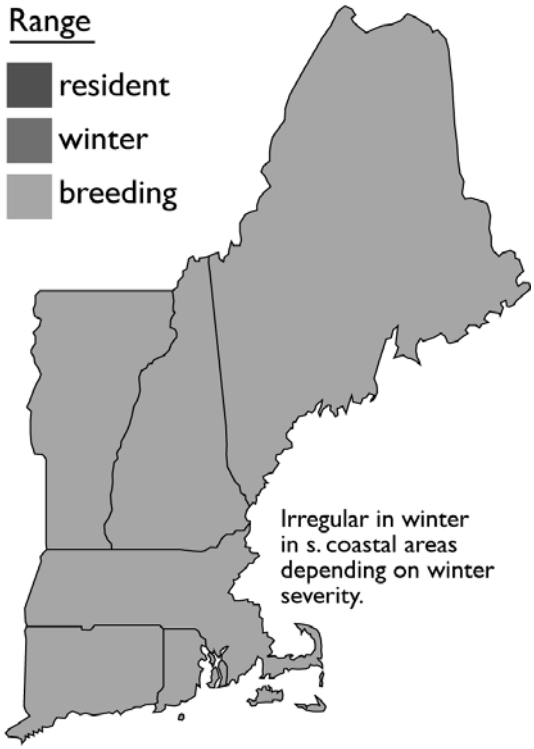
Dark-eyed Junco (UDEJ)

Lapland Longspur (LALO)



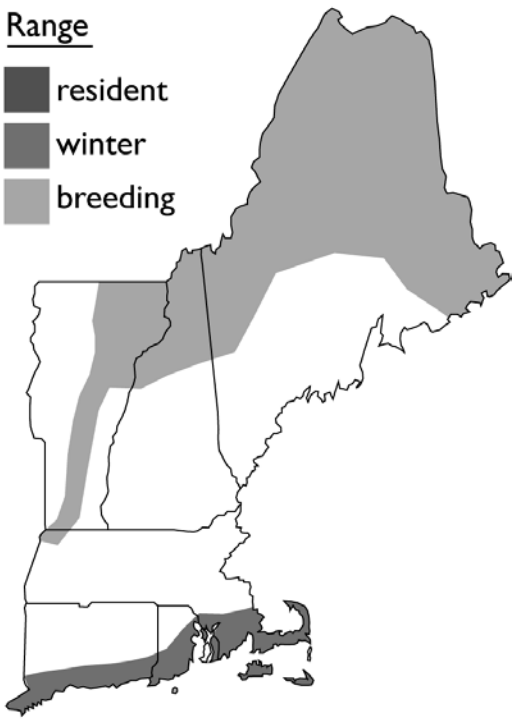
Snow Bunting (SNBU)

Bobolink (BOBO)

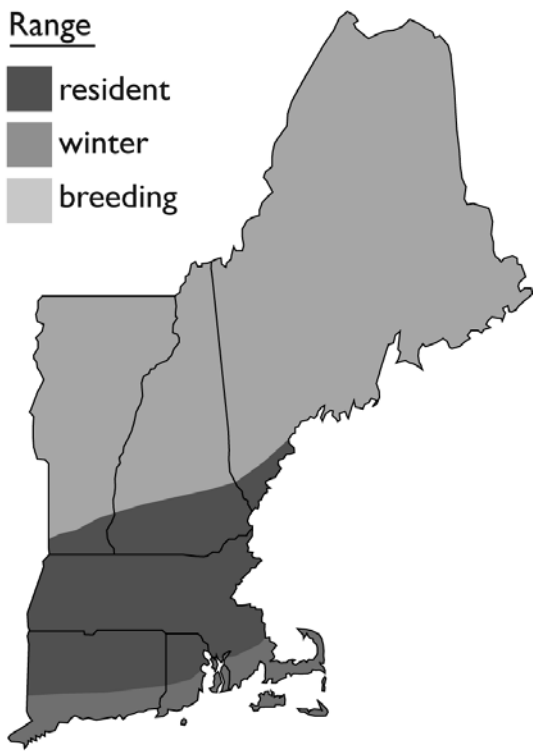


Red-winged Blackbird (RWBL)

Eastern Meadowlark (EAME)



Rusty Blackbird (RUBL)



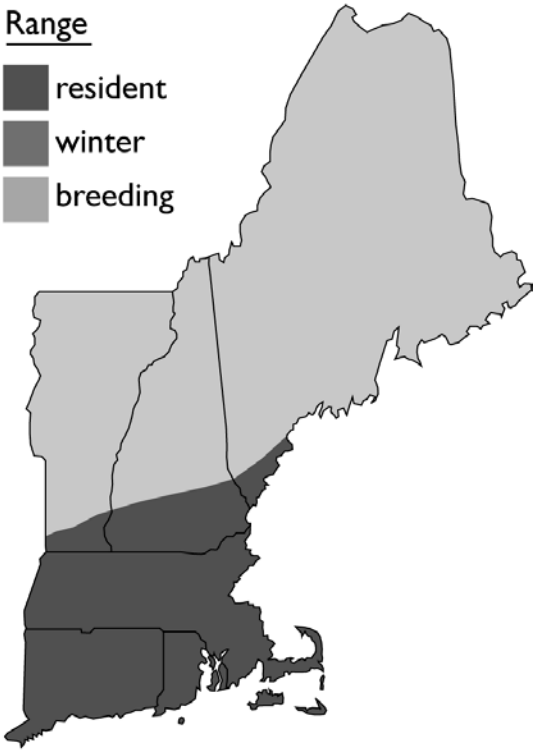
Common Grackle (COGR)

Brown-headed Cowbird (BHCO)

Orchard Oriole (OROR)

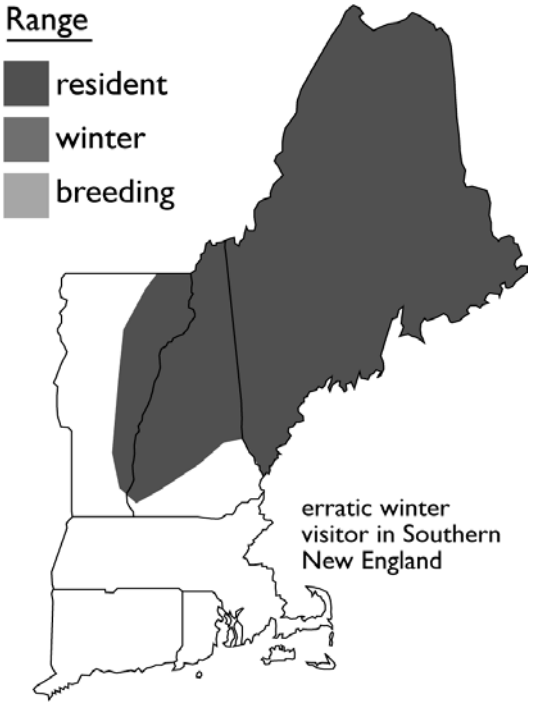
Baltimore Oriole (BAOR)

Pine Grosbeak (PIGR)

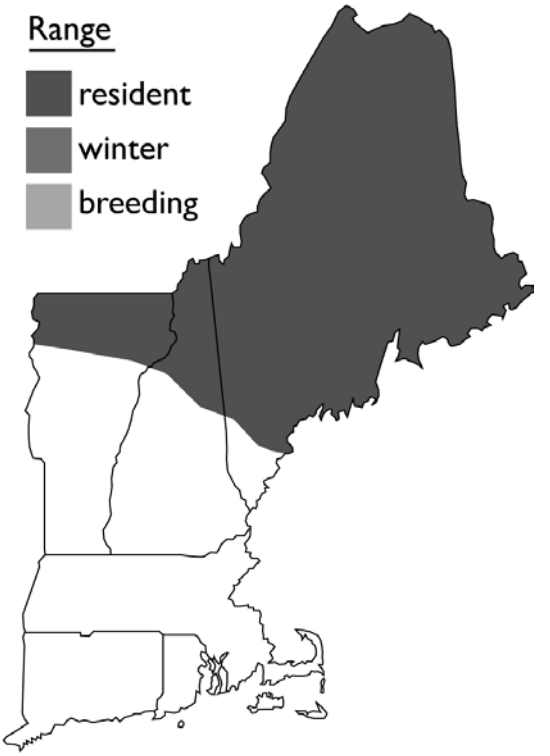


Purple Finch (PUFI)

House Finch (HOFI)



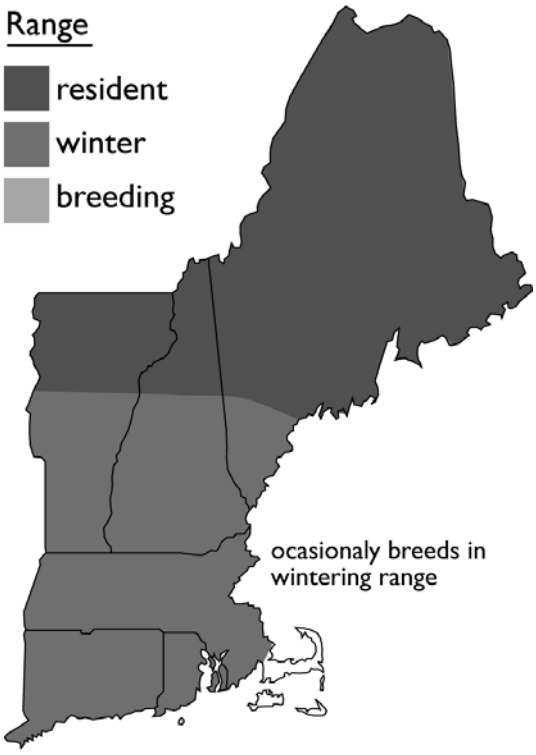
Red Crossbill (RECR)



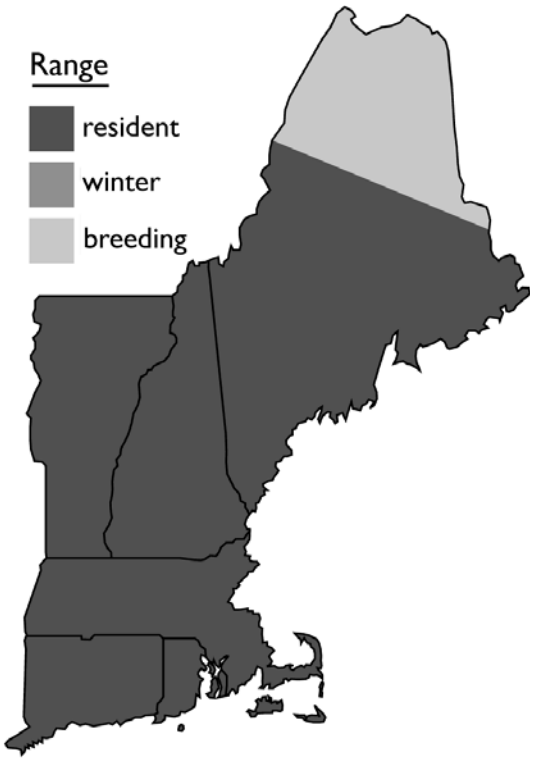
White-winged Crossbill (WWCR)

Common Redpoll (CORE)

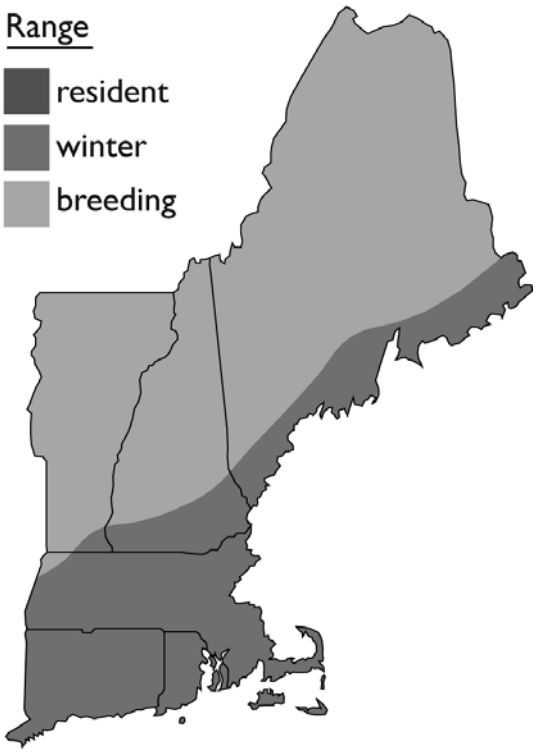
Hoary Redpoll (HORE)



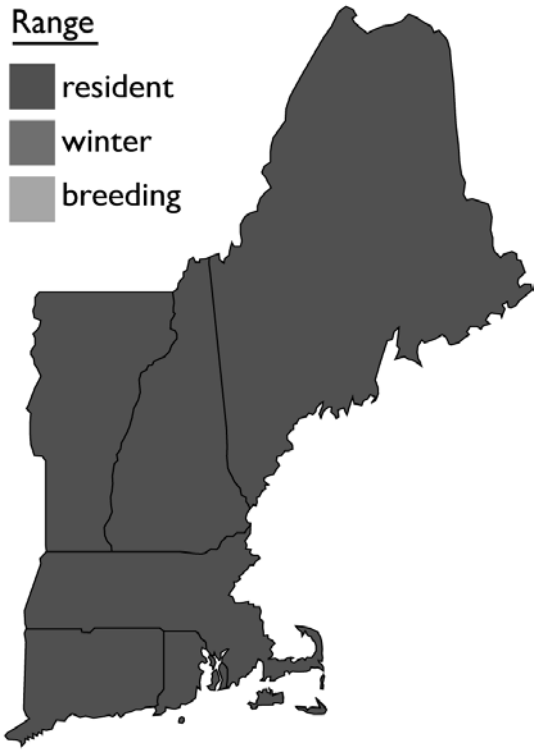
Pine Siskin (PISI)



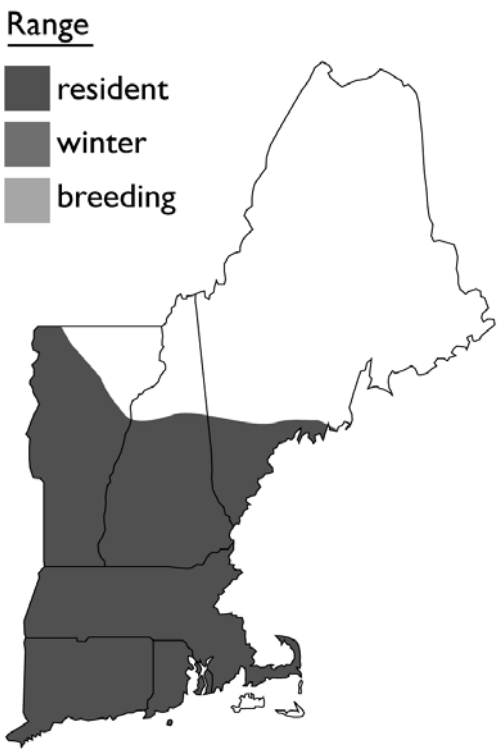
American Goldfinch (AMGO)



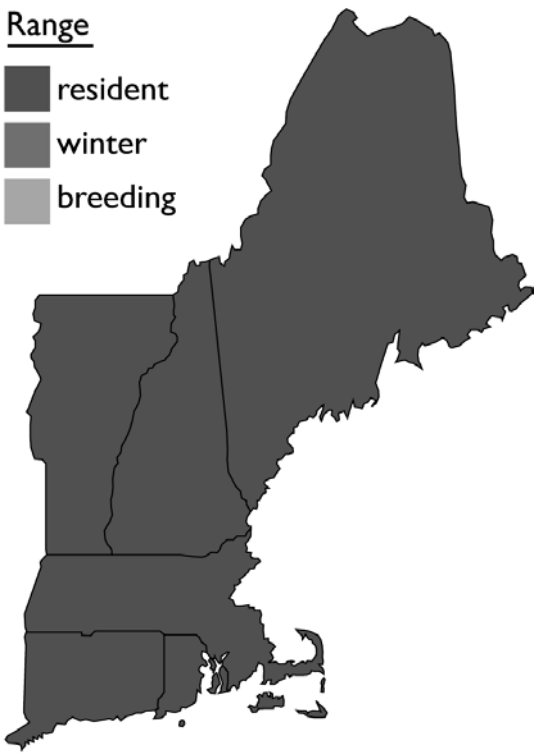
Evening Grosbeak (EVGR)



House Sparrow (HOSP)



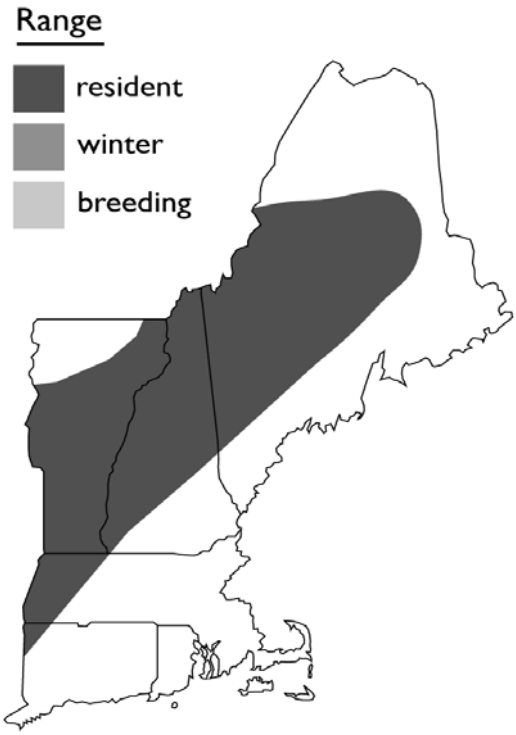
Virginia Opossum (VIOP)



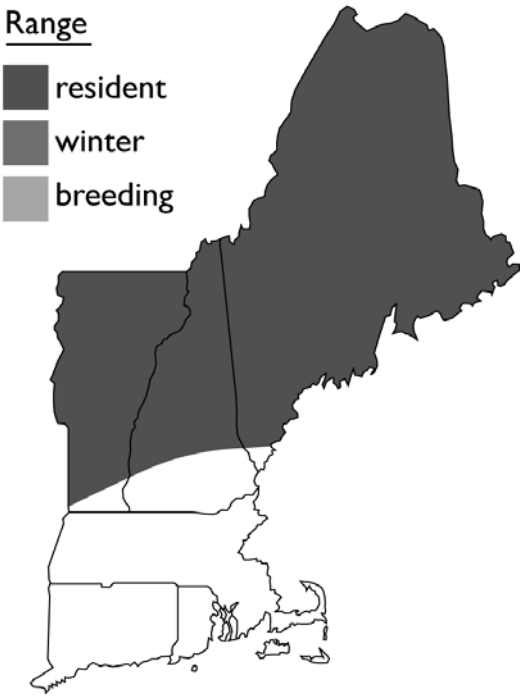
Masked Shrew (MASH)

Water Shrew (WASH)

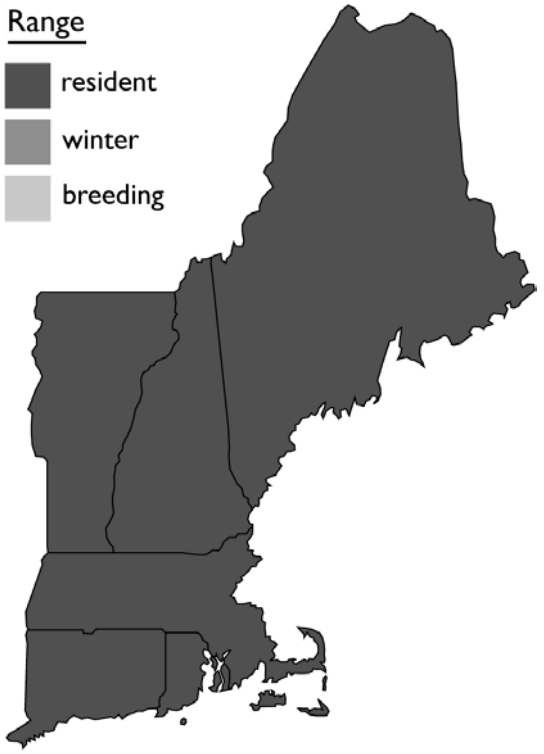
Smoky Shrew (SMSH)



Long-Tailed Shrew (LTSH)

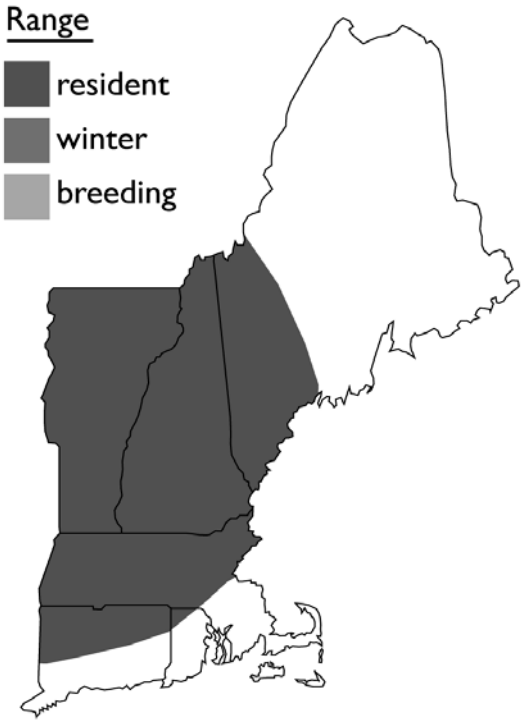


Pygmy Shrew (PYSH)



Northern Short-Tailed shrew (NSTS)

Least Shrew (LESH)



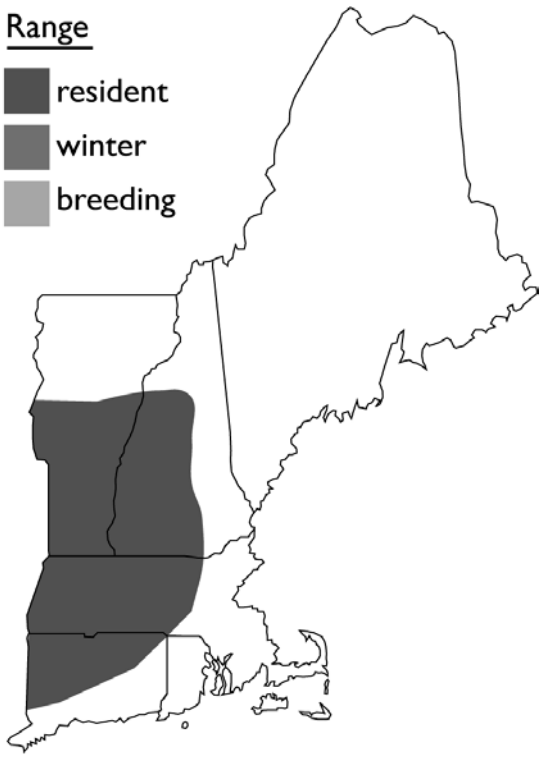
Hairy Tailed Mole (HTMO)

Eastern Mole (EAMO)

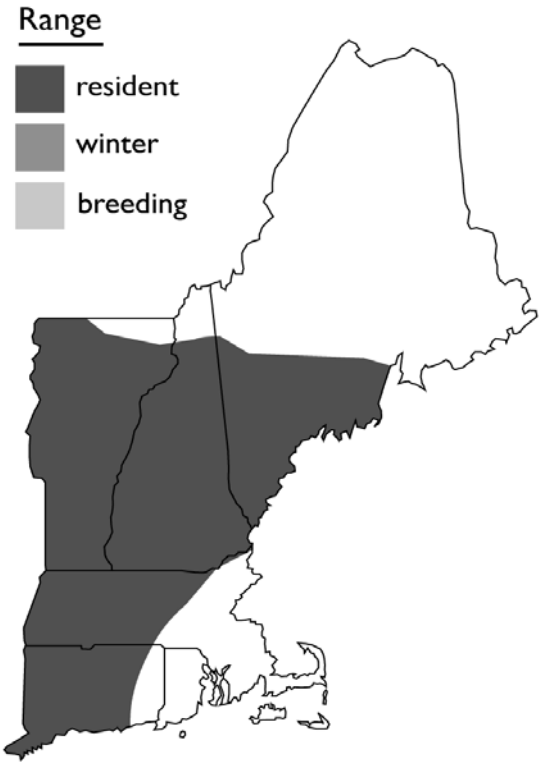
Star-Nosed Mole (SNMO)

Little Brown Myotis (LBMY)

Northern Long-eared Bat (NLEB)



Indiana Myotis (INMY)



Eastern small-footed Myotis (ESFM)

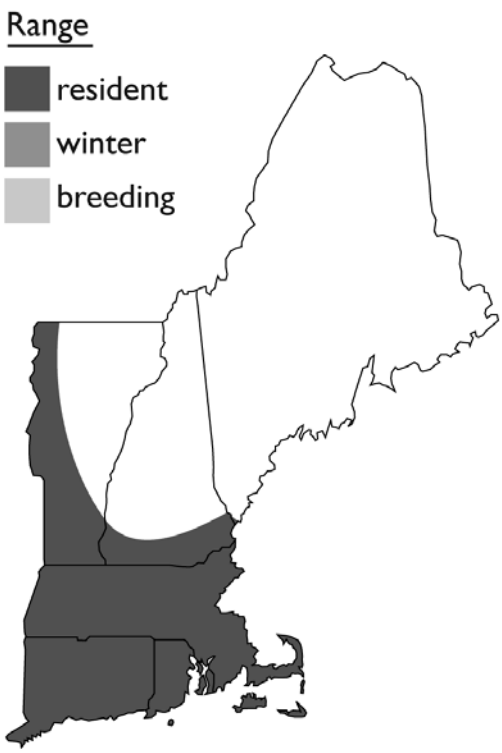
Silver Haired Bat (SHBA)

Eastern Pipistrelle (EAPI)

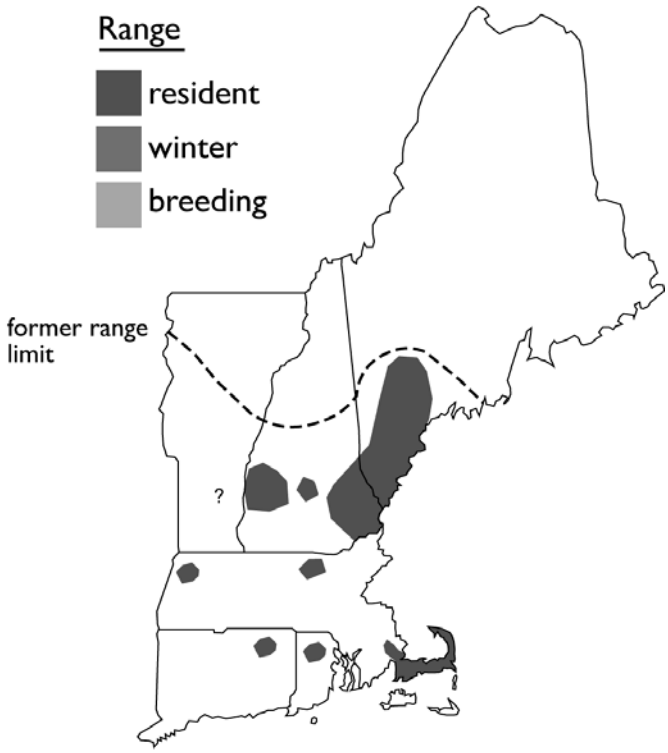
Big Brown Bat (BBBA)

Red Bat (REBA)

Hoary Bat (HOBA)

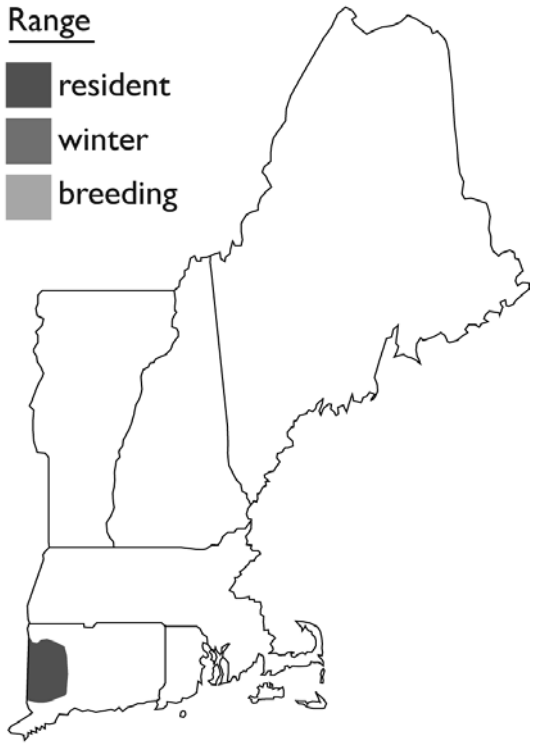


Eastern Cottontail (EACO)

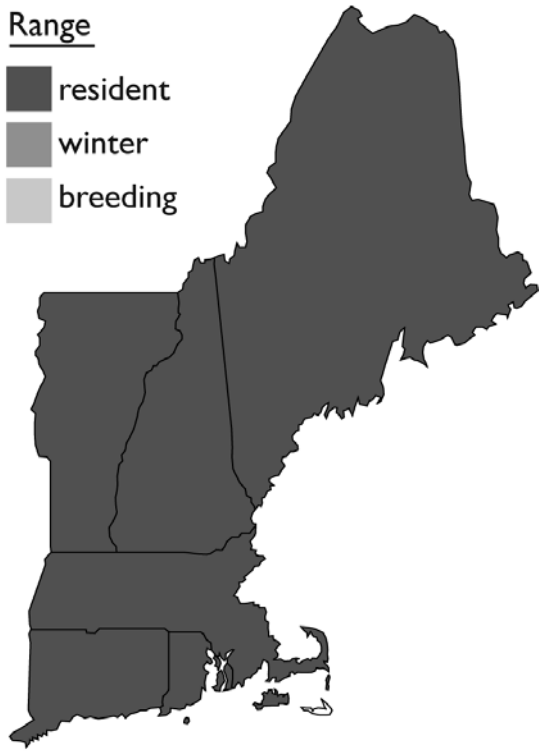


New England Cottontail (NECO)

Snowshoe Hare (SNHA)

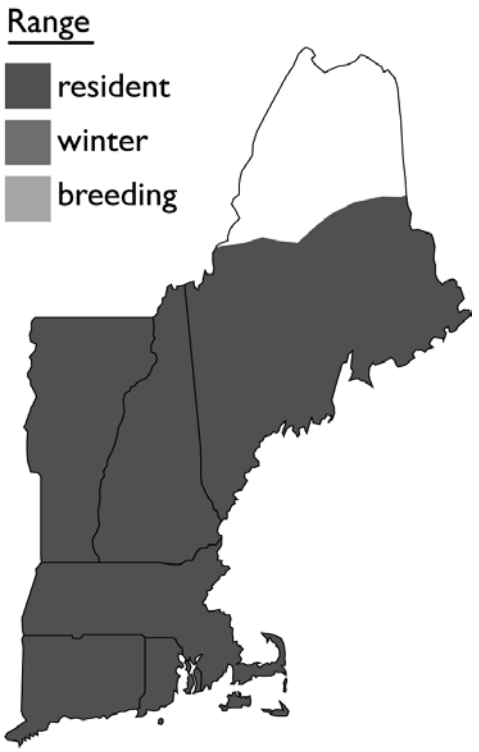


European Hare (EUHA)



Eastern Chipmunk (EACH)

Woodchuck (WOOD)



Gray Squirrel (GRSQ)

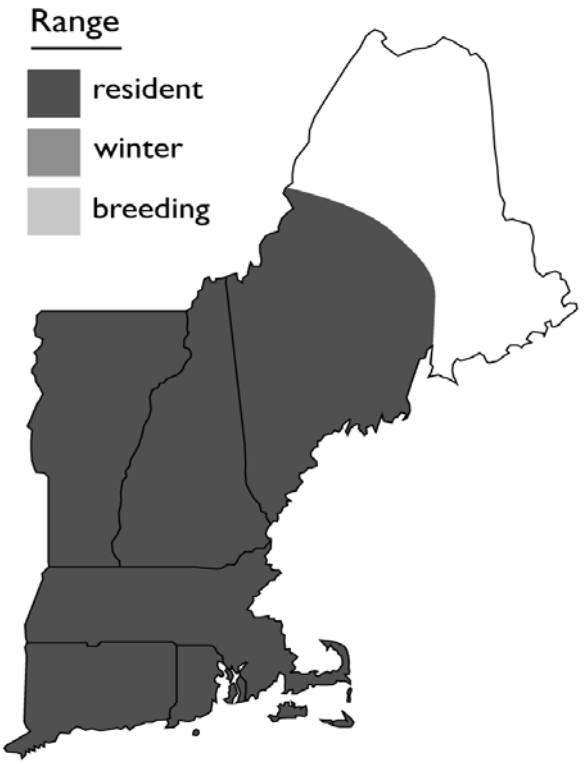
Red Squirrel (RESQ)

Southern Flying Squirrel (SFSQ)

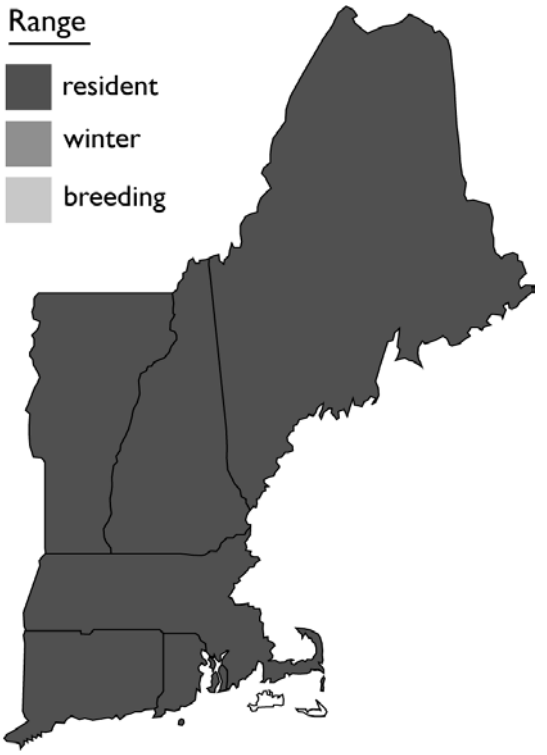
Northern Flying Squirrel (NFSQ)

Beaver (BEAV)

Deer Mouse (DEMO)

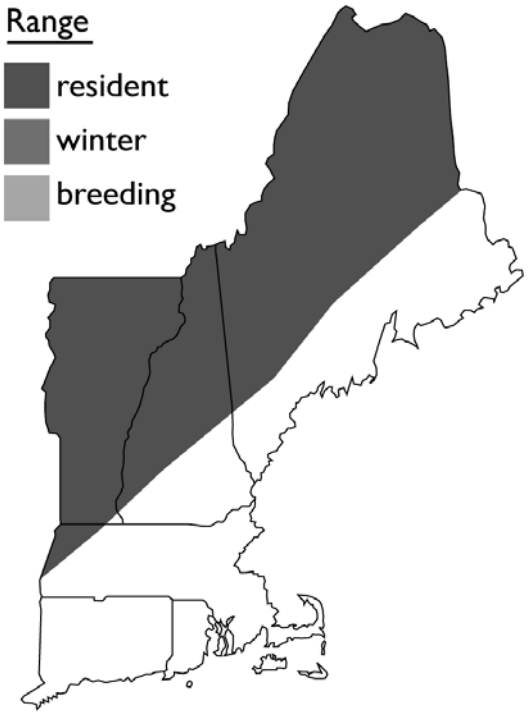


White-footed Mouse (WFMO)

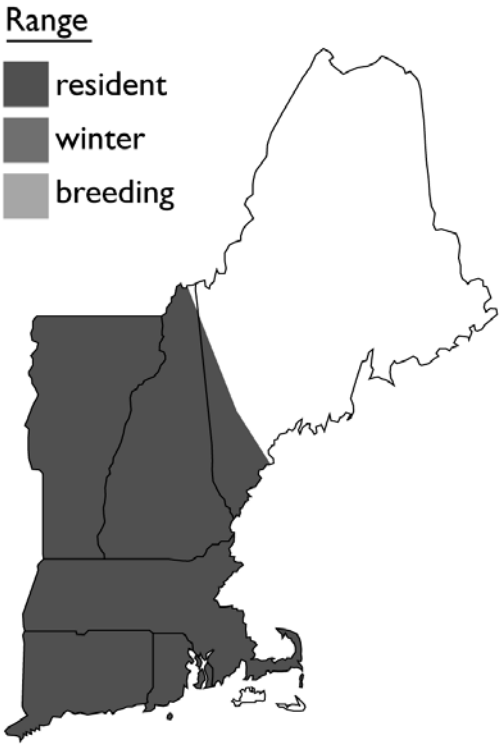


Southern Red-backed Vole (RBVO)

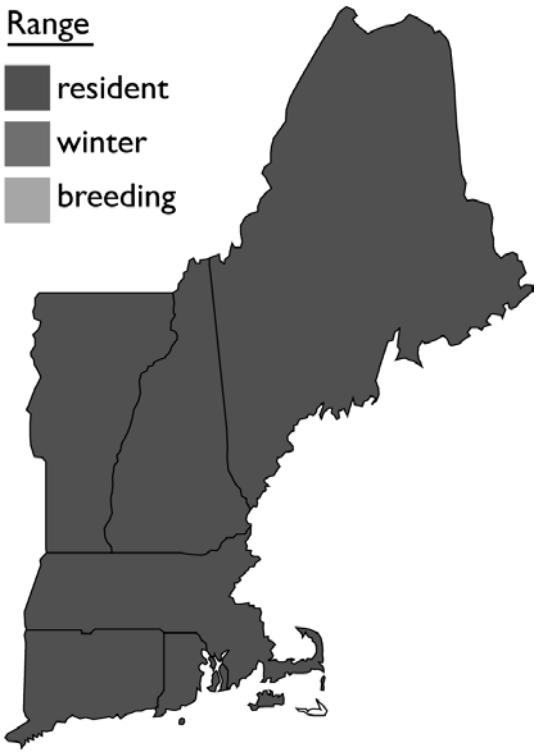
Meadow Vole (MEVO)



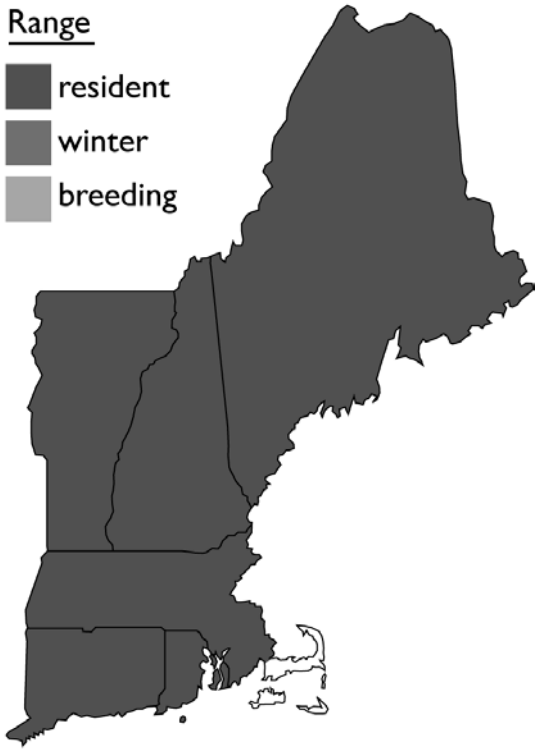
Rock Vole (ROVO)



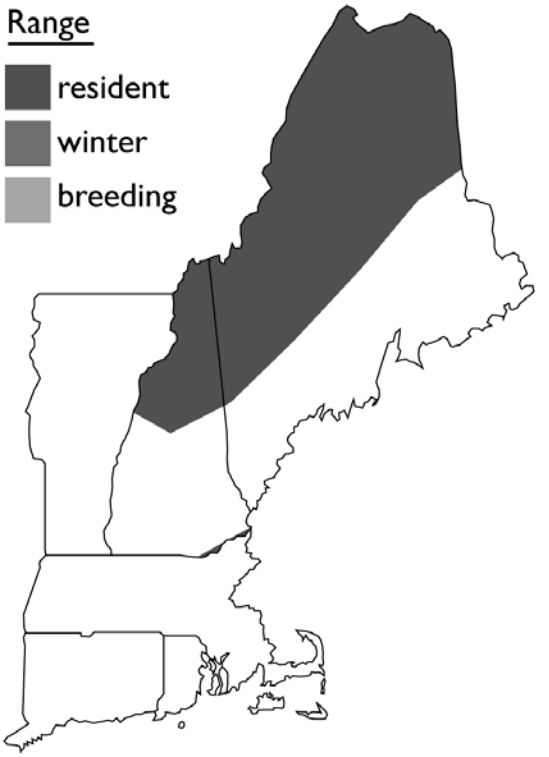
Woodland Vole (WOVO)



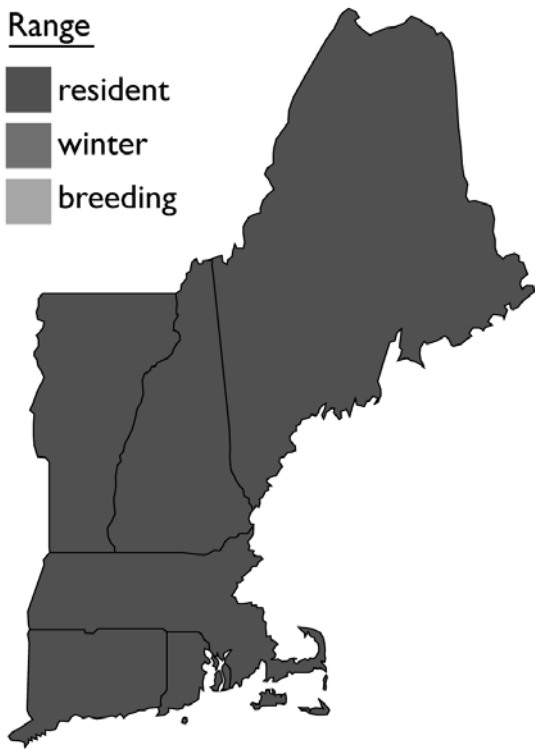
Muskrat (MUSK)



Southern Bog Lemming (SBLE)



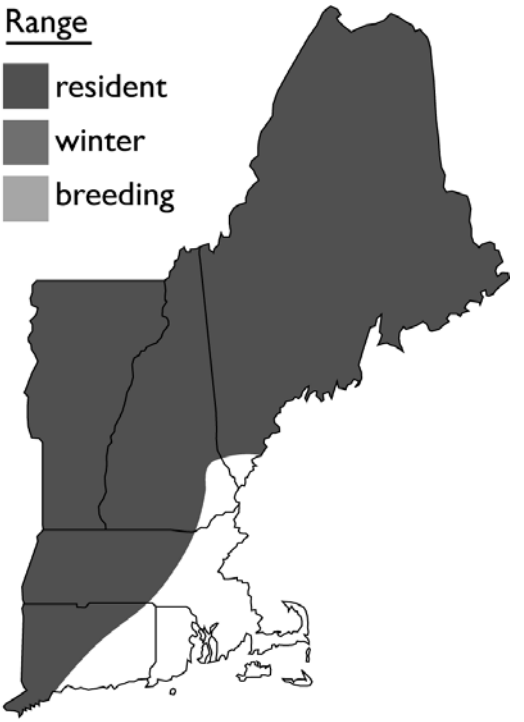
Northern Bog Lemming (NBLE)



Norway Rat (NORA)

House Mouse (HOMO)

Meadow Jumping Mouse (MJMO)



Woodland Jumping Mouse (WJMO)

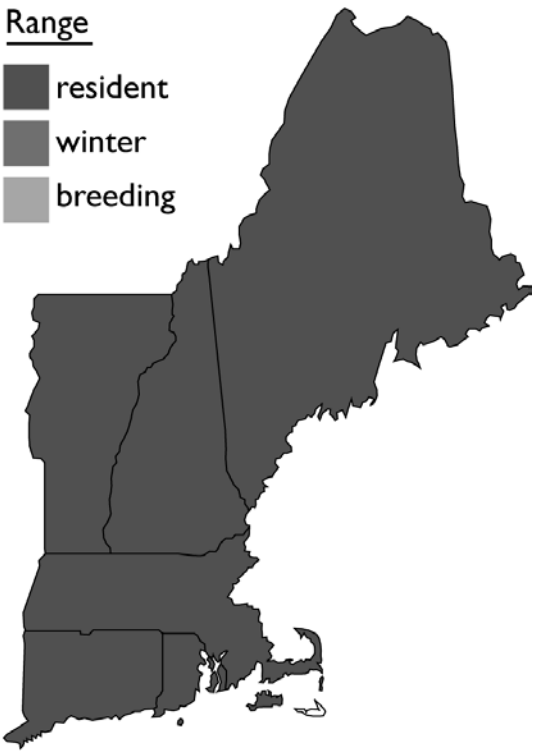
Porcupine (PORC)

Coyote (COYO)

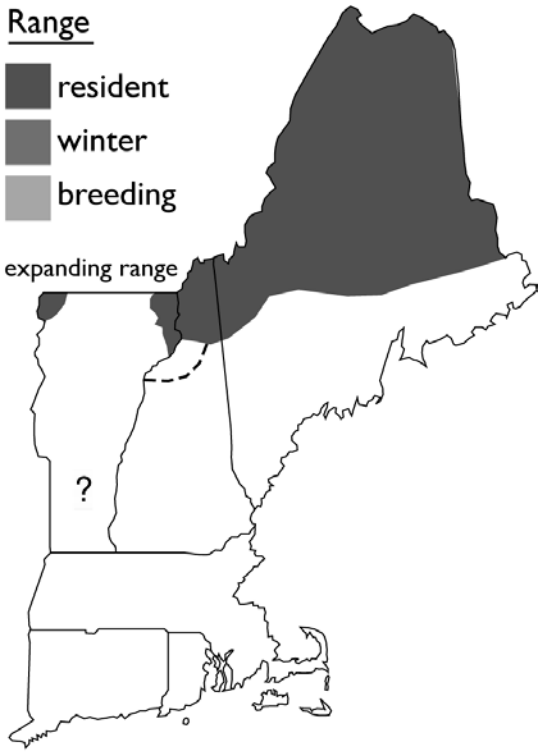
Red Fox (REFO)

Gray Fox (GRFO)

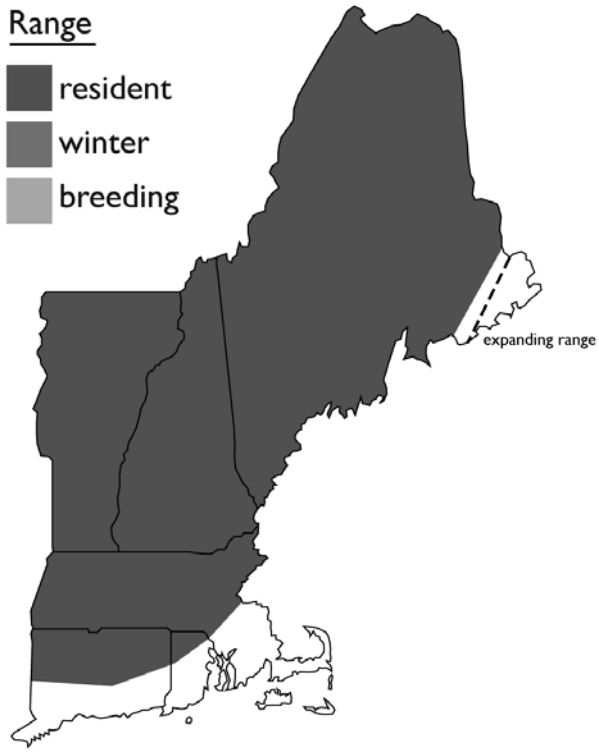
Black Bear (BLBE)



Raccoon (RACC)



Marten (MART)



Fisher (FISH)

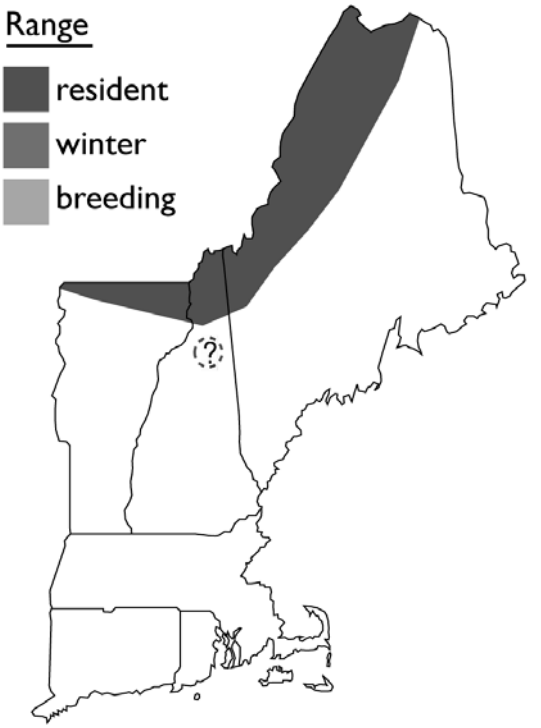
Ermine (ERMI)

Long-tailed Weasel (LTWE)

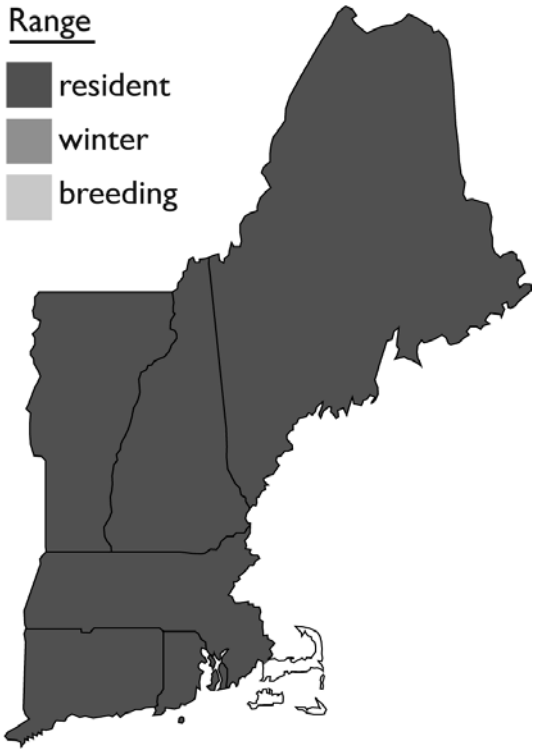
Mink (MINK)

Striped Skunk (STSK)

River Otter (RIOT)

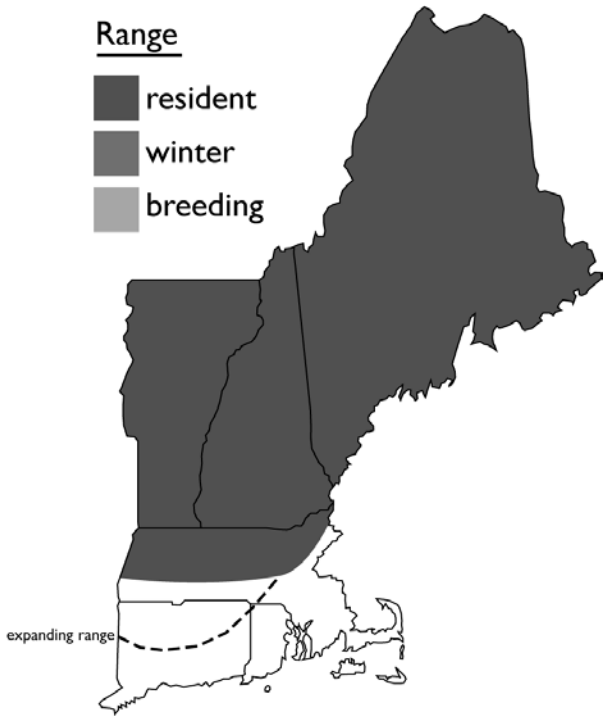


Lynx (LYNX)



Bobcat (BOBC)

White-tailed Deer (WTDE)



Moose (MOOS)

Appendix B

Coded Wildlife Models for the Non-fish, Inland, Vertebrate Wildlife Species of New England

Key Headings for Species - Habitat Models

Species	I. Status of species in New England: A-D	II. (model type) and [habitat bounds] : (1-4 and d-f) [A-H, L-N, P, S, Z]	III. Habitat block (x) description & size (ha) : A1-10, B1-10, C1-9, D1-24, E1-10, F1-10, G11-6, H1-3,I	IVa. Reproduction layers: b-l	IVb. Foraging layers: A-K	IVc. Other layers: A-K	Va. Block (x) - no. of neighborhood cells: 9-8021	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood: 0.1-0.7	VI. Block (x) - topography: A-E
Mudpuppy (*Necturus m. maculosus*) ---------- Entirely aquatic. Inhabits clear or muddy waters of lakes, rivers, ditches and large streams.	A	(1.a) [L-P]	D 8,9 D 18 (0.4)	g	G	NA	9	0.3	A

Key Headings for Species - Habitat Models

VII. Block (x) - soil types: A1-2, B1-2, C1-2, D1-2, E-G	VIII. Block (x) - water regimes: A-H, L-N, P, S, Z	IX. Block (x) - vertical structure - cell: 1-7 a-f; 11-17; 21-27; 31-33; 41-47; 51-57; 61-69; 71-78; 81-87; 91-94	X. Relation of habitat blocks (x) to (y): A-C	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality: H,M,L
F	H G	NA	NA											L

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Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Mudpuppy (*Necturus m. maculosus*) ---------- Entirely aquatic. Inhabits clear or muddy waters of lakes, rivers, ditches and large streams.	A	(1.a) [L-P]	D 8,9 D 18 (0.4)	g	G	NA	9	0.3	A
Marbled salamander (*Ambystoma opacum*) ---------- Breeds in ponds and swamps in wooded areas and otherwise inhabits sandy and gravelly areas of mixed deciduous woodlands.	A	(2.a:e) [L-P]	D 1-2 (0.4)	e f g	E F G	NA	9	0.3	A
Jefferson salamander (*Ambystoma jeffersonianum*) ---------- Breeds in ponds and vernal pools and inhabits un-disturbed damp, shady deciduous or mixed woods, bottomlands, swamps, ravines, moist pastures, or lakeshores.	A	(2.a:e) [L-P]	D 1-4 D 20 (0.4)	e f g	E F G	NA	9	0.3	A
Blue-spotted salamander (*Ambystoma laterale*) ---------- Breeds in ponds or semi-permanent water and otherwise inhabits woody, swampy, or moist areas.	A	(2.a:e) [L-P]	D 1-4 D 20 (0.4)	e f g	E F G	NA	9	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
F	H G	NA	NA											L
C 1 D 1	C E F	NA	Ax=1 Ay=4	A 9 (2)	NA	D J	K	9	0.3	A B	G	Z	1-2 11-12	M
C 1 D 1	C E F	NA	Ax=1 Ay=2	G 1 G 2 A 9 E 9 (2)	NA	D J	NA	9	0.3	A B	G	Z	1-2 11-12 41-42 51-52	M
C 1 D 1	C E F	NA	Ax=1 Ay=2	A 9 E 9 C 3 G 3 (2)	NA	D J	NA	9	0.3	A B	G	Z	1-2 11-12 41-42 51-52 62a 64	L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells
Spotted salamander (*Ambystoma maculatum*) ---------- Breeds in shallow woodland ponds or in marshy pools with semi-permanent water, and otherwise inhabits deciduous or mixed woods especially on rocky hillsides.	A	(2.a:e) [L-P]	D 1-2 D 20 (0.4)	e f g	E F G	NA	9
Red-spotted newt (*Notophthalmus v. viridescens*) ---------- Adults occur in ponds with abundant submerged vegetation, and in weedy areas of lakes, and marshes. Terrestrial juveniles inhabit nearby moist, wooded habitats.	A	(2.a:e) [L-P]	D 6 D 9 D 18 (0.4)	e f g	E F G	NA	9
Northern dusky salamander (*Desmognathus f. fuscus*) ---------- Eggs laid near the edge of streams and springs or in seepage areas and larvae move to nearby streams, or ponds. Adults inhabit both aquatic and nearby riparian areas.	A	(2.b:e) [L-P]	D 10-11 D 23-24 (0.4)	d e f g	E F G	NA	9
Northern Redback salamander (*Plethodon cinereus*) ---------- Entirely terrestrial. Inhabits mesic woods, but also enters xeric, sandy habitats where moist microhabitats occur in mixed deciduous or coniferous woods.	A	(1.e) [G-P]	A 9 B 9 (0.4)	j	J	K	9
Northern Slimy salamander (*Plethodon g. glutinosus*) ---------- Terrestrial inhabitant of moist, wooded hillsides and ravines with abundant, moist microhabitats.	A	(1.e) [G-P]	A 9 B 9 (0.4)	j	J	K	9

Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
0.3	A	C 1 D 1	C E F	NA	Ax=1 Ay=5	A 3 A 9 E 3 E 9 (2)	NA	D J	K	9	0.3	A B	G	Z	1 11 41 51	H
0.3	A	D 1 F	E F G H	NA	Ax=1 Ay=6	A 9 B 9 E 9 F 9 (0.4)	NA	D J	NA	9	0.3	A B	G	Z	1-2 11-12 41-42 51-52	M
0.3	A B	F	S	81c	Ax=1 Ay=1	D 10 D 21 (0.4)	NA	D	K	9	0.3	A B	G	Z	41-42 51-52	M
0.3	A B	G	Z	1-2 11-12	NA											H
0.3	B	G	Z	1-2 11-12	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Four-toed salamander (*Hemidactylium scutatum*) ---------- Inhabits wet woodlands, preferably with sphagnum moss; shaded woodland pools; and tamarack bogs. Eggs laid near water, larval stage is aquatic, adult stage is terrestrial.	A	(2.a:e) [L-P]	D 1-2 D 6 D 9 (0.4)	d e f g	E F G	NA	9	0.3	A
Northern spring salamander (*Gyrinophilus p. porphyriticus*) ---------- Inhabits clear, cold, streams, seeps or springs, often in spruce-fir forests, but also in other moist habitats.	A	(2.b:e) [L-P]	D 10 D 23-24 (0.4)	e f g	E F G	NA	9	0.3	B
Northern two-lined salamander (*Eurycea b. bislineata*) ---------- Breeds in alkaline streams, and adults occur along brooks and streams, boggy areas, near springs or seeps, in floodplain forests to moist forest floors at high elevations	A	(2.b:e) [L-P]	D 23 D 24 (0.4)	e f g	E F G	NA	9	0.3	A B
Eastern spadefoot (*Scaphiopus h. holbrookii*) ---------- Breeds in temporary rain pools, and otherwise occurs in habitats with dry sandy or loose soils, within sparse shrub growth or in areas of open forest.	A	(1.c,e) [L-P]	A 9 B 9 C 7 D 20 (0.4)	e	E J	K	9	0.3	A
Eastern American toad (*Bufo a. americanus*) ---------- Breeds in shallow water and otherwise inhabits moist upland woods, and a wide variety of other areas with cover and damp soil conditions.	A	(2.a:e) [L-P]	D 4 D 6 D 20 (0.4)	e f g	E F G	NA	9	0.3	A B
Fowler's toad (*Bufo woodhousii fowleri*) ---------- Breeds in shallow water and otherwise inhabits shorelines, river valleys, beaches, roadside areas, pine and oak forests, fields, etc., with well drained sandy soils.	A	(2.a:c,e) [L-P]	D 3-4 D 6 D 17 D 19-20 (0.4)	e f g	E F G	NA	9	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. neighborhood of cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
C 1 D 1 F	C E F G H	NA	Ax=1 Ay=1	A 9 E 9 B 9 F 9 (0.4)	NA	D	NA	9	0.3	A	G	Z	41-42 51-52	L/M
D 1 F	S	81c	Ax=1 Ay=1	A 9 B 9 D 10 E 9 F 9 (0.4)	NA	D	K	9	0.3	B	G	Z	1-2 11-12 41-42 51-52	L/M
D 1 F	S	81c	Ax=1 Ay=2	A 9 B 9 D 10 E 9 F 9 (0.4)	NA	D	NA	9	0.3	A B	G	Z	41-42 51-52	M
A 1 B 1	A	1-2 11-12 24 25 26	NA											M
C 1 D 1	C E F	NA	Ax=1 Ay=20	A 9 B 9 C 4-8 D 3 E 9 F 9 (2)	NA	D J	K	9	0.3	A B	G	Z	1-2 11-12 25-26 41-42 51-52 64-65	M
C 1 D 1	C E F	NA	Ax=1 Ay=8	A 9 B 9 C 4-8 D 3 E 9 F 9 (2)	NA	D J	K	9	0.3	A B	A 1 B 1	Z	1-2 11-12 25-26 41-42 51-52 61b 64-65	M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Northern spring peeper (*Hyla c. crucifer*) ---------- Breeds in perm. or temp. water, and inhabits marshy or wet woods, second growth woodlots, sphagnum bogs and nonwooded lowlands near ponds and swamps.	A	(2.a:e) [L-P]	D 1-4 D 6 D 18 D 20 (0.4)	e f g	E F G	NA	9	0.3	A B
Gray treefrog (*Hyla versicolor*) ---------- Breeds in temp. pools or perm. water, swamps, ponds, weedy lakes and roadside ditches, etc. and inhabits forested regions with small trees near or in shallow water.	A	(2.a:e) [L-P]	D 1-4 D 6 D 18 D 20 (0.4)	e f g	E F G	NA	9	0.3	A B
Bullfrog (*Rana catesbeiana*) ---------- Highly aquatic and breeds close to shore lines in areas sheltered by shrubs and occurs near shorelines of large water bodies with emergent vegetation.	A	(2.a:e) [L-P]	D 6 D 9 D 18 (2)	e f g	E F G	NA	9	0.3	A
Green frog (*Rana clamitans melanota*) ---------- Breeds in perm. water and inhabits riparian areas and margins of shallow perm. or semiperm. fresh water, shores and banks of lakes and ponds, creeks, etc.	A	(2a:e) [L-P]	D 6 D 8-9 D 18 (0.4)	e f g	E F G	NA	9	0.3	A
Mink frog (*Rana septentrionalis*) ---------- Breeds in perm. water and occurs at the edges of northern lakes and ponds, cold streams, inlets where cold streams enter ponds and stream edges.	A	(2.a:e) [L-P]	D 2 D 4 D 6 D 17-18 (0.4)	e f g	E F G	NA	9	0.3	A
Wood frog (*Rana sylvatica*) ---------- Breeds within small ponds in wooded areas and occurs in xeric woods with moist microhabitats, often far from water, during the summer months.	A	(2.a:e) [L-P]	D 1-2 D 20 (0.4)	e f g	E F G	NA	9	0.3	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
C 1 D 1 F	C E F G H	NA	Ax=1 Ay=4	E 9 F 9 (2)	NA	C D	K	9	0.3	A B	G	Z	41-42 51-52 64-65	M/H
C 1 D 1 F	C E F G H	NA	Ax=1 Ay=2	E 9 F 9 (2)	NA	B C D	NA	9	0.3	A B	G	Z	41-42 51-52 64-65 83b,c	M
F	E F G H	NA	Ax=2 Ay=0	D6 D9 D18 (1)	NA	NA	NA	9	0.3	A	G	Z	1-4 11-14 24-26 41-44 51-55 62, 64-65 82a,c 83	H
D 1 F	E F G H	NA	Ax=1 Ay=1	D 5 D 21-22 (0.4)	NA	D	NA	9	0.3	A B	G	Z	41-42 51-52 61a,b, 64-65	H
F	G H	NA	Ax=2 Ay=0	D2 D4 D6 D17-18 (1)	NA	NA	NA	9	0.3	A	G	Z	1-4 11-14 24-26 41-44 51-55 62, 64-65 82a,c 83	M
C 1 D 1	C E F	NA	Ax=1 Ay=8	A 3,6,9 B 3.6.9 E 3,6,9 F 3,6,9 (2)	NA	D J	NA	9	0.3	A B C	G	Z	1-2 11-12 41-42 51-52 64-65	M/H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Northern leopard frog (*Rana pipiens*) ---------- Breeds in ponds, marshes, slow shallow streams, and weedy lake shores, and is commonly found in wet open meadows and fields and in wet woods.	A	(2.a:e) [L-P]	D 3-4 D 6 D 8 D 17-18 (0.4)	e f g	E F G	NA	9	0.3	A
Pickerel frog (*Rana palustris*) ---------- Breeds in shallow, clear water of bogs and woodland ponds, and occurs along streams, shores of perm. ponds and lakes, and in summer in pastures, fields, away from water.	A	(2.a:e) [L-P]	D 2 D 4 D 6 D 10 D 17-19 (0.4)	e f g	E F G	NA	9	0.3	A
Common snapping turtle (*Chelydra s. serpentina*) ---------- Eggs laid in soil banks, muskrat houses or in fields away from water. Highly aquatic and occurs in fresh and brackish marshes, swamps, etc., with soft muddy banks and bottoms.	A	(2.a:c) [L-N]	D 1-4 D 6-9 D 12-13 D 17-19 (2)	NA	E F G	NA	9	0.3	A
Stinkpot (common musk turtle) (*Sternotherus odoratus*) ---------- Eggs laid in muck or detritus at lake margins. The species occurs in perm. still, shallow, clear waters of lakes, ponds, and rivers that have muddy bottoms.	A	(2.a:c) [L-P]	D 1-4 D 6,8,9 D 17-19 (2)	NA	E F G	NA	9	0.3	A
Spotted turtle (*Clemmys guttata*) ---------- Eggs laid in well-drained soils of marshy pastures, and the turtle occurs in unpolluted, small shallow bodies of water i.e., woodland streams, wet meadows, bog holes, brackish creeks, etc.	A	(2.a:c) [L-N]	D 1-4 D 6 D 9 D 12 D 17-19 (2)	NA	E F G	NA	9	0.3	A
Bog turtle (*Clemmys muhlenbergii*) ---------- Eggs laid on top of sphagnum in open bog areas; and the turtle occurs in unpolluted, open sphagnum bogs or wet meadows, etc., with muddy or mucky bottoms.	A	(2.a:c) [L-P]	D 2-3 D 9 (2)	NA	E F G	NA	9	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. neighborhood of cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
C 1 D 1 F	C E F G H	NA	Ax=1 Ay=2	D 3 E 9 F 9 G 1-2 (2)	NA	D	NA	9	0.3	A B	G	Z	41-42 51-52 64-65	M/H
D 1 F	E F G H	NA	Ax=1 Ay=2	E 9 F 9 G 1 G 2 D 3 (2)	NA	D	NA	9	0.3	A B	G	Z	1-2 11-12 25a,c 41-42 51-52 64-65	M/H
D 1 F	E F G H	NA	Ax=5 Ay=1	C1 D5 D21-22 (1)	d j	NA	NA	9	0.1	A	A 1 B 1	Z	NA	H
D 1 F	E F G H	NA	Ax=5 Ay=1	D5 D8 D17 D21-22 (1)	d j	NA	NA	9	0.1	A	C 1 D 1	Z	NA	H
D 1 F	E F G H	NA	Ax=5 Ay=2	D5,8 D14,17 D21,22 (1)	d j	NA	NA	9	0.1	A	A 1 B 1	Z	NA	M
C 1 D 1 F	C E F G H	NA	Ax=5 Ay=1	D3 (1)	d	D	NA	9	0.1	A	C 1 D 1	Z	NA	M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Wood turtle (*Clemmys insculpta*) ---------- Eggs laid in sandy soil or gravel sometimes away from water. The turtle frequents slow-moving streams with sandy bottoms and may move to fields and forests in summer	A	(2.b:e) [L-P]	D 8-9 D 21-22 (0.4)	NA	E F G	NA	9	0.3	A
Eastern box turtle (*Terrapene c. carolina*) ---------- Inhabits woodlands, field edges, thickets, marshes, bogs, stream banks and well-drained forest bottom lands.	A	(1.e) [L-P]	A 3 B 3 C 4 D 2-4 D 6,8 D 21 E 3 F 3 (2)	d j	D J	K	9	0.3	A B
Map turtle (*Graptemys geographica*) ---------- Eggs laid in soft sand or soil away from beaches. The turtle is aquatic and inhabits rivers and lakes having soft bottoms and aquatic vegetation.	A	(2.a:c) [L-P]	D 8-9 D 17-19 (2)	NA	E F G	NA	9	0.3	A
Plymouth redbelly turtle (*Pseudemys rubriventris bangsi*) ---------- Eggs laid in soft sandy soil, often disturbed sites. The turtle occurs in muddy-bottomed shallow ponds with abundant aquatic vegetation in Plymouth County, MA.	A	(2.a:c) [L-P]	D 4 D 6 D 17-19 (2)	NA	E F G	NA	9	0.3	A
Painted turtle (*Chrysemys p. picta*) ---------- Eggs laid in soft sandy soil a few m. from water. The turtle inhabits quiet, shallow ponds, marshes, woodland pools, rivers, wet meadows, bogs, brackish tidal waters and salt marshes.	A	(2.a:c) [L-N]	D 1-6 D 8-9 D 12-13 D 17-19 (2)	NA	E F G	NA	9	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. neighborhood of cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
F	S	81b	Ax=1 Ay=2	A 9 B 9 C 4 E 9 F 9 (2)	d j	D J	K	9	0.3	A B	G	Z	1-2 11-12 25 41-42 51-52 81b:1-2, 11-12 81b:41-42 81b:51-52	M
G	Z	1-2 11-12 41-42 51-52 64-65 1-2:25 11-12:do 41-42:do 51-52:do	NA											M
D 1 F	E F G H	NA	Ax=5 Ay=1	C1 D5 D21-22 (1)	d j	NA	NA	9	0.1	A	A 1 B 1	Z	NA	M
D 1 F	E F G H	NA	Ax=5 Ay=1	C1 D5 D21-22 (1)	d j	NA	NA	9	0.1	A	A 1 B 1	Z	NA	M
C 1 D 1 F	C E F G H	NA	Ax=5 Ay=1	C1 D5 D21-22 (1)	d j	NA	NA	9	0.1	A	A 1 B 1	Z	NA	M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Blanding's turtle (*Emydoidea blandingii*) ---------- Eggs laid in sandy soils in upland areas. The turtle occurs in shallow waters with much aquatic vegetation, marshes, bogs, ditches, ponds, swamps, etc.	A	(2.a:c) [L-P]	D 1-6 D 17-19 (2)	NA	E F G	NA	9	0.3	A
Eastern spiny softshell (*Trionyx s. spiniferus*) ---------- Eggs laid in sandy soil of gravel beds near water's edge. The turtle is aquatic and occupies ponds, lakes, and large river systems.	A	(2.a:c) [L-P]	D 8-9 D 17-19 D 4-6 (2)	NA	E F G	NA	9	0.3	A
Five-lined skink (*Eumeces fasciatus*) ---------- Inhabits open or moderately dense mesic wooded areas with abundant ground cover in western Connecticut; one site reported for western Vermont.	A	(1.e) [G-P]	A 3,6,9 B 3,6,9 (1)	j	J	K	9	0.3	A B
Northern water snake (*Nerodia s. sipedon*) ---------- Inhabits aquatic and semi-aquatic habitats, especially in and near rivers, brooks, wet meadows, swamps, and bogs. Inhabits fresh or salt water.	A	(1.e) [L-N]	D 1-5 D 6-9 D 12-13 D 17-19 D 21-22 (2)	d	D E	NA	9	0.3	A
Northern brown snake (*Storeria d. dekayi*) ---------- Ubiquitous. Inhabits urban and rural areas in dry or moist situations. Occurs in damp woods, swamps, clearings, bogs, roadsides and open fields.	A	(1.e) [G-P]	A 9 B 9 C 2-8 D 1-3 E 9 F 9 (2)	d j	D J	K	9	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. neighborhood of cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
C 1 D 1 F	C E F G H	NA	Ax=5 Ay=1	C1 D5 D21-22 (1)	d j	D	NA	9	0.1	A	A 1 B 1	Z	NA	L
F	E F G H	NA	Ax=5 Ay=1	D5 D21-22 (1)	d j	NA	NA	9	0.1	A	A 1 B 1	Z	NA	H
G	Z	1 a,b 2 a,b 11 a,b 12 a,b 17 b	NA											M
G	Z	41-42 51-52 64-65 73-74	NA											H
G	Z	1-2 11-12 24-25 41-42 51-52 64-65	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Northern redbelly snake (*Storeria o. occipitomaculata*) ---------- Inhabits moist woods, hillsides, sphagnum bogs, upland meadows, and valleys.	A	(1.e) [G-P]	A 3,6,9 B 3,6,9 C 3-4 E 3,6,9 F 3,6,9 G 1-2 (2)	d j	D J	K	9	0.3	A B C D
Eastern garter snake (*Thamnophis s. sirtalis*) includes Maritime garter snake (*T.s.pallidulus*) ---------- Ubiquitous. Inhabits moist areas, forest edges, stream edges, fence rows, bogs, swamps, and fields.	A	(1.e) [G-P]	A 3,6,9 B 3,6,9 C 3-8 D 1-3,5,22 E 3,6,9 F 3,6,9 (2)	d j	D J E	K	9	0.1	A B C D
Ribbon snake (*Thamnophis sauritus sauritus*) includes Northern ribbon snake (*T.s. septentrionalis*) ---------- Semi-aquatic. Inhabits stream edges, swamps, wet meadows, ponds, bogs and ditches. Especially at water's edge with brushy vegetation.	A	(1.e) [L-P]	D 1-6 D 8-9 D 17-22 G 1-2 (2)	d	D E	K	9	0.3	A
Eastern hognose snake (*Heterodon platyrhinos*) ---------- Inhabits areas with sandy soils such as beaches, open fields and dry, open pine or deciduous woods.	A	(1.c,e) [G-P]	A 3,6,9 B 3,6,9 C 3-8 (2)	j	J	K	9	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. neighborhood of cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 11-12 25 a-c 41-42 51-52 64-65	NA											M
G	Z	1-2 11-12 25 a-c 41-42 51-52 64-65 81-83:41-42 81-83:51-52 81-83:64-65	NA											H
G	Z	41-42 51-52 64-65 81-83:41-42 81-83:51-52 81-83:64-65	NA											M
A1 B1	Z	1-2 11-12 25-26	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Northern ringneck snake (*Diadophis punctatus edwardsi*) ---------- Inhabits moist shady woodland with abundant surface cover.	A	(1.e) [G-P]	A 3,9 B 3,9 C 2-4 E 3,9 F 3,9 (2)	d j	D J	K	9	0.3	A B
Eastern worm snake (*Carphophis a. amoenus*) ---------- Inhabits sandy areas in dry to moist forests, often near streams.	A	(1.c,e) [G-P]	A 3,6,9 B 3,6,9 C 3-8 (1)	j	J	K	9	0.3	A B
Northern black racer (*Coluber c. constrictor*) ---------- Inhabits moist or dry areas, forests, wooded areas, old fields, swamps, and marshes.	A	(1.e) [G-P]	A 3,6,9 B 3,6,9 C 2-4 D 1-3 E 3,6,9 F 3,6,9 (9)	d j	D J	K	37	0.3	A B
Eastern smooth green snake (*Opheodrys v. vernalis*) ---------- Inhabits grassy fields, mountain meadows, open aspen stands, sphagnum bogs, marshes and hardwood stands.	A	(1.e) [G-P]	A 3 B 3 C 3-6,8 D 2-3 G 1-2 (2)	d j	D J	K	9	0.3	A B
Black rat snake (*Elaphe o. obsoleta*) ---------- Inhabits woodlands, thickets, field edges, farmlands, rocky hillsides, mountain tops and river bottoms.	A	(1.e) [G-P]	A1,4,7, 3,6,9 B 1,4,7,3,6,9 C 3-6,8 D 5,21-22 E 1,3,4,6,7,9 F 1,3,4,6,7,9 (20)	d j	B C D H I J	K	97	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 7b 11-12 17b 24a 25a 41-42 51-52	NA											H
A1 B1	Z	1-2 11-12 24a 25 a-c	NA											M/H
G	Z	1-2 7b, 17b 11-12 22, 25 24a 41-42 47 b 51-52 57b 64-65	NA											H
G	Z	1 11 25-26 41 51 64-65	NA											M
G	Z	1-2 7b, 17b 11-12 22, 25 24 a,b 27b 41-42 51-52 1-2:24a,b 1-2:25 11-12:do 41-42:do 51-52:do	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Eastern milk snake (*Lampropeltis t. triangulum*) ---------- Inhabits farmlands, woods, out-buildings, meadows, river bottoms, bogs and rocky hillsides.	A	(1.e) [G-P]	A3,6,9,10 B3,6,9,10 C3-4,6,8,9 D3,21-22 E3,6,9,10 F3,6,9,10 G1-2 (20)	d j	D J	K	97	0.3	A B
Northern copperhead (*Agkistrodon contortrix mokeson*) ---------- Inhabits exposed mountainous, rocky hillsides, talus slopes, basalt ridges, ledges, open woods. During summer may be near swamps, ponds or streams.	A	(1.c,e) [G-P]	A 3,9 B 3,9 C 2-3 E 3,9 F 3,9 (9)	d j	D J	K	37	0.3	A B C D
Timber rattlesnake (*Crotalus horridus*) ---------- Inhabits timbered areas with rocky outcroppings, dry ridges, and second growth deciduous or coniferous forests.	A	(1.c,e) [G-P]	A 3,6,9 B 3,6,9 C 2-3 D 1-2 (20)	j	D J	K	97	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. neighborhood of cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 7b 11-12 17b 22 24 25a,c 27b 41-42 47b 51-52 57b 64	NA											H
B2	Z	1 11 22a-c	NA											M/H
B2	Z	1-2 7b 11-12 17b 22a,b 24a 25a 27b	NA											M/H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Common loon (*Gavia immer*) ---------- Nests on protected islands or shores in large and small lakes in open and forested landscapes. Winters in coastal bays and inlets.	A	(2.a:e) [Z]	D 15 D 16-17 D 19 (20)	NA	E F G	NA	97	0.7	A
Pied-billed grebe (*Podilymbus podiceps*) ---------- Nests on floating vegetation in ponds or sluggish streams with thick emergent vegetation. Occasionally winters on interior rivers, tidal creeks and estuaries in southern NE. Usually migrates in winter.	B	(1.a) [Z]	D 3-4, 6 D 8,12 D 15-17 D 19 (2)	d	E F G	NA	9	0.5	A
Double-crested cormorant (*Phalacrocorax auritus*) ---------- Nests on the bedrock of islands or in trees at any height along coastal NE and inland near certain large lakes and rivers. Migrates for the winter.	B	(2.a:e) [Z]	D 7-8 D 15-17 D 19 (5)	NA	E F G	NA	21	0.5	A
American bittern (*Botaurus lentiginosus*) ---------- Nests in reeds and cattails in fresh (sometimes brackish) marshes, meadows, swamps and bogs having tall emergent vegetation, and in sluggish streams with dense bank vegetation. Migrates for the winter.	B	(1.a,e) [L-N]	D 1-6 D 8 D 12-13 G 1-2 (4)	d	D E F G	NA	21	0.5	A
Least bittern (*Ixobrychus exilis*) ---------- Nests in reeds and cattails in fresh and brackish wetlands with tall emergents:cattails, sedges or scattered bushes. Migrates for the winter.	B	(1.a,e) [L-N]	D 3 D 12-13 G 2-3 (4)	c d	D E F G	NA	21	0.5	A
Great blue heron (*Ardea herodias*) ---------- Nests high in dead trees within wooded wetlands, and inhabits shallow shores of ponds, lakes, rivers, wooded swamps, wet meadows, bays and marshes. Winters in coastal areas with open water.	A	(3.a:e) [Z]	D 1-4 D 6,8 D 12-13 D 17,19 (5)	NA	D E F G	NA	21	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
F	G H L M	NA	Ax=20 Ay=1	C1-2 D22 (0.4)	d j	NA	NA	9	0.3	A	G	Z	71 b,c,d 21 a,b	H
D 1 F	E F G H L M N	NA	NA											H
F	G H L M	NA	Ax=10 Ay=1	A 1, 7 C 1-2 E 1, 7 (0.4)	b c h i j	NA	NA	9	0.3	A	G	Z	1-4 41-44 71 d,e 22 b,c	H
D 1 F	E F G H P	65 74 83a	NA											M
D 1 F	E F G H P	65 74 83a	NA											L
C 1 D 1 F	C E F G H L M N P	NA	Bz=5	A 1,4 B 1,4 C 2,6 E 1,4 F 1,4 (1)	b c h i j	NA	NA	9	0.3	A	G	Z	1-2 41-42 51-52 22a 11-12	M/H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Snowy egret (*Egretta thule*) ---------- Nests in trees and shrub thickets near ponds, lake borders, freshwater, brackish, and saltmarshes and swamps, and tidal flats in extreme coastal NE. Migrates for the winter.	B	(3.a:e) [Z]	D 1-5 D 12-14 D 17 D 19-22 (5)	NA	E	NA	21	0.5	A
Cattle egret (*Bubulcus ibis*) ---------- Inhabits a variety of upland and wetland types and nests colonially in the midstory and overstory in both freshwater and saltwater habitats. Migrates for the winter.	B	(3.e:e) [G-N]	C 4-6 C 8 D 3,5 D 12 D 21,22 (2)	NA	D E J	NA	9	0.3	A B
Green heron (*Butorides virescens*) ---------- Inhabits a wide variety of fresh and saltwater habitats: ponds, lakeshores, streams, marshes, etc. Nests within upland or wetland trees and in marshes. Migrates for the winter.	B	(3.a:e) [Z]	D 1-9 D 12-13 D 17 G 2-4 (2)	NA	D E	NA	9	0.5	A
Black-crowned night heron (*Nycticorax nycticorax*) ---------- Nests in shrubs and trees near a wide variety of fresh, brackish and salt water habitats. Winters in coastal wetlands.	A	(3.a:e) [Z]	D 1-8 D 12-13 D 17 G 2-4 (5)	NA	D E F G	NA	21	0.5	A
Yellow-crowned night heron (*Nyctanassa violacea*) ---------- Inhabits islands in fresh and salt water marshes, ponds and wooded swamps, where it nests in isolated groves of trees or shrubs. Migrates for the winter.	B	(2.a:e) [Z]	D 1-8 D 12-13 G 2-3 (5)	NA	D E F G	NA	21	0.5	A
Glossy ibis (*Plegadis falcinellus*) ---------- Inhabits fresh, brackish and salt water wetlands, and nests in adjacent shrubs and emergents. Migrates for the winter.	B	(2.a:e) [G-N]	D 2-8 D 12-13 G 2-3 (2)	NA	D E	NA	9	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
D 1 F	E F G H L M N P	NA	Bz=5	E 1 F 1 (1)	b c	D	NA	9	0.3	A	G	Z	41 51	M
G	Z	25-26 64-65 73-74	Bz=10	A1 B1 E1 F1 (1)	b c h i	NA	NA	9	0.3	A B	G	Z	1 11 41 51	M
C 1 D 1 F	C E F G H L M N P	NA	Bz=2	A 1,4 B 1,4 E 1,4 F 1,4 G 2 (1)	b c d h i	NA	NA	9	0.3	A	G	Z	1-2 11-12 65 41-42 51-52 74	H
C 1 D 1 F	C E F G H N P	NA	Bz=5	A 1,4 B 1,4 E 1,4 F 1,4 C 6 (1)	b c h i	NA	NA	9	0.3	A	G	Z	1 2 41 42 11-12 51-52	L
C 1 D 1 F	C E F G H N P	NA	Ax=5 Ay=1	A 1,4 B 1,4 E 1,4 F 1,4 (1)	b c h i	NA	NA	9	0.3	A	G	Z	1-2 11-12 51-52 41-42	L
C 1 D 1	C E F P	NA	Ax=5 Ay=1	B 1,4 F 1,4 G 2 (1)	c d i	NA	NA	9	0.3	A	G	Z	51-52 11-12 65 74	M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Mute swan (*Cygnus olor*) ---------- Nests on protected islands or shores of coastal bogs, marshes, and ponds having dense aquatic vegetation. Winters in brackish or coastal waters.	A	(2.a:e) [Z]	D 3-8 D 12 D 14-15 G 2 (8)	NA	E F G	NA	37	0.7	A
Canada goose (*Branta canadensis*) ---------- Nests on ground near coastal salt marshes and inland shores of ponds and lakes. Winters on ice-free waters and coastal marshes with nearby agricultural lands.	A	(3.a:e) [Z]	D 3-8 D 12 D 14-15 G 2 (2)	NA	D E F G	NA	9	0.5	A
Wood duck (*Aix sponsa*) ---------- Inhabits shallow ponds, lakes, or freshwater marshes with abundant floating and emergent vegetation and nests in tree cavities in wooded swamps and flooded lowland forests. Migrates for the winter.	B	(3.a:e) [L-P]	D 1-6 D 8-9 D 17-19 G 2-5 (2)	NA	D E F G	NA	9	0.5	A
Green-winged teal (*Anas crecca*) ---------- Nests in grass, weeds or brush near sedge meadows, marshes, ponds or lakes. Winters coastally in tidal creeks and ponds.	A	(3.a:e) [L-P]	D 3-6 D 12 D 14-15 G 2 (5)	NA	D E F G	NA	21	0.3	A
American black duck (*Anas rubripes*) ---------- Nests in marshy borders of ponds, lakes, rivers, and wooded swamps, and in fresh, brackish and salt marshes and meadows. Winters in coastal and inland marshes.	A	(3.a:e) [Z]	D 1-9 D 12-13 D 17-19 G 2-5 (5)	NA	E F G	NA	21	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
F	G H L	NA	Ax=20 Ay=1	C 1 G 2 (1)	d	NA	NA	9	0.3	A	G	Z	65 74 61b	M
C 1 D 1 F	C E F G H N P	NA	Bz=3	C5-7 (5)	d j	D J	NA	21	0.3	A	G	Z	25b 25c 26a 64-65 73-74	M/H
C 1 D 1 F	C E F G H	NA	Bz=5	A2,5,9 E2,5,9 (2)	b h	D J	NA	9	0.3	A	G	Z	41-42 41-42:82 1-2:82 83c	M
C 1 D 1 F	C E F G H	NA	Bz=2	C 3,4 C 6 (0.4)	j	D J	NA	9	0.3	A	G	Z	24 a 25 a,c 26a	M
D 1 F	E F G H N P	NA	Bz=2	C 3,4 C 6 (0.4)	d j	D J	NA	9	0.3	A	G	Z	24 a 25 a,c 26a 64-65 73-74	M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Mallard (*Anas platyrhynchos*) ---------- Nests in freshwater marshes, and in grasslands near ponds, lakes, wet meadows and wooded swamps. Winters in ice-free inland or coastal waters.	A	(3.a:e) [L-P]	D 1-9 G 1-2 (2)	NA	D E F G	NA	9	0.3	A
Northern pintail (*Anas acuta*) ---------- Rare breeder in New England, but locally common in brackish and salt marshes during winter.	C	(1.a) [Z]	C 7 D 3-4,6 D 12 D 18-19 G 1-2 (9)	NA	D E F G	NA	37	0.7	A
Blue-winged teal (*Anas discors*) ---------- Inhabits freshwater coastal marshes and freshwater meadows, ponds and lakes with emerging shoreline vegetation. Nests in nearby grasslands, hayfields and sedge meadows. Migrates for the winter.	B	(3.a:e) [L-P]	D 3-8 D 17,19 D 22 (2)	NA	D E F G	NA	9	0.3	A
Gadwall (*Anas strepera*) ---------- Uncommon to rare breeder on freshwater coastal marshes and inland on open water marshes. Winters in ice-free coastal marshes.	A	(2.a:e) [Z]	D 3-4 G 2 (9)	NA	E F G	NA	37	0.7	A
American wigeon (*Anas americana*) ---------- Rare and local breeder in NE. May inhabit large lakes or marshes with abundant open shallow water and emergent vegetation. Winters in shallow fresh and brackish ponds, wet meadows, coastal marshes and bays.	C	(1.a) [Z]	D 4-6 D 12 D 15 D 17-19 (9)	NA	D E F G	NA	37	0.7	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
C 1 D 1 F	C E F G H	NA	Bz=2	C 3,4 C 6 (0.4)	d j	D J	NA	9	0.3	A	G	Z	24 a 25 a,c 26a 64-65 73-74	H
C 1 D 1 F	C E F G H N P	NA	NA											L
C 1 D 1 F	C E F G H	NA	Bz=4	C 3,4 C 8 G 1,2 (0.4)	d j	D J	NA	9	0.3	A	G	Z	25 a,c 26 64-65	L/M
D 1 F	E F G H N P	NA	Ax=2 Ay=1	D 3 (0.4)	d j	NA	NA	9	0.3	A	G	Z	24 25a 62 65 74	L/M
F	G H N P	NA	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Canvasback (*Athya valisineria*) ---------- Uncommon and local in winter along s. coast of NE.	C	(1.a) [Z]	D 12,15 D 16,18 (9)	NA	E F G	NA	37	0.7	A
Ring-necked duck (*Athya collaris*) ---------- Nests in freshwater marshes, flooded swamps, sedge bogs, and beaver ponds and within woodlands near lakes or rivers. Winters in ice-free fresh or brackish marshes and rivers.	A	(2.a:e) [L-N]	D 1-3 (5)	NA	E F G	NA	21	0.5	A
Common goldeneye (*Bucephala clangula*) ---------- Nests in tree cavities near ponds, lakes, shallow weedy rivers and bogs. Winters in salt or brackish estuarine bays.	A	(3.a:e) [Z]	D 1-2, 8 D 4-6 D 17-18 D 15 (5)	NA	E F G	NA	21	0.5	A
Bufflehead (*Bucephala albeola*) ---------- Winters along coasts in sheltered bays and in the interior on ice-free rivers and lakes.	C	(1.a) [Z]	D 7 D 15-16 (9)	NA	E F G	NA	37	0.7	A
Hooded merganser (*Lophodytes cucullatus*) ---------- Nests in trees cavities near or over heavily wooded ponds, lakes, rivers, streams, and swamps. Winters in ice-free ponds, fresh and brackish marshes and coastal brackish bays.	A	(2.a:e) [Z]	D 1-2 D 4 D 6-8 D 15-17 (9)	NA	E F G	NA	37	0.5	A
Common merganser (*Mergus merganser*) ---------- Nests in tree cavities near secluded clear ponds, lakes, and rivers. Winters on ice-free fresh or brackish rivers, lakes, ponds and bays.	A	(2.a:e) [Z]	D 4 D 7,8 D 15-17 (9)	NA	E F G	NA	37	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
F	G H L M N	NA	NA											L/M
D 1 F	E F G H	NA	Ax=2 Ay=1	G 1-3 (1)	d e	NA	NA	9	0.1	A	D 1 F	E F G H	65 83	H
D 1 F	E F G H L	NA	Bz=2	A2,5 E2,5 (2)	b c h i	NA	NA	9	0.1	A	G	Z	1a 6a 41a 46a 83c	H
F	G H L	NA	NA											L
D 1 F	E F G H	NA	Ax=2 Ay=1	E2,5 (5)	b c	NA	NA	21	0.1	A	D 1 F	G H	46a 83c	H
F	G H L	NA	Ax=2 Ay=1	E2,5 (5)	b c h i j	NA	NA	21	0.1	A	G	G H	22a 23 41a 46a 83c	M

Species	I. Status of species in New England	II. Habitat strategies, (model type) and [habitat bound	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Red-breasted merganser (*Mergus serrator*) ---------- Nests under low, dense woody growth on islands, and shores of ponds, lakes, streams and rivers. Winters in ice-free coastal bays and inlets.	A	(2.a:e) [Z]	D 4-8 D 12 D 17 (9)	NA	E F G	NA	37	0.5	A
Turkey vulture (*Cathartes aura*) ---------- Nests on ledges or top of large stub or snag in open woodlands, forages over open country. Migrates for the winter.	B	(1.e) [G-N]	A 3,9 B 3,9 C 1-8 D 3 E 3,9 F 3-9 G 1-2 (100)	j	D J	NA	421	0.3	A B
Osprey (*Pandion haliaetus*) ---------- Nests in dead trees or on platforms near large bodies of water with fish populations. Migrates for the winter.	B	(2.a:e) [Z]	D 7 D 15-17 (100)	NA	E	NA	421	0.5	A
Bald eagle (*Haliaeetus leucocephalus*) ---------- Nests in a large, isolated, live tree near little disturbed large bodies of water with fish populations. Winters on the coast or on large inland lakes.	A	(2.a:e) [Z]	D 7,12 D 14,15 D 19 (100)	NA	E	NA	421	0.5	A
Northern harrier (*Circus cyaneus*) ---------- Nests on ground in tidal marshes, fresh marshes and wet meadows. Winters in coastal marshes.	A	(1.e) [G-N]	C 4-6,8 D 3,12 G 1-2 (100)	d j	D J	NA	421	0.7	A
Sharp-shinned hawk (*Accipiter striatus*) ---------- Nests, frequently in conifers, in open mixed or coniferous woodlands. Winters in similar habitats.	A	(1.e) [G-P]	A4,7,6,9 B4,7,6,9 C 3-8 E4,7,6,9 F4,7,6,9 (100)	b c h i	D J	NA	421	0.5	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
F	G H L	NA	Ax=2 Ay=1	C2 (5)	d j	NA	NA	21	0.1	A	G	Z	21b 22b 71c,d	M
G	Z	1-4 11-14 24-26 41-44 51-54	NA											H
F	H L M N	NA	Ax=4 Ay=1	A1, 10 E1, 10 (1)	b c h i j	NA	NA	9	0.1	A	G	Z	1-2 41-42	M
F	H L M N	NA	Ax=6 Ay=1	A1 C1 E1 (1)	b h	D J	NA	9	0.1	A	G	Z	1-2 41-42	H
G	Z	25a,c 64-65 73-74 64-65:25a 64-65:25c 73-74:do	NA											M
G	Z	1-4 11-14 41-44 51-54	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Cooper's hawk (*Accipiter cooperii*) ---------- Nests in trees in extensive deciduous or mixed woodlands and woodlots interspersed with open fields. In winter and on migration, may use any habitat containing trees.	A	(1.e) [G-P]	A 1,7 B 1,7 C 3-6, 8 E 1,7 F 1,7 (258)	b h	D J	NA	1085	0.5	A B
Northern goshawk (*Accipiter gentilis*) ---------- Nests in trees in the interior of remote and heavily forested coniferous and mixed forests. Winters in similar habitats.	A	(1.e) [G-P]	A 1, 4,7 E 1,4,7 (258)	b h	A B C D H I J	NA	1085	0.7	A B
Red-shouldered hawk (*Buteo lineatus*) ---------- Tree nester in moist hardwoods or mixed woodlands, wooded swamps, bottomlands and wooded margins of marshes and fields. Winters in similar types of habitats in southern NE.	A	(1.e) [G-N]	A 4,7 B 4,7 E 4,7 F 4,7 (100)	b h	D J	NA	421	0.5	A B
Broad-winged hawk (*Buteo platypterus*) ---------- Tree nester in dry to mesic deciduous and mixed forests on isolated wooded hillsides. Migrates for the winter.	B	(1.e) [G-P]	A 1,7 B 1,7 (100)	b c h i	D J	NA	421	0.7	A B
Red-tailed hawk (*Buteo jamaicensis*) ---------- Nests and winters in deciduous and mixed forests interspersed with fields and meadows.	A	(1.e) [G-N]	A 1,7 C 3-8 E 1,7 (100)	b h	D J	NA	421	0.5	A B
Rough-legged hawk (*Buteo lagopus*) ---------- Winters in open areas such as bushy fields, meadows and marshes, especially along the coast.	C	(1.e) [G-N]	C 3-8 D 3,12 G 1-2 (258)	NA	D J	NA	1085	0.5	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-4 11-14 41-44 51-54 1-4:24-25 11-14:do 41-44:do 51-54:do	NA											M
G	Z	1-4 11-14 41-44 51-54	NA											M
G	Z	41-44 41:64-65 41:25 a,b,c 42-44:do	NA											M
G	Z	1 -2 41 -42	NA											M/H
G	Z	1-4 41-44 24-26 64-65	NA											H
G	Z	24 a,b 25 a-c 26 a,b 64-65 73-74	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Golden eagle (*Aquila chrysaetos*) ---------- Rare nester and rare overwinter resident in New England.	C	(1.e) [G-N]	C 3-8 D 3, 12 G 1-2 (500)	NA	D J	NA	2,053	0.5	A B C
American kestrel (*Falco sparverius*) ---------- Nests in suitable cavities within scattered trees near open areas like wet meadows, forest edges, open ground, orchards, etc. Winters in similar habitats in southern NE.	A	(1.e) [G-N]	C 3-8 D 3,12 G 1-2 (100)	b c h i	A D J	NA	421	0.5	A B
Merlin (*Falco columbarius*) ---------- Nests in open coniferous forests and forages in marshes, beaches, mudflats, and fields. Migrates for the winter.	B	(1.e) [G-N]	A 4,7 C 3,4 D 3 E 4,7 (50)	b h	A D J	NA	225	0.5	A
Peregrine falcon (*Falco peregrinus*) ---------- Rare and local breeder on high rock cliffs overlooking a river, or other water body, or coastal bay. Winters on coastal barrier beaches.	A	(1.e) [G-N]	A 3,6,9 B 3,6,9 C 3,4 D 2,3 E 3,6,9 F 3,6,9 (500)	j	A D J	NA	2,053	0.5	A B C
Gray partridge (*Perdix perdix*) ---------- Resident in hayfields and grainfields in northwestern Vermont.	A	(1.e) [G-P]	C 4,7,8 (5)	j	J	NA	21	0.5	A
Ring-necked pheasant (*Phasianus colchicus*) ---------- Resident in open agricultural areas, fallow fields, thickets, and swamps.	A	(1.e) [G-N]	C 4-8 D 3 G 1-2 (5)	j	D J	NA	21	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	24-26 62 64-65 72-75	NA											L/M
G	Z	24-26 64-65 73-74 1-4:24-26 1-4:64-65 1-4:73-74 11-14:do 41-44:do 51-54:do	NA											M/H
G	Z	2 42 2:24-25 2:64-65 42:do	NA											L
G	Z	1-4 11-14 22a 24-26 41-44 51-54 64-65 73-74	NA											L
G	Z	25 a,c 26 a,b	NA											H
G	Z	25a,c 26a,b 64-65	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Spruce grouse (*Dendragapus canadensis*) ---------- Resident in coniferous forests, wooded tamarack swamps, cedar bogs, and muskegs.	A	(1.e) [G-P]	A 4,6 B 4,6 E 4,6 F 4,6 (9)	d j	B C D H I J	NA	37	0.7	A B C
Ruffed grouse (*Bonasa umbellus*) ---------- Resident in deciduous and mixed forests containing dense thickets mixed with some openings. Prefers the aspen type, but also occurs in habitats lacking aspen.	A	(1.e) [G-P]	A 3 B 3 C 3 E 3 F 3 (5)	j	D J	NA	21	0.5	A B
Wild turkey (*Meleagris gallopavo*) ---------- Resident in deciduous and mixed forests, field/forest habitats, and agricultural habitats in winter.	A	(1.e) [G-P]	A 3,6,9 C 4,6,8 E 3,6,9 (100)	j	D J	NA	421	0.3	A B
Northern bobwhite (*Colinus virginianus*) ---------- Resident in open heaths, weedy meadows, and open woodlands and thickets on Cape Cod and the islands. No longer a breeding bird in interior NE.	A	(1.e) [G-P]	B 3,9 C 3,4 C 6,8 (15)	j	J	NA	69	0.5	A
King rail (*Rallus elegans*) ---------- Nests in coastal and inland brackish to freshwater marshes with abundant emergent vegegation, roadside ditches and tidal rivers. Migrates for the winter.	B	(1.e) [G-N]	D 3,12 G 2 (2)	d	D E J	NA	9	0.5	A
Virginia rail (*Rallus limicola*) ---------- Nests in freshwater marshes with abundant vegetation such as sedges and cattails. Occasionally in brackish and salt marshes. Migrates for the winter.	B	(1.e) [G-N]	D 3,12 G 2 (2)	d	D E	NA	9	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	2,3 12 a 13,15 42,43 52 a 53	NA											M
G	Z	1 1:11a,c 1:24a 1:51a 41:do	NA											H
G	Z	1-2 41 1:24a 1:25 a,c 1:26 1:64 2:do 41:do	NA											H
G	Z	11 11:24a 11:25a,c 11:26a,b 11:64 25a,c 26a,b	NA											H
G	Z	65 74 83a	NA											L/M
G	Z	65 74 83a	NA											L/M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Sora (*Porzana carolina*) ---------- Nests on mats of vegetation in freshwater marshes, wet grassy meadows, bogs with dense vegetation like sedges and cattails, etc. Winters in tidal marshes in southern NE.	A	(1.e) [G-N]	D 3,12 G 2 (2)	d	D E J	NA	9	0.5	A
Common moorhen (*Gallinula chloropus*) ---------- Typically nests on emergent vegetation in freshwater marshes, ponds, lakes, etc., having water at least 0.3 m. deep. Migrates for the winter.	B	(1.e) [L-P]	D 3-6 D 18 G 2 (2)	d	D E	NA	9	0.5	A
American coot (*Fulica americana*) ---------- Nests on mats of floating vegetation in freshwater marshes, ponds, and rivers having abundant emergent vegetation. Migrates for the winter.	B	(1.a) [L-P]	D 3-7 D 12 D 17-18 G 2 (2)	d e	D E F G J	NA	9	0.5	A
Killdeer (*Charadrius vociferus*) ---------- Nests on the ground in heavily grazed meadows, edges of pastures, ponds, golf courses, airports, tilled fields, sand bars, waste places. Winters in similar types of habitats in southern NE that are ice-free.	A	(1.e) [F-P]	C 1,5 C 6,7 D 3,5 D 14 (9)	j	D J	NA	37	0.5	A B
Spotted sandpiper (*Actitis macularia*) ---------- Nests on the ground near the edges of ponds, lakes, and rivers; also pastures and golf courses. Migrates for the winter.	B	(1.e) [F-P]	C 4,6 D 3, 5 D 14, 17 G 1,2 (2)	d j	D E J	NA	9	0.3	A B
Upland sandpiper (*Bartramia longicauda*) ---------- Nests on the ground in large, wide open pastures or weedy fields, blueberry barrens in Maine, or at airports. Migrates for the winter.	B	(1.e) [F-P]	C 4-6,8 (9)	j	J	NA	37	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	64-65 83a	NA											M
G	Z	64-65 83a	NA											M
C 1 D 1 F	C E F G H	NA	NA											M
G	Z	21a 25b 61a,b 71a,b	NA											H
G	Z	21a 25a,b,c 61a,b 71a,b 81-83:25a-c	NA											H
G	Z	25a-c 26b	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Common snipe (*Gallinago gallinago*) ---------- Ground nester in or near marshes with short vegetation, sedgy bogs, alder swamps, pond margins, and wet meadows. Winters along coast in marshes, open creeks and pastures.	A	(1.a,e) [G-N]	D 2,3 D 5 D 17 G 1,2 (5)	d	D E	NA	21	0.3	A
American woodcock (*Scolopax minor*) ---------- Ground nester in moist early successional woodlands, alder thickets, woodland edges and open fields. Migrates for the winter.	B	(3.c,e:e) [G-N]	B 3,9 D 1-3 D 5 D 21-22 F 3,9 (2)	d j	D J	NA	9	0.3	A B
Ring-billed gull (*Larus delawarensis*) ---------- Ground nests on islands in lakes and rivers. Winters near salt water on coasts.	A	(2.a:e) [Z]	D 5,8,7 D 14-15 D 17,19 D 21-22 (100)	NA	D E	NA	421	0.5	A
Herring gull (*Larus argentatus*) ---------- Ground nests mainly on islands in lakes, rivers and estuaries, and on coastal beaches. Winters along coast or on ice-free inland waters.	A	(2.a:e) [Z]	D 5,8,7 D 14-15 D 17,19 D 21-22 (100)	NA	D E	NA	421	0.5	A
Great black-backed gull (*Larus marinus*) ---------- Ground nests on coastal islands and on cliffs and islands in freshwater lakes. Winters along coast or on ice-free inland waters.	A	(2.a:e) [Z]	D 7-10 D 16-19 D 21-22 (100)	NA	D E	NA	421	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
C1 D1	B C E F	51 62 64-65 83a,b 64-65:83a,b	NA											H
B1 C1 D1	Z	11 a,b 24 a,b 51 a,b 62a	Bz=4	C 4-8 (2)	NA	D J	NA	9	0.3	A B	B1 C1	Z	25a 25b 25c 26a	H
F	G H N	NA	Ax=5 Ay=1	C1-2 (2)	j	J	NA	9	0.3	A	G	Z	21a,b 61a,b 71a,b	M/H
F	G H N	NA	Ax=5 Ay=1	C1-2 (2)	j	J	NA	9	0.3	A	G	Z	21a,b 22a 25b 61a,b 71a,b	H
F	G H N	NA	Ax=5 Ay=1	C1-2 (2)	j	J	NA	9	0.3	A	G	Z	21a,b 22a 61a,b 71a,b	H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Common tern (*Sterna hirundo*) ---------- Ground nester on sandy and gravelly coastal beaches and dunes, and also on rocky shores of islands. Migrates for the winter.	B	(2.a:e) [Z]	D 12-15 (100)	NA	E	NA	421	0.5	A
Black tern (*Chlidonias niger*) ---------- Nests in New England, only in inland marshes around Lake Champlain. Migrates for the winter.	B	(1.e) [L-P]	D 3 G 1,2 (2)	d e	D E	NA	9	0.5	A
Rock dove (*Columba livia*) ---------- Resident in a variety of urban, suburban and agricultural sites, occasionally also on cliffs and ledges.	A	(1.e) [G-P]	A 10 B 10 C 5-8 E 10 F 10 (20)	h i j	J	NA	97	0.3	A B
Mourning dove (*Zenaida macroura*) ---------- Nests in shrubs and trees in open or semi-open country: woodland edges, orchards, farmlands, suburbs, towns. Winters in open mixed woodlands to central NE.	A	(1.e) [G-P]	A 1,4,7 B 1,4,7 C 5-8 (5)	h i	J	NA	21	0.3	A B
Black-billed cuckoo (*Coccyzus erythropthalmus*) ---------- Nests in brushy pastures, shrubby hedge rows at edges of fields, groves, thickets. Migrates for the winter.	B	(1.e) [G-P]	B 1 B 7 C 3,4 (2)	i	I	NA	9	0.3	A B
Yellow-billed cuckoo (*Coccyzus americanus*) ---------- Nests in dense woodland thickets, roadsides, overgrown orchards, brushy pastures, dense brushy streambanks. Migrates for the winter.	B	(1.e) [G-P]	B 1,7 C3,4 (5)	i	I	NA	21	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
F	L M	NA	Ax=5 Ay=1	C1,2 D14 (0.4)	j	NA	NA	9	0.3	A	F	Z	21a,b 22b 71b,c,d	H
G	Z	64-65 73-74	NA											H
G	Z	7 b 17 b 25 b,c 26 a 27 b	NA											H
G	Z	1-2 11-12 25 26 1-2:25 1-2:26 11-12:do	NA											H
G	Z	11 a,c 12 a 24 a 11a,c:25 12a:do 24a:do	NA											L/M
G	Z	11-12 24a 25a 11-12:81-83 11-12:24a 11-12:25a 1-2:do	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Common barn owl (*Tyto alba*) ---------- Inhabits open country and nests in old barns, steeples, etc. Avoids woodlands and higher elevations. Winters in open habitats in southern NE.	A	(1.e) [G-N]	C 4-8 (100)	h i	D J	NA	421	0.3	A
Eastern screech owl (*Otus asio*) ---------- Resident in orchards, small woodlots, open woodlands with suitable nest and roost cavities.	A	(1.e) [G-N]	A 2,5,8 C 4-8 D 3 E 2,5,8 (100)	b c h i	D J	NA	421	0.3	A B
Great-horned owl (*Bubo virginianus*) ---------- Resident in deep woods, large woodlots, extensive woody swamps, mixed countryside of forests and fields.	A	(1.e) [G-N]	A 1,4,7 A 3,6,9 C 4-8 D 1-3 D 12-14 E 1,4,7 E 3,6,9 (175)	b h	D J	NA	749	0.5	A B
Snowy owl (*Nyctea scandiaca*) ---------- Winters in open country and coastal marshes.	C	(1.e) [G-N]	C 4-8 D 3 D 12, 14 G 1-2 (200)	NA	D J	NA	861	0.3	A
Northern hawk owl (*Surnia ulula*) ---------- Winters in northern coniferous forests.	C	(1.e) [G-P]	A 4,6 E 4,6 (100)	NA	D J	NA	421	0.7	A B
Barred owl (*Strix varia*) ---------- Nests in tree cavities in low, wet deep mixed or coniferous woods. Winters in same area.	A	(1.e) [G-P]	A 4,7 A 6,9 C 3-6 D 1,2 E 4,7 E 6,9 (100)	b h	D J	NA	421	0.7	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	25 a-c 26 a,b 64-65 73-74	NA											L
G	Z	24-26 1-2:24-26 1-2:81 11-12:do 41-42:do 51-52:do	NA											L
G	Z	1-4 24 a 25 41-44 62 64-65 73-74	NA											M
G	Z	25 26 64-65 73-74	NA											M
G	Z	2 42	NA											L
G	Z	1-4 41-44	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Great gray owl (*Strix nebulosa*) ---------- Occasional winter migrant into semi-open country: fields with young deciduous forest growth.	C	(1.e) [G-P]	A 1 C 3-8 D 1-3 E 1 G 1-3 (100)	NA	D J	NA	421	0.3	A B
Long-eared owl (*Asio otus*) ---------- Uncommon resident that nests in coniferous or mixed woodlands, woodlots, and wooded swamps. Winters in dense coniferous groves in central and southern NE.	A	(1.e) [G-N]	A 4,7 A 6,9 C 3-8 D 1-3 E 4,7 E 6,9 (100)	b h	D J	NA	421	0.7	A B
Short-eared owl (*Asio flammeus*) ---------- Nests on the ground in open grasslands, marshes and dunes. Winters in similar habitats in coastal and southern NE.	A	(1.e) [G-N]	C 3-8 D3,12,14 G 1,2 (100)	d j	D J	NA	421	0.5	A
Boreal owl (*Aegolius funereus*) ---------- Occasionally winters in mixed and coniferous forests in northern New England.	C	(1.e) [G-P]	A 1,4,7 A 3,6,9 E 1,4,7 E 3,6,9 (100)	NA	D J	NA	421	0.7	A B
Northern saw-whet owl (*Aegolius acadicus*) ---------- Inhabits woodlots, moist deciduous and coniferous woods, wooded coniferous swamps, and mature forests with dead trees and cavities.	A	(1.e) [G-P]	A 1,4,7 A 3,6,9 E 1,4,7 E 3,6,9 (100)	b c h i	D J	NA	421	0.7	A B
Common nighthawk (*Chordeiles minor*) ---------- Nests in open areas: plowed fields, gravel beaches, barren areas with rocky soil, flat gravel rooftops. Migrates for the winter.	B	(4.e:f,a,e) [Z]	A 10 B 10 C 1 (1)	h i j	A	NA	9	0.1	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1 11 24 a,b 25 a-c 41 51 64-65	NA											L
G	Z	1-4 41-44 11-14 51-54	NA											L
G	Z	24a 25 62 64-65 73-74	NA											L/M
G	Z	1-4 11-14 41-44 51-54	NA											L
G	Z	1-4 11-14 41-44 51-54	NA											L
G	Z	7e 17e	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	24-26 61-66 72 74-75 81-83	L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Whip-poor-will (*Caprimulgus vociferus*) ---------- Nest on the ground in dry, open deciduous or mixed young woodlands and brushy field edges. Avoids mountains and mature forests. Migrates for the winter.	B	(1.c,e) [F-P]	B 3 B 9 (10)	j	A J	NA	69	0.3	A B
Chimney swift (*Chaetura pelagica*) ---------- Nests in vertical structures of buildings in cities, towns and farms: chimneys, silos, air shafts. Migrates for the winter.	B	(4.e:f,a,e) [Z]	A 10 B 10 (1)	h i k	A	NA	9	0.1	A B
Ruby-throated hummingbird (*Archilochus colubris*) ---------- Nests in shrubs and trees in mixed woods, residential areas, orchards, near streams and wooded swamps. Migrates for the winter.	B	(1.e) [G-P]	A 1,7 B 1,7 D 1,2 E 1,7 F 1,7 (1)	b c h i	B C D H I J	NA	9	0.3	A B
Belted kingfisher (*Ceryle alcyon*) ---------- Nests in burrows near ponds, lakes, rivers, and streams that contain fish. Winters near ice-free water in southern NE.	A	(3.c:a) [L-P]	H 3 (1)	k	NA	NA	9	0.3	A
Red-headed woodpecker (*Melanerpes erythrocephalus*) ---------- Nests in tree cavities in open upland forests, groves, orchards, river bottoms, wooded swamps and flooded trees in beaver ponds. Migrates for the winter.	B	(1.e) [G-P]	A 2,8 D 1,2 E 2,8 (5)	b c h i	B C D H I J	NA	21	0.3	A B
Red-bellied woodpecker (*Melanerpes carolinus*) ---------- Nests in tree cavities in bottomland deciduous and mixed forests, woodlots, orchards, dead trees. Migrates for the winter.	B	(1.e) [G-P]	A 2,8,5 E 2,8,5 (5)	b c i h	B C D H I J	NA	21	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
A1 B1	Z	1 b 11 1b:25 11:do	NA											L
G	Z	7a,b,d,e 17a,b,d,e	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	24-26 61-66 72 74-75 81-83	L
G	Z	1-2:24-26 1-2:81-83 11-12:do 41-42:do 51-52:do	NA											H
B 1	Z	NA	Bz=35	D 4,6 D 7,8 D 17,19 (2)	NA	E	NA	9	0.3	A	F	G H	NA	M
G	Z	1 41 83c 1:81-83 1:24-26 41:do	NA											L
G	Z	1-4 11-14 41-44 51-54	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Yellow-bellied sapsucker (*Sphyrapicus varius*) ---------- Nests in tree cavities in mixed hardwood-coniferous forests, near water and small clearings, woodlots, and orchards. Winters in many similar types of habitats in southern NE.	A	(1.e) [G-P]	A 2,5,8 D 1 E 2,5,8 (2)	b c h i	B C H I	NA	9	0.3	A B	G
Downy woodpecker (*Picoides pubescens*) ---------- Resident that nests in tree cavities in interior and edges of open mixed woodlots and forests, orchards, and urban shade trees. Winters in many similar types of habitat.	A	(1.e) [G-P]	A 1,2 A 7,8 D 1 E 1,2 E 7,8 (4)	b c h i	B C H I	NA	21	0.3	A B	G
Hairy woodpecker (*Picoides villosus*) ---------- Resident that nests in tree cavities in open coniferous, deciduous and mixed forests, and woodlots with mature living and dead trees. Prefers bottomlands with large trees. Winters in similar habitats.	A	(1.e) [G-P]	A 2,5,8 D 1 E 2,5,8 (5)	b c h i	B C H I	NA	21	0.3	A B	G
Three-toed woodpecker (*Picoides tridactylus*) ---------- Resident that nests in tree cavities in coniferous forests, especially areas with standing dead timber. Winters in similar habitats.	A	(1.e) [G-P]	A 5 E 5 (10)	c i	B C H I	NA	69	0.3	A B	G
Black-backed woodpecker (*Picoides articus*) ---------- Resident that nests in tree cavities in coniferous forest swamps with many dead trees. Winters in similar habitats.	A	(1.e) [G-P]	E 5 (10)	c i	B C H I	NA	69	0.3	A B	G
Northern flicker (*Colaptes auratus*) ---------- Nests in tree cavities in woodland edges, woodlots, open coniferous, deciduous or mixed woods and open fields with scattered trees. May winter in coniferous woods or swamps in southern NE.	A	(1.e) [G-P]	A 2,5 A 8 C 4-8 (2)	h i	J	NA	9	0.5	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	1-2 41-42	NA											H
Z	1-4 11a,c 41-44 51a,c 1-4:24-26 41-44:do	NA											H
Z	1-4 41-44	NA											H
Z	2 5-6 42 45-46 83c	NA											L
Z	2-3 6 42-43 46 83c	NA											M
Z	1-4 24-26 1-4:24-26	NA											H

	I. Status of species in New England	II. model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Pileated woodpecker (*Dryocopus pileatus*) ---------- Resident that nests in tree cavities in extensive second growth and mature coniferous, deciduous, or mixed forests, often in woodlands and wooded swamps. Winters in similar habitats.	A	(1.e) [G-P]	A 2,5,8 D 1 E 2,5,8 (50)	b c h i	B C H I	NA	225	0.5	A B	G
Olive-sided flycatcher (*Contopus borealis*) ---------- Nests in trees near edges and clearings of coniferous forests, along wooded streams, bogs, muskegs and burned-over areas. Migrates for the winter.	B	(1.e) [G-P]	A 4,7 D 1 E 4,7 (5)	b c h i	A B C H I	NA	21	0.3	A B	G
Eastern wood-pewee (*Contopus virens*) ---------- Nests in trees within interiors and edges of deciduous and mixed forests, woodlots, and wooded stream courses. Migrates for the winter.	B	(1.e) [G-P]	A 1,7 E 1,7 (5)	b c h i	A B C H I	NA	21	0.3	A B	G
Yellow-bellied flycatcher (*Empidonax flaviventris*) ---------- Nests on or near the ground in low, wet, swampy thickets bordering bogs, beaver ponds, spruce and alder swamps, in coniferous forests. Migrates for the winter.	B	(1.e) [G-P]	D 1,2 F 4,7 G 1,2 (5)	d	A	NA	21	0.3	B	G
Acadian flycatcher (*Empidonax virescens*) ---------- Nests in trees in deciduous woodlands, ravines, heavily wooded bottoms, river swamps. Migrates for the winter.	B	(1.e) [G-P]	A 1 B 1 D 1-2 E 1 F 1 G 3 (5)	c i	A	NA	21	0.3	A	G
Alder flycatcher (*Empidonax alnorum*) ---------- Nests in shrubs in low, damp or wet thickets bordering wooded swamps, bogs, and streams. Migrates for the winter.	B	(1.e) [G-P]	D 2 F 1 G 3 (5)	c d	A	NA	21	0.3	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	1-4 5-6 41-44 45-46	NA											H
Z	2 5-6 42 45-46 2:24a 2:25a 2:81-82 42:do	NA											M
Z	1-2 41-42 1-2:24-26 1-2:83 41-42:do	NA											H
Z	42 52 42:81, 83 52:do	NA											H
Z	41 51 1:81, 83 11:do 41:do 51:do	NA											M
Z	11:81-83 51:81-83	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Willow flycatcher (*Empidonax traillii*) ---------- Nests in shrubs in open, newly clearcut areas, brushy fields, hedgerows, roadsides, orchards. Migrates for the winter.	B	(1.e) [G-P]	B 1 C 3-4 (5)	b c h i	A	NA	21	0.3	A B	G
Least flycatcher (*Empidonax minimus*) ---------- Nests in trees in deciduous forest edges, interiors of open mature or poletimber hardwood stands, orchards, roadsides. Migrates for the winter.	B	(1.e) [G-P]	A 1 B 1 E 1 F 1 (2)	b c h i	A	NA	9	0.3	A B	G
Eastern phoebe (*Sayornis phoebe*) ---------- Nests on ledges or anthropogenic structures on wooded hillsides, ravines, woodland cliffs, often near streams, and in suburban residential areas. Migrates for the winter.	B	(1.e) [G-P]	A 1,7,10 B 1,7,10 E 1,7,10 F 1,7,10 (5)	c i j	A	NA	21	0.3	A B	G
Great crested flycatcher (*Myiarchus crinitus*) ---------- Nests in tree cavities in interiors and edges of fairly open deciduous or mixed woodlands, wooded swamps, old orchards, wooded parks. Migrates for the winter.	B	(1.e) [G-P]	A 1,7 E 1,7 (5)	b c h i	A B C H I	NA	21	0.3	A B	G
Eastern kingbird (*Tyrannus tyrannus*) ---------- Nests in trees in orchards, pastures, shrubby edges of fields, near streams with shrubby banks, swamps and marshes. Migrates for the winter.	B	(1.e) [G-N]	B 1 C 4,6 D 3 (10)	b c h i	A	NA	69	0.3	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	11 24 51 62 11:24-26 51:do	NA											M
Z	11 51 1:24-26 11:do 41:do 51:do	NA											M
Z	1:24-26 1:81 11:do 41:do 51:do 22a 7a,b,d,e 17a,b,d,e	NA											H
Z	1 11 41 51 1:24-26 1:81-83 41:do	NA											H
Z	11 25a 51 1:24-26 1:64-65 1:81-83 11:do 41:do 51:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Horned lark (*Eremophila alpestris*) ---------- Resident that nests on the ground in plowed fields and large open areas with closely cropped grasses. Winters on coastal dunes, and barren snowless uplands.	A	(1.e) [G-N]	C 1 C 5,7 (5)	j	J	NA	21	0.5	A B
Purple martin (*Progne subis*) ---------- Colonial nester originally in tree cavities now largely in nest boxes in open country, preferably near water. Migrates for the winter.	B	(4.e:f,a,e) [Z]	C 4-8 D 2-4 (1)	c i	A	NA	9	0.1	A
Tree swallow (*Tachycineta bicolor*) ---------- Nests in tree cavities in open areas, especially river bottomlands, beaver ponds, swamps or marshes with dead, standing trees with abandoned woodpecker holes in or near water. Migrates for the winter.	B	(4.e:f,a) [Z]	A 8 D 1-2 E 8 (2)	c i	A C I	NA	9	0.1	A B
Northern rough-winged swallow (*Stelgidopteryx serripennis*) ---------- Nests in burrows or anthropogenic structures in river valleys, lake shores and a variety of open areas with adequate banks for nesting and a water supply. Migrates for the winter.	B	(4.c:f,a,e) [Z]	C 1 H 3 (1)	k	A	NA	9	0.1	A B
Bank swallow (*Riparia riparia*) ---------- Nests in sand or clay banks, sand pits, riverbanks, road cuts, near grassy or cultivated fields and fresh water. Migrates for the winter.	B	(4.c:f,a,e) [Z]	C 1 H 3 (1)	k	A	NA	9	0.1	A B
Cliff swallow (*Hirundo pyrrhonota*) ---------- Nests on buildings, cliffs, bridges in open country and occurs in open forests. Migrates for the winter.	B	(4.e:f,a,e) [Z]	A 10 B 10 C 2 E 10 F 10 (1)	b c h i j	A	NA	9	0.1	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	21a 25b,c 26a 61b 71b	NA											H
G	Z	7f 17f 47d 57d	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	24-26 61-66 72 74-75 81-83	L
G	Z	6 46 83 b,c 41:81	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	NA	L
B1	Z	NA	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	24-26 61-66 72 74-75 81-83	L
B1	Z	NA	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	24-26 61-66 72 74-75 81-83	L
G	Z	7b,d 17b,d 22a 47 a,b 57a,b	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	24-26 61-66 72 74-75 81-83	L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Barn swallow (*Hirundo rustica*) ---------- Inhabits farmlands and open country with suitable buildings that provide nests sites. Migrates for the winter.	B	(4.e:f,e) [Z]	A 10 B 10 C 2 E 10 F 10 (1)	b c h i j	A	NA	9	0.1	A B
Gray jay (*Perisoreus canadensis*) ---------- Resident that nests in trees in spruce and fir forests, conifer swamps, and wooded mountain slopes. Winters in same types of habitats.	A	(1.e) [G-P]	A 4,6 A 7,9 B 4,6 B 7,9 D 1-2 E 4,6 E 7,9 F 4,6 F 7,9 (10)	b c h i	B C D H I J	NA	69	0.7	A B C
Blue jay (*Cyanocitta cristata*) ---------- Resident that nests in shrubs and low trees in coniferous, deciduous or mixed woodlands, woodlots and parks containing mast-bearing trees. Winters in same types of habitats.	A	(1.e) [G-P]	A 1,4,7 A 3,6,9 E 1,4,7 E 3,6,9 (10)	b c h i	B C D H I J	NA	69	0.3	A B
American crow (*Corvus brachyrhynchos*) ---------- Resident that nests in trees in the interior and edges of open deciduous, coniferous and mixed woodlands and woodlots near farmland. Avoids deep forests. Winters in same types of habitats.	A	(1.e) [G-P]	A 1,4,7 A 3,6,9 C 4-8 E 1,4,7 E 3,6,9 (30)	b c h i	D J	NA	137	0.3	A B
Fish crow (*Corvus ossifragus*) ---------- Resident in southern NE that nests in trees in wooded marine shorelines, near coastal marshes, beaches, inland wetlands and tidal rivers. Winters in same types of habitats.	A	(1.e) [G-N]	A 1,4,7 D 1-3 D 5,8,10 D 12-14 D 17 D 21-22 E 1,4,7 (30)	b h	D J	NA	137	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	7 a,b,d,e 17 a,b,d,e 22 a 47a,b 57a,b	Cz=18	NA	NA	A	NA	1085	0.3	A B	G	Z	24-26 61-66 72 74-75 81-83	L
G	Z	2 12 a 42 52a	NA											L/M
G	Z	1-4 11-14 41-44 51-54 1-2:24-26 41-42:do	NA											H
G	Z	1-4 25-26 41-44 1-4:25-26 41-44:do	NA											H
G	Z	1-4:71a-c 1-4:73-74 1-4:81a 41-44:do	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Common raven (*Corvus corax*) ---------- Resident that nests on sheltered cliffs in forested areas or in tree crowns. Prefers open woodlands, clearings and avoids extensive, dense forests. Winters along lake shores, river banks, and along coasts.	A	(1.e) [G-N]	A 1,4,7 A 3,6,9 E 1,4,7 E 3,6,9 C 1-2 D 2-3,5 D 12-14 D 17 (200)	b h j	D J	NA	861	0.3	A B C
Black-capped chickadee (*Parus atricapillus*) ---------- Resident that nests in tree cavities and inhabits deciduous, coniferous and mixed forests and woodlands.	A	(1.e) [G-P]	A 1,4,7 A 2,5,8 E 1,4,7 E 2,5,8 (9)	b c h i	B C H I	NA	37	0.3	A B C
Boreal chickadee (*Parus hudsonicus*) ---------- Resident that nests in tree cavities and inhabits northern coniferous forests, wooded swamps, and bogs.	A	(1.e) [G-P]	A 4,5 A 7,8 B 4,5 B 7,8 D 1-2 E 4,5,7,8 F 4,5,7,8 (9)	c i	B C H I	NA	37	0.3	B C
Tufted titmouse (*Parus bicolor*) ---------- Resident that nests in tree cavities and inhabits moist deciduous or mixed woodlands, bottomland forests and swamps and residential areas.	A	(1.e) [G-P]	A 1,4,7 A 2,5,8 B 1,4,7 E 1,4,7 E 2,5,8 F 1,4,7 (5)	b c h i	B C D H I J	NA	21	0.3	A B
Red-breasted nuthatch (*Sitta canadensis*) ---------- Nests in tree cavities and inhabits coniferous forests, sometimes in mixed woodlands. Winters in same type of habitats in central and southern NE.	A	(1.e) [G-P]	A 4,5 A 7,8 E 4,5 E 7,8 (5)	b c h i	B C H I	NA	21	0.3	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 15 22a 41-42 71a-c	NA											H
G	Z	1-4 6 11-14 41-44 46 51-54	NA											H
G	Z	2-3 5-6 42-43 45-46	NA											M
G	Z	1-2 5-6 11-12 41-42 45-46 51-52 1-2:25 41-42:25	NA											H
G	Z	2 6 42 46	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
White-breasted nuthatch (*Sitta carolinensis*) ---------- Resident that nests in tree cavities and inhabits mixed or deciduous woodlands with large trees.	A	(1.e) [G-P]	A 1,2 A 7,8 E 1,2 E 7,8 (9)	b c h i	B C H I	NA	37	0.3	A B
Brown creeper (*Certhia americana*) ---------- Nests low on tree trunks and inhabits dense coniferous, deciduous or mixed woodlands and wooded swamps. Winters in same types of habitats in southern NE where it also occurs in trees in residential areas.	A	(1.e) [G-P]	A 1,2,4,5 A 7,8 E 1,2,4,5 E 7,8 D 1 (5)	c i	B C H I	NA	21	0.7	A B
Carolina wren (*Thryothorus ludovicianus*) ---------- Resident in extreem southern NE where it nests on the ground or in shrubbery and inhabits a variety of brushy habitats: woodland edges, streamside tangles, brushy upland slopes, residential shrubbery.	A	(1.e) [G-P]	B 1,7 D 2 F 1,7 (9)	c i	C D I J	NA	37	0.3	A
House wren (*Troglodytes aedon*) ---------- Nests in tree cavities and a variety of anthropogenic structures and occurs near human homes, farms, suburbs, orchards, and swampy woodland with thick shrubby vegetation. Migrates for the winter.	B	(1.e) [G-P]	B 1,7 D 2 F 1,7 (3)	c i	C D I J	NA	21	0.3	A B
Winter wren (*Troglodytes troglodytes*) ---------- Nests in cavities close to the ground and inhabits dense undergrowth of damp mixed or coniferous forests, thickets near woodland streams, and slash piles. Winters in dense thickets in southern NE.	A	(1.e) [G-P]	A 6,9 B 1,7 D 1,2 E 6,9 F 1,7 (3)	c d i j	D J	NA	21	0.5	A B
Sedge wren (*Cistothorus platensis*) ---------- Nests in grasses in sedge meadows, sedge marshes with scattered shrubs and little or no standing water, and coastal brackish Spartina patens marshes. Migrates for the winter.	B	(1.e) [G-N]	D 3,12 G 1,2 (2)	d	D	NA	9	0.5	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1 5,6 41 45,46	NA											H
G	Z	1-4 6 41-44 46	NA											H
G	Z	11 51 11:24a 11:25a 11:81 51:do	NA											L/M
G	Z	1:7a,b,d 1:17a,b,d 1:24-26 11:do 41:do 51:do	NA											H
G	Z	2 12a 42 52a 2:81 12a:do 42:do 52a:do	NA											H
G	Z	64-65 73-74	NA											L/M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Marsh wren (*Cistothorus palustris*) ---------- Nests in tall marsh plants and inhabits large fresh or brackish marshes with tall herbaceous vegetation such as cattails (*Typha*) or purple loosestrife (*Lythrum salicaria*). Migrates for the winter.	B	(1.a,e) [G-N]	D 3 D12 G 2 (2)	d	D	NA	9	0.5	A
Golden-crowned kinglet (*Regulus satrapa*) ---------- Nests in trees and inhabits dense northern coniferous forests. Occurs in balsam fir, larch, cedar bogs and spruce plantations. Winters in moist forests with coniferous thickets in southern NE.	A	(1.e) [G-P]	A 4 D 1 E 4 (2)	b c h i	B C H I	NA	9	0.7	B C
Ruby-crowned kinglet (*Regulus calendula*) ---------- Nests in trees and inhabits northern coniferous forests. Winters in open and edge situations in coniferous or deciduous forest understory in southern NE.	A	(1.e) [G-P]	A 4 B 4 D 1,2 E 4 F 4 (2)	b c h i	B C D H I J	NA	9	0.5	B C
Blue-gray gnatcatcher (*Polioptila caerulea*) ---------- Nests in trees and inhabits open, moist deciduous or mixed woodlands interspersed with brushy clearings. Migrates for the winter.	B	(1.e) [G-P]	A 1,7 B 1 D 1,2 E 1,7 F 1 (4)	b c h i	B C H I	NA	21	0.3	A B
Eastern bluebird (*Sialia sialis*) ---------- Nests in tree cavities and nests boxes and inhabits open country with scattered trees, farmlands, open woods, beaver swamps. Winters in similar types of habitats in southern NE.	A	(1.e) [G-P]	B 1,3,7,9 C 4-6 D 2,3 F 1,3,7,9 (8)	c i	A C D I J	NA	37	0.3	A B
Veery (*Catharus fuscescens*) ---------- Nests on or near the ground and inhabits low moist deciduous woods, bottomland forests, wooded swamps, damp ravines. Prefers thickets of early deciduous second growth. Migrates for the winter.	B	(1.e) [G-P]	A 3 B 3 D 1,2 E 3 F 3 (4)	d j	C D I J	NA	21	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
C 1 D 1	B C E F	65 74	NA											H
G	Z	2,3 42,43	NA											H
G	Z	2-3 11-12 42-43 51-52	NA											H
G	Z	1-2 41-42 1-2:11-12 1-2:51-52 1-2:81-83 41-42:do	NA											M
G	Z	11a,c 51a,c 1-2:25-26 1-2:64-65 1-2:81, 83c 41-42:do	NA											M
G	Z	41 51a 1:83 b,c 11a:do 41:do 51a:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Bicknell's thrush (*Catharus bicknelli*) ---------- Nests in bushes or on the ground in moist northern coniferous forests, and in stunted spruce-fir (Krummholz) at high elevations. Migrates for the winter.	B	(1.e) [G-P]	A 4,6 B 4,6 (5)	i j	J	NA	21	0.5	C
Swainson's thrush (*Catharus ustulatus*) ---------- Nests low in trees in young and/or mature coniferous or mixed forests. Migrates for the winter.	B	(1.e) [G-P]	A 4,6 A 7,9 B 4,6 B 7,9 (5)	c i	B C D H I J	NA	21	0.5	B
Hermit thrush (*Catharus guttatus*) ---------- Nests on the ground and inhabits lowland wooded swamps and damp forests and brushy clearings in upland forests. Winters in wooded swamps in southern NE.	A	(1.e) [G-P]	A 4,6,7,9 B 4,6,7,9 C 4 D 1,2 E 4,6,7,9 F 4,6,7,9 (8)	d j	D J	NA	37	0.3	A B
Wood thrush (*Hylocichla mustelina*) ---------- Nests in shrubs or small trees and inhabits mature or pole timber deciduous or mixed forests with a well-developed understory, often near water. Migrates for the winter.	B	(1.e) [G-P]	A 1,3,7,9 B 1,3,7,9 E 1,3,7,9 F 1,3,7,9 (5)	b c h i	D J	NA	21	0.5	A B
American robin (*Turdus migratorius*) ---------- Nests in trees and inhabits open woodlands, forest edges, fields, orchards, and shade trees in residential areas. Winters in sheltered wooded areas in southern NE.	A	(1.e) [G-P]	A 1,4,7 A 3,6,9 B 1,4,7 B 3,6,9 C 4-6 E 1,4,7 E 3,6,9 F 1,4,7 F 3,6,9 (2)	b c h i	C D I J	NA	9	0.3	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	2 12 15	NA											M
G	Z	2 12a 2:81-83 12a:do 42a,b 52a	NA											M
G	Z	1-2:24a 1-2:25a 1-2:83 b,c 11-12:do 41-42:do 51-52:do 41-42 51-52	NA											H
G	Z	1 41 1:81-83 41:do	NA											H
G	Z	1-2 11-12 25-26 41-42 51-52 1-2:25-26 11-12:do 41-42:do 51-52:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Gray catbird (*Dumetella carolinenis*) ---------- Nests in dense thickets and inhabits woodland edges, streamside thickets, brushy forest clearings and shrubbery around buildings. Migrates for the winter.	B	(1.e) [G-P]	B 1,3 B 7,9 C 3 F 1,3 F 7,9 (2)	c d i j	C D I J	NA	9	0.3	A B	G
Northern mockingbird (*Mimus polyglottos*) ---------- Resident in southern and central NE where it nests in a thicket of shrubs and vines and inhabits woodland edges, pastures with scattered fruit-bearing shrubs, and residential shrubbery.	A	(1.e) [G-P]	A 1,4,7 B 1,4,7 C 3,4 (2)	i j	C D I J	NA	9	0.3	A B	G
Brown thrasher (*Toxostoma rufum*) ---------- Nests on or near the ground and inhabits bushes, low trees, thickets within open pastures, along woodland edges, or clearings in early forest succession. Migrates for the winter.	B	(1.e) [G-P]	B 1,4,7 B 3,6,9 C 3,4 (2)	i j	I J	NA	9	0.3	A B	G
Bohemian waxwing (*Bombycilla garrulus*) ---------- Winter visitor to northern NE habitats with persistent fruit bearing trees and shrubs.	C	(1.e) [G-P]	B 1,7 C 3,4,6 D 2 F 1,7 (10)	NA	B C H I	NA	69	0.3	A B	G
Cedar waxwing (*Bombycilla cedrorum*) ---------- Nests in trees and inhabits open deciduous and coniferous woodlands, orchards, and agricultural lands near water. Winters in similar types of habitats in southern NE.	A	(1.e) [G-P]	B 1,7 C 3,4,6 D 1,2 F 1,7 (2)	b c h i	B C H I	NA	9	0.5	A B	G
Northern shrike (*Lanius excubitor*) ---------- Winters in semi-open country with short grasses and scattered trees or shrubs.	C	(1.e) [G-P]	C 3-8 G 1-2 (10)	NA	A D J	NA	69	0.3	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	1-2:11, 24 1-2:51 41-42:11, 24 41-42:51 11:81-83 51:81-83 11 51	NA											H
Z	1-2:24a,b 1-2:25a,c 11-12:do 41-42:do 51-52:do 25a,c 24a,b 11a,b 51a,b	NA											H
Z	11a 24a 1-2:24a 1-2:25a 11-12:do	NA											L/M
Z	1-2 11-12 41-42 51-52	NA											L
Z	1-2:24-26 1-2:81-83 1-2:11-12 41-42:24-26 41-42:11-12 41-42:51-52 41-42:81-83	NA											H
Z	24a 25a,c 11:24-26 11:64-65	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Loggerhead shrike (*Lanius ludovicianus*) ---------- Nests in trees or shrubs and inhabits open country with scattered trees, shrubs and hedgerows. Migrates for the winter.	B	(1.e) [G-P]	C 3-8 G 1 (24)	h i	D J	NA	97	0.3	A	G
European starling (*Sturnus vulgaris*) ---------- Resident that nests in cavities in trees or buildings and inhabits farms, cities, orchards, parks, cultivated fields and hayfields.	A	(1.e) [G-P]	C 5-8 (5)	h i	J	NA	21	0.3	A B	G
White-eyed vireo (*Vireo griseus*) ---------- Nests in shrubs and inhabits dense shrubby lowlands, briar patches, deciduous forest undergrowth, forest edges, old fields, low swampy areas. Migrates for the winter.	B	(1.e) [G-P]	B 1 C 3 D 2 F 1 G 3 (5)	c d i j	C I	NA	21	0.3	A B	G
Blue headed vireo (*Vireo solitarius*) ---------- Nests low in trees and inhabits coniferous or mixed woodlands with canopy gaps and dense understories. More common at higher elevations. Migrates for the winter.	B	(1.e) [F-P]	A 4,7 B 4,7 (2)	i	I	NA	9	0.7	B	G
Yellow-throated vireo (*Vireo flavifrons*) ---------- Nests in trees and inhabits tall deciduous trees in woodlands with partial canopies, woodland borders, streamsides and swampy woods. Migrates for the winter.	B	(1.e) [G-P]	A 1 B 1 E 1 F 1 (5)	b c h i	B C H I	NA	21	0.3	A B	G
Warbling vireo (*Vireo gilvus*) ---------- Nests in trees and inhabits open deciduous woodlands, deciduous riparian woodlands, floodplains, orchards and shadetrees. Migrates for the winter.	B	(1.e) [G-P]	A 1 E 1 (5)	b h	B H	NA	21	0.3	A	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	24a 11-12:24a 11-12:25-26 11-12:64 25a	NA											L
Z	7 a,b,d 17 a,b,d 25-26 47 a,b 57 a,b 1-2:25-26	NA											H
Z	1-2:24a 1-2:25-26 41-42:do 11-12 51-52 24a, 25a 11-12:64	NA											L
Z	2 12	NA											L/H
Z	1 41 1:24a 1:25a 1:81, 83 41:do	NA											M
Z	1:24a,b 1:25a,b 1:81 41:do	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Philadelphia vireo (*Vireo philadelphicus*) ---------- Nests in trees and inhabits deciduous or mixed forest edges, brushy clearings, regenerating clearcuts, burns with second growth hardwoods, and streamside thickets. Migrates for the winter.	B	(1.e) [G-P]	A 1,4,7 B 1,4,7 E 1,4,7 F 1,4,7 (5)	b c h i	B C H I	NA	21	0.3	A B
Red-eyed vireo (*Vireo olivaceus*) ---------- Nests in trees and inhabits open deciduous and second growth woodlands with thick sapling undergrowth. Ubiquitous in deciduous woodlands including residential areas. Migrates for the winter.	B	(1.e) [G-P]	A 1,7 B 1 E 1,7 F 1 (2)	b c h i	B C H I	NA	9	0.3	A B
Blue-winged warbler (*Vermivora pinus*) ---------- Nests on the ground and inhabits field-forest edges, brushy old fields, and edges of wooded swamps. Migrates for the winter.	B	(1.e) [G-P]	B 1,7 B 3,9 D 2 F 1,7 F 3,9 (4)	d j	B C H I	NA	21	0.3	A
Golden-winged warbler (*Vermivora chrysoptera*) ---------- Nests on the ground and inhabits damp fields, meadows with thick grass, clumps of shrubs, and young hardwood strands in moist habitats. Migrates for the winter.	B	(1.e) [G-P]	B 1,3,7,9 C 3,4 D 3 F 1,3,7,9 (5)	d j	B C H I	NA	21	0.3	A
Tennessee warbler (*Vermivora peregrina*) ---------- Nests on the ground and inhabits brushy or grassy openings, and clearcuts in northern deciduous or mixed forests. Migrates for the winter.	B	(1.e) [G-P]	B 1,3 C 3,4 D 1,2 F 1,3 (4)	d j	B C H I	NA	21	0.3	B
Nashville warbler (*Vermivora ruficapilla*) ---------- Nests on the ground and inhabits moist open deciduous woods, overgrown pastures and fields, swampy areas and woodland edges, openings in dry woods, and dry brushy old pastures. Migrates for the winter.	B	(1.e) [G-P]	B 1,3 C 3,4 D 1,2 F 1,3 (5)	d j	B C H I	NA	21	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2:11 41-42:51 24a 1-2:24a 1-2:25a 1-2:81 11:do 41-42:do 51:do	NA											M
G	Z	1 11 41 51	NA											H
G	Z	1-2:24-25 1-2:81,83 41-42:do 24a,b 25a 62a,b	NA											H
G	Z	1:24-26 1:11 41:51 24 25a 64 11: 51	NA											L
G	Z	1:24 1:25a 11:24 11:25a 41:62-64 51:62-64	NA											M
G	Z	11a 24a,25a 51a 62a 1:24a,25a 1:62a, 64 11a:do 41:do 51a:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Northern parula (*Parula americana*) ---------- Nests in the midstory and overstory layers, in wooded bogs and swamps with coniferous trees, on branches where the bearded lichen (*Usnea*) grows. Migrates for the winter.	B	(1.e) [G-P]	A 4 E 4 (4)	b c h i	B C H I	NA	21	0.5	A B	G
Yellow warbler (*Dendroica petechia*) ---------- Nests in shrubs or saplings in farmlands, orchards, and bordering roads, streams and lakes, and alder swales. Migrates for the winter.	B	(1.e) [G-P]	B 1 C 3,4 F 1 (4)	b c h i	B C H I	NA	21	0.3	A B	G
Chestnut-sided warbler (*Dendroica pensylvanica*) ---------- Nests low in second growth woodland edges, abandoned fields, regenerating clearcuts, shelterwood cuts, open woodlots with thick understories, old burns and roadsides. Migrates for the winter.	B	(1.e) [G-P]	B 1 C 3,4 D 2 F 1 (3)	d j	B C H I	NA	21	0.3	A B	G
Magnolia warbler (*Dendroica magnolia*) ---------- Nests in the midstory and overstory layers in small clumps of spruces and hemlocks and coniferous saplings in old fields. Migrates for the winter.	B	(1.e) [G-P]	B 4 F 4 (3)	c d i j	B C H I	NA	21	0.3	A B	G
Cape May warbler (*Dendroica tigrina*) ---------- Nests in the top of coniferous trees in open coniferous forests with mature spruces and an uneven tree canopy profile. Migrates for the winter.	B	(1.e) [G-P]	A 4 B 4 E 4 F 4 (3)	b c h i	B C H I	NA	21	0.3	A B	G
Black-throated blue warbler (*Dendroica caerulescens*) ---------- Nests in the understory or midstory of moist deciduous or mixed forests with thick undergrowth, and edges of forest clearings. Migrates for the winter.	B	(1.e) [G-P]	A 1,4,7 B 1,4,7 E 1,4,7 F 1,4,7 (3)	c d i j	B C H I	NA	21	0.5	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	2 42 83c	NA											H
Z	11a,c 24a 51a,c 62a 11a,c:25-26 11a,c:81-83 51a,c:do 1:do 41:do	NA											H
Z	11a-c 24a-b 25a,c 51a-c 62a 11a-c:24a-b 11a-c:25a,c 11a-c:81 51a-c:do	NA											H
Z	12 52 2:24,25a 2:62b 12:do 42:do 52:do	NA											H
Z	2 12 42 52	NA											H
Z	41 41:51 41:24-25 41:62a 51:24-25 51:62a	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Yellow-rumped warbler (*Dendroica coronata*) ---------- Usually nests in young coniferous trees in coniferous woods (spruce-fir) or in young coniferous growth near the edges of woods. Winters along the southern coast of NE in any forest type.	A	(1.e) [G-P]	A 4,7 B 1,4,7 E 4,7 F 1,4,7 (3)	b c h i	A B C D H I J	NA	21	0.3	B C
Black-throated green warbler (*Dendroica virens*) ---------- Nests in coniferous and mixed forest: hemlock, hemlock-hardwoods, spruce, fir and white cedar. Migrates for the winter.	B	(1.e) [G-P]	A 4,7 D 1 E 4,7 (2)	b c h i	B C H I	NA	9	0.5	A B
Blackburnian warbler (*Dendroica fusca*) ---------- Nests in the overstory of coniferous or mixed forests, and second growth pole timber hardwoods with scattered spruces. Migrates for the winter.	B	(1.e) [G-P]	A 4,7 E 4,7 (2)	b c h i	B H	NA	9	0.5	B
Pine warbler (*Dendroica pinus*) ---------- Nests exclusively in pines, favoring open pine woods and pine barrens. Migrates for the winter.	B	(1.c,e) [G-P]	A 4 (4)	h i	H I	NA	21	0.3	A B
Prairie warbler (*Dendroica discolor*) ---------- Nests in shrubs or saplings in open sandy or gravelly areas with scattered pitch pines, scrub oaks, birch barrens and dry rocky and brushy pastures. Migrates for the winter.	B	(1.c,e) [F-P]	A 4 B 1,4 C 3 (4)	h i j	A H I J	NA	21	0.3	A
Palm warbler (*Dendroica palmarum*) ---------- Nests on the ground in sphagnum bogs and wet muskegs, open barrens and dry spruce forests. Migrates for the winter.	B	(1.e) [G-P]	A 6 B 6 C 1 D 1,2 E 6 F 6 (4)	d j	A D J	NA	21	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	2 12 42 52 2:12 2:52 42:do	NA											H
G	Z	2 42	NA											H
G	Z	2 42	NA											H
A 1 B 1	Z	2	NA											L/M
A 1 A 2 B 1 B 2	Z	2b 12 24a,b 25a 2b:24a,b 2b:25a 12:do	NA											H
G	Z	2-3 12-13 42-43 52-53	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Bay-breasted warbler (*Dendroica castanea*) ---------- Nests in northern coniferous or mixed forests, especially in young trees along ponds, streams, in bogs or forest clearings. Migrates for the winter.	B	(1.e) [G-P]	A 4 B 4 E 4 F 4 (4)	b c h i	B C H I	NA	21	0.5	A
Blackpoll warbler (*Dendroica striata*) ---------- Nests low in stunted spruce and fir (Krumholz) on the upper slopes of mountains. Migrates for the winter.	B	(1.d,e) [F-P]	B 4 (4)	i j	I J	NA	21	0.5	B C
Cerulean warbler (*Dendroica cerulea*) ---------- Nests in open stands of tall deciduous trees, especially in swamps, bottomlands and along rivers. Very local in NE. Migrates for the winter.	B	(1.e) [G-P]	A 1 E 1 (5)	b h	A B H	NA	21	0.5	A B
Black-and-white warbler (*Mniotilta varia*) ---------- Nests on the ground in mature or second-growth deciduous or mixed woodlands, parks, shade trees. Not abundant in northern coniferous forests. Migrates for the winter.	B	(1.e) [G-P]	A 2,8 B 2,8 E 2,8 F 2,8 (5)	d j	B C H I	NA	21	0.5	A B C
American redstart (*Setophaga ruticilla*) ---------- Nests in second-growth deciduous forests, orchards and saplings bordering fields, pastures, roadsides, ponds, and streams. Migrates for the winter.	B	(1.e) [G-P]	A 1 B 1 E 1 F 1 (3)	b c h i	A B C H I	NA	21	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	2 12 42 52 12:81,83 52:do	NA											H
G	Z	12 15	NA											H
G	Z	1 41 1:81, 83 41:do	NA											L
G	Z	1 15 41	NA											H
G	Z	1b 41b 11 51 11:24-25 11:81-83 51:do 1:do 41:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Worm-eating warbler (*Helmitheros vermivorus*) ---------- Nests on the ground in damp woods, wooded ravines or hillsides with a dense understory. Favors second-growth hardwoods. Very local in southern NE. Migrates for the winter.	B	(1.e) [G-P]	A3 B 3 E 3 F 3 (5)	d j	D J	NA	21	0.5	A B
Ovenbird (*Seiurus aurocapillus*) ---------- Nests on the ground in closed-canopy deciduous or mixed forests, and woodlands with abundant tree litter. Migrates for the winter.	B	(1.e) [G-P]	A 3,9 B 3,9 (5)	j	J	NA	21	0.7	A B
Northern waterthrush (*Seiurus noveboracensis*) ---------- Nests on the ground in wooded swamps and bogs and less commonly along sluggish woodland brooks, streams and swampy shores of ponds and lakes. Migrates for the winter.	B	(1.e) [G-P]	D 1-2 E 9 F 9 (2)	j	D	NA	9	0.5	A B
Louisiana waterthrush (*Seiurus motacilla*) ---------- Nests on the ground in habitats along forest streams and brooks with swift-flowing water, especially wooded stream valleys. Migrates for the winter.	B	(1.e) [G-P]	D 10 E 3,6,9 (5)	d	D	NA	21	0.5	A
Mourning warbler (*Oporornis philadelphia*) ---------- Nests on the ground in dense deciduous sapling stands at forest edges, margins of swamps and bogs, forest clearings grown up to brambles and saplings. Migrates for the winter.	B	(1.e) [G-P]	B 1,3 F 1,3 (2)	d j	C D I J	NA	9	0.5	A B
Common yellowthroat (*Geothlypis trichas*) ---------- Nests on the ground in wet brushy meadows and pastures, open swampy thickets, cattails in fresh and salt water marshes, occasionally in upland thickets and forest understory. Migrates for the winter.	B	(1.e) [G-N]	B 1,3 C 3 D 2,3,5 D 12,13 F 1,3 G 3-5 (2)	d j	C D I J	NA	9	0.5	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1, 41 11, 51 1:81 11:do 41:do 51:do	NA											L
G	Z	1-2 11-12	NA											H
G	Z	41-42:81-83 51-52:do 41-42 51-52	NA											M
G	Z	41-42 41-42:81	NA											L
G	Z	11 51 11:83 51:do	NA											M
G	Z	62 64-65 51-52 72-74 11:64-65 11:72-74 11:81, 83 24:do 51-52:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Hooded warbler (*Wilsonia citrina*) ---------- Nests in the understory in brushy, swampy lowlands and edges and interiors of moist deciduous woodlands with dense undergrowth. Migrates for the winter.	B	(1.e) [G-P]	B 1,3 D 2 F 1,3 (5)	c d i j	A	NA	21	0.3	A
Wilson's warbler (*Wilsonia pusilla*) ---------- Nests on the ground in swampy, brushy wetlands, fir flats, tamarack bogs, willow and alder swales. Migrates for the winter.	B	(1.a,e) [G-P]	D 1,2 F 1 G 3 (2)	d	B C	NA	9	0.3	A
Canada warbler (*Wilsonia canadensis*) ---------- Nests on the ground in a variety of habitats from a laurel understory in mesic or dry forests to deciduous thickets along streams in coniferous forests. Migrates for the winter.	B	(1.e) [G-P]	B 1,3,4,6 F 1,3,4,6 (5)	d j	A D J	NA	21	0.3	A B
Yellow-breasted chat (*Icteria virens*) ---------- Nests in small bushes, vines or briars in brushy pastures, regenerating clearcuts, shrub swamp edges, brushy old fields and old orchards. Migrates for the winter.	A	(1.e) [G-P]	B 1 D 2 F 1 (5)	c d i j	C I	NA	21	0.3	A
Scarlet tanager (*Piranga olivacea*) ---------- Nests in mature and poletimber mixed or deciduous woodlands-often pine-oak or oak-hickory. Migrates for the winter.	B	(1.e) [G-P]	A 1,7 E 1,7 (5)	b c h i	B C H I	NA	21	0.3	A B
Northern cardinal (*Cardinalis cardinalis*) ---------- Nests in dense shrubs, small trees and thickets and is a resident of forest edges, open woodlands, brushy old fields, suburban gardens, open wooded swamps and orchards.	A	(1.e) [G-P]	B 1,4,7 D 1,2 F 1,4,7 (5)	c i	D J	NA	21	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	51 1:51 11:51 41:51	NA											M
C 1 D 1	B C E F	51-53 62	NA											M
G	Z	1-2 41-42 11-12 51-52 11-12:81-83 1-2:81-83	NA											M
G	Z	11 24a,25a 51, 62 11:81-83 24a,25a:do 51, 62:do 1-2:11 1-2:24a, 25a 1-2:51, 62 41-42:do	NA											L
G	Z	1-2 41-43	NA											H
G	Z	11, 24a 51, 62 1:11,12 1:24a,25a 1:51, 62 1:81, 83 2:do 41-42:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Rose-breasted grosbeak (*Pheucticus ludovicianus*) ---------- Nests in trees and shrubs in edges and understory of deciduous second growth woodlands, regenerating clearcuts, wooded borders of swamps and streams, and orchards. Migrates for the winter.	B	(1.e) [G-P]	A 1,3 B 1,3 C 3,4 E 1,3 F 1,3 (4)	b c h i	B C D H I J	NA	21	0.3	A B
Indigo bunting (*Passerina cyanea*) ---------- Nests in brambles or shrubs in field-forest edges, open brushy fields, roadside thickets, brushy ravines. Migrates for the winter.	B	(1.e) [G-P]	B 1,3 C 3 (4)	c d i j	C D I J	NA	21	0.3	A B
Eastern towhee (*Pipilo erythrophthalmus*) ---------- Nests on or near the ground in brushy woodland edges, dry open forest interiors, hedgerows, roadside thickets, and brushy hillsides. Winters in similar habitats along sourthern NE coast.	A	(1.e) [G-P]	B 1,3 B 7,9 C 3,4 (5)	i j	J	NA	21	0.3	A B
American tree sparrow (*Spizella arborea*) ---------- Winters in open country, brushy field edges, weedy pastures, marshes and farmland.	C	(1.e) [G-P]	C 3,4,6 D 2,3 G 1,2 (10)	NA	D J	NA	69	0.3	A
Chipping sparrow (*Spizella passerina*) ---------- Nests in shrubs and vines in farms, orchards, dry open mixed woodlands, forest clearings, forest edges, and suburban residential areas. Migrates for the winter.	B	(1.e) [G-P]	A 9 B 9 C 3,4 E 9 F 9 (2)	c i	D J	NA	9	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2:11,12 1-2:24,25a 1-2:51,52 1-2:62 1-2:81, 83 41-42:do	NA											H
G	Z	24,25a 1:24,25a 1:81a-c 2:do 11:do 12:do	NA											M
G	Z	11 24 25a 1:24,25a 11:do	NA											H
G	Z	24 25 62 64-65 11:24 11:25 11:62 11:64-65 51:do	NA											H
G	Z	11 24 62 1-2:24,25 1-2:62 1-2:81-82 11-12:do 41-42:do 51-52:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Field sparrow (*Spizella pusilla*) ---------- The bird, when locally present, nests on or near the ground in old fields with scattered woody vegetation and woodland edges. Winters in similar habitats in southern NE.	A	(1.e) [G-P]	C 3,4 (5)	j	J	NA	21	0.3	A B
Vesper sparrow (*Pooecetes gramineus*) ---------- The bird, when locally present, nests on the ground in short-grass meadows, pastures, hayfields, grainfields, dry open uplands and forest openings. Winters in similar habitats in southern NE.	A	(1.e) [G-P]	C 4-8 (2)	j	J	NA	9	0.7	A B
Savannah sparrow (*Passerculus sandwichensis*) ---------- The bird, when locally present, nests on the ground in grassy swales, hay fields, meadows and salt marshes. Winters in similar habitats in southern NE.	A	(1.e) [G-N]	C 4,5 C 6,8 D 3, 12 G 1 (4)	d j	D J	NA	21	0.5	A B
Grasshopper sparrow (*Ammodramus savannarum*) ---------- The bird, rarely present in NE, nests on the ground in hayfields and weedy fallow fields. Migrates for the winter.	B	(1.e) [G-P]	C 4,8 (4)	j	J	NA	21	0.3	A B
Henslow's sparrow (*Ammodramus henslowii*) ---------- The bird, very rarely present in NE, nests on the ground in neglected weedy fields, wet meadows, saltmarsh edges. Migrates for the winter.	B	(1.e) [G-N]	C 3,4 D 3 (3)	d j	D J	NA	21	0.3	A B
Fox sparrow (*Passerella iliaca*) ---------- Winters in dense woodland thickets and brushy field-forest edges along the southern NE coast.	C	(1.e) [G-P]	B 1,3 B 7,9 C3,4 (10)	NA	J	NA	69	0.3	A

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	24 25a 11:24 11:25a	NA											M
G	Z	24 25 a,c 26a	NA											M
G	Z	25a,c 26b 64 73	NA											M
G	Z	25a,c 26b	NA											L
G	Z	24 25a,c 26b 64 73	NA											L
G	Z	11,12 24 62 1:24,25a 1:62 1:11,12 2:do 11:24,25a 12:do	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Song sparrow (*Melospiza melodia*) ---------- Nests on the ground or in shrubbery in brushy fields, swamps, forest edges, road sides, hedgerows, farms, suburbs, etc. Winters in similar habitats in southern NE.	A	(1.e) [G-P]	B 1,3 C 3,4,6 D 2,3,5 D 12,13 D 21,22 E 1,3 (2)	c d i j	C D I J	NA	9	0.3	A B
Lincoln's sparrow (*Melospiza lincolnii*) ---------- Nests on the ground in willow and alder thickets along bogs, lakes, and streams, old burns, clearings, and dry rocky hillsides with low shrub growth. Migrates for the winter.	B	(1.e) [G-P]	B 1, 3 C 3 D 5 D 21-22 F 1, 3 (2)	d j	D J	NA	9	0.3	A B
Swamp sparrow (*Melospiza georgiana*) ---------- Nests in low vegetation over water in marshes, swamps, bogs, sloughs with rank grasses and shrubs, swampy shores of lakes, wet grassy clearcuts. Avoids heavily forested wetlands. Winters in southern NE.	A	(1.a,e) [L-P]	D 2,3,5 D 21,22 G 1,2 (4)	d	D E	NA	21	0.5	A B
White-throated sparrow (*Zonotrichia albicollis*) ---------- Nests near or on the ground in deciduous and coniferous forest edges, brushy clearings, bog borders, early successional forests. Winters in southern NE.	A	(1.e) [G-P]	B 7,9 C 3 F 7,9 G 2-5 (2)	d j	D J	NA	9	0.3	A B C
Dark-eyed junco (*Junco hyemalis*) ---------- Nests near or on the ground in coniferous and mixed forests, forest edges, stream borders, woodland clearings. Winters in open weedy fields in central and southern NE.	A	(1.e) [G-P]	A 4,6 A,7,9 B 4,6 B 7,9 C 3 D 21 (5)	d j	D J	NA	21	0.3	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	11 24,25a 51 62 1:24,25a 1:62 1:81-83 11:do 41:do 51:do	NA											H
G	Z	11 24,25a 51 62 11:81-83 51:do	NA											L
C 1 D 1	B C E F G H	51-53 62 64-65 51-53:81-83 62:do 64-65:do	NA											M
G	Z	11,12 15 24,25a 1-2:11,12 1-2:24,25a 1-2:83 41-42:do	NA											H
G	Z	11,12 15 24,25a 1-2:11,12 1-2:24,25a 1-2:62 1-2:81 41-42:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Lapland longspur (*Calcarius lapponicus*) ---------- Winters in cultivated fields, open weedy meadows, beaches, and areas with sparse vegetation.	C	(1.e) [G-P]	C 1,7 C 4-6 D 14 (10)	NA	D J	NA	69	0.3	A
Snow bunting (*Plectrophenax nivalis*) ---------- Winters at lake shores, beaches, salt marshes, cultivated fields and windswept grasslands.	C	(1.e) [G-N]	C 1,7 C 4-6 D 14 (10)	NA	D J	NA	69	0.3	A
Bobolink (*Dolichonyx oryzivorus*) ---------- Nests near or on the ground in hayfields, meadows, marshes and fallow fields. Migrates for the winter.	B	(1.e) [G-P]	C 4,6,8 D 3 (5)	d j	D J	NA	21	0.7	A B
Red-winged blackbird (*Agelaius phoeniceus*) ---------- Nests in herbaceous vegetation or shrubs in marshes, swamps, wet meadows, ponds edges. Prefers wetlands with extensive cattails, sedges and reeds. Migrates for the winter.	B	(1:e) [G-N]	D 2,3,5 D 12,13 D 22 F 1 G 2 (1)	c d i j	D J	NA	9	0.3	A
Eastern meadowlark (*Sturnella magna*) ---------- Nests on the ground in open farmlands with hayfields, pastures and grassy meadows with widely scattered shrubs. Winters in similar habitats in southern NE.	A	(1.e) [G-P]	C 4,6,8 D 3 G 1 (5)	d j	D J	NA	21	0.5	A
Rusty blackbird (*Euphagus carolinus*) ---------- Nests in shrubs and small trees in wooded swamps, beaver ponds, muskegs, boreal bogs, and alder and willow thickets along streams. Winters in wooded swamps in southern NE.	A	(1.e) [L-P]	D 1,2,5 D 21,22 F 1,4 G 3 (5)	c d	D	NA	21	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	21a 25 26a 61a,b 71a,b	NA											H
G	Z	21a 25a-c 26a 61b 64-65 71b 73-74	NA											H
G	Z	25a, c 26b 64-65 73-74	NA											H
G	Z	64-65 73-74 11:81, 83 11:64-65 11:73-74 11:25,26 51:do	NA											H
G	Z	24a,b 25a,c 26b 64 73	NA											M
G	Z	41-43:64-65 41-43:73-74 41-43:81-83 51-53:do 41-43 83	NA											L/M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Common grackle (*Quiscalus quiscula*) ---------- Nests in trees and shrubs in farmlands, marshes, suburbs, swamps, and low elevation meadows. Winters in agricultural areas with some bare ground in southern NE.	A	(1.e) [G-P]	A 1,4 B 1,4 C 4-8 D 1-3 E 1,4 F 1,4 (5)	b c h i	D J	NA	21	0.3	A	G
Brown-headed cowbird (*Molothrus ater*) ---------- Parasitizes nests in a variety of habitats in open coniferous and deciduous woodlands, forest edges, agricultural lands and suburban areas. Winters in agricultural lands in southern NE.	A	(1.e) [G-P]	A 1,4 B 1,4 C 3-8 E 1,4 F 1,4 (2)	b c d h i j	D J	NA	9	0.3	A B	G
Orchard oriole (*Icterus spurius*) ---------- Nests in trees and shrubs in orchards, open woodlands and shade trees along roads and suburbs. Prefers open cultivated land near human dwellings. Migrates for the winter.	B	(1.e) [G-P]	A 1 B 1 (5)	h i	H I	NA	21	0.3	A	G
Baltimore oriole (*Icterus galbula*) ---------- Nests in suburban shade trees along roads, in groves, orchards, deciduous woodland edges and along streams and lakes. Migrates for the winter.	B	(1.e) [G-P]	A 1 B 1 (5)	b c h i	B C H I	NA	21	0.3	A B	G
Pine grosbeak (*Pinicola enucleator*) ---------- Nests low in coniferous trees or shrubs in northern spruce-fir forests typically at high elevations and at forest openings or edges. Winters in similar or more southerly NE habitats.	A	(1.e) [G-P]	A 4 B 4 (5)	i	I J	NA	21	0.3	A B C	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	1-2:25-26 1-2:64-65 1-2:73-74 1-2:83 41-42:do 11-12:do 51-52:do	NA											H
Z	1-2 11-12 25-26 41-42 51-52 64-65 73-74 1-2:25-26 1-2:64-65 1-2:73-74 11-12:do 41-42:do 51-52:do	NA											H
Z	11 1:24-26 1:81, 82 11:do	NA											L
Z	11 1:24-26 1:81-82 11:do	NA											H
Z	2 12 2:12 2:24	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Purple finch (*Carpodacus purpureus*) ---------- Nests in coniferous forest edges, open mixed woodlands, conifer plantations, and ornamental evergreens in residential areas. Winters in deciduous woodlands.	A	(1.e) [G-P]	A 4,7 B 4,7 (2)	h i	H I	NA	9	0.3	A B	G
House finch (*Carpodacus mexicanus*) ---------- Nests in low conifers or shrubs in rural, suburban and urban yards, city parks, farms, and open woods. Winters in similar habitats.	A	(1.e) [G-P]	A 4 B 4 C 4-8 (2)	i	J	NA	9	0.3	A B	G
Red crossbill (*Loxia curvirostra*) ---------- Nests low to high in coniferous forests. Winters in similar habitats.	A	(1.e) [G-P]	A 4 B 4 (5)	h i	H I J	NA	21	0.5	A B C	G
White-winged crossbill (*Loxia leucoptera*) ---------- Nests low to high in coniferous forests. Winters in similar habitats	A	(1.e) [G-P]	A 4 B 4 (5)	h i	H I	NA	21	0.5	A B C	G
Common redpoll (*Carduelis flammea*) ---------- Winters near alders and birches and in snow-covered weedy fields.	C	(1.e) [G-P]	B 1 C 4 F 1 (10)	NA	D J	NA	69	0.3	A B	G
Hoary redpoll (*Carduelis hornemanni*) ---------- Winters in old fields, pastures and birch or alder swamps.	C	(1.e) [G-P]	B 1 C 4 F 1 (10)	NA	D J	NA	69	0.3	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	2 12 2:24-25 12:do	NA											M
Z	2:24-26 12:do	NA											H
Z	2 12	NA											L
Z	2 12	NA											L
Z	11 24-26 51 62a 64	NA											M
Z	11 24-26 51 62a 64 11:83 51:do	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Pine siskin (*Carduelis pinus*) ---------- Nests low to high in coniferous forests, evergreen plantations, alder thickets and weedy patches in forest clearings. Winters in similar habitats in southern NE.	A	(1.e) [G-P]	A 4 B 4 C 3,4 (2)	b c h i	B C D H I J	NA	9	0.3	A B	G
American goldfinch (*Carduelis tristis*) ---------- Nests low to high in trees within open weedy fields, pastures with scattered trees, forested edges, open swamps and orchards. Winters in many NE woodlands.	A	(1.e) [G-P]	A 1 B 1 C 3,4,6 E 1 F 1 (1)	b c h i	B C D H I J	NA	9	0.3	A B	G
Evening grosbeak (*Coccothraustes vespertinus*) ---------- Nests in conifers in coniferous forests and winters in coniferous and deciduous forests in central NE.	A	(1.e) [G-P]	A 4,7 B 4,7 E 4,7 F 4,7 (5)	b h	B C H I	NA	21	0.3	A B	G
House sparrow (*Passer domesticus*) ---------- Nests in trees and anthropogenic structures in the vicinity of populated areas: cities, towns, suburbs and farms. Winters in similar habitats.	A	(1.e) [G-P]	C 1,2 C 4-8 (1)	h i	J	NA	9	0.3	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	2 12 42, 52 2:24-26 2:11 2:51 12:do 42:do 52:do	NA											M
Z	1:24a,b,d 24a,b,d 25 1-2:25a 1-2:64-65 1-2:81, 83 11-12:do 41-42:do 51-52:do	NA											H
Z	2 12 42 52	NA											M
Z	7a,b,d,e 17a,b,d,e 1-2:7a,b,d,e 1-2:17a,b,d,e 7a,b,d,e:25-26 17a,b,d,e:25-26	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Virginia opossum (*Didelphis virginiana*) ---------- Inhabits dry to wet wooded areas, especially wet woods near rivers and swamps.	A	(1.e) [G-N]	A 9 B 9 C 3-8 D 3 E 9 F 9 (20)	b c d h i j k	D J	NA	97	0.3	A B
Masked shrew (*Sorex cinereus*) ---------- Inhabits primarily damp deciduous and coniferous woodlands with grasses and woody debris on the surface.	A	(1.e) [G-P]	D 3,5 E 9 F 9 G 1-2 (0.4)	d j	D J	NA	9	0.3	A B C D
Water shrew (*Sorex palustris*) ---------- Inhabits grass-sedge marshes and shrub zones along ponds and streams in coniferous forests.	A	(1.a,e) [G-P]	D 1-3,5, D 10,17 G 1-2 (0.4)	d	D E	NA	9	0.3	A B
Smoky shrew (*Sorex fumeus*) ---------- Inhabits damp, boulder-strewn hardwood and coniferous forests with loose damp leaf litter near streams with moss-covered banks.	A	(1.e) [G-P]	A 9 B 9 D 10 (0.4)	d j	D J	NA	9	0.3	A B
Long-tailed shrew (*Sorex dispar*) ---------- Inhabits cool, damp coniferous forests near moss-covered rocks and logs, and also wooded talus slopes.	A	(1.e) [G-P]	A 6,9 B 6,9 (0.4)	d j	D J	NA	9	0.3	A B C
Pygmy shrew (*Sorex hoy*i) ---------- Inhabits damp litter near rotten stumps and logs in swamp hardwoods and in coniferous forests.	A	(1.e) [G-P]	A 6 B 6 E 3,6 F 3,6 (0.4)	d j	D J	NA	9	0.3	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 11-12 41-42 51-52	NA											M
G	Z	41-42 51-52	NA											L
C 1 D 1	B C E F	64-65 41:81-83 42:do 51-52:do	NA											L
G	Z	1-2 11-12 1-2:81 11-12:81	NA											L
G	Z	2 12 42 52	NA											L
G	Z	1-2:83 11-12:do 41-42 51-52	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Northern short-tailed shrew (*Blarina brevicauda*) ---------- Inhabits stream banks in forested areas and old field communities with rank sedge and grass growth.	A	(1.e) [G-P]	A 3,9 B 3,9 C 4 D 3,10,17 E 3,9 F 3,9 G 1-2 (0.4)	d j	D J	K	9	0.3	A B C
Least shrew (*Cryptotis parva*) ---------- Inhabits open grassy areas with or without scattered brush, salt marshes, and woodland edges.	A	(1.e) [G-N]	C 4 D 3,12 (0.4)	d j	D J	NA	9	0.3	A B
Hairy-tailed mole (*Parascalops breweri*) ---------- Inhabits open woods and meadows with light sandy loam soils and vegetative cover.	A	(1.c,e) [F-P]	A 9 B 9 (0.4)	k	J	NA	9	0.3	A B
Eastern mole (*Scalopus aquaticus*) ---------- Inhabits pastures, meadows, lawns, old fields and some woodlands with moist loamy or sandy soils.	A	(1.c,e) [F-P]	C 4-8 D 8,10,17 (0.4)	k	J	NA	9	0.3	A B
Star-nosed mole (*Condylura cristata*) ---------- Inhabits low wet ground near swamps and wet meadows.	A	(1.c) [G-N]	D 1-3 G 1-2 (0.4)	d	D E	NA	9	0.3	A B
Little brown myotis (*Myotis lucifugus*) ---------- Roosts in hollow trees, caves and buildings and forages low over large and small forest openings, including wetlands.	A	(4.e:f,a,e) [Z]	A 2,10 E 2,10 H 1-2 (1)	b c h i	A	K	9	0.1	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	25 a,c 41 51 64-65 1:81 11:do	NA											L
G	Z	25 a,c 64-65 73-74 1-2:25 a,c 1-2:64-65 1-2:73-74	NA											L
A1 B1	Z	1-2 11-12 25a-c	NA											M
A1 B1	Z	1-2 11-12 25a-c	NA											M
C1 D1	B C E F	NA	NA											M
G	Z	1-2 7a,b,d 17a,b,d 31-32 41-42	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	24-26 1-2:24-26 41-42:do	L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Northern long-eared bat (*Myotis septentrionalis*) ---------- Roosts under loose bark or in tree cavities, caves, and buildings and forages low over ponds, clearings and over the forest edge.	A	(4.e:f,a,e) [Z]	A 2,10 E 2,10 H1,2 (1)	b c h i	A	K	9	0.1	A B
Indiana myotis (*Myotis sodalis*) ---------- Roosts in hollow trees and caves and forages in the lower forest tree canopy and over large and small forest openings, including wetlands.	A	(4.e:f,a,e) [Z]	A2 E2 H1 (1)	b c h i	A	K	9	0.1	A B
Eastern small-footed myotis (*Myotis leibii*) ---------- Roosts in caves and buildings and forages in the lower forest tree canopy and over forest openings and wetlands.	A	(4.e:f,a,e) [Z]	A 10 E 10 H 1-2 (1)	b c h i	A	K	9	0.1	A B
Silver-haired bat (*Lasionycteris noctivagans*) ---------- Roosts in hollow trees, the tree canopy, caves and buildings and forages high among tree crowns and over large openings and wetland habitats. Migrates for the winter.	B	(4.e:f,a,e) [Z]	A 7-8,10 E 7-8,10 H1 (2)	b c h i	A	NA	9	0.1	A B
Eastern pipistrelle (*Pipistrellus subflavus*) ---------- Roosts in cliffs, caves, buildings and the tree canopy and forages low over large and small openings, wetlands and pastures.	A	(4.e:f,a,e) [Z]	A 10 E 10 H 1 (1)	b c h i	A	K	9	0.1	A B
Big brown bat (*Eptesicus fuscus*) ---------- Roosts in hollow trees, caves and buildings and forages low over large and small openings in forested areas.	A	(4.e:f,a,e) [Z]	A 8,10 E 8,10 H 1 (1)	b c h i	A	K	9	0.1	A B

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography	VII. Block (x) - soil types
Northern long-eared bat (*Myotis septentrionalis*) ---------- Roosts under loose bark or in tree cavities, caves, and buildings and forages low over ponds, clearings and over the forest edge.	A	(4.e:f,a,e) [Z]	A 2,10 E 2,10 H1,2 (1)	b c h i	A	K	9	0.1	A B	G
Indiana myotis (*Myotis sodalis*) ---------- Roosts in hollow trees and caves and forages in the lower forest tree canopy and over large and small forest openings, including wetlands.	A	(4.e:f,a,e) [Z]	A2 E2 H1 (1)	b c h i	A	K	9	0.1	A B	G
Eastern small-footed myotis (*Myotis leibii*) ---------- Roosts in caves and buildings and forages in the lower forest tree canopy and over forest openings and wetlands.	A	(4.e:f,a,e) [Z]	A 10 E 10 H 1-2 (1)	b c h i	A	K	9	0.1	A B	G
Silver-haired bat (*Lasionycteris noctivagans*) ---------- Roosts in hollow trees, the tree canopy, caves and buildings and forages high among tree crowns and over large openings and wetland habitats. Migrates for the winter.	B	(4.e:f,a,e) [Z]	A 7-8,10 E 7-8,10 H1 (2)	b c h i	A	NA	9	0.1	A B	G
Eastern pipistrelle (*Pipistrellus subflavus*) ---------- Roosts in cliffs, caves, buildings and the tree canopy and forages low over large and small openings, wetlands and pastures.	A	(4.e:f,a,e) [Z]	A 10 E 10 H 1 (1)	b c h i	A	K	9	0.1	A B	G
Big brown bat (*Eptesicus fuscus*) ---------- Roosts in hollow trees, caves and buildings and forages low over large and small openings in forested areas.	A	(4.e:f,a,e) [Z]	A 8,10 E 8,10 H 1 (1)	b c h i	A	K	9	0.1	A B	G

VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
Z	1-2 7a,b,d 17a,b,d 31-32 41-42	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	1-2:24-26 41-42:do	L
Z	1-2 31 41-42	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	1-2:24-26 41-42:do	L
Z	7a,b,d 17a,b,d 31-32	Cz=18	NA	NA	A	NA	1085	0.3	A B	G	F G H P	1-2 41-42 1-2:24-26 41-42:do	L
Z	1-2 7 a,b,d 17 a,b,d 31 41-42	Cz=18	NA	NA	A	NA	1085	0.3	A B	G	F G H P	1-2 41-42 1-2:24-26 41-42:do	L
Z	1-2 7a,b,d 17a,b,d 31 41-42	Cz=18	NA	NA	A	NA	1085	0.2	A B	G	F G H P	1-2 41-42 1-2:24-26 41-42:do	L
Z	1-2 7a,b,d 17a,b,d 31 41-42	Cz=18	NA	NA	A	NA	1085	0.3	A B	G	F G H P	1-2 41-42 1-2:24-26 41-42:do	L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Red bat (*Lasiurus borealis*) ---------- Roosts in wooded areas and forages throughout the forest canopy and over large openings. Migrates for the winter.	B	(4.e:f,a,e) [Z]	A 7 E 7 (1)	b c h i	A	NA	9	0.3	A B
Hoary bat (*Lasiurus cinereus*) ---------- Roosts within the tree and shrub canopies and forages high over lakes, wetlands, and large forest clearings. Migrates for the winter.	B	(4.e:f,a,e) [Z]	A 7 B 7 E 7 F 7 (1)	b c h i	A	NA	9	0.3	A B
Eastern cottontail (*Sylvilagus floridanus*) ---------- Inhabits thickets in farmlands, pastures, fallow fields, open woodlands, forest edges, swamps, marshes, and suburban areas.	A	(1.e) [G-N]	C 3-7 D 3 (5)	j k	D J	NA	21	0.3	A B
New England cottontail (*Sylvilagus transitionalis*) ---------- Inhabits young woodlands with dense cover, swamps, old fields, and salt marshes.	A	(1.e) [G-N]	B 9 C 3-4,8 D 2-3,12 F 9 (5)	j k	D J	NA	21	0.3	A B
Snowshoe hare (*Lepus americanus*) ---------- Inhabits deciduous, coniferous and mixed woodlands with a dense brushy understory and coniferous swamps.	A	(1.e) [G-P]	A 9 B 9 E 9 F 9 (5)	d j	D J	NA	21	0.3	A B C
European hare (*Lepus europaeus*) ---------- Inhabits open country with low vegetation, and occasionally uses open woodlands with little ground vegetation.	A	(1.e) [G-P]	C 3-8 (20)	j	J	NA	97	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 41-42	Cz=18	NA	NA	A	NA	1085	0.3	A B	G	F G H P	1-2 41-42 1-2:24-26 41-42:do	L
G	Z	1-2 11-12 41-42 51-52	Cz=18	NA	NA	A	NA	1085	0.3	A B	G	F G H P	1-2 41-42 1-2:24-26 41-42:do	L
G	Z	11-12 24-26 51-52 64-65 1-2:24-26 1-2:64-65 11-12:do 41-42:do 51-52:do	NA											H
G	Z	11-12 24, 25 51-52 62, 64-65 72-74	NA											M
G	Z	1-2 11-12 41-42 51-52	NA											M
G	Z	24 25 26	NA											M

Species	I. Status of species in New England	II. model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Eastern chipmunk (*Tamias striatus*) ---------- Inhabits deciduous woodlands with abundant forest debris and understory vegetation; also semi-open brushlands.	A	(1.e) [F-P]	A 3,9 B 3,9 C 3-4 (1)	k	J	NA	9	0.3	A B C
Woodchuck (*Marmota monax*) ---------- Inhabits woodland edges, open cultivated lands, pastures, meadows, and open brushy hillsides.	A	(1.c,e) [F-P]	C 3-8 (24)	k	J	NA	97	0.1	A B
Gray squirrel (*Sciurus carolinensis*) ---------- Inhabits mature deciduous and mixed forests of mast bearing species, especially oaks.	A	(1.e) [G-P]	A1-3 A7-9 E1-3,7-9 (1)	b h	B C D H I J	NA	9	0.3	A B
Red squirrel (*Tamiasciurus hudsonicus*) ---------- Inhabits coniferous and mixed forests with mature cone producing trees.	A	(1.e) [G-P]	A 4-9 E 4-9 (2)	b c h i k	B C D H I J	NA	9	0.3	A B C
Southern flying squirrel (*Glaucomys volans*) ---------- Inhabits both the interior and the edge of mature deciduous and mixed forests.	A	(1.e) [G-P]	A 1-3 A 7-9 E 1-3 E 7-9 (1)	b c h i	B C D H I J	NA	9	0.3	A B
Northern flying squirrel (*Glaucomys sabrinus*) ---------- Inhabits mature mixed and coniferous forests.	A	(1.e) [G-P]	A 4-9 (1)	b c h i	B C D H I J	NA	9	0.3	B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1 11 1:24 1:25 11:24 11:25	NA											H
A 1 B 1,2	Z	24-26 1:24-26 11:do	NA											H
G	Z	1 41	NA											H
G	Z	1-2 41-42	NA											H
G	Z	1-2 41-42	NA											H
G	Z	1-2	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Beaver (*Castor canadensis*) ---------- Inhabits small to large slowly flowing brooks, streams, or rivers usually bordered by woodlands.	A	(2.a:e) [L-P]	D 1,2,4 D 7-9 D 17 D 19 (2)	d k	D E	NA	9	0.3	A
Deer mouse (*Peromyscus maniculatus*) ---------- Inhabits coniferous or mixed forests, field borders, stone walls, and out buildings near brushy cover.	A	(1.e) [G-P]	A 6,9 B 6,9 C 3,4 E 6,9 F 6,9 (0.4)	d j k	D J	NA	9	0.3	A B C D
White-footed mouse (*Peromyscus leucopus*) ---------- Ubiquitous inhabitant of deciduous, mixed and coniferous forests, clearcuts, brushy clearings, old fields, streamside thickets, and buildings.	A	(1.e) [G-P]	A 3,6,9 B 3,6,9 C 3-4 D 2-3 E 3,6,9 F 3,6,9 (0.4)	d j	D J	NA	9	0.3	A B C D
Southern red-backed vole (*Clethrionomys gapperi*) ---------- Inhabits damp coniferous or mixed forests with abundant surface cover or seedling thickets.	A	(1.e) [G-P]	A 3,6,9 B 3,6,9 C 3 D 2 E 3,6,9 F 3,6,9 (0.4)	d j	D J	NA	9	0.3	A B C D

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
D 1 F	G H	NA	Ax=2 Ay=2	C 3 D 1-2 D 21-22 G 3 (5)	NA	D J	NA	21	0.3	A B	G	Z	1 11 41 51	H
G	Z	1-2 11-12 41-42 51-52 1-2:24-26 11-12:do 41-42:do 51-52:do	NA											H
G	Z	1-2 11-12 24-26 41-42 51-52 64-65	NA											H
G	Z	1-2 11-12 41-42 51-52	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Meadow vole (*Microtus pennsylvanicus*) ---------- Inhabits fields, pastures, orchards, freshwater and salt water marshes, meadows, borders of streams and lakes and open and wooded swamps and bogs.	A	(1.e) [G-N]	C 3-4 C 6-8 D 1,2,3 D 5,10 D 12,17 (0.4)	d j k	D J	NA	9	0.3	A B
Rock vole (*Microtus chrotorrhinus*) ---------- Inhabits cool, damp, rock and forest debris covered habitats near streams in high altitude coniferous and mixed forests.	A	(1.d,e) [G-P]	A 6,9 B 6,9 C 2-3 (0.4)	d j k	D J	NA	9	0.3	B C D
Woodland vole (*Microtus pinetorum*) ---------- Inhabits deciduous forests, grasslands, meadows and orchards, and less likely marshes and swamps.	A	1.e) [G-P]	A 3 C3-4,6,8 D 3 (0.4)	d j k	D J	NA	9	0.3	A B
Muskrat (*Ondatra zibethicus*) ---------- Inhabits marshes, shallow portions of lakes, ponds, swamps, and sluggish streams, especially when cattails are present.	A	(2.a:e) [L-N]	D 3-6 D 8 D 12 D 17-19 G 2 (2)	d k	D E	NA	9	0.3	A
Southern bog lemming (*Synaptomys cooperi*) ---------- Inhabits sphagnum bogs, moist deciduous and mixed forests with woodland debris, marshes, open meadows, and orchards.	A	(1.e) [G-P]	A 3,9 C 3,4 D 1-3 E 3,9 (0.4)	d j k	D J	NA	9	0.3	A B C
Northern bog lemming (*Synaptomys borealis*) ---------- Inhabits sphagnum bogs, damp weedy meadows, and moist coniferous and mixed forests.	A	(1.e) [G-P]	A 6,9 C 4 D 1-3 E 6,9 (0.4)	d j k	D J	NA	9	0.3	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	24-26 62 64-65 72-74 24-26:81-83 64-65:do	NA											H
G	Z	1-2 11-12	NA											M
A1 B1	Z	1 11 11c 12c 24-26	NA											M
D F	E F G H P	NA	X=3 Y=0	D3-6 D8 D12 D17-19 G2 (2)	NA	NA	NA	9	0.3	A	G	Z	24-26 62 64-66 72-75 83a	H
C1	Z	41-42 51-52 62, 64-65	NA											M
C1	Z	41-42 51-52 62 64-65	NA											L

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Norway rat (*Rattus norvegicus*) ---------- Shares urban and suburban human habitations.	A	(1.e) [G-P]	C 3-9 (0.4)	j k	J	NA	9	0.3	A B
House mouse (*Mus musculus*) ---------- Shares human habitations in urban and suburban areas and farms.	A	(1.e) [G-P]	C 3-9 (0.4)	j k	J	NA	9	0.3	A B
Meadow jumping mouse (*Zapus hudsonius*) ---------- Inhabits moist, grassy and brushy marshes and meadows, shrubs along water courses, and swamps.	A	(1.e) [G-P]	B 9 C 3,4 D 2-3 F 9 (0.4)	d j k	D J	NA	9	0.3	A B
Woodland jumping mouse (*Napaeozapus insignis*) ---------- Inhabits brush and herbaceous vegetation in deciduous and coniferous forests and commonly in brush bordering watercourses and ponds.	A	(1.e) [G-P]	A 3,6 B 3,6 E 3,6 F 3,6 (5)	d j k	D J	NA	21	0.3	A B
Porcupine (*Erethizon dorsatum*) ---------- Inhabits mixed or coniferous forests with adequate denning sites.	A	(1.e) [G-P]	A 1-9 E 1-9 (20)	j k	B C D H I	NA	97	0.3	A B C
Coyote (*Canis latrans*) ---------- Inhabits open forests, forest openings, edges of second growth forests, open brushy fields and fallow agricultural lands.	A	(1.e) [G-P]	A 9 B 9 C 3-8 D 2-3 E 9 F 9 (500)	k	D J	NA	2,053	0.3	A B C D

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	7a,b,d 17a,b,d 7a,b,d:24-26 17a,b,d:24-26	NA											H
G	Z	7a,b,d 17a,b,d 7a,b,d:24-26 17a,b,d:24-26	NA											H
G	Z	11:81:83 51:81-83 24-25 64-65 24-25:81-83 64-65:81-83	NA											L
G	Z	1-2 11-12 41-42 51-52 1-2:24-25 11-12:24-25 41-42:24-25 51-52:24-25 81-83:11-12 81-83:24-25 81-83:51-52	NA											L
G	Z	1-2 41-42	NA											H
G	Z	1-2 11-12 41-42 51-52 24-26 64-65 24:1-2 24:11-12 24:41-42 24:51-52 25-26:do 64-65:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Red fox (*Vulpes vulpes*) ---------- Inhabits forests, edges between fields and forests and field/old field habitats.	A	(1.e) [G-P]	A 9 B 9 C 3-8 D 2-3 E 9 F 9 (200)	k	D J	NA	861	0.3	A B C D
Gray fox (*Urocyon cinereoargenteus*) ---------- Inhabits dense northern hardwood and mixed forests and their edges with old field communities.	A	(1.e) [G-P]	A 3,9 C 3 D 1-2 E 3,9 (200)	d j	D J	NA	861	0.5	A B
Black bear (*Ursus americanus*) ---------- Inhabits somewhat patchy deciduous and mixed woodlands with a dense understory, and swamps. Requires abundant hard and soft mast.	A	(1.e) [G-P]	A 9 E 9 (500)	d j	D J	NA	2,053	0.7	A B
Raccoon (*Procyon lotor*) ---------- Inhabits wooded area near fields, water courses and agricultural croplands.	A	(1.e) [G-M]	A 9 B 9 C 3-4 D 1-10 D 12-13 D 17-19 E 9 F 9 (200)	b c d h i j k	B C D E H I J	NA	861	0.3	A B

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 11-12 41-42 51-52 24-26 64-65 24:1-2 24:11-12 24:41-42 24:51-52 25-26:do 64-65:do	NA											H
G	Z	1-2 11-12 41-42 51-52 1-2:24-25 11-12:do 41-42:do 51-52:do	NA											M
G	Z	1-2 11-12 41-42 51-52	NA											H
G	Z	64-65 73-74 1-2:24-25 1-2:64-65 1-2:73-74 11-12:do 41-42:do 51-52:do 81-83:do	NA											H

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Marten (*Martes americana*) ---------- Inhabits dense coniferous forests, mixed hardwood - conifer forests and cedar swamps.	A	(1.e) [G-P]	A 6,9 D 1 E 6,9 (258)	b c d h i j	D J	NA	1085	0.7	A B C
Fisher (*Martes pennanti*) ---------- Inhabits extensive and somewhat broken mixed hardwood and coniferous forests, depending on prey availability.	A	(1.e) [G-P]	A 9 D 1-2 E 9 F 9 (500)	b c d h i j	B C D H I J	K	2053	0.7	A B C
Ermine (*Mustela erminea*) ---------- Inhabits deep woods or thickets in open country that has an extensive surface cover, often close to water courses.	A	(1.e) [G-N]	A 9 B 9 C 3-4 D1-3,5 D 10,17 E 9 F 9 (15)	d j k	D J K	NA	69	0.7	A B
Long-tailed weasel (*Mustela frenata*) ---------- Inhabits open woods, woodland edges, and grasslands often near water courses.	A	(1.e) [G-N]	A 9 B 9 C 3-4 D 2-3 E 9 F 9 (15)	d j k	D J K	NA	69	0.3	A B C D

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 41-42	NA											M
G	Z	1-2 41-42 51-52	NA											M
G	Z	1-2 11-12 41-42 51-52 1-2:24-25 1-2:64-65 1-2:73-74 1-2:81-83 11-12:do 41-42:do 51-52:do	NA											M
G	Z	1-2 11-12 41-42 51-52 1-2:24-25 1-2:64-65 1-2:73-74 1-2:81-83 11-12:do 41-42:do 51-52:do	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
Mink (*Mustela vison*) ---------- Inhabits marshes and forested wetlands with abundant surface cover, also streambanks and lakeshores.	A	(1.e) [G-N]	D 1-5 D 7-10 D 17-19 E 9 F 9 (258)	d j k	D E J	NA	1085	0.3	A B
Striped skunk (*Mephitis mephitis*) ---------- Inhabits open woodlands, agricultural lands, meadows, marshes, and suburban areas.	A	(1.e) [G-N]	A 9 B 9 C 3-8 D 2-3 E 9 F 9 (100)	d j k	D J	NA	421	0.3	A B C D
River otter (*Lutra canadensis*) ---------- Inhabits borders of streams, lakes or other wetlands in forested areas.	A	(1.a,e) [L-P]	D 1-2 D 4-10 D 17-19 D 21-22 (258)	d j k	D E F G	NA	1085	0.3	A B
Lynx (*Lynx lynx*) ---------- Inhabits swamps, bogs, or rocky areas within remote, extensive and unbroken forest tracts. Possibly not present in NE.	A	(1.e) [G-P]	A 9 B 9 E 9 F 9 (500)	d j	D J	NA	2053	0.7	A B C
Bobcat (*Lynx rufus*) ---------- Inhabits areas of dense undergrowth within mixed deciduous - coniferous and hardwood forests, and brushy woodlands, broken by fields and farmland.	A	(1.e) [G-P]	A 3,6,9 B 3,6,9 C 3-4 D 1-3 E 3,6,9 F 3,6,9 (500)	d j	D J	NA	2053	0.5	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	41-42 51-52 64-65 73-74 81-83:1-2 81-83:11-12 81-83:41-42 81-83:51-52 81-83:64-65 81-83:73-74	NA											M
G	Z	1-2 11-12 24-26 41-42 51-52 64-65 73-74 1-2:24-26 1-2:64-65 1-2:73-74 41-42:do	NA											H
C 1 D 1 F	B C E F G H	81-83:1-2 81-83:11-12 81-83:41-42 81-83:51-52	NA											M
G	Z	1-2 11-12 41-42 51-52	NA											L
G	Z	1-2 11-12 41-42 51-52 1-2:24,25 11-12:do 41-42:do 51-52:do	NA											M

Species	I. Status of species in New England	II. (model type) and [habitat bounds]	III. Habitat block (x) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (x) - no. of neighborhood cells	Vb. Block (x) - cells with essential variable(s) as proportion of neighborhood	VI. Block (x) - topography
White-tailed deer (*Odocoileus virginianus*) ---------- Inhabits forest edges, swamp borders, and mixed habitats of fields and forest openings.	A	(1.e) [G-P]	A 9 B 9 C 3-8 E 9 F 9 (258)	d j	C D I J	NA	1085	0.3	A B
Moose (*Alces alces*) ---------- Inhabits second growth boreal forests interspersed with semi-open areas, swamps, and lakes.	A	(1.e) [L-P]	A 9 B 9 C 3-4 D 1-6 D 8-9 D 17-19 D 21,22 E 9 F 9 (500)	d j	C D E F G I J	NA	2053	0.3	A B C

VII. Block (x) - soil types	VIII. Block (x) - water regimes	IX. Block (x) - vertical structure - cell	X. Relation of habitat blocks (x) to (y)	III. Habitat block (y) description & size (ha)	IVa. Reproduction layers	IVb. Foraging layers	IVc. Other layers	Va. Block (y) - no. of neighborhood cells	Vb. Block (y) - cells with essential variable(s) as proportion of neighborhood	VI. Block (y) - topography	VII. Block (y) - soil types	VIII. Block (y) - water regimes	IX. Block (y) - vertical structure - cell	XI. Data Quality
G	Z	1-2 11-12 41-42 51-52 1:24-26 1:64-65 2:do 11-12:do 41-42:do 51-52:do	NA											H
G	Z	1-2 11-12 41-42 51-52 81-83 64-65 1:64-65 1:81-83 2:do 11-12:do 41-42:do 51-52:do	NA											H

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.

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

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 Canoopy (> 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.

		Reproduction Layers											Foraging Layers										
Group no.	Group members	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	SS
	European starling	0	0	0	0	0	0	0	1	1	0	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	0	1	0
22	Pine warbler	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0
	Orchard oriole	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0
	Purple finch	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0
	White-winged crossbill	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0
23	Red crossbill	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	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	0	1	0
	Loggerhead shrike	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	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	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	0
27	Mudpuppy	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	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	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	0
	Mink frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	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	0
30	Northern two-lined salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
	Green frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
	Northern leopard frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
	Pickerel frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
31	Marbled salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
	Jefferson salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
	Blue-spotted salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
	Spotted salamander	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
	Red-spotted newt	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
	Eastern American toad	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
	Fowler's toad	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
	Wood frog	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
32	Northern spring peeper	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0
33	Gray treefrog	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0
34	Pied-billed grebe	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	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	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

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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
	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	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	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	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	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	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	1	0
	Northern harrier	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	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	1	0
	Hermit thrush	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	1	0
	Savannah sparrow	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	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	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	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	1	0
	Bobolink	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	1	0
	Masked shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	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	1	0
	Pygmy shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	1	0
	Least shrew	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	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	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	1	0
	Redback salamander	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	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	1	0
	Winter wren	0	0	0	1	0	0	0	0	0	1	0	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
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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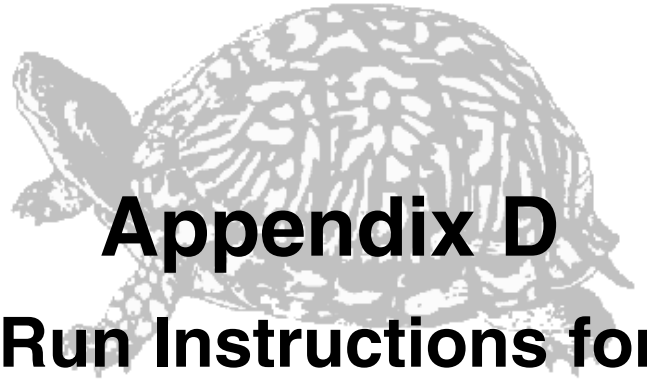
		BE	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS	A	WTC	WSC	WU	WS	WC	BWC	UTC	USC	UU	SS
72	Rusty blackbird	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
73	Least bittern	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0
74	Alder flycatcher	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
75	Glossy ibis	0	0	1	1	0	0	0	0	1	0	0	0	0	0	1	1	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	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	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	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	0	1	1	0
	Indigo bunting	0	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	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	0	1	1	0
79	Magnolia warbler	0	0	1	1	0	0	0	0	1	1	0	0	1	1	0	0	0	0	1	1	0	0
80	Hooded warbler	0	0	1	1	0	0	0	0	1	1	0	1	0	0	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	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	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	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	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	0	1	0
	Barred owl	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	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	0	1	0
	Fish crow	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	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	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	0
84	Warbling vireo	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0
85	Evening grosbeak	0	1	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	1	0	0
86	Gray squirrel	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	1	1	1	0
87	Merlin	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	1	0
88	Cerulean warbler	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0
89	Northern goshawk	0	1	0	0	0	0	0	1	0	0	0	1	1	1	1	0	0	0	1	1	1	0
90	Common raven	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	1	1
91	Hooded merganser	0	1	1	0	0	0	0	0	0	0	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
92	Snowy egret	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	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	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	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	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	0	1	0
	American crow	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	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	0	1	0
	Common grackle	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	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	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	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	0
97	American robin	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1	0
98	Blackburnian warbler	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0	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	0	1	1	0	0
	Downy woodpecker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	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	0	1	1	0	0
	Pileated woodpecker	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	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	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	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	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	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	0	1	1	0	0
	Cedar waxwing	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	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	0	1	1	0	0
	Philadelphia vireo	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	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	0	1	1	0	0
	Northern parula	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	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	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	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	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	0	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
	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



Appendix D

Run Instructions for ECOSEARCH

Installation

Download a copy of ECOSEARCH from:
http://www.mbr-pwrc.usgs.gov/software.html

If you have any problems downloading or running ECOSEARCH, please contact Jim Hines, Computer Specialist, at: USGS-Patuxent Wildlife Research Center, 11510 American Holly Drive, Laurel, MD 20708-4017, phone 301-497-5661, or through the website.

Data Preparation

Prepare the landscape data as separate grids in ArcInfo/GRID. Then aggregate the data into a single ASCII file using the GRID command:

OutFile.dat = SAMPLE (*mask grid*, *vegetative structure grid*, *wetland status grid*, *soil type grid*, *topography grid*)

Mask grid determines which cells are to be sampled. Data for vegetative structure, wetland status, soil type, and topography are all described in Chapter 2. This creates a single ASCII file containing the cell values of all the input grids. Exported data will be in ASCII and will include the mask value, x-coordinate, y-coordinate, vegetation code, wetland code, soil code, and topography code, all separated with commas. The x and y coordinates will be in the units of the input grids.

Running ECOSEARCH

1) Click the START button, select PROGRAMS, then select the ECOSRCH icon. An ECOSEARCH window will appear welcoming the user to Version 1.0.

2) Select the desired species by clicking the box next to the species name. Make sure that only the boxes you desire have a check in them. The SORT button sorts the species list in alphabetical order on the four-letter species code. Appendix A contains the common name, four-letter code and approximate distribution for > 300 species of inland, terrestrial wildlife.

3) Select a data file. The SA.All data file (South Amherst, Massachusetts [used in Chapter 3]) is included as an example. Use the BROWSE button to view multiple landscape grids and *explicitly set* the input data file by clicking on it.

4) Set the output dimensions. The maximum area for an analysis is 500 by 500 cells (50-m cells would represent 72,500 ha. The maximum size of the SA.All file is 120 x 120.

5) Select output options. Choices are:

- .DAT gives the species occurrence map that can be printed with a line printer;
- .EDG provides a map of all defined edge habitats;
- .HAB represents the species breeding habitat (labeled 1), feeding habitat (2), or both breeding and feeding habitat (3);
- .MAP gives the species-occurrence map that can be imported into Arc/Info; and
- .BDM is a cumulative species-occurrence or species-richness map.

Use the BROWSE button to locate your desired output directory, *explicitly set* the output file by typing in a name that includes the 4-letter species code with the proper extension. If you make multiple runs for the same species, the program may stop or overwrite the earlier file. Take the time to rename files and delete old files.

6) Provide a label for the output (20 character maximum). This is optional because the label can be added later in ArcView. The printed label contains the 4-letter species code, species common name, selected label, date, and time. The date and time helps keep track of multiple analyses.

7) Select PLOT or QUIT. All subprograms are written in FORTRAN. Various run-time messages are printed from DOS to inform the user of the progress of the analysis. With faster machines, these messages appear as a blur. The program was initially designed to run on a 486 personal computer (25 mHz).

8) Once the analysis is completed, the user has two choices: select the FILE menu and choose PRINT, CLOSE, or QUIT for each species map; or bring the map into Grid or ArcView for further analysis or printing. This is done by minimizing ECOSRCH, starting ArcInfo, and using the Arc command:

asciigrid *<output.MAP> <outgrid>*

The output.Map file was generated by ECOSEARCH while outgrid is that same file in GRID format. Now minimize ArcInfo. Start ArcView. Please note ArcView must have the 'Spatial Analyst' extension installed and turned on. Add outgrid as a grid theme where 0 = absence, 1 = presence, and no data is black for single species maps and 0 = no species, 1 to *x* = number of species out of the *x* species checked for a biodiversity map, and no data being black for these biodiversity maps.

9) Users restart ECOSEARCH for a new analysis by clicking the old species off, clicking a new one on, and running it again.

10) If the program crashes, click-on the START button, select Shut-down, select End Task, and Reboot.