

**Appendix F-3  
Species List**

**PROJECTION OF WILDLIFE ECOLOGICAL RESPONSE (POWER)**

**NELSON, POPE & VOORHIS, LLC, MICROCOMPUTER MODEL**

**SPECIES LIST**

**INTRODUCTION**

This appendix has been included to present the results of a computer model used to investigate the various wildlife species which can be expected to be found on the site considering the habitats established. This model was developed by and for the use of Nelson, Pope & Voorhis, LLC using available information and references for the various species. The model utilizes Excel spreadsheets to identify wildlife species commonly found in various Long Island habitats, based upon thorough research of available literature. The habitats investigated consisted of Dry Oak, Terrestrial Cultural (lawn/landscaping), and Low Wet Woods (recharge basin). Some of the species listed in this model would not be expected on the property given the surrounding development, but are present in similar habitats.

The first column identifies the common name of the species, presented with the main common name in alphabetical order (for example: red-tailed hawk would come before blue jay). The scientific name of particular species is in the second column. The third column shows the legal status of the species, of which there are four possible entries (Endangered, Threatened, Special Concern and Local Concern). The fourth column indicates the seasons during which the species might be expected to be present and the fifth column, of particular importance to the environmental setting, contains information on frequency of the species in the habitat (abundant, common, rare and non expected); the species activity in the habitat (nesting, hunting and resting). References are provided with the reference list provided at the end of the appendix. The printout contained in this appendix, coupled with the discussions provided in the main body of the report, provides significant information of the wildlife found, or expected to be found on site.

## Dry Oak Forest Species - Inventory and Characteristics

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	References
			winter	spring	summer	fall		
gray catbird	<i>Dumetella carolinensis</i>	none		Late	X		R / N,F	4 9
black capped chickadee	<i>Parus atricapillus</i>	none	X	X	X	X	A / N,F	4 11
brown-headed cowbird	<i>Molothrus ater</i>	none		X	X	Early	A / N,F	4 6
brown creeper	<i>Certhia familiaris</i>	none		X	X	Early	C / N,F	4 9
American crow	<i>Corvus brachyrhynchos</i>	none	X	X	X	X	A / N,H	4 11
yellow-billed cuckoo	<i>Coccyzus americanus</i>	none		Late	X		R / N,F	4 12
house finch	<i>Carpodacus mexicanus</i>	none		X	X	X	A / N,F	4 20
common flicker	<i>Colaptes auratus</i>	none	X	X	X	X	C / N,F	4 14
Acadian flycatcher	<i>Empidonax virescens</i>	none		Late	X		N / N,F	4 15
great-crested flycatcher	<i>Myiarchus crinitus</i>	none		Late	X		C / N,F	4 15
common grackle	<i>Quiscalus quiscula</i>	none	X	X	X	X	C / N,F	4 6
ruffed grouse	<i>Bonasa umbellus</i>	none	X	X	X	X	C / N,F	4 8
broad-winged hawk	<i>Buteo platypterus</i>	none		X	X		R / N,H	4 16
Cooper's hawk	<i>Accipiter cooperii</i>	special concern		X	X		N / N,H	4 17
red-tailed hawk	<i>Buteo jamaicensis</i>	none	X	X	X	X	C / N,H	4 16
sharp-shinned hawk	<i>Accipiter striatus</i>	special concern	X	X	X	X	N / N,F	4 16
blue jay	<i>Cyanocitta cristata</i>	none	X	X	X	X	A / N,F	4 10
Northern (dark-eyed) junco	<i>Junco hyemalis</i>	none		X	X	Early	R / N,F	4 21
Eastern kingbird	<i>Tyrannus tyrannus</i>	none		X	X	Early	C / N,F	4 15
golden-crowned kinglet	<i>Regulus satrapa</i>	none	X	X		X	R / N,H	4 7
ruby-crowned kinglet	<i>Regulus calendula</i>	none	X	X		X	R / N,H	4 7
purple martin	<i>Progne subis</i>	none		Late	X		R / N,F	4 15
Northern mockingbird	<i>Mimus polyglottos</i>	none	X	X	X	X	C / N,F	4 9
white-breasted nuthatch	<i>Sitta carolinensis</i>	none	X	X	X	X	A / N,F	4 9
northern oriole	<i>Icterus galbula</i>	none		Late	X		C / N,F	4 6
ovenbird	<i>Seiurus aurocapillus</i>	none		Late	X	Early	C / N,F	4 19
common screech owl	<i>Otus asio</i>	none	X	X	X	X	C / N	4 17
great-horned owl	<i>Bubo virginianus</i>	none	X	X	X	X	C / N,H	4 17
long-eared owl	<i>Asio otus</i>	none	X	X	X	X	C / N,H	4 17
American robin	<i>Turdus migratorius</i>	none		X	X	Early	A / N,F	4 7
yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	none		Late	X	Early	C / N,F	14
fox sparrow	<i>Passerella iliaca</i>	none	X	X		X	R / F	20 21

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	References
			winter	spring	summer	fall		
house sparrow	<i>Passer domesticus</i>	none	X	X	X	X	C / N,F	4 20
song sparrow	<i>Melospiza melodia</i>	none	X	X	X	X	C / N,F	4 22
European starling	<i>Sturnus vulgaris</i>	none	X	X	X	X	C / N,F	4 23
scarlet tanager	<i>Piranga olivacea</i>	none		X	X		C / N,F	4
brown thrasher	<i>Toxostoma rufum</i>	none		X	X	Early	R / N,F	4 9
hermit thrush	<i>Catharus guttatus</i>	none	X	X	X	X	C / N,F	4 7
wood thrush	<i>Hylocichla mustelina</i>	none		X	X	Early	C / N,F	4 7
tufted titmouse	<i>Parus bicolor</i>	none	X	X	X	X	C / N,F	4 11
veery	<i>Catharus fuscescens</i>	none		Late	X		R / N,F	4 7
red-eyed vireo	<i>Vireo olivaceus</i>	none		Late	X		C / N,F	4 23
yellow throated vireo	<i>Vireo flavifrons</i>	none		Late	X		R / N,F	4 23
black-and-white warbler	<i>Mniotilta varia</i>	none		X	X		C / N,F	4 18
black-throated blue warbler	<i>Dendroica caerulescens</i>	none		Late	X	Early	C / N,F	18
blue-winged warbler	<i>Vermivora pinus</i>	none		Late	X		R / N,F	4 14
cedar waxwing	<i>Bombycilla cedrorum</i>	none		X	X	Early	C / N,F	4 23 32
whip-poor-will	<i>Caprimulgus vociferous</i>	special concern		Late	X		C / N	4 12
Eastern wood-peewee	<i>Contopus virens</i>	none		X	X		C / N,F	4 15
downy woodpecker	<i>Picoides pubescens</i>	none	X	X	X	X	A / N,F	4 14
hairy woodpecker	<i>Picoides villosus</i>	none	X	X	X	X	C / N,F	4 14
red-bellied woodpecker	<i>Melanerpes carolinus</i>	none	X	X	X	X	C / N,F	4 14
house wren	<i>Troglodytes aedon</i>	none		Late	X	Early	R / N,F	4 9
<b>Mammals</b>								
big-brown bat	<i>Eptesicus fuscus</i>	none	X	X	X	X	C / N,F	1 29
hoary bat	<i>Lasiurus borealis</i>	none			Late	Early	C / N,F	45
Keen's bat	<i>Myotis keenii</i>	none			X	Early	R / N	1 29
little-brown bat	<i>Myotis lucifugus</i>	none	X	X	X	X	C / N,F	1 29
red bat	<i>Lasiurus borealis</i>	none		Late	X	Early	C / N,F	1 29
Eastern pipistrelle	<i>Pipistrellus subflavus</i>	none		X	X	Early	R / N,F	1 29
silver-haired bat	<i>Lasionycteris noctivagans</i>	none			X		R / N,F	1 29
Eastern chipmunk	<i>Tamias striatus</i>	none	X	X	X	X	C / N,F	1 29
Eastern cottontail	<i>Sylvilagus floridanus</i>	none	X	X	X	X	C / N,F	1 29
white-tailed deer	<i>Odocoileus virginianus</i>	none	X	X	X	X	C / N,F	1 25 29
red fox	<i>Vulpes vulpes</i>	none	X	X	X	X	C / N,H	1 29
Eastern mole	<i>Scalopus aquaticus</i>	none	X	X	X	X	C / N,F	1 29

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	References
			winter	spring	summer	fall		
house mouse	<i>Mus musculus</i>	none	X	X	X	X	N / N,F	1 29
meadow-jumping mouse	<i>Zapus hudsonicus</i>	none	X	X	X	X	R / N,F	1 29
white-footed mouse	<i>Peromyscus leucopus</i>	none	X	X	X	X	C / N,F	1 29
Virginia opossum	<i>Didelphis virginiana</i>	none	X	X	X	X	C / N,F	1 29
raccoon	<i>Procyon lotor</i>	none	X	X	X	X	C / N,F	1 29
masked shrew	<i>Sorex cinereus</i>	none	X	X	X	X	C / N,F	1 29
short-tailed shrew	<i>Blarina brevicauda</i>	none	X	X	X	X	A / N,F	1 29
striped skunk	<i>Mephitis mephitis</i>	none	X	X	X	X	N / N,F	1 29
Eastern gray squirrel	<i>Sciurus carolinensis</i>	none	X	X	X	X	A / N,F	1 29
southern-flying squirrel	<i>Glaucimys volans</i>	none	X	X	X	X	C / N,F	1 29
pine vole	<i>Microtus pinetorum</i>	none	X	X	X	X	C / N,F	1 29
long-tailed weasel	<i>Mustela frenata</i>	none	X	X	X	X	R / N,H	1 29
<b>Herptiles</b>								
spring peeper	<i>Hyla crucifer</i>	none	X	X	X	X	R / N,F	33 35 38
red-backed salamander	<i>Plethodon cinereus cinereus</i>	none	X	X	X	X	R / N,F	34 36
marbled salamander	<i>Ambystoma opacum</i>	special concern	X	X	X	X	R / N,F	34 36 38
Eastern garter snake	<i>Thamnophis sirtalis</i>	none	X	X	X	X	C / N,F	38 40
eastern milk snake	<i>Lampropeltis d. triangulum</i>	none	X	X	X	X	C / N,F	38 39
Eastern spadefoot toad	<i>Scaphiopus holbrookii</i>	special concern	X	X	X	X	C / N,F	33

**KEY:**

Frequency:

A- abundant  
C- common  
R- rare  
N- not expected

Activity:

N- nesting  
H- hunting  
R- resting  
F- foraging

### Terrestrial Cultural Species - Inventory and Characteristics

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	References
			winter	spring	summer	fall		
<b>Birds</b>								
red-winged blackbird	<i>Agelaius phoeniceus</i>	none		X	X	Early	C / N,F	4 6
Eastern bluebird	<i>Sialia sialis</i>	none		X	X	Early	R / N,F	4 7
common bobwhite	<i>Colinus virginianus</i>	none	X	X	X	X	C / N,F	4 8
indigo bunting	<i>Passerina cyanea</i>	none		Late	X	Early	N / F	4 20
Northern cardinal	<i>Cardinalis cardinalis</i>	none	X	X	X	X	C / N,F	4 20
gray catbird	<i>Dumetella carolinensis</i>	none		Late	X		C / F	4 9
brown-headed cowbird	<i>Molothrus ater</i>	none		X	X	Early	A / H	4 6
American crow	<i>Corvus brachyrhynchos</i>	none	X	X	X	X	A / N,H	4 11
mourning dove	<i>Zenaida macroura</i>	none	X	X	X	X	A / N,H	4 8
rock dove	<i>Columba livia</i>	none	X	X	X	X	A / N,F	4 8
great-crested flycatcher	<i>Myiarchus crinitus</i>	none		Late	X		C / N,F	4 15
common grackle	<i>Quiscalus quiscula</i>	none	X	X	X	X	A / N,F	4 6
Northern harrier	<i>Circus cyaneus</i>	threatened	X	X	X	X	R / H	4 16
Cooper's hawk	<i>Accipiter cooperii</i>	special concern		X	X		N / N,H	4 17
red-tailed hawk	<i>Buteo jamaicensis</i>	none	X	X	X	X	C / H	4 16
sharp-shinned hawk	<i>Accipiter striatus</i>	special concern	X	X	X	X	N / N,F	4 16
blue jay	<i>Cyanocitta cristata</i>	none	X	X	X	X	A / N,F	4 10
American kestrel	<i>Falco sparverius</i>	none	X	X	X	X	C / N,H	4 17
killdeer	<i>Charadrius vociferus</i>	none		X	X	X	C / N,F	4 31 32
Eastern kingbird	<i>Tyrannus tyrannus</i>	none		X	X	Early	A / N,F	4 15
Eastern meadowlark	<i>Sturnella magna</i>	none		Late	X		C / N,F	4 6
Northern mockingbird	<i>Mimus polyglottos</i>	none	X	X	X	X	A / N,F	4 9
common nighthawk	<i>Chordeiles minor</i>	special concern		Late	X		R / N,F	4 12
barn owl	<i>Tyto alba</i>	none	X	X	X	X	R / N,H	4 17
great-horned owl	<i>Bubo virginianus</i>	none	X	X	X	X	R / N,H	4 17
ring-necked pheasant	<i>Phasianus colchicus</i>	none	X	X	X	X	C / N,F	4 8
black-bellied plover	<i>Pluvialis squatarola</i>	none		Early	X	Early	R / F	31 32
American robin	<i>Turdus migratorius</i>	none		X	X	Early	A / N,F	4 7
chipping sparrow	<i>Spizella passerina</i>	none	X	X	X	X	C / N,F	4 21
field sparrow	<i>Spizella pusilla</i>	none		X	X	X	R / N,F	4 21
grasshopper sparrow	<i>Ammodramus savannarum</i>	special concern		X	X	Early	R / N,F	4 20

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	References
			winter	spring	summer	fall		
house sparrow	<i>Passer domesticus</i>	none	X	X	X	X	A / N,F	4 20
Savannah sparrow	<i>Passerculus sandwichensis</i>	none		X	X	Early	R / N,F	4 21
song sparrow	<i>Melospiza melodia</i>	none	X	X	X	X	C / N,F	4 22
white-crowned sparrow	<i>Zonotrichia leucophrys</i>	none	X	X		X	C / F	22 32
European starling	<i>Sturnus vulgaris</i>	none	X	X	X	X	A / N,F	4 23
barn swallow	<i>Hirundo rustica</i>	none		Late	X		A / N,F	4 15
chimney swift	<i>Chaetura pelagica</i>	none		X	X		C / F	4 42
brown thrasher	<i>Toxostoma rufum</i>	none		X	X	Early	R / N,F	4 9
chestnut-sided warbler	<i>Dendroica pensylvanica</i>	none		Late	X		N / N,F	4 19
cedar waxwing	<i>Bombycilla cedrorum</i>	none		X	X	Early	C / N,F	4 23 32
whip-poor-will	<i>Caprimulgus vociferous</i>	special concern		Late	X		C / F	4 12
American woodcock	<i>Philhela minor</i>	none		X	X	X	R / N,F	4 30
red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	special concern		X	X	Early	C / N,F	4 14
house wren	<i>Troglodytes aedon</i>	none		Late	X	Early	C / N,F	4 9
<b>Mammals</b>								
Eastern pipistrelle	<i>Pipistrellus subflavus</i>	none		X	X	Early	N / F	1 29
Eastern cottontail	<i>Sylvilagus floridanus</i>	none	X	X	X	X	A / N,F	1 29
white-tailed deer	<i>Odocoileus virginianus</i>	none	X	X	X	X	C / F	1 25 29
red fox	<i>Vulpes vulpes</i>	none	X	X	X	X	C / H	1 29
house mouse	<i>Mus musculus</i>	none	X	X	X	X	C / N,F	1 29
meadow-jumping mouse	<i>Zapus hudsonicus</i>	none	X	X	X	X	R / N,F	1 29
white-footed mouse	<i>Peromyscus leucopus</i>	none	X	X	X	X	C / N,F	1 29
Virginia opossum	<i>Didelphis virginiana</i>	none	X	X	X	X	C / N,F	1 29
raccoon	<i>Procyon lotor</i>	none	X	X	X	X	C / F	1 29
black rat	<i>Rattus rattus</i>	none	X	X	X	X	N / N,F	1 29
Norway rat	<i>Rattus norvegicus</i>	none	X	X	X	X	C / N,F	1 29
least shrew	<i>Cryptotis parva</i>	none	X	X	X	X	N / N,F	1 29
striped skunk	<i>Mephitis mephitis</i>	none	X	X	X	X	N / N,F	1 29
pine vole	<i>Microtus pinetorum</i>	none	X	X	X	X	C / N,F	1 29
long-tailed weasel	<i>Mustela frenata</i>	none	X	X	X	X	R / N,H	1 29
<b>Heptiles</b>								
Eastern garter snake	<i>Thamnophis sirtalis</i>	none	X	X	X	X	C / N,F	38 40
eastern milk snake	<i>Lampropettis d. triangulum</i>	none	X	X	X	X	C / N,F	38 39
Fowler's toad	<i>Bufo woodhousei fowleri</i>	none	X	X	X	X	C / F	33 37

**KEY:**

Frequency:

A- abundant  
C- common  
R- rare  
N- not expected

Activity:

N- nesting  
H- hunting  
R- resting  
F- foraging

Low Wet Woodland Species: Inventory and Characteristics

Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	Reference
			winter	spring	summer	fall		
<b>Birds</b>								
red-winged blackbird	<i>Agelaius phoeniceus</i>	none		X	X	Early	R / N,F	4 6
Northern cardinal	<i>Cardinalis cardinalis</i>	none	X	X	X	X	R / N,F	4 20
Acadian flycatcher	<i>Empidonax vireescens</i>	none		Late	X		R / N,F	4 15
great-crested flycatcher	<i>Myiarchus crinitus</i>	none		Late	X		C / N,F	4 15
common grackle	<i>Quiscalus quiscula</i>	none	X	X	X	X	A / N,F	4 6
rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>	none		Late	X	Early	R / N,F	4 20
white-breasted nuthatch	<i>Sitta carolinensis</i>	none	X	X	X	X	A / N,F	4 9
osprey	<i>Pandion haliaetus</i>	special concern		X	X	Early	C / N,H	4 16
great-horned owl	<i>Bubo virginianus</i>	none	X	X	X	X	C / N,H	4 17
saw-whet owl	<i>Aegolius acadicus</i>	none	X	X	X	X	C / N,H	4 17
Eastern phoebe	<i>Sayornis phoebe</i>	none		X	X	Early	C / N,F	4 15
semipalmated sandpiper	<i>Calidris pusilla</i>	none		X	X	Early	R / F	32
spotted sandpiper	<i>Actitis macularia</i>	none		X	X	Early	R / N,F	4 31 32
swamp sparrow	<i>Melospiza georgiana</i>	none	X	X	X	X	C / N,F	4 22
European starling	<i>Sturnus vulgaris</i>	none	X	X	X	X	R / N,F	4 23
tree swallow	<i>Tachycineta bicolor</i>	none		X	X		C / N,F	4 15
wood thrush	<i>Hylocichla mustelina</i>	none		X	X	Early	C / N,F	4 7
tufted titmouse	<i>Parus bicolor</i>	none	X	X	X	X	C / N,F	4 11
veery	<i>Catharus fuscescens</i>	none		Late	X		C / N,F	4 7
yellow throated vireo	<i>Vireo flavifrons</i>	none		Late	X		R / N,F	4 23
American woodcock	<i>Philhela minor</i>	none		X	X	X	C / N,F	4 30
downy woodpecker	<i>Picoides pubescens</i>	none	X	X	X	X	A / N,F	4 14
hairy woodpecker	<i>Picoides villosus</i>	none	X	X	X	X	C / N,F	4 14
red-bellied woodpecker	<i>Melanerpes carolinus</i>	none	X	X	X	X	C / N,F	4 14
<b>Mammals</b>								
big-brown bat	<i>Eptesicus fuscus</i>	none	X	X	X	X	R / H	1 29
little-brown bat	<i>Myotis lucifugus</i>	none	X	X	X	X	R / H	1 29
red bat	<i>Lasiurus borealis</i>	none		Late	X	Early	R / N,F	1 29
Eastern cottontail	<i>Sylvilagus floridanus</i>	none	X	X	X	X	A / F	1 29
white-tailed deer	<i>Odocoileus virginianus</i>	none	X	X	X	X	C / F	1 25 29
red fox	<i>Vulpes vulpes</i>	none	X	X	X	X	C / H	1 29



Common Name	Scientific Name	Status	Found During				Frequency/ Habitat Use	Reference
			winter	spring	summer	fall		
mink	<i>Mustela vison</i>	none	X	X	X	X	R / N,F	1
star-nosed mole	<i>Condylura cristata</i>	none	X	X	X	X	R / N,F	1 29
meadow-jumping mouse	<i>Zapus hudsonicus</i>	none	X	X	X	X	C / N,F	1 29
white-footed mouse	<i>Peromyscus leucopus</i>	none	X	X	X	X	C / N,F	1 29
Virginia opossum	<i>Didelphis virginiana</i>	none	X	X	X	X	C / N,F	1 29
raccoon	<i>Procyon lotor</i>	none	X	X	X	X	C / N,F	1 29
masked shrew	<i>Sorex cinereus</i>	none	X	X	X	X	C / N,F	1 29
short-tailed shrew	<i>Blarina breuicauda</i>	none	X	X	X	X	C / N,F	1 29
Eastern gray squirrel	<i>Sciurus carolinensis</i>	none	X	X	X	X	A / N,F	1 29
southern-flying squirrel	<i>Glaucimys volans</i>	none	X	X	X	X	A / N,F	1 29
meadow vole	<i>Microtus pennsylvanicus</i>	none	X	X	X	X	C / N,F	29 45
pine vole	<i>Microtus pinetorum</i>	none	X	X	X	X	R / N,F	1 29
long-tailed weasel	<i>Mustela frenata</i>	none	X	X	X	X	R / N,F	1 29
<b>Herptiles</b>								
common gray treefrog	<i>Hyla versicolor</i>	none	X	X	X	X	R / N,H	33 37
green frog	<i>Rana clamitans</i>	none	X	X	X	X	C / N,H	33 35 37
Southern leopard frog	<i>Rana pipiens sphenoccephala</i>	special concern	X	X	X	X	C / N,F	35 37 38
wood frog	<i>Rana sylvatica</i>	none	X	X	X	X	C / N,H	35 37 38
red-spotted newt	<i>Notophthalmus viridescens</i>	none	X	X	X	X	C / N,F	33 37
spring peeper	<i>Hyla crucifer</i>	none	X	X	X	X	R / N,F	36 38
red-backed salamander	<i>Plethodon cinereus cinereus</i>	none	X	X	X	X	C / N,F	33 35 38
spotted salamander	<i>Ambystoma maculatum</i>	none	X	X	X	X	C / N,F	34 36
Eastern tiger salamander	<i>Ambystoma tigrinum tigrinum</i>	endangered	X	X	X	X	A / N,F	34 36 38
marbled salamander	<i>Ambystoma opacum</i>	special concern	X	X	X	X	C / N,F	36 38
Eastern garter snake	<i>Thamnophis sirtalis</i>	none	X	X	X	X	R / N,F	34 36 38
eastern milk snake	<i>Lampropeltis d. triangulum</i>	none	X	X	X	X	R / N,F	38 40
Eastern ribbon snake	<i>Thamnophis s. sauritus</i>	none	X	X	X	X	C / N,F	38 39
Northern brown snake	<i>Storeria dekayi</i>	none	X	X	X	X	C / N,F	38 40
Northern ringneck snake	<i>Diadophis punctatus</i>	none	X	X	X	X	C / N,F	38
Northern water snake	<i>Natrix sipedon sipedon</i>	none	X	X	X	X	C / N,H	38
painted turtle	<i>Chrysemys picta</i>	none	X	X	X	X	C / H	38 39

**KEY:**

Frequency:

- A- abundant
- C- common
- R- rare
- N- not expected

Activity:

- N- nesting
- H- hunting
- R- resting
- F- foraging

**PROJECTION OF WILDLIFE ECOLOGICAL RESPONSE (POWER)**

**NELSON, POPE & VOORHIS, LLC, MICROCOMPUTER MODEL**

**SPECIES ADAPTABILITY**

This portion of the appendix has been included to present the results of a computer program to identify "Species Adaptability." This list is another component of the program developed for use by Nelson, Pope & Voorhis, LLC to determine potential impacts of the proposed project on wildlife. In this application the "Adaptability" of the observed and expected species are shown. The "adaptability" as indicated in the table, refers to whether an individual species may potentially benefit from (+) a habitat change from natural to urban/suburban setting; or, be impacted (-), or remain constant (=), as a result of this change. These values are not intended to represent the dynamics of actual species on the subject site under post-development conditions. The column entitled "Comments" provides relevant information which was obtained from the literature, as regards special habits of the particular species, such as adaptability, nesting, food, etc. This column is particularly important in assessing the potential impacts to the species as a result of the proposed project. The preceding text considers the site specific aspects of the proposed development in regard to individual species. This appendix is included to provide the reader with the benefit of what the literature which was consulted in connection with the Habitat Suitability Model suggests, in terms of generalized species dynamics resulting from land use. References are the same as those cited in the previous Species List portion of the appendix.

Dry Oak Forest Species - Adaptability and Comments

Common Name	Scientific Name	Adapt.	Comments	References
<b>Birds</b>				
Acadian flycatcher	Empidonax virescens	-	prefers cool, damp, mature hardwood forests	4 15
American crow	Corvus brachyrhynchos	=	extremely adaptable; omnivorous	4 11
American robin	Turdus migratorius	=	very adaptable; abundant in parks; nests in man-made structures	4 7
black capped chickadee	Parus atricapillus	=	abundant around parks, urban and suburban areas	4 11
black-and-white warbler	Mniotilta varia	-	builds nests under shrubs and/or trees	4 18
black-throated blue warbler	Dendroica caerulescens	=	migratory, large range; forest interior specie; can adapt to suburb	18
blue jay	Cyanocitta cristatta	=	extremely adaptable to human activity and other stresses	4 10
blue-winged warbler	Vermivora pinus	-	primarily abandoned and overgrown field, and thickets	4 14
broad-winged hawk	Buteo platypterus	-	avoids humans; nests only in dense forests; prefers to be near water	4 16
brown creeper	Certhia familiaris	-	prefers predominantly deciduous wooded areas	4 9
brown thrasher	Toxostoma rufum	=	common in parks, suburban areas, wooded edges, dry open areas	4 9
brown-headed cowbird	Molothrus ater	=	lays eggs in other bird's nests; some stay during winter	4 6
cedar waxwing	Bombycilla cedrorum	+	prefers open woodlands, orchards and residential areas	4 23 32
common flicker	Colaptes auratus	=	abundant around parks, suburban and urban areas	4 14
common grackle	Quiscalus quiscula	=	adapts well to urban and suburban habitats	4 6
common screech owl	Otus asio	=	nocturnal; nests in hollow trees, abandoned buildings, nest boxes	4 17
Cooper's hawk	Accipiter cooperii	-	needs extensive woodland	4 17
downy woodpecker	Picoides pubescens	=	found in parks and suburban areas	4 14
Eastern kingbird	Tyrannus tyrannus	=	very adaptable to human activities; prefers open areas	4 15
Eastern wood-peewee	Contopus virens	=	prefers suburban areas, parks and villages with shade trees	4 15
European starling	Sturnus vulgaris	+	extremely adaptable to human activity; considered a pest	4 23
fox sparrow	Passerella iliaca	-	boreal species, winters here in edge, thickets, brushy areas	20 21
golden-crowned kinglet	Regulus satrapa	-	prefers spruce vegetation; no atlas sightings on Long Island	4 7
gray catbird	Dumetella carolinensis	=	abundant around parks, urban and suburban areas	4 9
great-crested flycatcher	Myiarchus crinitus	-	prefers deciduous forests and deciduous open woodland	4 15
great-horned owl	Bubo virginianus	-	nocturnal; rare in wooded areas of less than 20 acres	4 17
hairy woodpecker	Picoides villosus	=	found mainly in deciduous forests	4 14
hermit thrush	Catharus guttatus	=	not common on Long Island; when present, prefers pine barrens	4 7
house finch	Carpodacus mexicanus	+	nests almost entirely on buildings; considered a pest species	4 20
house sparrow	Passer domesticus	+	prefers buildings, urban, suburban, gardens; considered a pest	4 20
house wren	Troglodytes aedon	=	found in suburban areas and gardens; nests in crevices of buildings	4 9
long-eared owl	Asio otus	-	nocturnal; prefers dense forested areas near water	4 17

Common Name	Scientific Name	Adapt.	Comments	References
Northern (dark-eyed) junco	<i>Junco hyemalis</i>	-	prefers forested area with elevation >300 meters; no LI atlas record	4 21
Northern mockingbird	<i>Mimus polyglottos</i>	+	prefers to nest near humans	4 9
northern oriole	<i>Icterus galbula</i>	=	prefers deciduous woodland and shade trees	4 6
ovenbird	<i>Seiurus aurocapillus</i>	-	prefers open forest floor and woodlot greater than 35 acres	4 19
purple martin	<i>Progne subis</i>	-	found in parks, suburbs, cities and open woods; nests in nest boxes	4 15
red-bellied woodpecker	<i>Melanerpes carolinus</i>	=	prefers forest openings; mostly found on Long Island north shore	4 14
red-eyed vireo	<i>Vireo olivaceus</i>	=	found in parks and suburban areas with shade trees and undergrowth	4 23
red-tailed hawk	<i>Buteo jamaicensis</i>	-	needs 100 foot radius undisturbed area for nest	4 16
ruby-crowned kinglet	<i>Regulus calendula</i>	-	occurs as non-breeding species; present during migration	4 7
ruffed grouse	<i>Bonasa umbellus</i>	-	prefers dense cover, thick woods; avoids humans	4 8
scarlet tanager	<i>Piranga olivacea</i>	-	rare in wooded area of less than 50 acres; affected by fragmentation	4
sharp-shinned hawk	<i>Accipiter striatus</i>	-	avoids humans; nests in heavily forested areas	4 16
song sparrow	<i>Melospiza melodia</i>	=	common to most habitats except deep forest, open field and marsh	4 22
tufted titmouse	<i>Parus bicolor</i>	=	common in suburban areas	4 11
veery	<i>Catharus fuscescens</i>	-	prefers damp forest with undergrowth; affected by fragmentation	4 7
whip-poor-will	<i>Caprimulgus vociferous</i>	-	nocturnal; prefers open woods with adjacent fields	4 12
white-breasted nuthatch	<i>Sitta carolinensis</i>	=	abundant in parks, urban and suburban areas	4 9
wood thrush	<i>Hylocichla mustelina</i>	=	prefers vacant wood (trees >40 feet); may adapt of wooded suburban	4 7
yellow throated vireo	<i>Vireo flavifrons</i>	-	sensitive to fragmentation and urbanization	4 23
yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	=	nests in tree cavity; found in parks, yards and gardens	14
yellow-billed cuckoo	<i>Coccyzus americanus</i>	-	avoids heavy urban areas; prefers wooded open or edges for nests	4 12
<b>Mammals</b>				
big-brown bat	<i>Eptesicus fuscus</i>	+	roosts in structures; found throughout LI; hunts over water	1 29
hoary bat	<i>Lasiurus borealis</i>	=	roosts in trees, sometimes found in parks	45
Keen's bat	<i>Myotis keenii</i>	+	roosts in buildings, crevices and bark; more common on eastern LI	1 29
little-brown bat	<i>Myotis lucifugus</i>	+	roosts in buildings and man made structures; hunts over water	1 29
red bat	<i>Lasiurus borealis</i>	-	feeds in marsh area; nests within 1000 yards of marsh in trees	1 29
Eastern pipistrelle	<i>Pipistrellus subflavus</i>	=	found near water in open woods, also found in buildings	1 29
silver-haired bat	<i>Lasionycteris noctivagans</i>	-	prefers wooded areas near water, primarily during summer months	1 29
Eastern chipmunk	<i>Tamias striatus</i>	=	prefers open woods, thickets, and rocky areas	1 29
Eastern cottontail	<i>Sylvilagus floridanus</i>	=	will adapt to suburban areas, if there is sufficient cover	1 29
white-tailed deer	<i>Odocoileus virginianus</i>	-	requires range of one-half square mile	1 25 29
red fox	<i>Vulpes vulpes</i>	-	builds den in wooded areas with loose-sandy soil and good drainage	1 29
Eastern mole	<i>Scalopus aquaticus</i>	=	tunnels underground	1 29
house mouse	<i>Mus musculus</i>	+	lives in association with man, not expected away from buildings	1 29

Common Name	Scientific Name	Adapt.	Comments	References
meadow-jumping mouse	Zapus hudsonicus	=	found around water in pine barrens; prefers open areas with grasses	1 29
white-footed mouse	Peromyscus leucopus	=	common to most all habitats; does not adapt well to human activity	1 29
Virginia opossum	Didelphis virginiana	=	common in suburban areas, woods, marsh and coastal areas	1 29
raccoon	Procyon lotor	+	nocturnal; very adaptive; found in urban and forest areas	1 29
masked shrew	Sorex cinereus	=	tunnels underground; common in wood and wet habitats	1 29
short-tailed shrew	Blarina breuicauda	=	tunnels underground; abundant in a variety of habitats	1 29
striped skunk	Mephitis mephitis	=	prefers mixed wood & brush within 2 miles of water; not expected on LI	1 29
Eastern gray squirrel	Sciurus carolinensis	=	found in parks, urban and suburban areas; very adaptable	1 29
southern-flying squirrel	Glaucimys volans	-	common in deep mixed, deciduous and coniferous woods	1 29
pine vole	Microtus pinetorum	=	tunnels underground; prefers sandy soil in woods and field; can swim	1 29
long-tailed weasel	Mustela frenata	-	prefers dense wood, but may appear in all land habitats near water	1 29
<b>Herptiles</b>				
spring peeper	Hyla crucifer	=	prefers pools/marsh near woodland; found high in trees in summer	33 35 38
red-backed salamander	Plethodon cinereus cinereus	-	terrestrial, prevalent in moist situations	34 36
marbled salamander	Ambystoma opacum	=	moist to sandy areas; lays eggs in fall in low spots wet by rain	34 36 38
Eastern garter snake	Thamnophis sirtalis	=	occupies a variety of habitats	38 40
eastern milk snake	Lampropettis d. triangulum	=	occupies a variety of habitats	38 39
Eastern spadefoot toad	Scaphiopus holbrookii	-	nocturnal; burrows in sandy soil; eats insects, worms; gardens, etc.	33

**Terrestrial Cultural Species : Adaptability**

Common Name	Scientific Name	Adapt.	Comments	References
<b>Birds</b>				
red-winged blackbird	Agelaius phoeniceus	=	needs water	4 6
Eastern bluebird	Sialia sialis	-	found almost entirely in nesting boxes, extremely rare in wild	4 7
common bobwhite	Colinus virginianus	-	somewhat tolerant of humans during spring and summer months	4 8
indigo bunting	Passerina cyanea	-	inhabits open woodlands with dense thickets for cover	4 20
Northern cardinal	Cardinalis cardinalis	=	found around gardens, yards, parks	4 20
gray catbird	Dumetella carolinensis	=	abundant around parks, urban and suburban areas	4 9
brown-headed cowbird	Molothrus ater	=	lays eggs in other bird's nests; some stay during winter	4 6
American crow	Corvus brachyrhynchos	=	extremely adaptable; omnivorous	4 11
mourning dove	Zenaida macroura	=	abundant around parks, urban and suburban areas	4 8
rock dove	Columba livia	+	nests almost entirely on buildings; considered a pest species	4 8
great-crested flycatcher	Myiarchus crinitus	-	prefers deciduous forests and deciduous open woodland	4 15
common grackle	Quiscalus quiscula	=	adapts well to urban and suburban habitats	4 6
Northern harrier	Circus cyaneus	-	avoids humans; extremely protective of nests	4 16
Cooper's hawk	Accipiter cooperii	-	needs extensive woodland	4 17
red-tailed hawk	Buteo jamaicensis	-	needs 100 foot radius undisturbed area for nest	4 16
sharp-shinned hawk	Accipiter striatus	-	avoids humans; nests in heavily forested areas	4 16
blue jay	Cyanocitta cristata	=	extremely adaptable to human activity and other stresses	4 10
American kestrel	Falco sparverius	-	adaptable; prefers open areas and parks; will nest near humans	4 17
killdeer	Charadrius vociferus	=	grassland species prefers coastal and wet areas with sparse growth	4 31 32
Eastern kingbird	Tyrannus tyrannus	=	very adaptable to human activities; prefers open areas	4 15
Eastern meadowlark	Sturnella magna	-	found in marshes during winter months	4 6
Northern mockingbird	Mimus polyglottos	+	prefers to nest near humans	4 9
common nighthawk	Chordeiles minor	=	primarily a grassland specie; will nest in burnt areas and roofs	4 12
barn owl	Tyto alba	=	hunts in open areas, nests in man made structures and hollow trees	4 17
great-horned owl	Bubo virginianus	-	nocturnal; rare in wooded areas of less than 20 acres	4 17
ring-necked pheasant	Phasianus colchicus	-	needs fields with cover along edge	4 8
black-bellied plover	Pluvialis squatarola	-	non-breeder on LI; may forage during summer, occasionally winter	31 32
American robin	Turdus migratorius	=	very adaptable; abundant in parks; nests in man-made structures	4 7
chipping sparrow	Spizella passerina	+	abundant around man made structures	4 21
field sparrow	Spizella pusilla	-	associated with grasslands, fields and brushy wooded edges	4 21
grasshopper sparrow	Ammodramus savannarum	-	requires grasslands	4 20
house sparrow	Passer domesticus	+	prefers buildings, urban, suburban, gardens; considered a pest	4 20

Common Name	Scientific Name	Adapt.	Comments	References
Savannah sparrow	Passerculus sandwichensis	-	found in shore areas; not expected inland	4 21
song sparrow	Melospiza melodia	=	common to most habitats except deep forest, open field and marsh	4 22
white-crowned sparrow	Zonotrichia leucophrys	=	often found in suburban areas and city parks	22 32
European starling	Sturnus vulgaris	+	extremely adaptable to human activity; considered a pest	4 23
barn swallow	Hirundo rustica	+	nesting almost entirely on buildings	4 15
chimney swift	Chaetura pelagica	+	nesting in chimneys, with few exceptions	4 42
brown thrasher	Toxostoma rufum	=	common in parks, suburban areas, wooded edges, dry open areas	4 9
chestnut-sided warbler	Dendroica pensylvanica	-	prefers first growth woods, with some open brush area	4 19
cedar waxwing	Bombycilla cedrorum	+	prefers open woodlands, orchards and residential areas	4 23 32
whip-poor-will	Caprimulgus vociferous	-	nocturnal; prefers open woods with adjacent fields	4 12
American woodcock	Philhela minor	-	prefers moist woodland and thicket near open fields	4 30
red-headed woodpecker	Melanerpes erythrocephalus	=	prefers open woodlands, parks and suburban areas	4 14
house wren	Troglodytes aedon	=	found in suburban areas and gardens; nesting in crevices of buildings	4 9
<b>Mammals</b>				
Eastern pipitrelle	Pipistrellus subflavus	=	found near water in open woods, also found in buildings	1 29
Eastern cottontail	Sylvilagus floridanus	=	will adapt to suburban areas, if there is sufficient cover	1 29
white-tailed deer	Odocoileus virginianus	-	requires range of one-half square mile	1 25 29
red fox	Vulpes vulpes	-	builds den in wooded areas with loose-sandy soil and good drainage	1 29
house mouse	Mus musculus	+	lives in association with man, not expected away from buildings	1 29
meadow-jumping mouse	Zapus hudsonicus	=	found around water in pine barrens; prefers open areas with grasses	1 29
white-footed mouse	Peromyscus leucopus	=	common to most all habitats; does not adapt well to human activity	1 29
Virginia opossum	Didelphis virginiana	=	common in suburban areas, woods, marsh and coastal areas	1 29
raccoon	Procyon lotor	+	nocturnal; very adaptive; found in urban and forest areas	1 29
black rat	Rattus rattus	=	lives in association with man, mainly city water front buildings	1 29
Norway rat	Rattus norvegicus	+	nocturnal; usually associated with human activity	1 29
least shrew	Cryptotis parva	-	not commonly documented on Long Island	1 29
striped skunk	Mephitis mephitis	=	prefers mixed wood & brush within 2 miles of water; not expected on LI	1 29
pine vole	Microtus pinetorum	=	tunnels underground; prefers sandy soil in woods and field; can swim	1 29
long-tailed weasel	Mustela frenata	-	prefers dense wood, but may appear in all land habitats near water	1 29
<b>Herptiles</b>				
Eastern garter snake	Thamnophis sirtalis	=	occupies a variety of habitats	38 40
eastern milk snake	Lampropeltis d. triangulum	=	occupies a variety of habitats	38 39
Fowler's toad	Bufo woodhousei fowleri	-	found in suburban areas, gardens; breeds in shallow permanent ponds	33 37

Low Wet Woods Species : Adaptability and Comments

Common Name	Scientific Name	Adapt.	Comments	Ref #s
<b>Birds</b>				
red-winged blackbird	Agelaius phoeniceus	=	needs water	4 6
Northern cardinal	Cardinalis cardinalis	=	found around gardens, yards, parks	4 20
Acadian flycatcher	Empidonax virescens	-	prefers cool, damp, mature hardwood forests	4 27
great-crested flycatcher	Myiarchus crinitus	-	prefers deciduous forests and deciduous open woodland	4 15
common grackle	Quiscalus quiscula	=	adapts well to urban and suburban habitats	4 7
rose-breasted grosbeak	Pheucticus ludovicianus	=	mainly found on north shore	4 20
white-breasted nuthatch	Sitta carolinensis	=	abundant in parks, urban and suburban areas	4 26
osprey	Pandion haliaetus	-	associated with seacoast, sometimes lakes and rivers	4 27
great-horned owl	Bubo virginianus	-	nocturnal; rare in wooded areas of less than 20 acres	4 9
saw-whet owl	Aegolius acadicus	-	nocturnal; low moist coniferous; winter in parks, yards, thickets	4 16
Eastern phoebe	Sayornis phoebe	=	prefers open wood near stream; nests in log, building, bridge, cliff	4 17
semipalmated sandpiper	Calidris pusilla	-	prefers south shore of Long Island	4 17
spotted sandpiper	Actitis macularia	-	nests on ground in grassy areas	4 15
swamp sparrow	Melospiza georgiana	-	prefers fresh water marshes; may be found in weedy fields, parks	4 31 32
European starling	Sturnus vulgaris	+	extremely adaptable to human activity; considered a pest	4 22
tree swallow	Tachycineta bicolor	=	always nests near water	4 23
wood thrush	Hylocichla mustelina	=	prefers vacant wood (trees >40 feet); may adapt of wooded suburban	4 15
tufted titmouse	Parus bicolor	=	common in suburban areas	4 11
veery	Catharus fuscescens	-	prefers damp forest with undergrowth; affected by fragmentation	4 7
yellow throated vireo	Vireo flavifrons	-	sensitive to fragmentation and urbanization	4 18
American woodcock	Philhela minor	-	prefers moist woodland and thicket near open fields	4 30
downy woodpecker	Picoides pubescens	=	found in parks and suburban areas	4 14
hairy woodpecker	Picoides villosus	=	found mainly in deciduous forests	4 14
red-bellied woodpecker	Melanerpes carolinus	=	prefers forest openings; mostly found on Long Island north shore	4 14
<b>Mammals</b>				
big-brown bat	Eptesicus fuscus	+	roosts in structures; found throughout LI; hunts over water	1 29
little-brown bat	Myotis lucifugus	+	roosts in buildings and man made structures; hunts over water	1 29
red bat	Lasiurus borealis	-	feeds in marsh area; nests within 1000 yards of marsh in trees	1 29
Eastern cottontail	Sylvilagus floridanus	=	will adapt to suburban areas, if there is sufficient cover	1 25 29
white-tailed deer	Odocoileus virginianus	-	requires range of one-half square mile	1 29
red fox	Vulpes vulpes	-	builds den in wooded areas with loose-sandy soil and good drainage	1
<b>Common Name</b>	<b>Scientific Name</b>	<b>Adapt.</b>	<b>Comments</b>	<b>Ref #</b>
mink	Mustela vison	-	prefers wetlands surrounded by forested areas	1



Common Name	Scientific Name	Adapt.	Comments	Ref #s
star-nosed mole	<i>Condylura cristata</i>	-	prefers wet, black, soil with earthworms	1 29
meadow-jumping mouse	<i>Zapus hudsonicus</i>	=	found around water in pine barrens; prefers open areas with grasses	1 29
white-footed mouse	<i>Peromyscus leucopus</i>	=	common to most all habitats; does not adapt well to human activity	1 29
Virginia opossum	<i>Didelphis virginiana</i>	=	common in suburban areas, woods, marsh and coastal areas	1 29
raccoon	<i>Procyon lotor</i>	+	nocturnal; very adaptive; found in urban and forest areas	1 29
masked shrew	<i>Sorex cinereus</i>	=	tunnels underground; common in wood and wet habitats	1 29
short-tailed shrew	<i>Blarina breuicauda</i>	=	tunnels underground; abundant in a variety of habitats	1 29
Eastern gray squirrel	<i>Sciurus carolinensis</i>	=	found in parks, urban and suburban areas; very adaptable	1 29
southern-flying squirrel	<i>Glaucimys volans</i>	-	common in deep mixed, deciduous and coniferous woods	1 29
meadow vole	<i>Microtus pennsylvanicus</i>	=	tunnels underground; prefers open woodland	29 45
pine vole	<i>Microtus pinetorum</i>	=	tunnels underground; prefers sandy soil in woods and field; can swim	1 29
long-tailed weasel	<i>Mustela frenata</i>	-	prefers dense wood, but may appear in all land habitats near water	1 29
<b>Herptiles</b>				
common gray treefrog	<i>Hyla versicolor</i>	-	prefer mossy trees near ponds	33 37
green frog	<i>Rana clamitans</i>	-	mainly aquatic species	33 35 37
Southern leopard frog	<i>Rana pipiens sphenoccephala</i>	-	prefers shallow fresh to brackish pond; may be in meadow in summer	35 37 38
wood frog	<i>Rana sylvatica</i>	-	prefers leafy pools and transient pools in wooded areas	33 37
red-spotted newt	<i>Notophthalmus viridescens</i>	-	prefers shallow ponds in wooded areas; open moist woods	36 38
spring peeper	<i>Hyla crucifer</i>	=	prefers pools/marsh near woodland; found high in trees in summer	33 35 38
red-backed salamander	<i>Plethodon cinereus cinereus</i>	-	terrestrial, prevalent in moist situations	34 36
spotted salamander	<i>Ambystoma maculatum</i>	-	will breed in pond or vernal ponds in late March, early April	34 36 38
Eastern tiger salamander	<i>Ambystoma tigrinum tigrinum</i>	-	needs fishless pond or vernal pond with 500' vacant radius to breed	36 38
marbled salamander	<i>Ambystoma opacum</i>	=	moist to sandy areas; lays eggs in fall in low spots wet by rain	34 36 38
Eastern garter snake	<i>Thamnophis sirtalis</i>	=	occupies a variety of habitats	38 40
eastern milk snake	<i>Lampropeltis d. triangulum</i>	=	occupies a variety of habitats	38 39
Eastern ribbon snake	<i>Thamnophis s. sauritus</i>	=	semi-aquatic specie seldom wanders far from wet areas	38 40
Northern brown snake	<i>Storeria dekayi</i>	=	prefers fresh marsh, moist woods, but, adapts to urban environment	38
Northern ringneck snake	<i>Diadophis punctatus</i>	=	prefers secluded moist areas under logs/stones; can adapt to suburb	38
Northern water snake	<i>Natrix sipedon sipedon</i>	-	common in swamp, bog, marsh, stream, pond and lake environments	38 39
painted turtle	<i>Chrysemys picta</i>	-	prefers small bodies of water	38

**REFERENCES FOR WILDLIFE MATRIX**

<b>Refer.</b>	<b>Publication</b>	<b>Refer.</b>	<b>Publication</b>
1	Connor, P.F. 1971. The Mammals of Long Island. NYS Museum Science Service Bulletin 416 SUNY, Albany.	9	Bent, A.C. 1964. Life Histories of North American Nuthatches, Wrens Dover Pub., NY.
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