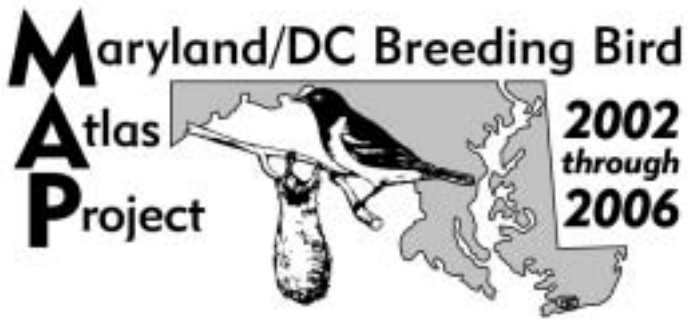


**SECOND MARYLAND / DC
BREEDING BIRD
ATLAS PROJECT
HANDBOOK**



Maryland Ornithological Society

Table of Contents

Introduction	1
History of Grid-Based Atlases	1
Purpose	2
Scope of the Project	2
Grid System	3
Blocks	3
Quarter-Blocks	3
Breeding Criteria and Codes	4
Definitions of Codes	4
Observed	4
Possible	4
Probable (always a one-letter code)	4
Confirmed (always a two-letter code)	4
Examples to Use as Guidelines	5
Procedure	6
Timing of Atlasing	6
Effort Required	6
Upgrading	6
Knowing Your Block	7
County Coordinators	8
Recording Data - The Field Card	8
Unusual Species	8
Incidental Reporting	9
Atlas Terminology	9
Block Busting	9
Land Access	9
Atlasing Ethics	9
Maryland Map Showing Quadrangles	10-11
Atlas Calling Card and Automobile Window Display	12
Permission and Thank You Letters	12
Fund Raising	12
Additional Data	12
Selected References	13
Sample Maryland & DC Breeding Bird Atlas Verification Form	14
Atlas Board	15
County Coordinators	15-16
Table 1: Distribution, Habitats & Safe Dates of Bird Species	17-20
Names of Quadrangles	inside back cover
Field Card	outside back cover

INCOME TAX DEDUCTIONS

The IRS allows a deduction on income taxes for non-monetary as well as monetary contributions to non-profit organizations. Expenses incurred while atlasing can be deducted by those who itemize. This includes gasoline (mileage), motels, telephone calls, postage, etc. Be sure to keep careful, detailed records. In the unlikely event of an IRS audit, it is essential to have them. Please read the section on contributions in your income tax instructions for more detail.

INTRODUCTION

The Maryland Ornithological Society (MOS), in cooperation with the Maryland Department of Natural Resources and other conservation groups, has begun a second 5-year Breeding Bird Atlas Project covering all of Maryland and the District of Columbia (DC). This project will map in detail the distribution of all bird species that breed in Maryland and DC, with primarily volunteer help.

Human activities have profound effects on the natural world upon which the survival of all living things, including people, depends. It is crucial to have an historical and continuing record of the status of natural communities (in this case, birds) with which to compare and contrast effects of future activities. Such data will be valuable in assessing these changes and may serve a vital function in land and habitat management planning by government, industry, and individuals especially in areas where there may be high environmental impact.

Birds are highly visible, occupy a wide variety of habitats, and are very popular. Birds are most dependent on their habitats during the nesting season because they require food and shelter for their young as well as for themselves. Nesting distribution is highly correlated with habitat; therefore, changes in the amount, quality, or type of habitat in a region or state can have a major impact on the presence or absence of bird species. This second Atlas Project will reveal changes in Maryland's and DC's birdlife since 1987 when the first atlas was completed.

An inventory of this magnitude requires substantial volunteer help. Although some professional biologists will participate, the vast majority of the fieldwork will be done by skilled amateurs. No other natural science has as large or as qualified an amateur following.

HISTORY OF GRID-BASED ATLASES

The first breeding bird atlas was completed in Great Britain and Ireland. In 1968 members of the British Trust for Ornithology were inspired by *The Atlas of the British Flora* to attempt a similar effort for the distribution of breeding birds. This effort was completed in 5 years; since that time, many other countries have completed atlases.

The first atlas in North America was completed in Montgomery and Howard counties, Maryland in 1975 (*Maryland Birdlife* 34(1):3-39). Vermont's was the first statewide atlas published.

In 1980, the North American Ornithological Atlas Committee was established at "The Symposium on Estimating Numbers of Terrestrial Birds" in Asilomar, California. A regional atlas meeting was held at the Vermont Institute of Natural Science in 1981 (a summary was published in *American Birds*, January 1982), after which the atlas concept spread continentwide.

Maryland atlasing proceeded county by county with 8 counties eventually participating. In each case, personnel from MOS chapters were responsible for all aspects of the activity. Progress was slow by this method, so the MOS decided to coordinate a 5-year statewide effort from 1983 through 1987. The results were published as the *Atlas of the Breeding Birds of Maryland and the District of Columbia* (C.S. Robbins and E.A.T. Blom, 1996).

The second generation of North American breeding bird atlases began with projects in New York and Ontario in 2001. Maryland begins its second 5-year atlas January 1, 2002.

PURPOSE

Following are the goals of the second Maryland/ DC Breeding Bird Atlas Project:

1. Provide up-to-date distribution maps for every species known to nest in Maryland or the District of Columbia.
2. Provide comparative data against which changes in range and status of breeding birds can be identified.
3. Make comparisons to the previous Atlas Project.
4. Provide a database that will help environmental planners make informed decisions regarding resource use in Maryland and DC.
5. Provide information on distribution of birds with minimum area requirements.
6. Provide data for use in environmental impact statements and ecological risk assessments.
7. Involve birders, other interested individuals, landowners, and groups in a directed cooperative research and educational effort.
8. Provide research opportunities.

SCOPE OF THE PROJECT

This project involves hundreds of volunteers who, for 5 years, will conduct fieldwork throughout Maryland and DC, gathering data on the 200+ species of birds known to breed in the area.

As in other atlas projects, the area of Maryland and DC has been divided into a grid. The basic units of the atlas are the "5 km blocks," of which approximately 1200 are defined by this grid. Each block contains about 10 square miles (25 square km). County Coordinators assign observers to cover each block. Within each block the observers attempt to ascertain the presence and breeding status of as many breeding species as possible.

A standard feature of the atlas is the use of 3 categories of breeding certainty: POSSIBLE, PROBABLE, and CONFIRMED. Observers use these classifications to describe the level of certainty that a species is nesting in each block.

Observers may enter the results of their fieldwork by visiting the MOS web site <http://www.mdbirds.org/> and clicking on Breeding Bird Atlas, or results can be sent to the County Coordinator. Results will be due on September 1 of each year. Field cards also must be forwarded to County Coordinators at that time. The cards will be returned after validation of data. Atlas Project progress reports and information will appear on the MOS web site and periodically in *The Maryland Yellowthroat*.

The MOS Atlas Committee is responsible for the planning and oversight of the project.

GRID SYSTEM

The grid used in the atlas is based on the maps known as “quadrangles” or “quads” published by the U.S. Geological Survey in the 7 1/2 minute series. There are 239 quads in Maryland and DC, each named after a major town or geographical feature on the map. The same names will be used in the atlas.

BLOCKS

The 239 quads have been divided into sixths; each sixth is an atlas block, the basic unit of the Atlas Project. The quads have been numbered from 1 to 239, west to east, one line at a time north to south. The blocks are numbered from 1 to 6 within each quad in the same manner. An example of the numbering is shown on the map in the center of this handbook. Blocks that overlap state and county boundaries should be atlased in their entirety.

When referring to a block, always identify it by the name of the quad followed by its location within the quad (Northwest = NW, Northeast = NE, Center-west = CW, Center-east = CE, Southwest = SW, Southeast = SE). Each map also has a number (see pp. 10-11, and inside back cover), which should be used in conjunction with the name. For example, the Center-east block of the Laurel quadrangle is “Laurel-CE, 121-4.” By always using both the name and number, it will be possible to detect some errors that may occur using only one of the two systems.

QUARTER-BLOCKS

In DC and the main urban corridor of Maryland, plus Garrett and Somerset counties, the blocks are further divided into quarter-blocks measuring about 2.5 by 2.5 km. This quarter-block method of data recording, used in most previous county atlases, will be continued. This technique is merely one of data designation and does not require that a minimum amount of time be spent in each quarter, or that a minimum species goal be set for each quarter. In addition, the rest of Maryland will have the northwest block in each quad sampled using this method. This will provide a uniform sample for the remainder of the state.

If your block is divided into quarters, cover it as you would any block but keep track of each quarter in which each species is recorded. Do not pursue any categories beyond POSSIBLE by quarters, but only for the block as a whole.

The main purpose of designating sightings by quarter-blocks is to have a finer grid to more easily detect changes in bird distribution in future years. Atlas blocks are sufficiently large that remnants of many habitats may still persist in a block several decades from now, and few breeding species will disappear entirely from it. By dividing a block into quarters, there is an increased likelihood of detecting changes.

The urban corridor to be covered by this quarter-block method is Montgomery, Howard, Baltimore, Prince George’s, and southern Carroll counties and DC.

Do not pursue upgrading the breeding status of a species in each quarter-block. On the Field Card simply record the highest category encountered anywhere in the block in the appropriate column and place a small x in the quarters in which the species was recorded at any level. Record the date for each Confirmed observation.

BREEDING CRITERIA AND CODES

DEFINITIONS OF CODES

OBSERVED

0 - Species observed in a block within Safe Dates (Table 1, pp. 17-20), but not in breeding circumstances. This code is primarily for birds that are not believed to breed in the block. For example, the thousands of Laughing Gulls in plowed fields on the lower Eastern Shore or the sub-adult Ring-billed Gulls that spend the summer in Maryland fit this pattern. Flyovers are also included in this category; a soaring Turkey Vulture, for example.

POSSIBLE

X - Species heard or seen in breeding habitat within Safe Dates. Be especially cautious during migration times.

PROBABLE (always a one-letter code)

A - Agitated behavior or anxiety calls from adult. Parent birds respond to threats with distress calls or by attacking intruders. This does not include response to "spishing" or tape playing.

P - Pair observed in suitable breeding habitat within Safe Dates. Use this code with caution.

T - Territorial behavior or singing male present at same location on at least 2 different days (observations separated by at least 5 days). Territoriality can be presumed from defensive encounters between individuals of the same species, or by observing a male singing from a variety of perches within a small area.

C - Courtship or copulation observed. This includes displays, courtship feeding, and birds mating.

N - Visiting probable nest site. Primarily applies to cavity nesters. This code applies when a bird is observed visiting the site repeatedly, but no further evidence is seen.

B - Nest building by wrens or excavation by woodpeckers. Both groups build dummy or roosting nests at the same time they are building a real one, but an unmated male will exhibit the same behavior.

CONFIRMED (always a two-letter code)

NB - Nest building (except wrens and woodpeckers) or adult carrying nesting material. Carrying sticks is part of the courtship ritual (code "C") for some species, so be cautious with this code.

DD - Distraction display; including injury-feigning. Agitated behavior can be mistaken for distraction, but is code "A," under PROBABLE.

UN - Used nest found. Use extreme caution; nests are difficult to identify. If unsure, forget it. Do not collect the nest - a permit is required. This code can be especially useful after the leaves have fallen, particularly for American Goldfinch and Baltimore Oriole nests.

FL - Recently fledged young or downy young. This includes dependent young only. Be cautious of species that range widely soon after fledging. Check roadkills for dead fledglings. Young cowbirds begging for food confirm both the cowbird and the host species.

FS - Adult bird seen carrying fecal sac. Feces of nestlings are contained in a membranous sac, carried away from the nest by the parents.

FY - Adult carrying food for young. Use with caution; a few species feed young long after wandering from nest site, or carry food a long distance. Many also engage in courtship feeding (code "C").

ON - Occupied nest presumed by activity of parents: entering nest hole and staying, parents exchanging incubation responsibility, etc. Primarily intended for cavity nesters and nests too high to see the contents.

NE - Nest with eggs or eggshells on ground. Caution: these must be carefully identified. Cowbird eggs in a nest confirm both the cowbird and the host species.

NY - Nest with young seen or heard. A cowbird chick in a nest confirms the cowbird and the host species.

EXAMPLES TO USE AS GUIDELINES

1. Duck summers on pond without suitable adjacent marshes: OBSERVED - 0.
2. Great Blue Heron feeding along river away from any known nesting area: OBSERVED - 0. (Note: watch such a bird closely; it could lead to a new colony.)
3. Gulls frequenting dumps, plowed fields, or parking lots throughout summer in unsuitable nesting habitat: OBSERVED - 0.
4. Second year male American Redstart singing in hedgerow (not normal breeding habitat) in mid June: POSSIBLE - 0.
5. Woodpecker drumming: POSSIBLE -X within Safe Dates; PROBABLE -T if same place 2 different days. (Note: this refers to territorial drumming, not feeding).
6. Wood Duck observed entering hole in tree within Safe Dates: PROBABLE - N.
7. Male House Wren singing all summer and stuffing nest boxes with sticks; no evidence of a mate: PROBABLE - B.
8. Male and female Scarlet Tanagers observed together several times in the same area, but no nest or young ever seen: PROBABLE - P.
9. House Finch male feeding female: PROBABLE - C.
10. Wood Thrush seen on nest for extended period of time, but too high to see contents of nest: CONFIRMED - ON.
11. Song Sparrow seen carrying nesting material: CONFIRMED - NB.

PROCEDURE

TIMING OF ATLASING

Atlasing is not strictly a summertime effort. It can be virtually a year-round project with most of the effort in June and July. June is the primary month for building a species list for your block because birds are on territory and very vocal. Also, most spring migrant birds have left by June 1.

July and August are the optimum months for recording birds in the PROBABLE and CONFIRMED categories. Though most singing activity has decreased, it is a time when noisy fledglings accompany parents or beg for food in a nest. Also, parent birds are more likely to be seen carrying food for young.

Migrants offer a threat to data accuracy. The "Safe Dates" (Table 1, pp.17-20) indicate those dates when migrants of each species leave in the spring and arrive in the autumn. There is some variation across the state, the lower Eastern Shore being a few days to a week ahead of Western Maryland in spring. This table is not precise; it is intended as a general guide, for use primarily with POSSIBLE and some PROBABLE codes. Because, for many species, the nesting season overlaps the migration period, many PROBABLE and all CONFIRMED codes can be used outside the Safe Dates; e.g., a nest with eggs any time is definitely a legitimate CONFIRMED.

The following species can only be confirmed by observing a nest: colonial waterbirds, Bald Eagle, Peregrine Falcon, Osprey, and Bank Swallow.

Early morning and evening are the best times to survey your block; bird activity is highest at these times. Most blocks will have birds that are active at night such as owls, American Woodcocks and Whip-poor-wills. Please make some special after-dark trips to record these species. If such trips are not possible, be sure to advise your County Coordinator of the fact.

EFFORT REQUIRED

Most Maryland and DC atlas blocks have 90 to 100 breeding species. Some may have as many as 110+ or, in some urban areas, as few as 50. Observers should attempt to at least equal or, if possible, exceed the number of species recorded in that block in the previous atlas. Changes in habitat or access may not make that possible, but it is a useful goal. Observing 75% of the previously recorded species will probably be reached in almost every block. Some of the most rewarding and valuable field time will be that spent finding the other 25%. A list of the species found in the block in the previous atlas is included in each field observer's packet.

Most species in a block will be encountered in the first few visits; it will take more time per species as you approach the potential total. Although it becomes increasingly difficult to locate each new species, don't give up. It is important to cover all possible habitats in your block spending an appropriate amount of time in each. Remember, every acre of land does NOT need to be examined. Thorough coverage of ALL AVAILABLE HABITATS is necessary. Obviously, a block with uniform habitat will take considerably less time to cover adequately than one with a diversity of habitats.

UPGRADING

It is more important to find a high percentage of the PROBABLE species in a block than to locate a few species and confirm them all. Whatever percentage of the potential total you attain, all birds will not be CONFIRMED. As you atlas, put the

emphasis on the PROBABLE codes and building a good species list for your block rather than on confirming everything. Though some degree of certainty that the birds recorded in your block actually are breeding is desirable, a species recorded in preferred habitat during the Safe Dates is likely to be breeding, even if only the POSSIBLE category is attained.

We recommend, as a general guideline, trying for 25% of your species in the CONFIRMED category, 50% PROBABLE, and 25% POSSIBLE. **It is important to confirm the rarer species**, so concentrate on those listed as “Rare” on the Field Card, and those listed as “R”, “?” or “*” in your region (Table 1, pp.17-20).

Don't waste time confirming abundant species when you could be examining an unusual habitat and raising the species total in your block. You will probably confirm most common species without even trying. Make use of every opportunity to obtain confirmation of common species by chatting with neighbors and people walking dogs or pushing strollers (joggers are less likely to want to be interrupted). Social or school events, neighborhood meetings, block parties, classes, picnics, etc. are all opportunities to obtain valuable information. Be sure to obtain the exact location of the sighting and the name of the individual (correctly spelled) so each person can be credited. Attempt to identify vaguely-described species by gentle questioning, as sightings of “buzzards,” “cranes,” “huge hawks,” “hoot owls,” etc., cannot be used. Dead birds on roads may lead to confirmations, for many recently fledged birds are hit. Remember that a species needs to be confirmed only ONCE in a block during the 5 year period.

KNOWING YOUR BLOCK

Examine the map of your block in conjunction with a detailed road map (such as an ADC map) in advance of visits in order to identify habitats, likely species, and potential access points. Try to get into your block before the height of the breeding season. On pre-season scouting trips you can take notes on actual habitats directly on the photocopy of your map or on the Field Card.

Scouting will also familiarize you with your block's boundaries, which is extremely important, especially to those not comfortable with map reading and those in quarter-block areas. These early trips enable you to learn the condition of the roads and any obstructions such as washed-out bridges or major construction. This is the time to check ALL streets and roads. Do not dismiss whole sections because “it's a development.” The end of a street may allow you to see and hear birds on adjacent property to which you otherwise may not have access. Scouting trips offer a good opportunity to make contacts for obtaining permission to enter private land. You may also discover pockets of open space not obvious from a map. Exploit every potential for access. Large tracts such as state parks, wildlife management areas, and state forests are obvious. There are many other possibilities including county or neighborhood parks of varying sizes as well as undeveloped county-owned property. Schools may be highly useful as some have a border of trees, while many of recent construction include a pond. Some churches have acres of land and would welcome you, providing you check with the office and don't go on days of high activity. Many landowners may enjoy talking with you once they know what you are doing. Even if you are not given permission to bird a particular piece of private property, ask landowners if they know of any nesting birds on their property. (This is especially valuable after the first year.) This is often a major source of Barn Owl, Ring-necked Pheasant, and Northern Bobwhite records. Whenever anyone provides data for your block, be sure to record an accurate location and the correct spelling of the individual's name. This information will be valuable as MOS desires to acknowledge all assistance, if possible. In the previous

Atlas Project, more than 700 people were acknowledged when the results were printed. An individual may pass along just one record, **but each accurate sighting received saves you valuable field time.**

COUNTY COORDINATORS

The District of Columbia and each Maryland county have one or more County Coordinators (pp. 15-16) who recruit and encourage observers, oversee coverage, distribute packets, provide advice, and collect completed forms. These are the people to whom you should turn first if you have any questions or problems.

Each County Coordinator is encouraged to assign assistants. A recommended method is to assign an entire quad to one person ("Quad Captain") who is responsible for recruiting help for all 6 blocks of the quad. On a smaller scale, if more than one person is working in a block, a "Block Leader" can be designated to oversee the effort.

If you are traveling in another county and wish to atlas there or if you make observations outside of your block, please contact the appropriate County Coordinator. They would also be very happy to hear of any friends you may have who would like to help either in your county or another.

RECORDING DATA - THE FIELD CARD

Use one Field Card (see outside back cover) per block. If 2 people are working the same block separately, 2 cards may be used, and both should be submitted. Do not put data from 2 or more blocks on one card. Pencil is preferred on the Field Card so that codes can be changed as higher levels of breeding are verified. Under no circumstances use a water-soluble, felt-tip pen; it won't stand up in an unexpected rain. On every species line of the Field Card there are 3 columns to facilitate upgrading from one category to another, a fourth column for quarter-block designation, and a fifth for date of confirmation. Be sure all pertinent data are completed, including the section for "Source of Records" (code A for assigned block). Dates should be placed in the fifth column and should reflect the date on which the highest level of breeding was recorded.

We encourage each observer to keep a notebook or individual field sheets to record locations of singing males, choice habitats, peak singing of certain species, etc. This will provide information which cannot be entered on the Field Card but can be invaluable in later years of the atlas when early visits to a particular location may not be as easily remembered. The notebook also serves as a backup in case the Field Card should be lost.

UNUSUAL SPECIES

One of the most important goals of the atlas is to document the occurrence of unusual species, for which it is necessary to insist on verification. All species that require verification statewide are included under "Rare and Local Species" on the Field Card. In addition to species unusual throughout Maryland and DC, it is important to verify species of regional and county interest. Your County Coordinator will require verification for species listed as "R", "?", "*", or blank for your region in Table 1 (pp. 17-20). Page 14 contains a sample of the Verification Form showing the kinds of information required. The form may be copied and enlarged, downloaded from the MOS web site, or obtained from your County Coordinator.

INCIDENTAL REPORTING

If you notice breeding species in a block other than your own, please don't forget to report them. Forward details, including EXACT LOCATION to the appropriate County Coordinator or to the State Coordinator. Remember, every record is of value in the atlas.

ATLAS TERMINOLOGY

Because there are many approaches to estimating numbers of birds, each with a different goal, it is important to keep the terminology clear. The terms "survey," "count," "census," and "atlas" all have very different meanings. Remember to refer to this project as an atlas to prevent any confusion.

Within the atlas, there are specialized terms to learn, especially those referring to the grid: a "quad" contains 6 "blocks" which (in some cases) contain 4 "quarter-blocks." Numbering is always west to east, one line at a time among quads, blocks, and quarter-blocks. "Categories" describe the 3 different levels of breeding certainty and "codes" are the various subdivisions within each category.

BLOCK BUSTING

Because of the enormity of the task of covering all 1200+ blocks in Maryland and the District, it may be necessary for particular County Coordinators or the State Coordinator to organize "Block Busting" expeditions. Block Busting is an attempt to reach, in a short period of time, an acceptable level of coverage in blocks not likely to be otherwise well covered.

LAND ACCESS

Please contact the appropriate County Coordinator if you know of any land to which atlasers can have access anywhere in Maryland or DC. This can be land that you own or that is owned by a friend, relative, or group to which you belong. This information can save much contact time for people atlasing in such areas, and it may open up some otherwise inaccessible habitats.

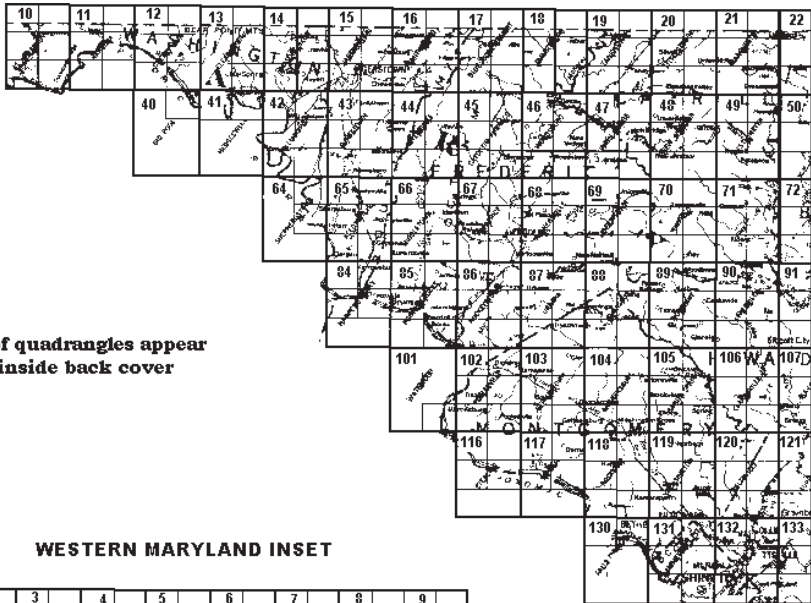
ATLASING ETHICS

Remember—birds are living creatures and deserve your respect. Do not approach nests too closely or flush nesting birds repeatedly. Do not handle eggs or young. Please do not disturb birds with methods such as tree-whacking or throwing things. The MOS officially discourages playing tape recordings of bird calls, especially during the breeding season and with scarce species. We recommend that their use be strictly limited to primarily nocturnal species. Also, be cautious with techniques for attracting birds such as "spishing." Such methods are very effective, but excessive use of them can also cause undue disturbance during the nesting season.

Do not molest natural habitats. Do not leave litter. Drive only on established roads. Avoid smoking while walking; extinguish cigarettes completely.

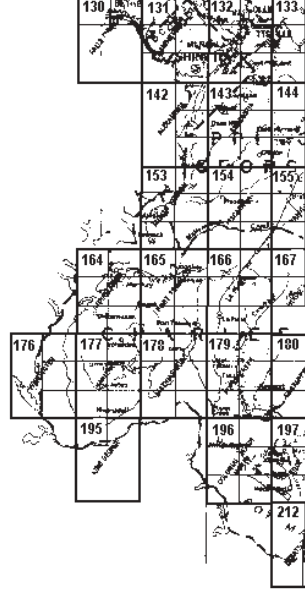
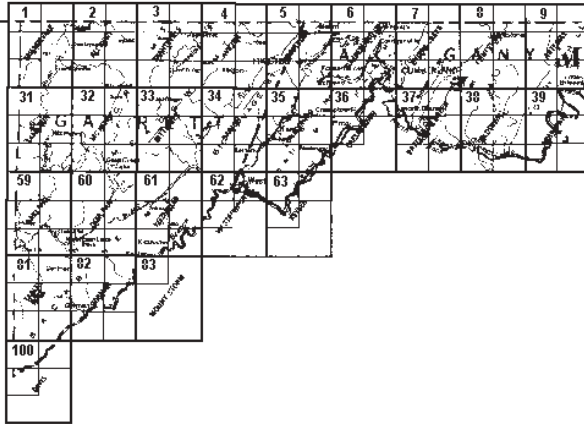
Remember that much atlas fieldwork will be conducted on private property and certain courtesies are expected. Obtain permission before entering private property. Explain to land owners the nature of the Atlas Project and identify the sponsor of the project. Assure them that you will not damage crops or fences, disturb livestock, or leave gates open. Do not smoke while on private property. It would be courteous and help create good will to say "thanks" and promise a report of your findings. Friendly encounters with landowners can be beneficial to the Atlas Project.

See
WESTERN
MARYLAND
INSET
below

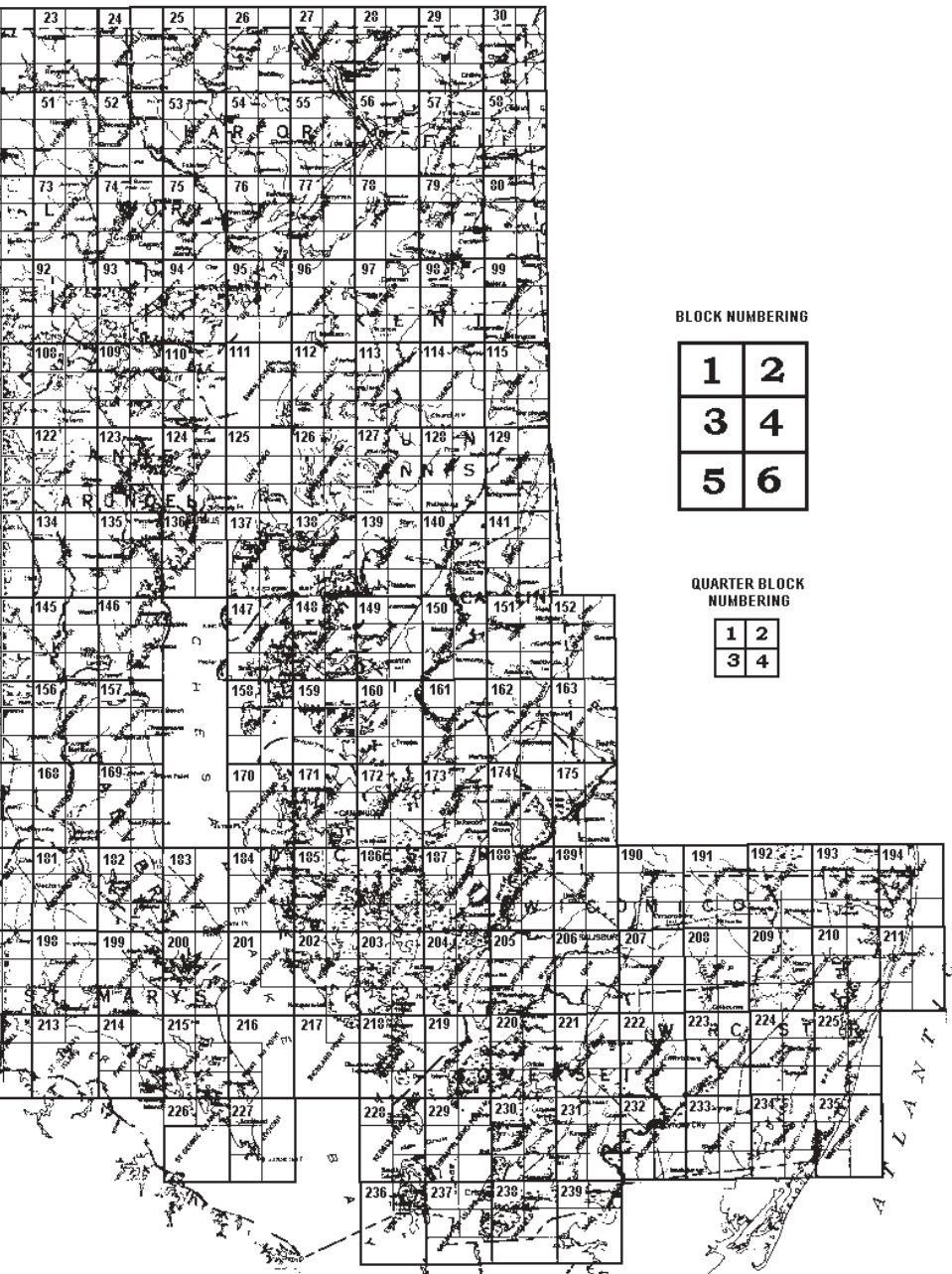


Names of quadrangles appear
on inside back cover

WESTERN MARYLAND INSET



Maryland Map Showing Quadrangles



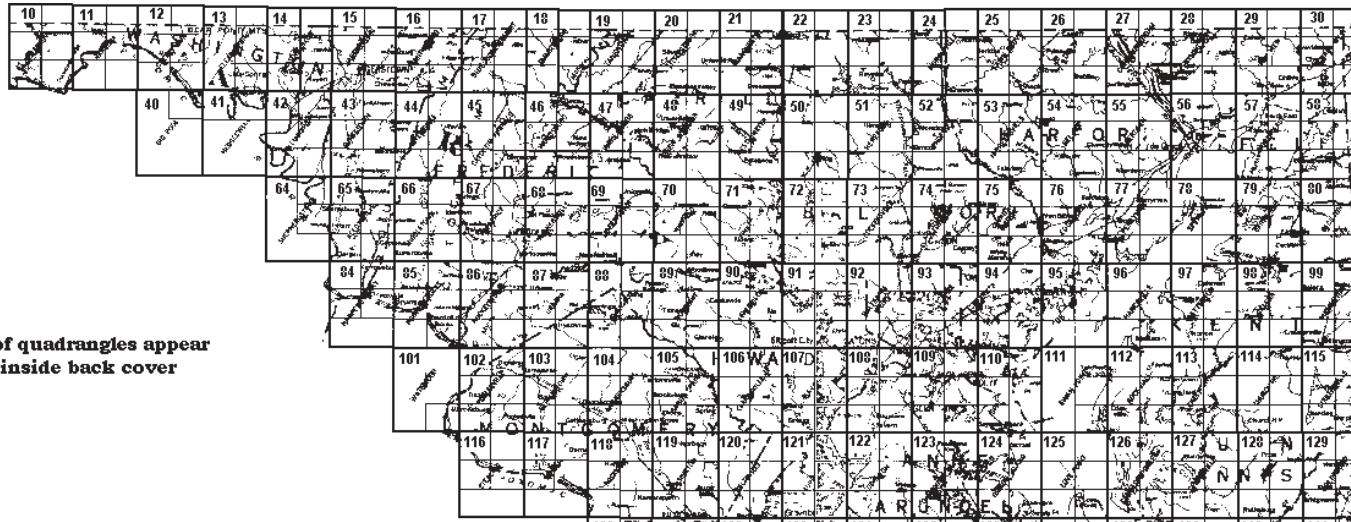
BLOCK NUMBERING

1	2
3	4
5	6

QUARTER BLOCK NUMBERING

1	2
3	4

See
WESTERN
MARYLAND
INSET
below

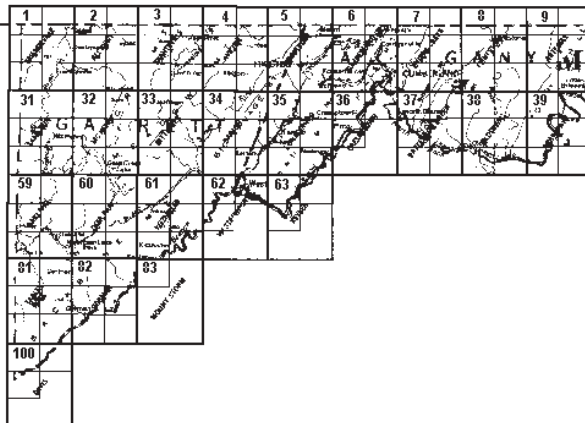


Names of quadrangles appear
on inside back cover

BLOCK NUMBERING

1	2
3	4
5	6

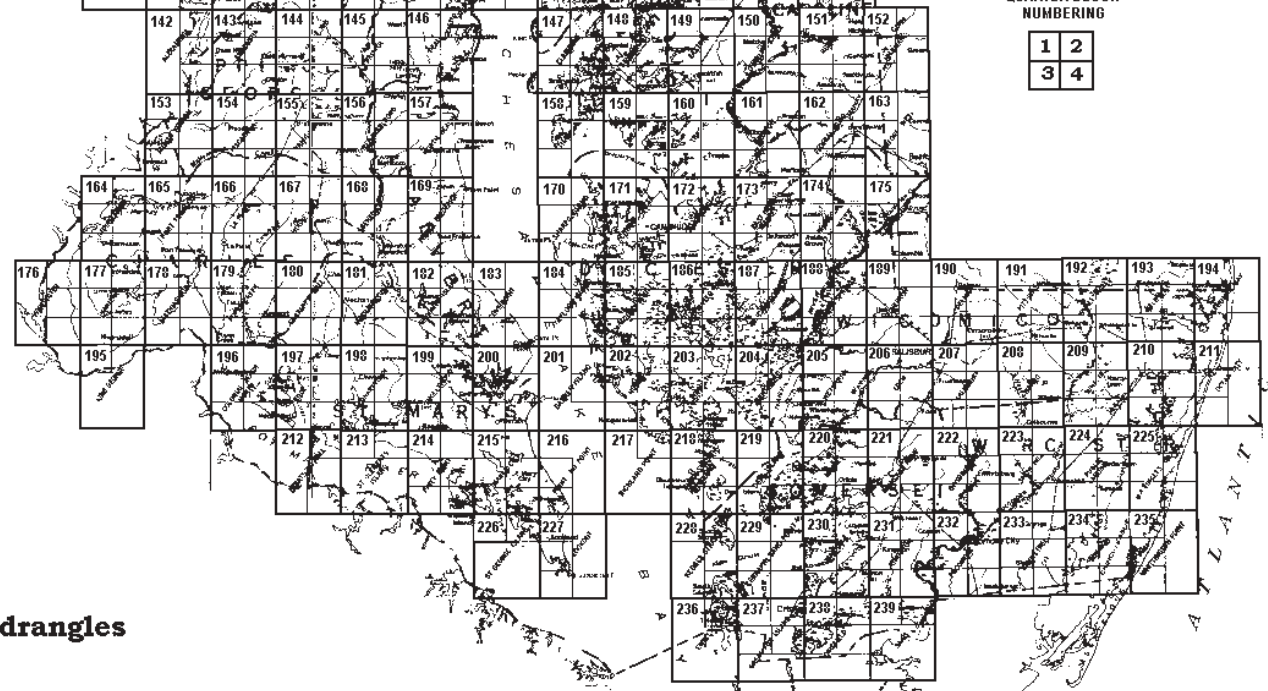
WESTERN MARYLAND INSET



QUARTER BLOCK
NUMBERING

1	2
3	4

Maryland Map Showing Quadrangles



ATLAS CALLING CARD AND AUTOMOBILE WINDOW DISPLAY

Official Atlas Calling Cards are included in each packet. Additional cards are available from each County Coordinator. These will be a tremendous help when asking permission for land access. Leave one with each landowner with whom you talk. The card provides them with your name and telephone number/e-mail address for future reference. Be sure to have a card with you whenever atlasing. It should satisfy most landowners, police, security guards, etc. Do remember to sign it on the back.

Each packet contains a letter-sized window display designed to be left on the dashboard of your car to identify the purpose of your presence in an area. Some neighborhoods have set up systems to watch for unfamiliar cars so the sign should satisfy the curious.

PERMISSION AND THANK YOU LETTERS

Each packet also contains a copy of a letter that can be used to approach landowners, either by mail or in person. Feel free to copy it, download additional copies from the MOS website, or obtain additional copies from your County Coordinator. A follow-up thank you letter is also included. Use it whenever you have been given land permission.

FUND RAISING

The MOS is funding the initial costs of the Atlas Project. In order to produce a final product worthy of the effort involved, there is a need for continued funding. Various methods of fund-raising will be employed. Ideas for fund-raising are encouraged from all participants. Tax-deductible contributions from non-atlasers as well as atlasers are welcome and will be accepted at any time. Please make checks payable to: MOS - Atlas Project. Mail them to MOS Treasurer Shiras Guion, 8007 Martown Rd., Laurel, MD 20723.

ADDITIONAL DATA

Included in each packet are Nest Record Cards, should observers find nests while atlasing. Safe monitoring of nests requires additional training and, as such, is not included in this effort. However, nest site information will be valuable in the maintenance of the current Nest Record database for Maryland and provide more detailed information regarding nest substrate and exact location. Contact Mark Johnson (see Atlas Board list, p.15) for further information regarding the Nest Record Program. Turn in completed Nest Record Cards to your County Coordinator annually. Do NOT send them to Cornell.

In addition to the atlas efforts, there will be the usual ongoing bird-related studies throughout Maryland and DC during the 5 years of the atlas including the U.S. Geological Survey's Breeding Bird Survey and various university, state, and federal research projects. All of these will generate data useful to the Atlas Project. In most cases these data will help obtain POSSIBLE records of the more common species. This information will be incorporated and relayed to the appropriate Block Leaders as soon as possible, so they will know where interesting species have been found and will be able to upgrade their status.

SELECTED REFERENCES

The following list is not intended to be exhaustive. Many references listed for the previous Atlas Project are now out of print. While some individuals may still have them in their personal libraries, they are not easily available; therefore, only books in print are included below.

IDENTIFICATION OF NESTS, EGGS AND NESTLINGS

Baichich, Paul J. and Harrison, Colin J. O. 1997. *A Guide to the Nests, Eggs and Nestlings of North American Birds*. Academic Press, San Diego.

Harrison, Hal H. 1975. *Field Guide: Eastern Birds' Nests*. Houghton Mifflin, Boston.

BEHAVIOR

Bent, A. C. 1919.. 1968. *Life Histories of North American Birds*. U.S. Nat'l Mus. Bull. 107.. 237. Reprinted by Dover, 1963ff.

Ehrlich, Paul R., David S. Dobkin, and Darryl Wheye. 1988. *The Birder's Handbook: A Field Guide to the Natural History of North American Birds*. Simon & Schuster, New York.

Poole, A. and F. Gill, eds. 1992- *The Birds of North America*. Academy of Natural Sciences, Philadelphia. (individual species accounts still being published)

Sibley, David A. 2001. *The Sibley Guide to Bird Life & Behavior*. Alfred A. Knopf, New York.

Sparks, John. 1970. *Bird Behavior*. Grosset & Dunlap, New York.

Stokes, Donald W. 1979. *A Guide to the Behavior of Common Birds*. Little, Brown & Co., Boston.

Stokes, Donald W. and Lillian Q. Stokes. 1983. *A Guide to Bird Behavior*, Vol. 2. Little Brown & Co., Boston.

Stokes, Donald W. and Lillian Q. Stokes. 1989. *A Guide to Bird Behavior*, Vol. 3. Little Brown & Co., Boston.

MARYLAND NESTING DATES AND OCCURRENCE

Iliff, Marshall J., Robert F. Ringler, and James L. Stasz. 1996. Field List of the Birds of Maryland. Md. Avifauna No. 2. Maryland Ornithological Society.

BIRD SONG CDs AND VIDEOS

For detailed study, recordings of individual bird families are strongly recommended.

Elliott, Lang, 1994. Know Your Bird Sounds, Vol. 1 (Birds of City, Gardens, Suburbs) and 2 (Birds of the Countryside). Northward Prod., Minocqua, Wis. (cassettes discontinued, CDs only). 35 species in each volume; 65 minutes each. Includes behavioral meanings of each vocalization.

Male, Michael and Judy Fieth. 1990 *Watching Warblers: A Video Guide to the Warblers of Eastern North America*. Blue Earth Films. 60 min.

Male, Michael and Judy Fieth. 1999. *Watching Waders: A Video Guide to the Waders of North America*. Blue Earth Films. 95 min.

WEBSITES

<http://www.americanbirding.org/norac/> North American Ornithological Atlas Committee (overview).

<http://www.dnr.state.oh.us/odnr/dnap/OhioBirding/BreedingBirdAtlas/SpeciesAccounts.htm> reprints from Ohio's Breeding Bird Atlas.

<http://www.mbr.nbs.gov/bbs/bbs.htm> Breeding Bird Survey; links to pictures, songs, ID pages.

<http://www.im.nbs.gov/birds/bbc.html> Breeding Bird Census, some basic concepts.

<http://www.uwgb.edu/birds/wbba> Wisconsin BBA website with links to 20 state atlas projects.

<http://ww1.naturesound.com/webpages2/naturesound/stokes/samples.html> samples sounds of 10 birds from Lang CD.

SAMPLE

MARYLAND / DC BREEDING BIRD ATLAS VERIFICATION FORM

Details must be submitted for all species designated as of uncertain breeding status. On the Field Card they are listed as rare or local and in Table 1 they are shown as "R", "?", "**", or blank. Species not on the list also require details. In addition, many locally rare species will require verification at the discretion of the County Coordinator. Your cooperation is essential to the integrity of this project. Fill out and send this form to your County Coordinator. Include sketches or photos if possible.

Species _____

Observer and address _____

Phone & e-mail _____

Where? Quad _____ Block _____

Exact Location _____

Date of sighting _____ Time of sighting _____

HABITAT - Describe fully for the general area and specifically for the bird in question.

BREEDING BEHAVIOR - Give all details of behavior you observed that indicate this species is actually breeding. (Continue on reverse as needed.)

HOW OBSERVED? - Distance, length of time, light, weather, optical aids, etc.

HOW IDENTIFIED? - Give all details as to plumage, song, call notes, size comparison, physical features, behavior, difference from similar species, and your previous experience with this and similar species.

OTHER OBSERVERS, with addresses and phone numbers.

Use reverse side for ADDITIONAL OBSERVATIONS

SIGNATURE _____ DATE _____

Signature of coordinator supporting this report _____

COUNTY COORDINATOR: forward to: Robert F. Ringler, 6272 Pinyon Pine Ct.,
Eldersburg, MD 21784.

ATLAS BOARD

The Atlas Board is responsible for the bulk of the planning and ongoing decisions relating to the Atlas Project. Following is a list of the members with names, addresses, home phone numbers, and e-mail addresses.

The latest list of Atlas Board members can be found on the MOS Website at <http://www.mdbirds.org>.

COUNTY COORDINATORS

There is an Atlas Coordinator for each Maryland County and for the District of Columbia. For the latest list, please check the MOS Website at <http://www/mdbirds.org>.

This page left intentionally blank.

TABLE I: DISTRIBUTION, HABITATS & SAFE DATES OF BIRD SPECIES

This table includes relative abundance estimates of the birds in Maryland and D.C., by regions. A brief description of the Preferred Nesting Habitat of each and Safe Dates (non-migration period) are also included.

- REGIONS:
- 1 Garrett & Allegany Cos.
 - 2 Washington, Frederick, Carroll, Howard & Montgomery Cos.
 - 3 Baltimore, Harford & Cecil Cos.
 - 4 D.C., Prince George's, Anne Arundel, Charles, Calvert & St. Mary's Cos.
 - 5 Kent, Queen Anne's, Caroline & Talbot Cos.
 - 6 Dorchester, Wicomico, Somerset & Worcester Cos.

C-COMMON U-UNCOMMON R-RARE L-LOCAL ?-STATUS UNCERTAIN * FORMERLY NESTED									
SPECIES	1	2	3	4	5	6	PREFERRED BREEDING HABITAT	SAFE	DATES
Pied-billed Grebe	?	?	L	L	L		Marshy or weedy ponds	5/20	7/10
Brown Pelican				L	L		Shrubby marsh island	6/1	7/31
Double-crested Cormorant		?		L	L			6/10	6/30
American Bittern					R		Tall marshes, wet fields	5/20	8/15
Least Bittern	?	L	U	U	U	U	Fresh and brackish water marshes	5/20	7/31
Great Blue Heron	?	?	L	L	L	L	Wooded swamps, beaver ponds, islands	5/15	6/30
Great Egret		?	?	L	L	L	Shrubs, trees near tidal water	5/20	6/20
Snowy Egret		?	?	L	L	L	Shrubs, trees near tidal water	5/20	6/30
Little Blue Heron		?	?	L	L	L	Shrubs, trees near tidal water	5/20	6/20
Tricolored Heron		?	?	L	L	L	Shrubs, trees near tidal water	5/20	6/30
Cattle Egret				?	L	L	Shrubs, trees near tidal water	5/20	6/20
Green Heron	C	C	C	C	C	C	Woods near marshes or open water	5/1	7/15
Black-crowned Night-Heron			L	L	L	L	Shrubs, trees near tidal water	5/10	6/30
Yellow-crowned Night-Heron		L	L	?		L	Wooded habitats, usually near water	4/20	6/30
Glossy Ibis					R	L	Shrubs, trees near tidal water	5/20	6/30
Black Vulture	?	U	U	C	C	C	Woods, cliffs, caves, buildings	5/1	7/31
Turkey Vulture	U	C	C	C	C	C	Woods, cliffs, caves, buildings	5/15	8/20
Canada Goose	C	C	C	C	C	C	Shore or islands in any water body	5/10	7/31
Mute Swan			U	U	C	C	Shore or islands in any water body	5/1	8/31
Wood Duck	C	C	C	C	C	C	Wooded swamps, fresh marshes, streams	4/20	8/15
Gadwall		?				L	High ground near water	5/20	8/20
American Black Duck	R	R	U	U	U	C	High ground near water, often woods	5/20	7/31
Mallard	C	C	C	C	C	C	High ground near water, often woods	5/15	8/20
Blue-winged Teal			?	R	U		High ground near water	6/5	7/5
Northern Shoveler						*		6/1	6/30
Green-winged Teal						*	High ground near water	6/1	6/30
Ring-necked Duck				*				5/20	8/15
Hooded Merganser	R	R	R	R	R	R	Wooded swamps, fresh marshes, streams	5/20	8/31
Ruddy Duck						*	Dense marshes with open water	6/10	8/25
Osprey	?	?	C	C	C	C	Marshes, tidal water bodies, channel markers	6/1	8/15
Bald Eagle	L	L	L	L	L	L	Tall trees near lakes, marshes, rivers	4/15	8/5
Northern Harrier	R	?	R	R	L	U	Marshes, wet pastures and meadows	5/20	7/25
Sharp-shinned Hawk	U	?					Conifers in extensive woodlands	6/1	7/31
Cooper's Hawk	C	U	U	U	U	U	Mixed woodlands, groves	5/20	7/31
Northern Goshawk	R						Large mature mixed woodlands	4/15	8/31
Red-shouldered Hawk	U	C	C	C	C	C	Wet mixed forests, swamps	5/10	8/20
Broad-winged Hawk	C	U	U	R	R		Hilly woodlands	6/15	8/10
Red-tailed Hawk	C	C	C	C	C	C	Mature forests, often near edges	5/10	8/20
American Kestrel	C	C	C	U	U	U	Open country, scattered trees, edge	5/15	7/15
Peregrine Falcon	*	*	L	L	L	L	Cliffs, buildings, bridges	5/20	8/15
Ring-necked Pheasant	L	L	L	L	L	L	Open country, pastures, fields	4/15	9/30
Ruffed Grouse	C	U					Mixed upland woods	4/1	7/31
Wild Turkey	C	C	U	U	U	U	Mature deciduous forests, edges	4/15	9/30

SPECIES	1	2	3	4	5	6	PREFERRED BREEDING HABITAT	SAFE	DATES
Northern Bobwhite	R	L	U	C	C	C	Farmlands, near edge and hedgerows	4/15	9/30
Black Rail				L	L	L	Brackish marshes	5/1	8/15
Clapper Rail				U	R	C	Salt and brackish marshes	5/1	8/31
King Rail		L	L	L	U	U	Fresh and brackish marshes	5/1	8/31
Virginia Rail	L	L	U	U	U	C	Fresh and brackish marshes	5/20	8/15
Sora	*	*	*			?	Fresh marshes, wet meadows	6/1	7/31
Purple Gallinule				*			Shrubby swamps	6/20	7/31
Common Moorhen		L	L	L	L	L	Marshes with open water	5/20	8/31
American Coot						L	Marshes with open water	6/10	8/25
Wilson's Plover						*	Sandy ocean beaches	5/15	7/31
Piping Plover						L	Sandy ocean beaches	5/15	7/20
Killdeer	C	C	C	C	C	C	Most open, sparsely vegetated areas	4/20	6/25
American Oystercatcher						L	Sandy ocean beaches, fresh spoil	5/15	7/25
Black-necked Stilt						L		5/15	7/15
Willet			L	L	C		Salt marshes	6/10	7/1
Spotted Sandpiper	R	R	L	L	L	L	Beaches or rocky streams	6/10	6/30
Upland Sandpiper	L	?	*				Open grasslands and meadows	5/20	6/25
Common Snipe	?							6/1	7/15
American Woodcock	U	U	U	U	U	U	Upland forest edges	4/15	8/31
Laughing Gull						L	Salt marshes	6/5	7/10
Herring Gull			L			L	Beaches, coastal islands, spoil areas	6/5	7/10
Great Black-backed Gull			L			L	Beaches, coastal islands, spoil areas	6/5	7/10
Gull-billed Tern						L	Beaches, coastal islands	5/15	7/5
Royal Tern						L	Beaches, coastal islands, spoil areas	5/25	7/5
Sandwich Tern						*	Beaches, coastal islands, spoil areas	5/25	7/5
Roseate Tern						*	Beaches, coastal islands, spoil areas	5/25	7/5
Common Tern			L		L	L	Beaches, coastal islands, spoil areas	6/5	6/30
Forster's Tern						L	Salt marshes	5/15	6/25
Least Tern			L	L	L	L	Beaches, coastal islands, spoil areas	5/25	7/5
Black Skimmer						L	Beaches, coastal islands	5/25	7/5
Rock Dove	C	C	C	C	C	C	Cities, suburbs, farms, bridges	ALL	YEAR
Mourning Dove	C	C	C	C	C	C	Suburbs, woodlots, farmland	4/15	7/20
Black-billed Cuckoo	U	U	R	?	?	?	Variety of forest habitats, edges	6/20	7/20
Yellow-billed Cuckoo	C	C	C	C	C	C	Variety of forest habitats, edges	6/15	7/31
Barn Owl	L	L	L	L	L	L	Open country, near structures	4/15	9/30
Eastern Screech-Owl	C	C	C	C	C	C	Open woods, orchards	4/1	8/15
Great Horned Owl	C	C	C	C	C	C	Most upland woodland types	12/15	8/31
Barred Owl	C	C	C	C	C	C	Bottomlands, swamps, moist woods	1/15	8/31
Long-eared Owl	R	*	*				Evergreen forest	5/1	9/30
Short-eared Owl	?	?		?	?	?	Open pastureland, marshes, meadows	5/1	9/30
Northern Saw-whet Owl	L						Mixed, moist woods, with conifers	5/5	9/10
Common Nighthawk	L	L	L	L	L	L	Barren country and flat roofs	6/5	7/15
Chuck-will's-widow		?	U	U	U	C	Dry open upland woods	5/1	8/10
Whip-poor-will	L	L	U	C	C	C	Dry open upland woods	5/10	7/15
Chimney Swift	C	C	C	C	C	C	Primarily in towns	5/15	8/10
Ruby-throated Hummingbird	C	C	C	C	C	C	Open woodlands, edges	5/15	7/31
Belted Kingfisher	U	U	U	U	U	L	Along streams, or lakes with banks	4/10	7/20
Red-headed Woodpecker	L	U	L	U	L	L	Open country with scattered trees	5/25	8/20
Red-bellied Woodpecker	C	C	C	C	C	C	Variety of woodland habitats	3/15	8/31
Yellow-bellied Sapsucker	*						Mixed woods, swamps, bogs	6/1	8/31
Downy Woodpecker	C	C	C	C	C	C	Variety of woodlots. and edge habitats	3/15	8/31
Hairy Woodpecker	U	U	U	U	U	U	Deep woods, primarily deciduous	3/15	8/31
Red-cockaded Woodpecker						*	Loblolly pines	3/15	8/31
Northern Flicker	C	C	C	C	C	C	Open woods, scattered trees, edges	5/10	8/25
Pileated Woodpecker	C	C	U	C	U	C	Deep woods, some secondary growth	3/15	8/31
Olive-sided Flycatcher	?						Northern conifers	6/15	7/31
Eastern Wood-Pewee	C	C	C	C	C	C	Variety of woodland habitats	6/1	8/15
Acadian Flycatcher	U	C	C	C	C	C	Moist woods, bottomlands	5/25	8/5

SPECIES	1	2	3	4	5	6	PREFERRED BREEDING HABITAT	SAFE	DATES
Alder Flycatcher	L						Wet brushy areas, prefers alders	6/10	7/20
Willow Flycatcher	C	C	C	L	?	?	Wet to fairly dry brushy areas	6/10	7/20
Least Flycatcher	C	R	R	*			Wood edges, open deciduous woods	6/5	7/20
Eastern Phoebe	C	C	C	C	C	C	Near water, bridges, buildings	5/1	8/31
Great Crested Flycatcher	C	C	C	C	C	C	Variety of woodland habitats	5/25	7/31
Eastern Kingbird	C	C	C	C	C	C	Open areas, edges, often near water	5/25	7/5
Loggerhead Shrike		*		*			Open country, hedgerows, cedars	5/10	7/20
White-eyed Vireo	U	C	C	C	C	C	Brushy areas, often near water	5/25	8/15
Yellow-throated Vireo	U	U	U	U	U	U	Tall deciduous trees	5/25	8/15
Blue-headed Vireo	U	?					Coniferous or mixed woodlands	6/1	8/20
Warbling Vireo	U	C	U	R	L		Open deciduous or riverside woods	6/10	8/10
Red-eyed Vireo	C	C	C	C	C	C	Variety of woodland habitats	6/1	7/31
Blue Jay	C	C	C	C	C	C	Variety of woodland habitats, suburbs	6/10	9/5
American Crow	C	C	C	C	C	C	Open areas, edges, farms, parks	4/20	8/31
Fish Crow	R	U	C	C	C	C	Wood edges, farms, tidewater areas	5/10	8/31
Common Raven	U	L					Mountainous, remote regions	4/1	7/31
Horned Lark	U	C	U	U	C	C	Most short-grass areas	4/10	9/5
Purple Martin	R	U	C	C	C	C	Open country, colonial	6/1	6/25
Tree Swallow	U	U	U	U	U	U	Open country near water	5/25	6/25
N. Rough-winged Swallow	U	U	U	U	U	L	Near water with steep banks	5/25	6/20
Bank Swallow	R	R	U	U	U	?	Near water with steep banks, colonial	6/1	6/20
Cliff Swallow	U	L	L	R			Open country near buildings, bridges	6/1	6/25
Barn Swallow	C	C	C	C	C	C	Open country near buildings, bridges	5/25	6/25
Carolina Chickadee	?	C	C	C	C	C	Variety of woodland. habitats, suburbs	3/1	8/31
Black-capped Chickadee	C	L					Variety of woodland. habitats, suburbs	5/1	9/20
Tufted Titmouse	C	C	C	C	C	C	Variety of woodland. habitats, suburbs	3/1	8/31
Red-breasted Nuthatch	R						Coniferous or mixed woods	6/1	7/31
White-breasted Nuthatch	C	C	C	U	L	U	Variety of woodland habitats, suburbs	5/10	8/15
Brown-headed Nuthatch				L	U	U	Loblolly pine forests	3/20	8/15
Brown Creeper	U	L	L	L	?	L	Deep woods, flooded woods	5/15	8/31
Carolina Wren	L	C	C	C	C	C	Wood edges, thickets, near residences	3/1	9/30
Bewick's Wren	*	*					Open woods, thickets, near residences	5/10	8/31
House Wren	C	C	C	U	U	U	Open woods, dead trees, suburbs	5/20	8/15
Winter Wren	L						Moist woods with hemlocks	5/20	8/31
Sedge Wren	?			?	*	R	Wet meadows, marshes	6/10	9/20
Marsh Wren		L	U	U	C	C	Cattail and other tall marshes	5/25	8/25
Golden-crowned Kinglet	L	*					Northern coniferous forests	5/20	9/10
Blue-gray Gnatcatcher	C	C	C	C	C	C	Woodlands near streams	5/15	7/31
Eastern Bluebird	C	C	C	C	C	C	Wood edges, farmlands	5/1	8/31
Veery	C	U	U	L			Moist mixed woods	6/10	8/10
Swainson's Thrush	*						Northern conifers, esp. spruce	6/10	8/10
Hermit Thrush	L						Damp forests, with hemlocks	5/25	9/15
Wood Thrush	C	C	C	C	C	C	Variety of woodland habitats	5/25	8/20
American Robin	C	C	C	C	C	C	Everywhere, except very urban areas	5/1	7/31
Gray Catbird	C	C	C	C	C	C	Dense thickets, shrubs, hedgerows	5/25	8/31
Northern Mockingbird	U	C	C	C	C	C	Open country, hedgerows, suburbs	4/1	9/10
Brown Thrasher	C	C	C	C	C	C	Dense thickets, shrubs, hedgerows	5/15	8/31
European Starling	C	C	C	C	C	C	Everywhere	4/1	7/31
Cedar Waxwing	C	U	U	L	L	L	Open woodland, shade trees, streams	6/15	7/31
Blue-winged Warbler	R	U	U	?	?		Brushy fields, wood edges	5/25	7/20
Golden-winged Warbler	C	R					Damp, brushy fields, wood edges	5/25	7/20
Nashville Warbler	R						Swamp and bog areas	5/25	8/15
Northern Parula	C	C	C	C	U	C	Moist woods, bottomlands, spruces	6/1	8/15
Yellow Warbler	C	C	C	U	U	C	Wet brushy areas, farmlands	6/1	7/10
Chestnut-sided Warbler	C	R					Brushy, open second-growth, edges	6/1	8/10
Magnolia Warbler	U						Northern coniferous forests	6/10	8/5
Black-throated Blue Warbler	U						Mixed woods with heavy understory	6/5	8/5
Yellow-rumped Warbler	R							6/1	8/20

SPECIES	1	2	3	4	5	6	PREFERRED BREEDING HABITAT	SAFE	DATES
Black-throated Green Warbler	C	R				?	Northern coniferous or mixed woods	6/10	8/5
Blackburnian Warbler	C	R					Northern coniferous or mixed woods	6/10	7/31
Yellow-throated Warbler	L	U	U	C	C	C	Loblolly pines, sycamores	5/1	7/15
Pine Warbler	U	U	U	C	U	C	Variety of pine forests	4/25	8/10
Prairie Warbler	U	C	C	C	U	C	Brushy fields, edges, small pines	5/25	7/20
Cerulean Warbler	U	U	U	R			Mature moist or riverside forests	5/25	8/5
Black-and-white Warbler	C	C	U	C	U	U	Extensive deciduous or mixed woods	5/15	7/25
American Redstart	C	C	U	C	U	U	Moist, deciduous forest	6/10	7/20
Prothonotary Warbler	L	U	U	C	C	C	Swamps, bottomlands	5/10	7/20
Worm-eating Warbler	U	U	U	U	L	U	Deep deciduous woods	5/20	7/20
Swainson's Warbler	?					R	Brushy, moist forest	4/20	8/31
Ovenbird	C	C	C	C	C	C	Open mature mixed upland forest	5/20	8/5
Northern Waterthrush	U						Swamps and bogs, pond edges	6/5	7/15
Louisiana Waterthrush	C	C	C	C	U	C	Rocky streams, sluggish backwaters	5/1	7/10
Kentucky Warbler	U	C	C	C	C	C	Moist deciduous woods, understory	5/25	7/15
Mourning Warbler	L						Brushy areas in woodlands or edges	6/15	7/31
Common Yellowthroat	C	C	C	C	C	C	Brushy areas, preferably wet	5/25	8/10
Hooded Warbler	U	U	U	C	U	U	Moist forests with dense understory	5/25	7/25
Canada Warbler	U						Thick, moist forest undergrowth	6/10	7/15
Yellow-breasted Chat	U	C	C	C	C	C	Brushy fields, thickets, wood edges	5/25	8/5
Summer Tanager		L	L	U	U	C	Mixed dry upland woods	6/5	8/10
Scarlet Tanager	C	C	C	C	C	C	Mature deciduous forests	5/25	8/10
Eastern Towhee	C	C	C	C	C	C	Dry open woodlands, edges, brush	5/20	8/31
Bachman's Sparrow	*		*				Brushy fields, often with pines	6/1	7/31
Chipping Sparrow	C	C	C	C	C	C	Farms, open mixed woods, suburbs	5/1	8/31
Clay-colored Sparrow			?					6/1	7/31
Field Sparrow	C	C	C	C	U	U	Brushy, weedy fields, hedgerows	5/1	8/31
Vesper Sparrow	U	C	U	R	U	R	Short grass areas, cultivated fields	5/15	8/31
Lark Sparrow	*						Grass with low shrubs & open ground	6/1	7/31
Savannah Sparrow	C	U	?				Hayfields, wet meadows, pastures	6/5	8/31
Grasshopper Sparrow	C	C	C	C	C	C	Hayfields, grassy pastures	5/25	8/31
Henslow's Sparrow	L	*	*	*	*		Weedy fields, wet meadows	5/15	8/31
Saltmarsh Sharp-tailed Sparrow				*	*	U	Salt marshes	6/1	8/10
Seaside Sparrow			*	L	L	C	Salt marshes	6/1	8/10
Song Sparrow	C	C	C	C	C	C	Brushy fields, marsh edges, suburbs	5/1	7/31
Swamp Sparrow	U	L	L	L	L	L	Marshes, wet brushy areas, bogs	6/1	7/31
White-throated Sparrow	?						Brushy openings	6/10	7/31
Dark-eyed Junco	L						Edges of northern mixed forests	6/1	7/31
Northern Cardinal	C	C	C	C	C	C	Edge, brush, parks, suburbs	3/15	9/30
Rose-breasted Grosbeak	C	?	?				Edges of moist deciduous woods	6/15	8/10
Blue Grosbeak	L	U	U	C	C	C	Thickets, hedgerows and edges	5/25	8/10
Indigo Bunting	C	C	C	C	C	C	Edges, open forest, brush areas	5/25	8/15
Dickcissel	?	L	?	L	L		Open country, especially alfalfa	6/1	8/31
Bobolink	C	L	*				Fields, meadows, pastures	6/15	6/30
Red-winged Blackbird	C	C	C	C	C	C	Marshes, ponds, meadows, hayfields	5/1	7/10
Eastern Meadowlark	C	C	C	C	C	C	Hayfields, pastures	4/25	9/10
Common Grackle	C	C	C	C	C	C	Suburbs, farmland	4/15	6/30
Boat-tailed Grackle				L	L	C	Brushy, open woods, near salt water	4/15	8/31
Brown-headed Cowbird	C	C	C	C	C	C	Everywhere, except urban areas	5/1	7/10
Orchard Oriole	U	U	C	C	C	C	Edges, hedgerows, scattered trees	6/1	7/5
Baltimore Oriole	C	C	C	U	U	L	Shade trees, open deciduous woods	6/1	7/25
Purple Finch	U						Mixed woods, parklands, residential	6/1	8/10
House Finch	C	C	C	C	C	C	Residential, especially evergreens	5/1	7/15
Pine Siskin	R						Northern conifers	6/15	8/31
American Goldfinch	C	C	C	C	C	C	Brushy fields, edges, hedgerows	6/15	8/31
House Sparrow	C	C	C	C	C	C	Cities, farms, parks, suburbs	2/1	8/31

NAMES OF QUADRANGLES

001 Friendsville	062 Westernport	124 Gibson Island	185 Golden Hill
002 Accident	063 Keyser	125 Love Point	186 Blackwater River
004 Aivilton	064 Shepherdstown	126 Langford Creek	187 Chicamacomico River
005 Frostburg	065 Keedysville	127 Centreville	188 Mardela Springs
006 Cumberland	066 Middletown	128 Price	189 Hebron
007 Everts Creek	067 Frederick	129 Goldsboro	1903, Delmar - CW
008 Flintstone	068 Walkersville	130 Falls Church	191 Pittsville
009 Artemas	069 Libertytown	131 Washington West	192 Whitehaleysville
010 Bellegrove	070 Winfield	132 Washington East	193 Selbyville
011 Hancock	072 Reisterstown	133 Lanham	194 Assawoman Bay
012 Cherry Run	073 Cockeyville	134 Bowie	195 King George
013 Clear Spring	074 Towson	135 South River	196 Colonial Beach North
014 Mason Dixon	075 White Marsh	136 Annapolis	197 Rock Point
015 Hagerstown	076 Edgewood	137 Kent Island	198 Leonardtown
016 Smithsburg	077 Perryman	138 Queenstown	199 Hollywood
017 Blue Ridge Summit	078 Spesutie	139 Wye Mills	200 Solomons Island
018 Emmitsburg	079 Earleville	140 Ridgely	201 Barren Island
019 Taneytown	080 Cecilton	141 Denton	202 Honga
020 Littlestown	081 Table Rock	142 Alexandria	203 Wingate
021 Manchester	082 Gorman	143 Anacostia	204 Nanticoke
022 Lineboro	083 Mount Storm	144 Upper Marlboro	205 Wetipquin
023 New Freedom	084 Harpers Ferry	145 Bristol	206 Eden
024 Norrisville	085 Point of Rocks	146 Deale	207 Salisbury
025 Fawn Grove	086 Buckeystown	147 Claiborne	208 Wango
026 Delta	087 Urbana	148 St. Michaels	209 Ninepin
027 Conowingo Dam	088 Damascus	149 Easton	210 Berlin
028 Rising Sun	089 Woodbine	150 Fowling Creek	211 Ocean City
029 Bay View	090 Sykesville	151 Hobbs	212 Stratford Hall
030 Newark West	091 Ellicott City	152 Hickman	213 St. Clements Island
031 Sang Run	092 Baltimore West	153 Mount Vernon	214 Piney Point
032 McHenry	093 Baltimore East	154 Piscataway	215 St. Marys City
033 Bittinger	094 Middle River	155 Brandywine	216 Point No Point
034 Barton	095 Gunpowder Neck	156 Lower Marlboro	217 Richland Point
035 Lonaconing	096 Hanesville	157 North Beach	218 Bloodsworth Island
036 Cresaptown	097 Betterton	158 Tilghman	219 Deal Island
037 Patterson Creek	098 Galena	159 Oxford	220 Monie
038 Oldtown	099 Millington	160 Trappe	221 Princess Anne
039 Paw Paw	100 Davis	161 Preston	222 Dividing Creek
040 Big Pool	101 Waterford	162 Federalsburg	223 Snow Hill
041 Hedgesville	102 Poolesville	163 Seaford West	224 Public Landing
042 Williamsport	103 Germantown	164 Indian Head	225 Tingles Island
043 Funkstown	104 Gaithersburg	165 Port Tobacco	226 St. George Island
044 Myersville	105 Sandy Spring	166 La Plata	227 Point Lookout
045 Catoclin Furnace	106 Clarksville	167 Hughesville	228 Kedges Straits
046 Woodsboro	107 Savage	168 Benedict	229 Terrapin Sand Point
047 Union Bridge	108 Relay	169 Prince Frederick	230 Marion
048 New Windsor	109 Curtis Bay	170 Hudson	231 Kingston
049 Westminster	110 Sparrows Point	171 Church Creek	232 Pocomoke City
050 Hampstead	111 Swan Point	172 Cambridge	233 Girdletree
051 Hereford	112 Rock Hall	173 East New Market	234 Boxiron
052 Phoenix	113 Chestertown	174 Rhodesdale	235 Whittington Point
053 Jarrettsville	114 Church Hill	175 Sharptown	236 Ewell
054 Bel Air	115 Sudlersville	176 Whitewater	237 Great Fox Island
055 Aberdeen	116 Sterling	177 Nanjemoy	238 Crisfield
056 Havre de Grace	117 Seneca	178 Mathias Point	239 Saxis
057 North East	118 Rockville	179 Popes Creek	
058 Elkton	119 Kensington	180 Charlotte Hall	
059 Oakland	120 Beltsville	181 Mechanicsville	
060 Deer Park	121 Laurel	182 Broomes Island	
061 Kitzmiller	122 Odenton	183, Cove Point	
	123 Round Bay	184 Taylors Island	

FIELD CARD

QUADRANGLE						
Quad name <i>Laurel</i>				Quad no. <i>121</i>		
BLOCK (circle one) NW NE CW CE SW SE				YEAR <i>2002</i>		
1	2	3	4	5	6	

Name & number from map and list
One block per card; don't forget **YEAR**

SPECIES	PO	PR	CO	QB	DATE CO
Owl, Barred		✓			
Nighthawk, Common		S			
Chuck-will's-widow			FL		
Whip-poor-will	T				
Swift, Chimney					
Hummingbird, Ruby-thr.					
Kingfisher, Belted					

Use codes—
Not checks!
S is not a code!
T in wrong column!

BE VERY CAREFUL TO PUT DATA ON THE CORRECT LINES.
Birds with similar sounding names can cause confusion.

