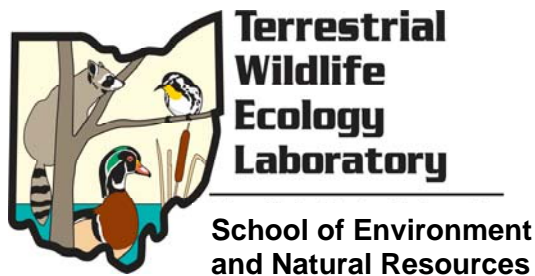




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# Atlas Volunteer Handbook



The Ohio Breeding Bird Atlas II is a joint project of The Ohio State University, School of Environment and Natural Resources and the Ohio Department of Natural Resources-Division of Wildlife. Project Director for the Atlas is Paul Rodewald (OSU), and Matthew Shumar (OSU) is the Project Coordinator. The Advisory Board for the Ohio Breeding Bird Atlas II includes John Ritzenthaler (Audubon Ohio), Mark Shieldcastle (Black Swamp Bird Observatory), Ned Keller (Ohio Ornithological Society), Dan Brauning (Pennsylvania Game Commission), and John Castrale (Indiana Division of Fish and Wildlife). This large-scale effort is made possible only through the assistance of hundreds of citizen volunteers, and other in-kind contributions from conservation groups, and federal, state, and local governmental agencies in Ohio.

## TABLE OF CONTENTS

<b>BACKGROUND.....</b>	<b>2</b>
<b>ATLAS GOALS.....</b>	<b>2</b>
<b>ATLAS BASICS FOR OHIO'S SECOND ATLAS .....</b>	<b>3</b>
<b>STUDY AREA AND ATLAS BLOCKS.....</b>	<b>4</b>
<b>Block ID Labels &amp; Choosing Blocks .....</b>	<b>5</b>
<b>OWNING ATLAS BLOCKS .....</b>	<b>6</b>
<b>BLOCK SURVEY COVERAGE .....</b>	<b>7</b>
<b>ATLASING PROTOCOL .....</b>	<b>7</b>
<b>Obtaining Block Maps .....</b>	<b>7</b>
<b>Exploring Your Block.....</b>	<b>8</b>
<b>Species Lists &amp; Totals .....</b>	<b>8</b>
<b>Bird Identification .....</b>	<b>9</b>
<b>Breeding Evidence Codes .....</b>	<b>9</b>
<b>When to Survey a Block.....</b>	<b>14</b>
<b>Recording Observations.....</b>	<b>15</b>
<b>Conservation Status Categories .....</b>	<b>16</b>
<b>Geo-referencing your Observations.....</b>	<b>17</b>
<b>Documentation Forms .....</b>	<b>17</b>
<b>A Simplified Atlasing Approach.....</b>	<b>18</b>
<b>Incidental Observations.....</b>	<b>19</b>
<b>ATLASING &amp; LAND OWNERSHIP .....</b>	<b>20</b>
<b>BIRDING ETHICS &amp; ATLASING .....</b>	<b>21</b>
<b>FIELD SAFETY.....</b>	<b>22</b>
<b>LIST OF APPENDICES .....</b>	<b>23</b>
<b>Appendix A. Contact Information for Regional Coordinators</b>	
<b>Appendix B. What are Safe Dates?</b>	
<b>Appendix C. Breeding Evidence Codes</b>	
<b>Appendix D. Sample Observation Field Card</b>	
<b>Appendix E. Official Breeding Species list (w/safe dates &amp; conservation status)</b>	
<b>Appendix F. Sample Field Checklist</b>	
<b>Appendix G. Rare Species Documentation Form</b>	
<b>Appendix H. Letter for Private Landowners</b>	
<b>Appendix I. Reply Postcard to Accompany Landowner Letter</b>	

## **BACKGROUND**

It has been over 20 years since the completion of fieldwork on the first breeding bird atlas in Ohio, and spring 2006 marks the start of the Ohio Breeding Bird Atlas II. Like Ohio's first atlas (1982-1987), this new project will offer volunteers an exciting way to learn about the breeding birds of Ohio while generating an immense amount of new information necessary for the effective conservation of birds in the state. By engaging Ohio's citizens in this cooperative effort, the Atlas will foster learning and interaction among bird enthusiasts of all experience levels and will heighten public awareness of birds in Ohio.

The success of Ohio's second breeding bird atlas will strongly depend on the dedicated efforts of the hundreds of volunteers involved in this project. Atlas participants will form a statewide network of experienced individuals whose skills and organization will contribute to the completion of the Atlas from 2006-2010. For this reason, we are very excited to have you as part of our network of volunteers in Ohio Breeding Bird Atlas II.

This handbook will provide you with information on the general structure of the Ohio Breeding Bird Atlas II and specific details about how volunteers can contribute their observations of breeding birds to the Atlas. The Atlas Volunteer Handbook is a working document that will be modified as needed during the coming years, with the most recently updated version available on the atlas website: [www.ohiobirds.org/obba2/](http://www.ohiobirds.org/obba2/). For questions, contact us at:

Ohio Breeding Bird Atlas II, c/o Matthew Shumar, Ohio State University, 210 Kottman Hall, 2021 Coffey Road, Columbus, Ohio 43210, E-mail: [ohiobba2mbs@gmail.com](mailto:ohiobba2mbs@gmail.com), Phone: 614-247-6458

## **ATLAS GOALS**

Ohio contains an impressive amount of avian diversity. Like Ohio's first atlas of breeding birds, the primary goal of the second atlas is to document Ohio's avian diversity and its spatial distribution within the state. With the help of Ohio's birding community over the next five years (2006-2010), the Ohio Breeding Bird Atlas II will:

- Document the current distribution of breeding birds in Ohio by surveying all blocks in the state.
- Assess changes in the distributions of Ohio's breeding birds over the last 20 years.
- Provide new measures of abundance of breeding birds throughout Ohio.
- Identify specific important areas that support high diversity or species of concern.
- Collect statewide information on the distribution of species that are difficult to survey, such as owls, nightjars, and wetland species.
- Generate new information on the status of Ohio's rare, threatened, and endangered birds.

## ATLAS BASICS FOR OHIO'S SECOND ATLAS

In simple terms, atlasing involves bird watching and keeping records within a predefined area (atlas block). This is similar to birding during a Christmas Bird Count, but differs in that during a breeding bird atlas, birders attempt to observe and interpret bird behaviors that indicate whether or not a species is breeding within the block.

Similar to other atlas efforts, breeding behavior in Ohio's second Atlas will be classified into one of four categories (*observed, possible, probable, or confirmed*). A bird observed once during "safe dates" (a period of the breeding season that excludes non-breeding migrants or dispersing individuals; see Appendix B) but within seemingly inappropriate breeding habitat, is placed in the "observed" category. In contrast, a bird observed once within appropriate habitat and during the species' safe dates is considered a "possible" breeder. Observations that provide some indication of breeding (e.g., a male and female seen together, a bird observed in a territorial dispute with another bird) will constitute "probable" breeding. And finally, direct observation of behaviors associated with active nesting in an Atlas block represents "confirmed" breeding (e.g., observations of active nests, adults carrying food for young, or fledglings). *See page 9 for detailed information on breeding codes.*

As blocks are surveyed, species lists will be a mixture of species with observed, possible, probable, and confirmed breeding status. Atlas volunteers typically work to increase breeding evidence for species that occur within their block. In Ohio's 2nd Atlas, the majority of effort dedicated to upgrading breeding species from possible to probable, or probable to confirmed, will be directed at species of conservation interest or concern in the state; such species are designated with a conservation status category of a "2" or "3". Note that less of your effort should be directed towards obtaining breeding evidence for species with a conservation status category of "1" as the large majority of such species will be well-surveyed during the atlas.

By surveying an Atlas block several times during the nesting season and by intentionally including a variety of habitats represented in blocks, volunteers should be able to achieve "complete" coverage for their blocks (a minimum of 25 total field hours and 75% of an expected species total in non-priority blocks and 90% of an expected species total in priority blocks; *see Block Survey Coverage, page 7*). Species that are uncommon or difficult to detect in some way, will make up the majority of "missed" species in a given block, and some of these will receive special surveying efforts in order to increase detections. In 2007-2010, we will conduct special surveys in Atlas Priority Blocks (blocks surveyed during the first Ohio Breeding Bird Atlas). Special surveys will include tape playback surveys for both nocturnal species and wetland species across the state. These surveys will be unparalleled in Ohio in terms of the information that will be generated on species that are less well known and generally more difficult to survey.

Atlas volunteers will collect data that will greatly improve our understanding of the distribution and abundance of birds within Ohio. Like other state atlases done in the 1980s and 1990s, the first Ohio Breeding Bird Atlas mapped bird occurrences at a rather coarse scale (one out of every 6 blocks were surveyed). In contrast, in Ohio's 2nd Atlas, atlasers will survey all blocks and will have the capability of pinpointing observations of individual

birds using a map locator tool when they enter observations on the Atlas website (field data from GPS units may also be incorporated). Also different from the first Atlas, volunteers during the second Atlas will have the option to record multiple occurrences of any species within their block instead of just the single record that constitutes the highest level of breeding confirmation for a species. In addition, during 2007-2010, surveys designed to collect information on the abundance of species will be conducted by hired research assistants throughout the state; these surveys are a new component of the second Ohio Breeding Bird Atlas.

## STUDY AREA AND ATLAS BLOCKS

Unlike the first Ohio Breeding Bird Atlas which was organized by county, Ohio's second atlas will be organized according to the pages in the DeLorme *Ohio Atlas & Gazetteer*. Each of the 64 DeLorme pages within Ohio (Figure 1) is composed of 12 complete 7.5-minute USGS topographic maps and 4 USGS topographic map halves. This translates into 84 complete atlas blocks per DeLorme page. DeLorme pages will be grouped into Atlas Regions with a Regional Coordinator(s) designated for each Region. Regional Coordinators (RCs) will oversee activities for between 1-4 pages in the DeLorme *Ohio Atlas and Gazetteer* (See Appendix A for contact information). In most cases, RCs have been assigned 1-2 pages.

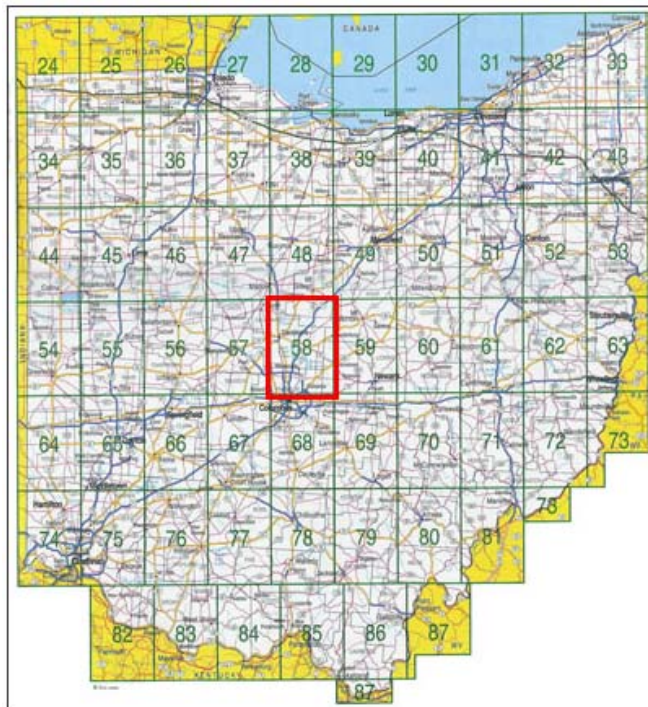


Figure 1. Map showing 64 Ohio Regions based on the DeLorme Gazetteer with Region 58 highlighted. Reproduced from Ohio Atlas & Gazetteer™ with permission of publisher. © Copyright DeLorme.

Similar to the first atlas, the survey unit of Ohio's 2<sup>nd</sup> Atlas project will be the "atlas block". USGS topographic maps will be used to define block boundaries by dividing each topographic map into 6 atlas blocks of equal area (ca. 10 square-miles) (Figure 2). Ohio's land area encompasses 806 USGS topographic maps or approximately 4,522 Atlas blocks. With the exception of a few blocks containing only small fractions of Ohio land area, nearly all atlas blocks (total = 4,434) will be surveyed during the Ohio Breeding Bird Atlas II.

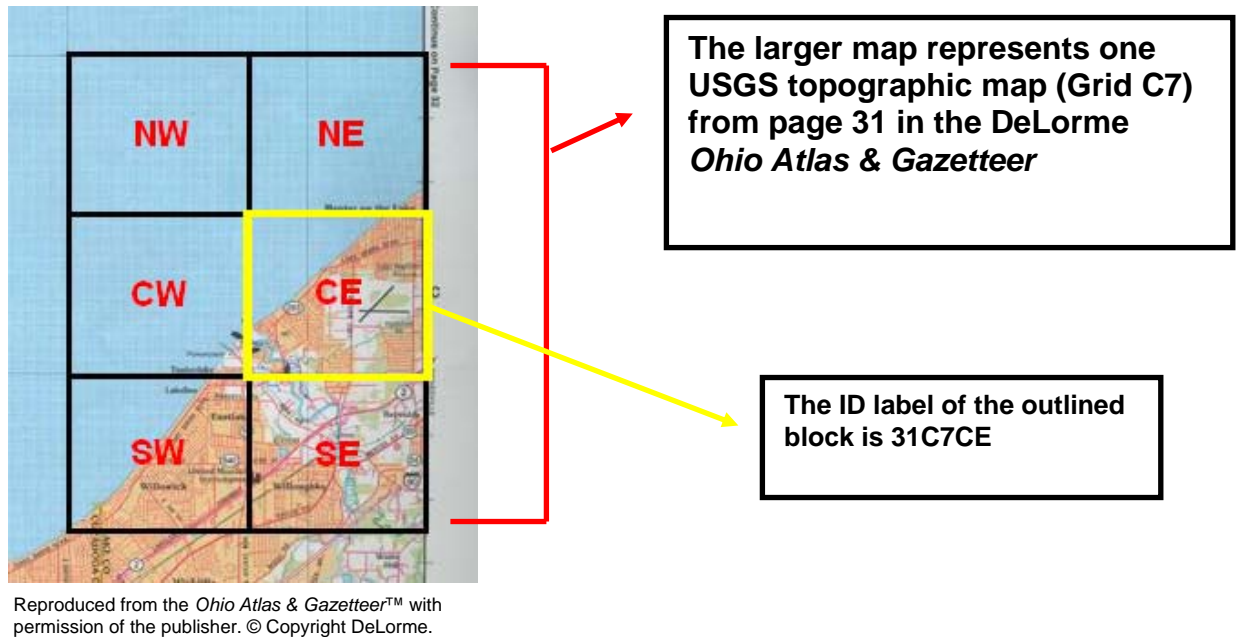


Figure 2. Excerpt from the DeLorme *Ohio Atlas & Gazetteer* showing block boundary delineations for the six atlas blocks that make up a USGS topographic quadrangle map.

## Block ID Labels and Choosing Atlas Blocks

Each block possesses a unique ID label, based on its position within each DeLorme page (Figure 1). The easiest way to figure out the specific ID label of the block that you are interested in surveying is to use the block finder tool on our website:

<http://www.ohiobirds.org/obba2/blockmap/statemap.php>

Click on the DeLorme gazetteer page that contains the area of interest. A larger map will appear with a block grid for that page. Clicking on a particular block of interest will open a larger map of that block with its associated block ID label. You can increase road or map detail by zooming in with the navigation tool bar.

If you do not have internet access, you can use the DeLorme *Ohio Atlas & Gazetteer* to get an approximate location for the block boundaries. Simply locate your survey area of interest and use the DeLorme page grid in the margins (e.g., A7, B1, C2, etc.) to determine which grid cell contains this area. Each DeLorme grid cell represents one USGS

topographic map (Figure 1) and each cell corner is marked with a small crosshair symbol (these symbols are often hard to locate but by looking at page 31 you can easily see the symbols positioned over Lake Erie). Take a pencil and lightly outline the grid cell of interest. Use a ruler to divide the resulting rectangle once vertically and twice horizontally to create the 6 Atlas blocks. Each block is labeled according to its position within each DeLorme grid cell.

Once you determine the ID labels of the blocks you want to survey, log onto the Ohio Breeding Bird Atlas II website and fill out the block registration form. If you do not have internet access, please mail or phone your request for blocks to your Regional Coordinator (see Appendix A for a listing of Coordinators). Ultimately, atlas participants will be able to register for blocks on the internet through the atlas application that is currently being developed by the Cornell Lab of Ornithology (review the “Cornell Atlas Application” section on our website for details on this versatile tool). This application will be available in summer 2006 and will allow the user to view the ownership status of each block.

**Unfortunately, we do not currently have the ability to display which blocks are unavailable for registration.** If you wish to register for a block in a more populated area, it is recommended that you contact the Project Coordinator or appropriate Regional Coordinator to check for block availability.

## Owning Atlas Blocks

By signing up to “own” an atlas block, you are committing your time as an Atlas volunteer to survey your block during the 2<sup>nd</sup> Ohio Breeding Bird Atlas (2006-2010). Responsibilities of a block owner include...

1. Adequately surveying your block for all breeding bird species
2. Confirming the breeding status of as many species as possible
3. Regularly submitting data from your block
4. Providing additional details such as written documentation (or photos, sketches) for observations of rare, threatened, or endangered species

***Please note that you do not need to own a block to submit observations for that block.***

That is, you or anyone else may submit observations for any block in the state (whether it is owned or unowned). Such observations will be subject to review by your RC and Project Administration in the Atlas office.

*We suggest that volunteers consider surveying multiple blocks during the five-year Atlas period. A few especially motivated individuals will survey twenty or more blocks during the Atlas, although we understand that most volunteers will not be able to contribute in this way. There are a variety of alternatives, but we suggest that most volunteers sign-up for 1 to 3 blocks and work on these simultaneously. We suggest that volunteers “complete” these within 2 years before working on another group of blocks. We believe this is a more efficient strategy than working on 1 or 2 blocks over a five year period. Please contact us or your Regional Coordinator for suggestions about how to allocate your field effort.*

## **Block Survey Coverage**

Survey coverage for each block will require a minimum total of *25 hours of field observation*. These 25 hours may be spread over five years or completed in a single year (we suggest trying to complete blocks in 1-2 years; please see previous section). An additional survey coverage goal is the documentation of approximately 90% of an expected species total in blocks that were designated as priority blocks for the 1<sup>st</sup> Ohio Breeding Bird Atlas. For non-priority blocks, the species goal will be 75% of the expected species total. Please see our website for a list of expected species totals for each atlas block.

Once a block owner has achieved these minimum survey coverage goals for their block, the Regional Coordinator should designate the block as “complete.” At such time, it is believed that field effort is better spent elsewhere. Attempting to document every possible breeding species in a block will rarely be possible and is not an efficient use of time. However, the block owner or any other atlas volunteer will still be able to provide additional records in blocks that are considered “complete”. Returning to blocks to “clean up” certain missing species lists for each block is encouraged for species of higher conservation status (codes “2” and “3”).

## **Atlasing Protocol**

*The following steps represent a suggested strategy for atlasing each block. Please keep in mind that surveying blocks for the Ohio Breeding Bird Atlas II does not involve a rigid survey protocol and that other approaches may be used.*

### **1. OBTAINING BLOCK MAPS**

Printable maps of each atlas block are available in a variety of formats. By summer 2006, topographic maps and aerial photo maps of each block will be provided through the online Cornell Atlas application. These maps will provide detailed information about the landscape and road networks within each block, and will be especially useful by indicating local elevations and the locations of “green spaces” and various wetlands. These maps will be available on the website, but in the event that the internet is not available to a volunteer, printed maps will be made available upon request either through Regional Coordinators or the Atlas office in Columbus.

In addition to the maps that will be provided by Cornell, an interactive block finder tool allows you to view detailed block maps. The “Map” function allows the user to view a detailed road network. The navigation tool bar allows the user to zoom in to reveal specific road names and to pan around the block map. The “Satellite” function allows the user to view satellite imagery of each block, which is especially useful for locating “green spaces.” The “Hybrid” function is simply a combination of road map and satellite imagery.

It is also possible to print these maps. Using the block finder tool, select the block of interest. Click on the “Larger Map” link. Sometimes, the entire block map may not appear on your computer monitor all at once. However, you should be able to adjust the resolution of your computer monitor through your computer’s “control panel” so that the entire block fits on the screen (this may not be possible with older monitor models). Next, hit the “Print Screen” key on your keyboard. This key copies the image that is currently displayed on your computer monitor. Open up a Word or Paint document and paste the contents that you copied by hitting the “Print Screen” key. You might want to also adjust the page setup of your document so that it is displayed in landscape format. This orientation will facilitate easier printing of your block map. If you experience difficulties in printing block maps, contact the Project Coordinator for assistance (614-247-6458).

## **2. REVIEW BLOCK MAPS AND EXPLORE YOUR BLOCK**

Now that you have obtained detailed maps of your atlas block, you will want to familiarize yourself with the block so you can make efficient use of your survey time. Start by reviewing your block maps and noting important regions that might contain potential breeding bird habitat. Next, review the road network in your block while noting which roads transect habitat or provide access points to areas with potential bird habitat.

When you begin surveying your block, you should make sure that your observations are credited to the appropriate block. Pay particular attention to where the block boundary is depicted in relationship to landmarks such as roads, intersections, rivers/streams, or towns. If you have access to a GPS unit, you might want to use GPS coordinates to ground-truth the exact location of block boundaries.

Once you have familiarized yourself with your block map, you might want to explore your block by driving the roads and locating areas that contain good habitat. This will allow you to investigate the road networks and see if they match up with the roads depicted on your map. No map is perfect and certain roads might be labeled or positioned differently than the actual roads on-the-ground. Fall or early spring would be great times of the year to get out and explore your block. This might also be a good time to identify private landowners and secure permission to atlas on their properties (see “Birding Ethics” on page 21 for more information).

## **3. REVIEW EXPECTED SPECIES TOTAL & SPECIES LIST**

Species totals have been provided for each priority block and can be found on our website. This number should in most cases be a reasonable reflection of the species that you are likely to encounter in the second atlas. It is important to remember that for both priority and non-priority blocks expected species totals are simply guidelines; for a wide variety of reasons, you may observe more or fewer species than the expected species total that we have provided. As part of survey coverage goals in the atlas, each volunteer should try to record 90% of the expected species total in priority blocks and 75% of the expected total for non-priority blocks. Regional Coordinators can help with questions relating to expected species totals and how this relates to block coverage.

Each block is accompanied by a list of species generated from data collected within the priority block during the first Ohio Breeding Bird Atlas. This list will be made available on the Atlas website in April 2006. These lists will be useful when you attempt to figure out which species could occur in your block (if you don't already know!), but as with expected species totals, these species lists should be used with caution. Species lists may aid you in the development of your atlas strategy. For example, you may initially fail to record a Virginia Rail that was recorded by a different volunteer during the first atlas. This could be the result of habitat alteration over the last 20+ years, but it is possible that you were simply unaware of the presence of an emergent marsh within your block. Upon realizing this, you look harder and do find an emergent marsh within your block – after getting permission from the landowner, you turn up several new species that you did not previously record.

#### **4. REVIEW BIRD IDENTIFICATION & VOCALIZATIONS**

During summer months, dense foliage often makes it hard to see birds. Fortunately, most birds are highly territorial and vocal during the breeding season. Therefore, much of your atlas may involve identifying bird vocalizations. Since you have access to lists of species recorded in nearby priority blocks during the first atlas, you can study your field guides and review field marks of the species on your list.

It will also be a good idea to review song identification issues associated with certain species (e.g., the Scarlet Tanager/Summer Tanager/Rose-breasted Grosbeak/American Robin group).

There are many resources available to help you resolve many of these identification issues. Fortunately, ODNR-Division of Wildlife has produced two CDs with bird vocalizations of over 250 of Ohio's most common breeding bird species. These fantastic resources are available free of charge upon request! Please contact us to learn how to obtain a copy.

#### **5. REVIEW BREEDING EVIDENCE CODES**

The list of breeding evidence codes is an integral component of the Ohio Breeding Bird Atlas II. This list of codes will allow you to classify all of the breeding bird observations that you record in each block. Each breeding evidence code belongs to 1 of 4 confirmation levels (observed, possible, probable, or confirmed). One of the goals of a breeding bird atlas is to document probable or confirmed observations in each block for as many species as possible. Please review the breeding evidence codes and become familiar with their specific definitions. The following list will provide more detailed explanations of each breeding evidence code.

Three breeding evidence codes (X, OS, & PO) involve safe dates (please see Appendix B). A large proportion of Ohio's breeding birds are migratory species and the timing of their migrations through Ohio often overlaps with the breeding season for individuals of the same species that breed in the state. This presents a problem for observations for which you are unable to record direct evidence of breeding such as a nest found or adult carrying food. Safe dates are designed to help exclude observations of non-breeding individuals during pre- or post-breeding movements through Ohio.

## **OBSERVED**

### **X – Species heard or seen within safe dates, but not in suitable breeding habitat**

This code applies to all observations of species that fall within the breeding safe dates, but for some reason or another, the bird is not observed in suitable habitat. Please consult Appendix B for a list of all breeding species and associated safe dates; a list of breeding habitats will be available on the website in April 2006.

Example: A King Rail observed skulking in a small fallow field on May 27<sup>th</sup> in northwestern Ohio (the safe dates for this species are 5/20 to 7/31).

## **POSSIBLE**

### **OS – Species heard or seen within safe dates, and in suitable breeding habitat**

This code differs from Code ‘X’ in that the species was observed in suitable habitat. This code will often be used during one day atlasing excursions into your block when you simply take an inventory of all species present in suitable habitat.

Example: You decide to take an early morning drive on a road within your block that bisects part of the Wayne National Forest. During your excursion, you record singing Red-eyed Vireo, Wood Thrush, Scarlet Tanager, and Cerulean Warbler in mature forest interior areas, within the safe dates window.

## **PROBABLE**

### **PO – Pair (male and female) of a species interacting non-aggressively and in close proximity to one another, within safe dates, and in suitable breeding habitat**

Apply this code to observations of a species pair that appear to be a mated pair. It is important to note that the birds are interacting with each other *non-aggressively*. This can be a bit tricky for monomorphic species (males and females are similar in plumage), but behavior can provide clues. Typically, one male will not tolerate another male in close proximity during the breeding season, but may spend time foraging or resting near their mate.

Example: You observed a pair of Swamp Sparrows within the safe dates window that foraged quietly within a few feet of each other at the edge of a cattail marsh.

### **T1 - Territorial behavior, including counter-singing, territorial singing (repeatedly singing from same locations within an area), drumming in woodpeckers, or aggressive interactions between same-sex individuals of the same species**

Example: You hear a Wood Thrush repeatedly singing in response to another Wood Thrush singing 200 yards away.

Example: You watch a male Chestnut-sided Warbler repeatedly singing from a regular series of perches within a shrubland.

Example: You observe a male Northern Cardinal chasing another male through its territory.

**T7 – Singing male present at the same location 7 or more days apart**

If you observe a male of a species singing in the same area of breeding habitat one day and the bird is still singing at the same location after you return a week later, it is likely that the individual has a territory.

Example: You record a Yellow-throated Warbler singing from a sycamore tree along the Scioto River on June 5<sup>th</sup>. When you return to the same location on June 14<sup>th</sup>, a Yellow-throated Warbler is singing from the same tree.

**AB – Agitated behavior and/or anxiety calls from an adult, suggesting presence of nearby nest or young (Note: does not include response as a result of "pishing", tape playback, or presence of predator)**

Example: You are walking along a forest edge and you suddenly flush an Indigo Bunting that begins to call loudly. It nervously flies from shrub to shrub, while constantly looking at you and acting very concerned by your presence.

**CC – Courtship behavior (aerial displays, courtship feeding) or copulation**

Example: You observe a male Ruby-throated Hummingbird fly in an aerial display pattern in front of a female.

Example: You note a male Red-shouldered Hawk mounting a female at the top of a utility pole.

**VS – Repeatedly visiting probable nest site or nest building by wrens, woodpeckers, kingfisher, chickadees, and titmouse (such species build "dummy" nests or cavities for roosting)**

Example: You notice that a Louisiana Waterthrush frequently visits a single location just below a log on the inaccessible side of a swift moving stream, but you do not see it deliver food or nest material to the nest.

Example: While visiting your local metropark, you notice that a Pileated Woodpecker is working over a large entrance hole in a tree and periodically entering the cavity.

Example: You notice that a variety of cavities on your property are being used by a pair of House Wrens. Since wrens frequently build "dummy" nests, you are unable to determine which cavity has the actual nest.

## **CONFIRMED**

**UN – Used nest; includes inactive nests, but only those built during atlas period (Note: use this code infrequently and with much caution; only species with distinctive nests or eggs may receive this code)**

Great care must be exercised when using this code to accurately identify the builder of a used nest since many nests look very similar to one another. Also, abandoned nests of raptors can be several years old, but seem relatively new. The nest must have been built during the atlas period (2006-2010).

Example: During July 2007, you find the distinctive, sock-like nest of a Baltimore Oriole hanging from the end of a tree branch at the back of your property. The nest is intact and you believe it was very likely built in 2007, but perhaps from 2006.

**CM – Adult carrying nest material, but nest site not observed (Note: use “probable” code ‘VS’ for species that build “dummy” nests such as wrens)**

Birds carrying nesting material are often very conspicuous. Use this code if you are unable to follow a bird with nesting material to the actual nest site.

Example: You observe Cliff Swallows collecting mud at the edge of a small puddle, but never locate a nesting location.

**NB – Nest building observed at nest site (Note: for nest building by wrens, woodpeckers, kingfisher, chickadees, and titmouse that build “dummy” nests or cavities for roosting use “probable” code ‘VS’)**

**DD – Distraction display (especially injury feigning, such as broken wing display) or attacking/dive-bombing humans in defense of unobserved nest or young**

An adult bird that is pretending to be injured almost certainly has young or a nest in the very near vicinity.

Example: while walking at the edge of pasture, you observe an adult Killdeer running around on the ground with one wing extended and its tail fanned while vocalizing heavily.

**PE – Gravid condition (egg observed in oviduct) or highly vascularized, fluid-filled (edematous) brood patch (Note: code only applies to birds observed in the hand and is reserved for experienced bird banders only)**

This code only applies to gravid females or females with well-developed, active brood patches. It should not be applied to cloacal protuberances of males or other physiological evidence.

**CF – Adult carrying food for young or fecal sac**

Frequently when adult birds have nestlings or fledglings you will observe them fly by with food in their bills or foraging while carrying other food items. Adults of many songbirds will remove fecal sacs from nests; nestlings produce feces in these sacs making it easier to keep nests more sanitary. Adults pick up the fecal sacs from nests and typically fly some distance from the nest before depositing the white or pale sacs elsewhere.

**ON – Occupied nest, but contents not observed; adults entering and remaining for a period of time, then leaving or exchanging duties (Note: code mostly for cavity nesting species, but also nests where contents and bird behavior are difficult to observe)**

If you happen to find a bird's nest during your atlasing, it is best to disturb it as little as possible. In many cases, nests will be placed in inaccessible locations and it would be a waste of time (or possibly dangerous!) to try and obtain views of the nest's contents. The presence of adults sitting on the nest (incubating eggs or keeping small young warm) is enough to confirm breeding for that species.

Since many cavity-nesting species roost in excavated cavities, some cavities may not contain nests. However, by observing an adult enter a cavity during the day and then exit after an extended period of time, it can be assumed that the bird is incubating eggs. The presence of a nest is further supported if one adult is observed exiting the cavity while the other enters the cavity soon after. However, if you do not have the time to wait for a bird to exit the cavity, record the location of the cavity tree on your block map or with a GPS unit. If a nest with young is present, you might be able to observe an adult carrying food (or loud woodpecker young in the cavity!).

**NE – Nest with eggs or identifiable eggshells found in or below a nest (Note: if a cowbird egg is present, use code 'NE' for both host species and cowbird)**

During your atlasing activities, you may have the opportunity to quickly and carefully inspect some nests. If eggs are present, check to see if there are any cowbird eggs. If so, use code "NE" for both the Brown-headed Cowbird and the host species. *Try to familiarize yourself with what a cowbird egg looks like and how large they are.* Visit [www.sialis.org/cowbirds.htm](http://www.sialis.org/cowbirds.htm) for an informative discussion with illustrations about cowbird parasitism.

Example: you come across a cluster of large eggshells on the forest floor while trying to track down a bird at the top of the next ridge. The eggshells are obviously Wild Turkey eggshells.

**NY – Nest with young (nestlings observed or heard) or identifiable dead nestlings (Note: if a cowbird nestling is present, use code 'NY' for both host species and cowbird)**

Again, take caution to disturb an active nest as little as possible. Quickly examine the nestlings in a discovered nest and look for cowbird nestlings. Cowbird nestlings are often noticeably larger than the host species nestlings. Take some time to familiarize yourself with what a Brown-headed Cowbird nestling looks like.

**FY – Recently fledged young that are incapable of sustained flight; examples include downy, precocial young of American Woodcock, or stub-tailed, altricial young of Northern Cardinal (Note 1: if a cowbird fledgling is also involved, use code ‘FY’ for both host species and cowbird; Note 2: also use code ‘FY’ if dead fledglings are found)**

When observing fledged birds, it might be difficult to identify certain individuals to species. Since fledgling birds are frequently tended and fed by their parents, it might be useful to simply wait until an adult shows up to tend to them.

## **6. WHEN TO SURVEY YOUR BLOCK**

### **Time of Year**

Since the Ohio Breeding Bird Atlas II seeks to document the distribution of Ohio’s breeding birds, the majority of atlas survey work will take place from March through August. There is not an official atlas field season because not all of Ohio’s birds breed during the same time each year. Most Ohio birds breed from late-spring through the summer, but there are several species (e.g., several owls, raptors, and woodpeckers) that begin breeding earlier in the year. As a general rule, however, most atlasing activities will take place from late-May through July.

The *Ohio Breeding Bird Atlas* (Peterjohn and Rice 1991) and *The Birds of Ohio* (Peterjohn 2001) are great reference tools that can be used to determine the time of year that certain species are occupied with breeding activities. The species accounts from Ohio’s first atlas are also available online at [www.ohiobirds.org/obba2/pdfs/pdfselect.php](http://www.ohiobirds.org/obba2/pdfs/pdfselect.php).

Species safe dates are another source of information for determining the general time of year to watch for breeding activities of Ohio’s birds. By definition, safe dates **do not** define a species’ breeding season (please review Appendix B). Regardless, safe dates will be somewhat helpful for indicating the general time of year that certain species are breeding, especially for species that are year-round residents.

### **Time of Day**

As birders generally know, birds are most active during the morning hours. This is especially true during the summer months as birding activity significantly decreases with the increasing afternoon heat. We certainly do not discourage you from birding parts of your block during mid-day and in the afternoon, but a majority of your atlasing effort should be concentrated in the morning hours (including time before sunrise if possible). Some time should also be devoted to birding atlas blocks just after dusk, into the early evening, and at dawn in order to document nocturnal species that might otherwise be missed during the day. If you are unable to survey blocks during the evening hours or if you would like some help in doing so, please contact your Regional Coordinator (Appendix A). They will be able to put you in contact with a volunteer who will be able to assist you or document nocturnal species for your block(s).

## **7. RECORDING YOUR OBSERVATIONS**

There are multiple approaches that one can take when recording atlas observations in each block. However, organization and accuracy are key aspects of surveying and successfully completing an atlas block. Two types of field cards for the Ohio Breeding Bird Atlas II will be made available to every atlas volunteer.

The first card is the *Field Checklist* of all Ohio breeding species with a listing of safe dates and conservation status categories (see **Appendix F**). You should have one Field Checklist for each block that you survey. Next to the columns for species and safe dates, there will be 4 blank columns for you to fill-in. The first column is for the date of your observation. The next three columns represent the Observed/Possible, Probable, and Confirmed breeding evidence confirmation levels. Record the highest breeding evidence code observed for each species in the appropriate confirmation level column (the date recorded should be the date on which the highest breeding code was observed). Since any atlas project seeks to confirm as many species as possible for each block, you will want to update your card at the time new confirmed observations are made. For example, you observe a male Hooded Warbler singing on territory in your favorite state park (enter code 'OS'). Ten days later, you hear a Hooded Warbler singing at the very same site (you should upgrade the confirmation level for Hooded Warbler to Probable by entering code 'T7'). You happened to be back at this same location the next day, and you observed the male Hooded Warbler interacting with a female which eventually flew to a nest containing 3 eggs (you should upgrade the confirmation level for Hooded Warbler to Confirmed by entering code 'NE'). **Note: your checklist will accumulate a great deal of valuable information on breeding birds in your block. Be sure to keep a photocopy of the checklist at home when you have the checklist in the field (or vice versa). Losing your checklist and all the data it contains is something to avoid at all costs!! Similarly, field data should be entered on the website (available summer 2006) soon after you collect it to provide an added measure of data "safety".**

The other card, or *Observation Field Card*, will allow greater flexibility when recording observations, and importantly, *will provide atlas data that are more detailed and useful* (see **Appendix D**). Depending on the avian diversity of your block, you might need a new Observation Field Card every 1-3 times you atlas a block. This is essentially a blank field card in a table format with columns for species, date, and breeding evidence code. There is ample room to record additional information for each observation, such as precise geographic coordinates or directions to the observation location. If you are interested in recording *multiple breeding observations* (as opposed to keeping track of the highest breeding evidence code for each species) then you should use this card. Please note that we encourage you to keep track of multiple breeding observations for species, especially those with conservation status codes "1<sup>R</sup>", "2", and "3". Eventually, this card can be used with an insert card that lists all species and their 4-letter species code abbreviations. Becoming familiar with these codes will help you to quickly record observations.

**Please Note:** Both field cards have a section for you to record how much effort you put into surveying your block. For a variety of reasons, this information is important to the Atlas. First, it will allow you and your Regional Coordinator to better determine when blocks meet the 25-hour minimum survey coverage goal. Second, it will allow us to keep

better track of the enormous in-kind contributions from volunteers (field time, non-field time, and vehicle mileage). It will also be important for your own purposes in that you will have a tally of automobile mileage expenses that are tax deductible.

Using data collected on your field cards, you will be able to submit the data through the Ohio Breeding Bird Atlas II website, either soon after the data are collected (most preferred), at the end of the field season (also fine), or when the block is complete (least preferred, but ok if block is completed with one year). This online data entry system, being developed by the Cornell Lab of Ornithology, will allow for quick and easy data entry. This system will be available summer 2006. **An additional website tutorial will be available once the application is complete.** If you do not have internet access, you can submit the forms to your regional coordinator or mail them to the project coordinator.

## **8. CONSERVATION STATUS CATEGORIES AND ADDITIONAL OBSERVATION DETAILS**

Many breeding bird species in Ohio are endangered, threatened or of special conservation interest. We have placed Ohio breeding bird species in one of four conservation status categories. Please note that we are requesting different information on species based on their assigned conservation category. The official Ohio Species List is available on our website under “Atlas Materials”, as is the Field Checklist which also has this information. The conservation status categories are:

**1 - Species is widespread or regionally common. No special efforts to confirm breeding are required (a “possible” or “probable” record for your atlas block is sufficient).**

**1<sup>R</sup> - Species is regionally rare or very uncommon (see Regional Species List). Special efforts to confirm breeding status are encouraged, as is collection of multiple records within each block. Please record accurate locations\* (latitude/longitude) within blocks.**

**2 - Species of conservation interest (mostly Ohio Species of Concern and Special Interest). Special efforts to confirm breeding status are encouraged, as is collection of multiple records within each block. Please record accurate locations\* (latitude/longitude) within blocks.**

**3 - Species of statewide rarity or with official statewide Endangered or Threatened status. Record requires submission of official verification form and accurate locations\* (latitude/longitude) within blocks. Special efforts to confirm breeding status are strongly encouraged, as is collection of multiple records within each block. Observer should provide details of sighting(s) to the respective Regional Coordinator.**

### **\* Providing Accurate Locations for Observations**

Please take special care to provide accurate locations (latitude/longitude) for observations that fall into categories 1<sup>R</sup>, 2, and 3. Geographic coordinates should be submitted in decimal degree format (e.g., 39.1667° N, 82.5833°

W). There are a variety of ways to figure out specific geographic coordinates for these observations.

1) GPS – if you have a GPS unit, simply “mark” the location of your observation and submit the coordinates that appear on your unit’s display. Please submit latitude and longitude coordinates using map datum **NAD 83**. Remember to **set your GPS unit to record coordinates in decimal degree format**. If your GPS unit was not set to record coordinates in decimal degrees, convert your current reading to the correct degree format by visiting [www.cosports.com/tools/gps\\_coords.htm](http://www.cosports.com/tools/gps_coords.htm).

2) Mark Locations on Block Maps – it will be very useful to bring printed block maps into the field while atlasing. Carefully mark certain observations on your hardcopy maps and determine the specific geographic coordinates at a later time by using a DeLorme *Ohio Atlas & Gazetteer* or other map that displays latitude and longitude coordinates. The latest editions of the DeLorme Gazetteer have labeled GPS grid lines printed on each page that you can use to provide general coordinates for your observation.

3) Google Earth – this program is free to download (<http://earth.google.com/>) and is a lot of fun to use! Use Google Earth to locate the area where you made your observation and place the cursor over the location. The program automatically displays the geographic coordinates of the cursor position.

It is important that you submit accurate (geo-referenced) locations to your Regional Coordinators or to the Project Coordinator. Starting summer 2006, you will be able to geo-reference locations of significant observations directly through the Cornell atlasing application. When submitting category 1<sup>R</sup>, 2, or 3 observations, you will be prompted to provide a geo-referenced location. You will have the option to enter precise GPS coordinates or to mark the observation on an online version of an aerial photo map of the block. Marking observations on a hardcopy map while in the field will make it much easier to mark the locations on the online block map.

### **Observation Documentation Forms**

We highly recommend that these forms be completed for observations of Category 3 species (**Appendix G**). It is very important that rare, threatened, and endangered breeding birds in the state get proper documentation, since one of the goals of the Ohio Breeding Bird Atlas II is to accurately depict the distributions of these species in Ohio. Observations of rare breeding species in the state need to be systematically reviewed to ensure the accuracy of the data collected during the atlas. In addition to the documentation form, other documentation, such as sketches, photographs, or recordings, can accompany written documentation supporting the record.

## 9. A SIMPLIFIED APPROACH TO ATLASING A BLOCK

When the time comes to document breeding bird observations, you will want to be as organized as possible to make the most of the valuable time you invest in this project. The following approach is a suggested strategy for utilizing your effort once you have become familiar with the field methods, the layout of your block, and all of the potential breeding species.

- ▶ Spend a few hours in early spring (March and April) to look for breeding raptors or to investigate potential raptor nests that you “staked-out” in the previous months in order to determine if they are active. Listen for other early breeding species.
- ▶ Spend the majority of your field time (80%) atlasing during June and July. Be sure to go to the field on multiple days during the period, trying not to limit your outings to a small number of very long days; this will increase the chances that you will miss certain species.
- ▶ Concentrate the majority of your effort during the morning hours (6am to 12pm).
- ▶ Conduct a rapid assessment of your block in early June (during 1 or 2 separate trips) to compile an inventory of the breeding species that you see and hear in all representative habitats. The best way to do this is by driving roads and frequently stopping to listen and look for all breeding species, or by walking trails and roads in natural areas. The majority of these observations will likely fall into the “Possible” category.
- ▶ If you happen to observe category 1<sup>R</sup>, category 2, or category 3 species, take detailed notes of the location for each observation. If you are unable to pursue these observations at that time, begin planning future trips to return to these locations to increase the confirmation level for these species. **Please Remember:** We are interested in recording multiple observations and locations in each block for category 1<sup>R</sup>, category 2, and category 3 species.
- ▶ Make special efforts to investigate appropriate habitat types (woodlands, wetlands) at dawn or dusk and during the evening hours. Listen for nocturnal and crepuscular (active at dusk and dawn) species, such as owls, nightjars, American Woodcock, rails, and other wetland species.
- ▶ Make special efforts to look for species that are not always detected by conducting a relatively quick inventory of your block’s species. Many species, such as raptors, many wetland birds, and swallows, may not be easily detected by making frequent “listening” stops along a route through your block. In addition, some species decrease their singing frequency prior to the time when most atlasers will be in the field (June and July). Some of these species include chickadees, nuthatches, and Blue-headed Vireo.
- ▶ Compare your current species tally with the expected species total for your block (see atlas website for listing). As your species list grows, it will become increasingly difficult to add new species to the list. Take the opportunity to review the list of species that was recorded during the first atlas (available through the Cornell application on our website).

You might notice some species or species groups (i.e., rails, woodpeckers, warblers) that are missing. Please tailor your efforts to increase your chances of recording these species.

► Monitor the amount of effort you have invested in surveying your block. If you are investing a substantial amount of survey effort in the block, but are adding few new species to your list, your block might be considered “complete”. **At this point, your additional effort will be more beneficial to the atlas if you invested it in another block that has little or no survey effort.** You should contact your Regional Coordinator or the Project Coordinator if you have questions about when your block is “complete” (if they don’t contact you first).

► Remember that you will not be prevented from re-visiting “completed” blocks. You or others may add new species to such blocks. Returning to blocks to seek out missed species is a good thing, but you should be careful not to spend a great deal of time doing so...your time is likely better spent working in a new block.

## **10. THE IMPORTANCE OF INCIDENTAL OBSERVATIONS**

Atlas volunteers will frequently bird areas that are located in blocks that they have not signed-up to “own”. It is not a problem to submit such incidental breeding records through the atlas website. In fact, we encourage volunteers to submit all incidental observations. These records could represent species or breeding confirmations that the block owner was unable to acquire. Cornell’s online atlas application will make it easy to submit these records, but hardcopy data cards for incidental observations are also acceptable. **Note:** Although we welcome all incidental records, we strongly encourage volunteers to sign-up for and survey multiple blocks, and avoid focusing their efforts on adding breeding records to unowned blocks or blocks owned by other individuals.

## ATLASING AND LAND OWNERSHIP

### Private Property

The majority of Ohio is privately owned and this presents logistical challenges when atlasing your blocks. It is very important that trespassing laws are not violated while surveying private land or restricted-access government lands. Please remember that maintaining a good reputation in the eyes of both private landowners and public officials is important to the Ohio Breeding Bird Atlas as well as Ohio birders. It is also important to inform appropriate land stewards of your interest in conducting atlas surveys on public lands; permission may be required to atlas in certain areas of public land. Permission should always be secured from landowners before entering private lands. **Appendix H** includes a copy of the “Private Landowner Permission Letter”, which will also be available as a PDF download on our website or made available upon request. This letter explains the objectives of the Ohio Breeding Bird Atlas II to the landowner and reasons why it is important that you, the atlas volunteer, look for birds on his/her property. This letter, along with a stamped post card for a convenient reply (see **Appendix I**) should be presented or mailed to landowners that you wish to contact. Sheets of these post cards will also be available as PDF downloads on our website.

In many instances, landowners will be curious about the atlas project and have no objections to your looking for birds on their property. Be sure to be courteous when explaining what you are attempting to accomplish and remember that a friendly attitude will go a long way. If someone objects to your request, do not press the issue. We cannot realistically expect to gain access to all private lands of interest in Ohio, and it will not be detrimental to the atlas if some landowners reject requests for access. If a landowner does grant you permission to enter their land, be sure to give them a schedule of when you expect to be on their property. Be sure to follow any additional instructions that landowners give you. Be respectful of their property and take great caution to not damage crops, fences, or other structures. In addition, we are providing vehicle placards that you can display in your vehicles window. Landowners might forget your schedule and may be concerned about an unmarked vehicle parked on their land. As a courtesy, you should offer landowners a list of the bird species recorded on their property or any other atlas materials of interest. In many cases, this kindness might spark in interest in birds or conservation in general. The landowners, themselves, might eventually want to contribute to the atlas. Encourage them to contact you if they observe any “unusual” species. Some incidental observations from landowners can turn out to be very interesting records.

In some cases, it might be difficult to determine who owns certain parcels of land. Inquiring door-to-door can be an effective way to determine landownership. If this approach fails to reveal a specific landowner, you may want to consult with the appropriate county auditor. Many counties in Ohio have detailed county auditor websites (for example: <http://www.medinacountyauditor.org/ohioauds.htm>) that can help you determine the contact information for the landowners you are interested in contacting.

## BIRDING ETHICS AND ATLASING

Some atlas activities might impose certain stresses on breeding birds, and all such activities should be kept to a minimum. Since one of the main goals of a breeding bird atlas is to confirm breeding, active nests or parents with fledglings will often be encountered. If a nest is found, be sure to minimize disturbance to the nest, adults, young birds, and the surrounding vegetation. In general, there is often no need for you to actually find a bird's nest. Since there is a variety of breeding evidence codes that will confirm breeding, determining the location of nests is often not necessary. If you suspect that a bird is breeding in a particular habitat patch, take some additional time to watch that bird's behavior. It might reveal the presence of a nest or young without the need to disturb the nest or vegetation concealing the nest site. For example, repeated visits by an individual bird to a particular location, such as a dense hedgerow or nest cavity, represent probable breeding (code 'VS'). Increasing the confirmation level for this species could be accomplished by simply observing the bird carrying nest material (code "CM") or carrying food (code 'CF'), both of which confirm breeding for that species without encroaching upon the nest location. Another possibility would be to note the location of the likely nest and revisit the site in a few days. Please note that you should be especially careful if the adults are very upset by your presence. Increased adult activity near a nest site may attract nest predators such as jays, crows, accipiters, and a variety of mammalian predators.

Some species are not easily detected but their presence could be elicited using a tape playback of their vocalizations. A great deal of controversy accompanies the use of tape playback to attract birds. However, if used correctly and very sparingly, it can be a useful tool for detecting elusive species in some situations. Brief (~20 second) tape playbacks to naïve individuals (those which are unlikely to ever hear another tape recording) should not have detrimental effects on an individual bird. However, it is important to note that tape playbacks should never be used in areas that are birded heavily, such as metro parks, state parks, or state nature preserves, and never for threatened or endangered species.

Ohio is home to several endangered and threatened species of birds. Special care should be taken when surveying for these species, and nests should never knowingly be approached. "Endangered Species Nesting Area" signs are posted at known nesting locations of endangered bird species. Atlasers should never enter these posted locations without first securing official permission. Nests, such as those of Bald Eagle and Osprey, should not be approached and should be viewed from at distances no closer than 1220 feet (1/4 mile). It is unlawful to engage in any activity that will result in the "take" of an endangered species, which includes harassing and pursuing. Observing endangered species at a distance can in many cases yield breeding confirmation without the direct observation of nests, eggs, or young birds. ***Tape playbacks should never be used for threatened or endangered species, unless prior permission is granted from wildlife officials.***

## FIELD SAFETY

Usually there are few hazards associated with your average day of birding but there are certain safety issues that you should be mindful of while atlasing. Your personal safety while atlasing should be your top priority.

- ▶ Be very cautious when stopping along roadsides to look and listen for birds. Use your flashers whenever you make a road-side stop and never stop along interstates, roads with heavy traffic (especially narrow roads), or in locations close to blind curves. It might also be beneficial to display the Atlas placard in your vehicle window.
- ▶ Be cautious of severe weather. Check weather forecasts before heading into the field. Be aware of areas prone to flash floods and take appropriate precautions during electrical storms and when tornado warnings have been issued.
- ▶ Bring plenty of water into the field even if the day does not seem like it will be overly hot. It is also be a good idea to bring a first aid kit.
- ▶ Ticks and mosquitoes are common in Ohio and can carry a variety of diseases. Try to limit your contact with biting and stinging insects by wearing repellent, long sleeves, and long pants.
- ▶ If you are surveying a block on your own, be sure that someone else knows where you will be that day and when you expect to return.
- ▶ Do not survey areas if you think that your safety will be compromised for any reason. If you do not feel comfortable surveying certain areas, let your regional coordinator or the project coordinator know about your concerns. They should be able to arrange to have someone else survey the area with you or take your place.
- ▶ If you have a cell phone, bring it with you in case of an emergency.

## **LIST OF APPENDICES**

**Appendix A. Contact Information for Regional Coordinators**

**Appendix B. What are Safe Dates?**

**Appendix C. Breeding Evidence Codes**

**Appendix D. Sample Observation Field Card**

**Appendix E. Official Breeding Species list (w/safe dates & conservation status codes)**

**Appendix F. Sample Field Checklist**

**Appendix G. Rare Species Documentation Form**

**Appendix H. Letter for Private Landowners**

**Appendix I. Reply Postcard to Accompany Landowner Letter**

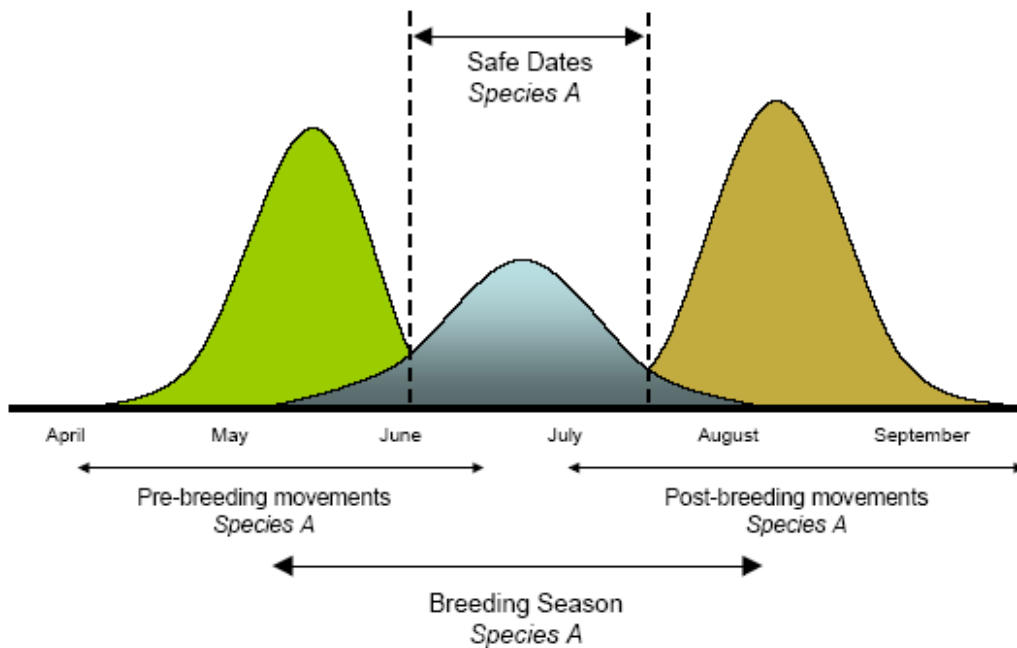
**NOTE:** New Regional Coordinators were added in 2009 and 2010. Click on 'contact' to contact RCs. You will be redirected to an email form on the data entry site.

Region	Name	Email Address		Phone #
24/25/34	Tom Kemp	andigena AT aol.com	<a href="#">contact</a>	419-877-9635
26/27/28/29	Mark Shieldcastle	mcshieldcastle AT gmail.com	<a href="#">contact</a>	419-898-4070
30/40	Terri Martincic	naturenut AT wowway.com	<a href="#">contact</a>	440-759-8220
31/32	John Pogacnik	jpogacnik AT adelphia.com	<a href="#">contact</a>	440-259-2751
33	Craig Holt	hud929godwit AT yahoo.com	<a href="#">contact</a>	330-536-8942
35/36	Paul Chad	paulchad4 AT yahoo.com	<a href="#">contact</a>	419-354-3179
37	Robert Sams	bcchcach AT yahoo.com	<a href="#">contact</a>	
38	Tom Bartlett	tomb AT tinninohio.com	<a href="#">contact</a>	419-447-0005
39	Brad Phillips	bradleyd AT accnorwalk.com	<a href="#">contact</a>	419-588-2497
41	Dwight Chasar	dwcobba2 AT yahoo.com	<a href="#">contact</a>	330-467-3664
42	Ethan Kistler	ohiobirder AT yahoo.com	<a href="#">contact</a>	330-872-3468
43	Dave & Judy Hochadel	cartharus AT ix.netcom.com	<a href="#">contact</a>	330-847-8743
44	OPEN			
45	Troy Shively	troyph AT hotmail.com	<a href="#">contact</a>	937-935-9023
46	Nick Fensler	nfpitangus AT hotmail.com	<a href="#">contact</a>	419-788-3359
47	Rick Counts	birdcounts AT bright.net	<a href="#">contact</a>	419-209-0145
48	Warren Uxley	WUXLEYJR AT columbus.rr.com	<a href="#">contact</a>	419-961-4278
49	Gary Cowell	gcowelljr AT yahoo.com	<a href="#">contact</a>	419-892-1114
50/51	Su Snyder	bird348 AT sssnet.com	<a href="#">contact</a>	330-264-1966
52	Chuck McLaugherty	mcclauca AT muc.edu	<a href="#">contact</a>	330-823-3655
53	James Dolan	dolanjs AT earthlink.net	<a href="#">contact</a>	330-831-1744
54	Regina Schieltz	reginasch AT embarqmail.com	<a href="#">contact</a>	937-548-1924
55	OPEN			
56	Lisa Koerner	koerner_lisa AT hotmail.com	<a href="#">contact</a>	540-455-3601
57	Jim McCormac	jim.mccormac AT dnr.state.oh.us	<a href="#">contact</a>	614-265-6440
58	Dan Sanders	dsanderling AT yahoo.com	<a href="#">contact</a>	614-596-5666
59	Tom Bain	bainnature AT insight.rr.com	<a href="#">contact</a>	614-312-7513
60	OPEN			
61	Hallie Mason	halliemason AT gmail.com	<a href="#">contact</a>	330-339-3217
62	Dan Kramer	Dan.Kramer AT dnr.state.oh.us	<a href="#">contact</a>	330-644-2293
63/73	Scott Albaugh	sjalbaugh AT hotmail.com	<a href="#">contact</a>	304-242-6855
64	Mike Minium	mikeminium AT aol.com	<a href="#">contact</a>	513-523-9279
65	Sue Tackett	tackettsue AT aol.com	<a href="#">contact</a>	937-439-3799
66	Doug Overacker	doveracker AT iapdatacom.net	<a href="#">contact</a>	937-324-1871
67	Bryce Adams	brycetadams AT gmail.com	<a href="#">contact</a>	740-497-8796
68	Rob Thorn	robthorn AT earthlink.net	<a href="#">contact</a>	614-471-3051
69	John Watts	Watts AT MetroParks.net	<a href="#">contact</a>	614-895-6239
70	Lynda Andrews	landrews AT fs.fed.us	<a href="#">contact</a>	740-767-2183
71	Doreene Linzell	dlinzell611 AT wowway.com	<a href="#">contact</a>	614 882-1740
72	Doug LeVasseur	emdlev AT clover.net	<a href="#">contact</a>	740-685-5220
74	Ned Keller	keller AT one.net	<a href="#">contact</a>	513-941-6497
75	Jay Stenger	jaystenger AT cinci.rr.com	<a href="#">contact</a>	513-522-8147
76	Bob Thobaben	thobaben AT erinet.com	<a href="#">contact</a>	937-382-4739
77	Bruce Lombardo	brucelombardo AT sbcgloba.net	<a href="#">contact</a>	937-365-1489
78/79	Bob Placier	placier_b AT hocking.edu	<a href="#">contact</a>	740-753-6272
73i/80/81/87	Janet Duerr and Steve Schaffer	duerr AT ohio.edu	<a href="#">contact</a>	740-597-1921
82/83	Bill Stanley	tyrannus AT fuse.net	<a href="#">contact</a>	513-724-2663
84	Pete Whan	pwhan AT tnc.org	<a href="#">contact</a>	937-544-2188
85	Brad Sparks	birdmansparks AT yahoo.com	<a href="#">contact</a>	614-751-6622
86/87i	Dave Slager	dave.slager AT gmail.com	<a href="#">contact</a>	614-291-6619

## Appendix B. What are Safe Dates?

A large proportion of Ohio's breeding birds are migratory species and the timing of their migrations through Ohio often overlaps with the breeding season for individuals of the same species that breed in the state. This presents a problem for simple observations made during the Atlas; that is, observations for which no direct evidence of breeding (nest found, adult carrying food) was recorded. For example, a simple observation of a Cedar Waxwing seen on May 20<sup>th</sup> may be a local breeding bird – or it could be a migrant on its way to more northerly breeding grounds. Safe dates are designed to help with this situation by restricting the period of a species' breeding season and attempting to exclude non-breeding individuals (migrants or dispersing individuals; see figure below). Please note the following key points regarding safe dates:

- Safe dates do not define a species' breeding season
- Safe dates only apply to records in the "Observed" (code X) and "Possible" (code OS) categories, and only one code under the "Probable" categories (code PO)
- Safe dates should be ignored for all observations with "Confirmed" breeding evidence.



**This figure shows safe dates for a hypothetical Ohio breeding bird (*Species A*). Note that safe dates do not define the full breeding season, but rather a smaller portion of season after pre-breeding movements (mostly spring migration) and post-breeding movements (fall migration and post-breeding dispersal) have been considered. Figure courtesy of the 2<sup>nd</sup> Pennsylvania Breeding Bird Atlas.**

### **An Example Using Safe Dates:**

You decide to do some late-spring atlasing at Conkle's Hollow State Nature Preserve on May 29<sup>th</sup>. While birding in a hemlock stand, you observe a silent male Magnolia Warbler within suitable breeding habitat for the species, but you note no other indications of breeding. This an exciting find and you check to see which *breeding evidence code* is most appropriate for the observation. The bird was observed in appropriate habitat, but both code X and code OS require that observation also occur within safe dates. Your field card indicates that the safe dates for the Magnolia Warbler are 6/1 to 7/31. Thus, this observation would not be considered a breeding bird for the Atlas project because some migrant Magnolia Warblers occur in late May and early June in Ohio.

Keep in mind that Atlasers should attempt to increase breeding confirmation to a higher breeding evidence code (Possible, Probable, or Confirmed). One way to increase to the "Possible" level (Code OS) would be to simply return to the site on or after 6/1 and try to relocate the bird. However, you decided to continue birding on 5/29 and managed to locate a second male Magnolia Warbler. You think there is a good chance that the bird is not just a migrant passing through the area, so you watch it for a period of time, and then a female suddenly appears. The pair appears to be mated, and you see the female fly to the ground, pick up a piece of nesting material, and in an instant the pair fly-off together. You check your list of breeding evidence codes and find that a bird carrying nest material should receive the breeding evidence code 'CM', a 'Confirmed' breeding record for the atlas (congratulations!). Although your late-May observation was outside the safe date period, note that safe dates are overridden by all breeding evidence codes in the "Confirmed" category, and all but one code under the "Probable" category (code PO).