

# **Cooper North Pasture Preserve**

## **Survey of Bird Species, April – August, 2008**



Lynette Leka  
January 16, 2009

# **Survey of Bird Species in the Cooper North Pasture Preserve, Newburyport, Massachusetts April – August, 2008**

Conducted to fulfill the Independent Study Project requirement  
of the Birder's Certificate Program,  
Joppa Flats Education Center, Massachusetts Audubon

## Introduction

In April, 2006, the City of Newburyport, in coalition with The Essex County Greenbelt Association and the Trust for Public Land, acquired and placed under permanent protection the Cooper North Pasture, a 102-acre parcel of land bounded on the south by Hale street, on the east by the Little River, and running west to the "Old I-95 North Lane". Approximately 1/3 of the property is comprised of a field which is under active cultivation for hay, and approximately 2/3 of the property is secondary forested upland. There are wet meadow areas in the section of the field which gets flooded by the river. (See Appendix A, Maps.) The parcel is part of the historic "Common Pasture", which was surveyed for state-listed species by Sanford Ecological Services in 2003, and evaluated for conservation status.

The management of the Cooper North Preserve is now under the direction of the Newburyport Planning Office Stewardship Committee. In 2007 Mr. Geordie Vining, Senior Project Manager, contacted Bill Gette, Sanctuary Director of the MassAudubon Joppa Flats Education Center in Newburyport, seeking support in monitoring the breeding bird activity on the property. This report is the result of surveys conducted during the nesting season of 2008.

## Methods

The survey walks were done primarily by Lynette Leka and Nancy Purcell, either together or individually, both enrolled in the MassAudubon/Joppa Flats Birder's Certificate Program. Hilda Dorgan, also a BCP student, assisted with the initial process of planning the project (see Appendix B, Supporting Materials) and familiarizing ourselves with the property and the path through the woods (Appendix A, Maps) which one of the Committee members had cleared. Ganson Purcell joined Nancy on her walk several times, and Lynette was accompanied on her walks one time each by: Bill Gette, to assess the progress of the project; Sharon Stichter, to survey for butterflies and native plants; and Joe Teixeira, one of the Committee members and a wetland specialist.

At first, consideration was given whether to do point counts or transects, but the decision was made to simply walk one of two routes – either along the trail through the woods, or circumventing the periphery of the field, alternating between the two routes on observation days. This plan was based on the density of the understory in the forested area, the density and height of the grass that was to grow in the field, and the fact that each of the two routes required two to three hours to complete.

Our goal was to visit the Preserve three to four times each week, although that schedule was sometimes interrupted by weather conditions, and Lynette and Nancy were both away during much of July.

In preparation for locating and identifying nests of possible breeding species, a spreadsheet was researched and developed that provided information on nesting: dates, habitat, typical site, construction type, minimum and maximum height, diameter, and construction materials, for each species that potentially could be found breeding on this property (see Excel file “possible nesting species” on the CD included in the Appendices).

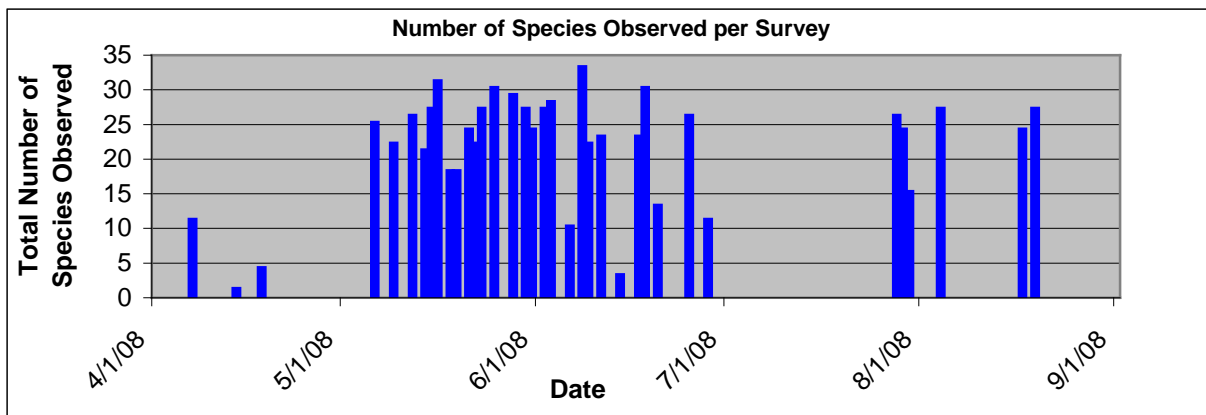
A data sheet for field observations was designed (Appendix B, Supporting Materials), as was a spreadsheet database for recording: observer(s); date; time of day; number of hours; temperature range; sky condition; wind condition; species name; section and area (see next paragraph); heard and/or seen; number of adults and/or males, females, juveniles; breeding evidence (Appendix B, Supporting Materials); nest location and/or GPS coordinates if applicable; and comments, for each observation (Excel file “CNPP database” on the CD).

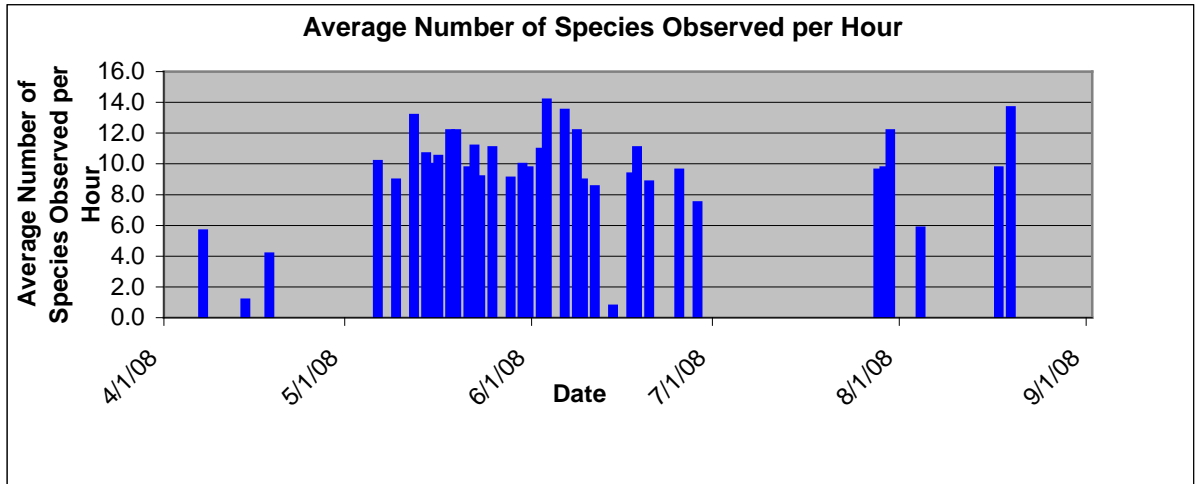
In order to document approximate location for each observation, the property was divided into: “front” or “back” sections, delineated by the old fieldstone wall that runs east and west roughly 2/3 of the way north from Hale Street; and areas designated as “woods”, “clearing” (the blackberry patch in the back woods), “field”, “trees on right” (of the field, facing north from Hale Street), “shrubs on right”, “trees on left”, “shrubs on left”, “trees by road” (along Hale Street), “windrow” (at the stone wall crossing the field), and “trees at back” (rear of field). A map key of the letters A – O was later assigned to each section/area (Appendix A, Maps). When making observations, the front field was visually divided into thirds in order to estimate the number of flying Bobolinks and Red-winged Blackbirds.

## Data

Preliminary walks were made in late March and early April to explore the property and look for nests from previous seasons. Four nests were discovered and documented to location and type; three of these were tentatively identified as having belonged to (in order of discovery) American Robin, American Redstart, and Alder Flycatcher.

Survey walks were made on 36 different days, April 7 through August 19, 2008, amounting to 86.5 hours. A total of 80 different species were observed (Appendix C, Results), and 1201 separate observations were recorded (Excel file “CNPP database”). A spreadsheet showing the distribution of the different species by date can be found in Appendix C, Results.





Three active nests were found during the 2008 breeding season, belonging to Blue Jay and White-breasted Nuthatch (cavity) on May 23, and American Robin on June 9, and the respective trees flagged with a small bow of trail tape. No ground nests were found, so the issue of how to mark such locations did not need to be addressed.

On three occasions a large raptor was flushed from the front section of the woods, and was tentatively identified as a Red-shouldered Hawk, but was not included in the recorded observations.

Two evening/nighttime visits were made to the field, on April 18 to watch for Woodcock, and on June 11 to listen for Whip-poor-will. Both evenings the meteorological conditions were ideal for those species to occur, but none were located. Also, no owls were heard during those visits, and no nighttime trips into the woods were conducted to listen specifically for owls.

### Analysis

The goal of this survey project was to “determine which bird species are nesting in the Cooper North Pasture (woodlands and fields), how many of each species are nesting, and the locations of their nests” (letter to Mr. Geordie Vining from Bill Gette, November 2, 2007). To achieve this goal, the records in the database were painstakingly scrutinized, in an effort to identify potentially distinct breeding events - by species, number, and location.

The criteria applied to identify such events as distinct were that a breeding behavior, as defined by the MassAudubon Breeding Bird Atlas 2 (Appendix B, Supporting Materials), had to occur at least 7 days apart or in a different section/area, from a similar behavior. As systematic approach as possible was taken to determine distinct events, but the decision-making was complex and will necessarily vary with the analyst.

The Breeding Bird Atlas categorizes breeding behaviors into 3 levels: Confirmed, Probable, and Possible. The results of this analysis indicate 20 Confirmed, 14 Probable, and 25 Possible breeding species in the Preserve during the 2008 season. Twenty-one of these species are in population decline in the New England/mid-Atlantic Coast region, according to the Partners in Flight Bird Conservation Scores.

<u>Species Name</u>	<u>Breeding Status</u>	<u># of events</u>	<u>Species Name</u>	<u>Breeding Status</u>	<u># of events</u>
Heron, Green	possible	1	Robin, American	Confirmed	25
Goose, Canada	Probable	2	Catbird, Gray	Confirmed	22
Duck, Wood	possible	3	Starling, European	possible	1
Mallard	Probable	4	Waxwing, Cedar	possible	8
Hawk, Sharp-shinned	Probable	1	Warbler, Blue-winged	Probable	3
Hawk, Red-tailed	possible	2	Warbler, Yellow	Probable	6
Turkey, Wild (NON-MIG)	Confirmed	2	Warbler, Chestnut-sided	possible	1
Killdeer	possible	3	Warbler, Black-throated Green	possible	2
Dove, Mourning	Probable	8	Warbler, Pine	possible	4
Swift, Chimney	possible	3	Warbler, Black-and-white	possible	2
Woodpecker, Downy	Probable	10	Redstart, American	possible	1
Woodpecker, Hairy	possible	3	Ovenbird	Probable	8
Flicker, Northern	Confirmed	4	Yellowthroat, Common	Confirmed	16
Wood-Pee-wee, Eastern	possible	4	Tanager, Scarlet	Probable	9
Phoebe, Eastern	Confirmed	2	Towhee, Eastern	Confirmed	17
Flycatcher, Great Crested	Probable	9	Sparrow, Chipping	possible	1
Kingbird, Eastern	possible	1	Sparrow, Savannah	possible	4
Vireo, Warbling	possible	1	Sparrow, Song	Confirmed	18
Vireo, Red-eyed	Probable	4	Cardinal, Northern	Confirmed	17
Jay, Blue	Confirmed	16	Grosbeak, Rose-breasted	Confirmed	8
Crow, American	possible	10	Bunting, Indigo	Probable	3
Swallow, Tree	possible	1	Bobolink	Confirmed	27
Swallow, Barn	Confirmed	1	Blackbird, Red-winged	Confirmed	62
Chickadee, Black-capped	Confirmed	27	Meadowlark, Eastern	possible	1
Titmouse, Tufted	Confirmed	9	Grackle, Common	Confirmed	12
Nuthatch, White-breasted	Confirmed	10	Cowbird, Brown-headed	Probable	6
Wren, Carolina	possible	3	Oriole, Baltimore	Confirmed	21
Wren, House	possible	2	Finch, House	possible	1
Thrush, Hermit	possible	1	Goldfinch, American	Probable	14
Thrush, Wood	Confirmed	4			

red indicates population decline

A table listing the 16 section/areas of the property, and the evidence documented for breeding events by species located in each by date, can be found in Appendix C, Results. A column has been included to indicate species which nest on the ground or low in vegetation, and which could be negatively impacted by mowing in the field or around the wet edges, or by human or pet traffic in the woods.

## Discussion

The field was heavily fertilized and seeded in late April, and the resulting grass grew astonishingly fast, tall, and thick. It was mowed for hay sometime during the first three weeks of July and cut so short that bare soil could be seen throughout, although re-growth did take place rapidly. After the mowing there were zero birds to be seen using the field until Barn Swallows began migrating through; however, bird reports for Essex County during mid- and late July indicated plenty of Bobolink activity continuing at nesting sites where mowing had

not taken place. Also, it was disturbing to see motor oil floating on water that collected in tractor ruts along wet edges of the field.

The Stewardship Committee proposed, and the contracting farmer has agreed, that in the future a 100' buffer from the eastern boundary along the Little River (Appendix A, Maps) will be excluded from the first mowing. This will leave more of the wetland grass and edge species intact, which possibly could attract nesting birds to that habitat.



Historically, the Common Pasture has hosted many bird species which we did not find: American Bittern, Least Bittern, Upland Sandpiper, Loggerhead Shrike, Golden-winged Warbler, Northern Harrier, King Rail, Vesper Sparrow, Barn Owl, Long-eared Owl are all former nesters on the property (letter from Jim Berry, President, Essex County Ornithological Club, to the Executive Office of Environmental Affairs, Massachusetts, on September 26, 2005).

Other birders have reported species which we did not see: Ruby-crowned Kinglet, Golden-crowned Kinglet, Cooper's Hawk, Bob White, Woodcock and chicks (Merrimack Valley Bird Club, June 4, 2003). The agricultural management of the hayfield has not changed in 25 years, so other factors are responsible for our failure to find these birds; however, the presence of several recent housing developments on the east side of the property have probably contributed to the decline in use of that wetland habitat.

It was suggested that introductory field trips be offered to the public, in order to "help build support for the City's fine efforts to conserve open space" (Gette to Vining, 11/2/07). This plan was not put into place during the 2008 season, although the Stewardship Committee was heartily and repeatedly encouraged to join Nancy and/or Lynette any time they were doing a site walk - Joe Teixeira was the only member who responded to the invitation.

## Recommendations

Taking into account:

- a) the wide variety of habitats in the Cooper North Preserve and the bird species, especially those in population decline, which do, or could, make use of it
- b) the secluded character of the woodlands and possibility of delaying mowing the field until the first of August
- c) and the availability of the nearby and extensive Little River Nature Trail for recreational use opportunities,

this author would wish to see the City of Newburyport dedicate the Cooper North property as a Bird Sanctuary.

This would entail:

- a) leaving only one rudimentary trail in the woods, and clear that one only occasionally
- b) providing a path only around the periphery of the field, and then just in the front section and where it is dry
- c) reducing the signage at the trail heads to merely a name marker, with a note prohibiting all use except by foot and without pets, prohibiting hunting, and requesting no disturbance during nesting season
- d) retaining the very limited parking on Hale Street
- e) and most important, delay mowing the field until the first of August.

A copy of this report will be supplied to the Stewardship Committee, along with an oral discussion at a time of their preference.

Respectfully submitted,

Lynette Leka  
January 16, 2009

## Resources

“The Birder’s Handbook”, Paul R. Ehrlich et al., Simon & Schuster Inc., 1988  
“Birds’ Nests”, Hal H. Harrison, Peterson Field Guides, Houghton Mifflin Company, 1975  
“Field Guide to Birds”, Donald & Lillian Stokes, Little Brown, 1996  
“The Handbook for the Massachusetts Breeding Bird Atlas 2”, MassAudubon, Lincoln, MA  
“Tips for Finding Nests”, Smithsonian National Zoological Park, [www.nationalzoo.si.edu](http://www.nationalzoo.si.edu)  
NestWatch, Cornell Lab of Ornithology, [www.watch.birds.cornell.edu/nest](http://www.watch.birds.cornell.edu/nest)

# Appendix A

## Maps





Image MassGIS, Commonwealth of Massachusetts EOE  
 © 2008 Europa Technologies  
 © 2008 Tele Atlas

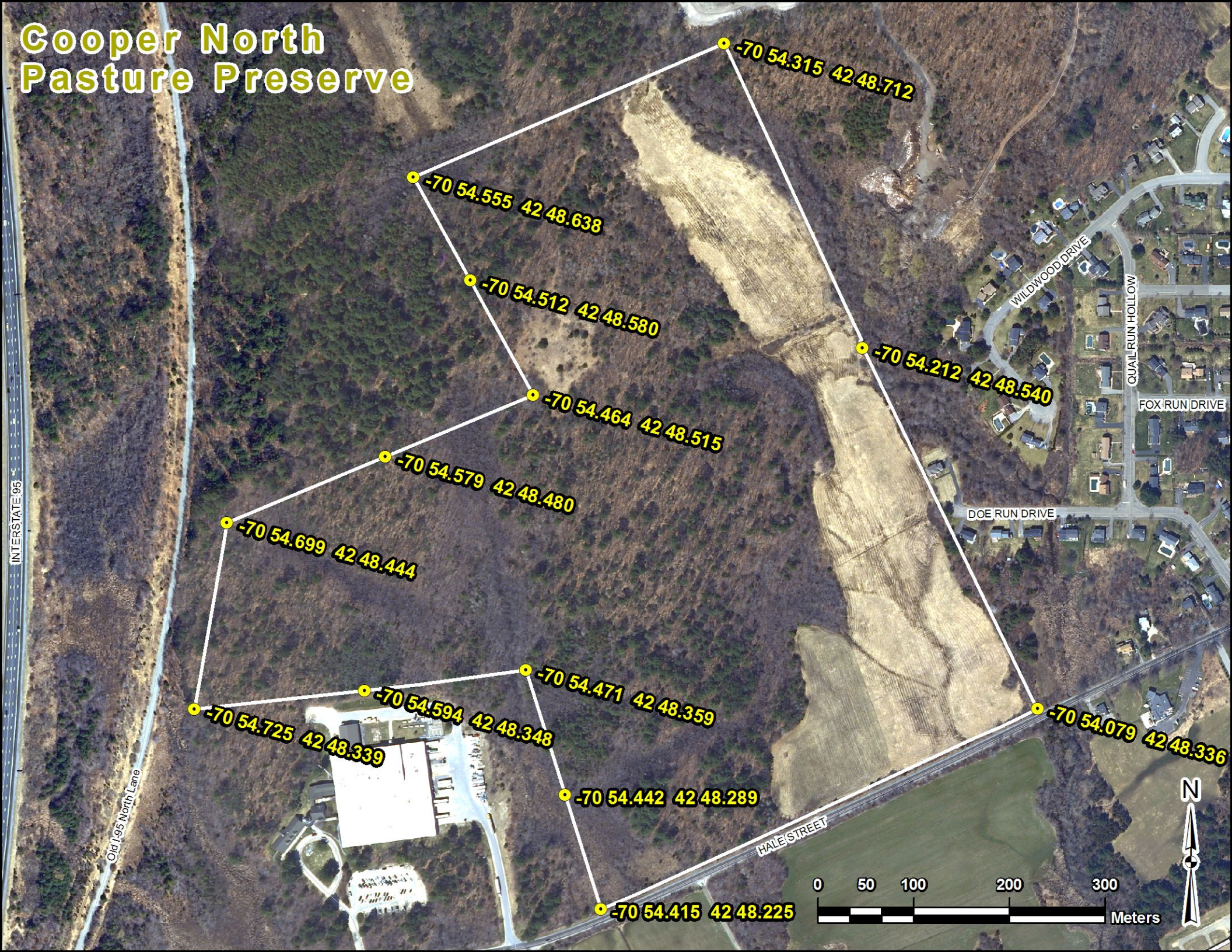
©2007 Google™

1012 ft

Pointer 42°48'26.64" N 70°54'25.61" W elev 40 ft Streaming ||||| 100%

Eye alt 3529 ft

# Cooper North Pasture Preserve



INTERSTATE 95

Old I-95 North Lane

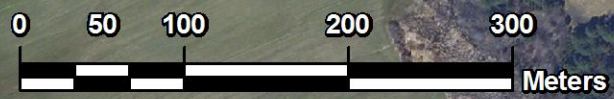
WILDWOOD DRIVE

QUAIL RUN HOLLOW

FOX RUN DRIVE

DOE RUN DRIVE

HALE STREET



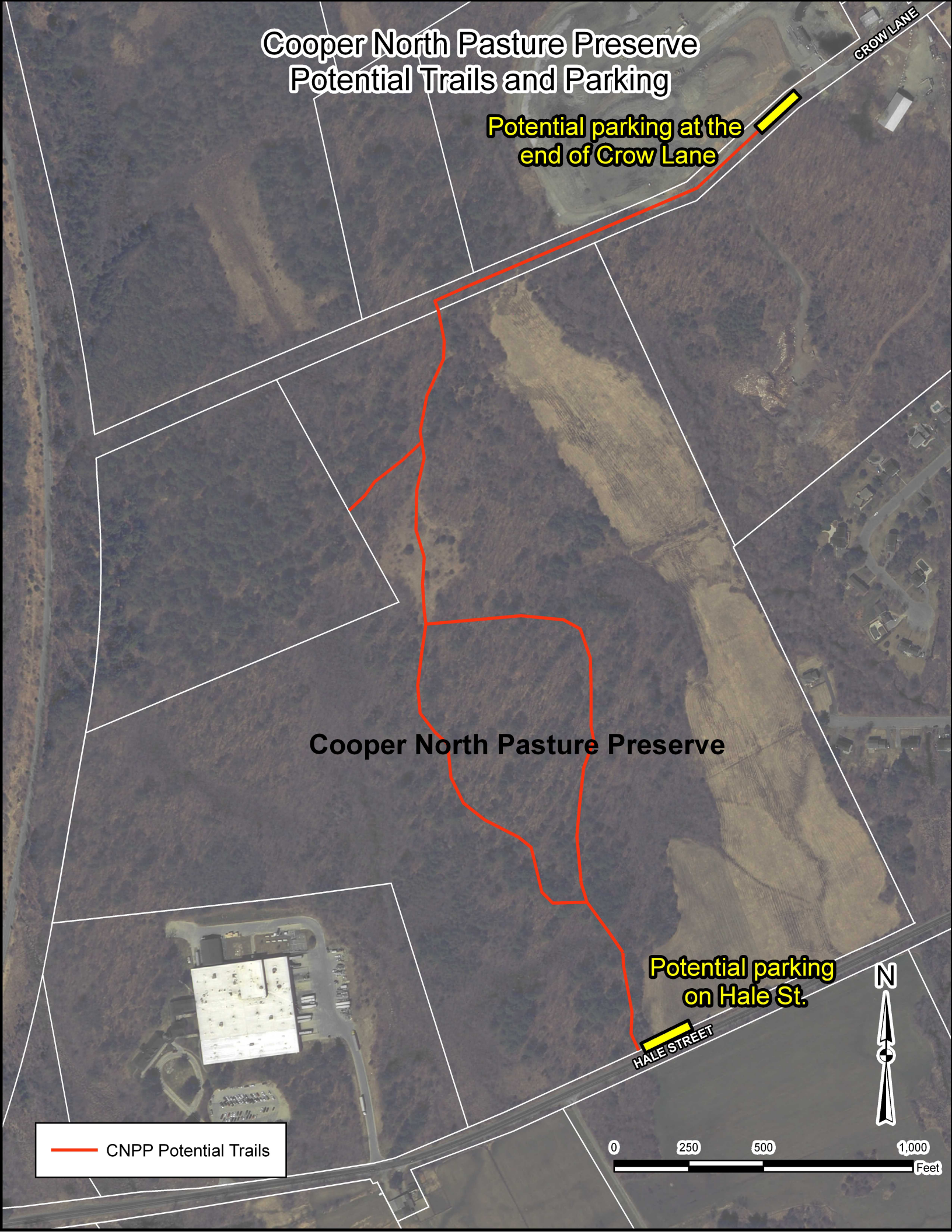
# Cooper North Pasture Preserve Potential Trails and Parking

Potential parking at the  
end of Crow Lane

Cooper North Pasture Preserve

Potential parking  
on Hale St.

— CNPP Potential Trails



# Appendix B

## Supplementary Materials

## Breeding Evidence Codes

### **OB** Category - Observed: not breeding evidence

- O Species (male or female) known to breed in the state but seen "passing through" (e.g., vultures, nesting gulls), a colonial species observed with no colony found in the block, or a bird seen in unsuitable nesting habitat; all within safe dates.

### **PO** Category - possible breeding evidence

- X Species (male or female) seen or heard in suitable nesting habitat within safe dates but no further evidence of breeding is uncovered. This includes a single drumming woodpecker, although the species must be seen to identify the woodpecker.

### **PR** Category - probable breeding evidence

- P A pair (male and female together) seen in suitable nesting habitat within safe dates.  
S Permanent territory presumed through song, heard at same location on at least 2 occasions (both within safe dates), 7 days or more apart. This can be used for drumming woodpeckers, although the species must be seen to identify the woodpecker.  
T Permanent territory presumed through defense of territory (often a male chasing individuals of the same species) within safe dates.  
A Agitated behavior or anxiety calls from adult observed within safe dates. These calls are frequently directed at cats or snakes.  
C Courtship behavior or copulation seen within safe dates.  
N Visiting probable nest site within safe dates.  
B Building nests by wrens or excavation of holes by woodpeckers within safe dates.

### **CO** Category - confirmed evidence of breeding

- ON Occupied nest. Adult seen sitting on nest and likely incubating eggs or brooding hatchlings. No eggs or young seen.  
CN Carrying nesting material such as sticks, grass, bark, etc. Not to be used for wrens, crows, or colonial species for which its colony is not found (e.g., Great Blue Heron).  
NB Nest building at the actual nest site by any species except wrens and woodpeckers.  
PE Physiological evidence of breeding, e.g. highly vascularized, edematous brood patch or egg in oviduct based on bird in hand. (For banders.)  
DD Distraction display or injury feigning.  
UN Used nest found. Must be carefully identified if it is to be accepted.  
PY Flightless young of precocial species restricted to the natal area by dependence on adults or limited mobility.  
FL Recently fledged young (either precocial or altricial) incapable of sustained flight, restricted to natal area by dependence on adults or limited mobility.  
CF Adult carrying food for young. Not to be used for crows unless they are seen going into a nest site.  
FY Adult feeding recently fledged young.  
FS Adult carrying fecal sac.  
NE Nest with egg(s).  
NY Nest with young seen or heard.

**Cooper North Pasture Bird Survey**

**Data Recording Sheet**

**Field or Woods** (circle one)

Observer(s) \_\_\_\_\_

Date \_\_\_\_\_

Begin time \_\_\_\_\_

End time \_\_\_\_\_

Temp (approx) \_\_\_\_\_

Sky conditions \_\_\_\_\_

Wind (none, light, moderate, strong) \_\_\_\_\_

species	bird location: description / coordinates	# adult male	# adult fem	# juv/ imm	breedin g code	nest characteristics: description / tree type / location	comments (e.g., behavior, photo ID#)

notes on vegetation:

**Plans for Bird Survey of the Cooper North Pasture  
Birder's Certificate Program, MassAudubon/Joppa Flats  
Hilda Dorgan, Lynette Leka**

1. *Become familiar with the property*

A. background history

Trust for Public Land

[http://www.tpl.org/tier3\\_cd.cfm?content\\_item\\_id=21119&folder\\_id=260](http://www.tpl.org/tier3_cd.cfm?content_item_id=21119&folder_id=260)

Joe Teixeira's web site

<http://thecommonpasture.org/>

Essex County Greenbelt

Parker River Clean Water/Marlene Schroeder

Bill Gette/Joppa Flats

B. maps

set supplied by Bill/Dave for walk-through

GoogleEarth map generated by LL

selections from Joe Teixeira's web site

Newburyport 1:25 000 scale Geological Survey topo map

Common Pasture parcels map from PRCWA (see if Marlene has an electronic version)

topo map from GPS software? (LL)

2. *Prepare to do surveys*

A. resource materials

nesting book recommended by Dave Larson

"Nests, Eggs, and Nestlings of North American Birds" by Baicich, Harrison

Massachusetts Breeding Bird Atlas I and II

Breeding Bird Survey

Steve Grinley; Jim Berry; Sharon Stichter

B. nest survey protocols

Cornell Lab of Ornithology  
<http://watch.birds.cornell.edu/nestcontent/instructions>

Smithsonian Migratory Bird Center  
[http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Research/Neighborhood\\_Nestwatch/Newsletter/about\\_nn.cfm](http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/Research/Neighborhood_Nestwatch/Newsletter/about_nn.cfm)

C. walk the property to decide observation locations

transects/grid

points

paths

D. database design (LL)

background table: possible species, migratory or breeding, possible breeding date(s), expected habitat, expected nest location, expected nest characteristics, reference

observation table: date, time, weather, GPS coordinates, species, gender, age, # of individuals, behavior, nest characteristics, notes, file location of photograph, tree species

4. *Data acquisition*

A. field data form (LL)

B. data entry (LL)

C. mapping (LL)

ArcView?  
gpsVisualizer?  
MapTech

5. *Project report*

A. objectives

B. methods

C. data and visuals

D. discussion

E. recommendations for management of property for migratory and breeding birds



# Appendix C

## Results

<u>map</u> <u>location</u>	<u>species name</u>	<u>date</u>	<u>breeding</u> <u>status</u>	<u>breeding</u> <u>code</u>	<u>singing</u> <u>dates</u>	<u>breeding</u> <u>evidence</u>	<u>nest</u> <u>height</u>
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red indicates population decline

**FRONT WOODS**

A	Hawk, Red-tailed	7/28/08	possible	possible		suitable habitat	
A	Dove, Mourning	5/9/08	possible	possible		suitable habitat	low
A	Dove, Mourning	7/28/08	possible	possible		suitable habitat	low
A	Dove, Mourning	8/4/08	possible	possible		suitable habitat	low
A	Woodpecker, Downy	5/6/08	possible	possible		suitable habitat	
A	Woodpecker, Downy	5/14/08	Probable	P		Pair	
A	Woodpecker, Downy	5/25/08	possible	possible		suitable habitat	
A	Woodpecker, Downy	6/9/08	possible	possible		suitable habitat	
A	Woodpecker, Downy	6/17/08	possible	possible		suitable habitat	
A	Woodpecker, Downy	6/25/08	possible	possible		suitable habitat	
A	Woodpecker, Hairy	5/19/08	possible	possible		suitable habitat	
A	Woodpecker, Hairy	5/31/08	possible	possible		suitable habitat	
A	Flicker, Northern	6/9/08	possible	possible		suitable habitat	
A	Flicker, Northern	8/4/08	Confirmed	FL		FLEDGED	
A	Wood-Pee-wee, Eastern	6/9/08	possible	possible	6/17/08	Song 2x, >7 days	
A	Wood-Pee-wee, Eastern	6/25/08	possible	possible		suitable habitat	
A	Wood-Pee-wee, Eastern	7/28/08	possible	possible		suitable habitat	
A	Flycatcher, Great Crested	6/3/08	possible	possible		suitable habitat	
A	Flycatcher, Great Crested	6/25/08	possible	possible		suitable habitat	
A	Vireo, Warbling	5/23/08	possible	possible		suitable habitat	
A	Jay, Blue	5/9/08	possible	possible		suitable habitat	
A	Jay, Blue	5/18/08	Probable	P		Pair	
A	Jay, Blue	5/28/08	possible	possible		suitable habitat	
A	Jay, Blue	6/25/08	possible	possible		suitable habitat	
A	Jay, Blue	7/28/08	Confirmed	FL		FLEDGED	
A	Jay, Blue	8/4/08	Confirmed	FL		FLEDGED	
A	Crow, American	5/6/08	possible	possible		suitable habitat	
A	Crow, American	5/14/08	possible	possible		suitable habitat	
A	Crow, American	5/28/08	possible	possible		suitable habitat	
A	Crow, American	6/17/08	possible	possible		suitable habitat	
A	Chickadee, Black-capped	5/9/08	Probable	S	5/14/08	Song 2x, >7 days	
A	Chickadee, Black-capped	5/19/08	Probable	C		COURTSHIP	
A	Chickadee, Black-capped	5/31/08	Probable	S	6/11/08	Song 2x, >7 days	
A	Chickadee, Black-capped	6/9/08	Probable	P		Pair	
A	Chickadee, Black-capped	6/17/08	Confirmed	CF		CARRYING FOOD	
A	Chickadee, Black-capped	8/4/08	possible	possible		suitable habitat	
A	Titmouse, Tufted	5/9/08	possible	possible		suitable habitat	
A	Titmouse, Tufted	5/19/08	Probable	S	6/3/08	Song 2x, >7 days	
A	Titmouse, Tufted	6/9/08	possible	possible		suitable habitat	
A	Titmouse, Tufted	6/25/08	possible	possible		suitable habitat	
A	Titmouse, Tufted	7/28/08	Confirmed	FL		FLEDGED	

<u>map</u> <u>location</u>	<u>species name</u>	<u>date</u>	<u>breeding</u> <u>status</u>	<u>breeding</u> <u>code</u>	<u>singing</u> <u>dates</u>	<u>breeding</u> <u>evidence</u>	<u>nest</u> <u>height</u>
A	Nuthatch, White-breasted	5/6/08	possible	possible		suitable habitat	
A	Nuthatch, White-breasted	5/14/08	possible	possible		suitable habitat	
A	Nuthatch, White-breasted	5/23/08	Confirmed	CF		CARRYING FOOD	
A	Nuthatch, White-breasted	5/31/08	Confirmed	FS		FECAL SAC	
A	Nuthatch, White-breasted	6/25/08	possible	possible		suitable habitat	
A	Nuthatch, White-breasted	7/28/08	Probable	P		Pair	
A	Nuthatch, White-breasted	8/4/08	possible	possible		suitable habitat	
A	Wren, Carolina	6/8/08	possible	possible		suitable habitat	low
A	Thrush, Hermit	5/16/08	possible	possible		suitable habitat	grnd
A	Thrush, Wood	6/3/08	Probable	S	6/25/08	Song 2x, >7 days	grnd
A	Robin, American	5/6/08	Probable	S	5/16/08	Song 2x, >7 days	low
A	Robin, American	5/18/08	Probable	S	5/30/08	Song 2x, >7 days	low
A	Robin, American	6/9/08	Confirmed	ON		OCCUPIED NEST	low
A	Robin, American	8/17/08	possible	possible		suitable habitat	low
A	Catbird, Gray	5/23/08	possible	possible		suitable habitat	low
A	Catbird, Gray	6/25/08	possible	possible		suitable habitat	low
A	Waxwing, Cedar	6/9/08	possible	possible		suitable habitat	low
A	Warbler, Pine	5/16/08	possible	possible		suitable habitat	
A	Warbler, Pine	6/6/08	possible	possible		suitable habitat	
A	Warbler, Pine	6/25/08	possible	possible		suitable habitat	
A	Ovenbird (5 individuals)	5/22/08	Probable	S	5/30/08	Song 2x, >7 days	grnd
A	Ovenbird (6 individuals)	5/31/08	Probable	S	6/8/08	Song 2x, >7 days	grnd
A	Ovenbird (5 individuals)	6/9/08	Probable	S	6/17/08	Song 2x, >7 days	grnd
A	Ovenbird (5 individuals)	6/18/08	Probable	S	6/25/08	Song 2x, >7 days	grnd
A	Tanager, Scarlet	6/6/08	possible	possible		suitable habitat	low
A	Tanager, Scarlet	6/18/08	possible	possible		suitable habitat	low
A	Tanager, Scarlet	7/28/08	possible	possible		suitable habitat	low
A	Towhee, Eastern	5/18/08	Probable	S	5/30/08	Song 2x, >7 days	grnd
A	Towhee, Eastern	6/9/08	Probable	S	6/18/08	Song 2x, >7 days	grnd
A	Towhee, Eastern	7/29/08	possible	possible		suitable habitat	grnd
A	Cardinal, Northern	5/9/08	Probable	P		Pair	low
A	Cardinal, Northern	6/11/08	Probable	S	6/18/08	Song 2x, >7 days	low
A	Cardinal, Northern	7/28/08	possible	possible		suitable habitat	low
A	Grosbeak, Rose-breasted	5/30/08	Probable	S	6/6/08	Song 2x, >7 days	low
A	Grosbeak, Rose-breasted	6/25/08	possible	possible		suitable habitat	low
A	Grackle, Common	6/2/08	possible	possible		suitable habitat	
A	Grackle, Common	6/17/08	possible	possible		suitable habitat	
A	Cowbird, Brown-headed	5/6/08	Probable	C		COURTSHIP	
A	Cowbird, Brown-headed	5/14/08	possible	possible		suitable habitat	
A	Cowbird, Brown-headed	6/25/08	possible	possible		suitable habitat	

<u>map location</u>	<u>species name</u>	<u>date</u>	<u>breeding status</u>	<u>breeding code</u>	<u>singing dates</u>	<u>breeding evidence</u>	<u>nest height</u>
A	Oriole, Baltimore	6/2/08	Probable	S	6/11/08	Song 2x, >7 days	
A	Oriole, Baltimore	7/28/08	possible	possible		suitable habitat	
A	Goldfinch, American	6/2/08	Probable	S	6/20/08	Song 2x, >7 days	low
<b><u>FRONT TREES ON L</u></b>							
B	Phoebe, Eastern	7/28/08	Confirmed	FL		FLEDGED	low
B	Flycatcher, Great Crested	6/18/08	possible	possible		suitable habitat	
B	Jay, Blue	6/18/08	possible	possible		suitable habitat	
B	Crow, American	6/6/08	possible	possible		suitable habitat	
B	Chickadee, Black-capped	8/4/08	possible	possible		suitable habitat	
B	Robin, American	6/8/08	Probable	P		Pair	low
B	Robin, American	6/18/08	Probable	P		Pair	low
B	Robin, American	7/30/08	Confirmed	FL		FLEDGED	low
B	Catbird, Gray	6/17/08	possible	possible		suitable habitat	low
B	Waxwing, Cedar	6/25/08	possible	possible		suitable habitat	low
B	Warbler, Yellow	5/25/08	possible	possible		suitable habitat	low
B	Warbler, Chestnut-sided	5/25/08	possible	possible		suitable habitat	
B	Redstart, American	6/8/08	possible	possible		suitable habitat	
B	Yellowthroat, Common	6/2/08	Probable	S	6/11/08	Song 2x, >7 days	low
B	Yellowthroat, Common	6/9/08	Probable	S	6/17/08	Song 2x, >7 days	low
B	Yellowthroat, Common	6/18/08	possible	possible		suitable habitat	low
B	Yellowthroat, Common	7/29/08	Confirmed	CF		CARRYING FOOD	low
B	Sparrow, Song	6/8/08	possible	possible		suitable habitat	low
B	Sparrow, Song	7/28/08	possible	possible		suitable habitat	low
B	Cardinal, Northern	5/23/08	Probable	S	5/30/08	Song 2x, >7 days	low
B	Cardinal, Northern	5/30/08	Probable	S	6/11/08	Song 2x, >7 days	low
B	Cardinal, Northern	6/18/08	Probable	T		Territory defense	low
B	Grosbeak, Rose-breasted	6/9/08	possible	possible		suitable habitat	low
B	Oriole, Baltimore	5/25/08	possible	possible		suitable habitat	
B	Oriole, Baltimore	6/18/08	Probable	P		Pair	
B	Oriole, Baltimore	6/25/08	Confirmed	FL		FLEDGED	
B	Goldfinch, American	7/30/08	Probable	P		Pair	low
<b><u>FRONT SHRUBS ON L</u></b>							
C	Catbird, Gray	6/2/08	possible	possible		suitable habitat	low
C	Oriole, Baltimore	5/15/08	Confirmed	CN		CARRYING NESTING	
<b><u>BACK WOODS</u></b>							

<u>map</u> <u>location</u>	<u>species name</u>	<u>date</u>	<u>breeding</u> <u>status</u>	<u>breeding</u> <u>code</u>	<u>singing</u> <u>dates</u>	<u>breeding</u> <u>evidence</u>	<u>nest</u> <u>height</u>
D	Duck, Wood	5/6/08	possible	possible		suitable habitat	
D	Duck, Wood	5/15/08	possible	possible		suitable habitat	
D	Woodpecker, Downy	5/31/08	possible	possible		suitable habitat	
D	Woodpecker, Downy	6/9/08	possible	possible		suitable habitat	
D	Flicker, Northern	6/18/08	possible	possible		suitable habitat	
D	Wood-Peewee, Eastern	6/14/08	possible	possible	7/30/08	Song 2x, >7 days	
D	Vireo, Red-eyed	6/3/08	Probable	S	6/18/08	Song 2x, >7 days	low
D	Jay, Blue	6/9/08	possible	possible		suitable habitat	
D	Jay, Blue	6/17/08	possible	possible		suitable habitat	
D	Jay, Blue	7/29/08	possible	possible		suitable habitat	
D	Crow, American	5/21/08	possible	possible		suitable habitat	
D	Chickadee, Black-capped	5/31/08	Probable	S	6/11/08	Song 2x, >7 days	
D	Chickadee, Black-capped	6/17/08	Probable	P		Pair	
D	Chickadee, Black-capped	7/28/08	Confirmed	FL		FLEDGED	
D	Titmouse, Tufted	5/25/08	Probable	S	6/3/08	Song 2x, >7 days	
D	Nuthatch, White-breasted	6/25/08	possible	possible		suitable habitat	
D	Wren, Carolina	6/11/08	possible	possible		suitable habitat	low
D	Thrush, Wood	6/14/08	Probable	S	6/25/08	Song 2x, >7 days	grnd
D	Thrush, Wood	7/28/08	Confirmed	FL		FLEDGED	grnd
D	Robin, American	6/8/08	Probable	S	6/18/08	Song 2x, >7 days	low
D	Robin, American	6/9/08	Probable	T		Territory defense	low
D	Robin, American	6/17/08	possible	possible		suitable habitat	low
D	Robin, American	6/25/08	possible	possible		suitable habitat	low
D	Robin, American	8/17/08	possible	possible		suitable habitat	low
D	Catbird, Gray	7/28/08	possible	possible		suitable habitat	low
D	Warbler, Black-throated Green	5/25/08	possible	possible		suitable habitat	
D	Warbler, Pine	5/22/08	possible	possible		suitable habitat	
D	Ovenbird (2 individuals)	5/28/08	Probable	S	6/8/08	Song 2x, >7 days	grnd
D	Ovenbird (2 individuals)	6/9/08	Probable	S	6/17/08	Song 2x, >7 days	grnd
D	Ovenbird (2 individuals)	6/25/08	Probable	S	7/30/08	Song 2x, >7 days	grnd
D	Tanager, Scarlet	5/28/08	Probable	P		Pair	low
D	Tanager, Scarlet	6/9/08	possible	possible		suitable habitat	low
D	Tanager, Scarlet	6/17/08	possible	possible		suitable habitat	low
D	Tanager, Scarlet	6/25/08	Probable	P		Pair	low
D	Towhee, Eastern	5/31/08	Probable	S	6/17/08	Song 2x, >7 days	grnd
D	Sparrow, Song	5/21/08	Probable	S	6/8/08	Song 2x, >7 days	low
D	Sparrow, Song	6/18/08	Probable	S	7/28/08	Song 2x, >7 days	low

<u>map</u> <u>location</u>	<u>species name</u>	<u>date</u>	<u>breeding</u> <u>status</u>	<u>breeding</u> <u>code</u>	<u>singing</u> <u>dates</u>	<u>breeding</u> <u>evidence</u>	<u>nest</u> <u>height</u>
D	Cardinal, Northern	6/3/08	Probable	S	6/17/08	Song 2x, >7 days	low
D	Cardinal, Northern	8/17/08	possible	possible		suitable habitat	low
D	Grosbeak, Rose-breasted	5/28/08	Probable	S	6/3/08	Song 2x, >7 days	low
D	Grosbeak, Rose-breasted	6/17/08	possible	possible		suitable habitat	low
D	Blackbird, Red-winged	5/31/08	Probable	S	6/8/08	Song 2x, >7 days	grnd
D	Oriole, Baltimore	7/29/08	possible	possible		suitable habitat	
D	Goldfinch, American	6/17/08	possible	possible		suitable habitat	low
<b><u>BACK CLEARING</u></b>							
E	Duck, Wood	6/25/08	possible	possible		suitable habitat	
E	Hawk, Red-tailed	5/28/08	possible	possible		suitable habitat	
E	Dove, Mourning	6/3/08	possible	possible		suitable habitat	low
E	Swift, Chimney	8/4/08	possible	possible		suitable habitat	
E	Woodpecker, Hairy	6/25/08	possible	possible		suitable habitat	
E	Flycatcher, Great Crested	5/28/08	possible	possible		suitable habitat	
E	Flycatcher, Great Crested	6/25/08	possible	possible		suitable habitat	
E	Vireo, Red-eyed	7/28/08	possible	possible		suitable habitat	low
E	Jay, Blue	6/25/08	possible	possible		suitable habitat	
E	Crow, American	6/25/08	possible	possible		suitable habitat	
E	Chickadee, Black-capped	6/25/08	Probable	P		Pair	
E	Chickadee, Black-capped	8/4/08	possible	possible		suitable habitat	
E	Titmouse, Tufted	6/25/08	Confirmed	FY		FEEDING YOUNG	
E	Nuthatch, White-breasted	6/17/08	possible	possible		suitable habitat	
E	Robin, American	6/17/08	Confirmed	CN		CARRYING NESTING	low
E	Robin, American	7/28/08	Confirmed	FL		FLEDGED	low
E	Robin, American	8/17/08	possible	possible		suitable habitat	low
E	Catbird, Gray	6/17/08	Probable	P		Pair	low
E	Waxwing, Cedar	6/9/08	possible	possible		suitable habitat	low
E	Waxwing, Cedar	7/28/08	possible	possible		suitable habitat	low
E	Waxwing, Cedar	8/4/08	possible	possible		suitable habitat	low
E	Warbler, Blue-winged	5/25/08	Probable	S	6/11/08	Song 2x, >7 days	low
E	Yellowthroat, Common	6/9/08	Probable	S	6/25/08	Song 2x, >7 days	low
E	Yellowthroat, Common	8/4/08	Confirmed	FL		FLEDGED	low
E	Towhee, Eastern	5/23/08	Probable	S	5/31/08	Song 2x, >7 days	grnd

<u>map</u> <u>location</u>	<u>species name</u>	<u>date</u>	<u>breeding</u> <u>status</u>	<u>breeding</u> <u>code</u>	<u>singing</u> <u>dates</u>	<u>breeding</u> <u>evidence</u>	<u>nest</u> <u>height</u>
E	Towhee, Eastern	6/9/08	Probable	P		Pair	grnd
E	Towhee, Eastern	6/25/08	Probable	P		Pair	grnd
E	Towhee, Eastern	7/28/08	Probable	S	8/4/08	Song 2x, >7 days	grnd
E	Towhee, Eastern	8/17/08	Confirmed	FL		FLEDGED	grnd
E	Cardinal, Northern	8/17/08	possible	possible		suitable habitat	low
E	Bunting, Indigo	6/3/08	Probable	P		Pair	low
E	Bunting, Indigo	6/17/08	possible	possible		suitable habitat	low
E	Grackle, Common	6/3/08	possible	possible		suitable habitat	
E	Oriole, Baltimore	5/31/08	possible	possible		suitable habitat	
E	Oriole, Baltimore	6/17/08	possible	possible		suitable habitat	
E	Oriole, Baltimore	6/25/08	Confirmed	FL		FLEDGED	
E	Oriole, Baltimore	7/28/08	possible	possible		suitable habitat	
E	Goldfinch, American	7/28/08	possible	possible		suitable habitat	low
<b><u>BACK TREES ON L</u></b>							
F	Jay, Blue	5/30/08	possible	possible		suitable habitat	
F	Chickadee, Black-capped	8/4/08	possible	possible		suitable habitat	
F	Robin, American	8/4/08	possible	possible		suitable habitat	low
F	Catbird, Gray	6/8/08	Probable	S	6/11/08	Song 2x, >7 days	low
F	Catbird, Gray	6/25/08	possible	possible		suitable habitat	low
F	Warbler, Blue-winged	6/8/08	Probable	S	6/20/08	Song 2x, >7 days	low
F	Warbler, Black-throated Green	6/3/08	possible	possible		suitable habitat	
F	Towhee, Eastern	6/17/08	Probable	P		Pair	grnd
F	Oriole, Baltimore	5/30/08	Probable	P		Pair	
<b><u>BACK SHRUBS ON L</u></b>							
G	Catbird, Gray	5/25/08	possible	possible		suitable habitat	low
G	Yellowthroat, Common	6/2/08	Probable	S	6/9/08	Song 2x, >7 days	low
G	Yellowthroat, Common	8/4/08	Confirmed	FL		FLEDGED	low
G	Cardinal, Northern	8/4/08	possible	possible		suitable habitat	low
<b><u>FRONT TREES BY ROAD</u></b>							
H	Phoebe, Eastern	6/2/08	possible	possible		suitable habitat	low
H	Flycatcher, Great Crested	6/17/08	possible	possible		suitable habitat	
H	Kingbird, Eastern	5/25/08	possible	possible		suitable habitat	
H	Chickadee, Black-capped	5/16/08	possible	possible		suitable habitat	
H	Chickadee, Black-capped	5/31/08	Probable	C		COURTSHIP	
H	Chickadee, Black-capped	8/4/08	possible	possible		suitable habitat	

<u>map</u> <u>location</u>	<u>species name</u>	<u>date</u>	<u>breeding</u> <u>status</u>	<u>breeding</u> <u>code</u>	<u>singing</u> <u>dates</u>	<u>breeding</u> <u>evidence</u>	<u>nest</u> <u>height</u>
H	Robin, American	5/25/08	possible	possible		suitable habitat	low
H	Robin, American	6/8/08	possible	possible		suitable habitat	low
H	Catbird, Gray	5/28/08	Probable	S	6/8/08	Song 2x, >7 days	low
H	Catbird, Gray	6/18/08	possible	possible		suitable habitat	low
H	Warbler, Yellow	5/28/08	Probable	S	6/3/08	Song 2x, >7 days	low
H	Warbler, Yellow	6/8/08	Probable	S	6/17/08	Song 2x, >7 days	low
H	Yellowthroat, Common	6/2/08	possible	possible		suitable habitat	low
H	Yellowthroat, Common	8/4/08	possible	possible		suitable habitat	low
H	Towhee, Eastern	5/12/08	possible	possible		suitable habitat	grnd
H	Sparrow, Chipping	7/29/08	possible	possible		suitable habitat	low
H	Sparrow, Song	5/25/08	Probable	S	5/31/08	Song 2x, >7 days	low
H	Sparrow, Song	6/3/08	Probable	S	6/11/08	Song 2x, >7 days	low
H	Sparrow, Song	6/18/08	possible	possible		suitable habitat	low
H	Sparrow, Song	8/4/08	possible	possible		suitable habitat	low
H	Cardinal, Northern	6/8/08	Probable	S	6/18/09	Song 2x, >7 days	low
H	Blackbird, Red-winged	6/8/08	Confirmed	CN		CARRYING NESTING	grnd
H	Grackle, Common	5/25/08	Confirmed	CF		CARRYING FOOD	
H	Oriole, Baltimore	5/31/08	possible	possible		suitable habitat	
H	Oriole, Baltimore	6/8/08	possible	possible		suitable habitat	
H	Goldfinch, American	6/8/08	Probable	P		Pair	low
H	Goldfinch, American	6/18/08	possible	possible		suitable habitat	low
H	Goldfinch, American	7/30/08	Probable	P		Pair	low
<b>FRONT FIELD</b>							
I	Heron, Green	6/8/08	possible	possible		suitable habitat	
I	Goose, Canada	6/8/08	Probable	P		Pair	grnd
I	Mallard	6/8/08	Probable	P		Pair	grnd
I	Hawk, Sharp-shinned	5/12/08	Probable	C		COURTSHIP	
I	Turkey, Wild (NON-MIG)	7/28/08	Confirmed	PY		PRECOCIAL YOUNG	grnd
I	Killdeer	5/9/08	possible	possible		suitable habitat	
I	Killdeer	6/2/08	possible	possible		suitable habitat	
I	Killdeer	6/20/08	possible	possible		suitable habitat	
I	Dove, Mourning	6/8/08	Probable	P		Pair	low
I	Swift, Chimney	6/25/08	possible	possible		suitable habitat	
I	Swift, Chimney	7/29/08	possible	possible		suitable habitat	
I	Flicker, Northern	6/8/08	Probable	P		Pair	



<u>map location</u>	<u>species name</u>	<u>date</u>	<u>breeding status</u>	<u>breeding code</u>	<u>singing dates</u>	<u>breeding evidence</u>	<u>nest height</u>
I	Swallow, Tree	5/19/08	possible	possible		suitable habitat	
I	Robin, American	6/18/08	Probable	P		Pair	low
I	Robin, American	7/29/08	Confirmed	FL		FLEDGED	low
I	Starling, European	6/8/08	possible	possible		suitable habitat	
I	Sparrow, Savannah	5/12/08	possible	possible		suitable habitat	
I	Sparrow, Savannah	5/21/08	possible	possible		suitable habitat	
I	Sparrow, Song	5/6/08	Probable	S	5/19/08	Song 2x, >7 days	low
I	Grosbeak, Rose-breasted	7/29/08	Confirmed	FL		FLEDGED	low
I	Bobolink (10 individuals)	6/2/08	Probable	C		COURTSHIP	grnd
I	Bobolink	6/14/08	Confirmed	FS		FECAL SAC	grnd
I	Bobolink	6/18/08	Confirmed	FS		FECAL SAC	grnd
I	Bobolink (8 individuals)	6/18/09	Probable	S	6/25/08	Song 2x, >7 days	grnd
I	Blackbird, Red-winged	5/12/08	Probable	P		Pair	grnd
I	Blackbird, Red-winged	5/15/08	Confirmed	CN		CARRYING NESTINC	grnd
I	Blackbird, Red-winged	5/21/08	Probable	P		Pair	grnd
I	Blackbird, Red-winged	5/30/08	Confirmed	CN		CARRYING NESTINC	grnd
I	Blackbird, Red-winged	6/11/08	Confirmed	CN		CARRYING NESTINC	grnd
I	Blackbird, Red-winged	6/17/08	Probable	S	6/25/08	Song 2x, >7 days	grnd
I	Blackbird, Red-winged	6/18/08	Confirmed	CF		CARRYING FOOD	grnd
I	Blackbird, Red-winged	7/30/08	Confirmed	FL		FLEDGED	grnd
I	Blackbird, Red-winged	7/30/08	possible	possible		suitable habitat	grnd
I	Meadowlark, Eastern	5/14/08	possible	possible		suitable habitat	
I	Grackle, Common	5/15/08	Probable	P		Pair	
I	Grackle, Common	6/2/08	Probable	P		Pair	
I	Grackle, Common	6/11/08	Probable	P		Pair	
I	Grackle, Common	6/18/08	Probable	P		Pair	
I	Grackle, Common	6/25/08	possible	possible		suitable habitat	
I	Grackle, Common	7/30/08	possible	possible		suitable habitat	
I	Oriole, Baltimore	5/21/08	Confirmed	CN		CARRYING NESTING	
I	Finch, House	7/29/08	possible	possible		suitable habitat	
I	Goldfinch, American	6/2/08	Probable	P		Pair	low
I	Goldfinch, American	6/18/08	possible	possible		suitable habitat	low
I	Goldfinch, American	6/28/08	Probable	P		Pair	low

### WINDROW

J	Chickadee, Black-capped	5/30/08	possible	possible		suitable habitat	
J	Catbird, Gray	8/4/08	possible	possible		suitable habitat	low
J	Waxwing, Cedar	7/29/08	possible	possible		suitable habitat	low
J	Warbler, Blue-winged	6/2/08	Probable	S	6/11/08	Song 2x, >7 days	low
J	Yellowthroat, Common	8/4/08	Confirmed	FL		FLEDGED	low

<u>map location</u>	<u>species name</u>	<u>date</u>	<u>breeding status</u>	<u>breeding code</u>	<u>singing dates</u>	<u>breeding evidence</u>	<u>nest height</u>
J	Towhee, Eastern	5/12/08	possible	possible		suitable habitat	grnd
J	Towhee, Eastern	6/11/08	possible	possible		suitable habitat	grnd
J	Towhee, Eastern	8/4/08	possible	possible		suitable habitat	grnd
J	Sparrow, Song	6/8/08	Probable	S	6/18/08	Song 2x, >7 days	low
J	Blackbird, Red-winged	6/3/08	Probable	P		Pair	grnd
J	Grackle, Common	6/18/08	Probable	T		Territory defense	
J	Cowbird, Brown-headed	5/15/08	Probable	P		Pair	
<b><u>BACK FIELD</u></b>							
K	Goose, Canada	5/21/08	possible	possible		suitable habitat	grnd
K	Mallard	5/12/08	Probable	P		Pair	grnd
K	Mallard	5/21/08	possible	possible		suitable habitat	grnd
K	Mallard	5/31/08	Probable	P		Pair	grnd
K	Turkey, Wild (NON-MIG)	5/15/08	possible	possible		suitable habitat	grnd
K	Dove, Mourning	5/25/08	Probable	P		Pair	low
K	Sparrow, Savannah	5/12/08	possible	possible		suitable habitat	
K	Sparrow, Savannah	5/21/08	possible	possible		suitable habitat	
K	Bobolink (9 individuals)	6/11/08	Probable	S	6/18/08	Song 2x, >7 days	grnd
K	Bobolink	6/14/08	Confirmed	FS		FECAL SAC	grnd
K	Blackbird, Red-winged	6/18/08	Probable	P		Pair	grnd
K	Grackle, Common	6/8/08	Confirmed	CF		CARRYING FOOD	
K	Cowbird, Brown-headed	6/3/08	Probable	P		Pair	
K	Goldfinch, American	7/29/08	possible	possible		suitable habitat	low
<b><u>BACK TREES AT REAR</u></b>							
L	Woodpecker, Downy	6/8/08	possible	possible		suitable habitat	
L	Flycatcher, Great Crested	6/2/08	possible	possible		suitable habitat	
L	Crow, American	5/28/08	possible	possible		suitable habitat	
L	Chickadee, Black-capped	5/28/08	possible	possible		suitable habitat	
L	Chickadee, Black-capped	6/8/08	Confirmed	FY		FEEDING YOUNG	
L	Titmouse, Tufted	6/11/08	possible	possible		suitable habitat	
L	Catbird, Gray	5/28/08	Probable	S	6/8/08	Song 2x, >7 days	low
L	Catbird, Gray	6/18/08	possible	possible		suitable habitat	low
L	Ovenbird (1 individual)	6/11/08	Probable	S	6/18/08	Song 2x, >7 days	grnd
L	Yellowthroat, Common	8/4/08	Confirmed	FL		FLEDGED	low

<u>map location</u>	<u>species name</u>	<u>date</u>	<u>breeding status</u>	<u>breeding code</u>	<u>singing dates</u>	<u>breeding evidence</u>	<u>nest height</u>
L	Tanager, Scarlet	6/8/08	possible	possible		suitable habitat	low
L	Towhee, Eastern	6/11/08	Probable	S	7/28/08	Song 2x, >7 days	grnd
L	Sparrow, Song	6/8/08	possible	possible		suitable habitat	low
L	Sparrow, Song	8/4/08	possible	possible		suitable habitat	low
L	Cardinal, Northern	6/18/08	possible	possible		suitable habitat	low
L	Grosbeak, Rose-breasted	6/18/08	possible	possible		suitable habitat	low
L	Bunting, Indigo	6/8/08	possible	possible		suitable habitat	low
L	Cowbird, Brown-headed	6/11/08	possible	possible		suitable habitat	
L	Oriole, Baltimore	5/30/08	Probable	S	6/8/08	Song 2x, >7 days	
L	Oriole, Baltimore	6/11/08	Probable	P		Pair	
L	Oriole, Baltimore	6/18/08	possible	possible		suitable habitat	
L	Goldfinch, American	6/11/08	Probable	P		Pair	low
L	Goldfinch, American	6/18/08	possible	possible		suitable habitat	low

#### FRONT SHRUBS ON R

M	Swallow, Barn	8/4/08	Confirmed	FL		FLEDGED	
M	Catbird, Gray	6/3/08	possible	possible		suitable habitat	low
M	Yellowthroat, Common	6/11/08	possible	possible		suitable habitat	low
M	Sparrow, Song	5/15/08	Probable	P		Pair	low
M	Sparrow, Song	5/30/08	Probable	S	6/18/08	Song 2x, >7 days	low
M	Sparrow, Song	8/4/08	possible	possible		suitable habitat	low

#### FRONT TREES ON R

N	Dove, Mourning	5/12/08	possible	possible		suitable habitat	low
N	Flycatcher, Great Crested	6/8/08	Probable	P		Pair	
N	Jay, Blue	5/25/08	possible	possible		suitable habitat	
N	Jay, Blue	6/8/08	possible	possible		suitable habitat	
N	Jay, Blue	8/4/08	possible	possible		suitable habitat	
N	Crow, American	5/25/08	possible	possible		suitable habitat	
N	Chickadee, Black-capped	5/15/08	possible	possible		suitable habitat	
N	Chickadee, Black-capped	5/30/08	Probable	S	6/25/08	Song 2x, >7 days	
N	Chickadee, Black-capped	7/29/08	possible	possible		suitable habitat	
N	Titmouse, Tufted	7/29/08	possible	possible		suitable habitat	
N	Wren, House	6/2/08	possible	possible		suitable habitat	low
N	Wren, House	6/8/08	possible	possible		suitable habitat	low
N	Robin, American	5/30/08	Probable	S	6/11/08	Song 2x, >7 days	low
N	Robin, American	6/8/08	Probable	P		Pair	low

<u>map</u> <u>location</u>	<u>species name</u>	<u>date</u>	<u>breeding</u> <u>status</u>	<u>breeding</u> <u>code</u>	<u>singing</u> <u>dates</u>	<u>breeding</u> <u>evidence</u>	<u>nest</u> <u>height</u>
N	Robin, American	8/19/08	possible	possible		suitable habitat	low
N	Catbird, Gray	5/25/08	possible	possible		suitable habitat	low
N	Catbird, Gray	6/11/08	possible	possible		suitable habitat	low
N	Waxwing, Cedar	6/18/08	possible	possible		suitable habitat	low
N	Warbler, Yellow	5/30/08	Probable	P		Pair	low
N	Warbler, Yellow	6/8/08	Probable	S	6/18/08	Song 2x, >7 days	low
N	Tanager, Scarlet	6/18/08	possible	possible		suitable habitat	low
N	Towhee, Eastern	5/15/08	Probable	P		Pair	grnd
N	Sparrow, Song	5/12/08	Probable	S	5/25/08	Song 2x, >7 days	low
N	Sparrow, Song	6/8/08	Confirmed	CF		CARRYING FOOD	low
N	Cardinal, Northern	4/18/08	Probable	P		Pair	low
N	Cardinal, Northern	5/14/08	Probable	S	5/28/08	Song 2x, >7 days	low
N	Cardinal, Northern	6/11/08	Confirmed	FL		FLEDGED	low
N	Cardinal, Northern	8/4/08	Probable	S	8/17/08	Song 2x, >7 days	low
N	Blackbird, Red-winged	6/8/08	Probable	P		Pair	grnd
N	Oriole, Baltimore	5/25/08	possible	possible		suitable habitat	
N	Goldfinch, American	6/2/08	Probable	S	6/11/08	Song 2x, >7 days	low
<b><u>BACK SHRUBS ON R</u></b>							
O	Dove, Mourning	6/11/08	possible	possible		suitable habitat	low
O	Catbird, Gray	6/11/08	Confirmed	CF		CARRYING FOOD	low
O	Warbler, Yellow	5/30/08	possible	possible		suitable habitat	low
O	Yellowthroat, Common	6/2/08	Probable	S	6/11/08	Song 2x, >7 days	low
O	Towhee, Eastern	5/12/08	Probable	S	6/11/08	Song 2x, >7 days	grnd
O	Sparrow, Song	7/29/08	Confirmed	FL		FLEDGED	low
<b><u>BACK TREES ON R</u></b>							
P	Woodpecker, Downy	6/8/08	possible	possible		suitable habitat	
P	Flycatcher, Great Crested	6/8/08	Probable	S	6/18/08	Song 2x, >7 days	
P	Vireo, Red-eyed	6/8/08	Probable	S	8/4/08	Song 2x, >7 days	low
P	Vireo, Red-eyed	8/4/08	possible	possible		suitable habitat	low
P	Jay, Blue	6/18/08	possible	possible		suitable habitat	
P	Crow, American	6/8/08	possible	possible		suitable habitat	
P	Chickadee, Black-capped	5/25/08	possible	possible		suitable habitat	
P	Chickadee, Black-capped	6/3/08	Probable	P		Pair	
P	Chickadee, Black-capped	6/11/08	possible	possible		suitable habitat	

<u>map location</u>	<u>species name</u>	<u>date</u>	<u>breeding status</u>	<u>breeding code</u>	<u>singing dates</u>	<u>breeding evidence</u>	<u>nest height</u>
P	Chickadee, Black-capped	6/18/08	possible	possible		suitable habitat	
P	Chickadee, Black-capped	7/29/08	possible	possible		suitable habitat	
P	Nuthatch, White-breasted	7/29/08	possible	possible		suitable habitat	
P	Wren, Carolina	6/18/08	possible	possible		suitable habitat	low
P	Thrush, Wood	6/18/08	possible	possible		suitable habitat	grnd
P	Robin, American	8/4/08	possible	possible		suitable habitat	low
P	Robin, American	8/19/08	possible	possible		suitable habitat	low
P	Catbird, Gray	6/3/08	Confirmed	CF		CARRYING FOOD	low
P	Catbird, Gray	6/18/08	possible	possible		suitable habitat	low
P	Catbird, Gray	7/29/08	possible	possible		suitable habitat	low
P	Catbird, Gray	8/4/08	possible	possible		suitable habitat	low
P	Waxwing, Cedar	8/4/08	possible	possible		suitable habitat	low
P	Warbler, Black-and-white	5/25/08	possible	possible		suitable habitat	grnd
P	Warbler, Black-and-white	5/25/08	possible	possible		suitable habitat	grnd
P	Yellowthroat, Common	6/18/08	Probable	P		Pair	low
P	Yellowthroat, Common	8/4/08	Confirmed	FL		FLEDGED	low
P	Cardinal, Northern	6/2/08	Probable	S	6/11/08	Song 2x, >7 days	low
P	Grosbeak, Rose-breasted	6/2/08	possible	possible		suitable habitat	low
P	Oriole, Baltimore	6/8/08	possible	possible		suitable habitat	
P	Oriole, Baltimore	6/18/08	possible	possible		suitable habitat	

**Map key:**

<b>A</b> front woods	<b>I</b> front field
<b>B</b> front trees on L	<b>J</b> windrow
<b>C</b> front shrubs on L	<b>K</b> back field
<b>D</b> back woods	<b>L</b> back trees at rear
<b>E</b> back clearing	<b>M</b> front shrubs on R
<b>F</b> back trees on L	<b>N</b> front trees on R
<b>G</b> back shrubs on L	<b>O</b> back shrubs on R
<b>H</b> front trees by road	<b>P</b> back trees on R



**Bird Species Sighted April 4 - August 19, 2008**

**Cooper North Pasture Preserve, Newburyport**

surveys conducted by Lynette Leka and Nancy Purcell

- 1 ) Cormorant, Double-crested
- 2 ) Heron, Great Blue
- 3 ) Egret, Great
- 4 ) Heron, Green
- 5 ) Vulture, Turkey
- 6 ) Goose, Canada
- 7 ) Duck, Wood
- 8 ) Mallard
- 9 ) Hawk, Sharp-shinned
- 10 ) Hawk, Red-tailed
- 11 ) Turkey, Wild (NON-MIG)
- 12 ) Killdeer
- 13 ) Sandpiper, Spotted
- 14 ) Gull, Ring-billed
- 15 ) Dove, Mourning
- 16 ) Cuckoo, Black-billed
- 17 ) Swift, Chimney
- 18 ) Hummingbird, Ruby-throated
- 19 ) Woodpecker, Downy
- 20 ) Woodpecker, Hairy
- 21 ) Flicker, Northern
- 22 ) Wood-Pee-wee, Eastern
- 23 ) Phoebe, Eastern
- 24 ) Flycatcher, Great Crested
- 25 ) Kingbird, Eastern
- 26 ) Vireo, Blue-headed
- 27 ) Vireo, Warbling
- 28 ) Vireo, Red-eyed
- 29 ) Jay, Blue
- 30 ) Crow, American
- 31 ) Swallow, Tree
- 32 ) Swallow, Barn
- 33 ) Chickadee, Black-capped
- 34 ) Titmouse, Tufted
- 35 ) Nuthatch, White-breasted
- 36 ) Wren, Carolina
- 37 ) Wren, House
- 38 ) Veery
- 39 ) Thrush, Swainson's
- 40 ) Thrush, Hermit
- 41 ) Thrush, Wood
- 42 ) Robin, American
- 43 ) Catbird, Gray
- 44 ) Mockingbird, Northern
- 45 ) Starling, European
- 46 ) Waxwing, Cedar
- 47 ) Warbler, Blue-winged
- 48 ) Warbler, Nashville
- 49 ) Parula, Northern
- 50 ) Warbler, Yellow
- 51 ) Warbler, Chestnut-sided
- 52 ) Warbler, Magnolia
- 53 ) Warbler, Black-throated Blue
- 54 ) Warbler, Yellow-rumped
- 55 ) Warbler, Black-throated Green
- 56 ) Warbler, Pine
- 57 ) Warbler, Prairie
- 58 ) Warbler, Blackpoll
- 59 ) Warbler, Black-and-white
- 60 ) Redstart, American
- 61 ) Ovenbird
- 62 ) Yellowthroat, Common
- 63 ) Warbler, Canada
- 64 ) Tanager, Scarlet
- 65 ) Towhee, Eastern
- 66 ) Sparrow, Chipping
- 67 ) Sparrow, Savannah
- 68 ) Sparrow, Song
- 69 ) Sparrow, White-throated
- 70 ) Cardinal, Northern
- 71 ) Grosbeak, Rose-breasted
- 72 ) Bunting, Indigo
- 73 ) Bobolink
- 74 ) Blackbird, Red-winged
- 75 ) Meadowlark, Eastern
- 76 ) Grackle, Common
- 77 ) Cowbird, Brown-headed
- 78 ) Oriole, Baltimore
- 79 ) Finch, House
- 80 ) Goldfinch, American

species	dates	habitat	pri site	sec site	type	min ht	max ht	diam	notes
Bittern, American	5/15 - 8/1	Fresh/brackish reedy pond or marsh	ground		platform	0		13	sep paths for exit/entr
Bittern, Least	5/25 - 8/1	Fresh/brackish reedy pond or marsh	ground		platform	0	8	8	little/if any rim
Blackbird, Red-winged	5/1 - 7/15	Wide variety of densely vegetated freshwater habitats, higher saltmarsh	reeds		cup	1	8		nr/ovr watr, usu in emergnt veg/shrub
Bluebird, Eastern	5/1 - 8/15	Open areas with scattered trees; farmland, orchards, swamps, pastures, etc.	snag		cavity	2	50		oft in woodpkr cavity
Bobolink	6/1 - 8/1	Grasslands, including airports, hayfields	ground		cup	0		2.5	dpress'n in dense covr of forbs, well-concealed
Bobwhite, Northern (NON-MIG)	4/30 - 8/15	Open scrub, pastures, fields	ground		scrape	0			small side entrance
Bunting, Indigo	5/25 - 8/10	Brushy habitats including forest edge, overgrown fields, powerline cuts	shrub	tangle	cup	1	15	4	well woven
Cardinal, Northern	4/15 - 8/20	Suburban or semi-rural areas; forest edge, woodlots, thickets, parks, gardens	shrub	sapling	cup	1	15		paper interwoven
Catbird, Gray	5/20 - 8/15	Dense tangles and thickets	shrub		cup	2	10		oft in dense thicket; bulky
Chickadee, Black-capped	4/1 - 8/15	Woodlands, orchards, shade trees, yards, and city parks	decid	snag	cavity	4	8	1.5	excavate/enlarge cavity; rarely in conif
Cowbird, Brown-headed	5/1 - 7/15	Virtually all habitats; anywhere host species are found	decid	shrub		-	-		parasite, esp flycatchers, warblers, finches, vireos
Creepers, Brown	5/20 - 8/1	Mature, mixed, and swampy forest, including Atlantic White Cedar swamps	conif	decid	undr brk	3	50		hammock-like cup; on base of twigs which nearly close opening
Crow, American	3/25 - 7/15	Conifers in forested areas, woodlots, suburban yards, parks	decid	shrub	cup	0	70	24	in conif/decid
Crow, Fish	5/1 - 7/15	Mixed woods, woodlots, suburban yards, parks	conif	shrub	cup	6	90	16	usu in topmost crotch of conif, occ decid; of stx/twigs
Cuckoo, Black-billed	6/5 - 8/15	Forested habitats, edge	decid	shrub	platform	2	6	8	horiz against tree trunk
Cuckoo, Yellow-billed	6/5 - 8/15	Forested habitats, edge	decid	shrub	platform	4	8	5	unkempt, of twigs
Dove, Mourning	4/1 - 8/15	Suburbs, woodlots, farmlands	decid	conif	saucer	0	40		fork of horiz branch, anywhere providng support
Duck, American Black	5/1 - 8/5	Most wetlands, from beaver ponds to saltmarsh	ground		stump	scrape	0	18	dpression filld w/dry grass/leaves
Duck, Wood	5/1 - 8/5	Wooded swamps, freshwater marshes, streams, rivers	snag	nest box	cavity	30	30		perennial
Finch, House	4/15 - 8/1	Scattered trees- especially conifers- mainly in residential areas	decid	shrub	cup	5	35		also bldg; also cavity; appropriate othr spcs' nests; oft reused for latr broods
Finch, Purple	5/25 - 8/10	Conifers in mixed woods, suburbs, parklands	conif	decid	cup	6	40		on horiz branch far from trunk; neat shallow cup
Flicker, Northern	5/25 - 7/25	Forests, parks,	snag		cavity	6	15	3	oft perennial
Flycatcher, Alder	6/5 - 8/1	Shrub (esp. Alder) swamp	shrub		cup	1	4	3	in upright/slanting fork; compact, untidy
Flycatcher, Great Crested	5/25 - 8/1	Mature forest, edge	decid	snag	cavity	20	50	3	nest built to w/n 1' of opening
Flycatcher, Least	5/25 - 8/5	Open deciduous forests, forest edge	decid	shrub	cup	10	40	2.5	on horiz limb of tree (occ conif); compact
Flycatcher, Willow	6/5 - 8/1	Shrub (esp. Willow) swamp	shrub	decid	cup	2	10	3	in upright/slanting fork; compact
Gadwall	5/15 - 8/5	Fresh/brackish water or saltmarsh	ground		scrape	0			usu concealed
Gnatcatcher, Blue-gray	5/15 - 8/1	Wooded edges along ponds, rivers, streams, swamps, beaver ponds	decid		cup	2	25	2	saddld on horiz limb/in fork; compact
Goldfinch, American	6/1 - 8/1	Forest edge, copses, brushy areas, marsh edges, residential	shrub	tree	cup	1	30	3	in branch fork, oft wovn so tight nest holds water
Goose, Canada	4/15 - 8/1	Shore or islands in any wetland	ground		scrape	0		25	occ re-used
Grackle, Common	5/15 - 7/10	Wide variety of urban and rural habitats from open forest to fresh and salt marshes, pa	decid	conif	cup	2	12	8	oft nr water; also in shrub, marsh veg, tree cavity, artificial structure
Grosbeak, Rose-breasted	5/25 - 8/5	Deciduous and mixed forest, woodlots, shade trees of parks and suburbs	decid	shrub	cup	5	15		loosely built
Grouse, Ruffed (NON-MIG)	4/15 - 8/1	Mixed upland woods	ground		scrape	0			oft concealed @ base of tree
Hawk, Broad-winged	5/15 - 7/25	Mature, mixed woodlands	decid		platform	30	50	16	usu in crotch of decid, occ by trunk in conif
Hawk, Cooper's	5/5 - 8/1	Mixed woodlands, groves, copses	decid	conif	platform	35	45	26	in crotch if conif, by trunk if decid
Hawk, Red-shouldered	4/10 - 8/15	Wet mixed forests, swamps	decid		platform	20	60	21	usu by trunk; perennial
Hawk, Red-tailed	4/15 - 8/1	Mature woodlands, often near edges	decid	cliff	platform	15	70	29	crotch of large tree w/wide view
Heron, Green	5/10 - 8/1	Woody growth near marshes or open water	decid	shrub	platform	10	20	11	usu concealed
Hummingbird, Ruby-throated	6/1 - 8/1	Open woodland, rural and suburban gardens, edge	decid		cup	10	20	1.5	on small dwnwrld limb, oft nr stream; re-used
Jay, Blue	5/1 - 8/15	Varied; including most forest types, thickets, suburban yards, parks	conif		cup	5	20	7.5	on horiz brnch/in crotch, occ decid tree/shrub/vine; bulky^compact
Kestrel, American	5/10 - 7/20	Open country, scattered trees, edge	snag	cliff	cavity	12	80		little, if any, nesting material
Killdeer	4/20 - 7/1	Open, sparsely vegetated areas; flat rooftops	ground		scrape	0		6	in open w/wide view on stones/gravel
Kingbird, Eastern	5/25 - 7/25	Open habitats, including edge, copses, often near water	decid	shrub	cup	8	25	5.5	mid-ht of isolatd tree, mid betw trnk&edge, on horiz limb
Kingfisher, Belted	5/1 - 8/10	Stream, river, lake, or bay shore with banks	bank	snag	burrow	-	-	4	in vert bank near water
Kinglet, Golden-crowned	5/10 - 8/1	Coniferous woods	conif		pendant	4	60	2.5	nr trnk, usu hung from branches
Lark, Horned	4/25 - 8/1	Coastal dunes and beaches, abandoned agricultural fields, airports	ground		saucer	0		4	in shallow dpress'n; oft w/rim of pebbles/drt clods on exposd side
Mallard	5/1 - 8/5	All wetlands, occasionally suburban yards with swimming pools	ground		scrape	0			occ in hollow logs
Martin, Purple	5/25 - 7/1	Open areas; edge of saltmarsh, coastal farmland, and golf courses	snag		cavity	5	5		tree hole/cliff niche/othr cavity; occ w/dirt rim to keep eggs in
Meadowlark, Eastern	5/5 - 7/25	Extensive grasslands, including airports, margins of saltmarsh	ground		cup	0		6.5	dpress'n in dense covr; domed grass canopy wovn w/surroundng veg; entr on side
Mockingbird, Northern	5/5 - 8/15	Suburban or semi-rural habitats with thickets, brushy forest edges, hedgerows	shrub	tree	cup	3	10	7	occ in vines
Moorhen, Common	5/25 - 8/15	Fresh/brackish reedy pond or marsh	floating	ground	platform	0			ramps lead down to water; roost platform nearby
Nighthawk, Common	6/5 - 8/1	Barren habitats including river bars and flat rooftops	ground		no nest	0			& on stump; dpression is result of sitting adult
Night-Heron, Black-crowned	5/5 - 7/15	Coastal Islands	decid	shrub	platform	15	30	24	perennial
Night-Heron, Yellow-crowned	5/5 - 7/15	Coastal Islands	decid	shrub	platform	30	40	20	occ perennial
Nuthatch, Red-breasted	5/15 - 8/10	Coniferous forest	conif		cavity	5	40		excavatd rottn branch/stump, occ in desertd woodpkr hole
Nuthatch, White-breasted	4/25 - 8/10	Deciduous forest	decid		cavity	10	60		in nat'l cavity/desertd woodpkr hole
Oriole, Baltimore	5/25 - 8/1	Open deciduous forest, shade trees in urban or rural areas	decid		pendant	6	60	2.5	rarely in conif; attachd at rim/at sides to drooping branch
Oriole, Orchard	5/25 - 7/15	Open, patchy forest, copses, often near river, stream, or pond	decid	shrub	pendant	4	50	4	rarely in conif; suspended from forkd terminal twig, hiddn by leaves
Ovenbird	5/20 - 8/5	Open forests with little or no understory vegetation and ample leaf litter	ground		oven	0	3	6.5	in open, leaf-covrd floor decid woods; always roofd w/leavs, etc; entr small slit
Owl, Barn	4/1 - 8/1	Open habitats	snag	building	cavity	-	-		
Owl, Barred	4/1 - 7/15	Moist woods, wooded swamps, bottomlands.	snag		cavity	20	50		& use abandoned nests
Owl, Great Horned (NON-MIG)	2/1 - 7/1	Wide variety of habitats from forest to farmland	decid	cliff	aband nst	30	50		perennial
Owl, Northern Saw-whet	4/15 - 8/15	Mixed moist woods with conifers	snag		cavity	14	60		abandoned woodpecker holes
Pheasant, Ring-necked	5/1 - 8/15	Open scrub, pastures, fields	ground		scrape	0			
Phoebe, Eastern	5/1 - 8/15	Ledges, bridges, porch sills, etc., usually near water	bridge	cliff	cup	0	20	4.5	esp bneath bridges, in culvrts; oft re-used
Pigeon, Rock (NON-MIG)	3/1 - 11/1	Buildings, bridges, towers in urban areas, farms	building	cliff	saucer	-	-		on ledge, under eaves
Pintail, Northern	5/15 - 8/5	Fresh/brackish pond or marsh	ground		scrape	0			occ far from water
Rail, King	5/15 - 8/1	Fresh/brackish reedy pond or marsh	ground		platform	0.5	0.7	8	
Rail, Virginia	5/15 - 8/1	Salt, fresh, or brackish pond or marsh	ground		saucer	0		7	usu in drier area
Redstart, American	6/1 - 8/1	Secondary forest, copses	decid	shrub	cup	10	20	2.5	oft in fork of low tree; compact
Robin, American	5/1 - 9/1	Almost anywhere except the most open habitats such as marsh, grasslands	decid	conif	cup	10	20	6.5	also shrubs; unkempt foundation of protruding twigs
Sandpiper, Spotted	5/25 - 7/5	Coastal shores, shores of freshwater lakes, ponds, rivers, streams	ground		scrape	0		5	elevated site in grass/among rocks
Sandpiper, Upland	5/20 - 7/15	Extensive grasslands, especially airports	ground		scrape	0		4.5	depression concealed on dry part of habitat



species	dates	habitat	pri site	sec site	type	min ht	max ht	diam	notes
Screech-Owl, Eastern	4/1 - 8/1	Open deciduous forests, woodlots, orchards, residential areas	snag		cavity	15	50		usu in tree cavity/hollow stump
Shoveler, Northern	5/15 - 8/5	Fresh/brackish pond or marsh	ground		scrape	0			
Siskin, Pine	5/1 - 7/15	Conifers	conif	decid	saucer	8	50	4	on horiz limb well out from trunk
Sora	5/15 - 7/25	Fresh/brackish reedy pond or marsh	floating	ground	saucer	0	0.5	6	usu over deeper water than V.Rail
Sparrow, Chipping	5/1 - 8/15	Open mixed forest, suburbs, parks, and cemeteries with conifers	conif	decid	cup	0	11	4.5	also in vine tangl; compact
Sparrow, Field	5/1 - 8/5	Brushy areas, weedy fields, powerline cuts	ground	sapling	cup	0	2.5	5	occ in vine tangl
Sparrow, Grasshopper	5/25 - 8/10	Grasslands, including airports, hayfields	ground		cup	0		5	sunk in slight dpress'n, rim flush w/ground levl, well-concealed by ovrhanging forbs
Sparrow, House	4/10 - 8/15	Residential, farms	building	tree	cavity	0	40		
Sparrow, Savannah	5/10 - 8/1	Grasslands, including airports, hayfields	ground		cup	0	0.5	3	in dpress'n, rim flush w/ground, well-concealed by ovrhanging veg
Sparrow, Song	5/1 - 8/10	Forest edge, brushy areas, marsh edges, suburbs	ground	shrub	cup	0	3	7	bneath grass tuft, brushpile
Sparrow, Swamp	5/1 - 8/5	Freshwater wetlands including cattail marsh, swamps, river meadow, and pond edges	shrub	ground	cup	0	5	4	oft ovr water; bulky foundation
Sparrow, Vesper	5/10 - 8/5	Short grass areas, agricultural fields, clearings in pine barrens, coastal moors	ground		cup	0			excavatd dpress'n, conceald by mat of dead veg or fresh growth
Sparrow, White-throated	5/20 - 8/20	Scrubby habitats esp with conifers (C, W); Red Maple, Atlantic White Cedar (SE)	ground	shrub	cup	0	3	3.5	at edge of clearing, well-concealed
Starling, European	4/15 - 8/15	Everywhere, except remote rural areas	decid	building	cavity	10	25		any handy cavity; slovenly
Swallow, Bank	5/25 - 7/1	Earthen embankments	bank		burrow	4	4	2	at end of burr 2-3' deep, usu in disturbed sites
Swallow, Barn	5/25 - 7/1	Structures offering access to interior; barns, garages, porches, sheds, etc.	building		cup	6	40	5	plastrd ledges/walls of bldg, occ in cave/crevice; mud pellets/straw/heavily lined w/fthrs
Swallow, Cliff	5/25 - 7/1	Eaves and sides of old barns and other buildings, bridges	bridge	cliff	gourd	3	3	1.5	plastrd undrside culvrt/othr vert surf; of mud pellets; tubulr entr to spher cavity, oft re-used
Swallow, Northern Rough-winged	5/20 - 7/1	Variety of habitats, often near water, in cavity, pipe, or excavated burrow.	bank	culvert	burrow	4	4		at end of burr 4-5' deep or othr cavity/niche; no feathr lining
Swallow, Tree	5/15 - 7/1	Open areas or woodland edge near wetlands; including saltmarsh	snag		cavity	5	5		tree hole/othr cavity
Swift, Chimney	5/25 - 8/15	Urban, suburban chimneys, beaver swamps?	chimney	hollo tree	saucer	-	-	4	1/2 saucer, attached to wall; avg 22' from top
Tanager, Scarlet	5/25 - 8/10	Mature deciduous forest	decid	conif	saucer	20	30		on horiz branch, well out from trunk
Teal, Blue-winged	5/10 - 8/5	Fresh/brackish pond or marsh	ground		scrape	0			occ foundation wet
Teal, Green-winged	5/15 - 8/5	Fresh/brackish pond or marsh	ground		scrape	0			occ far from water
Thrasher, Brown	5/15 - 8/10	Dry secondary growth; powerline cuts, overgrown pastures, coastal thickets,	shrub	ground	cup	2	5	12	on ground mostly in E; also in vines/small tree
Thrush, Hermit	5/10 - 9/10	Damp mixed forest with dense undergrowth including pine barrens	ground	tree	cup	0	8		on ground in E
Thrush, Wood	5/25 - 8/10	Mature forest	decid	conif	cup	6	50	5	bulky, compact; freq use white paper/bag in base
Titmouse, Tufted	4/5 - 8/1	Deciduous (especially oak) forest, riparian woodlands, and residential areas	decid	snag	cavity	3	90		in nat'l/woodpkr cavity; occ perennial
Towhee, Eastern	5/1 - 8/10	Dry, open forest, edge, brushy habitats, including coastal thickets, powerline cuts	ground	shrub	cup	0	5		oft in scratched depress'n, rim of cup flush w/ground surface
Turkey, Wild (NON-MIG)	4/15 - 8/1	Mature deciduous woods, edge	ground		scrape	0			
Veery	5/25 - 8/10	Moist mixed forest	ground	shrub	cup	0	6	10	substantial
Vireo, Blue-headed	5/15 - 8/10	Mature coniferous or mixed woods	conif	decid	cup	4	30	3	suspdnd by rim frm prongs of frkd twig, well-made, deep
Vireo, Red-eyed	6/1 - 8/10	Mixed and deciduous Woods	shrub	decid	cup	5	35	3	suspdnd by rim frm prongs of frkd twig; dainty, well-made, deep
Vireo, Warbling	5/15 - 8/10	Semi-open borders of river meadows, ponds, and streams	decid	shrub	cup	30	60	3.5	hi in tree suspdnd by rim from prongs of frkd twig; compact, deep
Vireo, White-eyed	5/15 - 8/1	Moist areas, thickets, tangles of vines or briars.	shrub		cup	1	8	3	rim suspdnd by forkd twg in scrub oak/shrub/sapling
Vireo, Yellow-throated	5/20 - 8/10	Open deciduous and mixed forest and riparian woodlands	decid		cup	20	60	3	suspdnd by rim frm prongs of frkd twig, well-made, deep
Warbler, Black-and-white	5/25 - 8/1	Mainly deciduous forest	ground		cup	0	2	4	rarely nr ground; concealed undr dead leaves/branches
Warbler, Blackburnian	5/25 - 8/5	Coniferous forest	conif		cup	20	50	3	high in dense branches
Warbler, Black-throated Green	5/25 - 8/5	Coniferous and mature mixed forest	conif		cup	20	35	3.5	oft on horiz branch; compact, deep
Warbler, Blue-winged	5/20 - 8/1	Old, brushy fields, copses, edge with low undergrowth, powerline cuts	ground	tangle	cup	0	1		hiddn in grass/vine; bulky, deep, narrow; lined w/grapevine
Warbler, Canada	6/5 - 8/1	Thick undergrowth in moist deciduous or mixed forest; cedar swamp, Red Maple (SE)	ground		cup	0	0.5	5	on sphagnum hummocks, amng roots of stumps; bulky
Warbler, Chestnut-sided	5/25 - 8/1	Brushy, open second-growth, edges	shrub		cup	1	3	3	usu loosely constructed
Warbler, Golden-winged	5/20 - 8/1	Damp brushy fields, powerline cuts	ground		cup	0		4	hiddn in grass/against tree; lined w/grapevine; outer unkempt
Warbler, Nashville	5/25 - 8/15	Open Scrub Oak woodlands (SE), overgrown pastures, bogs (C, W)	ground		cup	0		3	well hiddn
Warbler, Pine	5/1 - 8/5	Variety of pine forest types	conif		cup	25	40		oft far out on limb, concealed from below by leaves; compact
Warbler, Prairie	5/25 - 8/1	Brushy fields, powerline cuts, edges	shrub	tree	cup	1	10	3	in upright fork/on limb/against trunk; compact
Warbler, Yellow	5/25 - 8/1	Margins of freshwater marsh, other wet brushy areas, farmland	shrub	tree	cup	1	14	2.5	usu compact, neat, strong, of weed stalks
Warbler, Yellow-rumped	5/25 - 8/10	Mature White Pines (SE), coniferous forest (C, W)	conif		cup	4	50	3	usu on horiz branch; some lined w/feathers that screen eggs
Waterthrush, Louisiana	5/10 - 7/20	Rocky streams in deciduous or mixed forest	ground	bank	cup	0	2	3.5	hiddn amng tree roots, ovrhang of bank, a few ft frm watr; walkway from nst to watr
Waterthrush, Northern	5/20 - 7/25	Wooded swamps, bogs, backwaters	ground	bank	cup	0	2		hiddn amng tree roots, ovrhang of bank, close to water
Waxwing, Cedar	6/10 - 8/15	Second-growth forest, parks, orchards, gardens, and margins of waterways	decid	conif	cup	6	50	5.5	variable in position
Whip-poor-will	5/25 - 7/15	Secondary forest, copses, pine barrens, scrub oak, edge	ground		no nest	0			on well-drained ground nr edge of woods
Woodcock, American	4/15 - 7/15	Forest edges	ground		scrape	0			w/in 300' display area
Woodpecker, Downy	5/1 - 7/25	Forests, copses, suburbs	snag		cavity	3	50	1.5	perfect circle; new hole yearly; entrance oft camouflaged
Woodpecker, Hairy	4/25 - 7/20	Forests	decid	snag	cavity	4	60	2.5	usu annual
Woodpecker, Pileated (NON-MIG)	4/25 - 7/20	Matured forest, especially bottomland	snag		cavity	45	45	3.5	holes oft face E or S, oft on bark-free surface
Woodpecker, Red-bellied	4/15 - 8/1	Older-growth forest and woodlots	snag		cavity	0	40	2	usu decid; oft >1 hole/tree; may be perennial
Wood-Peevee, Eastern	6/5 - 8/1	Mature forest	decid		cup	15	35	2.5	on horiz limb far from trunk
Wren, Carolina	4/1 - 8/15	Wet woods, stream edges with dense thickets, tangles, brush piles, etc.	decid	snag	cavity	0	10		nat'l hole/amid roots/cntr of brushpile
Wren, House	5/20 - 8/15	Open forests, wood edges, farms, orchards, suburbs, parks, gardens	decid	snag	cavity	0	20		usu in nat'l hole, occ in nests of othr birds
Wren, Marsh	5/15 - 8/15	Cattail and other tall marshes, including saltmarsh edges	reeds		spherical	1	9	1	att'chd to reeds, biuilt in laysr w/entr usu nr top (facing S or W)
Wren, Winter	5/1 - 8/5	Cool, moist, coniferous or mixed woods, swamps, bogs, streams, brooks	snag		cavity	0	6		usu in nat'l hole/undr stmp/amid roots; of moss on base of twgs
Yellowthroat, Common	6/1 - 8/10	Brushy areas, thickets, powerline cuts, preferably wet	shrub		cup	0	3	3	bulky, loosely made