

UTREDNING

BirdID field study: experience in Norway and description of a new national program in Bulgaria

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Høgskolen i Nord-Trøndelag
Utredning nr 143

Steinkjer 2013



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ISBN 978-82-7456-678-1
ISSN 1504-6354
Steinkjer 2013



Summary

The BirdID field study at HiNT in Norway was conducted to increase the number of participants in the national breeding bird survey (BBS) and their skills in bird identification, and has been arranged yearly since 2006. In total, the students can get 25 intensive days outdoors in five separate gatherings. Besides, the students are also using the www.birdid.no website for further training, a website constructed for the same reason as the field study. Measurements of the skills of the students before and during the field study show a significant increase in their ability to recognize birds. Especially rapid progress was registered on their learning of bird songs and calls.

The combination of the field study and the website has been successful in increasing the number of volunteers in the BBS. In the four counties closest to HiNT, 58% of the BBS routes were surveyed by BirdID students compared with only 11% in the other counties. Most of the students come from the counties closest to HiNT, but students are coming from all parts of Norway and even Sweden and Finland. Especially many medium skilled birders join the field study, and 74% of them also join the BBS. This is most probably a group of volunteers we never would have reached without this study.

There is a major challenge in Bulgaria to involve volunteers in the BBS, and to improve their skills. It is therefore intended to have a program in Bulgaria in 2013 similar to the Norwegian program. The BirdID in Bulgaria is adapted to the distribution of birds in Bulgaria, and the students' economic situation. The Bulgarian model implies that the national organizer (NaO) will go to six different local areas and arrange field training there in cooperation with a local organizer, lasting three or four days each. The local organizer will in addition arrange at least four more sessions with the students. Besides these, there will be three national training locations that the students from the six local areas can join, lasting three days each. Each student will therefore have a minimum of 16 days together with teachers if they follow both the local and national program. This is less than in Norway, but the students' progress will be followed by testing of their skills.

Content

	Page
Summary	2
Content	3
1. Introduction	4
1.1. The Norwegian BirdID field study and website	4
1.2. Experiences of the Norwegian program	5
1.3. The need for increasing the number of volunteers and their skills in Bulgarian field work	8
2. Bulgarian model for BirdID	9
3. Coordinator for BirdID in Bulgaria	11
4. Recruitment of students	11
5. Finances	13
5.1. Costs for preparation	13
5.2. Costs for teachers in Bulgaria	13
5.3. Costs for students	13
5.4. Costs for updating the website	14
5.5. Equipment needed	14
6. Guidelines for BirdID teachers	14
7. Discussion	16
8. Acknowledgements	16
9. References	17

1. Introduction

1.1 The Norwegian BirdID field study and website

According to an investigation in 2001, BirdLife Norway would not be able to raise the number of volunteers in the new national breeding bird survey (BBS) needed for the whole country (Kålås & Husby 2002). The Norwegian BirdID program was initiated by Nord-Trøndelag University College (HiNT, Magne Husby) in 2006. The purpose was to increase the number of volunteers in BBS and to increase their skills. The program is a combination of attending a field study comprising 25 intensive days separated in five gatherings throughout one year, and training on bird species identification on the www.birdid.no website. The field study starts with four days in the middle of April, when the number of species is still low. The next gathering is five days early in May, and the third is six days in May/June. At this third gathering, nearly all migrant species have arrived. We continue with one gathering of three days in August/September looking especially at migrant waders and ducks in eclipse plumage. The last gathering is seven days in March/April the next year, in the southern parts of Spain. About 80% of the species observed in Spain are also observed in Norway, but many of them are so rare in Norway that it is difficult to train on their identification, e.g. raptors. We accept 25 students in each class. Participation is not obligatory, and on most of the excursions there are less than 20 students. Most of the gatherings have two teachers from HiNT, and we also use local ornithologists as experts in certain areas. The same group of students follow this field study one year (April to March/April next year), and we travel together on all the excursions. On all excursions, bird's appearance and sounds are important all the time, with a lot more emphasis on their singing than their calls.

The website www.birdid.no is designed specially to train in bird identification from the bird's appearance and their sounds. In the website, it is possible to choose language and the area where the birds are, separately. The website will eventually contain 44 different languages and present birds from 52 different regions in the Western Palearctic (WP). It is possible to choose four different levels of difficulty at the national level, and in addition six levels of difficulty for WP. By taking a formal test, the students can gain credit for their skills. In the Norwegian educational system 60 study points is equivalent to one year of full time study. For the formal tests in BirdID the students can receive 15 points for each of the national tests (appearance and sounds), and 30 points for each of the tests at the WP level. It is not possible to receive more than 60 points regardless of how many formal tests are taken.

For those students willing to participate, we measure their bird identification skills both before they start on the field study, and after three gatherings and thus measure progress. The field study is open to everyone independent of whether they want to participate in BBS or not. The study is free of charge, but the students have to pay for travel, accommodation and food during the excursions.

1.2 Experiences of the Norwegian program

As the field study and the BirdID website both started in 2006, it is not possible to separate the effects of each in recruiting volunteers to join the BBS. Training on the website will increase many people's interest for birds, and perhaps encourage them to join the field study or join the BBS directly. When we look at the experience of the Norwegian program, we can only measure the combined effects of the field study and the website.

If we separate the participants into three groups of bird identification skills (Figure 1), about 75% of them join the BBS if they have very good or medium skills before they start. The figure is based on experience from the period 2006 – 2011, and known beginner level comprises about 120 students. The medium skilled group is the biggest, and also the most important according to involvement of volunteers as they probably never would have participated in the BBS without this field study. Many of them were even unknown to their local ornithological societies.

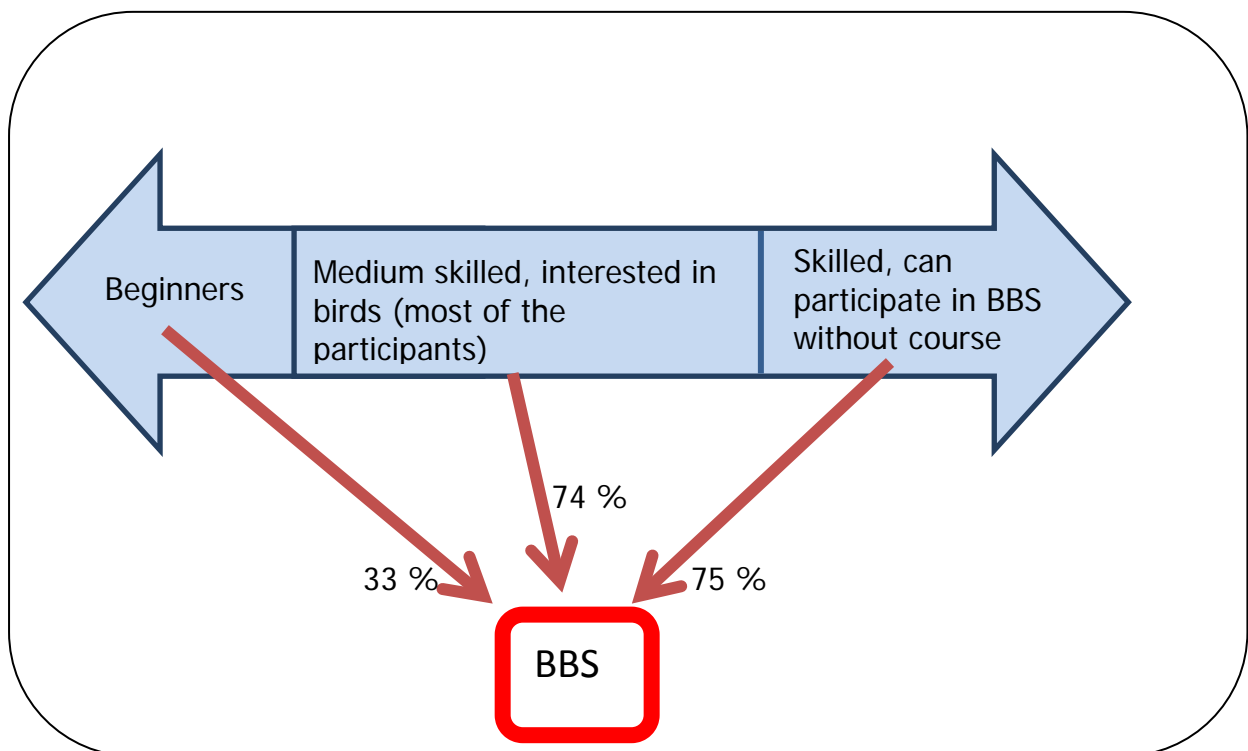


Figure 1. Participants in the Norwegian BirdID field study separated into three groups of bird identification skills before they start, and the proportion joining the BBS. The data is from 2006-2011.

Because the centre for the field study is placed in the middle of Norway, some students have to travel a long distance to get there. Despite that, we have had students from all over the country, and even from Sweden and Finland. Most of the students come from the counties closest to HiNT, and the effects of recruiting volunteers for the BBS is shown in Figure 2. More than half (58.1%) of the enumerated routes in the middle part of Norway are surveyed by participants of the field study, compared to only one of ten (10.8%) of the routes in other counties.

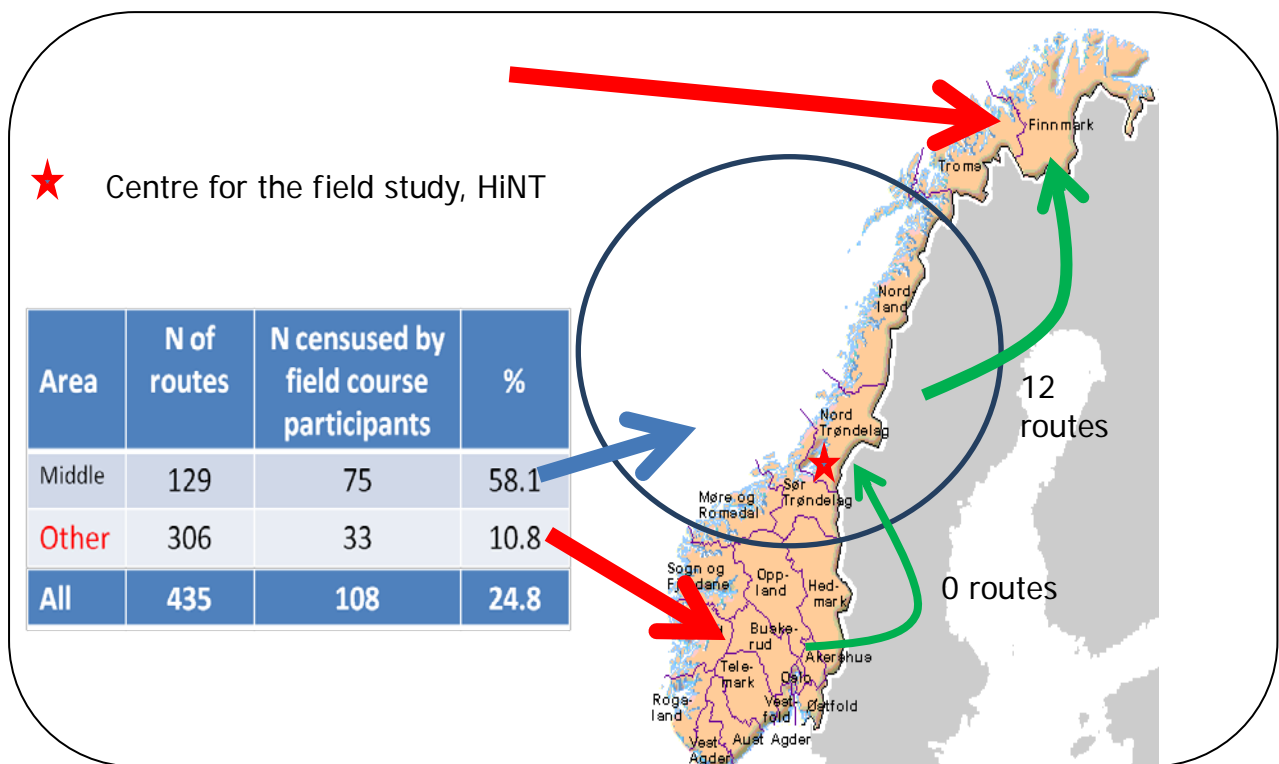


Figure 2. Map of Norway showing the centre for the BirdID field study (HiNT), and encompassing the four counties closest to this centre. The table shows the number of routes in the BBS in the middle part closest to the field study centre and other parts of Norway, and how many routes and proportion of routes surveyed by people that has taken part in the field study. The green arrows show that people from the middle part of Norway also go to other counties to join the BBS and no one comes the other way. The data is from 2012.

A few of the participants of the BirdID field study in Norway were tested for their bird identification skills before they came to the first gathering and after the third gathering

(Figure 3). Correct answers gave 1 point in the test, wrong answers gave -1 point, and 0 points if they did not know the answer. There is a tendency that students who recognized the birds best before the field study, also did so after the third gathering. This tendency was not significant for bird's appearance (Spearman rank correlation (2-tailed): $r=0.433$, $n=11$, $p=0.183$) but was significant for sounds ($r=0.632$, $n=10$, $p=0.050$). Figure 3 also shows that some students with quite low skills before the field study really learned a lot. This was most pronounced for some students with a low score before the field study, and this probably made the correlation between the skills before and after less significant than expected.

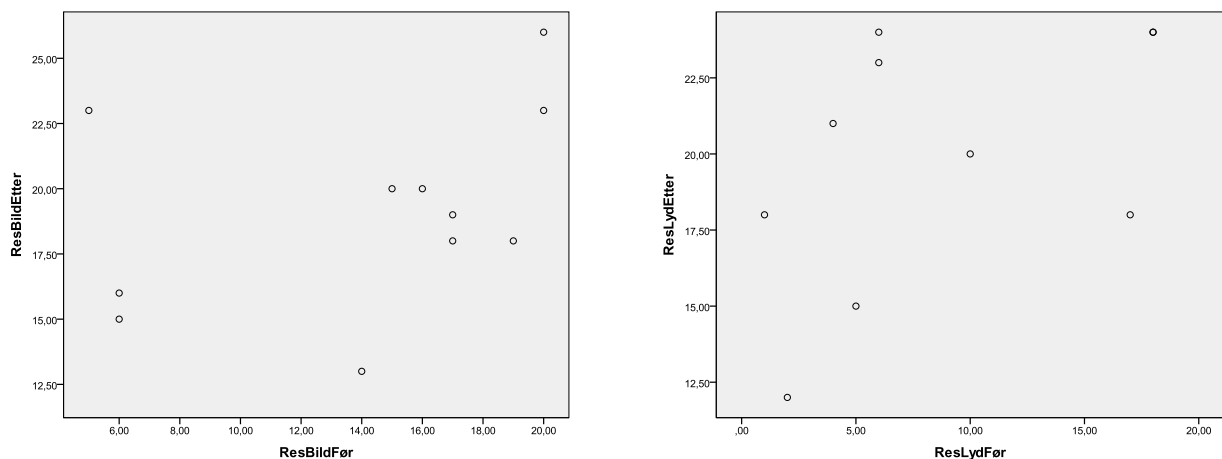


Figure 3. The figures show the results of the formal tests for a few participants in the Norwegian BirdID field study before they started (x-axis) and after the third gathering (y-axis). The left figure is for appearance recognition and the right for sound recognition. The maximum number of points in each test was 30.

The test results before the start of the field study and after the third gathering were compared in a paired samples t-test (2-tailed), and the results proved significant both for appearance (mean score increased from 14,1 to 19,2 points, $n=11$, $p=0,013$) and sounds (mean score increased from 8,7 to 19,9 points, $n=10$, $p<0,001$). These results also show that the skills for bird sounds were not very good at the beginning of the field study, but showed a more rapid improvement than skills in bird appearance. This is probably because the students find bird sounds most difficult to learn, and therefore bird sounds play an important part in the three first gatherings.

For some of the students in 2010-2012, we have also tested the relationship between their score in the formal test shortly after the third gathering with their skills in the field during the third gathering. This short time lap between the two tests makes it reasonable to compare the results. Their skills in the field were tested with two point counts of five minutes each. The students were standing quite close to each other, looking in all directions, and wrote down the number of pairs of each species registered. After the test, their proposed species were compared with the ones registered by the teachers, and a compromised total solution was

constructed. Their points were adjusted to 60 points, the maximum achievable sum for the two formal tests. There was quite low correlation between the formal test and the field test (Spearman rank correlation $r=0,183$, $n=19$, $p=0,454$). One reason for this is that students were tested simultaneously, and students in the middle of the group will probably not register the same birds as the ones in the outer parts of the group. Besides, students at one end of the group will probably also register other birds than those students who are at the other end. When the students are able to look in different directions, they will of course detect different birds among those passing by without making sounds. We have to plan this test much better and create a protocol without the drawbacks listed here.

1.3 The need for increasing the number of volunteers and their skills in Bulgarian field work

The Breeding bird survey (BBS) in Bulgaria started in 2004 with financial support from the Royal Society for the Protection of Birds. Currently the monitoring scheme is financed by the Ministry of Agriculture and Food, which covers expenses for coordination and preparation of information materials. These materials are electronic and printed, and they are prepared to improve the skills of the participants. In addition, existing conservation opportunities are used to provide additional training on bird ID for the BBS observers. However, more training is needed to improve their skills.

The current activities in the project are focused on volunteers' recruitment. In total about 100 plots are surveyed every year. In the last several years about 60 new participants are recruited yearly who show interest in the survey and are willing to support bird conservation. However, the lack of skills for bird identification is one of the main reasons for the new volunteers to give up from their participation. As a result, we get 10-20 surveyed plots out of the 60 new ones covered every year. To increase the number of plots covered we need to provide training on bird identification that will increase the skills of volunteers.

With the current data, BSPB has published a number of reports¹ (Spasov 2008, Hristov 2011) and bulletins² describing the state of common birds. Currently the state of 38 common bird species in Bulgaria is assessed for the period 2005-2010. However, because of lack of data more than half of the bird species (55%) for the mentioned period are unidentified in terms of trend category. At the same time, the species in moderate or steep decline are at 34%, the species in increase only 5.5% and the ones with a stable trend are 5.5%. This difference in categories is alarming and BSPB needs to assess the state of as many bird species as possible to be able to undertake conservation measures on time. One of the reasons for this high percentage of bird species with unidentified trend category is the representativeness of the data sets.

¹ http://bspb.org/monitoring/download/bg/32/State_Common_birds_2005-2010_final.pdf

² <http://bspb.org/monitoring/bg/bulletin.html>

There are several approaches for improving the data set and species representativeness in them. The first and most important is the volunteers' skills, the second is the number of survey plots and the third is the long time series. Since we need time to accumulate time series, we will not discuss this approach here. In recent years, BSPB has proved that is capable of recruiting new volunteers. However, to improve the data sets there is a need for more efforts on improving the observers' skills on bird identification.

To increase the number of species with known trend category BSPB has currently undertaken a process for improving its database. With the measures envisaged, it is expected that the state of more bird species will be assessed if data is available.

The effects of the Norwegian program have already been proven and BSPB consider it as suitable for improving our volunteers' skills in bird identification. As a result we expect to improve the skills of our current volunteers and the skills of new ones who are willing to participate but do not have the skills.

2. Bulgarian model for BirdID

The Norwegian program has proved its effectiveness according to local conditions. However, adaptation is needed according to the socio-economic situation in Bulgaria. The Norwegian scheme envisages several field training sessions in a number of locations. For these sessions, volunteers will need to travel from around the whole country at their own expense to get the training. In Bulgaria, we would like to keep nearly the same number of training sessions, but we assume that people will not be willing to travel mainly for economic reasons. In addition, the countryside has most of the species that would be present at the training location. This richness of bird life suggests that people may not be willing to travel long distance to a location where they will see the same bird species as the ones on their doorstep. That is why we consider it more relevant to conduct local training at six locations around the country where the Bulgarian Society for the Protection of Birds (BSPB) has offices and local coordinators (see Figure 4). In addition, we envisage three national training sessions where people will be invited to come at their own expense. This is expected to reduce the costs of participants in the training and increase the chances for their participations.

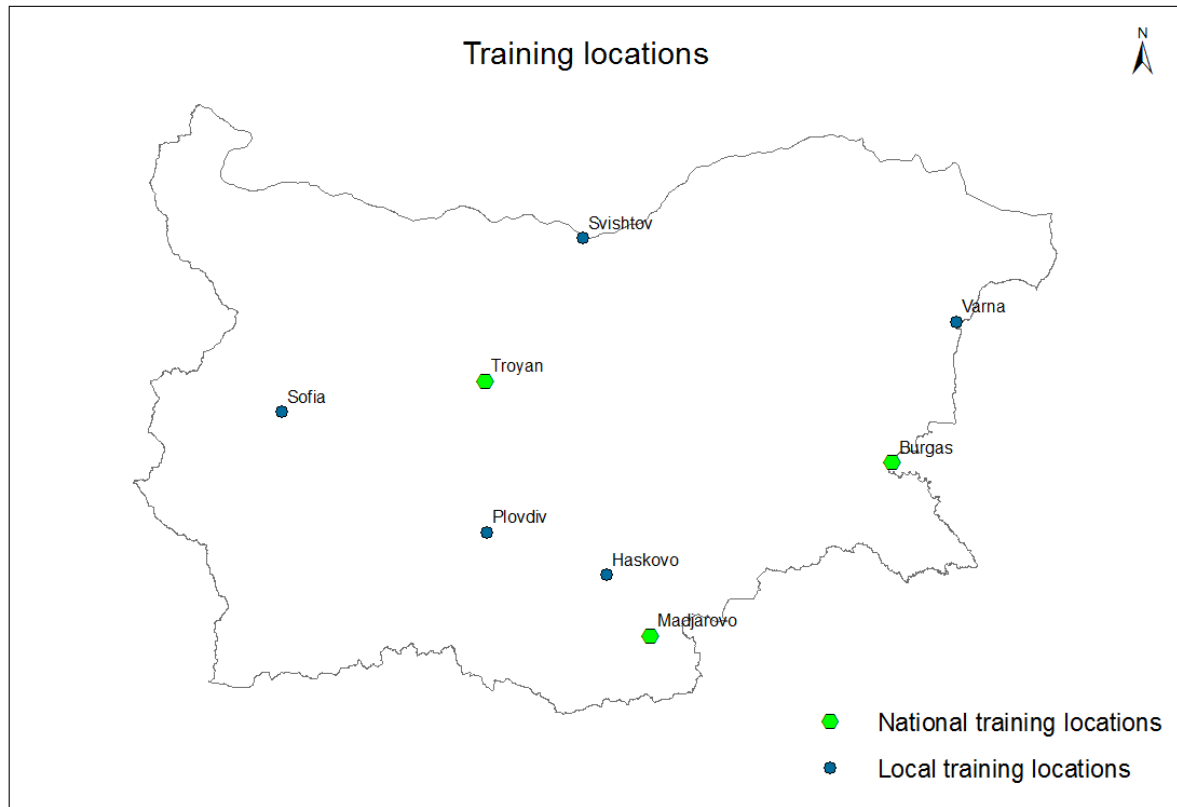


Figure 4. Training locations in Bulgaria, separated into local and national training locations. There will be both local and national trainings in Bourgas.

The training will be divided into two types: local and national. Local training will be conducted by the National organizer (NaO) Jordan Hristov, and local teachers, and national training will be conducted by the NaO and one assistant. The training will be conducted in six locations: Sofia (4 days), Plovdiv (3 days), Haskovo (3 days), Bourgas (4 days), Varna (3 days), Svishtov / Ruse (3 days). These locations will be visited by the NaO who will conduct the training and train local teachers. The local teachers will be responsible for conducting at least four more training sessions after this visit of the NaO.

Each local group of students will consist of min five to 15 students. In addition to these local sessions, there will be three national gatherings: one in Madzarovo (3 days), one in the high mountains next to Troyan (3 days) and one in Bourgas (3 days). Thus participants will get to learn birds from a large variety of habitats, climatic zones and altitudes which will better prepare them for the online test and their participation in conservation activities. All local training sessions and the national one in Madzarovo are planned for April 2013 prior to the breeding season of birds and just before people begin to count the birds in the BBS survey plots. This is expected to prepare the volunteers for the birds' breeding season and support the observers in improving their skills right before their participation in the BBS. The students can join all local and national gatherings if the numbers of students is not more than the

maximum 15. In addition, in order to improve the skills of volunteers and prepare them for the BirdID online test at HiNT, there will be one national training in June/ July in the high mountains and one in Bourgas at the end of August/ beginning of September. As a result, observers are expected to accumulate skills on bird identification and prepare them for the ID online test.

In total it will be possible for the students to join 16-17 days with teachers at local and national gatherings. If students follow only the local gathering, they will have only 7-8 days with teachers.

At the time of training, information will be given on bird visual and acoustic ID. The song of the birds will be described with known phrases that are designed to make it easier to remember. Visual ID will be given for the most visible features in the field and comparison with other species will be provided. In addition, relevant and interesting information will be provided for the biology of species that would accompany the ID info. At the end of each day, participants will be asked to complete evaluation forms on the performance of the teacher and their overall satisfaction from the study.

During the training, people will be divided into groups to conduct point counts of birds. Every participant will be asked to record the species seen and heard for 5 minutes. These lists will be compared with the list created by the teachers for the same time period. Each participant will be given one point for every species that is identified. If there is a species that has not been recorded by the teachers, students will be given '-1' point. These records will be noted in specially designed data forms, which will contain the name of the point, the name of the observer and fields for species registration.

It is not obligatory for the students to participate in the BBS, and people already taking part of the BBS may also become students.

3. Coordinator for BirdID in Bulgaria

The training sessions will be conducted by the main study coordinator/NaO Iordan Hristov, who will visit the locations prior to the breeding season. At the time of these visits, he will be recruiting new participants in the BBS and will conduct the training. During this first visit, the NaO will also train local coordinators on methods for conducting the training. These local coordinators will be requested to take the formal test prior to the field study.

4. Recruitment of students

Every year new volunteers are recruited via presentations around the country. These presentations are usually given in universities, schools, BSPB local groups, National and Nature park administrations, etc. Amongst the target groups that show interest in taking part

in the BBS are rangers, schoolteachers, biology students, photographers, ornithologists, and others. Every year BSPB conducts field conservation camps where people willing to support nature conservation are present. With over 20 presentations around the whole country in the last two years, we have managed to recruit over 60 people yearly who show interest in bird identification. That is why we believe that there will be new people willing to participate in the BBS and the BirdID course in future.

The training locations are where BSPB has local offices with local coordinators. Their prime job is to recruit supporters, some of whom are willing to count birds. These efforts of local coordinators are expected to ensure the sustainability of the training which will be directed at new volunteers (and others) every year.

The credit system in education still does not apply in universities in Bulgaria. This suggests that it will not be possible to include the training as a part of the universities' courses on bird identification. The NaO has participated in several summer schools organized by the Faculty of Biology at Sofia University where such training is provided. However, university professors conduct the training and the national education system does not permit a university to outsource the training.

To assess the skills students acquire during the training, they will be asked to complete the online test prior to training and the final bird ID test after training. This is expected to help in assessing the skills of volunteers on bird identification. If necessary, students and local coordinators will receive help from the NaO.

Students send (paper based) applications for participation in the training to the NaO prior to the study, and/or web based to HiNT and HiNT inform the NaO that the formalities are ok. The application forms will contain the name, address, contact information for each participant and a field showing the interest of the applicant to take part in the breeding bird survey (yes/no). Students will be included in the training only one year, but can take part in single gatherings later if they lost one gathering the previous year.

According to Norwegian governmental rules, one must meet at least one of the following two requirements to become a student at University and University College level in Norway:

Alternative 1: The student must have completed upper secondary school (and have to send a proof of the exam from secondary school, or a proof that at least one exam from university or college is taken).

Alternative 2: The student must be at least 25 years old and have at least five years of work experience (and have to send a documentation of at least five years with work, signed by another person). As work experience we accept paid work, unpaid work, education, experience from organizations including working with birds (ringing, bird census, photos ...), making at least five years altogether.

Notice that the student has to fulfill only one of these requirements.

Students are required to submit documentation of one of these two requirements directly to HiNT or via the NaO. The NaO can help students to testify that they fulfill the demands by making:

- One page for each student (in English), with their full name and birthdate (make an original with little to fill in by hand for each student).
- Write also which of the two demands they fulfill, and if they are less than 25 years old the NaO have to write two words about what school/studies they have fulfilled.
- Both student and the NaO sign this paper for each student, scan it and send it to HiNT.
- The NaO can do that any time before the students want to take the formal test.
- This is only for those who want to follow the field study. Those who want to take the formal test only have to deliver the documentation as stated on the website www.birdid.no.

5. Finances

This section gives some insight into the costs connected with preparation and implementation of the Bulgarian BirdID study, but contains no detailed calculations of costs.

5.1 Costs for preparation

Preparation of this study implies costs for travelling, accommodation and food for two meetings between the coordinator both at HiNT and in Bulgaria. There are also travelling costs within each of the countries. The meetings are necessary to look at visited areas in Norway and learn in detail how we work in different locations, get some good advice on how to teach in some potential locations in Bulgaria, and discuss details of the program.

This investment is only required before the Bulgarian BirdID study starts, in order to secure the quality of this HiNT study.

5.2 Costs for teachers in Bulgaria

Jordan Hristov will be engaged by HiNT, through his company, to be responsible for the Bulgarian BirdID study. The other teachers in Bulgaria will be engaged by Hristov and paid directly by him. HiNT will cover Hristov's salary and costs to complete the study.

The cost for this study is dependent on the number of students and number of cities in which the study will be started. It will therefore differ from year to year.

5.3 Costs for student

Economic support will not be given to students. If funding is available, the costs for students to take part in the national training will be covered. These costs include costs for travel, accommodation and food. Observers are not paid for time taken to conduct the survey in their BBS plots.

5.4 Costs for updating the website

The website has already been translated into Bulgarian, with the possibility to choose Bulgarian birds at four different difficulty levels. According to this new study, the website needs to be adapted to receive applications for this study and information about the study, in Bulgarian.

5.5 Equipment needed

Most of the volunteers have their own binoculars. In addition, BSPB local offices have several binoculars that can be used for the training sessions. This means that extra binoculars will not be needed. Devices for measuring distance to birds might be useful when training the skills of volunteers to set distance belts. In addition, a maximum of five binoculars might be needed to support the training process if the equipment for local teachers is not good enough.

6. Guidelines for BirdID teachers

HiNT is responsible for the quality of their studies, and the Bulgarian BirdID field study is a part of the study program at HiNT. Therefore, some essential points for teachers in the BirdID field study are listed below:

1. There will nearly always be two teachers, and both have important tasks continuously during the study.
 - a. One of the teachers will be the individual in charge.
 - b. Disagreement between teachers about practical arrangements should be discussed between the teachers only and not in front of the students. However, discussions between the teachers about what they have just seen or heard can be informative for the students.
 - c. Both teachers look out for and try to find as many species as possible.
2. The teacher in charge is responsible to:
 - a. Have a well-prepared program with accommodation, transport, food...
 - b. Be updated and prepared for where to go, what can be assumed to be observed and how long to stay in each area.
 - c. Give instructions and lead the group of students most of the time, and delegate to the other teacher in certain periods.
 - d. Correspond with the students before the trip.
3. The assistant teacher is responsible to:
 - a. Lead the group of students in certain periods.
 - b. Follow the guidelines from the teacher in charge.
4. General tasks for the teachers:
 - a. Quality in all work for all the period you represent BirdID.

- b. No drugs are permitted at any time, and consumption of alcohol must be kept to a minimum, and never during guiding/teaching.
 - c. You are there for the students and not for yourself, which means:
 - i. You must accept criticism from the students. Take every student serious if they have any comments, suggestions or other things they want to discuss.
 - ii. Cameras may only be used to decide the species, such as a distant raptor, which can be zoomed in for species determination, or to document if it is a very rare species.
 - iii. If a student do not follow the guidelines and has to be corrected for any reason, be clear and do it privately.
 - iv. Pay attention to all students and adapt the program as necessary. We are there for the students, and we should never give any other impression.
 - d. Always bring and use your own telescope and binoculars, and do not borrow from the students. Of course, you may look through the students' telescopes when they ask you to determine observed species.
 - e. Be aware of student behaviour for adjustment of your program, and adapt your plans accordingly. Something successful with one group may not be a success next year with another group.
 - f. Be aware of students that need to promote themselves and their skills, since most often this is not popular with other students. On the other hand, interesting information from the students is always welcome and sought for. Normally, this balance is not a problem.
5. General behaviour of the group:
- a. No one is permitted to scare away birds before all in the group have seen them.
 - b. Photographers may destroy the good atmosphere in the group, so be on the alert for this. The excursions are not photographic trips.
 - c. No dogs are allowed.
6. General information to the students:
- a. Tell them what we are looking and listening for in order to identify the birds we find.
 - b. Add information about the birds you register when appropriate (breeding behaviour, food, eggs, trends and other ecology). Do not talk much about species we do not see unless it is for comparison with a confusing species, or someone asks. Interesting research news about the observed birds is welcome.
 - c. Inform about methods used and the purpose of the BBS
 - d. Divide the group into subgroups of 2-4 persons sometimes, and let them try out the methods used in the BBS. In this way, they will also learn from each other.
7. When informing the students:
- a. Keep the students in a semicircle, stay in front of the group and make sure that everybody is present and pays attention.
 - b. Most of the education is outdoors, except if the weather is too bad. Always have some PowerPoint presentations as a back-up. You might start a day indoors with a presentation of the target birds for the day (songbirds,

shorebirds etc.), but the best option for learning bird songs is to go outside as early in the morning as possible.

8. Breaks and rests:
 - a. In Norway, we have better scores from the students on days with some relaxed birding, than on days with “hardcore” birding.
 - b. Therefore, insert short stops at gas stations or similar on days with a lot of driving. The mood always improves after a short stop and a snack.
9. Repetitions:
 - a. Complete the bird log every evening, before or after dinner. Do not only make a species list, but talk about some of the birds seen and identified each day. Use a book and discuss for difficult species.
 - b. Lunchtime can also be used as a half-day summary and a discussion on the registered birds.
 - c. Use sound often and repeat characteristics and ID keys, but be careful with the sound playing especially at breeding sites. Stop immediately if it is seen to annoy the birds too much.
10. Before taking off to a new site: Inform the group about where they are going, where it is, how long it will take to reach it and give some of the species we can expect to find there.
11. Remember the evaluation forms and inform the students every evening to complete the evaluation. Make sure everybody hands the evaluations to the guides on the last day. Student evaluations after the excursions are an important tool to improve the trips. Each day should be evaluated anonymously.

7. Discussion

The shortage of volunteers in census work, and lack of quality control of the volunteers could give environmental policy makers reason to ignore key results. The Norwegian program has been successful both in terms of increasing the number of volunteers, and improving their skills in fieldwork. That does not mean that a copy of the Norwegian program will be successful in other countries. This new program in Bulgaria has been adapted to bird distribution and students’ financial situation.

In total, students will have 16-17 days of training with teachers if they join both the local and national gatherings. This is fewer days than in Norway. That is why they will be encouraged to do more online training and personal preparation or outings. The evaluation of progress during the field study will inform us if there is need for more time with teachers.

8. Acknowledgements

HiNT has received economic support from the Directorate of Nature Management (DN) and the department of environment in the county council in Nord-Trøndelag for the development of the bird part of the BirdID website. William Samuel Gray has improved the English text.

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