The History of the EBCC Atlas of European Breeding Birds

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Developing from a series of meetings aimed at greater international collaboration in ornithology, the European Ornithological Atlas Committee was set up in 1972. It began by promoting atlas surveys in individual countries but it was soon realized that a Europe-wide atlas could be produced from national surveys if common standards were adopted. 1985-88 was agreed as the common survey period. Unfortunately, committee meetings were too infrequent and indecisive to produce clear plans for collating the data and publishing the atlas; funding for that work was not arranged. The project came close to foundering. However, having raised these issues at the 1987 meeting, Johan Bekhuis and colleagues at SOVON took matters forward more decisively, with the support of Goetz Rheinwald especially. Under the chairmanship of the latter, a more focused committee was set up in 1992, not only directing the collation and editing work being undertaken at SOVON and the BTO but also raising funds from various sources. The production of the atlas was greatly aided by the publisher attending all the committee meetings. To promote the drawing together of ornithology across Europe, large numbers of free copies were provided for countries in the east when the atlas was published in 1997.

Key words: European atlas, history, collaboration

1. Introduction: the development of ornithological atlases

The EBCC Atlas of European Breeding Birds (Hagemeijer & Blair 1997), commonly known at the time as the European Ornithological Atlas (EOA), was a landmark both in European ornithology and in biological atlas work. My aim here is to relate the long and tortuous story of how the germ of the idea eventually led to the publication of the book, not only because it is a fascinating story in its own right but also because it has clear lessons for anyone engaged in planning atlas work or in the development of organizations devoted to international collaboration in natural history. The story necessarily reflects my own interpretations but, after a lifetime in science, I have tried to be as objective as possible. In several parts of the account, I have been critical of what was done (or, perhaps more often, what was not done); such criticism is not meant to infer that I would have done things differently had I been involved at the time – after all, I was involved for part of the time. Rather, it applies the benefits of hindsight, so that lessons can be drawn for the future.

To avoid repetition, I have not specifically referred to the following sources of information used in this account: the Atlas itself; reports of conferences of the IBCC, EOAC and EBCC (listed in the Appendix); the archives of SOVON and BTO; my own memories and those of others involved in the Atlas project, especially Anny Anselin, Johan Bekhuis, Rob Bijlsma, Mike Blair, Nigel Clark, Simon Gillings, Ward Hagemeijer, Peter Lack, Goetz Rheinwald, Andy Richford, Frank Saris, and Tim Sharrock. All the documents that I have used in preparing the paper will be placed in the BTO archives; all the electronic files that I have used will also be placed in the BTO archives and in the EBCC archive at SOVON.

1.1 Distribution maps before atlases

The Field Guide to the Birds of Britain and Europe (Peterson *et al.* 1954) broke new ground in several ways. One was that it presented maps to indicate the distribution of the species it included. The reason they were included was that during the Second World War one of the authors, P. A. D. Hollom, had served in the Hendon VIP Squadron, the duties of which were to fly important people and important packages between Britain and distant lands. Although he took the relevant bird books wherever he went, Hollom was often frustrated by the inadequacy of their descriptions of the distributions of the birds, which made it difficult for him to know which species you might expect to see. Maps, he decided, would have been much more useful (interview, 23rd May 2007).

The problem with all distribution maps at the time was that they were based on general descriptions or on records from a few scattered locations, with the presence or absence of the species between those locations being a matter largely of guesswork. Information was

often out of date and sometimes incorrect. Furthermore, the available information was insufficiently precise for the maps to distinguish between distributions that were essentially continuous and those that were patchy on the small scale. Even the important and scholarly atlas of Voous (1960) suffered from these deficiencies.

1.2 Atlases in the modern sense

The solution to these problems was to conduct systematic surveys, recording the presence or apparent absence of each species in defined geographical areas. Such a survey was planned by British and Irish botanists in 1950, resulting in the Atlas of the British Flora (Perring & Walters 1962). Ornithologists lagged behind – indeed, the influential ornithologist and conservationist E. M. Nicholson, who had founded the British Trust for Ornithology (BTO) (Greenwood 2007), said that the botanists had put ornithologists to shame (Preston 2013). They soon rose to the challenge, with the West Midland Bird Club surveying the 77 10x10km squares (hectads) in its area during 1966-68 and publishing the results as the first ornithological atlas in the modern sense (Lord & Munns 1970). The whole enterprise was carried out by unpaid volunteers.

Observing the success of the West Midlands Bird Club, the BTO undertook an atlas survey for the whole of Britain and Ireland during 1968-72 (Sharrock 1976). France was surveyed during 1970-75 (Yeatman 1976) and Denmark during 1971-74 (Dybbro 1976); several other countries were quick to follow these leads.

2. How the European atlas project started

2.1 International Bird Census Committee (IBCC)

At the International Ornithological Congress (IOC), held in Oxford in 1966, a small group of ornithologists who were interested in developing census work on breeding birds decided to organise a conference to review modern census studies and to discuss the standardisation of fieldwork and methods of analysis (Pinowski & Williamson 1974 – who provide further information on developments during 1966-70). The result was the International Study Conference on Bird Census Methods and Results held in Denmark in 1968. To continue the work, the conference set up the IBCC, with Sören Svensson as Chairman and Ken Williamson as Secretary. Next year, during a symposium on Bird Census Work and Environmental Monitoring in Sweden, the IBCC had its first formal meeting and adopted a set of recommendations for an international standard for a mapping method in bird census work, of which a draft had been presented to the 1968 meeting by Svensson and S. M. (Mike) Taylor. It was agreed at this meeting that the Committee would cover all aspects of census work except atlases.

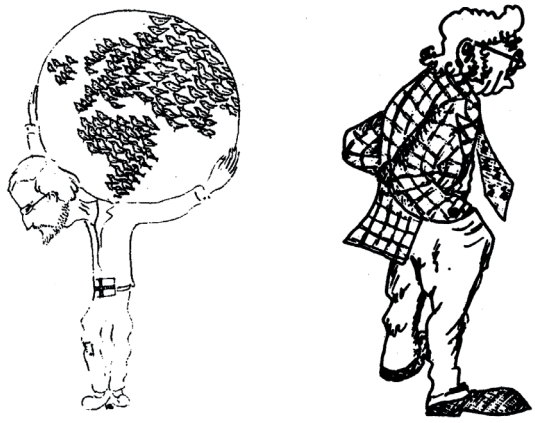


Fig. 1: Founders of the IBCC: Sören Svensson (First Chairman, left) and Ken Williamson (first Secretary, right). Cartoons drawn by N. K. Boev and B. Frocot, published in the proceedings of the 1976 conference. – *Die Gründer des IBCC: Sören Svensson (erster Vorsitzender, links) und Ken Williamson (erster Schriftführer, rechts). Karikaturen von N. K. Boev und B. Frocot, publiziert im Tagungsband der Konferenz im Jahr 1976.*

2.2 Thoughts of atlases

During the week before the next IOC, held in The Hague in 1970, the IBCC held two further meetings. Given that only two countries had yet started national atlas surveys, it is remarkable that the discussions at these meetings were mainly about atlas work, with little about census work. The main conclusions were:

- Standardisation was less important for atlases than for census work, though it was important to agree criteria to be used in establishing breeding in any area.
- It was better to use a regular grid of recording units rather than administrative divisions. The grid size should be as fine as compatible with the available manpower.
- If it was not possible to cover all units in the grid, it was better to cover an even scatter of units rather than to cover clusters of adjacent units.
- It was suggested that 1970-1980 should be an "International Bird Atlas Decade", during which as many countries as possible should complete atlas surveys.

2.3 The European Ornithological Atlas Committee (EOAC)

At the IOC itself there was a formal "Special Meeting" to promote international cooperation and uniformity in bird census and atlas methods. Of more immediate and more practical significance was an informal meeting of 10 people from seven countries to discuss the possibility of holding a conference devoted to such cooperation. The conference, co-organized by the BTO and the Max-Planck-Institut für Verhaltensphysiologie/ Vogelwarte Radolfzell, was held the next year in Tring,

England. It covered a great range of topics: censuses, estuarine birds, seabirds, nest recording, habitat coding, biometrics, recording moult, migration data and atlases (Flegg & Zink 1973).

Tim Sharrock had been asked to provide a strong launch of the idea of a European Ornithological Atlas at the Tring meeting, though a bout of influenza confined him to bed, so James Ferguson-Lees had to make the presentation on his behalf (Sharrock e-mail, 8th August 2013). It was clear to him, after four of the five years planned fieldwork, that the British and Irish Atlas "would be an outstanding success and of great value biologically and to conservation. Enthusiasm had grown steadily (...) in the face of a large body of doubt in the early years. Other countries considering starting atlases should bear this ability to generate enthusiasm in mind." In response, a working group chaired by Einhard Bezzel set up the EOAC, with Tim Sharrock and Tommy Dybbro (organizer of the Danish atlas) as "Joint Conveners" and one delegate per country (preferably the organiser of the national atlas, where there was one). Notable among the early delegates were Laurent Yeatman and Goetz Rheinwald. Yeatman was the organizer of the French atlas and Rheinwald made up for lack of experience in atlas work by throwing himself into the organization of various atlases in Germany (e. g. Rheinwald *et al.* 1984, Rheinwald *et al.* 1987, Rheinwald 1993) and by his increasingly active participation in the work of the EOAC.

The purposes of EOAC were laid down as:

- To encourage national Atlas projects in as many European countries as possible, coordinating national schemes to obtain uniformity of methods.
- To promote a European Atlas project, using data from national schemes and encouraging work within countries were no national scheme exists.

Here was a fundamental step forward: the idea that a European Ornithological Atlas (EOA) would be produced, not merely a Europe-wide set of national atlases. It was, however, considered that the differences between countries in the way in which ornithology was organised made complete integration too difficult; the EOA would simply use the data from national atlases. But the European project could not work if the national surveys were completely independent. Thus it was agreed that fieldwork for the EOA itself would take place during 1985-88, using the experience gained from national atlases undertaken before then. Although countries were encouraged to use a hectad or finer grid for their national atlases, it was recognised that not all of them had enough manpower to work on this scale; recording for the EOA would use a 50x50 km (quarter myriad) grid.

To encourage countries that did not have a national scheme, the committee decided to produce a standard recording card that could be used anywhere in Europe, though this idea was later dropped because it was realised that such a card would inevitably contain many species that did not occur in whatever country was being surveyed. EURING numbers were used to ensure unambiguous recording.

3. Conducting the business of EOAC, 1971-92

3.1 Immediate work

In February 1972, 10 weeks after the Tring meeting, the minutes were circulated by the Joint Conveners, together with their recommendations for categories of breeding evidence to be used in the EOA, which were similar to those used in the British & Irish atlas. A second newsletter followed in April, with a slightly revised list of the categories of breeding evidence, following feedback from delegates. This was given wider circulation in a published report (Sharrock 1973). The final version of this list is shown in the Atlas. It differs from the April 1972 version only in that one of the categories of breeding evidence, which in 1972 was shown as "agitated behaviour or anxiety calls suggesting nest or young nearby", lost its last five words in the final version.

3.2 Conferences and committee meetings

The IBCC suggested a joint conference with EOAC in 1972 and further joint conferences were held every 2 to 4 years thereafter (Appendix 1). The conferences were important not only because they allowed the exchange of ideas but also because they were the only occasions when the EOAC met. (For some reason, forgotten now even by the then Chairman, it did not meet at the 1981 conference, though there were atlas talks on the agenda and some EOAC delegates attended). At the 1972 meeting it was decided to conduct business between meetings by correspondence but the archives suggest that little was done in this respect. There is not even any evidence that the minutes were routinely circulated during 1972-83 except in the conference proceedings, which usually did not appear until two years after the meetings.

From 1985 onwards no minutes appeared in the proceedings but minutes for 1985 and 1987 are held in the EBCC archives; it is not clear when they were circulated. No minutes have been found for the 1989 meeting though there are handwritten notes made by R. J. Fuller in the BTO archives. (The chairman was too ill to attend the meeting and EOA business was being taken forward by small group of activists, so it seems likely that formal minutes were indeed not produced.)

It is clear from the minutes that the long gaps between meetings and the paucity of communication during these gaps slowed down the work of the EOAC and even allowed momentum to be dissipated. There were various reasons why matters were not better organised.

One is simply that this was the first time that such close collaboration between ornithologists across Europe had been attempted. Another is that those working on the EOA were not doing so as part of their paid employment; even for those employed to organise national atlases the EOA was peripheral to their main work. Thirdly, communication was then much more difficult than it is today: there was no e-mail; fax was not readily available even in the best funded institutes until the late 1980s; international phone calls were expensive and sometimes difficult to make; low-cost air travel did not start in Europe until well into the 1990s.

3.3 Officers

At first, most EOAC work was managed by the Joint Convenors. Dybbro had to step down in 1976, so the EOAC was reconstituted, with Sharrock as Chairman and Pierre Devillers (Belgium) as Treasurer. Keeping in touch with delegates and recruiting delegates not so far represented was a considerable task, made more burdensome at that time by the division of Europe by the Iron Curtain. Two Joint Secretaries (Zdzisław Bogucki, Poland, and Laurent Yeatman, France) were therefore appointed, to divide the work between them. In 1979, Karel Šťastný (Czechoslovakia) became Eastern Secretary and, following Yeatman's early death, Francisco Purroy (Spain) became Western Secretary.

3.4 Delegates

If the EOA was to succeed, a delegate was needed from every country. The Joint Convenors, the Secretaries and others, approached contacts in each country for ideas, often having to follow a chain of suggestions until they found someone prepared to become the Atlas delegate.

The countries from which delegates were newly appointed, as announced at the EOAC meetings, were as follows:

1971 Bulgaria, Denmark, Finland, France, Germany (West), Italy, Netherlands, Poland, Sweden, Switzerland, United Kingdom
1972 Belgium
1976 Czechoslovakia, Estonia, Ireland, Spain, Turkey, Yugoslavia
1979 Hungary, Malta, Norway, Romania
1983 none
1985 Austria
1987 Portugal

Albania, Germany (East), Iceland, Greece, USSR (except Estonia) were never represented.

	Countries with delegates – *Länder mit Delegierten*	Persons attending – *Teilnehmer*	
		Delegates – *Delegierte*	Total
1971	11	11	11
1972	12	7	7
1976	18	11	13
1979	22	13	16
1983	22	7	9
1985	23	11	13
1987	24	12	13

Unfortunately, even when delegates had been appointed, they often failed to attend meetings. Only six countries were represented at every meeting and delegates of three others never attended. The average attendance at EOAC meetings was less than 60 % of the number of countries that had appointed delegates:

Such poor attendance, resulting no doubt from the long intervals between meetings and the poor communication, combined with the political divisions of Europe and the costs of travel, must have further reduced the effectiveness of the committee.

4. Progress in the 1970s

4.1 Area and species to be covered

The committee addressed some important basic issues in 1972. In a document circulated to delegates in April 1972, Sharrock presented a provisional list of 417 European breeding species, asking delegates to check that it was correct and complete. This prompted discussion of exactly what area the EOA should cover. The decision at this stage was based partly on considerations of biogeography, so European Turkey was to be included, and partly on practical considerations, so Spitsbergen and USSR were to be excluded. (In the end the Atlas attempted to cover the whole of what biogeographers recognise as Europe – shown in Figure 1 of the Atlas).

The document also, not surprisingly, stimulated discussions on which introduced species were to be included and which subspecies should be separately

Fig: 2: Early officers of the EOAC: Tim Sharrock (first Chairman, left), Laurent Yeatman (first Western Secretary, centre) and Francisco Purroy (Western Secretary after Yeatman died, right). Cartoons drawn by N.K. Boev and B. Frocot, published in the proceedings of the 1976 conference. – *Frühe EOAC Funktionäre: Tim Sharrock (erster Vorsitzender, links), Laurent Yeatman (erster Schriftführer West, Mitte) und Francisco Purroy (Schriftführer West nach dem Tod von Yeatman, rechts). Karikaturen von N. K. Boev und B. Frocot, publiziert im Tagungsband der Konferenz im Jahr 1976.*

recorded. Although Sharrock included all introduced species that he considered to be well-established and breeding in the wild state, the final list was not agreed until the data were being collated at the European level, when the criterion was laid down that to be included an introduced species had to have at least one population assessed as self-sustaining over five years. Similarly, discussions as to what subspecies should be separately recorded were still going on in 1989 (when the decision was that data should be gathered only for subspecies that had EURING numbers).

That matters such as these were not resolved much earlier is no doubt because they were only addressed during committee meetings. Had individuals been tasked with reviewing such topics between the meetings and presenting reports and recommendations to the next meeting, firmer and quicker progress might have been made.

4.2 Fieldwork planning

The 1972 committee meeting also addressed the urgent matter of the fieldwork that was needed for the European Atlas. National atlases were to be encouraged, not only so that practical experience would be built up in the European ornithological community but also so that data from national atlases could be fed into the EOA. How the EOA could include countries that did not have the capacity to run a national Atlas was discussed. It was thought that it would be possible for the EOAC to encourage visitors from other countries to contribute but in the event, although the collection of data in some individual countries was greatly aided by foreigners, the EOAC was not able to organise this from the centre.

4.3 Squares in more than one country

Accumulating practical experience resulted in some previous decisions being changed. It had earlier been thought that any grid square that overlapped a national boundary should be covered fully by each of the countries involved. By 1976 this was seen to be impractical and it was decided that each country should survey that part of the square that fell within its own boundaries.

4.4 Decisions made but apparently forgotten

Some decisions in these early years appear not to have been implemented. For example, at the 1972 meeting and using a form issued shortly afterwards, delegates were asked to advise what grid sizes were being used in national atlases, so that a central register could be drawn up; there is no further mention of this in the archives. In 1976, presumably as a result of experience with national atlases, it was recommended that recording cards should ask observers to state whether they had made nocturnal visits and whether coverage of the square was casual, incomplete or complete; but this recommendation may have been honoured more in the breach than in the observance: the British and Irish certainly did not implement it. The card that was eventually used for gathering data from national organisers instead asked them whether more or less than 75 % of the expected breeding species had been recorded in the square. Such failure to stick by decisions was probably not because individual countries deliberately ignored them but because the decisions were forgotten, another example of the inefficiencies resulting from meetings being infrequent and communication poor.

4.5 Publicity

The need to publicise the project in every country was frequently stressed but it is not clear how much publicity was actually generated. Some pilot distribution maps were produced in the 1970s for people to publish in their national ornithological journals as a means of generating interest. However, I have been unable to find that they were used beyond four articles in British Birds and one in Ardeola; all bar one of these were authored by Sharrock.

4.6 National atlases progress well; European plans remain hazy

At the conference held in 1979, Sharrock reported that progress at national level was satisfactory: five atlases had been published; five atlases were finished though not yet published; fieldwork was in progress in 13 more countries; and fieldwork was about to start in another country and was being considered in two more.

At the committee of that year there was again considerable discussion over the details of the project. Some was the confirming or filling out of previous decisions. Some covered new ground, but not in an entirely useful manner: thus, despite the planned end of the fieldwork for the EOA being still nine years away, the delegates eagerly considered the eventual publication of the results (but the crucial step of exactly how to collate the data gathered by individual countries and use them to produce an integrated European atlas seems not to have been considered). Leaping quite beyond the bounds of the current project, there was even talk of winter atlases, though it was agreed that, while EOAC should take an active role in devising and proposing standard methods, this should await the field experience from the projects that had already started.

5. Entering the fieldwork period

5.1 A new chairman

The 1980s did not start well for the EOAC. There was no meeting during the 1981 conference and, because of his increasing workload as editor of British Birds, Sharrock had had to step down as chairman. However, he was able to recruit as his successor Mike Taylor, then BTO President and with almost 20 years' experience on various BTO committees. (Significantly, he had played

an important part in the development of the Common Bird Census in Britain, particularly contributing his expertise as a professional statistician, and with Sören Svensson had drafted the international standard for the mapping method in bird census work at the conference in 1968). Though not a delegate, he had enthusiastically attended the 1979 EOAC meeting. He was shortly to retire from his professional work, so would have time to devote to the EOAC.

Taylor took over the chairmanship in May 1983, only four months before that year's meeting. It must have come as a shock for him to find that there were only six delegates at the committee meeting, especially as there were less than two years to go before the start of the Atlas fieldwork period. This was not a sign of strong commitment to the project among the bulk of the delegates. Furthermore, as the months progressed, he will have discovered that there was still much to do in terms of setting up practical arrangements.

Despite the poor turnout, there was much discussion at the 1983 meeting, particularly about using ancillary sources of information (such as records from ringers of birds in breeding condition and the data from the1984 International Census of White Storks). Further discussion of publication, though still largely premature and distracting attention from more urgent tasks, did raise some issues of what information needed to be recorded. For example, the need to distinguish on the published maps, and therefore during the data collection, between squares that had been visited without the species being found and squares that had never been visited. (That this had not been addressed before may seem surprising until one remembers that the leading people in the EOAC came from countries where this was not an issue because all their squares were covered).

Despite the amount of discussion, the minutes record nothing about the essentials that were needed by 1985: assurances that every country would participate; an agreed form for the submission of data; a method of handling the incoming data; and how to convert the information into maps). Perhaps these issues would have been given more attention if the meeting had taken place at the end of the conference rather than at the beginning, after delegates had heard the talk from the statistician S. T. Buckland "Atlas data: processing and analysis", based on his work with a local atlas in Britain. Given the importance of these issues, it is difficult to understand why the EOAC neither asked Buckland for his advice subsequently (Buckland *in litt.,* 13th August 2013) nor, apparently, paid any attention to the content of his paper.

5.2 1984: the new Chairman gets busy

Plunging into his new role with enthusiasm, Taylor attended various meetings in order to stimulate interest in the atlas, particularly in countries with few resident ornithologists. No doubt recognising that it was urgent to ensure that all countries were aware of the methods already agreed for the atlas fieldwork, he circulated a newsletter in June 1984. It confirmed that fieldwork would take place during 1985-88 using the agreed criteria for proof of breeding and a 50 x 50 km grid (the UTM grid if possible). The number of breeding pairs of each species in each square should be estimated on a scale of powers of 10. Data on habitats in each square, using a standard list that he had drawn up, were required. (The idea then was to use the habitat data to help estimate population sizes but in the event the population estimates used in the atlas were those provided by the countries themselves and processing of the habitat data was never completed).

In another 1984 letter, Taylor announced that, following the realisation by Sharrock in 1981 that financial support was required to address some problems relating to the atlas, an application had been made to the European Commission, resulting in an award being made at the end of 1983 to the Royal Institute of Natural Sciences in Belgium (at which the EOAC Treasurer worked). In the time available, he and the Treasurer had been able to consult only a few colleagues in drawing up the work programme, which consisted of:

- assisting with arrangements for atlas work in Greece (where there were few ornithologists resident);
- studying ways of making quantitative estimates of population size;
- studying ways of recording habitat;
- examining problems of handling the final data.

Nigel Clark was employed to undertake this programme, especially to come up with a method of getting an abundance estimate that would be usable by birdwatchers with a range of skills and across countries differing greatly in numbers of birdwatchers. Having consulted widely, Clark and his wife (Jacquie) went to Greece to test out methods of recording habitat and making population estimates. On the basis of this experience, he suggested a method involving the fieldworkers assessing the extent of each habitat and an order-of-magnitude estimate of the density of each species in each habitat. Taylor thought that the necessary calculations would require too much computing power and devised a simpler plan.

Also in 1984, Taylor circulated to the EOA delegates a set of guidelines for trials of fieldwork methods. These trials, in addition to testing the methods of population estimation and habitat recording, also involved trying to get "some idea of the rate of build-up of evidence in terms of hours in the field" and making a series of point counts in different habitats within each square, the latter being an experiment for a future possible long term EEC project in which counts would be repeated annually. Particularly given that there was only a year to go before the start of fieldwork for the atlas, these additions were bizarre. It would surely have been impossible

to regulate the number of hours that people spent in each square across the whole of Europe or to require them to undertake point counts. In the event, it appears that the only such trials actually made were a couple in Britain and that these had little impact on the atlas work that was eventually carried out.

5.3 Slowing down

It is regrettable that the most important thing that should have been done at this stage, setting up a system for collecting and processing the data, seems to have been neglected. Even the 1985 committee meeting, taking place after the first season of fieldwork, appears to have spent little time on this. The minutes contain much on the work that had been done in 1984 and on ideas for the final publication. But all they recorded on these core matters was "There had been a tentative and so far unofficial offer from a research institution to do the final data processing and map production. To make computer input as easy as possible, it was agreed that data should be reported on A4 sheets, with all the written information on one side only. Delegates proposed, and the meeting agreed, that data should be reported annually to the Chairman." No doubt the rest of the committee expected the Chairman to prepare more detailed instructions and forms for data submission. Unfortunately, though a professional statistician, the Chairman probably had little or no experience of the problems of assembling and analysing large data sets and did not appreciate what needed to be done. Yet he had been warned. Peter Lack, organiser of the British and Irish Winter Atlas and then British delegate to the EOAC, having undertaken some of the EOA pilot work in his spare time, wrote to Taylor in July 1984: "I have just got your newsletter (...) I see from it you are going to give some recommendations in the autumn. I would be much happier if anything like this could be made rules. Otherwise the final data analysis will be very difficult. Similarly you need a reasonably fixed recording card(s), probably geared towards some commercial computer punching."

Little at all seems to have been done between the 1985 and 1987 meetings (apart from the fieldwork). It is true that BTO archives contain a document (undated but probably 1985) entitled Field Trial Instructions for the European Breeding Bird Atlas but there is no evidence that this was ever sent out. Indeed, no form for data-gathering or data-collation was produced until Johan Bekhuis did so in 1989 (Fig. 4), having taken on the task of gathering the data from national organizers. As the Netherlands delegate, he had written to Taylor in July 1986, pointing out that it had been agreed at the 1985 meeting that all countries should be fully informed about the project as soon as some details were worked out, that delegates had not been contacted and that they needed the final version of the instructions. He concluded: "The project is doubted to produce good results without clear instructions and a firm organisation." This did not stimulate any action.

5.4 What caused progress to slow down?

The slow progress after 1984 was partly a result of the long term problems with the EOAC. One of these was its size: on large committees, most members expect that other people will do the work, so that very few do anything. On the EOAC, only the Chairman, the Joint Secretaries and the Treasurer had designated responsibilities and no one else was asked to undertake any particular tasks. Rather than delegating tasks to other members of the committee and confining himself to supervising the work programme, the Chairman tried to undertake all the work himself but what was needed was too much for one man. Furthermore, because the attendance of delegates was erratic and because agendas and papers were rarely produced for meetings in the 1980s, it is likely that most of the delegates had little sense of the work that needed to be done. The long gaps between meetings meant that even the officers lost momentum. Before long, the Chairman himself became rapidly less active because of severe eye-problems that developed shortly after he had taken over the chairmanship: he could often not see to read or write for months on end and, as a result, he often did not reply to letters for months or even years. He kept hoping that his condition would improve, which is presumably why he did not step down. Unfortunately, he did not delegate his responsibilities, so they simply lay in abeyance. During much of the 1980s he was also the British national organizer for the EOA, which was an extra burden and probably led to some confusion of roles

6. Getting back on course

6.1 Rescue work begins

There were only 10 delegates at the 1987 meeting, despite it being three-quarters of the way into the designated period of fieldwork. Things were so bad that there had even been difficulty in maintaining communication with any atlas workers in France. Nonetheless the formal minutes of the meeting give no indication that there were any grave concerns about the slow progress of the committee's work. They record much discussion about the form of the book and the maps that there would be in it; Goetz Rheinwald, the long-standing and energetic delegate from the German Federal Republic, presented some clear ideas of the points to be included in the text. However, the minutes reflect no concern about the level of coverage that was being achieved or the rate of submission of data. They suggest that the committee had no idea how the data were going to be processed: "Informal contact had been made with the Netherlands Central Bureau of Statistics, which had expressed interest. So far there was nothing to report. The Chairman would welcome information from, or

contact with, any delegates who have special experience in the area of ornithological map production." They record a brief discussion of the "possible need" to raise funds to cover the cost of data-processing but no fund-raising plan appears to have been developed.

Beneath these apparently stagnant waters there were, fortunately, undercurrents. The key event of 1987 was the publication of the Dutch year-round atlas (SOVON 1987). Purroy resigned as Western Secretary of EOAC in favour of the Dutch delegate, Bekhuis, because of the latter's deep involvement with the Dutch atlas work. Bekhuis and colleagues at SOVON had become concerned at the lack of progress in the EOA work, as had Goetz Rheinwald. Bekhuis and Frank Saris (Director of SOVON), having discussed the problems with Rheinwald in advance, raised them at the committee meeting; Bekhuis pointed out that almost no data had been submitted, three-quarters of the way through the designated fieldwork period (Bekhuis 1990). Rheinwald's offer to join the lead group in taking the work forward was accepted.

From this point onwards, Bekhuis pushed the work forward, strongly supported by Saris but somewhat constrained by the lack of funding.

Another significant development in 1988, stemming from a proposal by Robert Kwak at the 1987 conference, was the production of *Bird Census News*, a biennial newsletter designed to maintain contact and enthusiasm between meetings, to keep track of atlas and census studies, and to publish preliminary results (Bijlsma 2007). It was to prove of great value in drawing European ornithologists together and in providing a means by which people with only limited skills in English could, with the help of its sympathetic editors (first Rob Bijlsma then, from 1993, Anny Anselin), bring their work to the attention of international colleagues

6.2 Arrangements for collecting and processing the data

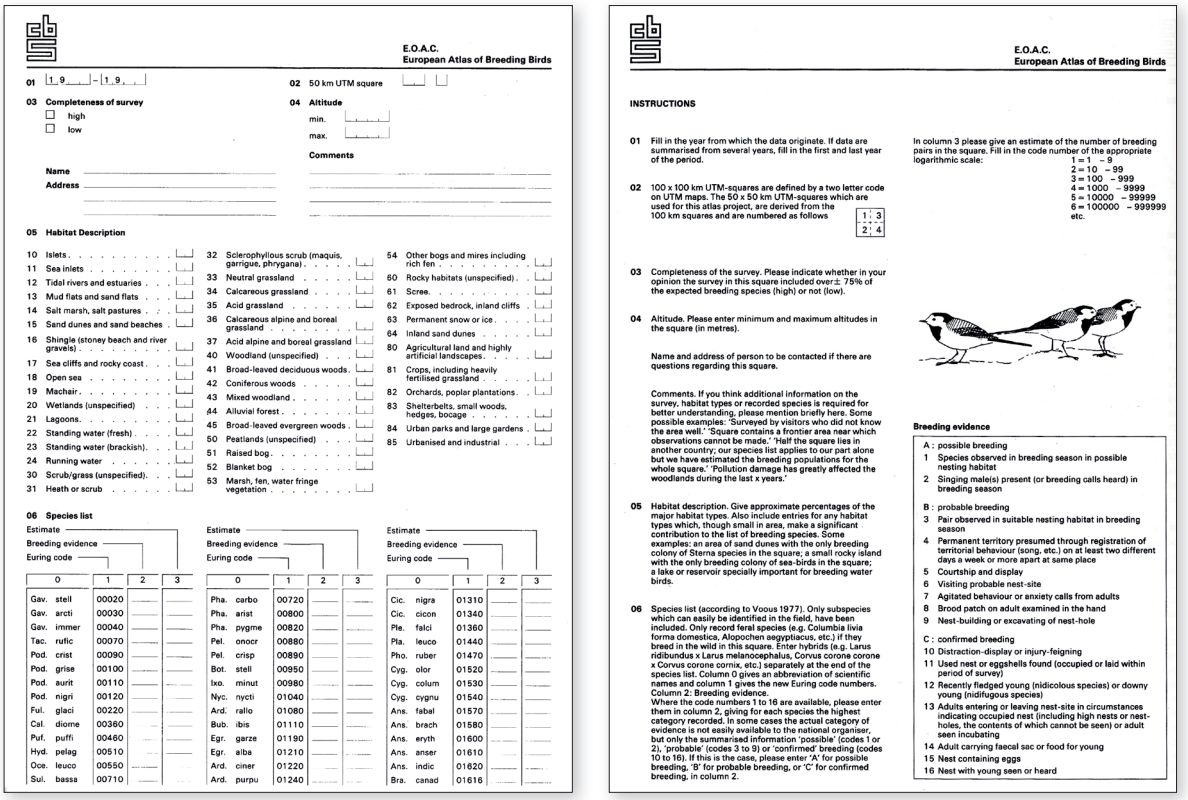
Contact between the Chairman and the Netherlands Central Bureau of Statistics (CBS) started in 1984. At that time the CBS would probably have undertaken the tasks of data-processing and map production without charge. The Chairman had, however, been extremely dilatory in responding to correspondence with CBS, which was the reason that he had nothing about this to report to the 1987 committee meeting. Bekhuis, in contrast, had developed a close relationship with CBS and he discussed the EOA with them: they remained interested in helping with it. In thinking about the reasons for the poor rate of submission of the data, he recognised that the data could only be processed efficiently if the results from all countries were submitted in the same way. CBS helped in producing a form for data submission (shown in Fig. 4) and Bekhuis sent the forms to national organizers in February 1989, together with a questionnaire about population sizes and trends, range trends, habitats used by each species, migratory status, etc. This stimulated the submission of data, ensured that the data were submitted in the required form and made computerization of the data easier.

Fig. 3: Photograph taken during the 1987 conference. From left to right, those in the foreground are: Mike Taylor (EOAC Chairman 1983-92), Tim Sharrock (EOAC Chairman 1976-81), Johan Bekhuis (organizer of collection and curation the data from country representatives during 1987-92), Goetz Rheinwald (Chairman of the Atlas Working Group, 1992-97). Behind Sharrock stands Klaus Witt, who drafted the constitution of the EBCC in 1992. Photograph supplied by Frank Saris. – *Foto während der Konferenz 1987. Von links nach rechts sind im Vordergrund zu sehen: Mike Taylor (EOAC Vorsitzender 1983-92), Tim Sharrock (EOAC Vorsitzender 1976-81), Johan Bekhuis (verantwortlich für die Zusammenstellung von Daten der einzelnen Landesvertreter von 1987-92), Goetz Rheinwald (Vorsitzender der Atlas Arbeitsgruppe, 1992-97). Hinter Sharrock steht Klaus Witt, der 1992 die Statuten des EBCC entwarf. Foto bereitgestellt durch Frank Saris.*

At the 1989 conference, Bekhuis made a presentation and produced a progress report on what he had done (Bekhuis 1990). The data were coming in well and he ended his presentation on an upbeat note: "With a quick and successful fund-raising campaign, data checking, computerisation and text drafting will soon be underway. A preliminary time schedule for the European Atlas aims 1992 (the year of European unity) [i. e. signing of the Maastricht Treaty] as the most favourable year for atlas publication." But he pointed out that there was much more to do – processing and checking the data, writing texts and of managing the publication of the book. This would "require a lot of money, energy, and time, and is therefore no volunteer job."

6.3 A focused committee is formed

Bekhuis had written to EOAC officers in April 1989 to say that, though it might have been possible to get the job done by CBS without a charge when contact was first made, this was no longer possible.



E.O.A.C.
European Atlas of Breeding Birds

01 1 9 – 1 9

02 50 km UTM square

03 Completeness of survey
☐ high
☐ low

04 Altitude
min.
max.

Comments

Name
Address

05 Habitat Description

10 Islets
11 Sea inlets
12 Tidal rivers and estuaries
13 Mud flats and sand flats
14 Salt marsh, salt pastures
15 Sand dunes and sand beaches
16 Shingle (stoney beach and river gravels)
17 Sea cliffs and rocky coast
18 Open sea
19 Machair
20 Wetlands (unspecified)
21 Lagoons
22 Standing water (fresh)
23 Standing water (brackish)
24 Running water
30 Scrub/grass (unspecified)
31 Heath or scrub
32 Sclerophyllous scrub (maquis, garrigue, phrygana)
33 Neutral grassland
34 Calcareous grassland
35 Acid grassland
36 Calcareous alpine and boreal grassland
37 Acid alpine and boreal grassland
40 Woodland (unspecified)
41 Broad-leaved deciduous woods
42 Coniferous woods
43 Mixed woodland
44 Alluvial forest
45 Broad-leaved evergreen woods
50 Peatlands (unspecified)
51 Raised bog
52 Blanket bog
53 Marsh, fen, water fringe vegetation
54 Other bogs and mires including rich fen
60 Rocky habitats (unspecified)
61 Scree
62 Exposed bedrock, inland cliffs
63 Permanent snow or ice
64 Inland sand dunes
80 Agricultural land and highly artificial landscapes
81 Crops, including heavily fertilised grassland
82 Orchards, poplar plantations
83 Shelterbelts, small woods, hedges, bocage
84 Urban parks and large gardens
85 Urbanised and industrial

06 Species list

	Estimate / Breeding evidence / Euring code	0	1	2	3
Gav. stell		00020			
Gav. arcti		00030			
Gav. immer		00040			
Tac. rufic		00070			
Pod. crist		00090			
Pod. grise		00100			
Pod. aurit		00110			
Pod. nigri		00120			
Ful. glaci		00220			
Cal. diome		00360			
Puf. puffi		00460			
Hyd. pelag		00510			
Oce. leuco		00550			
Sul. bassa		00710			
Pha. carbo		00720			
Pha. arist		00800			
Pha. pygme		00820			
Pel. onocr		00880			
Pel. crisp		00890			
Bot. stell		00950			
Ixo. minut		00980			
Nyc. nycti		01040			
Ard. rallo		01080			
Bub. ibis		01110			
Egr. garze		01190			
Egr. alba		01210			
Ard. ciner		01220			
Ard. purpu		01240			
Cic. nigra		01310			
Cic. cicon		01340			
Ple. falci		01360			
Pla. leuco		01440			
Pho. ruber		01470			
Cyg. olor		01520			
Cyg. colum		01530			
Cyg. cygnu		01540			
Ans. fabal		01570			
Ans. brach		01580			
Ans. eryth		01600			
Ans. anser		01610			
Ans. indic		01620			
Bra. canad		01616			

E.O.A.C.
European Atlas of Breeding Birds

INSTRUCTIONS

01 Fill in the year from which the data originate. If data are summarised from several years, fill in the first and last year of the period.

02 100 x 100 km UTM-squares are defined by a two letter code on UTM maps. The 50 x 50 km UTM-squares which are used for this atlas project, are derived from the 100 km squares and are numbered as follows 1 : 3 / 2 : 4

03 Completeness of the survey. Please indicate whether in your opinion the survey in this square included over ± 75% of the expected breeding species (high) or not (low).

04 Altitude. Please enter minimum and maximum altitudes in the square (in metres).

Name and address of person to be contacted if there are questions regarding this square.

Comments. If you think additional information on the survey, habitat types or recorded species is required for better understanding, please mention briefly here. Some possible examples: 'Surveyed by visitors who did not know the area well.' 'Square contains a frontier area near which observations cannot be made.' 'Half the square lies in another country; our species list applies to our part alone but we have estimated the breeding populations for the whole square.' 'Pollution damage has greatly affected the woodlands during the last x years.'

05 Habitat description. Give approximate percentages of the major habitat types. Also include entries for any habitat types which, though small in area, make a significant contribution to the list of breeding species. Some examples: an area of sand dunes with the only breeding colony of Sterna species in the square; a small rocky island with the only breeding colony of sea-birds in the square; a lake or reservoir specially important for breeding water birds.

06 Species list (according to Voous 1977). Only subspecies which can easily be identified in the field, have been included. Only record feral species (e.g. Columbia livia forma domestica, Alopochen aegyptiacus, etc.) if they breed in the wild in this square. Enter hybrids (e.g. Larus ridibundus x Larus melanocephalus, Corvus corone corone x Corvus corone cornix, etc.) separately at the end of the species list. Column 0 gives an abbreviation of scientific names and column 1 gives the new Euring code numbers. Column 2: Breeding evidence.
Where the code numbers 1 to 16 are available, please enter them in column 2, giving for each species the highest category recorded. In some cases the actual category of evidence is not easily available to the national organiser, but only the summarised information 'possible' (codes 1 or 2), 'probable' (codes 3 to 9) or 'confirmed' breeding (codes 10 to 16). If this is the case, please enter 'A' for possible breeding, 'B' for probable breeding, or 'C' for confirmed breeding, in column 2.

In column 3 please give an estimate of the number of breeding pairs in the square. Fill in the code number of the appropriate logarithmic scale:
1 = 1 – 9
2 = 10 – 99
3 = 100 – 999
4 = 1000 – 9999
5 = 10000 – 99999
6 = 100000 – 999999
etc.

Breeding evidence

A : possible breeding
1 Species observed in breeding season in possible nesting habitat
2 Singing male(s) present (or breeding calls heard) in breeding season

B : probable breeding
3 Pair observed in suitable nesting habitat in breeding season
4 Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different days a week or more apart at same place
5 Courtship and display
6 Visiting probable nest-site
7 Agitated behaviour or anxiety calls from adults
8 Brood patch on adult examined in the hand
9 Nest-building or excavating of nest-hole

C : confirmed breeding
10 Distraction-display or injury-feigning
11 Used nest or eggshells found (occupied or laid within period of survey)
12 Recently fledged young (nidicolous species) or downy young (nidifugous species)
13 Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest-holes, the contents of which cannot be seen) or adult seen incubating
14 Adult carrying faecal sac or food for young
15 Nest containing eggs
16 Nest with young seen or heard

Fig. 4: Form used to gather data from national organizers, produced by J. Bekhuis and the Netherlands Central Bureau of Statistics and circulated in February 1989. – *Erfassungsbogen um Daten der nationalen Organisatoren abzufragen. Dieser wurde von J. Bekhuis und dem niederländischen Zentralbüro für Statistik erstellt und im Februar 1989 zirkuliert.*

Yet EOAC had raised no serious funds for this work. His conclusion was stark: "there is a serious danger of an impasse."

As early as the 1976 meeting, EOAC decided to seek funds to employ a coordinator during 1984-89. Small amounts had subsequently been obtained but nowhere near enough. Perhaps not surprisingly, given that there was no clear plan for the central tasks of data-processing, of commissioning and editing texts and of managing the publication process, the committee had even failed to draw up a budget. Furthermore, with the hindsight provided by long experience, one can now see that the fund-raising activities that had been undertaken were amateurish and poorly focused, with no overall strategy; few of those involved had the necessary experience. Doubtless most of them assumed that the Treasurer was addressing the task.

SOVON, with a member of its staff now taking the lead on the work, pushed for a better strategy. No formal minutes of the 1989 committee meeting appear to have been produced but the notes made by R J Fuller record that SOVON pointed out that CBS could not continue to help without funding. SOVON estimated that it would cost £ 110,000 to complete the Atlas. As it turned out, this was an underestimate, but it stimulated some action. BTO, which had some in-house fund-raising staff, agreed to take the lead for the EOAC and, in collaboration with SOVON and CBS, it obtained funding from Eurostat to allow data collection and processing to continue.

The 1989 meeting set up a small group to advise the BTO fundraisers. It met, in a slightly expanded form, at SOVON headquarters in February 1990. Here, at last, was the smaller, more focused committee that the EOAC had always needed to drive its work forward. It comprised just six people: Bekhuis, the person most actively working on the project; Rheinwald, also very active, having been the delegate for West Germany since the start of the project and the link with the Dach-

Fig. 5: Johan Bekhuis, who drove the project forward during 1987-92. – *Johan Bekhuis, der das Projekt zwischen 1987 und 1992 voran trieb.*

verband Deutscher Avifaunisten (DDA); Devillers, the Treasurer; Luc Schifferli, a constant attender at EOAC meetings as the Swiss delegate since 1979 (his father Alfred had been the first Swiss delegate) and also the organiser of a meeting on European ornithological collaboration that had been held in Switzerland in 1988; Saris and myself (Directors of SOVON and BTO, the two organizations now taking the active work under their wings). The Chairman could not attend because his health had further deteriorated. It got even worse in 1991 and he resigned early in 1992.

The 1990 meeting had good practical discussion about funding, about what was needed in the Atlas and about potential publishers. But because of lack of funding, Bekhuis's time on the Atlas had been limited since August 1989, though he determinedly ensured that the data collection and computerization continued. Further fund-raising efforts produced little.

6.4 Significant progress

1992 was a turning point. The International Committee for Bird Preservation (ICBP) conference (at which ICBP metamorphosed into BirdLife) was, following the original host country's failure to organize it, held in May in Germany (Aachen). Rheinwald, as chairman of the German section of ICBP, not only played host to the conference but had been asked to take over the chairmanship of EOAC on Taylor's resignation. He and Bekhuis organized a meeting of the working group, now joined by Karel Šťastný (Eastern Secretary), at the Aachen conference. They had recognized that the EOA project would founder unless firm action was taken. Having reviewed progress and plans, the meeting agreed that SOVON and BTO would cooperate to prepare for editorial work and publication of the Atlas. Because neither organisation had more than small amounts of free funding available, it was essential to find funding for this work. This meant that the main business of the meeting became the position of the Treasurer. Though he had been charged with finding funds since the start of the project, all that he had raised was the EC funding for the early pilot work. He reported that the Commission was dissatisfied with the extent of that work and was unwilling to provide any further funding. His failure to report this previously to the committee was particularly offensive because the pilot funding had not come to the EOAC directly but had been channelled through the Treasure's own institute, with him as the nominated officer. Furthermore, he had an apparent conflict of interest in that his own institute had later obtained EC funding to gather bird population data for the "ORNIS" database at the same time that the EOAC was trying to obtain funds for work that included gathering population data. Given that he was the Treasurer, he should have been fully aware of the EOAC plans. He arrived in Aachen just a short time before the committee met. By then there had been much informal discussion about his position, the unanimous view being that he should be asked to step down. Judging the mood, he tendered his resignation.

Fig. 6: Goetz Rheinwald, Chairman of the Atlas Working Group of the EBCC. – *Goetz Rheinwald, Vorsitzender der Atlas Arbeitsgruppe des EBCC.*

Bekhuis produced a working report *Breeding Bird Atlas of Europe* for the IBCC/EOAC conference in the Netherlands in September of the same year. Containing preliminary maps and population data, it had several purposes: to give feedback to supporters of the project, to allow countries to visualise and check their contributions, to encourage quick submission of late data, to encourage submission of population estimates (which were lagging behind the distributional data), to allow authors to use the maps when writing species accounts, to show to potential publishers, and to help raise funds – for, although much had been done, much more remained.

7. The European Bird Census Council (EBCC)

There was a wider context to these atlas developments. In April 1988, Schifferli had called various people to a discussion meeting at the Schweizerische Vogelwarte in Sempach to discuss possibilities for better co-ordination of bird monitoring work in Europe. Robert Kwak was elected Chairman of IBCC in 1989 and led a discussion on its future at the committee meeting, stimulating much informal discussion among those attending the meeting, both census and atlas workers. Over the next 2½ years, there were further discussions between IBCC, SOVON and BTO. Various ideas were canvassed and circulated to IBCC and EOAC delegates and other interested parties. Specific proposals for a merger between IBCC and EOAC were circulated in April 1992. Given that the work of the two organisations was similar yet complementary, that many of the people involved in their activities were the same and that their conferences had always been joint, a merger could surely only lead to greater effectiveness. The proposal to merge and a constitution for the merged body, drafted by Klaus Witt, were presented to the conference in the Netherlands in September 1992. The IBCC and the EOAC held separate meetings to discuss the merger,

followed by a joint meeting to set up the merged body, the EBCC.

The Atlas Working Group thus became a working group of the EBCC, its more formal nature putting it in a better position for fund-raising, for establishing business relations with publishers and so forth. The group retained the same membership (Rheinwald, Hagemeijer, Greenwood, Saris, Schifferli and Šťastný, with first Graham Tucker and later Melanie Heath attending from BirdLife). Rheinwald remained Chairman until the Atlas was published.

8. Producing the Atlas: the core team

In a very real sense, the team that produced the Atlas comprised tens of thousands of birdwatchers across Europe, hundreds of people in scientific and conservation organizations, national and international government departments, funding bodies and the publishers, plus the dozens of authors and artists. At the core were the Working Group and the several individuals making up the editorial team.

The Working Group met nine times in the next three years. Rheinwald provided both intellectual and organisational leadership. He led thoughts about how to explain in the Atlas the history of the project, how the work had been done, and various technical issues. He ensured that meetings were business-like. Working hard and effectively between meetings, he expected the rest of us to do the same. He expressed his annoyance about failures and delays in forthright terms but this caused no lasting resentment – the minutes of the last meeting of the group record "The members of the Working Group expressed their great thanks to Goetz for being a strong and sincere chairman."

Taking over from Bekhuis at SOVON during 1992, Ward Hagemeijer became one of the two editors of the Atlas. He was energetic, determined, effective and a good collaborator. He organised the meetings of the working group; he drove forward the data collection from countries, its collation and its checking; he prepared data for the printers and supervised map production.

Hagemeijer had entered conservation science by a conventional route. His co-editor, Mike Blair, had not. During an open day for members at BTO headquarters I was approached by a skinny man dressed in shorts and wearing a bumbag, who asked for 30 min of my time. He told me that he was about to retire from his position as a Squadron Leader in the Royal Air Force (RAF) and was looking for an occupation that would provide him with a little income and be totally different from the engineering work that he had done in the RAF, perhaps connected with his lifelong interest in birds. It turned out that he had done much writing and editing both in his professional capacity and for the RAF Ornithological Society. It occurred to me that he might make a good text editor for the Atlas and, furthermore that we might not need to pay him what we would have to pay an experienced postdoctoral scientist. I consulted the working group and they agreed to try him out. He started work in late February 1993 and attended the working group meeting in April, apparently impressing the members with his enthusiasm and how far he had already got into the task. He proved to have great text-editing skills. Although he and Hagemeijer came from different backgrounds and had very different personalities, they made an excellent working combination.

Rob Bijlsma was also part of the editorial team, paid to work three days a week but in practice working full-time. He brought his immense knowledge of European ornithology, his cool judgement and his ability to step back in order to see problems in the round and come up with solutions. The original plan was for him to write half the species accounts but this was abandoned in favour of his working to streamline and improve texts (many of which were produced by authors who were not fluent in English) and to try for a more balanced use of information where possible. The latter mainly meant usage of sources written in languages other than English or published in obscure journals.

Chris van Turnhout and Simon Gillings had just completed their undergraduate studies before getting their first entries into ornithology through working as members of the EOA editorial team. Van Turnhout was employed to assist Hagemeijer to manage the database and spent two years validating and updating the dataset, and adding a large number of records for the more remote parts in Europe, communicating with local coordinators mainly by fax, letters and huge piles of printed maps. Gillings worked as Blair's assistant in a voluntary capacity for several months, solving any problem that he was presented with, including the incompatibility between floppy discs from Russia and those from the west. Both went on to play important parts in the Dutch and the British & Irish atlases respectively (SOVON 2002, Balmer *et al.* 2013).

Fig. 7: Co-editors of the Atlas, Ward Hagemeijer (left) and Mike Blair (right). – *Die Mitherausgeber des Atlas, Ward Hagemeijer (links) und Mike Blair (rechts).*

9. Producing the atlas: the process

9.1 The wider context

At the same time as these developments within the Atlas community, there were changes in the wider world that significantly affected its work. Communist regimes collapsed in 1989 in Poland, Hungary, eastern Germany, Bulgaria, Czechoslovakia and Romania; in 1991, the Soviet Union, Albania and Yugoslavia followed suit. As a result, contact between the eastern and western countries generally became easier – German reunification being an extreme case. But some of the changes made communication more difficult: several countries separated from the Soviet Union and Yugoslavia disintegrated in bloody chaos. But despite the difficulties, ornithologists in these countries and the central team generally managed to keep the data flowing in: birds triumphed over bombs.

9.2 Communication

One practical difficulty for organizing the Atlas was that communication a quarter of a century ago was far less easy than it is today. Apart from telephoning (which was still not easy to some countries), fax was the quickest means of communication available to most of us – and one often had to phone in advance to ask for the fax machine to be switched on. The internet was in its infancy and e-mail communication did not become the norm until well into the 1990s. Things were particularly difficult in the countries that were in political and economic turmoil. For example, the ornithologists in one country had printers and a fax machine but no ink or paper; and these had to be sent through diplomatic channels rather than the mail, to avoid them being stolen en route.

9.3 Data sources and timing

The plan was for every country to provide data from atlas surveys conducted during 1985-88. In the event, to improve coverage, data from other sources and other years had to be included. Of 43 countries providing data, those of 31 were from atlas surveys alone but local records supplemented the atlas data for eight further countries and visitor's records were also used in four of these. Four countries provided data entirely from sources other than atlas surveys: Georgia and Greece from visiting ornithologists, Armenia from local records and Azerbaijan from both of these. Hagemeijer and Blair in particular spent much time in searching out and evaluating such data.

For each of the 1985-88 years there were data from almost 40 countries. In collaboration with country organizers, data from earlier or later years were evaluated to determine whether coverage or quality would be improved by including them. Data gathered in at least some of the years 1978-84 were used for 17 countries and data from at least some of the years 1989-92 from 27. Because of the difficulties of covering remote regions, Norwegian data came from 1950-89 and Russian from 1963-94. Some newly liberated countries could only get data at a late stage: Albania in 1985 and 1993, Georgia in 1992 and Azerbaijan in 1994. Searching out and evaluating such out-of-time data also took much time.

9.4 Core editorial work

After the data were received from the national co-ordinators and computerized they were validated. After obvious errors had been picked up and corrected centrally, interim maps and national species lists were sent to the national co-ordinators for careful checking. Errors were corrected centrally and revised maps and lists sent out for a second round of checking. This procedure had to be curtailed for some countries because otherwise they could not have met final deadlines – for example, the countries of former Yugoslavia had great difficulties during these years.

The strong regional and other divisions in ornithology that exist in some countries caused problems. Thus in Germany Rheinwald had to merge together disparate data sets that came in from the various Länder-based ornithological societies and to arrange for the conversion of the data from east Germany, which became available after reunification, from the grid on which it had been collected to the European atlas grid. In a few countries some people refused to accept maps that included data from organizations other than their own and when a country could not sort these problems out internally the editors had to deal with them, a drain on their time that should not have been necessary.

National co-ordinators were asked to provide population estimates for each species. BirdLife International was simultaneously engaged in gathering similar data for *Birds in Europe* (Tucker & Heath 1994) from its national contacts, so we collaborated to produce final figures. BirdLife representatives sat on the Atlas working group to facilitate the collaboration. Species experts (often the authors of the atlas accounts) sometimes had their own figures. When the estimates from the three sources did not always agree it took time to achieve compromise.

Recruiting the authors of species accounts also took much time. Suggestions were drawn together from national co-ordinators, from BirdLife and from individual ornithologists across Europe – and the names suggested would often provide yet other potential authors. We tried to have two authors for each species, from opposite ends of the species distribution; this proved a great success, sometimes leading to further collaborations between people who had not previously known of each other's work. In total, we recruited over 400 authors from 34 European and a few non-European countries.

Authors were given guidelines. Some were rigid (such as length of their text) but others were flexible, allowing

authors to adjust the balance of subjects in their text as appropriate to the species. Despite the guidelines, many issues had to be sorted out with individual authors. For example, some had to be persuaded to work within the taxonomic position adopted by the Atlas, even if they mentioned in the text that their view of the taxonomy was somewhat different.

With the help of the Society of Wildlife Artists, the editors tried to recruit a large number of artists from as many countries as possible, preferring up-and-coming people to established wildlife illustrators. The work of 27 artists from 11 countries was used. A suggestion that there should be some uniformity in the illustrations, such as having all the birds facing in the same direction, was rejected by the editors in favour of artistic freedom.

9.5 Languages other than English

It was not economically feasible to publish versions of the atlas in languages other than English. To help make the atlas more accessible across Europe, translations of the Introduction into 13 other European languages were included in the book and the index was repeated in each of those languages. In addition, Rheinwald, in collaboration with Schifferli and a team of colleagues, produced a booklet of almost 100 pages in which abbreviated versions of other introductory chapters and of the species accounts appeared in German. It was hoped that similar booklets would be produced by speakers of other languages but I understand that none ever appeared.

9.6 Publishers

Several publishers were approached, some before the fieldwork had even begun. Only Macmillan showed sustained interest and even contributed £1000 towards the work at an early stage. Whether through incompetence or through a wish not to commit to one publisher, the EOAC failed to cultivate Macmillan in the 1980s and the company not surprisingly lost interest.

On being asked informally for advice, the ornithologist turned publisher Andy Richford, responded by expressing interest on behalf of T. & A. D. Poyser (then an imprint of Academic Press). He subsequently worked closely with the Atlas team, attending all the working group meetings. It was on his advice that "EBCC" was included in the Atlas title (on the grounds that it was a good advertisement for the organization) and that Hagemeijer and Blair should be credited as the editors rather than the EBCC (on the grounds that cataloguers would prefer it).

Richford was an excellent collaborator but was let down by poor communications among some of his colleagues. As a result, some of the species texts in the book were actually earlier versions, rather than the corrected proofs. Only the vigilance of the editors prevented more such errors. A problem that caused much work and months of delay was that the production of the final maps was undertaken by typesetters who were not properly instructed by the publishers. Hagemeijer would send instructions to the publishers who would reword them before passing them to the typesetters; similar rewording happened before the typesetters' queries were returned to Hagemeijer. Both sets of rewording were done by people who did not understand the technical issues, so that communications were corrupted and there were repeated cycles of work on individual problems. The publishers eventually lifted their ban on the editors contacting the typesetters directly. In the course of a six hour meeting they explained the problems with the maps to the typesetters, who then understood them fully. From then on, direct communication quickly solved problems as they arose.

10. Funding

Constant priorities for the working group were how to keep costs down on the one hand and how to raise funds on the other. There was good news at the 1992 conference when funding from the Dutch and UK governments was announced. During 1993 we were optimistic that negotiations in respect of sole sponsorship by a company would be successful but our hopes were dashed in 1994 when this fell through. By this time, much of the work already done by both SOVON and BTO had been unfunded. The BTO finance officer, focused on balancing the books, wished to stop this. Blair was prepared to work unpaid but doubtful arguments about the overhead costs that would still fall on the BTO were deployed against this suggestion. As a result, Blair's work was officially suspended – though he still managed to do some work at home unofficially, with sympathetic colleagues providing a courier service to and from BTO's headquarters. After six months, he returned to work unpaid, when it was accepted not only that the BTO had a moral obligation to let him do so but that there was no point in maintaining a healthy balance-sheet if the organization neglected its scientific objectives.

Some further funding came from the German and British governments and from other sources but it was not enough. By September 1994, the EBCC owed SOVON, BTO and Blair £65,000 for work already done and we estimated that the further work would cost £40,000 more. There were pressures within both SOVON and BTO not to undertake any more unfunded work. Rheinwald volunteered to step in as editor to finish the job should it prove necessary. However, earlier that year Mrs E. Witt had suggested that we might be able to raise funds by asking organizations and individuals to sponsor a species. Rheinwald took up this idea enthusiastically, finding many sponsors himself, especially in Germany, and ensuring that colleagues sought sponsorship in their own countries. The campaign was

successful: over 100 species attracted sponsorship. It would probably have been even more successful had we started it earlier in the project, when we would have had more time to seek sponsors.

From the species sponsorship and other sources, we raised enough money to cover the work that was still needed. Royalties from the Atlas allowed Blair to be paid for much of the work that he had done without pay and some of the debt to SOVON and BTO was repaid. Eventually both organizations wrote off the remaining debt.

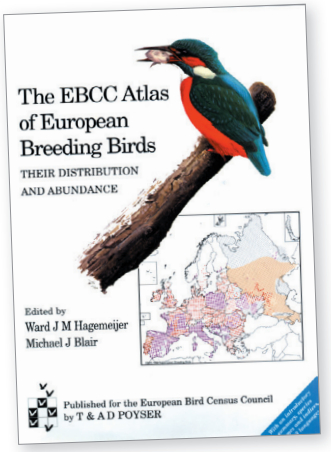


Fig. 8: The dust cover of the Atlas. – *Umschlag des Atlas.*

11. The Atlas appears

Blair's work was finished by the end of 1996. Hagemeijer, though now mainly working on other things at SOVON, dealt with all the matters that arose between then and the date of publication, September 1997.

Those who had worked on the project for so many years were overjoyed to see the Atlas published: "I have touched it, to make sure it was not a dream" (Schifferli); "I feel very proud that one day I worked at a project that resulted in such a fine atlas. I surely am the luckiest boy in town" (Bekhuis). The wider reaction was typified by David Gibbons of RSPB, later to be EBCC chairman: "It's an absolutely astonishing piece of work and sets a benchmark, not only for bird distributions in Europe, but also for pan-European collaboration in nature conservation."

12. Making the Atlas widely available

The EBCC considered the Atlas to be potentially hugely important for the development of ornithology across Europe and for drawing the nations together in ornithological collaboration, perhaps especially for drawing together the east and the west in the new post-cold-war Europe. But it was realised that few people in eastern Europe could afford to buy the book. Discussions with the publisher led to an arrangement under which the EBCC was provided with a large number of copies of the Atlas for free distribution to ornithologists in the east. The national coordinators for each eligible country were asked how many their country would like to have. Some of their requests were so modest that they had to be encouraged to take many more – the EBCC wanted the Atlas to be widely available in each country, not just in a small handful of libraries.

The task of getting the copies of the Atlas to these countries was solved in a typically pragmatic way. Most of the copies were taken to the conference in Cottbus in March 1998, some by individual delegates from Britain, though the main batch arrived in a van, which delivered hundreds of books to the conference centre one evening. Unfortunately, there was nowhere to store them at the conference centre itself so we had to move them through the streets of the city to the conference hotel, on trolleys with such small wheels that forward progress was erratic. They were stored in delegates' bedrooms in the hotel, so many slept that night surrounded by dozens of books stacked against the walls. Thus, to the very end, the Atlas project depended on people's determination to get it finished by whatever means could be devised.

13. Lessons for the future

The most important lesson from the Atlas is that European ornithologists are able successfully to complete such a project, even with the technology and political upheavals of a quarter of a century ago. They can "muddle through", despite insufficient planning and funding. Muddling through, however, is not a virtue but a way of recovering a project from imminent failure. It is better to plan properly. What lessons can be drawn from the first Atlas to support better planning of the next one?

- Organisation. A small committee of people who are each prepared to work is better than a large one of people that have no individual responsibilities. The Atlas committee should be separate from the main board of the organisation, to allow it to focus simply on the Atlas. It should meet often and constantly monitor progress.
- Planning. A clear plan is essential, with the work undertaken in a logical order. As examples: taxonomic decisions should be made before the data are collected and time should not be wasted in discussing the form of publication before the data collection has been organised.
- Recruiting countries to the project. A network of national organisers, each committed to the project and capable of leading his or her country's participation in it, must be set up at the start.
- Coverage. To avoid the need to use old and casual data, arrangements must be made to ensure that at least a sample of squares is covered by proper Atlas survey work in in each country.
- Funding. The budget is an essential part of the plan. Fundraising must start early.
- Defining terminology. It is especially important in an international project that terms are defined so that they are not ambiguous and will be interpreted in the same way in all countries and by all fieldworkers. For example, in the early stages of our first Atlas, contributors were asked to describe coverage as "casual, incomplete or complete" without any further

definition of those terms which could clearly have been interpreted very differently by different people. (The request to contributors was later modified to ask whether more or less than 75 % of the expected number of species had been observed).
- Systematic coverage. Whether a species is observed or not in a locality depends on the amount of effort put into the fieldwork. Because that will vary, it is difficult to make valid comparisons between different places and different times. The value of Atlas work, as has been shown in various individual countries, would therefore be much increased were there to be systematic surveys in at least a sample of squares, using the same protocol in successive atlases.

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14. Zusammenfassung

Greenwood, J. J. D. 2017: Die Geschichte des EBCC Atlas der Brutvögel Europas. Vogelwelt 137: 3–18.

Der Beitrag beschreibt die ereignisreiche Genese des Atlas der Brutvögel Europas (EOA). Als Resultat einer Reihe von Zusammenkünften mit dem Ziel die internationale ornithologische Zusammenarbeit zu stärken, entstand im Jahr 1972 das Europäische Ornithologische Atlaskomitee (EOAC). Nachdem zunächst in einzelnen Ländern Atlaskartierungen gefördert wurden, erkannte man schnell, dass ein europaweiter Atlas realisiert werden könnte, wenn es gelänge europaweit einheitliche Erfassungsstandards für Vogelbestandserfassungen auf nationaler Ebene zu etablieren. Der Zeitraum 1985-88 wurde als gemeinsame Erfassungsperiode vereinbart. Leider ließen sich jedoch nur selten Treffen des Atlaskomitees verwirklichen, die zudem nicht sonderlich entscheidungsfreudig verliefen, so dass über einen längeren Zeitraum kein klarer Plan zur Zusammenführung der Daten und Publikation eines europäischen Brutvogelatlas erstellt werden konnte. Zusätzlich erschwerten die politische Spaltung Europas, hohe Reisekosten und vergleichsweise langsame Kommunikationsmittel einen regen Austausch zwischen den Mitgliedern, was eine effektivere Arbeit des Atlaskomitees verhinderte. Auch eine Finanzierung des Atlas konnte zu diesem Zeitpunkt nicht arrangiert werden und das ganze Projekt stand kurz vor dem Scheitern. Glücklicherweise wurden diese Probleme und offenen Fragen von Johan Bekhuis und weiteren SOVON Kollegen auf einem Treffen im Jahr 1987 offen angesprochen. Diese Gruppe nahm sich der Probleme an und trieb das Projekt von nun an entschieden voran, insbesondere auch mit der Unterstützung durch Goetz Rheinwald. Beispielsweise wurde im Jahr 1988 ein alle zwei Jahre erscheinendes Rundschreiben, die "Bird Census News", eingeführt, um den Kontakt und Enthusiasmus zwischen den Versammlungen aufrecht zu erhalten und regelmäßig über relevante Studien und vorläufige Ergebnisse zu berichten. Von großer Bedeutung war auch die Einsetzung eines stärker zielorientierten Komitees im Jahre 1992. Das neue Komitee kümmerte sich nicht nur um die Lenkung der Redaktionsarbeiten am Atlas, die durch SOVON und BTO durchgeführt wurden, sondern beschaffte auch Finanzmittel aus verschiedenen Quellen. Über 400 Autorinnen und Autoren aus 34 europäischen sowie einigen weiteren Ländern waren in die Formulierung der Artkapitel involviert. Wenn möglich wurden für jede Vogelart zwei Autoren aus den entgegengesetzten Enden des Verbreitungsgebietes zusammengebracht, was häufig zu langfristigen Kooperationen zwischen den Artexperten führte. Die Produktion des EBCC Atlas der Brutvögel Europas wurde zudem stark durch die Teilnahme des Herausgebers, bzw. Verlags, an allen Treffen des Atlaskomitees gefördert. Um ein stärkeres Zusammenwachsen der Ornithologie in ganz Europa zu unterstützen, wurden die Länder im Osten Europas mit einer Vielzahl an Freiexemplaren versorgt, als der Atlas im Jahr 1997 veröffentlicht wurde.

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Appendix

Dates and countries in which conferences of the IBCC, the EOAC and the EBCC were held before the EOA was published, with bibliographic references to the proceedings. – *Die Auflistung unterhalb nennt die Daten und Länder, in denen Konferenzen des IBCC, der EOAC und des EBCC durchgeführt wurden, bevor der EBCC Atlas der Brutvögel Europas (EOA) publiziert wurde, inklusive Quellenangaben der jeweiligen Tagungsbände.*

Asterisks indicate proceedings in which minutes of committee meetings appear. – *Sternchensymbole (*) bezeichnen Tagungsbände, die Protokolle von Sitzungen des Atlaskomitees enthalten.*

1968 Denmark: [International Study Conference on Bird Census Methods and Results. No conference proceedings appear to have been published but a record of the founding meeting of the IBCC was published in the proceedings of the 1969 conference].

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