

Guide to point counts for birds in Bulgaria



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1. Aims

Point counts are used to determine the species and relevant densities of birds within an area. These point counts are carried out for ten minutes, which provides enough time to record the key species while ensuring that a number of point counts can be carried out during a holiday without interruption to the itinerary. The success of this project depends on the contribution of as many people as possible recording birds at as many points as possible.

2. Methods

2.1 Points

We differentiate between two types of count points:

- a. Fixed points
- b. Roving points

Ad a. Fixed points

The locations of fixed points are based on a standardised grid of 1x1 km (UTM grid) (figure 1). Both the central point (centroid) and corners of each 1 km square can be counted. However, these 'fixed' points can be moved by up to 250 m to allow for access (such as to a road or footpath) (figure 1). The use of fixed points has the advantage of counts being conducted at places that might otherwise be ignored by birdwatchers.

Ad b. Roving points

During a trip, birdwatchers often stop at locations where certain birds are known to be present or at habitats that are suitable for interesting species. In such circumstances there is often much more to see than the species in question. Often such visits can last between a few minutes to several hours. These casual observations contain useful information that can contribute to the knowledge of birds in a particular area, in relation to both rare and common species and the habitats in which they occur.

Digital files of the count points

The details of the 1x1 km fixed points and topographic maps are given on the website of The Habitat Foundation (<http://www.dehabitatstichting.nl/en/content/documents>). The locations of the roving points are also available and should be consulted prior to counting. Google Earth files (kml) that also show the coordinates in a format for tablet and mobile phone are available. In § 4.1 tips are given as to how these data can be saved to a GPS, smartphone, iPhone, tablet or laptop.

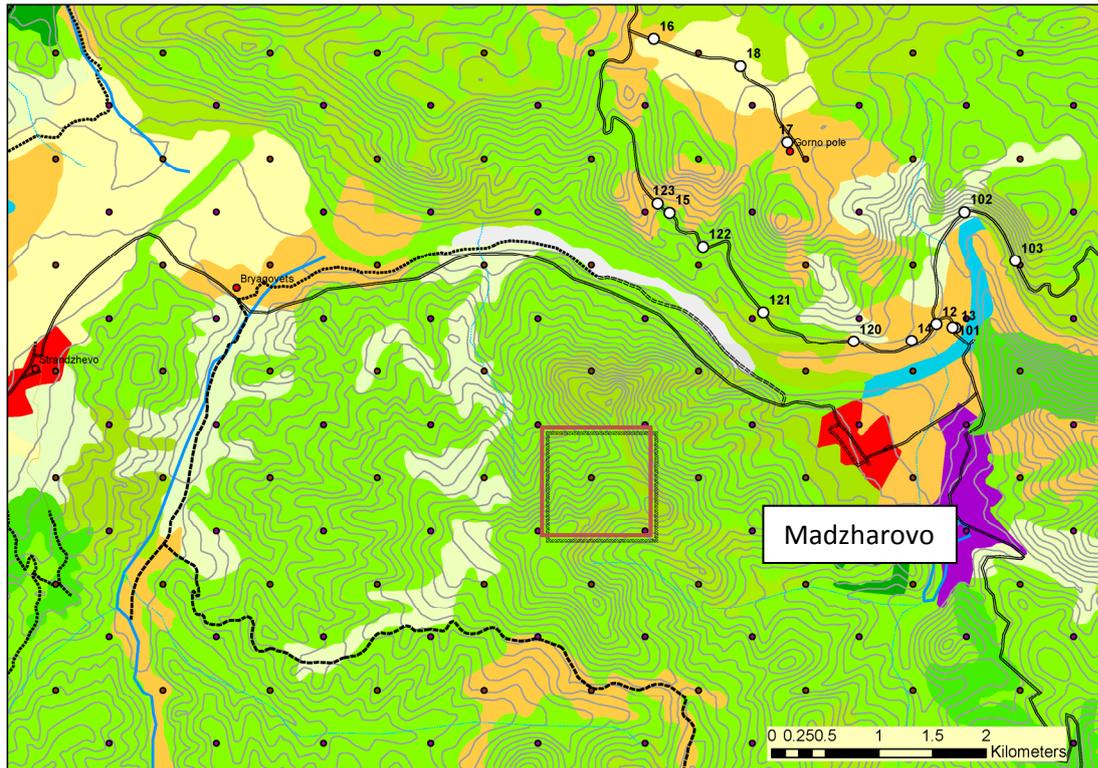


Figure 1. Example of fixed points (black dots) at the corners and centre of a 1x1 km grid (brown square). The white dots show actual count locations, for example along a road close to the grid points.

2.2 Count period

The duration of the counts is:

- a. for fixed points: **10 minutes**;
- b. for roving points: **unlimited**.

Ad a. Fixed points

For fixed points, the count must last for exactly ten minutes, during which time all species seen or heard must be recorded. These counts form the basis of the monitoring programme so it is essential that the length of all counts is comparable.

Ad b. Roving points

For roving points, no fixed time limit is imposed. Counts may last as long as you choose, however, all species seen or heard must be recorded and not only those that you find of interest. If counting for longer than ten minutes then make a note of those birds recorded in the first ten minutes separately to those thereafter. This gives a measure of the count effort and allows the relative densities to be determined.

Recording a count

Record the start and end times (time of day) as well as the date. Note the numbers of all the species seen or heard during the count. For a roving point count lasting for longer than ten minutes, indicate how many of each species were recorded during the first ten minutes.

Count more often

Points can be counted more than once. Many species are most active during the mornings, others in the afternoon, evening or night. One important way to build up a complete picture of the species and numbers present is to visit a point more than once and, preferably, at different times of the day. Multiple counts can be analysed statistically to estimate population sizes.

Going one step further

The longer you count at any single point, the greater the chance that you record all birds present. But how long must you count to record as many birds as possible, and does this vary between habitats? In an attempt to answer this question it is possible to count using the following method. This remains optional for those counters who are interested.

This method involves recording the counts in two periods of five minutes and noting the locations of all birds on a map. A full description of this count method and how to record the results is given in **Appendix A**.

2.3 Count distance

During counting, a distinction must be made between those birds observed:

- a. within **200 m** of the count point;
- b. **further than 200 m** from the count point.

This protocol must be used during counts at both the fixed and roving points.

Furthermore, you must record whether the bird was 'local' (was effectively using the local area) or was 'flying over'. At times it can be difficult to determine which of these category a bird falls into. A hovering kestrel can be considered as local as it is making use of the local area, whereas a vulture circling high above the same field should be considered as flying over. If the vulture lands, then it should be placed into the category 'local'. A cuckoo that flies out of a bush is 'local' whereas a flying cuckoo that does not land is 'flying over'.

2.4 Behaviour (optional)

In order to understand the importance of an area for birds their behaviour and activity can be recorded; consider:

- male / female / pair
- song / calling / alarming
- nest building
- foraging
- roosting
- flight direction
- age (adult, sub-adult, young)
- etc.

A list of such options, which can be used on the website given in Chapter 3, can be found in Appendix B.

The recording of behaviour is not mandatory but it does help determine the numbers of breeding birds in relation to the total number of birds present. You may decide to record only certain characteristics, for example (singing males or foraging kestrels, etc.). It is important to remember that this is additional information and recording it should not be at the expense of the count!

2.5 Photos of the area

Ideally, photos should be made at each count point. These photos should show how the area looks from the count position and should be taken in all four directions (north, east, south and west). You'll need a compass. Photos should be taken with a standard or wide angle lens.

To ensure that you remember which photos correspond to which location and direction it is useful to hold your notebook (with that location's count) in the first photo, and to ensure that you always take the directional photos in the same order. Alternatively you can record the image numbers alongside the count, date, time and GPS coordinates.

2.6 Finally

Finally, you must also record:

- a. who the observers were, and;
- b. the weather conditions.

Ad a. Observers

Counts can be busy and it can be difficult to keep up with all the tasks of watching, counting, and recording. If counting with other observers then it may be useful to divide tasks, such as observing or writing. These tasks can be rotated at each location.

Please note: we are really interested in the actual people carrying out the count, not only the number of people. Please write the full names of the participants for each count. Later, during the submission of the count data it is necessary to indicate how experienced each counter is in recognizing and counting birds. This is important information during data validation and analysis.

Ad b. Weather conditions

Most importantly, it is useful to record any circumstances that may have affected the count. Rain, strong wind or even extreme heat might reduce bird activity or lower detection rates. Please be sure to record any such circumstances that might have influenced the count.

3. Resultaten doorgeven

3.1 Point counts (fixed points)

Results can be submitted via the website: <http://pc.trektellen.nl>.

You must first register as a user in order to use the website. Click on 'log in' in the top-right corner of the homepage and then choose 'register'. Fill in your email address and choose a password and also the verification CAPTCHA (letters and numbers). You will then receive a verification email once your registration has been accepted.

Once you log in you can begin to enter your count points and count data.

Add a new count point

To add a new count point choose 'Add' in the menu under 'Locations'. Give the count point a recognizable name and enter the GPS coordinates (longitude, latitude) under the map. Fill in the coordinates as accurate as possible. Once saved the point will appear in the list and on the map.

Add a new count

There are three possible ways to add a count.

1. Under the menu 'Locations', click 'List' and select the point to which you want to add a count. Click on 'add count' and enter the date, and the start and end times. The 'submitter' is the number with which you are registered with the website. Click 'save' and then observations can be added to the count.

When you start to type the name of the species the list with possible options appears. Click the appropriate species and fill in the other fields in the same way. For sensitive records that you believe should not be available to visitors of the website (only to the Bulgarian Society for the Protection of Birds, BSPB), then check the 'secret' box after the observation.

Don't forget to add the names of all the observers in the field 'participants'.

2. Select the relevant point on the map from the menu 'Locations'. Click on 'details' and then 'add count' at the bottom of this page. Continue as described in 1.
3. Select 'Add' under the 'Counts' menu. Choose the relevant location from the map or select the 'Existing location name' in the drop-down list. Continue as described in 1.

Add a new observation

New observations can be added to an existing count; for example if you want to continue with the input of a partly-input count. This can be done in several ways.

1. Choose 'List' from the menu 'Count'. Select the relevant location and count (date, start and end time). Click on 'add observations' and enter the additional records at the bottom of the species list.
2. Choose the relevant location from either the map or list under 'Locations' in the top menu and choose 'details'. The details of the count point and counts will be shown. Click on 'add observations' after the relevant count and additional records can be added.

3.2 Point counts (roving points)

The submission of data for roving points is the same as for fixed points (see §3.1). If you recorded birds in the first ten-minute period separately to the second ten-minute periods then enter two counts for the same point, with the same date but different start and end times.

3.3 Point counts (2 x 5 minutes)

The submission of the detailed point counts, where the locations of birds are mapped (see §2.2), can be submitted via the website from Sovon Vogelonderzoek Nederland (www.sovon.nl). If you would like to submit data from this type of count please contact Henk Sierdsema (henk.sierdsema@sovon.nl) for access to the website. See also **Appendix A**.

3.4 Additional counts

Additional counts or observations that have not been carried out at count points can also be submitted via the website <http://pc.trektellen.nl>. Counts can be submitted for a transect line or for a defined area. These data are not used for the calculation of relative densities but provide useful information as to the occurrence of species.

Adding a line or area

If you want to add a new count point (see §3.1), go to 'Add' under 'Locations' in the top menu and choose the point (pencil with +), line or area in the top right above the map. When drawing a line or area double-click on the last point to complete the drawing. Fill in the location name and save.

Adjustments to the line or area can be done in the same way as for points (see §3.1).

3.5 Photographs of the count points

Unfortunately, it is not possible to submit the four photographs from the count point via the website pc.trektellen.nl. These can be submitted to Henk Sierdsema (henk.sierdsema@sovon.nl) using a file transfer service such as www.wetransfer.com or www.yousendit.com.

For each photograph rename the file so that all the required information is given, including:

- the name of the point as on the website pc.trektellen.nl;
- the date of the count;
- the direction of the photograph (South, West, North, East);
- and your name (optional).

This results in a file name such as 'MG01-0129_22052010_W_HenkSierdsema.jpg'.

4. Tips for fieldwork

4.1 Preparation

It is advisable to download the maps required for counting before travelling to Bulgaria. Internet access can be limited in Bulgaria and in some areas coverage is lacking. Files of the maps and count points for use on a GPS, smartphone, iPhone, tablet or laptop have been made ([Punttellingen BG 2010-2012.zip](#)). These can be found at www.thehabitatfoundation.org/en/content/documents.

We recommend that you familiarise yourself with the birds of Bulgaria and their sounds prior to your trip.

Equipment

- GPS or smartphone/iPhone with GPS
- Binoculars
- Telescope
- Compass
- Field guide
- Notebook
- Pencils or pens
- Camera
- App or mp3 files with bird sounds (optional)

Files for GPS

Count points

The folder 'poi 2010-2012' in the zip file '[Punttellingen BG 2010-2012.zip](#)' contains files (csv and bmp) that can be loaded into a GPS. The csv files contain the coordinates in longitude and latitude and the bmp file contains the symbols. These files can be used as points of interest (poi) files in a GPS.

The following files are available:

1. 'fixed_points_poi_IBA' contains the central points and corner points of a 1x1 km grid for all Important Bird Areas in Bulgaria (symbol: );
2. 'fixed_points_poi_no IBA' contains the central points and corner points of a 1x1 km grid for the whole of Bulgaria, excluding Important Bird Areas (symbol: );
3. 'Surveyed_points_2010-2012_poi' contains the locations that were counted in 2010 to 2012 (symbol: ).

It may be necessary to install the utility software for your GPS. The loader for points of interest (poi) for Garmin is available at: <http://www8.garmin.com/support/mappingsw.jsp>.

Maps

The file '[gps-bulgarije.zip](#)' (file larger than 675 Mb!) contains various maps of Bulgaria that can be used on a Garmin GPS. These include the following:

- BG Mountain map: a detailed walking map of mountainous areas. The img file can be used on newer versions of the GPS.
- MTB map: the Open street map of Bulgaria. Most roads and necessary footpaths can be found on this map.
- OFRM Geotrade map: a detailed map with additional footpaths and unpaved roads that are not given in the MTB map. Installation of the OFRM map in Mapsource: copy the folders to C:\Garmin and double-click on 'install.bat'. The img file can be used on newer versions of the GPS.

Files for Smartphone, iPhone and Google Earth

Count points

The folder 'kml 2010-2012' in the zip file '[Punttellingen BG 2010-2012.zip](#)' contains files that can be used on a smartphone or in Google Earth, which can be loaded onto a laptop or tablet. This includes:

1. fixed_points.kml contains the central locations of the 1x1 km grid for the whole of Bulgaria. This is too large for most smartphones and reduced files of some regions are available, e.g. Eastern Rhodopes, Rila-Pirin and Trigrad.
2. Surveyed_points_2010-2012.kml contains the locations of the points counted in 2010 to 2012.

Before the files can be viewed on a smartphone or iPhone the Locus app must be installed (<http://www.locusmap.eu>). Both a free and a pro version (that currently costs € 5.70) are available. Locus is available for Android, iPhone and, as far as is known, also for Windows Mobile.

Various files can be imported into Locus including kml files. To import kml files in Locus select 'import data -> choose 'database-favorites' and select the kml file from the saved location on the SD card.

Maps

Maps for Locus (and ObsMap) are available to download free from <http://download.mapsforge.org/maps/>. Note: a map of the Netherlands is available from waarneming.nl: <http://forum.waarneming.nl/smf/index.php?topic=157429.0>.

Download the required maps to your SD card (direct or via a computer) and place in the folder Locus -> mapsVector. Later it is possible to choose which maps you will use in Locus.

Birds

The website <http://www.birdsinbulgaria.org/?l=en> provides a comprehensive overview of the birds of Bulgaria, including their sounds. Information is also given for interesting areas for birds.

On our website you will find a Power Point presentation (including sound) with bird sounds: <http://www.dehabitatstichting.nl/nl/content/documenten>. This contains a selection of the 300 species that you can encounter in Bulgaria (from which 70% occur in de Eastern Rhodopes). The presentation is especially useful as it shows the species present in the Eastern Rhodopes and species with similar call and songs.

Above all, take good field guides with you. For birds of prey we suggest Collins Birds of Prey by B. Gensbol.

Accommodation and guides

Bulgaria is not yet fully established for tourists. Although accommodation, such as bed and breakfast or hotels should be found in all towns and many of the villages, camp sites are few. An overview of accommodation in the Eastern Rhodopes can be found at:

http://www.thehabitatfoundation.org/sites/default/files/imce/doc/Accommodation_ER_klein.pdf.

An interactive map with accommodation and restaurants in the Eastern Rhodopes can be found on the website from New Thracian Gold: <http://www.newthraciangold.eu/map.php?lng=en>.

A simple travel guide and maps can be ordered via the New Thracian Gold website:

<http://www.newthraciangold.eu/shop.php?lng=en>.

We would also like to suggest the Crossbill Guide for the Eastern Rhodopes. This guide (in English) provides a comprehensive description of the flora and fauna of the Eastern Rhodopes, as well as providing scientific and the Bulgarian names. The guide describes a number of walks and the interesting flora and fauna that can be seen along the way. This guide can be ordered from <http://www.crossbillguides.org/easternrhodopes>.

Guides

There are several agencies that organise birding trips in Bulgaria. Some of these are also willing to assist with the organisation of trips for counting, including:

1. Neophron (www.neophron.com). The travel agency from the Bulgarian Society for the Protection of Birds (BSPB).
2. Gabitour (www.gabitour.com/eng/eng-index.html).

In addition, you could use guides such as these Bulgarian (1. and 2.) and Dutch (3.) guides:

1. Iordan Hristov (email: biomonitoring.ltd@gmail.com);
2. Marin Kurtev (email: madzharovo@abv.bg);
3. Fokko Erhart (email: fokko@wildernisfoto.nl).

4.2 In the field

There follows here a step-for-step plan for fieldwork.

A. Find the count point

It is best to use a GPS, smartphone or iPhone to locate the count point (see §4.1). The majority of points are located away from existing infrastructure. It may therefore be necessary to re-locate the

count point to an accessible location, such as along a road or footpath, if it is not accessible to within several hundred metres. This then becomes the location for the fixed count point. Check to ensure that no one else has already re-located or counted this point. If the point has already been relocated to an accessible area, then count at this existing location.

B. Save the coordinates of the count

For new locations it is important that the exact coordinates are recorded. It is possible to save these in a GPS, smartphone, iPhone or navigation system. Save coordinates as latitude and longitude in UTM35. Otherwise record which system the coordinates are in as this can be converted later.

If you do not have the means to record coordinates then mark the location on a map as accurately as possible. When entering the count on pc.trektellen.nl this location can be given via the means of an interactive map. Zoom the map in completely to ensure the most accurate location is given.

C. Share the tasks

Ensure that you share the tasks before the count begins. Arrange who will count, write, make the photos, etc...

D. Start the count

Record the start time and if possible set a stopwatch or timer to indicate the 10 minutes of counting.

Record all species of birds seen or heard and whether they are within or outside a radius of 200 m from the count location. Also record whether the birds were local or flying over. Use the following shorthand codes to help, underline birds at a distance of more than 200 m and use an arrow to indicate birds flying over. Record the behaviour of the birds (see §2.4).

E. Stop the count

Record the end time of the count. Counts on fixed points should last for 10 minutes. On roving points counts can last for as long as you like but you should record those birds recorded during the first 10 minutes separately to those recorded later.

F. Make photos

Take a photo from the count point looking north, east, south and west. For convenience always take the photos in this same order. To ensure that you know which photos are from which location it is a good idea to first make a photo of the count in your notebook and then the directional photos. This also ensures a record of the count data.

G. Finally

- Record all who were involved in the count
- Record the weather conditions.

5. Report

The results of the 2010 fieldwork are presented in a report. This report provides an insight into the species that you may encounter in the Eastern Rhodopes during the field season. The report can be downloaded from:

http://www.thehabitatfoundation.org/sites/default/files/imce/doc/Counting_birds_in_the_Eastern_Rhodopes_Bulgaria.pdf.

6. Contact details

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Appendix A Guide to mapping all birds during point counts

Besides the counting of birds on point counts birds can also be plotted on a map. This allows better estimates of densities and numbers to be made. This method involves carrying out two counts of five minutes each. The maps for this type of count can be downloaded as '[Veldkaarten 2010-2012 punttellingen BG.zip](#)', from the website www.thehabitatfoundation.org.

The file '[Veldkaarten 2010-2012 punttellingen BG.zip](#)' contains a map (.PDF) for each of the four regions showing the points to be counted. For each count point there is a map with a topographic background and circles at 100, 200 and 300 meters for use in the field. The kml or poi files can be used to select the maps that you will need.

Appendix B Activity / behaviour

Unknown

Local

Seen

Heard

Foraging

Roosting

Flying over north

Flying over northeast

Flying over east

Flying over southeast

Flying over south

Flying over southwest

Flying over west

Flying over northwest

Calling

Alarming

Song / displaying male

Pair

Display and displaying group

Potential nest visit

Bird with brood patch

Nest building

Distraction behaviour

Used nest or eggshell

Recently fledged young

Adult returning to or leaving nest

Adult carrying faecal sack or food

Nest with young

Nest with young seen or heard

Recently used nest

Track or sign

Ringed or colour-marked

Found dead