



EU CONFERENCE

25 YEARS OF THE BIRDS DIRECTIVE: CHALLENGES FOR 25 COUNTRIES

Context paper for workshop D

IMPROVING THE KNOWLEDGE BASE

“Indicating birds and birds as indicator: Challenges for bird monitoring, indicators and reporting”

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A. FOCUS AND AIMS OF THE WORKSHOP

The conservation of wild birds requires a strong knowledge base. There is a need for contextual information on the status and trends of wild bird species and the threats upon them related to the different main ecosystems and regions in Europe. More specifically, information is required on the implementation of policy measures and the effects of these measures. Such information would provide a basis for assessing the appropriateness and effectiveness of the Birds Directive in the context of the broader biodiversity policy and the challenge to achieve the 2010 target.

There is a need to develop streamlined process with the Habitats Directive, including common use of the concept of the favourable conservation status (see box).

As birds are more accessible than most other taxonomic groups to amateurs there is a particular role for members of the public to be involved in their monitoring and reporting, involving so-called 'citizen science'¹.

There is also a good opportunity in particular to use birds as indicators of environmental quality (e.g. effects of EU policies such as agriculture and fisheries on biodiversity), to better communicate biodiversity problems to the general public and to decision-makers.

The central question for this workshop will be how can we set up an efficient monitoring and reporting system for birds at EU level, using indicators to communicate effectively to the general public and to decision-makers in order to assess the effectiveness and appropriateness of the Birds Directive and if needed provoke appropriate policy responses.

More specifically, this workshop will aim to address the following questions:

1. How can we improve the existing mechanisms (both organisational and financial) to achieve effective monitoring systems for bird needs, making best use of governmental and non-governmental organisations, volunteers and citizens?
2. How can we strengthen the existing reporting system under the Birds Directive and streamline it with reporting obligations under the Habitats Directive and where possible, other international agreements?
3. Which bird indicators have a good potential to function as biodiversity indicators, and which steps should be taken for their further development?
4. What are the future research needs and priorities to improve knowledge on bird conservation?

¹ The term 'citizen science' is used to describe the collection of data by the general public. This has been used for recording arrival of migrants and other widespread biological events but also for systematic monitoring of species. In the 25 Member States of the EU, more than 1.5 million people is associated with bird conservation organisations. Many of them has well developed bird identification skills..

B. WHAT ARE OUR COMMITMENTS

Monitoring and reporting under the Birds Directive to contribute to broader biodiversity policy

Development of bird indicators to help meet requirements of Birds Directive and wider integration agenda

Bird research To underpin implementation of the Directive

B. 1 Bird monitoring and reporting to contribute to Biodiversity policy

The global and international biodiversity context:

the Convention on Biological Diversity (1992) provided an international framework for the conservation of biological diversity;

the World Summit on Sustainable Development in Johannesburg in 2002 agreed to achieve a significant reduction in the current rate of loss of biological diversity by 2010;

The Bonn Convention on Migratory Species (1979);

The Ramsar Convention on Wetlands (1971);

Regional context:

The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979);

The Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) under the Bonn Convention (1995)

The EU context:

Birds Directive (1979) and Habitats Directive (1992)

EU biodiversity Strategy (1998) and Action Plans (2001), the Message of Malahide (2004), reflecting the views of a broad Stakeholder Conference on the achievements and necessary actions with respect to the biodiversity targets for 2010; Council Conclusions² (2004) welcoming among others 'the first set of headline biodiversity indicators' as outlined in Annex 1 to the "Message from Malahide"³;

EU Sustainable Development Strategy (2002) with objective to halt the loss of biodiversity by 2010

6th EAP (2002) with objective to halt the loss of biodiversity both in EU and on a global scale by 2010 and calling for specific priority actions on (...) promoting research on biodiversity (Article 6) and on the reviewing and regularly monitoring of information and reporting systems with a view to a more coherent and effective system to ensure streamlined reporting of high quality, comparable and relevant environmental data and information and on the need for reinforcing the development and the use of earth monitoring (e.g. satellite technology) applications and tools⁴ in support of policy-making and implementation (Article 10).

² Environment Council, 28 June 2004, pages 19-22 : http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/envir/81264.pdf

³ Stakeholder Conference on the implementation of the EC Biodiversity Strategy and Action Plans: http://www.ue2004.ie/templates/meeting.asp?sNavlocator=5.418.13&list_id=193

⁴ The recent adoption by the Commission of the INSPIRE Directive aims to allow easy access to harmonised geo-referenced environment data through a general framework for sharing the spatial data between public sector bodies across political and

B. 2 Bird indicators to fulfil wider agenda

The broader EU agenda for indicators etc (Lisbon and Gothenburg) and in particular the need to include, as soon as possible and not later than the next review of the Sustainable Development Strategy, and indicator on biodiversity in the list of structural indicators, as called for in the Council Conclusions on structural indicators of 8 December 2003

Specific commitments that derive directly from the Birds Directive for monitoring, reporting and research on birds. There are a series of obligation under the Birds Directive including:

- Need for information on trends and variations in population levels (Article 4.1)

- Member States to provide Commission with all relevant information to ensure coherence of network of Special Protection Areas (Article 4.3)

- Member States need to provide all relevant information to Commission on practical application of their hunting regulations (Article 7.4)

- Member States to provide Commission with annual report on the application of derogations (Article 9.3)

- Member State to encourage research and any work required as a basis for protection, management and use of populations (Article 10.1)

- Member States to send Commission report every 3 years on implementation of national provisions taken under the directive (Article 12.1) and Commission to prepare every three years a composite report based on the information supplied by Member States (Article 12.2)

administrative boundaries, from local to EU level. Similarly, GMES focuses on data gathering and aims at providing innovative, cost effective and user-friendly services making use of data collected from space-borne, air-borne and in-situ observation systems.

B.3 Research underpinning implementation.

With regard to the research provisions under the directive a series of priority subjects have been identified in Article 10 and Annex V of the directive⁵.

⁵ This lists the following subjects:

- a) National lists of species in danger of extinction or particular endangered species, taking into account their geographical distribution
- b) Listing and ecological description of areas particularly important to migratory species on their migratory routes and as wintering and nesting grounds
- c) Listing of data on the population levels of migratory species as shown by ringing
- d) Assessing the influence of methods of taking wild birds on populations levels
- e) Developing and refining ecological methods for preventing the type of damage caused by birds
- f) Determining the role of certain species as indicators of pollution
- g) Studying the adverse effect of chemical pollution on population levels of bird species

C. PROGRESS AND EXPERIENCES

There has been significant progress in developing monitoring schemes, especially by NGOs, but important gaps remain
Reporting under the Birds Directive has provided useful information on implementation but needs to be considerably strengthened and streamlined
There has been very significant recent developments on birds indicators for biodiversity and integration which need to be built on
A lot of bird research is undertaken but there is a need for a more strategic approach, especially for emerging challenges

C.1 Effective monitoring systems

Achieving the conservation objectives set up in these policy instruments requires monitoring, information on state, pressure and responses, assessments and understanding of the causal relationships between human activities, the pressures they produce and the impacts of these pressures on birds and the effects and effectiveness of agreed actions on birds.

Monitoring data on birds is provided by a variety of sources (MS, NGOs, international organisations, research). Certain organisations, such as the EBCC, BirdLife, Wetlands International have long-term experience in the monitoring of birds, and can rely on comprehensive and long-running data sets. It is therefore important that the Community uses this information and gaps are filled systematically.

Most significant contribution to information and knowledge about European birds and the implementation of the Birds Directive has been made by NGOs, most notably BirdLife International and its national member organisations, but also others such as Wetland International, the European Bird Census Committee (EBCC) etc. Partly based on volunteer engagement, BirdLife and others have used their extensive research to advance work on bird population status, habitats, indicators and monitoring, as well as work on the impacts of different economic sectors on birds. BirdLife International has produced a number of well-established publications⁶ such as Bird atlases, scientific articles and Red Data Lists.

What are the information needs to determine the state and trends of wild birds, pressure and response in the framework of implementation of the directive

The most important information needed to assess the conservation status of birds according to the IUCN Red List criteria are absolute population size (at least estimated), population trend (based on relative population indices coming from comparable monitoring) and distribution (area of occurrence and area of occupancy derived from atlas work and gaps filled by modelling distribution). Regarding threats information is needed on scale (percentage of population affected), severity (decline caused by the threat) and timing (past, actual or future/expected threat). Regarding response information is

⁶ e.g. *Birds in Europe I* (1994), *Birds in Europe II* (to be published in November 2004), *Important Birds Areas in Europe* (1989 and 2000); *European Bird Populations Estimates and Trends* (2000); *Habitats for Birds in Europe – A Conservation Strategy for the Wider Environment* (1997), *Birds in the EU – a status assessment* (to be published in November 2004).

needed on legal protection status, coverage of the populations by active conservation measures including site designation.

The Directive emphasise the need of designating the most suitable areas in number and size to ensure protection of species listed in Annex migratory species and I not listed on Annex I. In order to measure the effectiveness of the designation of these sites it is also necessary to collect information on the status of bird populations within these site (i.e. are they maintained in good ecological conditions to host the species they were designated for), the ecological functionality of the network of sites (breeding, resting, wintering), the threats potentially undermining the site function within the network and the measures taken to ensure the conservation of the site (responses).

The European Environment Agency (EEA), its Topic Centre on Nature Protection & Biodiversity and its European Environment Information and Observation Network (EIONET) also provide information on Europe's birds, including pressures and policy responses, and are contributing in particular to work on biodiversity and agriculture indicators. In particular, they can integrate biodiversity data with that of other environmental 'sectors', such as water, climate and soil.

The Commission has undertaken with the ORNIS Committee coordinated reviews, such as on the period of pre-nuptial migration and reproduction of hutable species. This work has generated a great deal of information and knowledge, although information is still lacking for some countries, not always sufficiently accessible and does not always correspond with conservation priorities. Nor does it always respond to the specific needs of the Directive. Consistent information on migratory birds at flyway level is lacking in particular, preventing an evaluation of the effect of disturbances, such as hunting, on bird populations and their conservation status. Species protection as required under the Directive would appear to demand a better understanding at the local, national and European level. There is also scope to increase the use of information to support monitoring in other areas, for example, pollution, fish stock abundance and quality of life.

The Natura 2000 database was designed as a tool to support the designation process of Natura 2000 sites. However, the data quality needs to be further improved. As the focus is shifting from designation to management of the areas, the database should be updated and designed to support monitoring of the status of qualifying species in SPAs, the pressures on them and to collect up-to-date information on the conservation measures (e.g. management plans, management activities supported by Community funds, e.g. Rural Development, Structural Funds, or national sources).

The volunteer input to knowledge of European birds

Most key sites for birds in Europe have long been identified through the observations of skilled amateur naturalists, who continue to keep them under surveillance. Most countries have undertaken at least one systematic survey of breeding bird distributions, typically mapping them on 10 x 10km grids. Some have undertaken non-breeding surveys, others mapping all or parts of the country at finer scale. The whole of Europe has been mapped at a 50 x 50km scale. Such surveys are immensely demanding and have depended almost wholly on the work of volunteers. (This does not mean that the surveys cost nothing, as professionals generally organise the work, but a recent estimate is that the ratio of volunteer to professional time averages 15 to 1).

National or international counts have been made of the populations of many scarcer species and those that occur in restricted habitats, such as waterbirds, breeding seabirds and non-breeding shorebirds. Again, most fieldwork has been conducted by volunteers – not only because it is too demanding of manpower to be affordable if done by professionals but also because volunteers, familiar with their local areas, know where to find the birds. National and European populations of more numerous and widespread species have also been estimated, largely from the knowledge of distributions that volunteers have provided.

Schemes to monitor annual changes in population sizes of at least the commoner species are now in place in most of Europe and the results are brought together in the EBCC programme of Pan-European Common Bird Monitoring. Such schemes can involve thousands of observers in systematic and long-term work in a single country. Almost all of them are volunteers. In some countries, ringers and nest recorders provide information on survival rates and breeding output that allow good population models to be built.

Annual monitoring and repeated distribution surveys have been important in revealing significant population declines, such as those of farmland birds in western Europe. The basic data are sufficiently comprehensive that they can often support analyses that provide evidence of the causes of declines. Demographic models are particularly valuable in this respect.

In UK, monitoring data from volunteers has been used for several years to produce one of the government's Quality of Life Indicators. Other countries are following suit and the EBCC has developed Pan-European indicators.

The way in which volunteers are organized differs between countries. In general, it seems most successful when it is undertaken by NGOs. One reason is that volunteers respond more positively to an organization of which they elect the board than they do to government officials. (Indeed, some volunteers simply refuse to work with government agencies). Another is that NGOs have to establish (and continually renew) a variety of funding sources if they are to survive, which paradoxically reduces their long-term vulnerability; government bodies are subject to the exigencies of public finance.

No estimate has been made of the total input of volunteers to bird conservation science in Europe. In the UK alone, it amounts to about 1½ million man-hours each year, suggesting that it runs to tens of millions of man-hours across Europe as a whole.

Apart from improving the monitoring of bird population levels, especially of migratory and hunted bird species, there is significant scope for making better use of the significant amount of existing data. Key issues relate to the integration and assessment of existing data sets. One option could be to develop EU guidelines for the collection and use of bird ringing and census work, as well as other data sets (eg wintering counts). Bag statistic schemes for huntable species could be further promoted and harmonized in all Member States, but particularly along flyways. There is further scope to improve information exchange regarding the control of 'pest' species, to ensure a consistent pan-European approach to local problems (see research projects such as REDCAFE). In some cases, the development of international management plans may be appropriate.

Adequate quality control is needed for monitoring data using standardised approaches and processes of quality assessment, audit, peer review and publication. Mechanisms for data validation and peer review would be needed at EU level. The potential contribution of the NGO sector needs to be recognised and resources provided to support work in the future. [Possible box on partnership between public authorities and NGOs in the NL for monitoring]

There is an opportunity to move towards more integrated approaches to monitoring, based on partnerships between the public and NGOs, and regional and national authorities. Some Member States have set up 'observatory' systems involving different types of schemes, and including information that is generated by stakeholders and the public (see insert). EEA is a key partner in this process. Overall, monitoring and research would benefit from greater networking and coordination at the EU and international levels with adequate funding.

Aarhus and the access to information and participation directives give us an opportunity to ensure that the public are provided with reliable information.

“Empowering citizens”

Sweden has recently developed an online bird reporting system – ‘Today’s birds’ (http://svalan.environ.se/rappsyst/swedish_daily.asp). As with many other successful bird monitoring schemes, it relies on the participation of keen citizens, who contribute to the online database by registering bird observations on a daily basis. Observations include recordings from all provinces and of migratory birds, with 6000 observers reporting on 40,000 sites. The database is linked to online maps and lists of protected sites (including Ramsar and Natura 2000), permitting simple and fast analysis of many kinds of data. Moreover, internet accessibility provides for inexpensive and efficient access, with freely available information for users and for data contributions from citizens. However, an initial investment had to be made, as with any database, to transform data sets into useable formats. A contract between the Swedish EPA and NGOs was set up to ensure data quality within the system.

Other initiatives empowering citizens such as “Spring alive” from BirdLife International, the England and Wales Environment Agency’s “What’s in your backyard” initiative (http://216.31.193.171/asp/1_introduction.asp), are particularly interesting in this respect.

Similar systems could be promoted at the EU level. EEA is developing a range of projects that will open up public access to ‘neighbourhood’ information building on systems in place in several EU countries such as those mentioned above, and enable individual citizens or citizen groups to submit biodiversity data for wider public use and validation.

C.2 Reporting under the Birds Directive

The Commission is producing three-year reports on the implementation of the Birds Directive and yearly reports on the compliance of derogations granted by the Member States. The three-year composite report is based on the information provided by the Member States⁷ on the state of implementation of the Birds Directive. Member States are required to report on whether the necessary laws, regulations or administrative provisions have been introduced at the national and/or regional levels, and whether these have been implemented in practice. This, in conjunction with information on the status and trends of bird populations and their habitats, and associated pressures, impacts and socio-economic drivers, should enable an assessment of the effectiveness of the Directive, ie whether it has led to the maintenance of populations of wild birds in the EU. In

⁷ EUR 12 835 (1990), COM(1993)572 final, COM(2000)180 final, COM(2002)146 final

turn, such assessments should allow weak areas to be identified and reinforced either at national or EU level.

In practice, reporting under the Birds Directive provides limited information on the current situation and on trends. The reports, which are often delivered late do not convey much impression of whether, or to what extent and how the Directive has resulted in the conservation of European birds and their habitats. Problems arise at three stages in the reporting process:

- 1 the reporting format or guidelines (adopted by the ORNIS Committee under the framework provided by the text of the Directive) are insufficient or insufficiently precise;
- 2 the reports produced by the Member States do not always fully respond to the guidelines, and/or are late or incomplete; and
- 3 the information is not sufficiently validated at EU level, and cannot be compared to independent data on trends and status to assess effectiveness.

C.3 Developing birds as indicators

Substantial progress has been made in establishing bird indicators, both for the purpose of monitoring population trends, and of providing an indication of environmental trends, particularly in the context of the EU Structural Indicators (Lisbon process), the EU first set of Biodiversity Headline indicators (Malahide) and the EU Sustainable Development indicators (Gothenburg process).

Thanks to the availability of some useful information on birds at European level, common birds (particularly concerning common farmland, woodland and wetland birds) have been suggested for broader trend monitoring, including wider biodiversity monitoring. There is also scope to use bird indicators more broadly, for example, in the context of integrated spatial initiatives (eg GMES and INSPIRE) and also as quality of life indicators.

A workshop organised by the ORNIS scientific working group in 2003 on Bird indicators has further discussed what indicators and criteria would be needed to contribute to the purposes of the Directive (e.g. evaluation of progress in classifying SPAs under the Birds Directive, of the effectiveness of the EU's Bird Action Plans, of the European network of SPAs and of broader management measures, pressures on birds, notably on common and some specialist species) and to the broader debate on biodiversity. A set of pressure, state and response indicators would be needed to also help to communicate information, not least to support political decision-making.

At EU level, the EEA and the European Topic Centre for Nature Conservation have undertaken substantive work on development of Biodiversity Implementation Indicators (Bio-IMPS). A first set of biodiversity headline indicators has recently been proposed at Malahide in May 2004 and welcomed by the Council in June 2004 which needs to be tested, optimised and finalised by 2006. This has considered the relevance of bird

indicators as a 'surrogate' for data on other taxa, and thus as a broader biodiversity indicator. Suitable bird indicators will be proposed for inclusion in list of Sustainable Development Indicators and as interim biodiversity structural indicator and help monitor trends at least until data sufficiency for other taxa has improved.

Non-governmental organisations, such as BirdLife International, the European Bird Census Council (EBCC) and Wetland International, have widely supported and assisted the work on indicators (cf. Pan-European Wild Bird Indicator - Environment Policy Review, 2003). This provides amongst others broad trends for woodland, wetland and farmland birds (see Figure in Workshop 2).

Farmland bird index (as a proxy for biodiversity) - a candidate for inclusion on the shortlist of structural indicators to be presented in the synthesis report to the 2005 Spring Summit

As requested by the Lisbon European Council, the assessment of progress towards the Lisbon objectives in the annual Spring Report has been based on a list of structural indicators in the five main areas at the centre of the Lisbon Strategy: General Economic Background, Employment, Innovation and Research, Economic Reform, Social Cohesion and Environment. In order to make it easier to present policy messages and Member States' positions relative to the key Lisbon targets in the Spring Report, the Commission⁸ proposed a shortlist of 14 headline indicators in October 2003⁹. The database (117 indicators) continues to be released on the publicly accessible Eurostat structural indicators website.

In accordance with the principle of streamlining documents and policies, it was agreed that the shortlist established in 2003 would be revised every three years only, although it could be modified in intermediate years in order to take new policy priorities into account. Following completion of the ongoing mid-term review of the Lisbon strategy by the High-level group chaired by Mr W. Kok, a revision of the shortlist may be required, in order to better reflect the priorities for action during the second half of the decade. Therefore, at this stage, it would be premature to pre-empt the conclusions of the high-level group and modify the shortlist.

Within the yearly revision process of the structural indicator database, the Commission is considering a proposal to include the indicator of farmland bird index (as a proxy for biodiversity) in the long list of structural indicators. The Commission is currently proceeding with the quality profiling of the indicator.

C.4 Bird research

Birds are one of the best studied taxonomic group in Europe. Nonetheless, there are still significant gaps in our knowledge of their biology, ecology, and conservation. For instance, IUCN statistics indicate that at least for three European species, data sets are deficient and thus do not allow classification into conservation categories. Understanding of cause-effect relationships between trends and pressures could also be improved.

Despite gaps in research, there have been significant advances, since 1979, in relation to many of the research priorities identified in the Birds Directive,

⁸ Commission Communication on Structural Indicators (COM (2003) 585 final).

⁹ This shortlist was slightly amended following discussions with the Council conclusions of December 8 (15875/03).

with various research programmes, including EU and national research initiatives, supporting large numbers of projects.

Scientific and technical work relating to the Directive has included research on population trends, hunting impacts, migratory behaviour and the role of birds as indicators of broader biodiversity or environmental health. It also includes regular bird surveys, monitoring and ringing schemes. Much of the research has taken place at Member State level, undertaken by research institutes and non-governmental organisations, notably BirdLife International and its partners, Wetlands International and the EBCC. This work has been further consolidated by EU co-funded bird conservation research on hunting, integrated management of wetlands, Cormorant management, the biodiversity of waders, the conservation of priority species such as the Bittern, Corn-crake and Great Bustard, population ecology, species distribution, migration, ringing, etc. (cf. workshop in January 2004 on Research and Birds Directive).

There is a need to further identify gaps and implement research on emerging issues, such as land use and habitat fragmentation, climate change, introduction of invasive alien species, impact of wind farms and the impact of various EU policies and socio-economic drivers, notably the Common Agricultural Policy.

Considerable detailed ecological research has been carried out on the requirements of Europe's birds, however the results are often hard to access or even unpublished. There is need of a mechanism to promote effective information exchange and technology transfer between researchers in different countries (e.g. a user-driven database of relevant publications), this would help prevent repetition of work and increase the (cost-) efficiency of policy-relevant research.

D. CHALLENGES AND FUTURE PRIORITIES FOR FUTURE ACTION

How can we improve the existing mechanisms (both organisational and financial) to achieve effective monitoring systems for bird needs, making best use of governmental and non-governmental organisations, volunteers and citizens

How can we strengthen the existing reporting system under the Birds Directive and streamline it with the reporting obligations under the Habitats Directive and where possible, other international agreements?

Which bird indicators have a good potential to function as biodiversity indicators, and which steps should be taken for their further development?

What are the future research needs and priorities to improve knowledge on bird conservation?

D1. How can we improve the existing mechanisms (both organisational and financial) to achieve effective monitoring systems for bird needs, making best use of governmental and non-governmental organisations, volunteers and citizens?

Member States, stakeholders and the public have invested a great deal since the Directive was adopted in 1979, in order to support its implementation. The role of NGOs and volunteers in data collection and monitoring is particularly noteworthy, offering lessons for public engagement in other environmental sectors. Not only does this make a contribution to the 'social fabric', but it also provides a very valuable and otherwise costly service. The role of the NGOs should be more formally recognised at national and international level, for example, by adopting public service agreements on the provision of data.

A serious commitment to the 2010 target requires a serious commitment to monitoring the population status and distribution of birds - in SPAs and the wider environment. However, a continued reliance of Member States on NGOs to provide these data for free is neither sustainable nor strategic. NGO contribution should not be used, as a reason for limiting public investment in monitoring required by the directive, on the contrary funding is needed to underpin NGO and public sector activities.

There is a need for better co-ordination and further development of existing monitoring schemes at national and international level in order to allow for harmonised and synthesised data flows and facilitate information share and access.

Case study from Germany: Project "Monitoring of bird species"

In Germany a range of organizations and institutions operates monitoring programmes; some have been in operation for over 30 years. More than 3,500 voluntary ornithologists are involved in these programmes. The main part of the programmes is organized on the level of the Federal "Länder" and by NGO's with subsequent problems of standardisation and coordination on a federal basis. In October 2003 the nation-wide project "monitoring of bird species in Germany" was launched. On the basis of existing programmes and through test runs and analysis a system for a harmonized and extensive bird monitoring is to be worked out. Including a high number of volunteers for the collection of data one of the aims will be to elaborate the possible role of voluntary participation in monitoring systems. The project also includes the development of Internet tools for data input by voluntary bird watchers and for simplification of data transfer and analysis. The project will run until 2006. It will improve the data basis for reporting requirements such as those from the Birds Directive and several indicator systems.

D.2 How can we strengthen the existing reporting system under the Birds Directive and streamline it with the reporting obligations under the Habitats Directive and where possible, other international agreements?

Ways of improving reporting and reporting efficiency in an EU of 25 Member States are currently under consideration. There is particular potential to streamline and even combine aspects of reporting under the Birds Directive, with reporting under the Habitats Directive and other relevant (international)

instruments. This would not least require synchronised reporting cycles and clear guidelines to avoid repetition. The approach to data exchange and share could also be improved, e.g. by using web based system with electronic files, intranet set-ups and questionnaire formats as developed by EEA as a set of electronic tools (Reportnet). This would partly overcome the problem of having to deal with an increasing number of languages.

The Member States reports should contribute to the assessment of the conservation status of naturally occurring bird species within their territory and within SPAs based on systematic monitoring, as part of the reporting under the Habitats Directive. This would include the provision of up-to-date overview of the state, pressure and response measures on SPAs and report of these changes to the Commission. This would allow the assessment whether SPAs are effectively protected.

The ultimate aim is for EU-wide reporting to provide better information on policy effectiveness, with a view to achieving the objectives of the Directive. Importantly, an improved reporting system should also support information needs under other environmental directives, such as the water framework Directive, the thematic strategies, and the Biodiversity Strategy. There should also be a clear link to spatial initiatives such as the GMES and INSPIRE. All of this information should be as much as possible public and easily accessible.

Need for streamlining - monitoring/surveillance and assessing 'conservation status'¹⁰

Both the 'nature directives'¹¹ include provisions to undertake monitoring/surveillance on habitats and species of Community interest, and to report on the actions undertaken to meet the obligations of the directives (and in particular those activities concerning the Natura 2000 network). The aim to achieve 'favourable conservation status' for relevant species and habitats is a cornerstone of the Habitats Directive, and there is a need to examine how far this concept can be applied in the context of the Birds Directive. During the last year, considerable headway has been made to establish both conceptual and technical ground rules to assess 'conservation status'.

On the basis of this, key technical issues, such as the assessment of conservation status of habitats and species listed in the directives and the consolidation of the reporting format for the next cycle of reports under Article 17 of the Habitats Directive (period 2001-2006, due in 2007) have been further elaborated in the context of the Scientific Working Group under the Habitats Committee. Opportunities to collaborate with Habitats Committee activities on issues of common interest, such as the applicability of the concept of favourable conservation status to the birds would seem to be of particular importance. Future discussions should also address mechanisms of possibilities of streamlining reporting arrangements under other international arrangements.

This work is aimed to contribute to the assessment of implementation, effectiveness and appropriateness of the objectives and targets set in existing key EU instruments in relation to nature and biodiversity, i.e. the Birds and Habitats Directives and the EU Biodiversity Strategy and Action Plans and the EU Biodiversity Strategy and Action Plans¹².

¹⁰ See doc Orn03/06 of ORNIS Committee of 26 June 2003

¹¹ The Birds Directive (79/409/EEC) and the Habitats Directive (92/43/EEC), which collectively provide the main legal basis for EU action to protect wildlife and habitats of Community interest.

¹² Council Conclusions 28 June 2004

D.3 Which bird indicators have a good potential to function as biodiversity indicators, and which steps should be taken for their further development?

Work on bird indicators proved to be useful and cost-effective. Further analysis of the available data set on birds to evaluate population trends for individual species, groups of species at Community and individual Member States level is needed. It will further become possible to compare trends of populations of non-migratory birds between SPAs and unprotected areas, which is a useful step towards being able to assess the effectiveness of site designation.

There is a need for developing a common approach for a bird protected area indicator, similar to that being developed under the Habitats Directive (see context paper workshop A). For the latter, a distance-to-target indicator has been constructed for Special Areas of Conservation (SACs). Similar attempts to develop an indicator to determine the sufficiency of SPA classifications under the Birds Directive, have, however, prove more difficult to get agreement on.

A full suite of indicators to encapsulate and communicate the status and trends of bird populations in Europe, as well as the achievements of the Directive and possible deficiencies needs to be developed and contribute to the EU biodiversity indicators. The development of this suite of indicators for the Birds Directive will require the availability of a wide range of data to be supported by efficient and integrated monitoring schemes at national and EU level. This would include for instance results of detailed studies, ringing data, hunting bags, citizen observations.

An EU wild bird indicator could be proposed as first candidate for the indicator on biodiversity to be included as soon as possible and not later than the next review of the Sustainable Development Strategy, in the list of structural indicators, as called for in particular in the Council Conclusions on Structural Indicators of 8 December 2003.

Case study from Germany: sustainability indicator for species diversity - an indicator based on data concerning the population size of selected bird species

Germany has recently developed a “sustainability indicator for species diversity” in the context of the German Strategy for Sustainable Development that was passed in 2002. The indicator is one of 21 sustainability indicators and should give information about the state of nature and landscape and thus the sustainability of land use in Germany on a highly aggregated level. It is based on the population development of 51 selected bird species which were chosen as indicators for habitat quality and represent many other species in the ecosystem and hence the development of the total landscape. Sub-indicators are formed for the five main habitat types in Germany. To measure the success in achieving the aim of sustainability a target value was set for each species’ population size in 2015. The target value is an estimation of the total population size that could be reached on condition that the guidelines of sustainable development and the present nature conservation law in Germany are fully complied with. The concept of the indicator was the result of a close cooperation both with national ministries and conservation agencies of the federal Länder and of non-governmental organizations. The quality profiling of the indicator will still proceed regarding the possible inclusion of different species groups and other relevant parameters.

D.4 What are the future research needs and priorities to improve knowledge on bird conservation and support an EU bird's conservation policy that is robust and responsive to future challenges?

EU and national research programmes and initiatives have made a tremendous contribution to our knowledge of birds. However, there are key gaps and emerging issues that should be addressed under future research programmes, including research that is directly relevant to conservation needs and to the Directive itself. Research on socio-economic drivers and pressures affecting bird populations and habitats is critical. The potential to use bird monitoring to support monitoring in other areas also shows promise.

Biodiversity research, including bird related research, needs to continue to be funded at the national and EU levels, and over the longer term. The continuation of European research platforms, along the lines of the European Platform for Biodiversity Research supported under the 6th EU Research Programme, will also be important.

Accessibility of research outcomes needs to be improved; there is a need for mechanisms to promote effective information exchange and technology transfer between researchers in different countries and with the policy community.

To deliver effectively research to support implementation of the Birds Directive (Article 10), special attention should be paid to research issues identified in the species action plans for priority species and management plans for huntable species with unfavourable conservation status that can provide the scientific foundation to their recovery.

Further research should be developed and implemented on effective management of sites, especially with respect to definition of habitat management requirements, development of effective management techniques, definition and implementation of a set of indicators to monitor the conservation status of the SPA network across the EU and to set up conservation objectives.

Further research to be developed and implemented on the coherence and resilience of the SPA-network, especially with respect to possibilities and appropriateness of ecological connectivity and other complimentary measures, the consequences of climate change for the protection of birds and their habitats, approaches to allow for the adaptability of the SPA network given its dynamic nature.

Further research to be developed and implemented on the implementation of the protection regime, especially with respect to the prediction of consequences of new plans and projects on the conservation objectives of bird populations and their habitats, improved understanding of the impacts on birds population of different pressures such as land uses, habitat fragmentation, the introduction of invasive alien species, impact of wind farms and electric power lines, Improved understanding of the possible effects of sectoral EU policies, such as Common Agricultural Policy, Common Fishery Policy, Transportation, Water Management and Forestry.

Further research to be developed and implemented on diagnosing the cause of bird population declines, including in long-distance migrants, and including outside the EU.

Further research to be developed and implemented on predictive modelling on impacts on bird populations, especially in relation to climate change.

Further research to be developed and implemented on allocating adequate financial resources to bird conservation research, including sufficient funding under the Community FP7.

Research priority: economic benefits of the Natura 2000 network

The Natura 2000 network of protected areas offers a wide range of benefits to society at large and to the local communities around them. Some of these benefits are non-monetary and difficult to evaluate, such as water purification and retention, erosion control, flood control, amenity values and so on. There are other benefits arising from these areas that are more easily evaluated in economic terms, such as employment opportunities, direct income from tourism or the sale of local products that are linked to the protected area. There are very few studies to date that offer an evaluation of a whole range of direct and indirect benefits of Natura 2000 sites to both local people and society as a whole, demonstrating that it is vital to invest in these areas if sustainable development is to be turned into reality. New research is needed to look at the investments needs and the range of benefits provided by Natura 2000 sites under different circumstances, e.g. for sites that hold different types of habitats, are of different sizes, have different infrastructure and are in different economic and social settings. Such studies are vital to improve our cost estimates of investment needs on these sites, and also to provide information to various stakeholder groups about the benefits that can be realistically expected to accrue from such status.

ANNEX I: EU HEADLINE BIODIVERSITY INDICATORS

EU headline biodiversity indicator according to CBD focal areas (in bold CBD indicators for immediate testing)		<i>Links to Birds Directive information needs</i>
<i>A. Status and trends of the components of biological diversity</i>		
A1	Trends in extent of selected biomes, ecosystems and habitats.	Context regarding trends in area surfaces of main ecosystems and important habitats for specific birds.
A2	Trends in abundance and distribution of selected species.	Birds are good candidates to be part of the selection and to contribute to the general context picture.
A3	Change in status of threatened and/or protected species.	Annex I species might be part of the selection so that the indicator contributes to information on achievements of the BD.
A4	Trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socioeconomic importance.	<i>Not relevant</i>
A5	Coverage of protected areas.	SPAs and SCIs to be included as one of the classes of protected areas (Natura 2000), both in terms of total designated hectares as distance-to-target (with as target an estimate of completeness of SPAs and sufficiency of SCIs).
<i>B. Sustainable Use</i>		
B1	Area of forest, agricultural, fishery and aquaculture ecosystems under sustainable management	Information on threats to birds due to sectoral activities to be considered as part of the indicator.
<i>C. Threats to Biodiversity</i> ¹³		
C1	Nitrogen deposition	<i>Not of direct relevance.</i> Indirectly eutrophication might impact on the composition of vegetations having implications for food supply and the structure of habitats for birds.
C2	Numbers and costs of invasive alien species	The BD doesn't refer to the threat invasive alien species pose on indigenous birds. Though a selection of ias might include bird species.
C3	Impact of climate change on biodiversity	<i>No direct link to the BD.</i> The BD doesn't refer to climate change. Nevertheless the issue is relevant because general conditions for the protection of birds may change due to climate change. Examples on birds might among others be used to illustrate the impact of climate change on biodiversity.
<i>D. Ecosystem integrity and ecosystem goods and services</i>		
D1	Marine trophic index	<i>Not relevant.</i>
D2	Connectivity/Fragmentation of ecosystems	The issue of functionality of the SPA (or Natura 2000) network can be shown among others by well-chosen bird model species.
D3	Water quality in aquatic ecosystems	Not of direct relevance. Indirectly water quality changes influence food supply for water birds and appropriateness of aquatic habitats for birds.
<i>E. Status of access and benefits sharing</i>		
E1	Patents ¹⁴	<i>Not relevant.</i>

¹³ Suggestion done: Exceedance of critical loads for acidification, eutrophication, and of contribution to ground-level ozone.

¹⁴ Suggestion done: Percentage of European patent applications for inventions based on genetic resources and/or traditional knowledge that disclose the source of these resources and knowledge.

<i>F. Status of resource transfers and use</i>		
F1	Funding to biodiversity	Funding to measures related to the BD could be part of the indicator.
<i>G. Public opinion</i>		
G1	Public awareness and participation	<i>Not relevant.</i>

ANNEX II: The concept of 'favourable conservation status' and the Birds Directive

Conservation status' in the context of the Birds Directive

The overall aim of the Birds Directive is stated in Article 2 as follows: "Member States shall take the requisite measures to maintain the population of the species referred to in Article 1 at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level."

There is no reference in the Directive to the legal term 'favourable conservation status' which was introduced into EU nature legislation by the Habitats Directive in 1992, Article 1 (i) of which provides a definition for species. In accordance with this definition a species is considered to have a 'favourable conservation status' when:

population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis"

The principles underpinning these parameters, which deal with maintaining population size and range as well as sufficiency of habitat, are also covered in the Birds Directive:

Article 2: requires the maintenance or restoration of populations

Article 3: emphasises the need to maintain or restore a sufficient diversity and area of habitats, which is further emphasised in Article 4

Article 4 also refers to 'ensuring the survival of species in their area of distribution'

Therefore, it would be logical to conclude that the overall objective of the Birds Directive for the species it covers is similar to the objective of favourable conservation status as defined in the Habitats Directive.

Given the close link between the two directives, especially in the context of protecting and managing NATURA 2000 sites, there is merit in adopting similar approaches and methodologies, where feasible, for them. In fact the concept of unfavourable conservation status is already being applied in the working of the Birds Directive as regards management plans for huntable species.

As the Birds Directive is a key instrument to achieve the objectives of the Bonn Convention in the EU for migratory birds such an approach would have added value, given that this convention also refers explicitly to favourable conservation status in its Article V¹⁵.

¹⁵ Selected Bonn Convention goals: (Article V) "Guidelines for Agreements:

1. The object of each Agreement shall be to restore the migratory species concerned to a favourable conservation status or to maintain it in such a status" ...

5. Where appropriate and feasible, each Agreement should provide for, but not be limited to:

(a) Periodic review of the conservation status of the migratory species concerned and the identification of the factors which may be harmful to that status."