HCBM

HELLENIC COMMON BREEDING BIRD MONITORING SCHEME

METHODOLOGY

ΕΛΛΗΝΙΚΗ ΟΡΝΙΘΟΛΟΓΙΚΗ ΕΤΑΙΡΕΙΑ

HELLENIC ORNITHOLOGICAL SOCIETY, 2014

CONTENTS

INTRODUCTION

The current document describes in detail the methodology of the Hellenic Common Bird Monitoring programme in Greece (HCBM). The programme covers the whole of the Greek territory and all habitats and records all bird species breeding in Greece.

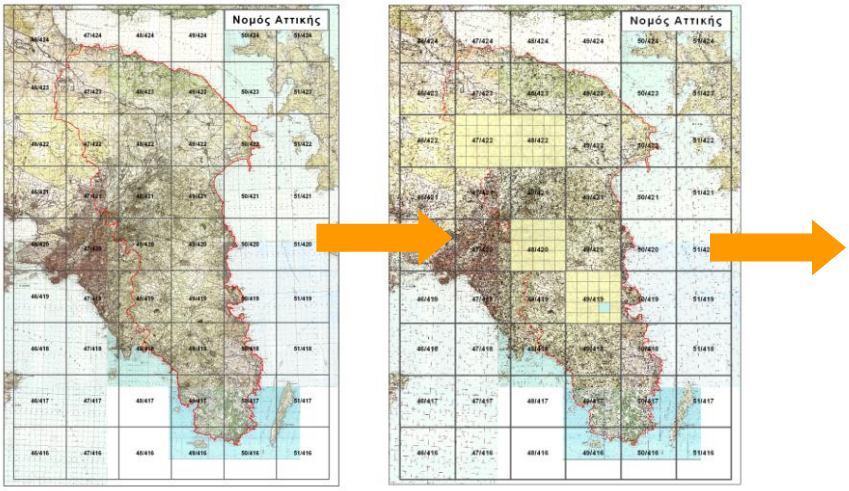
The HCBM programme comprises the national common bird monitoring scheme and has been implemented by the Hellenic Ornithological Society since 2007. The aim of the programme is the collection of data regarding population trends as well as to provide data to the Pan-European Common Bird Monitoring Scheme (PECBMS) undertaken by the majority of countries in Europe (27).

The methodology is simple and easily applied. Volunteers select an accessible area which they visit frequently, in which a 2x2 km plot is defined with specific points from which bird counts are performed. Two bird count visits are carried out each year.

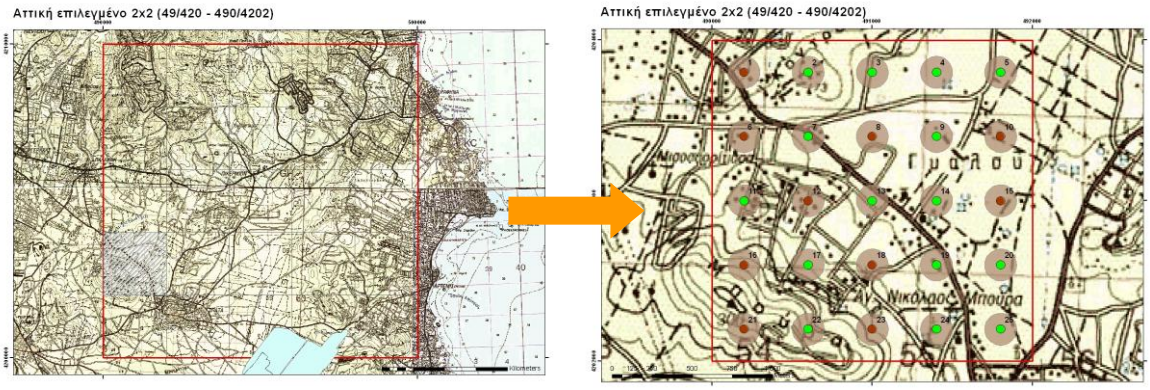
For further information visit the programme's website
http://www.ornithologiki.gr/en/hcbm

SELECTION OF PLOTS

Volunteers choose one or more 10x10km grid squares. This 10x10 grid square is separated in 25 2x2km plots. One 2x2km plot is randomly chosen by HOS (through GIS software) from the volunteers' 10x10km square(s) selection.



Within the selected 2x2km plot, 25 points are regularly placed on a grid, where each point lies 400m apart from each other. These points comprise the sites from which point counts will be performed. Of the 25 points, fifteen (15) are assigned as **main** points (i.e. points from which bird counts will be made) and the remaining ten (10) points are considered **secondary** points. Ranking of all these points is selected randomly through GIS software.



Secondary points substitute main points only when the latter cannot be accessed for various reasons or are considered unsafe or inappropriate. When secondary points are used, then the volunteer has to select these in the random order provided. For example, if point 9 lies in a lake or a gorge, or the point is inaccessible, then the first secondary point is selected from the list (i.e. point 4). If another main point needs to be replaced (i.e. point 9 in the above example), the next secondary point in the list is selected (i.e. point 23) and so on.

		EGSA87		WGS84	
	Point code	X	Y	Long	Lat
Main points	1	502200	4223800	24,02511309	38,1620919
	3	503000	4223800	24,03424512	38,1620896
	5	503800	4223800	24,04337715	38,16208658
	6	502200	4223400	24,02511185	38,15848684
	7	502600	4223400	24,02967764	38,15848578
	10	503800	4223400	24,04337501	38,15848152
	12	502600	4223000	24,02967618	38,15488072
	14	503400	4223000	24,03880731	38,15487805
	17	502600	4222600	24,02967472	38,15127565
	18	503000	4222600	24,03424006	38,15127441
	19	503400	4222600	24,0388054	38,15127299
	20	503800	4222600	24,04337074	38,15127139
	21	502200	4222200	24,02510814	38,14767165
	22	502600	4222200	24,02967326	38,14767058
	25	503800	4222200	24,04336861	38,14766632
Secondary points	4	503400	4223800	24,03881113	38,16208818
	23	503000	4222200	24,03423837	38,14766934
	13	503000	4223000	24,03424174	38,15487947
	8	503000	4223400	24,03424343	38,15848454
	16	502200	4222600	24,02510938	38,15127671
	24	503400	4222200	24,03880349	38,14766792
	15	503800	4223000	24,04337287	38,15487646
	11	502200	4223000	24,02511061	38,15488178
	2	502600	4223800	24,0296791	38,16209084
	9	503400	4223400	24,03880922	38,15848312

During the first year, the volunteer decides and prepares the best possible route by which to cover the selected points. Once the route is decided, the same sequence will have to be followed in years to come. Volunteers receive .kml files and maps of their plot maps and points, as well as tables with the co-ordinates and codes of each point.

Main tips in relation to the above:

- If a point is located within private property or livestock pen, then volunteers should not disturb the owners, neither substitute the point, but should shift the point a few meters (30-40 at the most).
- If we use a GPS device, volunteers might find a slight divergence from the point from the one visit to the next. This error applies to all points, and is acceptable, as long as volunteers use the same points every year as the ones selected in the first year.
- Distance bands should be measured (if cannot be estimated) using steps or a tape measure. Volunteers can mark (e.g. on a tree, a shrub, a rock etc.) the exact position where the 25m distance band is located, which helps bird recording.
- Point counts should be undertaken from exactly the same points every year. This allows the application of statistical analysis for the development of indices on the species population trends.

VISITS TO THE 2x2 PLOT

The HCBM project is a long-term scheme in which volunteers participate every year. Visits are performed between mid-April to the end of June.

During the first year, 3 visits are carried out in the 2x2 plot from which bird population data will be recorded:

- Points Location and Description Visit (0)
- First Point Count Visit (1)
- Second Point Count Visit (2)

Important notes regarding the above visits

The **Points Location and Description Visit (0)** is carried out only during the first year of application. During this visit, points from which bird counts will be performed are located, their suitability is checked, and the route from one point to the next is determined. In addition, description data on the habitat of each point are recorded. The same route must be followed from each point to the next each year. The visit lasts c. 4-5 hours, depending on the terrain of the area and the ease of transport between points. It is very important that this visit precedes the two Point Count Visits (1 and 2) since there will be no time to: locate all points for the first time, record habitat data and count birds observed. During the following years, it is not necessary to repeat this visit.

Point Count Visits (1 and 2) are performed each year and last c. 3-4 hours each. During these visits, volunteers count the breeding birds of their 2x2 plot. The two Point Count Visits should be performed at least one month apart.

Points Location and Description Visit (0)

This visit takes place prior to the two Point Count Visits (1 and 2). During the Point Count Visits there is no time to locate points and record habitat data. In addition, should a volunteer discover during the Point Count Visit that one or more main points are unsuitable or inaccessible there will be no time to find secondary points and substitute them.

The visit is carried out in order to allow the volunteer to familiarize with his/her 2x2 plot, find points and assess their suitability (i.e. if points are safe to visit, fall within private property, are inaccessible, etc.) and to note the route of access, so that their location is easy during the Point Count Visits. In addition, volunteers record descriptive data on the habitats surrounding points. Data are filled-in in the field in the 'Point Description Datasheet' which can be found in the website of the programme, in the 'Methods and Datasheets' unit (see below).

The visit is only undertaken during the first year of implementation. Should volunteers observe habitat changes during the following years, then this datasheet is filled-in once again for those points involved (see below).

During this visit, volunteers:

- find the 2x2 km plot
- locate points using a GPS device or field maps and point coordinates provided. Main points are found first and if rejected, secondary points are found in the random order provided
- place some mark (e.g. tape on branch, photo, etc.) which will help point relocation during the point count visits but also in future visits
- record the habitat type which are present in the area around each point using the LandUse Corine2000 categories provided (see below), and
- determine the easiest and most rapid route between points, so that the time spent travelling is minimized. The sequence by which points are visited can be chosen by the volunteer (i.e. does not need to follow the code order of points). The same route will have to be taken each year.

Filling in the 'Point Description Datasheet' in the field

During the Point Location and Description Visit the volunteer fills in the Point Description Datasheet found on the website of the programme in the 'Methods and Datasheets' unit.

For the description of the points we use the types of land cover Corine 2000, found on the second page of the datasheet. Thirty types of land cover that describe the majority of the habitats in Greece have been selected. Detailed description of the types of land cover can be found in the file Description_Corine_2000_Landcover.pdf which is on the website of the programme in the 'Methods and Datasheets' unit.

Data Field Explanation:

2x2 plot code: the code of the 2x2 plot which has been provided to the observer by the coordinators of the programme.

Observer: the observer's name.

Date: the date on which the specific visit took place.

Point Code: the number of each point (15 in total) where the data are collected (1, 2, 5, 10, etc).

Primary Habitat: the code of the type of land cover Corine 2000, from *Level 3* of the table found on the second page of the datasheet and which covers the biggest part of the recording site.

Secondary Habitat: the code of the type of land cover Corine 2000, from *Level 3* of the table found on the second page of the datasheet and which is the second in the coverage of the recording site. If both habitats (primary and secondary) are equally important, then the order of the filling in is not important.

Water: the code that best describes the presence of water in the surrounding area of the point.

Road Network: the code that best describes the presence of road network in the surrounding area of the point.

Buildings: the code that best describes the presence of buildings/ premises in the area around the point.

Comments: comments about the location and description of the point.

Photo Code: the code of the photo of the point (automatically from the camera).

Note: *Pencil is used to fill in the datasheet because if the ink gets wet, the notes may not be legible.*

Point Count Visits (1 and 2)

Two visits are performed for the collection of bird data:

- the First (1) Point Count Visit and
- the Second (2) Point Count Visit.

Time period and hours

The first Point Count Visit (1) must take place in the beginning of the programme period, i.e. from mid-April till mid-May in order to record species which are residents in the area. The second Point Count Visit (2) must take place during the middle of the period, i.e. mid-May till mid-June, thus covering also migratory species, some of which arrive later in the season and breed.

In general, visits should not be undertaken too early or too late in the season. Each volunteer knows the particular conditions of his/her plot and thus can decide when is the best time to visit.

The optimum time of day for undertaking point counts is between 06:00 and 09:00 am, but this also depends on the site. Bird counts must end after 10:00-11:00 am. Counts should start 15 minutes after the local sunrise. For most species, the number of individuals and their song frequency are somewhat greater between dawn and sunrise, from the remaining morning.

The starting time of the survey each year should not differ more than 30 minutes from that of the first year.

Climatic conditions

Calm weather, with low cloud, is considered ideal for bird counts. Counts should be avoided if the weather is rainy or cold, or if medium to strong winds are blowing. The visit should end if the weather conditions are very bad and rescheduled for another day. Birds should not be counted when rain and wind hinder the detectability of singing birds, or when fog or rain decrease visibility or when the cold disrupts the activity of birds singing.

Travelling between points

Volunteers may travel between points in any way preferred (e.g. on foot, vehicle of any type, etc.). In case where a car is used to access points, then this should be parked more than 100m from the point.

Bird Counts

Counts should be carried out every year by the same individual, who should perform visits alone. In case another volunteer participates for safety reasons, then this second individual does not take part in counts.

For visual observation of birds binoculars are used. Telescopes are only used in specific cases, e.g. wetlands. Volunteers may consult recorded bird songs, but only

after the count has finished in the particular point. The use of recorded bird songs during the counts leads to statistical errors as birds are lured by them.

Inexperienced bird watchers, who might not be familiar with latin names of birds, may use common names. Later, volunteers must use the 6-digit code for each species used in the HCBM database.

During the visit:

- the volunteer waits for 1 minute before starting to count, so that birds become accustomed to his/her presence.
- Survey time in each point is exactly five (5) minutes.
- All observed birds are recorded
- All bird species identified by their song are recorded
- Chicks and juveniles are not recorded
- Every bird is recorded only once, in order to avoid double counts.
- Raptors and storks which cover large distances are only recorded the first time observed.
- If a small flock consisting of different bird species flies over and it is not possible to count every individual of each species, then an approximate count is undertaken.
- The observer can record data about birds about which only the genus or the family they belong to have been identified (eg. *Sylvia* sp.), but these data are to be used only for future comparison.
- Should, for any reason, there is a serious disturbance in a point that will force the observer to stop the count, it is suggested that the observer moves away enough until this activity stops. After 10-15 minutes, the count can start again from the beginning. If the disturbance continues though, the count takes place normally in the point and the fact is completed in the field Comments of the point.
- During the count, no device or method to lure birds should be used.

Filling in the 'Point Count Datasheet' in the field

During the Count Visits, the volunteer fills in the 'Point Count Datasheet' found on the website of the programme in the 'Methods and Datasheets' unit.

Explanation of the fields:

2x2 plot code: the code of the 2x2 plot which has been provided to the observer by the coordinators of the programme.

Visit: the number of the count visit (1 and 2) which took place on the specific date.

Observer: the observer's name.

Date: the date on which the specific visit took place.

Weather Conditions (clouds, visibility, rain, wind): the volunteer fills in the codes which best describe the weather conditions during the count. The categories are found in the table at the bottom of the datasheet.

Temperature: the temperature (in C^o) during the count, even approximately.

Altitude: the altitude (in metres) of the area, even approximately.

Time (start): the time the count starts in each point.

Time (end): the time the count ends in each point.

Point Number: the number of each point (15 totally) where the data are collected (1, 2, 5, 10, etc).

Species: the 6-digit code of the species, which is provided with its Latin name on the last page of the datasheet and in the digital data-input file. This code is made by the three first letters of the Genus (the first word of the Latin name) and the three first letters of the Species (the second word of the Latin name). For instance, the Latin name of the Chaffinch is *Fringilla coelebs,* so the 6-digit code of the species will be FRICOE. If a species that does not exist in the list of birds of the datasheet is observed and recognized, the observer must create the unique code of the species as described above.

Distance categories: in these four categories, the number of the individuals recorded during the count is filled-in. It is important that the counts are clearly written so that the observer can copy the data in the electronic datasheet correctly.

<25m: recording of the species observed up to 25 meters from the observer.

25-100m: recording of the species observed from 25 to 100 meters from the observer.

>100m: recording of the species observed more than 100 metres from the observer, up to the point where someone is able to see and recognize the species (150-200m).

Fly-overs: recording of the flying species above the area only if they are fed, such as some swallows and common swifts. Moreover, in this field the observer records the

species that perform breeding displays or fly singing, such as the Skylark, the Crested Lark, some warblers, etc. In every case, all the species must have flown within the boundaries of the counting. If a bird (e.g. Common Buzzard) comes from out of the boundaries and flies away without stopping within the area, it is not recorded.

Comments: comments about the species or the specific count and other texts.

Note: A pencil is used to fill in the datasheet because if the ink gets wet, the notes may not be legible.

DATA PROVISION TO HOS

Following the completion of the two Count Visits, the observer must fill in data using the respective file (Data Input File), found on the website of the programme in the 'Methods and Datasheets' unit. You can find instructions about how to fill in the file, while you can use the Data Input File - Example as an example.

The file is then sent to HOS to the e-mail address **dportolou@ornithologiki.gr** until the end of August every year. Should you want to send the hard-copies also to HOS please write 'For the Attention of Danae Portolou' to the address: Hellenic Ornithological Society, Themistokleous 80, Athens, 10681.