

Volunteer Training - Breeding Surveys



Project Goals and Overview – Why a bird atlas – Timeline, Funding How to conduct surveys Reporting data Technology - Navigation – eBird **Breeding Codes**

– Quiz

Resources



Why a bird atlas?

- Tough budget times, conservation seen as a 'luxury'
- Conservation needs to be efficient informed land use decisions
- Where are the best places to protect?
- What conservation actions are needed?
- Need comprehensive data to prioritize



Project goals

- Describe breeding bird distribution and abundance
- Document changes since the last atlas
- Describe wintering distributions
- Stopover habitat use
- Understand where species occur on the landscape
- Develop an interactive web site for updating and data retrieval



Major funding



... plus may other contributions ...

2017-18: Make initial predictions from existing data ...

The North American Breeding Bird Survey



eBird

MASSACHUSETTS BREEDING BIRD ATLAS 2

Edited by Joan Walsh and Wayne Petersen

Written by Matthew Kamm Joan Walsh, John Galluzzo and Wayne Petersen





2018-20: Collect new atlas data

- 1. traditional citizen science block work
- 2. point counts to estimate abundance
- 3. winter surveys
- 4. migration surveys



2020-21:

Analysis to test/refine predictions

- test models
- > upgrade predictions
- > compare to 1980s atlas
- > post data on-line

> identify priority areas for conservation

How can birders help?



ctbirdatlas.org

CONNECTICUT BIRD ATLAS



PROTECTING THE STATE'S BIRDS REQUIRES THAT WE KNOW WHERE THEY ARE.

How to conduct surveys

- Goals
 - What does it mean to cover a block
- Where to survey
- When to survey
- How to survey



Goal

- Complete list of all birds breeding in each block
 - identifying as many species as possible
 - obtaining evidence for breeding
 - ~20 hours/block over (total over 3 years)
- Complete list of birds wintering in each block
 - identify as many species as possible
 - estimate abundance (similar to CBC)
 - 10 hours in Nov-Dec
 - 10 hours in Jan-Feb

Many types of breeding evidence





Why only 20 hours/block?

Diminishing returns – better to move to another block

BUT, it is not a problem to do more hours



Where to survey

- Volunteer to be in charge of a block
- Complete field cards when you go birding
- Collect incidental records while doing other things

Volunteer to survey a block



Volunteer to survey a block





Download block maps



Block boundary



Block boundary

Public land



Block boundary

Public land

Different habitats





What if "my" block is taken!?



What if "my" block is taken!?

- Collect data anyway!
- Coordinate with assigned birder
- Pick another block



What if I don't have time to do a block?

- Collect data anyway!
- Submit records whenever you go birding
- Submit incidental records from your yard
- Submit incidental records any time you confirm breeding*

1 species total

1 Common Raven

Flying low over the highway carrying a stick.

Breeding Code CN Carrying Nesting Material (Confirmed)



- Data from any block, whether you are the adopter or not, are wanted
- So, be sure you know what block you are in when birding
- SEPARATE DATA SHEET OR EBIRD ENTRY FOR EACH BLOCK

Special considerations

- Water/utility company properties
- Private land





Dear Landowner,

The Connecticut Department of Energy and Environmental Protection and University of Connecticut are conducting a comprehensive study of the hird species inhabiting our state. This project, the CT Bird Atlas Project will provide the most detailed and comprehensive information about the distribution and status of all birds across this state. This information will allow us to better protect these basefulls birds.

In order to do this, paid technicians and public volunteers are visiting 596 blocks that cover the entire state. These folds are conducting bird surveys in those 596 blocks. Visits range from 10 minutes to a couple of hours, depending on the site. Private lands comprise over 70% of our state. So, surveying private lands is a luage component of the Project.

We are asking your permission to access your private land to conduct this survey. We are selfinwared, there will be absolutely no risk to you or your property.

Thank you very much for your willingness to assist us with this important work.

Sincerely,

Min Huang, Migratory Bird Program Leader CT Department of Energy and Environmental Protection 391 RT 32 N. Franklin CT 06254 860-042-0528 (p) Min.Juannefict.cov Chris Elphick and Meegan Tingley EEB Department University of Connecticut Stoers CT 06268 Chris.elphick@uconn.odu Mongan.tingley@uconn.odu



• Start now, but cautiously ...



- Safe date info on web site
- 20 hours: mid-May mid-Aug

Hours should be spread out

- Visit all habitats
- Spread time out over the breeding season
- Nocturnal visits
- OK to spread time over years





- Early morning, when birds are most active
- Easier to confirm breeding in mid-summer when many species are actively feeding young



Possible approaches

• First trip

- Identify as many species as possible
- Look for early nesters to confirm
- Later visits
 - Upgrade species with stronger breeding evidence
- Strategy 1
 - Three 5- or 6-hour morning visits to your block in mid/late-May, June, July
 - 1-2 shorter visits to target night-birds or missed species
- Strategy 2
 - Twenty 1-hour visits (maybe before work each day, but with 1-2 evening visits), each to a different part of the block, and evenly spread out across the summer.

Safe dates

- Safe dates identify when most migrants will have left
- NOT when all nesting happens



Safe dates

- Safe dates identify when most migrants will have left
 - Taxonomic, alphabetical, and chronological versions of list. Check the web site
- Possible and most probable breeding codes, should not be used outside the safe dates

Species	Safe	Habitat
	Dates	
Canada Goose	4/15-8/1	Shore or islands in any wetland
Mute Swan	4/15-8/1	Large ponds and marshes
Wood Duck	5/1-8/5	Wooded swamps, freshwater marshes, streams, rivers
Gadwall	5/15-8/5	Fresh/brackish water or saltmarsh
American Black Duck	5/1-8/5	Most wetlands, from beaver ponds to saltmarsh
Mallard	5/1-8/5	All wetlands, occasionally suburban yards with swimming pools
Blue-winged Teal*	5/10-8/5	Fresh/brackish pond or marsh
Green-winged Teal*	5/15-8/5	Fresh/brackish pond or marsh
Common Eider*	5/15-8/1	Coastal islands
Hooded Merganser	5/15-8/5	Wooded swamps, freshwater marshes, streams
Red-breasted Merganser*	6/1-8/5	Coastal marsh
Ring-necked Pheasant	5/1-8/15	Open scrub, pastures, fields
Ruffed Grouse	4/1-6/31	Mixed upland woods
Wild Turkey	4/1-7/15	Mature deciduous woods, edge
Northern Bobwhite*	4/30-8/15	Open scrub, pastures, fields
Pied-billed Grebe*	5/10-8/1	Fresh/brackish reedy pond or marsh
Double-crested Cormorant	5/10-8/5	Islands on coast or lake
American Bittern*	5/15-8/1	Fresh/brackish reedy pond or marsh
Least Bittern*	5/25-8/1	Fresh/brackish reedy pond or marsh
Great Blue Heron	5/1-7/15	Wooded swamps, beaver ponds, islands
Great Egret	5/15-7/15	Islands on coast or lake
Snowy Egret	5/15-7/15	Coastal islands
Little Blue Heron	5/15-7/15	Coastal islands
Tricolored Heron*	5/15-7/15	Coastal islands
Cattle Egret*	5/10-7/15	Coastal islands
Green Heron	5/10-8/1	Woody growth near marshes or open water
Black-crowned Night-Heron	5/5-7/15	Coastal islands
Yellow-crowned Night-Heron*	5/5-7/15	Coastal islands
Glossy Ibis	5/1-7/15	Coastal islands

Confusing cases

- Year round residents*
 - List code and make a note that justifies the use of a code outside of the safe date
 - Wait

2 White-breasted Nuthatch

Multiple visits by members of pair to entrance of nest hole used in previous years, though not seen to enter. Courtship feeding seen at nest entrance.



* often, some individuals are migrants, so caution is still needed
Confusing cases

- Year round residents
- Migrants outside of safe dates
 - Wait, unless ...
 - confirm breeding
 - have strong probable breeding evidence
 - will be hard to confirm later
- Species not on field card
 - ignore, unless can confirm
 - if confirm: rare reports form



Safe dates: simplifying rules

1. If you are unsure whether to submit a record, do so.

2. Always submit any record that confirms breeding (i.e., warrants a 2-letter code).

Confirmed codes, by definition, trump safe dates

Reporting data

CONNECTICUT BIRD ATLAS - BREEDING FIELD CARD

Use this form to report species detected during block surveys. IMPORTANT: Report only species found within the block boundaries. List a code for all species detected. Use a separate card for each visit.

Observer(s):						
		Email:				
Block: Site (if visi	ting just part of block):					
Date:	Start time:	End time:				
Circle to confirm whether	all species detected are r	narked below: YES NO				
For other data forms and de Please report all of the time Please report locations of a	spent on the project and ye	our mileage on the Volunteer Form				
Breeding Codes:		NB – nest building (do not use for wrens and woodpeckers)				
X - seen or heard but not in su evidence of breeding	itable nesting habitat; no	DD – distraction display or injury feigning UN – used nest or eggshells; careful confirmation of species necessary				
 H – seen in suitable habitat wit other indication of breeding S – singing in suitable habitat with the second second		FL – recently fledged young or downy young of galliforms, shorebirds or waterfowl; young should be incapable of sustained flight and dependent on adults for food and/or protection				
 M – multiple (7+) singing male: P – pair in suitable habitat duri T – song or other evidence of t at least two days, a week or m 	ng breeding season erritory establishment on	ON – adults entering or leaving nest site, indicating occupied nest (use for cavity nesters only when bird enters hole and stays inside, when a pair exchange places while incubating, or when a bird leaves after being				
C – courtship behavior or copu N – bird visiting probable nest: A – agitated behavior or anxiel suggesting probable nest or yo B – nest building by wrens or y	site y calls from adults ung nearby	inside for some time) CF – adult carrying food for young (do not use for raptors, corvids, kingfishers, terns; take care near block boundaries) FY – adult feeding young away from the nest				
PE – physiological evidence (b CN – carrying nest material (do	rood patch, etc.)	FS – adult carrying fecal sac NE – nest with eggs or adult sitting on nest NY – nest with young				

Species	Code	Species	Code	Species	Code
Canada Goose		Wild Turkey		Glossy Ibis	
Mute Swan		Pied-billed Grebe*		Turkey Vulture	
Wood Duck		Double-crested Cormorant		Black Vulture	
Gadwall		American Bittern*		Osprey	
American Black Duck		Least Bittern*		Bald Eagle	
Mallard		Great Blue Heron		Mississippi Kite*	
Blue-winged Teal*		Great Egret		Northern Harrier*	
Green-winged Teal*		Snowy Egret		Sharp-shinned Hawk*	
Common Eider*		Little Blue Heron		Cooper's Hawk	
Hooded Merganser		Tricolored Heron*		Northern Goshawk*	
Common Merganser		Cattle Egret*		Red-shouldered Hawk	
Red-breasted Merganser*		Green Heron		Broad-winged Hawk	
Ring-necked Pheasant		Black-crowned N-Heron		Red-tailed Hawk	
Ruffed Grouse		Yellow-crowned N-Heron*		American Kestrel	

*Please submit a Rare Reports Form (see web site) for these species or any species not listed

Mail: Connecticut Bird Atlas, d/o Chris Elphick, Ecology & Evolutionary Biology, University of Connecticut, 75 North Eagleville Road, Unit 3043, Storrs, CT 06269-3043 Email (scans): <u>ctbirdatlasdata@gmail.com</u> (subject: CT Bird Atlas Field Card)

CONNECTICUT BIRD ATLAS - INCIDENTAL OBSERVATION FORM

Use this form to report breeding species detected incidentally (i.e., when not surveying an assigned block). Incidental records are especially valuable if they confirm breeding for a species, or involve unusual or difficult to find species.

Observer: Email: Phone:

Address:

Connecticut Bird Atlas, c/o Chris Elphick, Ecology & Evolutionary Biology, Send to: University of Connecticut, 75 North Eagleville Road, Unit 3043, Storrs, CT 06269-3043 Or email (scans): ctbirdatlasdata@gmail.com (subject; CT Bird Atlas Incidental Obs)

Date	Latitude/Longitude	Block	Species	Breeding	Notes
(m/d/y)	(decimal degrees)*	ID		Code	
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				+ +	
	for actting this information				

Instructions for getting this information from Google Maps are on the atlas web site. Alternatively, mark the location on a paper map and submit with this form.

Breeding Codes:

X - seen or heard but not in suitable nesting habitat; no evidence of breeding

H - seen in suitable habitat within safe dates, but no other indication of breeding noted

S - singing in suitable habitat within safe dates

M - multiple (7+) singing males in suitable habitat

- P pair in suitable habitat during breeding season
- T song or other evidence of territory establishment on at least two days, a week or more apart
- C courtship behavior or copulation
- N bird visiting probable nest site

A - agitated behavior or anxiety calls from adults suggesting probable nest or young nearby

B – nest building by wrens or woodpeckers

PE - physiological evidence (brood patch, etc.) CN - carrying nest material (do not use for wrens)

NB - nest building (do not use for wrens and woodpeckers)

DD - distraction display or injury feigning UN - used nest or eggshells; careful confirmation of species necessary

FL - recently fledged young or downy young of galliforms, shorebirds or waterfowl; young should be incapable of sustained flight and dependent on adults for food and/or protection

ON - adults entering or leaving nest site, indicating occupied nest (use for cavity nesters only when bird enters hole and stays inside, when a pair exchange places while incubating, or when a bird leaves after being inside for some time)

CF - adult carrying food for young (do not use for raptors, corvids, kingfishers, terns; take care near block boundaries)

- FY adult feeding young away from the nest
- FS adult carrying fecal sac
- NE Nest with eggs or adult sitting on nest
- NY Nest with young

Breeding field card

Use for checklists when out surveying a block or birding

- Block number
- Site within the block (optional)
- Date, start time, end time
- Breeding code for every species you see

Use a separate form for each block you spend time in

Incidental observation form

Use to report breeding species found while doing other things

- Location (block and/or lat-long)
- Date
- Breeding code for notable species
 - Confirmed breeding (always submit)
 - Hard to confirm species (always submit)
 - Rare species (always submit)

Rare reports form

Use to report rare breeding species, species found in unexpected places, or outside normal breeding period

CONNECTICUT BIRD ATLAS - RARE REPORTS FORM

Use this form to provide additional documentation for records of rare breeding species, and of species found in unusual habitats or at unusual times of year (e.g., nesting outside of the safe dates for the species). Please use a separate form for each record.

Observer:	Email:	Phone:
Address:		
Send to:	University of Connecticut, 75 No	Elphick, Ecology & Evolutionary Biology, rth Eagleville Road, Unit 3043, Storrs, CT 06269-3043 edu (subject: CT Bird Atlas rare report)
Species:		
Date of obse	ervation:	_
Block numbe	er:	-
Latitude:		Longitude:
(decimal degre		this information from Google Maps are given on the atlas web

Reporting effort

- 1. Birding effort: used in data analysis
 - BIRDING hours only
 - start/end times on field card
 - eBird app will track this for you
- 2. Volunteer effort and mileage: used as matching funds for federal grant
 - ALL miles (including to and fro)
 - ALL hours doing atlas work

Please send or email sheets monthly to: Connecticut Bird Atlas, c/o Min Huang, CT Department of Energy and Environmental Protection, 391 RT 32, N Franklin, CT 06254 <u>min.huang@ct.gov</u> (subject: CT Bird Atlas Effort)

Date (m/d/y)	Miles driven	Start time	End time	Total hours

Key things to remember

- Track the time/miles you spend surveying
- Keep a separate list for each block visit
- Record all species with breeding evidence

For eBirders especially

- Always use breeding codes
- Make sure your records are in the right block

Technology

Navigation

- lat/long on your phone
- what block are you in?

eBird

- entering breeding codes
- sharing with ctbirdatlas
- ensitive species
- care with hotspots

How do I know where I am?



Google MAPS (similar in Apple maps)

Dropped Pin

near 29.114.15, Mansfield, CT 06250



How do I know where I am?



Dropped Pin

near 29.114.15, Mansfield, CT 06250





Measure distance

UUUU





2

87H9QR93+3P

Add a missing place

An easier option ...

Use interactive map on web site:

- zoom in to find the location
- look up block number



- Install Google EARTH phone app
- Click on link to .kml file on atlas web site (below interactive map)
- Chose "Copy to Google Earth"
 - (swipe left if don't see option)
- Press Google Earth symbol
 - app should open with file open





zoom in to this red patch (red lines are block boundaries)

Data SIO, NOAA, U.S. Navy, NGA,

47°59'18"N 56°04'06"W 24,542 m

14:19

MASSACHUSETTS

118A^{100D}

6E8E11E14E

HAMPSHIRE





47°59'18"N 56°04'06"W 24,542 mi

 \odot My Location Û

💵 T-Mobile Wi-Fi 奈

New York

hia

ERSEY

Q

Share Link

touch these three dots ...

> ... this will appear; touch the symbol

Data SIO, NOAA, U.S. Navy, NGA,.

blue dot is your location (block 40F)





Data SIO, NOAA, U.S. Navy, NGA,

47°59'18"N 56°04'06"W 24,542 m

Can I use eBird? YES

III Verizon 🗢 5:52 PM

Start NEW CHECKLIST

Current Trip: 94 Species

1	≡	:::
My eBird	Checklists	Trips

0







5:52 PM

1 \$ 64%

📶 Verizon 🗢

Start a checklist



📲 Verizon 🗢		5:53 PM	🕇 🖇 63% 🔲 '				
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+	Graylag Goose (Domestic type)						
+	Domestic goose sp. (Domestic type)						
+	Brant						
+	Brant (Atlantic)						
+	Canada Goose						
+	Cackling	/Canada Goose					
+	goose sp).					
+	Mute Sw	an					
+	Wood Du	uck					
+	Blue-win	ged Teal					
+	Northerr	Shoveler					
•		Review & Sub	mit				

Enter species, number, & breeding code

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+	Monk Para	keet		
+	Blue Jay			
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+	crow sp.			
+	Common F	Raven		
+	Horned La	rk		
+	Black-cap	ped Chickadee		
+	Tufted Titr	nouse		
+	Red-breas	ted Nuthatch		
+	White-brea	asted Nuthatch		
٠		Review & Sub	mit	

Ca	Cancel Observation Details Dor						one		
	American Crow Corvus brachyrhynchos								
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Breeding code									
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F Flyc	over	
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S Sing	ging Male	
S7 Sir	nging Nale Present 7+ days	-
M M P Pa	4)Select appropriate 'Breeding Code'	
	ritorial Defense	
C Cou	urtship, Display, or Copulation	
N Visi	iting Probable Nest Site	
A Agi	tated Behavior	
B Wo	odpecker/Wren Nest Building	

Click on Checklist

 \mathbf{n}



Current Trip: 92 Species



The Cornell Lab

12 Nutmeg Hill Rd, Hamden US-CT (41.4061,-72... Mar 25, 2018 at 6:26 PM Accepted **1** Species Reported 12 Nutmeg Hill Rd, Hauden US-CT (41.4061,-72... Feb 1, 2018 at 10:00 A Not Submitted **0** Species Reported 21 Shell Beach Rd Guilford US-CT (41.2632,-72... Jan 29, 2018 at 3 0 PM Accepted 6 Species Reported New Haven, CT 06513, New Haven US-CT (41.3... Jan 29, 2018 at 2:08 PM Accepted 4 Species Reported East Rock Park, Hamden US-CT (41.3313,-72.9... Jan 29, 2018 at 1:30 PM Accepted 6 Species Reported 18 Nutmeg Hill Rd, Hamden US-CT (41.4058,-7... Jan 24, 2018 at 6:47 AM Not Submitted **1** Species Reported 561 Gulf St, Milford US-CT (41.2091,-73.0447) Dec 23, 2017 at 9:56 AM Accepted 11 Species Reported White Mountains, Hart's Location US-NH (44.11... Dec 16, 2017 at 10:17 AM Accepted 17 Species Reported White Mountains, Hart's Location US-NH (44.11... Accepted

Dec 15, 2017 at 2:30 PM 3 Species Reported

Click HERE to view/edit y on eBird.org	our checklists
1 Dark-eyed Junco (Sla	te-colored)
# of Taxa Reported	
# of Taxa Reported Protocol	Stationary
	Stationary

Email Checklist

View Track



My eBird Science About News Help



Page 1 of 39 1 2 3 4 5 ... 39 Show All

👤 CT bird atlas (ctbirdatlas) 💙



Manage My Checklists

My Shared Checklists

Date	Location	County	St/Prov	
2018-05-01 19:21	60 Woodlawn Road, Berlin, Connecticut, US (41.633, -72.74)	Hartford	US-CT	<u>View or edit</u> Share Delete
2018-05-01 18:54	Mystic yard, Pequot Ave, Mystic, CT	New London	US-CT	<u>View or eqit</u> <u>Share</u> <u>Delete</u>
2018-05-01 18:45	Coastal Center at Milford Point	New Haven	US-CT	<u>View or edit</u> <u>Share</u> <u>Deete</u>
2018-05-01 16:38	Stillwater Pond State Park	Litchfield	US-CT	<u>View or a dit Share De ete</u>
2018-05-01 15:15	Warner Yard	Windham	US-CT	<u>View or edit</u> <u>Share</u> <u>Deete</u>
2018-05-01 14:45	CT - Glastonbury - Ferry Lane	Hartford	US-CT	<u>View or e lit Share Delete</u>
2018-05-01 14:30	Block 92A Equestrian Ridge Newtown CT	Fairfield	US-CT	<u>View or edit Share Delete</u>
2018-05-01 12:51	Milford Pt.	New Haven	US-CT	View or edit Sharey Delete



Edit Location

72 2/01

Sensitive species

- Submit the data directly via a paper form
- Report the nest, but do not provide a precise location in eBird
- Wait until nesting is over, then report
- Hide the location in eBird



Hide checklists for sensitive records (owl nests, rare breeders)

Checklist	S44301748	~~~	Older All Checklists Newer ▶					
Location	300 Mount Carmel Ave, Hamden US-CT (41.4243,-72.9026), New Haven County, Connecticut, US $(\mbox{ Map}\)$	Edit Location	➡ Print ▲ Download ★ Email Yourself					
Date and Effort	Fri Apr 06, 2018 2:52 PM	Edit Date and Effort	Delete					
	Protocol: Stationary							
	Party Size: 1		Anter a contract of the second					
	Duration: 1 minute(s)		🛃 Send link via: 📑 🍉					
	Observers: Craig Repasz							
	Comments: N/A							
	Submitted from eBird for iOS, version 1.6.36	Hide	Hide this Checklist?					
Species	1 species total	maps, and	Hiding a checklist will exclude the taxa on it from all forms of eBird output that show a location (including bar charts, maps, and arrival/departure tables), but the observation will still be accessible to you, and will appear on your lists. It will be considered invalid in the eBird database since we cannot approve bird records without accurate location information.					
	3 Mourning Dove	R						
			Although we understand that some checklists need to be excluded from eBird's public output due to privacy concerns or other issues, we strongly recommend against this unless absolutely necessary. Are you sure you want to hide these observations?					
		Are you su						
	Are you submitting a complete checklist of the birds you were able to identify?	Hide	Hide Checklist Cancel					
			Fri Apr 06, 2018					
			Different location and date					
			Hide from eBird Output ?					
			❤ Change Portal					

Take care with block boundaries



eBird hotspot warning ...

2 3 Where did you bird?



Do I have to use eBird?

- NO!!!
- But, if you do, share your checklists with ctbirdatlas

linage My	Checklists			
My Shared Checklis	<u>ts</u>		Page	1 of 5 1 <u>2 3 4 5 Show All</u>
Date	Location	County	<u>St/Prov</u>	
2018-03-22 19:01	Patrell Preserve Baker Ln, East Haddam US-CT (41.4347,- 72.3324)	Middlesex	US-CT	View or edit Share Delet
2018-03- <mark>21</mark> 16:25	Menunketesuck River / Grove Beach Point	Middlesex	US-CT	View or edit Share Delet
2018-03-21 14:09	Manchester Landfill & Laurel Marsh	Hartford	US-CT	View or edit Share Delet
2018-03-21 13:30	Hager Creek Marsh Wildlife Area	Middlesex	US-CT	View or edit Share Delet
2018-03-21 11:50	Autumn Chase	Tolland	US-CT	View or edit Share Delet

ctbirdatlas.org

CONNECTICUT BIRD ATLAS



PROTECTING THE STATE'S BIRDS REQUIRES THAT WE KNOW WHERE THEY ARE.

Do I have to find nests?



BREEDING CODES: OBSERVED/POSSIBLE

X – Observed but not in suitable
 nesting habitat; outside safe dates; no
 evidence of breeding

H – Observed in suitable breeding habitat during the breeding season, within safe dates

S – Singing bird present in suitable nesting habitat within safe dates

Photos courtesy of Paul Fusco and Mark Szantyr

Observed/Possible breeding

X: observed



H: in suitable habitat



S: singing[‡]



BREEDING CODES: PROBABLE

P – Male and female together and interacting in suitable nesting habitat during breeding season

T – Territorial behavior on at least two occasions a week apart.

C – Courtship behavior, courtship feeding, copulation

Photos courtesy of Paul Fusco and Mark Szantyr



BREEDING CODES: PROBABLE

N – Visiting probable nest site (esp. useful for cavity nesters)

A – Agitated behavior or anxiety calls

B – Nest building in wrens and woodpeckers

Photos courtesy of Paul Fusco and Mark Szantyr

Probable breeding

N: probable nest site





PE – Physiological evidence – e.g., brood patch (for use by banders)

CN – Carrying nest material (except wrens)

NB – Nest building (except wrens and woodpeckers)

Photos courtesy of Alyssa Borowske, Paul Fusco and Mark Szantyr

Confirmed breeding

PE: physiological signs





NB: nest building*

CN: nest material



DD – Distraction display, defense of unknown nest/young, etc.

UN – Used nest/eggshells (from atlas years). Do not use for species like marsh wrens, woodpeckers, etc.

FL – Recently fledged young (includes downy waterfowl, shorebirds, etc.). Take care with chicks that can fly, esp. near block boundaries

Photos courtesy of Alyssa Borowske, Paul Fusco and Mark Szantyr

Confirmed breeding

DD: distraction display



UN: used nest





ON – Adults sitting on/entering nest

CF – Carrying food for young. Do not use for raptors, terns, kingfishers, corvids. Be careful with other species that may be carrying food for their own consumption

FY – Adult feeding young outside nest (cowbird chick confirms both species)

Photos courtesy of Paul Fusco and Mark Szantyr



FS – Adult carrying fecal sac

NE – Nest with eggs (cowbird eggs confirm both species)

NY – Nest with young (cowbird chicks confirm both species)

Photos courtesy of Paul Fusco and Mark Szantyr

Confirmed breeding

FS: fecal sac





NY: nest with young



Resources

- Your Regional Coordinator (RC)
- <u>ctbirdatlasvol@gmail.com</u>
- Atlas web site and blog

- Dendroica <u>https://www.natureinstruct.org/dendroica/</u>
- Xeno-canto <u>https://www.xeno-canto.org/</u>

Atlas stats

- 677 volunteers on email list
- 300 block adopters
- 417 blocks assigned (54%)
- 967 eBird checklists
- >2200 breeding records
- 4 species with more confirmations than first atlas

What if I don't think I'm a good enough birder?

Can you identify these species ...



Questions?

To volunteer: <u>ctbirdatlasvol@gmail.com</u>

For other information, contact: <u>chris.elphick@uconn.edu</u>



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