

# Instructions for Conducting the North American Breeding Bird Survey

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**STRICT ADHERENCE TO THESE RULES IS ESSENTIAL FOR PROPER ANALYSIS OF YOUR SURVEY RESULTS**

**IF UNABLE TO CONDUCT SURVEY, CONTACT STATE COORDINATOR IMMEDIATELY**

**PLEASE READ ALL INSTRUCTIONS PRIOR TO CONDUCTING SURVEY**

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1) SURVEY REQUIREMENTS: Only one person, the “assigned observer”, detects, identifies and counts birds during a survey. As the assigned observer, you must know the songs, calls, and visual identification of all species likely to be encountered on your route. This knowledge is a prerequisite for conducting the North American Breeding Bird Survey (BBS). We also advise that participants be familiar with all birds in their region as unexpected species are occasionally found on surveys. The U.S. and Canadian national offices are happy to provide you with tools to brush up on your birding skills before the survey season begins. Since most birds counted during surveys are detected by songs and calls, acute hearing is extremely important. If you have experienced hearing loss or have related concerns, you should not conduct a survey without having first consulted your national BBS office.

The standardized method used by the survey is the core reason BBS data are so valuable in conservation planning. If you are a new observer, you must complete a brief online assessment of BBS methods before conducting your first survey. The instructions that follow contain the answers to the questions asked in the assessment, so please take the time to read them before completing it. Section 2 describes how to access the assessment.

Conducting a BBS route requires few supplies, but access to suitable transportation is essential because you must perform 50 point counts within 4-5 hours. The BBS program provides data forms, maps, and other paperwork to observers via “route packets” (U.S.) or “kits” (Canada) that we mail in early spring. New observers also receive a safety vest. The

following equipment checklist outlines the equipment that observers should have on hand when conducting a BBS survey.

#### EQUIPMENT CHECKLIST:

- |  |   |
|--|---|
| <input type="checkbox"/> binoculars                              | <input type="checkbox"/> adequate gasoline                              |
| <input type="checkbox"/> digital timer or stopwatch (with alarm) | <input type="checkbox"/> pencils and/or pens (with water resistant ink) |
| <input type="checkbox"/> thermometer                             | <input type="checkbox"/> clipboard                                      |
| <input type="checkbox"/> BBS data forms and/or field sheets      | <input type="checkbox"/> route map and stop descriptions                |
| <input type="checkbox"/> safety vest                             | <input type="checkbox"/> drinks and snacks                              |

2) LOG IN: The BBS website features an observer portal that allows you to view and update your contact information, take the methods assessment, review your route assignments, enter data, and more. Shortly after joining the BBS program, you will receive an automated email that includes your observer number and a temporary password to enter the portal. You can access the portal via the [“Data Entry”](#) link, found on the left side of the [BBS home page](#).

After logging in, the status of your methods assessment is shown as either “Completed” or “Incomplete”. You can change your password and view your personal information by visiting the “My Info” link at the top of the page. Please keep your mailing address, email, and other contact information current so the BBS knows where to mail materials to and how to reach you if questions arise. The portal also includes a list of the routes that are assigned to you so you can see which routes to expect a packet (U.S.) or kit (Canada) for in the mail at the start of each season.

3) WHERE TO SURVEY: Each year, the BBS national office will send you an “official map” of your route. Each survey begins at the precise point marked “start” on that route map. Nearly all BBS route maps have a set of narrative “stop descriptions” attached that describe where the subsequent 49 stops should be conducted (Section 7). Do not reverse the direction of a route or change the order of stops because their order ensures that you visit the same locations at the same times each year, maximizing comparability of results. Accomplishing this also requires that each survey begins at each route’s official start time, which is printed on the forms (Section 5).

4) SCOUTING: BBS surveys move promptly through a sequence of 50 stops; the fast pace is necessary to ensure you arrive at the counting locations at nearly the same times each year. Wrong turns and unexpected conditions, such as washed out roads and closed bridges, introduce costly time delays so we ask that you scout your routes beforehand to avoid surprises. We cannot overstate the importance of being familiar with the driving path and the exact locations of the 50 stops before the day of the survey. A scouting trip saves time and frustration, especially for first-time observers and/or those on new routes. If you are a first-time observer, please conduct a mock run using roughly 10 stops so that you become familiar with the hurried pace and how to manage your field equipment (including where the timer will be placed, what writing surface will be used when recording data on data forms, where stop descriptions will be placed when advancing between stops, etc.).

5) WHEN TO SURVEY: You must conduct your surveys on a similar date each year for results to be comparable over time. **A specific window of valid survey dates is printed on the data forms for each route.** Early or mid-June is the ideal time to conduct surveys throughout most of the U.S., with some exceptions. For example, the acceptable survey window falls earlier in southern Florida and the desert regions of California, Nevada, Arizona, New Mexico, Texas, and Utah. Further north, in some states bordering Canada, surveys can be conducted throughout June up to the very first days of July. In Canada, surveys must be conducted between May 28 and July 7, though the first 2 weeks of June are usually best. In general, observers should select a date nearest to the survey dates of past years.

Surveys must begin at the official start time, which is route-specific and printed on each route's data forms. Generally speaking, this is 30 minutes before sunrise. If you or your route are in an area near a time zone boundary, or an area with a history of time zone shifts, please compare the 'printed start time' to 'local sunrise minus 30 minutes' before attempting to survey the route. If the two differ by more than 30 minutes, contact your national BBS office.

On the day of the survey, please arrive at least 5 minutes early to prepare for your survey to begin; take your weather measurements and, if you need it, your odometer reading.

6) ACCEPTABLE WEATHER: For survey results to be comparable, you must conduct your route under satisfactory weather conditions: good visibility, little or no precipitation, and little to no wind. Occasional light drizzle or a very brief shower may not affect bird activity, but you should avoid fog, steady drizzle, or prolonged rain. Except in those prairie states and provinces where wind speeds typically exceed 8-12 mph (13-19 kph), you should conduct your survey on a morning when the wind is 7 mph (12 kph) or less. If you can walk faster than the wind is blowing, the wind conditions are acceptable.

7) COUNT LOCATIONS: After the first stop, successive stops will follow in roughly ½-mile (~0.8 km) intervals. This is not a hard-and-fast rule but it is generally true because each route, at the time it was first created, had stops located no less than that to minimize counting overlap. Vehicle odometers can vary though, and distance measurements often differ between car models, so we do not recommend describing stops using only odometer readings. **If your route has a list of stop descriptions, always use those locations, regardless of what your odometer or other information may say.** It is normal for long existing routes to have experienced some program-approved stop movement over time. This means that stops may now be located closer or further from where they were originally. **Always strive to stop in exactly the same locations as you and those before you have.** If you have concerns about the distance between stops, if you find conflicting information within the route materials, or if you feel that the stop locations are unreasonable – contact your national BBS office. To learn what to do if a problem arises in the field that prevents you from visiting a stop, see Section 13 below.

Because of the critical role that stop descriptions play in producing comparable results, we ask that you keep your stop descriptions as current as you can. Making note of new landmarks, a change in signage, or even a change in house color can better jog your memory in future years and make your stop descriptions more effective to future observers. The BBS program provides a convenient and easy way to maintain and print stop descriptions online, via the BBS observer portal (Section 2). If changes are few and involve just a word or two, you can make the changes online directly or write them on the paper copies of the stop descriptions. However big or small the changes are, please apply a post-it note (or similar non-permanent note) to the front of the route map or printed stop descriptions to call attention

from your national coordinator. This will trigger us to update our office records, print new stop descriptions, and archive the old ones.

Some observers also elect to collect stop coordinates, which are a numerical representation of their stop descriptions. If stop coordinates exist for your route, you should consider this information as accessory to, and not an alternative for, stop descriptions. In cases where both stop descriptions and stop coordinates are present in route materials, observers should always rely on the stop descriptions for navigation. The BBS program provides a convenient and easy way to maintain and print stop coordinates online, via the BBS observer portal (Section 2).

8) HOW TO COUNT: One and only one person, the “assigned observer”, is permitted to detect, identify, and count birds during a survey. As the assigned observer, you must strictly follow the counting protocol described below, thus ensuring that surveys are conducted the same way as has been done each year in the past. You must count from a stationary point outside the car. **The goal of counting is not to ‘find good birds’ nor to perform an exhaustive census – rather, it is to expend the same effort in the same way each year to ensure that BBS count numbers reflect real changes in birdlife and not changes in your methods.** Counts at each stop should last exactly 3 minutes. During each 3-minute count, you should tally all birds seen within ¼ mile (400 m) of where you are standing and all birds heard. You should not include birds between stops and/or before or after the 3-minute count, but you can make note of those for your own records. The online data entry system allows you to save such “comments”. Do not stay less or more than 3 minutes – any “good bird” thought present but missed will likely be present some other year, and valid negative data are as important as positive data in this survey. Do not spend extra time pursuing difficult or unusual birds because it is of greater importance to finish the survey within the time limit, which is 4 to 5 hours. Bird activity changes drastically after this time. **ABSOLUTELY NO METHOD OF COAXING BIRDS SHOULD EVER BE USED** during the count periods. This means no “spishing”, playbacks, or use of any other method. It is crucial that you conduct your survey consistently because the goal of a BBS survey is to establish a comparative index, not a total population count.

9) WHAT TO COUNT: All individual birds, except dependent young and downy chicks of water and shorebirds, seen or heard during each 3-minute period should be counted. Estimates should be used only for flocks too large to count in the brief time they are seen. Do not use check marks (i.e. noting only the presence of a bird rather than providing an actual number of individuals) even for abundant species. Record counts during the 3-minute counting period – not after – to avoid errors of omission and to avoid significantly delaying the completion of the survey.

No one will detect all birds present at a stop. Hundreds of birds will be present but not active during each 3-minute count, and you must not try to guess how many you are missing. **Report only those birds actually seen or heard during the prescribed 3-minute stops.** Be careful not to count any individuals known or strongly suspected to have been counted at a previous stop. **Any bird suspected to be a representative of another breeding population (i.e., a late migrant, a summer vagrant, etc.) should be included in the count but marked as a ‘non-breeder’ on the data sheet.** Easily identifiable subspecies of birds, such as those that comprise Northern Flicker, Dark-Eyed Junco, and Yellow-rumped Warbler should be identified to type. Any species encountered that is not printed on a route’s data forms can be added at the bottom. **Any species unusual in the area, whether it appears on the form or not, should be supported by including some details of the observation.** This documentation should be left in the ‘species comments’ section during data entry and should include how the bird was

detected, the approximate distance from the bird, and the characters that were observed that led to certainty in identification.

10) DESCRIBING WEATHER: Observers record “Start Time” and “Start Weather Conditions” at the beginning of each survey and then “End Time” and “End Weather Conditions” at the close. This is an important part of the survey because weather exerts a strong influence on bird behavior and detectability. The BBS program uses the U.S. Weather Service Codes and Beaufort Wind Speed Codes as follows:

#### SKY CONDITION CODES

<u>Sky Condition</u>	<u>Weather Service Code</u>
Clear or few clouds.....	0
Partly cloudy (scattered) or variable sky.....	1
Cloudy (broken) or overcast.....	2
Fog or smoke .....	4
Drizzle.....	5
Snow.....	7
Showers.....	8

#### WIND SPEED CODES

<u>Wind Speed</u>	<u>Beaufort Code</u>
Smoke rises vertically (<1 mph, < 2 kph) .....	0
Wind direction shown by smoke drift (1-3 mph, 2-5 kph) .....	1
Wind felt on face, leaves rustle (4-7 mph, 6-12 kph) .....	2
Leaves, small twigs in constant motion (8-12 mph, 13-19 kph).....	3
Dust rises, small branches move (13-18 mph, 20-29 kph) .....	4
Small trees in leaf begin to sway (19-24 mph, 30-38 kph) .....	5

11) COUNTING VEHICLES: **Record the number of vehicles that pass the stop during each 3-min count.** If using the printed route data forms, these values can be recorded at the bottom of the page. Treat all motorized conveyances equally; motorcycles, cars, buses, trucks, semi-tractor trailers, etc., would each count as one vehicle if they were to pass by the point while the count was in progress. Count only those vehicles that are on the road where the count is taking place. **Do not count vehicles passing by on nearby thoroughfares, even if their noise is interfering with your ability to detect birds.** If a stop is located at an intersection, count the vehicles traversing both roads during the count. **It is acceptable for assistants to count and record the number of vehicles.** We suggest using a mechanical hand-counter or tallying device to count vehicles. If a stop is on a very heavily traveled road, it is acceptable to estimate the number of vehicles that passed during the 3-min stop because counting birds is the primary objective of the survey. In addition, if you feel counting vehicles distracts too much of your attention from the bird survey, forego this step and indicate on the route’s data forms that you did not count vehicles.

12) EXCESSIVE NOISE: **Please note whenever you feel that constant excessive noise – not including that produced by counted vehicles – had significantly interfered with your ability to hear birds at a stop.** Possible sources of excessive noise include, but are not limited to lawn mowers, oil well pumps, trains, crop dusters, tractors, vehicles on neighboring roads, numerous barking dogs, and rushing river water. Do not record presence of excessive noise if

the disturbance is temporary (lasts < 45 sec) or if you had briefly suspended your count until the offending noise had ceased or moved on. You may suspend a count by 1 minute to accommodate excessive noise but this must be restricted to only a few stops. If many stops have excessive noise, notify your national office; in some cases, a replacement route will have to be developed.

13) ROUTE PROBLEMS: Scouting of routes will eliminate most surprises along the route path and will permit time for adjustments if any problems are encountered. **If problems do arise while scouting, notify your national office as soon as possible.** BBS staff will work with you to identify alternative solutions that best meet the requirements of the program. **If an issue arises during the actual survey, remember that it is most important to use the same stops in the same order as in previous years.** In cases where a stop cannot be reached, detour around the obstruction and resume on the other side, attempting to preserve as many stops as possible. **Do not make new stops along the detour** unless necessitated by inaccessible sections of road or if detouring will take more than an hour. There are numerous local traffic regulations dealing with the proper and safe parking of vehicles along roadsides. Please observe these regulations while conducting the BBS; remember to use caution in selecting an appropriate stopping place and when getting into and out of your vehicle. If a stop is in a dangerous location, it is acceptable for you to move it as much as 0.1 mile (160 m) to locate a safe pull-off. If this does not resolve the safety problem, skip the stop and contact your national BBS office. Never stop at a location that you consider to be dangerous.

14) RECORD KEEPING: Because the BBS program values your considerable time and efforts and because your data will be used in high level conservation planning, it is essential that you keep archive-level records. This is an easy task and involves just 3 simple steps: 1) in the field, record your data on paper data sheets, then 2) after the survey, enter your data online, and lastly 3) mail in your paper records for archiving in the BBS office. You might be asking, *“why do you need original field sheets if we enter the data online?”* Keeping archive-level records is the mainstay of all credible, long-term monitoring projects, whether that be NASA’s monitoring of planetary objects, USGS’s recording of earthquakes, or the BBS’s tracking of bird populations. Putting data into a database makes data useful, however, databases can and do change in time (e.g., think about taxonomy updates) so archiving originals is the way scientific programs keep an indelible record of what observer’s had reported. Each of the 3 steps mentioned above are discussed in more detail in the following sections.

15) PAPER DATA SHEETS: There are many possible media that bird data can be recorded onto in the field and all have tradeoffs. Only one of these meets all the objectives of the BBS – paper data sheets. **Please use only paper materials when recording your data in the field.** The reasons for this include that paper provides an easy to use, universally readable collection format that doesn’t require cellular, internet, or satellite connections to operate and doesn’t need to be powered up to work. It is easily processed, stored, digitized, and archived and it’s the format that’s been proven to consistently work since the inception of the survey. **Use a dark pencil or ballpoint pen;** avoid felt-tip pens and the like as the ink is not waterproof, easily smudges, and can wash out entirely.

Participants are free to jot down their data in whatever style they like; in our experience, observers fall into 1 of 2 different camps when it comes to this. The BBS offers 2 differently styled forms to suit each.

**Option 1 is to use the BBS Data Forms that include a pre-printed list of species.** The list includes the most frequently encountered species in the history of the route. Boxes to the

right of the species names allow observers to jot down counts at each stop. This type of form is included in the route packets (U.S.) and kits (Canada) that are mailed to observers each spring. If you use these forms while in the field then, afterwards, when you log into our online system to enter your data, you will notice that our data entry pages perfectly match your list and form layout, making data entry quick and efficient (Section 16).

**Option 2 is to use the Add-As-You-Go Forms, which do not have pre-printed species on them.** These pages have a sequence of large, empty boxes on them – one used for each stop – into which you can jot down species names and counts in any order you’d like (typically it’s in the order you had detected them). You can access these forms by visiting the “[Participate](#)” link on the BBS home page and scrolling down to the “Resources for Current Observers” section. **After you have collected your data, please do not transcribe them onto another paper form – instead, enter them directly online using the “Add-as-you-go” option.** You will see this option (as a toggle on the top of the page) when you are at the stage of data entry that involves inputting your bird data. This option allows you to very rapidly enter your data in exactly the way you had collected it.

16) ONLINE DATA ENTRY: **Please promptly enter your data online after having completed your survey(s)** by visiting the “[Data Entry](#)” link on the BBS home page. We encourage that you do this as soon as possible after returning from the field so that, if you should encounter a question on your data sheets during data entry, you’re in the best position to recollect the answer. Instructions for how to log in are covered in Section 2 (above). After logging in, you can begin data entry by first visiting your list of assigned routes and then clicking on the route you want to enter data for. You will advance through a sequence of data entry pages before ending at an option to submit. **Please review your data record one last time before clicking “submit”.** Once you have submitted your data, they are queued for BBS processing and you will be unable to edit them until processing is completed (explained in Section 20, below). We cannot review or analyze your data until you have clicked “submit”.

17) ALTERNATIVE TO ONLINE ENTRY: For observers who run many routes and/or for those who do not have internet access, the BBS program can enter your data secondhand. This is not without risk as no one is better able to faithfully report your data than you; you are less likely to make clerical mistakes or misinterpretations than data entry staff who lack the first-hand familiarity on your route(s) that you have.

If you wish to exercise this option you must, for each route, complete all questions on the first sheet of the data forms that arrived in your packet. If you need to update your address, you need only complete the ‘update address’ section on one sheet. Our data entry staff can accommodate bird data reported using either the form species list or add-as-you-go formats, however, if you send the latter, you must make sure your species names or abbreviations are legible to anyone, even people not familiar with birds. Please write Arabic numerals (i.e., 1, 2, 3, etc.) next to hash marks, dots, or any other method you’ve used to tally individuals to ensure our data entry staff interpret them correctly. Send your materials via postal mail as described in Section 18 below and include a note indicating that you would like to have the data sheets entered for you. Please keep a photocopy of your original data sheets as insurance against lost mail.

18) MAIL IN PAPERWORK: After you have completed your survey and entered your data online, please use the prepaid, pre-addressed return envelope provided in your packet to mail the following materials back to the national BBS office:

- Data Sheets (described in Section 15 above)

- Route Map (Section 3)
- Caution Sign (provided in packet)
- Signed Volunteer Services Agreement (if applicable; note that Canadian observers only need to submit one every 5 years)

Please keep a photocopy of your original data sheets for your records; you will also need to use these to verify that the digital BBS record is accurate at the end of the year, once your data have been processed. It is also insurance against lost mail.

19) IMPORTANT DATES:

- **By July 15:** You should have entered your data online and mailed the paperwork back

**If you are unable to survey your route during the prescribed period, PLEASE INFORM THE REGIONAL COORDINATOR AND/OR NATIONAL OFFICE IMMEDIATELY, then mail back the packet as soon as possible.** Unless you notify a coordinator, no one else will be able to sample your assigned route, so it is a guarantee that the historic bird population record will be incomplete. The contact information for Regional coordinators is located at the "[Contact Us](#)" link on the BBS home page.

20) PROCESSING OF RESULTS: Once we receive your packets back, BBS staff begin processing your data. This includes checking for completion and looking for values that could indicate potential errors. If staff find potential errors, they consult your paper materials to verify that the values are as you intended them to be, and not a data entry error. Staff will contact you if questions remain. Staff may also contact you in cases where unusual species have been detected, requesting documentation that will ensure that future data users will accept the validity of those records. Once your data have been fully processed, you will receive an automated notification that includes a request to review the data one last time before they are used in analyses.

21) INCOME TAX DEDUCTION/RECEIPTS: U.S. citizens who itemize deductions on their Income Tax Returns may be able to deduct mileage, cost of motels, campgrounds, etc., involved with the scouting and running of official BBS routes. Please check your IRS form 1040 instructions each year; it could change. In Canada, out-of-pocket expenses incurred while running a BBS route can be treated as a charitable donation through the non-governmental organization, Bird Studies Canada (BSC). Canadian participants receive a charitable tax receipt directly from that organization (The Canadian Wildlife Service cannot provide these). Contact the Canadian BBS national office for more information.

**THANK YOU FOR YOUR TIME AND EFFORTS IN SUPPORTING  
THE NORTH AMERICAN BREEDING BIRD SURVEY!**