

Monitoring

Important Bird Areas:

a global framework

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Summary

- ⇒ This document gives guidelines for implementing BirdLife's global IBA monitoring framework.
- ⇒ IBA monitoring is one element of a wider framework for monitoring progress towards BirdLife's strategic objectives. This includes monitoring of species, sites and habitats.
- ⇒ At the national level, IBA monitoring is essential to track and respond to threats, understand the status and trends of biodiversity, and assess the effectiveness of conservation efforts.
- ⇒ A standardised system will allow national data to be compiled regionally and globally. This should provide a powerful tool for international conservation advocacy and fundraising.
- ⇒ The IBA monitoring framework provides a standardised way to assign scores for the threats to IBAs ('Pressure'), the condition of IBAs ('State') and conservation actions taken at IBAs ('Response'). These guidelines explain how this scoring system works, and also outline principles for designing and implementing a sustainable monitoring process.
- ⇒ The scoring system makes it possible to integrate a wide range of information, which may often be qualitative rather than quantitative.
- ⇒ Ideally, all IBAs in a country should be regularly monitored. The minimal requirement is regular collection of information on at least one appropriate indicator for each of Pressure, State and Response.
- ⇒ Sustainability is very important, so monitoring must be kept simple, robust and inexpensive. The minimal data required are simple and mainly qualitative. They can usually be collected on site by management authority or project staff, Local Conservation Group (LCG) members, IBA caretakers and other volunteers.
- ⇒ A national monitoring coordinator should be designated to synthesise information from the field and from other sources (such as remote sensing), and to assign indicator scores and hence overall status scores for each site.
- ⇒ More in-depth monitoring may be appropriate, where resources allow, at a sub-set of priority sites. The sites and variables to be monitored need careful selection. Such monitoring should be linked clearly to IBA conservation objectives.
- ⇒ IBA monitoring will usually require working in partnership with other organisations, especially site management authorities and LCGs. If monitoring is 'institutionalised' within these organisations, so that it becomes part of their routine work, then direct costs can be kept low. Extra resources are needed for coordination, training and reporting.
- ⇒ This approach is built on the principle that monitoring is participatory. Thus, data should be held and owned by the organisations that collect them. National results feed up further to the regional and global levels, coordinated by the BirdLife Secretariat.

1. Background and overview

BirdLife's Important Bird Areas (IBA) programme aims to identify and protect a network of sites critical for the long-term viability of wild bird populations, across the range of those bird species for which a sites-based approach is appropriate.

IBAs are sites of international biodiversity conservation importance, chosen using agreed, objective, quantitative and scientifically defensible criteria. As such they form part of the set of key biodiversity areas (see Eken *et al.* 2004, Langhammer *et al.* in press). IBAs are selected because they hold (a) bird species that are threatened with extinction or have highly restricted distributions; (b) species assemblages characteristic of particular biomes; and/or (c) exceptionally large numbers of congregatory bird species.

In many countries, the BirdLife Partnership has moved beyond IBA identification to the next stages of the process. These involve conservation advocacy and action to protect these sites in perpetuity.

Monitoring is central to the IBA process. IBA monitoring is needed both to assess the effectiveness of conservation measures and to provide an early warning of problems. The results should feed directly into national reporting to, for instance, the Conference of Parties of the Convention on Biological Diversity (CBD). However, it has proved difficult to put in place effective national IBA monitoring systems. One major reason for this is the lack of a standard framework that is simple, flexible and practical enough to be implemented effectively across an enormous range of sites. Such a framework should also allow national data to be compiled at the sub-regional, regional and, eventually, global levels, in order to fulfill the wider aims of the BirdLife Partnership.

The BirdLife global strategy (BirdLife International 2004a) sets objectives under the themes of species, sites, habitats and people. The strategy recognizes the need to monitor progress against these objectives. IBA (site) monitoring thus forms part of a broader monitoring strategy. Other important components are monitoring of globally threatened birds and, to detect habitat-level changes, of common bird species (see Box 1). These elements are closely interlinked, contribute to each other and should not be viewed in isolation. In many parts of the world, however, bird monitoring at the species and habitat levels is not yet well developed. Most effort in the near future is expected to be devoted to site monitoring. These guidelines, which have evolved as a result of input from many BirdLife Partners (see Box 2) outline a global framework for IBA monitoring.

Box 1. BirdLife International's broader monitoring strategy

BirdLife's Global Council has endorsed and supported a focused effort across the BirdLife network to institute and/or consolidate the following monitoring processes:

1. Update of IUCN Red List status (all bird species) and actions (Globally Threatened Birds)
2. Simple monitoring of Pressure, State and Response (including safeguard status) at all IBAs in network countries, supplemented by remote sensing (within and outside the network)
3. Population trend assessment for all Critically Endangered species, using a 'species focal point' approach
4. Assessment of trends in relative abundance of a set of common bird species using birders' day lists (see www.worldbirds.org)
5. Regular update from network NGOs on membership, number and membership of affiliated Local Conservation Groups (LCGs), and self-evaluation against criteria of sustainability and stability.

An IBA Local Conservation Group is an individual or a group that works on a predominantly voluntary basis, has the objective of conserving one or more IBAs, and pursues this work under the auspices of a formal or informal agreement with the BirdLife Partner. IBA LCGs include what have been called Site Support Groups (SSGs) and IBA Caretakers.

Box 2. Developing BirdLife's global IBA monitoring framework

The global IBA monitoring framework has evolved since 2002 through a series of discussions and practical trials. It builds on the monitoring framework adopted by BirdLife's African Partnership (Bennun 2002a); input from the European Partnership at a workshop held in Almen, The Netherlands, April 2003; input from subsequent meetings and discussions in other regions; and lessons learned from a pilot implementation project, supported by the UK's Darwin Initiative, in Kenya (see Bennun *et al.* in press). The framework also takes into account the ongoing development of national and global biodiversity indicators under the CBD.

2. Designing a monitoring framework

This section outlines some general issues relevant to developing a monitoring scheme, detailing those features common to successful schemes. **Monitoring is used here to mean the repeated collection of information over time, in order to detect changes in one or more variables.**

2.1 Steps to success

Monitoring schemes are much more likely to succeed if they are planned systematically. Figure 1 shows the steps needed to design an ideal monitoring scheme. This process may seem complex, but it really amounts to the consideration of five questions in sequence:

- ⇒ Why monitor?
- ⇒ What should we monitor?
- ⇒ How should we monitor?
- ⇒ Who should monitor?
- ⇒ What happens next?

All these questions are important, but the first and last generally receive far less attention than the others. Techniques for data collection are well documented, but there is less advice available on how to design the system in the first place and how to use the information collected to achieve real conservation objectives.

This is partly because people often think of monitoring as just the business of collecting data. In fact, **monitoring is a process and a means to an end – that end, in this case, is better conservation.** It involves the stages of design, data (including collection, storage, analysis and interpretation) and application. A good monitoring scheme also has appropriate feedback loops built in at each stage.

2.2 Why monitor IBAs?

Our overall reason for monitoring IBAs is clear. **IBAs are internationally important places for bird, and therefore, biodiversity conservation. We need to understand what is happening to them in order to adapt our interventions accordingly.**

IBA monitoring should happen at each site. However, to be fully effective, the monitoring scheme also needs to integrate information at the national, regional and global scales.

At the site level, we monitor IBAs in order to:

- ⇒ Detect and act on threats in good time. Monitoring data provide ammunition for advocacy and information for designing interventions.
- ⇒ Assess the effectiveness of conservation efforts. Is investment in conservation actually bringing about an improvement? Are 'sustainable use' approaches really proving sustainable?

Nationally, IBA monitoring data provide information on biodiversity trends. This feeds directly into reporting for the CBD, other international and, where appropriate, national legislation. It also allows the impacts of economic and environmental policies that affect more than one IBA to be assessed. A regular IBA status report is a very useful product for national advocacy. Monitoring data are also essential for periodic reviews of the IBA network: do all sites continue to meet the criteria for which they were listed? Do some sites now qualify under additional criteria?

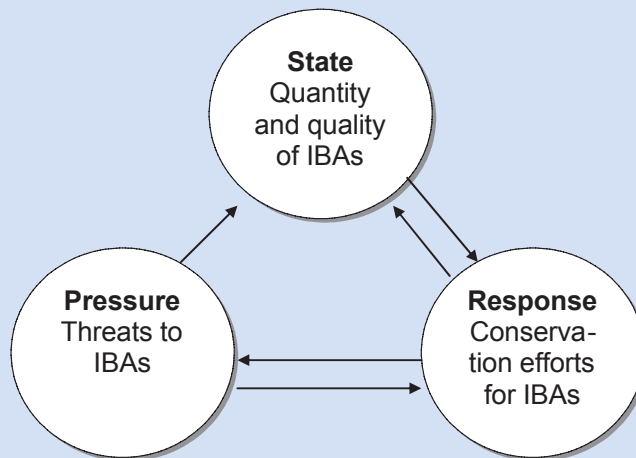
Bringing together IBA monitoring data at the regional and, eventually, global levels will provide indices of biodiversity status and trends. At least initially, these indices will be formed from a sample of sites, across a sub-set of countries. Nevertheless, they will be unique and valuable products, providing a meaningful way of monitoring biodiversity on a large scale. Despite the globally recognised importance of biodiversity, it has proved difficult to monitor. Remarkably, very few other credible indices of this kind presently exist. Successful application and integration of IBA monitoring at the regional and global levels will greatly strengthen BirdLife's international advocacy and fundraising work.

2.3 What should we monitor?

IBAs should be managed to conserve important bird populations. Therefore **we need to understand what is happening to IBAs in relation to those bird species for which the sites qualify as IBAs**. This basic point is fundamental, because it defines the overall conservation goal. This will in turn affect which variables are monitored.

We cannot monitor every relevant attribute of an IBA. Instead, we need to choose indicators that are appropriate for our conservation goal. There are many ways to classify indicators, but it is often helpful to think of them within a 'Pressure–State–Response' framework (see Figure 2). This approach has also been adopted by the CBD.

Figure 2. The relationship between indicators of pressure, state and response



Pressure

Pressure indicators identify and track the major threats to important bird populations at IBAs. Examples might be rates of agricultural encroachment, timber extraction or water abstraction.

State

State indicators refer to the condition of the site, with respect to its important bird populations. State indicators might be population counts of the birds themselves. They might also be measures of the extent and quality of the habitat required by these birds.

Response

Response indicators identify and track conservation actions: for example, changes in legal status, funding of conservation projects or establishment of LCGs.

Indicators need careful selection. Obviously, a good indicator will actually indicate or track something – it will respond clearly to changes. Thus, numbers of recently cut stumps might be a good indicator of logging intensity (a Pressure variable) in a forest; mean monthly rainfall probably would not. An indicator should also be linked clearly to the conservation management goals for the IBA. For example, it might not be useful to monitor the amount of dry grassland within a site if the species for which the site is important live only in wetlands.

It must be possible to collect information for the indicator within the likely constraints of capacity and resources. Many monitoring schemes are over-ambitious, designing indicators that are informative but that also require expensive and time-consuming data collection. Such schemes simply do not work. Indicators should also be scientifically credible, simple and easily understood, and quantify information so that its significance is clear (SBSTTA 1999). Finding indicators that fulfil all these requirements is not always easy.

2.4 How should we monitor?

Monitoring is worthless unless it produces results that can be interpreted meaningfully.

Thus, monitoring must be:

- ⇒ Soundly designed
- ⇒ Systematic
- ⇒ Regular (though not necessarily frequent)
- ⇒ Sustained

In-depth IBA monitoring (for example, counts of a particular species) also must be consistent (carried out each time in the same way, in the same season, by people with similar expertise and experience). The local resources available for monitoring are scarce, and external project support is rarely available for more than a few years (Bennun 2001, 2002b, Danielsen *et al.* 2003, Bennun *et al.* in press). It is essential therefore that IBA monitoring schemes operate as inexpensively as possible. In practice, this means making the best possible use of:

- ⇒ Existing data-collection schemes and coordinating mechanisms
- ⇒ Personnel (of government institutions or conservation organisations) already on the ground
- ⇒ LCGs
- ⇒ Other volunteers

This implies that **monitoring techniques need to be kept simple, robust and cheap**. It is far better to collect basic data reliably over many years than to adopt a more ambitious scheme that soon collapses. We need systems that produce useful data, but avoid unnecessary sophistication. Worldbirds is one such system (see Box 3). In addition to data collected on the ground, information from remote sensing may be very useful in monitoring IBAs, especially those that are difficult to access (see Box 4).

Box 3. Worldbirds

WorldBirds (www.worldbirds.org) is a BirdLife project (led by RSPB, BirdLife in the UK, and Audubon, BirdLife in the USA, with the BirdLife Secretariat) to build a network of internet systems that provides a platform for the collection, storage and retrieval of bird observations worldwide. These data, particularly birdwatchers' day lists, can be used to help monitor particular species and, potentially, IBAs. WorldBirds will be integrated with future, web-enabled versions of the World Bird Database, and its potential to contribute to IBA monitoring is currently being assessed and tested.

Box 4. A note on remote sensing

Remote sensing – through satellite images, in this case – could be tremendously useful for IBA monitoring. In principle, changes in land use, habitat type and human settlement should be easy to track using remotely sensed images. Potentially, remote sensing could allow quantitative assessment of such changes across the entire IBA network, which would be an enormous advantage. However, remote sensing may also have drawbacks. Remotely-sensed data need careful interpretation, may provide little information on habitat quality and are likely to require ground-truthing across a sample set of IBAs. Nevertheless, this approach is well worth testing, in parallel with ground-based monitoring methods. The potential contribution that remote sensing can make to monitoring is being assessed for the African IBA network through a dedicated project launched by the RSPB and the BirdLife Africa Partnership, in collaboration with the Global Vegetation Monitoring Unit of the Joint Research Centre of the EU, based at Ispra, Italy, in January 2005.

In addition, fixed-point photomonitoring can be used as a supplement to, or a substitute for, satellite imaging: it has the advantages of being relatively quick, cheap and efficient (Maisels and Forboseh 1997), but requires careful planning and consistent application.

2.5 Who should monitor?

Who undertakes the monitoring will vary from situation to situation. Wherever possible, existing institutions and personnel should be used, rather than creating new (and probably expensive) structures. Where there is one, the institution charged with managing a particular site should be involved, at least in contributing information. National and even overseas volunteers can be useful in many cases, provided that there is adequate coordination. **As far as possible, IBA monitoring should also involve the local community in collecting data.** As well as considerations of expense and sustainability, there may be several good reasons for this:

- ⇒ Sharing responsibility
- ⇒ Building and validating participation in management and a sense of ownership
- ⇒ Building trust
- ⇒ Providing a means for feedback and encouragement
- ⇒ Creating new skills

In particular, monitoring has proved a useful focal activity for LCGs (see Bennun *et al.* in press). Whether or not it directly involves local communities, IBA monitoring should aim, wherever possible, to build capacity among those carrying out the work. Local institutions may need help in various ways to undertake monitoring. Where necessary, their personnel must be trained and equipped, and monitoring should be regarded by staff at all levels as both an important activity and part of their routine responsibilities. This is also important to ensure consistency in the data. In-depth monitoring especially benefits from as much individual continuity as possible (if the expertise of those involved varies greatly between monitoring sessions, then the results may be biased). There is a need to develop genuine partnerships where all involved feel that investing effort in monitoring is worthwhile. **Organisations need to 'buy in' to the monitoring process and be prepared to institutionalise it.**

2.6 What happens next?

Monitoring data must feed back into achieving better management on the ground – that is the whole point of collecting them! The first step in ensuring this is proper monitoring design. The right questions need to be posed, and then answered clearly through the methodology chosen. If the outputs of monitoring are genuinely useful, they are more likely to be acted upon. The aim is to produce credible analyses of sound data.

A monitoring programme should produce monitoring reports, but audiences need to be carefully considered, and reports targeted accordingly. For instance, it might be appropriate to provide a technical report for managers and a readable summary for higher-level decision-makers. A summary report, relatively inexpensive to produce, could also be useful for circulation to the wider network of those contributing data.

IBA monitoring information should feed directly into national reporting for the CBD and other environmental conventions to which particular countries may be party (such as the Convention on Wetlands and the Bonn Convention on Migratory Species). If this information is to be derived from regular monitoring reports, then their content and periodicity need to be considered in the light of national reporting requirements. An alternative is to produce a separate report, or summary of the data, to fit the requirements and timetable of particular conventions.

Monitoring data should inform action planning for IBAs. Action plans should include monitoring as a priority activity, and ensure that there are clear mechanisms for adapting management according to monitoring results. If monitoring reveals a conservation problem, there need to be ways to deal with it. It is important to develop clear procedures for taking action. Many BirdLife Partners have set up IBA National Liaison Committees, or similar coordinating mechanisms, between NGOs and Government.

Finally, making the monitoring happen in the first place requires substantial investment in a national network of institutions and individuals. Most of the work will be done through personal interest, commitment and good will. Therefore, **the monitoring network needs to be cultivated and supported, not least through appropriate feedback of the results and acknowledgement of contribution.** As well as contributing to monitoring, this network should also be able to help respond to the findings.

At the regional and global levels, **implementing this monitoring framework should allow the BirdLife Partnership to learn lessons about what approaches work best for conserving IBAs across the world.** These lessons will be documented, analysed, interpreted and published – and fed back into strategies for site conservation – by the BirdLife Secretariat.

3. Making it work

Considering the points discussed above, the challenge is to implement a monitoring scheme that is sufficiently rigorous to be credible, sufficiently relevant to be informative, and sufficiently cost-effective to be sustainable. At a minimal level, what is required is the regular assessment for each site of at least one appropriate indicator for each of Pressure, State and Response.

The actual indicators used can vary from site to site and country to country, so long as they are appropriate for making an overall rating for each IBA following the standard methodology (see Section 4). These indicators can be simple and qualitative, and may only highlight fairly large changes. For instance, it is relatively easy to detect gross alterations in site condition – such as drainage of a wetland or clearance of a forest. More subtle changes – such as a moderate decline in population of a threatened species – are much harder to pin down. These can probably only be measured at a small number of sites where more in-depth IBA monitoring is focused.

It is strongly recommended that the Partnership should, in the short term, focus on setting up and maintaining national monitoring schemes that involve a minimal level of monitoring across the whole national IBA network. Less effort should be devoted to in-depth monitoring, except at IBAs where it is already happening or planned under other programmes or schemes, such as the International Waterbird Census (see Annex 1).

3.1 Monitoring frequency

How often should monitoring happen? **It is important to have an accepted, predictable system that can be sustained into the future, without long delays and lapses.** Organisations tend to plan their work on an annual basis, so, if IBA monitoring is to be fully institutionalized at the national level, there is much to be said for making it an annual process. This, however, may be less appropriate where most of the work is being carried out directly by the Partners and their volunteer network. In Europe, for instance, where there are large numbers of IBAs, the Partnership has agreed to monitor at least once every two years.

At the global level, it would be advantageous for the monitoring frequency of IBAs to be linked to that of globally threatened birds, with each process informing the other. The BirdLife Secretariat, as the Red List Authority for birds, is committed to providing IUCN with updates on the status of all the world's birds once every four years, with the next comprehensive revision scheduled for 2008. **It is proposed that IBA monitoring data be collected from as many countries as possible by the end of 2007, with increasingly comprehensive updates on a four-yearly cycle thereafter.**

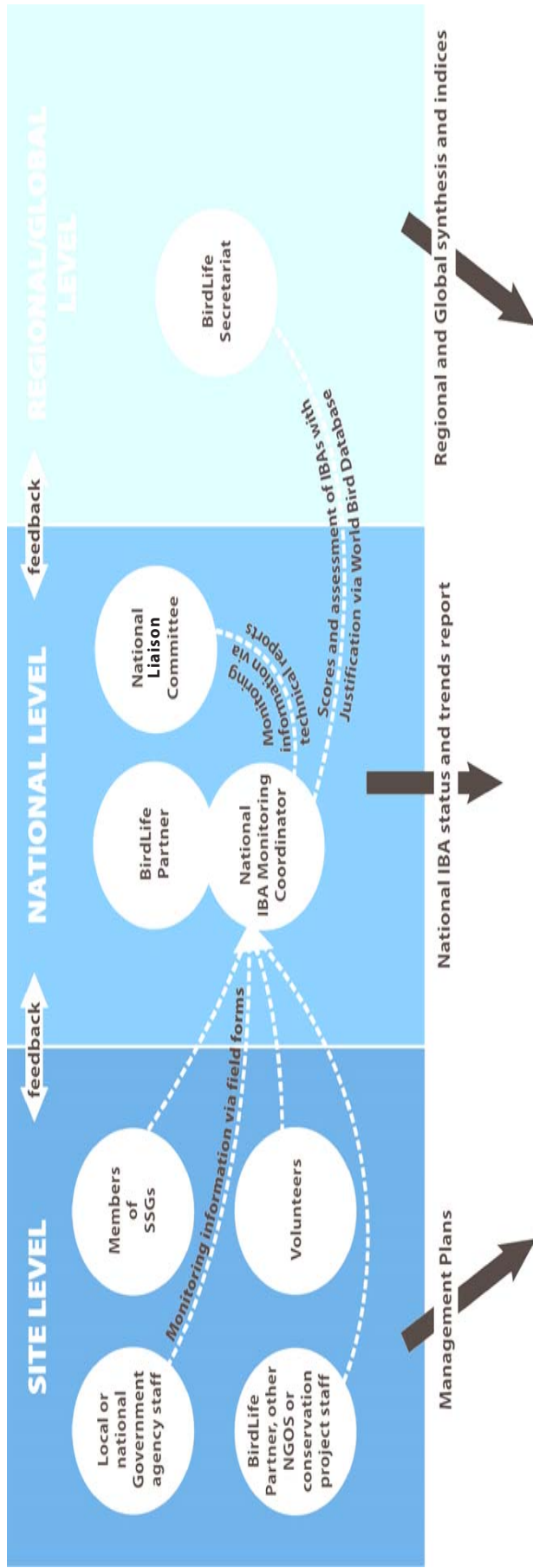
3.2 Structures and processes

Effective IBA monitoring requires coordination, communication and feedback among three main levels: the local/site, national and regional/global.

Figure 3 shows how the process can work and how the main roles and responsibilities can be divided, and Box 5 (overleaf) discusses who owns and holds the data. The key points of this process are listed below.

1. Monitors based at or near IBAs provide information on structured field forms (see example in Annex 2). These monitors may be staff of local or national Government agencies, LCG members, BirdLife Partner or other project staff, or volunteers. The forms are submitted to the National IBA Monitoring Coordinator. More than one form may be submitted per site, by different people or at different times. Submission of forms may be scheduled (and the input of agency staff may be coordinated through their headquarters) but there is also scope for 'ad hoc' submission of forms at any time.
2. The National IBA Monitoring Coordinator assembles the forms and any other relevant information on the status of particular sites. This could include, for example, satellite images, scientific or popular publications and the results of in-depth monitoring.
3. Following the monitoring schedule (i.e. annually or every two or four years) the Coordinator applies the standardised methodology (see Section 4) to the information available and assigns indicator scores to give overall IBA status scores for each site. The scores, with their justification, are entered into the World Bird Database so that trends can be determined and national, regional and global analyses undertaken.
4. The Coordinator uses the information and scores for each site to compile a national IBA status and trends report, and to provide appropriate feedback to the site-based monitors and the collaborating institutions.
5. The BirdLife Partner ensures that the national IBA status and trends report is used (re-packaged as necessary) for national and site-level advocacy and intervention. An IBA National Liaison Committee (NLC) that brings together the key organisations with an interest in, or influence on, IBA conservation will often be useful here (and in helping to coordinate the collection of monitoring data).
6. The BirdLife Secretariat uses the IBA monitoring data submitted by many Partners to produce periodic (at least 4-yearly) regional and global syntheses (such as those in BirdLife International (2004b)). At this level, trends may be broken down geographically and by habitat type, for example, and case studies of particular sites highlighted. The results are used for international-level advocacy to stimulate conservation action.

Figure 3. Structures and processes for IBA monitoring at site, national and global levels



Roles and responsibilities for key players involved in IBA monitoring:

SITE LEVEL

Field/site staff of government agencies, NGOs or conservation projects

Local Conservation Groups ⇒ Collect data, return monitoring forms, take action based on results

Researchers, other volunteers

⇒ Collect data, return monitoring forms

NATIONAL LEVEL

National IBA Monitoring Coordinator

⇒ Design monitoring framework, coordinate technical aspects of monitoring, check quality of data, and assess and score status and trends of IBAs, enter data into the World Bird Database, produce analyses and technical reports

BirdLife Partner

⇒ Undertake fundraising, establish a monitoring programme, organise training, conduct evaluation, report to NLC and data gatherers, produce advocacy materials, plan and take action

IBA National Liaison Committee (or equivalent)

⇒ Institutionalise monitoring in Government agencies and NGOs, provide channel for advocacy using results

REGIONAL/GLOBAL LEVELS

BirdLife Secretariat

⇒ Manage World Bird Database, store and analyse regional and global data, undertake regional and global reporting, advocacy and fundraising

Box 5. Who owns and who holds the data?

The framework outlined here is built on a genuinely participatory process. This means that the institutions involved at site level – such as the national management authorities and LCGs – should monitor for their own benefit, because they are concerned with the conservation of their sites. This also implies that site-based institutions should own and retain the original data. This applies to all monitoring but is particularly important for in-depth monitoring. Thus, if an LCG is carrying out monitoring at its site, the original data forms should be filed at the site for reference. The LCG must be involved in any decisions regarding the wider availability of data that it has passed on.

Local ‘ownership’ of the data is also important since the monitoring, and its results, needs to be meaningful to the participants – that is those who are in a position to take action on the ground. For example, recommendations are more likely to be acted upon if they arise from data collected by management authority staff as part of their own monitoring scheme, rather than, say, the BirdLife Partner working independently.

However, data collected on site should be made available promptly to the National IBA Monitoring Coordinator. The cross-site synthesis and analysis of data performed by this unit will add value to the information from all sites. This, plus the training, support and quality control that the national monitoring framework will make available for site-based monitors, provides the *quid pro quo* for site-based institutions that allow access to the data that they own.

Taking things up a level, national BirdLife Partners provide summary data to the BirdLife Secretariat for the same reasons. The regional and global synthesis and analysis performed by the Secretariat also make the data work harder for national conservation and advocacy.

An important element in the whole process is **feedback**. Those collecting the data at site level need to see how they have contributed to the overall picture at site level. The same is true of Partners feeding national data into the global and regional analyses. Reports must be produced and circulated in good time, and with appropriate acknowledgement of everyone's contribution.

3.3 The National IBA Monitoring Coordinator

A unit is needed to coordinate IBA monitoring nationally. The scale of this task will vary, depending on the number of IBAs per country, the level of reporting, and the extent of in-depth monitoring. This could be a part-time role for one person, a full-time job or the responsibility of a small team of several people or a committee. Usually, it will be appropriate to designate an individual as the National IBA Monitoring Coordinator, even if this is not their full-time responsibility. Preferably, this person will be based in the Partner organisation, though they will need to work closely with other institutions.

The National IBA Monitoring Coordinator (and team) have the tasks of coordination, quality control, compilation, storage and analysis of data and technical reporting. A key role is to assign IBA status scores. This requires careful sifting and assessment of the information available, which may include seeking clarification or verification of certain data. Where multiple forms are returned from a site, there may be conflicting information, and the Coordinator will then have to make a judgement as to which to trust.

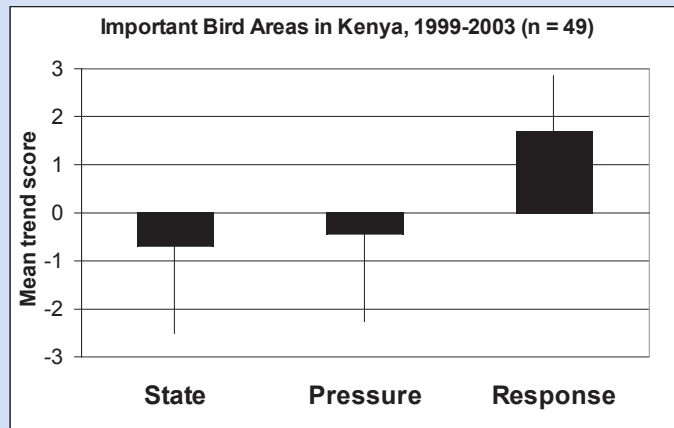
There will always be a subjective element to this scoring, but to minimize this it is important that:

- ⇒ The scoring methodology and guidelines are carefully followed
- ⇒ The scoring involves wider consultation, and in particular the participation of the main institutional stakeholders. This involvement could happen at the initial scoring stage or (perhaps more efficiently) through a review panel that considers a set of problem cases.

3.4 The National IBA Report

The national IBA status and trends report should highlight any significant positive or negative changes at particular sites, and give as detailed a health check as possible for any sites assessed in urgent of conservation action. It should include a clear list of management recommendations based on the monitoring outcomes. This would also be an appropriate place for a brief review of how well the monitoring process itself has worked. The report on the status and trends of Kenya's IBAs for 2004 (Otieno *et al.* 2004) provides an indication of what such a publication can look like (see Figure 4).

Figure 4. Summary results from monitoring Kenya's IBA network for the period 1999-2003



3.5 Resource requirements for monitoring

The minimal resource requirements are:

- ⇒ Personnel with appropriate skills for handling both the network of monitors (including institutional focal points) and the data.
- ⇒ Appropriate computer hardware and software to run the World Bird Database and (ideally) GIS; and a filing cabinet, for the paper IBA database.
- ⇒ Funds for the production and circulation of forms and reports, follow-up within the network, facilitation of the IBA-NLC, and for copying materials to the IBA paper database.

These resources may not be large but they are unlikely to be met from NGO core budgets. **The costs for monitoring need to be built into future project funding, both national and regional, for the IBA programme.** There are issues of longer-term sustainability that are difficult to address at present: these are linked to the need to find core resources for the BirdLife Partnership to function. Often, many of the NLC institutions need to monitor IBAs to fulfil their own mandates. The more responsibility they can take on institutionally, the more likely it is that the system will be sustainable.

As well as these resources, in order to run smoothly, IBA monitoring will require:

- ⇒ Endorsement by the IBA National Liaison Committee institutions or equivalents, and oversight from a group (e.g. a Monitoring Sub-committee) consisting of focal points for the relevant institutions
- ⇒ A strategy for sensitisation and training of Government and NGO field staff, local conservation group members and other volunteers (e.g. through short seminars).

4. Assessing and scoring Important Bird Areas

This section presents the method for assessing and scoring the threats to IBAs, the condition of IBAs, and conservation actions taken at IBAs. It involves assigning simple scores to selected indicators for each of Pressure (threats), State (condition) and Response (actions) (see Note 1). These indicator scores are then used to obtain overall IBA status scores. The scoring system uses a 'weakest link' approach applied to IBA 'trigger' species (see Notes 2 and 3). The scores and supporting information are entered, managed and analysed through the World Bird Database (see Note 4).

Although the details of scoring Pressure, State and Response differ, the resulting scales are the same for each. Status scores are assigned on a simple, four-point scale, from 0 to 3 (or -3 in the case of Pressure). Trend scores can be calculated by comparing status scores between assessments, also on a scale of 0 to 3. Trends cannot usually be assessed until the second set of monitoring data has been collected; the first time the information is collected represents the 'baseline', against which subsequent comparisons are made. However, there may sometimes be enough existing information that one or more assessments can be completed retrospectively.

Note 1. Why such a simple scoring system?

The scoring system for monitoring IBAs allows clear and easily understood presentation of the results, both site-by-site and between sites, in a similar way for each of Pressure, State and Response. Its simplicity is appropriate for a system that will often be based on qualitative data, and which aims to capture a valid general impression (rather than a precise measurement) of status and trend. With only four levels, the size of the step between each level is large. This makes the scores relatively insensitive to change. More detailed information is not lost, however, but is captured through the methods for arriving at these overall 'headline' scores in the World Bird Database (see Note 4).

Note 2. The 'weakest link' approach

Some sites may support 'trigger' species (see Note 3) that differ in their conservation status, or depend on habitats that are changing in different ways. In these cases, the scoring system uses a 'weakest link' approach. This means that IBA scores are based on the 'worst' case indicator score (e.g. the most threatened species or the least intact habitat). This approach is **precautionary** and gives a **simple decision rule** to use when only incomplete information is available. Common sense, however, needs to be used to avoid IBA scores based entirely on a species or habitat for which the site is relatively unimportant. For example, consider an IBA which is also an 'Alliance for Zero Extinction' (AZE) site (see www.zeroextinction.org) because it is the only known site for a Critically Endangered (CR) species. The site may have also been identified as an IBA for another, more widespread Globally Threatened Bird (GTB). Action at the site may have improved things for the CR species but the widespread GTB may have declined (perhaps even because of this action/ management). In this case it would not be appropriate to use the widespread GTB as the 'weakest link'.

Note 3. Trigger species

'Trigger' (or qualifying) bird species are those for which the site has been recognised as an IBA under any of the global (or, where appropriate, regional) criteria .

Note 4. Monitoring IBAs and the World Bird Database

The World Bird Database will ensure that the data are entered appropriately so that indicator scores can be applied consistently. It will also automatically assign IBA status and trend scores, based on information entered for the indicators. However, the validity and usefulness of these results will ultimately depend on the selection of appropriate indicators, timely collection of field data, consistent interpretation of this information, sensible application of the 'weakest link' approach, and explanation of the basis for the scores so that they can be acted upon meaningfully.

4.1 Assessing and scoring threats (Pressure)

The threats to IBAs are scored by National IBA coordinators based on information collected at each IBA by site-based monitors (see Annex 2 for an example of a field form), along with whatever other reliable information is available. A list of threat types is given in Annex 2 (see also Note 5).

Note 5. A standard system for recording threats, habitats and actions

The standard system for recording threats, habitats and actions against IBAs in the World Bird Database is being revised and updated. It is now based on a simplified version of the IUCN Authority Files used in the Red List assessment and documentation of the threat status of species. There are obvious data management and analytical benefits in harmonizing the classification systems used by the two programmes as far as possible. Note that in the World Bird Database threats are coded against the site as a whole even though these may be determined from threats to individual 'trigger' species.

Threats are scored according to their timing, scope and severity, in relation to how they are likely to affect the 'trigger' bird species at the site. Depending on the circumstances and the information available, the threat assessment may be based on:

- ⇒ Information on threats that affect one or more 'trigger' species (for which there is good information) or each 'trigger' species assessed individually (then applying the 'weakest link' approach)
- ⇒ Knowledge about the site (and especially the key habitats on which the 'trigger' species depend) as a whole.

Timing, scope and severity scores are then combined to give an **impact** score as follows:

Timing of threat	Timing score
Happening now	3
Likely in short term (within 4 years)	2
Likely in long term (beyond 4 years)	1
Past (and unlikely to return) and no longer limiting	0
 Scope of threat	 Scope score
Whole area / population (>90%)	3
Most of area / population (50-90%)	2
Some of area / population (10-49%)	1
Small area / few individuals (<10%)	0
 Severity of threat	 Severity score
Very rapid to severe deterioration (>30% over 10 years or 3 generations, whichever is the longer)	3
Moderate to rapid deterioration (10–30% over 10 years or 3 generations)	2
Slow but significant deterioration (1–<10% over 10 years or 3 generations) or large fluctuations	1
No or imperceptible deterioration (<1% over 10 years)	0

Impact score of threat = timing score + scope score + severity score (see Note 6 overleaf)

Important: if the score for any of timing, scope or severity for a given threat = 0, then the impact score for that threat = 0. (This means that the impact score never has the value 1 or 2.)

Using the 'weakest link' approach, the highest impact score of any threat is then used to assign a threat status to the IBA on a scale of 0 to -3 (see Note 7 overleaf), as follows:

Highest impact score of any threat	IBA threat status score & its description
0	0 Low
3-5	-1 Medium
6-7	-2 High
8-9	-3 Very high

Note 6. Calculating the impact score for threats

For timing, scope and severity of threat, estimates of the time period and extent will usually be based upon informed guesses, rather than accurate counts or measurements. The thresholds shown are thus for guidance only. 'Likely in short term' means that the expectation is high that the threat will be realised because plans are approved, permission has been granted and no serious obstacles to the execution of the threat are anticipated. 'Likely in long term' means that the imminence of the threat is more distant because plans are not yet approved. The severity of the threat should be assessed **only** against the proportion of area or population affected.

Generation length is the average age of parents of the current cohort. This method for calculating impact is different from the one used until now by the IBA programme. It has been refined in the light of experience gained in the use of the previous system and seeks to address its shortcomings. Conceptually, the threat impact should be determined by the product (multiplication) of timing, scope and/or severity. For ease of use, however, addition is used here.

Note 7. Why is the IBA threat status score zero or negative?

This allows consistent presentation with the scores for status and response. In each case, a higher score (less negative, or more positive) is good for conservation and a lower score is bad for conservation.

4.2 Assessing and scoring condition (State)

Condition of IBAs are scored by National IBA Monitoring Coordinators based on information collected at each IBA by site-based monitors, along with whatever other reliable information is available,

The condition assessment may be based on:

- ⇒ Population sizes for one or more 'trigger' species (for which there is good information) or each 'trigger' species assessed individually (then applying the 'weakest link' approach)
- ⇒ The area and quality of the key habitats on which the 'trigger' species depend, as an indirect measure, or 'surrogate', for population size.

Which approach to use and how to interpret it depends on the circumstances and the information available (see Note 8). For many IBAs, population data will not be available and scores for the condition status of the site will be based on habitat(s).

Note 8. Interpreting information on populations and habitats

Care is needed when basing estimates of condition on population counts. First, some bird populations show substantial natural fluctuations between years (for instance, due to weather variation). Second, populations may change for reasons that have nothing to do with the site itself, particularly in the case of migratory or nomadic species. It is important to assess the kind of species involved and the stability of the baseline counts. Conversely, while habitat area and quality may often give a good estimate of site condition, they must be used carefully too. Even with optimal habitat availability, bird populations could remain low if affected by other factors (internal to the site) such as hunting pressure.

Habitat may be heterogeneous within an IBA. If a particular habitat is crucial for the IBA 'trigger' species, then attention should focus there. The area of remaining habitat at a site should refer to natural (or restored) habitat – i.e. declines occur if natural areas are converted by or for human use. Sometimes habitat area might change without a change in land use (e.g. through encroachment of scrub or bushes on grassland).

Change based on habitat area or quality may be scored annually, if data are available. This may however not be appropriate when based on species populations which tend to fluctuate. However, a change in the same direction in two consecutive years (or sets of observations, if less frequent) merits scoring. Changes may not be consistent across different 'trigger' species or key habitats. A common sense assessment of the comparative importance of the site for these species or habitats is required here, to avoid basing the score on a species or habitat for which the site is relatively unimportant.

Scores also take into account a comparison of the population sizes of 'trigger' species to either:

- ⇒ Their size when the IBA was first identified, assuming there is no indication that species' populations then were declining or depleted
- ⇒ The optimum for the site, based on the estimated extent of potential habitat and population density in undisturbed conditions.

Similarly, scores also take into account the existing areas and quality of key habitats compared to the estimated potential optimum for the site. These comparisons are used to calculate or estimate the percentage of potential population or habitat remaining as follows:

% potential population or habitat remaining = (remaining population or area / estimated optimum population or area) x 100%

This equation assumes that the habitat quality is optimal. Often this will not be so. In which case the estimates will need to be 'devalued' accordingly (see Note 9 for further details).

Using a 'weakest link' approach, the IBA is assigned a condition status score based on the percentage of potential population or habitat remaining of the 'worst' species or habitat, as follows:

% potential population or habitat remaining of 'worst' species or habitat	IBA condition status score & its description
>90% Good	3 Favourable
70-90% Moderate	2 Near favourable
40-69% Poor	1 Unfavourable
0-39% Very Poor	0 Very unfavourable

Note 9. Combining information on habitat area and quality

The quality of the habitat is important as well as its area. Where a habitat has been degraded so that it may hold less than an optimum density of the 'trigger' species, the area needs to be 'devalued' accordingly.

Example: When first designated, 10,000 ha of an IBA was covered in montane tropical forest, the remaining 500 ha being natural grass glades. The IBA 'trigger' species are confined to montane forest. Monitoring now suggests that the forest area has reduced to only 9,000 ha. Furthermore, half this remaining forest (4,500 ha) has been intensively logged leaving only half (4,500 ha) undisturbed. Where logging has taken place, it is estimated that this is likely to cause a reduction in density of the most sensitive 'trigger' species to 60% of its former levels.

The area of disturbed forest thus needs to be 'devalued' accordingly in the calculation. So:
 % potential population/area remaining = (((4500 x 0.6) + 4500) / 10000) x 100 = 72%

The site's condition should therefore be scored as 2 = 'Near favourable'.

It will often be difficult to estimate change with this degree of precision. In the absence of detailed ecological knowledge, the exact effect of habitat degradation may only be guessed at, so this needs to be handled cautiously. The following table provides a guide as to how to arrive at an IBA condition status score in the absence of numerical data.

		Area			
		Good	Moderate	Poor	Very poor
Quality	Good	3	2	1	0
	Moderate	2	1	0	0
	Poor	1	0	0	0
	Very poor	0	0	0	0

4.3 Assessing and scoring actions (Response)

The level of conservation response is scored by the National IBA Monitoring Coordinators based on information collected at each IBA by site-based monitors, and whatever other reliable information is available.

Three complementary measures of response – the levels of (1) formal designation for conservation, (2) management planning and (3) implementation of conservation action (see Note 10) – are scored, as follows:

Conservation designation	Score
Whole area of IBA covered by appropriate conservation designation (>90%)	3
Most of IBA covered (including the most critical parts for the trigger species) (50–90%)	2
Some of IBA covered (10–49%)	1
Little/none of IBA covered (<10%)	0

Management planning	Score
A comprehensive and appropriate management plan exists that aims to maintain or improve the populations of qualifying species	3
A management plan exists but it is out of date or not comprehensive	2
No management plan exists but the management planning process has begun	1
No management planning has taken place	0

Conservation action	Score
The conservation measures needed for the site are being comprehensively and effectively implemented	3
Substantive conservation measures are being implemented but these are not comprehensive and are limited by resources and capacity	2
Some limited conservation initiatives are in place (e.g. action by LCGs)	1
Very little or no conservation action is taking place	0

The IBA is assigned an overall response status score based on the summed status scores for the three different action types as follows:

Summed indicator response scores	IBA response status score & its description
8–9	3 High
6–7	2 Medium
2–5	1 Low
0–1	0 Negligible

Note 10. Different types of conservation response

Conservation designation refers to formal recognition (whether or not legally binding) that should effectively protect the site and its biodiversity from adverse human influence. It may include a range of governance measures, from being gazetted under national or regional law as a protected area, to coverage by community management agreements or designation as a private nature reserve. Conservation designation, together with management planning and conservation action, have been chosen as the most appropriate indicators of the level of conservation response at IBAs. However, as well as monitoring these three responses, other information on conservation actions should also be recorded. The number of LCGs and LCG members is particularly important. The suggested list of actions to be considered is given in the example field form in Annex 2.

See Annex 3 for a more fully worked example for assessing and scoring the threats to an IBA, the condition of an IBA, and conservation actions taken at an IBA.

4.4 Calculating trends in threats (Pressure), condition (State) and actions (Response)

At the national, regional and global levels, trends in threats, condition and actions can be determined by plotting, for example, the mean value of the IBA status scores as a line graph. Alternatively, trend scores can be calculated by comparing the IBA status scores between assessments, i.e. (IBA status score in assessment 2) – (IBA status score in assessment 1) to provide a snapshot in time. In this case, the following threat, condition and response trend scores and their descriptions are proposed for consistency:

IBA threat, condition and response trend scores & their description

+3	Large improvement
+2	Moderate improvement
+1	Small improvement
0	No change
-1	Small decline
-2	Moderate decline
-3	Large decline

Further work is needed to develop and test these approaches once datasets have been generated. One issue that needs to be addressed is how to update indicator and IBA status scores retrospectively as a result of improvement of knowledge so that trend measures are based on the best available information and representative of genuine changes as far as possible.

Annex 1 In-depth monitoring

Because resources are usually scarce, in most countries in-depth site monitoring will only be possible at a sub-set of top priority sites, where it is important to track and understand changes in more detail. There are no set rules or standards for in-depth monitoring: schemes must be tailored for the circumstances of individual sites.

Site selection

An explicit process is needed to select sites for in-depth monitoring. The first step is to set priorities for conservation action among IBAs. All IBAs are, by definition, high priority sites for biodiversity conservation. However, the sites that are most threatened and most irreplaceable are those where there is most to lose if action is not taken quickly. A general methodology for setting priorities for action is given in Langhammer *et al.* (in press); for a slightly simpler approach applied to IBAs see Bennun and Njoroge (1999).

When selecting sites for in-depth monitoring the crucial question is 'Where will monitoring have the greatest conservation value?' It is also important to consider whether in-depth monitoring at a particular site is feasible and potentially sustainable. Sites that fall out in the top, critical, bracket of priorities for action are likely to be the first candidates for monitoring. Other site attributes that could be considered include:

- ⇒ Ongoing conservation interventions or projects (monitoring can help assess their impact, and provide the information for adaptive management)
- ⇒ Particular threats that need to be tracked, and that can effectively be monitored
- ⇒ The presence of people who can do the monitoring (active local conservation groups, other volunteers or interested Government agencies).

How often and how much to monitor?

As always, this depends on the questions being asked. In-depth monitoring should be done often enough to track changes and obtain an understanding of natural fluctuations, but not so often that it becomes a hugely expensive and time-consuming exercise. If monitoring happens only at very long intervals, it will be difficult to know whether any changes are the result of a long-term trend or simply due to underlying natural variation. On the other hand, in-depth monitoring should obviously not be carried out so often that it becomes an end in itself and leaves no time or resources for conservation action.

When in doubt, for most sites and most variables, annual measurement (consistently at the same time of year) will be a sensible choice. The time of year selected will depend on what is being measured. Some species are only present during certain seasons, for example.

How many data should be collected each time? This is important where data collection involves sampling. There are statistical methods, as well as useful but less sophisticated rules of thumb, to provide guidance. Expert advice should be sought wherever possible. Preliminary surveys may be needed to establish levels of variation. A sampling regime can then be designed that detects changes above a particular magnitude.

Practical limitations will often make an ideal sampling design impossible. Some aspects cannot be compromised, however, if the data are to mean anything. Sampling schemes must be:

- ⇒ Unbiased. This requires careful randomised or systematic sampling.
- ⇒ Sensibly stratified, where appropriate. A stratified design samples separately in parts of a site with different characteristics that might influence what is being measured. For instance, it could be important to separate different altitude bands, or areas with different land-management histories.
- ⇒ Adequately replicated. Statistical analysis is impossible unless there are enough independent sample units within each stratum. As a very rough rule of thumb, under six is certainly too few; 10 might just do; 30 is comfortable; 100 might be overkill. It is important to avoid pseudo-replication – e.g. covering a transect several times gives a more accurate measurement for that transect, but still provides only one data point for analysis.

What to monitor?

In-depth monitoring is likely to focus mainly on State variables – the site's biodiversity value, and related habitat condition measures (where these are known to affect the species of concern). However, in-depth assessment of Pressure and Response may sometimes be needed. A range of variables can potentially be monitored, and these need not be the same from site to site or country to country.

Variables need to be carefully selected so that the monitoring can help improve site management. If monitoring numbers of a threatened bird, for example, it is probably useful to monitor habitat structure too. Then changes in bird numbers can be related to habitat changes, with appropriate feedback to management.

The variables assessed should be clearly linked to the conservation values and management objectives for the site: for IBAs, these will generally relate to important bird populations. These values and objectives will not always be obvious or universally agreed, and need to be made explicit when monitoring is being planned.

For Africa, Bennun (2002a) lists possible variables for monitoring in different habitats, and provides examples of in-depth monitoring protocols that can be used by LCGs. These may give useful ideas for other regions too.

Resource requirements for in-depth monitoring

In-depth monitoring requires resources additional to those outlined in section 3. These include:

- ⇒ Personnel with the technical capacity to design and implement appropriate sampling regimes and monitoring protocols
- ⇒ Technical training and provision of equipment for monitoring teams (made up of LCG members, Government and NGO staff, and other volunteers)
- ⇒ Funds for transport and subsistence (where necessary) of monitoring teams
- ⇒ Funds for follow-up training and inspection visits.

Conservation projects could provide start-up funds for this work. However, this must in due course become an activity carried out mainly by LCGs from money they raise themselves, or by Government/NGO staff as part of their duties (supported from central funds). LCGs in particular need to be encouraged to take ownership of the process at their sites.

Key points: In-depth monitoring

- ⇒ In-depth monitoring must be designed for each site separately.
- ⇒ Priorities need to be set for in-depth monitoring based on its value for conservation, and feasibility.
- ⇒ Technical advice is needed for the sampling design. Sampling must be unbiased, sensibly stratified and with enough independent replicates.
- ⇒ The variables monitored should be linked to the conservation goals and management targets for the site. For IBAs these should reflect the important bird populations.
- ⇒ Ideally, in-depth monitoring should be carried out by local residents: local conservation groups and/or Government field officers (rangers, forest guards, etc.).
- ⇒ LCGs and Government need to institutionalise in-depth monitoring in their strategy and work programme. Problems arise if they believe they are monitoring 'for' BirdLife, rather than for themselves.

Example of in-depth monitoring: the International Waterbird Census

The International Waterbird Census (IWC) is a major existing monitoring system coordinated by Wetlands International. It has been running since 1967 and now covers more than 100 countries (with variable consistency) in Africa, Asia, Europe, the Neotropics and the Pacific. A separate but parallel scheme runs in North America. Many BirdLife Partners are involved with the IWC, some acting as the chief coordinators in their countries.

The IWC involves annual (sometimes more frequent) counts of waterbirds at selected wetland sites. A detailed site description form is completed for each site when it is visited for the first time. Thereafter, a standardised census form (tailored regionally and sub-regionally) is completed for each census. This form includes a section on site condition and disturbance, though only basic information is likely to be recorded.

Wetlands sites are often IBAs because of the congregatory waterbirds they hold. Changes in waterbird numbers can indicate ecological changes at these sites (though because numbers are often very variable, data from several years are needed to set a baseline). Waterbird counts also demonstrate whether the IBA criteria continue to be met. Clearly, therefore, the IWC fits very well into the overall IBA monitoring framework. The IWC also provides the only in-depth IBA monitoring in a number of countries that are presently outside the BirdLife network.

The IWC objectives are wider than IBA monitoring. The main goals include estimating waterbird population sizes, monitoring changes in waterbird number and distribution, improving knowledge of little-known waterbirds and wetlands, identifying and monitoring sites that qualify for Ramsar listing, providing information on the conservation status of waterbirds under international agreements, and increasing awareness of the importance of waterbirds and wetlands. These broad goals mean (among other things) that the wetlands monitored in the IWC may not be the top priorities for in-depth site monitoring, nor indeed IBAs in the first place.

Greater integration between the IWC and the IBA monitoring system is desirable. BirdLife Partners involved in the IWC should view it as one component of their bird monitoring programme, contributing to species, habitat and particularly site monitoring. In practical terms, this means that the IWC National Coordinator and National IBA Monitoring Coordinator should either be the same person (or team), or at least communicate, and divide up, responsibilities appropriately.

Partners need to ensure that the most appropriate set of sites is covered for the IWC. This set may not overlap completely with the priorities for in-depth site monitoring among IBAs, but it should at least have taken those priorities into account.

While the IWC already collects some additional data beyond bird numbers, this could be enhanced. It would be useful to know of major changes in site condition, and to have more detailed measurements to help interpret the waterbird data (such as water depth, water quality, extent of various habitats, etc.).

There is also a need for BirdLife to work with Wetlands International to develop joint, or at least compatible, site monitoring forms for use at wetlands covered by the IWC. There are plans to do this under a UNEP-GEF Flyways Project, covering the African-Eurasian Waterbird Agreement (AEWA) region, scheduled to start in 2005.

Annex 2 Example of a field form

Forms need to be tailored to the requirements of particular countries and institutions. It helps if they are structured so that the information can be used easily by the National IBA Monitoring Coordinator for scoring IBAs. An example of a possible field form is shown below.

Important Bird Areas programme [country name, institutional logos]

Help to monitor IBAs - key sites for biodiversity conservation!
Please answer the questions below and attach any additional information. Please give details wherever possible. All relevant information is helpful, at any time. However, if you are resident at a site or a regular visitor, please try to return a completed form once each year.

Please return the completed form to: [] or by e-mail to: [] (write to this address for the e-mail version of this form).

Part I. ESSENTIAL INFORMATION (please use a different form for each site)

Name of the IBA _____ **Today's date** _____

Your name _____ **Postal address** _____

telephone/fax _____ **e-mail** _____

What does this form cover? (tick one box)

(a) the whole IBA (b) just part of the IBA
If (b), which part/how much of the whole area?

Do you live at or around the IBA?

(a) Yes (b) No
If (b) when did you visit the IBA and for how long?

what was the reason for your visit(s)?

Part II. ASSESSMENT OF IBA STATUS
You don't need to answer all the questions or fill in all the tables – please just put down the information that you have available.

Condition of bird populations and habitats ('State')

General comments on the site's State and any changes since your last assessment (if relevant):

If you have **estimates or counts of bird populations**, or other information on the important bird species at the IBA, please summarise these in the table below:

Bird species or groups	Population estimate	Details/other comments

If you have information on the **area** of the natural habitats important for bird populations at the IBA, please summarise it below. Please note any major changes since the last assessment in the 'details' column.

Habitat	Current area (if known) or rating†	Details/comments/major changes

†Habitat area codes:

If you do not know the actual habitat area, give your best assessment of the current habitat area at the site, in relation to its potential optimum if the site was undisturbed. The percentages below are given as guidelines only: use your best estimate. Please justify your coding in the 'details' column.

Good (overall >90% of optimum)
Moderate (70–90%)

Poor (40–69%)
Very poor (<40%)

If you have information on the **quality** of the natural habitats important for bird populations at the IBA, please summarise it below. Please note any major changes since the last assessment in the 'details' column.

Habitat	Quality rating*	Details/comments/major changes

*Habitat quality rating:

Give your best assessment of the average habitat quality across the site, in terms of its suitability for the important bird species. (The percentages are given as guidelines only.) Please justify your coding in the 'details' column.

Good (overall >90% of optimum)
Moderate (70–90%)

Poor (40–69%)
Very poor (<40%)

Status of threats to the IBA ('Pressure')

General comments on threats to the site and any changes since your last assessment (if relevant):

Use the following guidelines to assign scores for timing, scope and severity. The numbers are there to help you score, but are intended as guidance only: you don't need exact measurements to assign a score.

Timing of selected threat

Happening now
Likely in short term (within 4 years)
Likely in long term (beyond 4 years)
Past (and unlikely to return) and no longer limiting,

Timing score

3
2
1
0

Scope of selected threat

Whole area/population (>90%)
Most of area/population (50-90%)
Some of area/population (10-49%)
Small area/few individuals (<10%)

Scope score

3
2
1
0

Severity of selected threat

Very rapid to severe deterioration
(>30% over 10 years or 3 generations whichever is the longer)
Moderate to rapid deterioration
(10–30% over 10 years or 3 generations whichever is the longer)
Slow but significant deterioration
(1–<10% over 10 years or 3 generations whichever is the longer)
or large fluctuations
No or imperceptible deterioration (<1% over 10 years)

Severity score

3
2
1

(b) Please score each threat that is relevant to the important birds at the IBA, based on your observations and information, for timing, scope and severity. In the 'details' column, please explain your scoring and make any other comments. Please note any changes in individual threats since the last assessment. If threats apply only to particular bird species, please say so.

Threat type	Timing	Scope	Severity	Details/comments
Habitat loss/degradation (human induced)				
<i>Agriculture</i>				
Abandonment				
Crops				
Freshwater aquaculture				
Livestock				
Marine aquaculture				
Non-timber plantations				
Wood plantations				
<i>Land management of non-agricultural areas</i>				
Abandonment				
Change of management regime				
<i>Extraction</i>				
Fisheries				
Groundwater extraction				
Mining				
Non-woody vegetation collection				
Wood (small-scale subsistence to deforestation)				
<i>Infrastructure development</i>				
Dams				
Human settlement				
Industry				
Power lines				
Telecommunications				
Tourism/recreation				
Transport				
<i>Invasive alien species (directly impacting habitat)</i>				
<i>Change in native species dynamics (directly impacting habitat)</i>				
Invasive alien species (directly impacting species)				
Hunting / harvesting				
Accidental mortality				
Persecution				
Pollution				
Natural disasters				
Changes in native species dynamics				
Intrinsic factors				
Human disturbance				

Status of conservation designation, planning and action ('Response')

Please give any general comments on conservation designation, planning and action, including recent changes or developments

Please tick the box next to the text that applies for each of conservation designation, management planning and conservation action below. Please add any details and where appropriate give a brief explanation for your choice.

Conservation designation

- 3 Whole area of IBA (>90%) covered by appropriate conservation designation
- 2 Most of IBA (50–90%) covered (including the most critical parts for the important bird species)
- 1 Some of IBA covered (10–49%)
- 0 Little/none of IBA covered (<10%)

Details and explanation _____

Management planning

- 3 A comprehensive and appropriate management plan exists that aims to maintain or improve the populations of qualifying species
- 2 A management plan exists but it is out of date or not comprehensive
- 1 No management plan exists but the management planning process has begun
- 0 No management planning has taken place

Details and explanation _____

Conservation action

- 3 The conservation measures needed for the site are being comprehensively and effectively implemented
- 2 Substantive conservation measures are being implemented but these are not comprehensive and are limited by resources and capacity
- 1 Some limited conservation initiatives are in place (e.g. action by local conservation groups)
- 0 Very little or no conservation action is taking place

Details and explanation _____

Are there any local conservation groups established at the site?

Yes No

If 'yes', **How many local conservation groups are active?** _____

How many members do they have? _____

What activities are they undertaking? _____

For new groups, what are their contacts? _____

Please give any other information you may have on responses at the site, including quantitative data where available, for any of the following:

General management and policing, Resource use controls/quotas, Eco-tourism initiatives, Visitor numbers, Number of conservation staff and volunteers, Revenue generated from site, Surveys and research, Conservation projects/actions: planned, Conservation projects/actions: implemented, Advocacy/interventions for site, Publicity generated for site, Environmental Impact Assessments, Mitigation measures implemented, Other (specify)

Additional information

Please give any further information and details that you think may be helpful. Please attach or send more sheets or other documents/reports if necessary.

Interesting bird records, population estimates, lists or other details, Records, population estimates, lists or details for other fauna or flora, Useful contacts (for research projects, site conservation groups, tourism initiatives, etc.), Other notes.

Thank you for taking the time to fill this form!

Annex 3 Assessing and Scoring an IBA: an example

When first designated, approximately 10,000 ha of an IBA were covered in seasonally flooded grassland, interspersed with freshwater lakes. The area of grassland has been reduced to 9,000 ha and the habitat quality has recently deteriorated. Different IBA 'trigger' species occur in each of the habitats, so it has been decided that both should be monitored (rather than the bird populations) as indicators of State. There are three threats (grazing by livestock, harvesting of reeds, and water pollution owing to agricultural run-off) that are of particular concern to the 'trigger' species, so these have been selected as indicators to monitor Pressure. Information has been provided in two consecutive years by a LCG and entered into the WBDB by the National IBA Coordinator, with an assessment of the IBA as follows:

Pressure: status = High; trend = No change

State: status = Near favourable; trend = Small decline

Response: status = Low; trend = Small improvement

This assessment is based on the following scoring:

For Pressure

follow dark blue line first

Threat type	Impact score (year 1)	Timing score (year 2)	Scope score (year 2)	Severity score (year 2)	Impact score (year 2)
Grazing by livestock	6	3	3	1	7
Harvesting of reeds	7	3	0	1	0
Water pollution	0	2	2	2	6

Highest impact score any threat

0
3-5
6-7
8-9

IBA threat status score & its description

0 Low
-1 Medium
-2 High
-3 very high

Threat trend scores for IBA & their description

+3 Large improvement
+2 Moderate improvement
+1 Small improvement
0 No change
-1 Small decline
-2 Moderate decline
-3 Large decline

The IBA threat status score in its second assessment is -2 (= 'HIGH') based on the threat from grazing livestock (happening now, over most of the area, causing slow deterioration: 3+3+1=7) which has the current highest impact score of the selected threats (and which is therefore used as the 'weakest link').

The IBA threat trend score is 0 (= 'NO CHANGE') based on the difference between impact scores for the threats from grazing (the highest impact score for the second assessment) and harvesting (the highest impact score for the first assessment).

Note that the threat from harvesting reeds has an impact score of 0 in its second assessment because it scores 0 for 'scope' (now only affecting a small area and few individuals of trigger species). Note also that the impact scores of individual threats have changed, and that the score for pollution has changed the most (although the timing score indicates that this is a predicted threat).

For State

follow dark blue line first

Habitat class	Calculated optimum area for IBA (ha)	Calculated area (year 1)	Quality (year 1)	Adjust. % hab. remain. (year 1)	Calculated area (year 2)	Quality (year 2)	Adjust. % hab. remain. (year 2)
Grassland	10000	9200	Good	92	9200	Moderate	70-90
Wetland	Unknown	Unknown	Good	>90	Unknown	Good	>90

% potential population or habitat remaining

>90%
70-90%
40-69%
0-39%

IBA condition status score & its description

3 Favourable
2 Near favourable
1 Unfavourable
0 Very unfavourable

Condition trend scores for IBA & their description

+3 Large improvement
+2 Moderate improvement
+1 Small improvement
0 No change
-1 Small decline
-2 Moderate decline
-3 Large decline

The IBA condition status score in its second assessment is 2 (= 'NEAR FAVOURABLE') because although 92% of its grassland habitat still remains, the quality is no longer optimal, and thus the % remaining has been 'devalued' accordingly. The grassland habitat is the worse of the two key habitats because the wetland habitat is judged to be >90% of its potential, even though there is currently no estimate of its extent.

The IBA state trend score in its second assessment is -1 (= 'SMALL DECLINE') based on a decline in the quality of its grassland habitat, owing to an increase in the impacts from grazing.

For Response

follow dark blue line first

Action type	Status score (Year 1)	Status score (year 2)
Conservation designation	0	0
Management planning	0	3
Conservation action	1	2
Total	1	5

Summed indicator response scores

8-9
6-7
2-5
0-1

IBA response status score & its description

3 High
2 Medium
1 Low
0 Negligible

Response trend scores for IBA & their description

+3 Large improvement
+2 Moderate improvement
+1 Small improvement
0 No change
-1 Small decline
-2 Moderate decline
-3 Large decline

The IBA response status score in its second assessment is 1 (= 'LOW') based on the combined status scores for designation, planning and action (no designation, an existing comprehensive management plan, and substantive but limited actions in place).

The IBA response trend score for this IBA in its second assessment is +1 (= 'SMALL IMPROVEMENT') based on the difference in total status scores between the two assessments for the three different action types (previously no plan and only some limited actions in place).

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