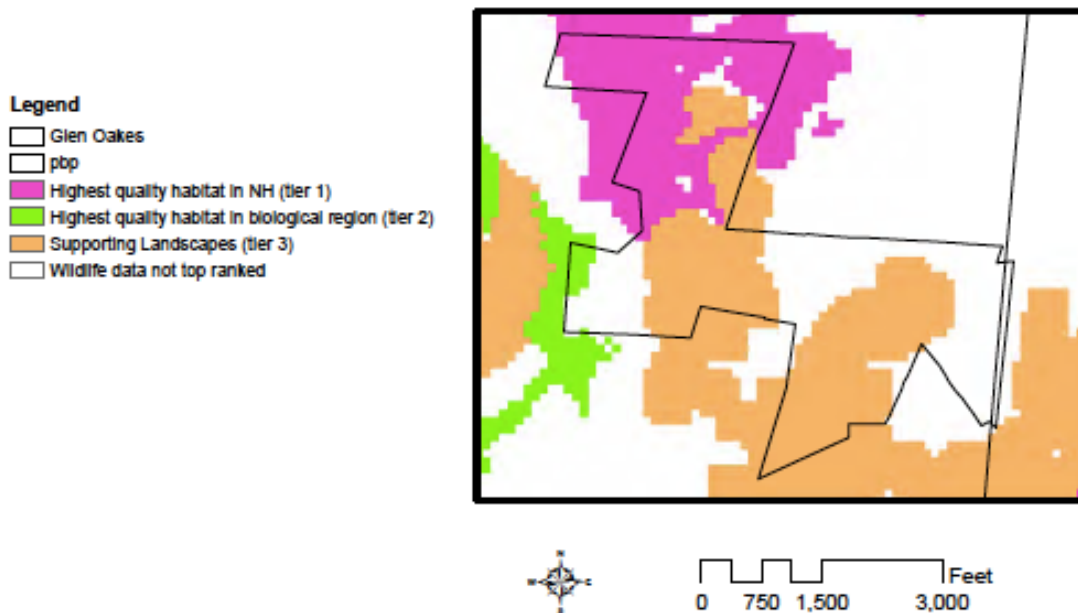


# Glen Oakes BioBlitz Report

## NH WAP Highest Quality Habitat in NH



Note: The black line in the map denotes Glen Oakes Town Forest in Fremont, N.H.

**From May, 2011**



## Introduction

On and around the weekend of May 21, 2011, an intensive species inventory (BioBlitz) was made in Fremont, NH within the Glen Oakes Town Forest. The event was organized to enhance the baseline information of the biodiversity found in this area begun by Forester Charles A. Moreno. Three small teams of volunteers lead by experts spent the morning of Saturday, May 21, 2011 scouring the Glen Oakes Town Forest in three different directions keeping an inventory of the species they identified. In addition, other volunteers unable to attend the event that day reported their findings from the week before and after the event. The result of these efforts is the species inventory list found in the right-hand column (verified 5/2011) of this report. The third column from the left contains observations made by Charles A. Moreno during the period of time he was working on the Forest Management Plan for the Glen Oakes Conservation Area (2009). Together the two columns represent the observed biodiversity of this area

This conservation area, a part of the larger Spruce Swamp ecosystem, provides a unique haven of biodiversity. Much of the area inventoried has been identified as “highest quality habitat” or as important “supporting habitat” in the New Hampshire Wildlife Action Plan – please see the map printed on the cover of this report. It is worth noting the area contains the critical habitats required for several Species of Greatest Conservation Concern in New Hampshire. Species of Greatest Conservation Concern recorded on May 21st were the great blue heron, veery, eastern towhee, common loon (NH Threatened Species) and the ringed boghaunter (NH Endangered Species). Also listed as Species of Greatest Conservation Concern because they are in the NH “Big Game Plan” and recorded on May 21st were the white-tailed deer and moose. Species of Greatest Conservation Concern listed as observed but not on May 21st are Fowler’s toad, American woodcock, Blanding’s turtle (NH Endangered Species) and the marbled salamander (NH Endangered Species). Listed as Species of Greatest Conservation Concern because they are in the NH “Big Game Plan” but not observed on May 21st was the wild turkey.

Many thanks need to be given to the volunteers and experts from Fremont, Bear-Paw Regional Greenways, the Fremont Conservation Commission, and the UNH Cooperative Extension Service for their assistance with this project. Volunteers acting as recorders and observers included Scott Young, Susan Wilderman, Jen Wu, Julie Burruccio, John Burruccio, Leanne Miner, Pat deBeer, Janice O’Brien, and Robert O’Brien. The group leaders who offered their expertise included Frank Mitchell, Phil Auger, and Kevin F. Murphy. A thank you also goes to Len Medlock, Greg Tilmen, and Bill Knee who contributed to the species inventory list but were not able to attend the BioBlitz. Finally, a special thank you goes to Frank Mitchell for his assistance with this report and for his help organizing the May 2011 BioBlitz.

## Summary of the Categories of Species Found in the Glen Oakes Town Forest

<b>Species Category</b>	<b>Number of Species Verified on 5/2011</b>	<b>Total Number of Species Identified</b>
Amphibians	8	13
Reptiles	0	3
Birds	52	62
Mammals	8	12
Insects	14	14
Trees	20	33
Shrubs	31	36
Wildflowers	56	56
Ferns	12	12
Club Mosses	2	2
Horsetails	1	1
Mosses	2	2
Lichen	3	3
Other	7	7
<b>Totals</b>	<b>216</b>	<b>256</b>

**Glen Oakes Town Forest Species Inventory:  
Potential (P), Likely (X), or Observed (O) Species**

<b>Common Name</b>	<b>Scientific Name</b>		<b>Verified 5/2011</b>
<b>Amphibians</b>			
Frog, Bullfrog	<i>Ambystoma laterale</i>	P	O
Frog, Green	<i>Ambystoma maculatum</i>	O	Ox2
Frog, Northern Spring Peeper	<i>Notophthalmus v. viridescens</i>	O	Ox2
Frog, Pickerel	<i>Desmognathus f. fuscus</i>	P	O
Frog, Treefrog Gray	<i>Plethodon cinereus</i>	O	Ox2
Salamander, Marbled	<i>Bufo a. americanus</i>	O	
Salamander, Northern Spring	<i>Hyla c. crucifer</i>	O	
Salamander, Northern Two-lined	<i>Hyla versicolor</i>	O	
Salamander, Red-spotted Newt	<i>Rana catesbeiana</i>	O	O
Salamander, Redback	<i>Rana clamitans melanota</i>	O	
Salamander, Spotted	<i>Rana sylvatica</i>	O	O
Toad, Eastern American	<i>Rana pipiens</i>	X	O
Toad, Fowler's	<i>Rana palustris</i>	O	

<b>Common Names</b>	<b>Scientific Names</b>		<b>Verified 5/2011</b>
<b>Reptiles</b>			
Snake, Common Garter	<i>Thamnophis s. sirtalis</i>	O	
Turtle Blanding's	<i>Emydoidea blandingii</i>	O	
Turtle, Eastern Painted	<i>Chrysemys p. picta</i>	O	

<b>Common Name</b>	<b>Common Name</b>	<b>Common Name</b>	<b>Common Name</b>
<b>Birds</b>			
Blackbird, Red-winged	<i>Agelaius phoeniceus</i>	O	
Cardinal, Northern	<i>Cardinalis cardinalis</i>	O	Ox2
Catbird, Gray	<i>Dumetella carolinensis</i>	X	Ox3
Chickadee, Black-capped	<i>Parus atricapillus</i>	O	Ox3
Crow, American	<i>Corvus brachyrhynchos</i>	O	Ox3
Dove, Mourning	<i>Zenaida macroura</i>	O	O
Duck, Wood	<i>Aix sponsa</i>	O	
Finch, Purple	<i>Carpodacus purpureus</i>		O
Flicker, Northern	<i>Colaptes auratus</i>	O	Ox2
Flycatcher, Great Crested	<i>Myiarchus crinitus</i>	O	O
Flycatcher, Least	<i>Empidonax minimus</i>	X	O
Goose, Canada Goose	<i>Branta canadensis</i>	O	
Grosbeak, Rose-breasted	<i>Pheucticus ludovicianus</i>	X	Ox2
Grouse, Ruffed	<i>Bonasa umbellus</i>	O	
Hawk, Broad-winged	<i>Buteo platypterus</i>	O	O
Hawk, Red-shouldered	<i>Buteo lineatus</i>	O	O
Hawk, Red-tailed	<i>Buteo jamaicensis</i>	O	O

Heron, Great Blue	<i>Ardea herodias</i>	O	
Hummingbird, Ruby-throated	<i>Archilochus colubris</i>	X	O
Jay, Blue	<i>Cyanocitta cristata</i>	O	Ox2
Junco, Dark-eyed	<i>Junco hyemalis</i>	O	
Kingbird, Eastern	<i>Tyrannus tyrannus</i>	O	O
Kingfisher, Belted	<i>Ceryle alcyon</i>	X	O
Kinglet, Golden-crowned	<i>Regulus satrapa</i>		?
Lark, Horned	<i>Eremophila alpestris</i>		O
Loon, Common	<i>Gavia immer</i>		Ox2
Nuthatch, Red-breasted	<i>Sitta canadensis</i>	O	O
Nuthatch, White-breasted	<i>Sitta carolinensis</i>	O	O
Ovenbird	<i>Seiurus aurocapillus</i>	O	Ox2 5/6/2011
Owl, Barred	<i>Strix varia</i>	O	5/11/11
Parula, Northern	<i>Parula americana</i>		O
Phoebe, Eastern	<i>Sayornis phoebe</i>	O	O
Redstart, American	<i>Setophaga ruticilla</i>	X	Ox3
Robin, American	<i>Turdus migratorius</i>	O	O
Sapsucker, Yellow-bellied	<i>Sphyrapicus varius</i>	X	O
Sparrow, Song	<i>Melospiza melodia</i>	X	O
Sparrow, White-throated	<i>Zonotrichia albicollis</i>	O	O
Tanager, Scarlet	<i>Piranga olivacea</i>	X	Ox3
Thrush, Hermit	<i>Catharus guttatus</i>	O	Ox2
Titmouse, Tufted	<i>Parus bicolor</i>	O	Ox2
Towhee, Eastern	<i>Pipilo erythrophthalmus</i>	P	O
Turkey, Wild	<i>Meleagris gallopavo</i>	O	
Veery	<i>Catharus fuscescens</i>	O	Ox3
Vireo, Blue-headed	<i>Vireo solitarius</i>	O	O
Vireo, Red-eyed	<i>Vireo olivaceus</i>	O	Ox3
Vulture, Turkey	<i>Cathartes aura</i>	O	
Warbler, Black-and-white	<i>Mniotilta varia</i>	O	Ox2
Warbler, Black-throated Blue	<i>Dendroica caerulescens</i>	O	Ox2
Warbler, Black-throated Green	<i>Dendroica virens</i>	O	Ox2
Warbler, Blackburnian	<i>Dendroica fusca</i>		Ox2
Warbler, Canada	<i>Wilsonia canadensis</i>	P	O
Warbler, Chestnut-sided	<i>Dendroica pensylvanica</i>	X	Ox2
Warbler, Pine	<i>Dendroica pinus</i>	O	Ox3
Warbler, Prairie	<i>Dendroica discolor</i>	P	O
Warbler, Yellow	<i>Dendroica petechia</i>	O	Ox2
Warbler, Yellow-rumped	<i>Dendroica coronata</i>	O	
Waterthrush, Northern	<i>Seiurus noveboracensis</i>	O	O
Wood-Pewee, Eastern	<i>Contopus virens</i>	O	Ox2
Woodcock, American	<i>Scolopax minor</i>	O	
Woodpecker, Downy	<i>Picoides pubescens</i>	O	O
Woodpecker, Hairy	<i>Picoides villosus</i>	O	O
Woodpecker, Pileated	<i>Dryocopus pileatus</i>	O	O signs
Yellowthroat, Common	<i>Geothlypis trichas</i>	O	Ox2

Common Names	Scientific Names	Verified 5/2011	
<b>Mammals</b>			
Beaver	<i>Castor canadensis</i>	0	0 signs
Coyote	<i>Canis latrans</i>	0	0 tracks
Eastern Chipmunk	<i>Tamias striatus</i>	0	0x2
Ermine	<i>Mustela erminea</i>	0	
Fisher	<i>Martes pennanti</i>	0	
Gray Squirrel	<i>Sciurus carolinensis</i>	0	0x2
Moose	<i>Alces alces</i>	0	0 tracks
Porcupine	<i>Erethizon dorsatum</i>	0	0 photo
Raccoon	<i>Procyon lotor</i>	0	
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	0	0
Snowshoe Hare	<i>Lepus americanus</i>	0	
White-tailed Deer	<i>Odocoileus virginianus</i>	0	0 tracks

Common Names	Scientific Names	Verified 5/2011	
<b>Insects</b>			
<b>ODONATA</b>			
Auroa damselfly			0
chalk front coporal (dragonfly)			0
hudsonia whiteface (dragonfly)			0
ringed boghaunters (dragonfly)	<i>Williamsonia lintneri</i>	0	5/11/2011
uhler's sundragon (dragonfly)			0
<b>DIPTERA</b>			
Black flies sp.			0
Mosquito sp.			0
<b>HYMENOPTERA</b>			
bog hopper (butterfly)			0
bumblebee			0x2
lightening bug			0
red ants			0
swallowtail (butterfly)			0
white pine weevil			0
<b>EPHEMEROPTERA</b>			
Mayflies			0

Common Names	Scientific Names	Verified 5/2011	
<b>Trees</b>			
<b>DECIDUOUS</b>			
Ash, White	<i>Fraxinus americana</i>	0	
Aspen, Bigtooth (Popple)	<i>Populus grandifolia</i>	0	0
Aspen, Quaking	<i>Populus tremuloides</i>	0	0
Basswood	<i>Tilia americana</i>	0	
Beech, American	<i>Fagus grandifolia</i>	0	0
Birch, Black (Sweet, Cherry)	<i>Betula lenta</i>	0	0

Birch, Gray	<i>Betula populifolia</i>	0	0
Birch, White (Paper)	<i>Betula papyrifera</i>	0	0
Birch, Yellow (Silver)	<i>Betula allegheniensis</i>	0	0
Cherry, Black	<i>Prunus serotina</i>	0	
Cherry, Fire Cherry, Pin	<i>Prunus pennsylvanica</i>		0
Chestnut, American	<i>Castanea dentata</i>	0	
Elm, American	<i>Ulmus americana</i>	0	
Gum, Black	<i>Nyssa sylvatica</i>	0	0
Hickory, Shagbark	<i>Carya ovata</i>	0	0
Hophornbeam	<i>Ostrya virginiana</i>	0	
Ironwood	<i>Carpinus caroliniana</i>	0	
Maple, Red (Swamp, Soft, White)	<i>Acer rubrum</i>	0	0
Maple, Sugar (Rock, Hard)	<i>Acer saccharum</i>	0	
Oak, Black	<i>Quercus velutina</i>	0	
Oak, Northern Red	<i>Quercus rubra</i>	0	0
Oak, White	<i>Quercus alba</i>	0	0
Sassafras	<i>Sassafras albidum</i>	0	
Sumac, Poison	<i>Rhus vernix</i>	0	0
Sumac, Smooth	<i>Rhus glabra</i>	0	
Sumac, Staghorn	<i>Rhus tyhina</i>	0	0
Willow	<i>Salix sp.</i>		0

**EVERGREEN**

Hemlock, Eastern	<i>Tsuga canadensis</i>	0	0
Pine, Pitch	<i>Pinus rigida</i>	0	
Pine, Red	<i>Pinus resinosa</i>	0	
Pine, White	<i>Pinus strobus</i>	0	0
Spruce, Black	<i>Picea mariana</i>	0	0
Spruce, Red	<i>Picea rubens</i>	0	0

<b>Common Names</b>	<b>Scientific Names</b>	<b>Verified 5/2011</b>	
<b>Shrubs</b>			
Alder	<i>Alnus sp.</i>		0
Alder, Speckled	<i>Chamaedaphne calyculata</i>	0	
Arrowwood, Northern	<i>Viburnum recognitum</i>		0
Azalea, Swamp	<i>Rhododendron viscosum</i>		0
Bayberry, Northern	<i>Vaccinium angustifolium</i>	0	0
Blackberry	<i>Lyonia ligustrina</i>	0	0
Blueberry, Highbush	<i>Hamamelis virginiana</i>	0	Ox3
Blueberry, Lowbush	<i>Corylus cornuta</i>	0	Ox2
Bush-Honeysuckle, Northern	<i>Diervilla lonicera</i>		0
Buttonbush	<i>Cephalanthus occidentalis</i>		0
Chokeberry	<i>Pyrus sp.</i>		0
Dewberry, Prickly	<i>Viburnum lentago</i>	0	
Grape	<i>Viburnum alnifolium</i>	0	0
Hawthorn	<i>Gaylussacia baccata</i>	0	0
Hazelnut, Beaked	<i>Alnus rugosa</i>	0	
Hobblebush	<i>Myrica pensylvanica</i>	0	Ox2



Holly, Winterberry	<i>Vitis spp.</i>	0	Ox2
Huckleberry	<i>Ilex verticillata</i>	0	0
Ivy, Poison	<i>Rhus radicans</i>		0
Juneberries, shadbush, serviceberries	<i>Amelanchier sp.</i>		0
Juniper	<i>Juniperus sp.</i>		0
Leatherleaf	<i>Crataegus spp.</i>	0	0
Maleberry	<i>Amelanchier spp.</i>	0	0
Nannyberry	<i>Vaccinium corymbosum</i>	0	
Pepperbush, Sweet	<i>Kalmia angustifolia</i>	0	Ox2
Raspberry, Black	<i>Clethra alnifolia</i>	0	0
Raspberry, Red	<i>Rubus occidentalis</i>	0	0
Rose	<i>Rosa sp.</i>		0
Serviceberry	<i>Rubus idaeus</i>	0	
Sheep Laurel	<i>Rubus allegheniensis</i>	0	Ox2
Spicebush, Common	<i>Lindera benzoin</i>		0
Spirea, Broadleaf (Meadowsweet)	<i>Spiraea latifolia</i>		0
Spirea, Steeplebush	<i>Spiraea tomentosa</i>		0
Sweetfern	<i>Comptonia peregrina</i>		0
Viburnum, Mapleleaf	<i>Viburnum acerifolium</i>		0
Witch-Hazel	<i>Rubus flagellaris</i>	0	Ox2

<b>Common Names</b>	<b>Scientific Names</b>	<b>Verified 5/2011</b>	
<b>Wildflowers</b>			
Anemone, Wood ?	<i>Anemone quinquefolia</i>		0
Arrowheads	<i>Sagittari sp.</i>		0
Aster, heart-leaved	<i>Aster cordifolius</i>		0
Aster, Large-leaved	<i>Aster macrophylls</i>		0
Aster, whorled wood	<i>Astert acuminatus</i>		0
Avens, white	<i>Genum canadense</i>		0
beechdrops	<i>Epifagus virginiana</i>		0
Blue Flag, Large	<i>Iis vericolor</i>		0
Blue-eyed Grasses	<i>Sisyrinchium montanum</i>		0
bluets	<i>Houstonia caerulea</i>		Ox2
Boneset	<i>Eupatorium perfoliatum</i>		0
Bunchberry (Dwarf Cornel)	<i>Cornus canadensis</i>		Ox2
Calla, Wild	<i>Calla palustris</i>		0
Checkerberry, (wintergreen)	<i>Gaultheria procumbens</i>		0
Cinquefoil, common	<i>Potentilla simplex</i>		Ox2
Cinquefoil, dwarf	<i>Potentilla canadensis</i>		0
clintonia, corn-lilly	<i>Clintonia boealis</i>		0
cucumber-root, indian	<i>Medeola virginiana</i>		Ox2
Dandelion, common	<i>Taraxacum officinale</i>		0
Dogbane ?			0
Ginseng, dwarf	<i>Panax trifolius</i>		Ox2
Goldthread	<i>Coptis groenlandica</i>		Ox2
jack-in-the-pulpit	<i>Arisaema sp.</i>		0
Lettuce, wild	<i>Lactuca canadensis</i>		0

lily-of-the-valley,wild(Canada Mayflower)	<i>Maianthemum canadense</i>		0
Loosestrife, Whorled	<i>Lysimachia quadrifolia</i>		0
Marigold, Marsh (cowslip)	<i>Caltha palustris</i>		0
Milkweed, Swamp	<i>Asclepias amplexicaulis</i>		0
Miterwort	<i>Mitella sp.</i>		0
partridgeberry	<i>Mitchella repens</i>		0
Pipsissewa	<i>Chimaphila umbellata</i>		0
Pitcher-plant	<i>Sarracenia purpurea</i>		0
Plantain, common	<i>Plantago major</i>		0x2
Pyrola, ? Pink	<i>Pyrola asarifolia</i>		0
Pyrola, Lesser	<i>Pyrola minor</i>		0
Pyrola, One-sided	<i>Pyrola secunda</i>		0
rose sp.	<i>Rosa sp.</i>		0
Sasparilla, Wild	<i>Aralia nudicaulis</i>		0x2
Slipper, PinkLady's (Moccasin-flower)	<i>Cypripedium acaule</i>		0x2
Solomon's-Seal, False	<i>Smilacina racemosaa</i>		0
St. Johnswort	<i>Hypericum sp.</i>		0
Starflower	<i>Trientalis borealis</i>		0x2
Strawberry, common	<i>Fragaria virginiana</i>		0
Sundew, Spatulate-leaved	<i>Drosera intermedia</i>		0
Trillium, painted	<i>Trillium undulatum</i>		0x2
Twisted-stalk, Mandarin	<i>Streptopus amplexifolius</i>		0
Violet, common blue	<i>Viola papilionaceae</i>		0
Violet, lance-leaved	<i>Viola lanceolata</i>		0
Violet, New England Blue	<i>Viola novae-angliae</i>		0
Violet, Northern Bog	<i>Viola nephrophylla</i>		0
Violet, northern white	<i>Viola pallens</i>		0
Water-horehounds, Bugleweeds	<i>Lycopus sp.</i>		0
Water-pennywort	<i>Hydrocotyle americana</i>		0x2
water-willow	<i>Justicia americana</i>		0
Wild oats	<i>Uvularia sessilifolia</i>		0
Wintergreen, Spotted	<i>Chimaphila maculata</i>		0

Common Names	Scientific Names		Verified 5/2011
<b>Ferns</b>			
Bracken Fern	<i>Pteridium aquilinum</i>	0	0
Christmas Fern	<i>Polystichum acrostichoides</i>	0	0
Cinnamon Fern	<i>Osmunda cinnamomea</i>	0	0
Common Polypody	<i>Polypodium virginianum</i>	0	0
Haysented fern	<i>Denstaedtia punctilobula</i>		0
Interrupted fern	<i>Osmunda Claytoniana</i>		0
Lady fern	<i>Athyrium Filix-femina</i>		0
Marginal Wood Fern	<i>Dryopteris marginalis</i>	0	0
Marsh fern	<i>Thelypteris palustris</i>		0
New York fern	<i>Thelypteris noveboracensis</i>		0
Royal Fern	<i>Osmunda regalis</i>	0	0
Sensitive Fern	<i>Onoclea sensibilis</i>	0	0

Common Names	Scientific Names	Verified 5/2011
<b>Clubmosses</b>		
Running Pine	<i>Lycopodium obscurum</i>	0
Tree Clubmoss	<i>Lycopodium complanatum</i>	0

Common Names	Scientific Names	Verified 5/2011
<b>Horsetails</b>		
Wood Horsetail	<i>Equisetum sylvaticum</i>	0

Common Names	Scientific Names	Verified 5/2011
<b>Mosses</b>		
cushion moss		0
peat moss	<i>Sphagnum sp.</i>	0

Common Names	Scientific Names	Verified 5/2011
<b>Lichen</b>		
artist konc		0
british soldiers		0
pixie cups		0

Common Names	Scientific Names	Verified 5/2011
<b>Other (continued)</b>		
? reed		0
(black)? beak rush		0
blueberry gall		0
eastern tent caterpillars		0
inchworm		0
oak apple (gall)		0
sp. grass		0

**NOTES:**

1. In addition to direct sightings, "observed" wildlife includes observed evidence of particular species such as tracks, scat, nests, tree or ground dens, tree scrapes, as well as, amphibian egg masses and bird song.

2. Wildlife species listed as "likely" were not observed directly or indirectly, however, the Conservation Area contains the habitat and/or habitat features that would likely attract at least occasional presence of this species.

3. The property contains some habitat suitable for species listed as "potential". However, these species are less likely to be found due to 1) rarity of the species or 2) habitat characteristics that are not optimal, usually because the habitat is not extensive.