Guide to Access Avian Data for Environmental Impact Assessment Reports

Updated September 2015

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BirdLife SOUTH AFRICA
Giving Conservation Wings

Contents

1. Introduction 1
2. Available Data Sources and how to access the data 1
    2.1. Southern African Bird Atlas Project 1 1
    2.2. Southern African Bird Atlas Project 2 2
    2.3. Co-ordinated Waterbird Counts Project 3
    2.4. Important Bird and Biodiversity Areas (IBAs) 4
3. Evaluating the data 6
4. Conclusion 6

1. Introduction

Many of South Africa's bird species are under extreme pressure. This is as a result of a range of threats, but change in land use, i.e. habitat loss and degradation, is most probably one of the most important. Every year large areas of bird habitat are lost due to industrial and housing developments. It is therefore of cardinal importance impacts on birds are carefully considered in Environmental Impact Assessment (EIA) and Basic Assessment (BA) activities for development scoping purposes.

Further to the above, post-development monitoring and compliance with environmental management plans (EMP), environmental compliance and mitigation, should be informed by current and appropriate data sources.

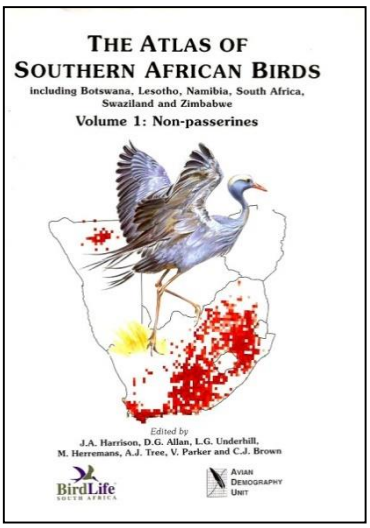
We are fortunate to have numerous avian data sources available in South Africa that can be used by environmental assessment practitioners (EAPs), environmental managers (EM), environmental compliance officers (ECO) and/or avian specialists during project scoping, implementation, post-development environmental management and where necessary mitigation. Information on species presence in different areas and their Red-Listed status is freely available, and should be considered a key data source for most EIAs, as well as for project screening.

That many EIAs do not refer to this information suggests that not all EAPs are aware of how to access these data sources. BirdLife South Africa has therefore developed these guidelines to help ensure that these resources are utilised to their full extent, and that impacts on birds are given due consideration in EIAs.

Please note that the links and steps provided below are subject to change as the Animal Demography Unit (ADU) changes its website occasionally. In such a case the data will still be available on the website and a quick study of the website should reveal the new location of the data sources.

2. Available Data Sources and how to access the data

2.1. Southern African Bird Atlas Project 1



The Southern African Bird Atlas Project was conducted from 1987 to 1992. The data were submitted by citizen scientists with millions of records submitted for the whole of South Africa.

The data were submitted per quarter degree square and therefore the resolution of the data is rather course. Twenty years have passed since the end of the project and therefore the data are also not recent, but can still be used in cases where additional data cannot be obtained from other data sources.

All data went through a vetting process.

The data are now electronically available from the Southern African Bird Atlas Project 2 website and can be accessed as follows:

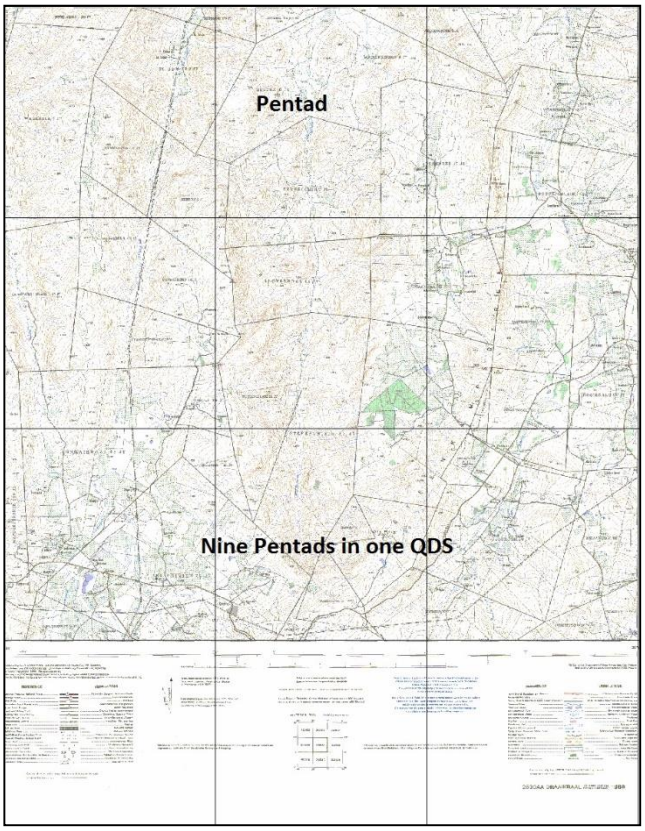
- Go to http://sabap2.adu.org.za/
- Click on “Coverage Maps” in the left hand menu.
- On the map of South Africa zoom into the area where the development will take place. Click on an atlas block and then on the call-out link which contains the pentad name. A new page will open.
- Scroll down to “Species summaries”. Click on the PDF link and a PDF document will open up with detailed information about the species recorded in the QDS, including the reporting rate and during what time of the year the lists have been submitted.
- In the species table you will get a basic analysis of the SABAP1 and SABA2 data which might be of value.

The data can now be evaluated in terms of the *conservation (Red-Listed)* and *endemic* status of species.

2.2. Southern African Bird Atlas Project 2

The Southern African Bird Atlas Project 2 started in July 2007 and is ongoing. At the time of writing of these guidelines, more than 6.6 million records have been submitted to the project and records are added on a daily basis.

In contrast to SABAP1 the resolution of the data is much refined and the protocol used more stringent. For this project the data are submitted by atlasers for an area called a pentad. A pentad represents a 5 minute x 5 minute cell (in contrast to the 15 minute x 15 minute cells used during SABAP1 – see image to the right).

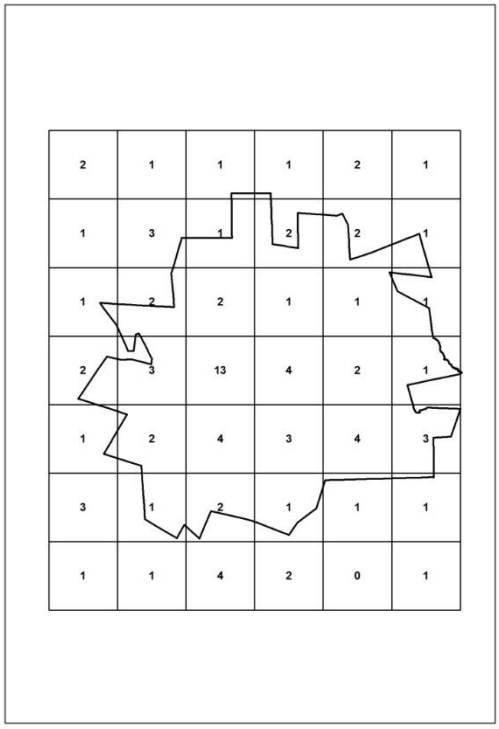


As indicated above, the data are more recent and reflect the current situation better than the SABAP1 data. However not all of the country has been atlassed sufficiently and there are some areas with insufficient coverage.

To obtain data for each pentad the following process should be followed:

- Go to http://sabap2.adu.org.za/

- Select “Coverage Maps”
- Select “Google Map with Coverage”
- Zoom into the area of the proposed developed using your mouse or the + and - signs on the map. Pentads are indicated as blocks on the map and the colour of each block indicates the number of lists that have been submitted per pentad as indicated on the legend next to the map.
- Click on the relevant block (you will have to repeat this process for each pentad within which the development resides). A call-out box will appear with the pentad name. Click on the name which is a hyperlink. A new page will open with details about the species submitted for the relevant pentad.
- A list of species recorded in the pentad will be listed and you can select different versions of the lists by selecting different tabs. For example the tab with SABAP2 species list in reporting rate order will give an idea of which species are the most common, which is those species with the highest reporting rate.
- Repeat this process and record the species seen in all the relevant pentads. It is also important to list the number of lists that have been submitted for each pentad and the seasons during which the lists have been submitted.



By combining the data for the whole area a list of species can be compiled and analysed in terms of their *conservation* and *endemic* Status.

It is proposed that for each development a buffer zone can be created around the proposed development. The buffer zone can, for example, be similar to the one created in the image to the right. The number in the blocks indicates the number of lists that have been submitted per pentad. Creating a buffer will allow for a better set of data as birds do fly and birds recorded in the buffer zone can easily be found in the area of proposed development.

2.3. Co-ordinated Waterbird Counts Project

The Coordinated Waterbird Counts (CWAC) was implemented in 1992 and consists of a programme of mid-summer and mid-winter censuses at a large number of South African wetlands. The counts are conducted by citizen scientists at more than 400 wetlands around the country.

If the area of development is near or in a CWAC site this data can be of great value. However in some provinces the data are not available to the general public unless permission is requested from the relevant provincial authority. A species list for all sites, also for those where the province did not provide permission, can however be gleaned from the ADU website.

To access the data follow these steps:

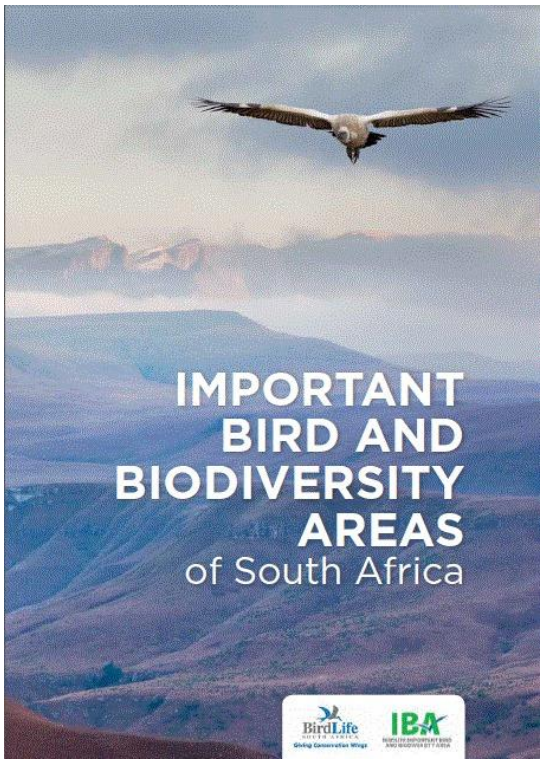
- Go to: http://cwac.adu.org.za/index.php
- Select "Sites" from the main top menu
- You can view the sites for which data have been submitted through the Google Earth map or by selecting the relevant site from the alphabetical list at the bottom of the map. Click on the relevant site on the map or from the list and it will open a list of species that have been recorded at the site. It will also indicate the number of birds that have been recorded (Min, Ave and Max). It will also indicate if the species has passed IBA and Ramsar thresholds.

When evaluating the data in terms of thresholds it must be taken into consideration that there can be more than one count site within one Ramsar site and that the data should be combined in order to dtermine if the species passes the threshold. This might not always be possible as counts are held on different days and are therefore not directly comparable.

2.4. Important Bird and Biodiversity Areas (IBAs)

BirdLife South Africa is responsible for the management of the Important Bird and Biodiversity Areas (IBA) Programme. This programme is implemented worldwide by BirdLife International and BirdLife South Africa is the partner implementing the programme in South Africa.

The goal of the IBA Programme is to identify, monitor and protect a global network of IBAs which are critical for the long-term viability of bird populations. IBAs form a global network of more than 10 000 sites crucial for maintaining bird species' overall ranges and populations. Of these 1 230 are found in 58 countries in Africa. IBAs are a major part of the larger network of key biodiversity areas, i.e. the most important sites for biodiversity conservation worldwide.



The first Important Bird Areas of Southern Africa directory was compiled in 1998 and identified 122 IBAs within South Africa. A revised IBA Directory was published in September 2015 and recognised 112 IBAs. All these IBAs were objectively identified using established and globally accepted criteria. An IBA is selected on the presence of the following bird species in a geographic area:

- Bird species of global or regional conservation concern;
- Assemblages of restricted-range bird species;
- Assemblages of biome-restricted bird species; and
- Concentrations of numbers of congregatory bird species.

What this means in practice is that when an area, for example a wetland, grassland or forest complex, contains species that are Critically Endangered, Endangered, Vulnerable or Near-threatened or have species that are endemic to a region or contain large concentrations of waterbirds, the area is defined as an IBA. The *rationale* behind the IBA Programme is that in order to conserve species of conservation concern you need to conserve the habitat that the species occupies and uses.

Even though IBAs do not have formal protection status it is extremely important to indicate in EIA reports when a development falls within an IBA.

The revised IBA Directory can be downloaded from the BirdLife South Africa website here: http://www.birdlife.org.za/conservation/important-bird-areas/documents-and-downloads

At the link the following products can be downloaded:

- PDF of the IBA Directory and Status Report
- Shapefiles of the IBAs in South Africa to be used with any GIS programme.
- A Google Earth KML file of the IBAs in South Africa

A web page has also been created for each of the IBAs in South Africa. See http://www.birdlife.org.za/conservation/important-bird-areas/iba-directory for links to these pages.

For a Google Earth Inter Active Map of the IBA network see http://www.birdlife.org.za/conservation/important-bird-areas/iba-map.

3. Evaluating the data

A number of factors must be considered when analysing the above mentioned data:

- It is extremely important to note that the data represent **a minimum presence scenario**. In other words the data represent the species that have been recorded in the area. That does not mean that other species cannot also occur in the area. Some species might have been missed by the observers or not all habitats have been visited. The number of lists will provide a good guideline as to how accurate the data are. A good guideline is that if more than 7-10 lists have been submitted for the area, the lists should provide an accurate assessment of the species occurring in the area. This means that any EIA specialist should use the knowledge of an avian expert to add to the list based on the general distribution of birds, also taking into consideration the different habitats in the area that might provide an indication of the birds occurring in the area.

- Species with low reporting rates need to be evaluated carefully. Although the data have been vetted it should be checked for errors by checking the data against known distributions of the species. There might also be other factors that can play a role for example species might be under reported due to the fact that it is difficult to see or hear (e.g. White-winged Flufftail) or might be difficult to identify (e.g. Larks and Pipits).

- All species should be analysed in terms of the Regional and International conservation status (Red-Listed status) of species as well as their endemic status. A list of these species can be found here: http://www.birdlife.org.za/publications/checklists. Naturally where these species have been recorded within the area of the proposed development, their status should be mentioned in the report and actions should be proposed to ensure that birds will not be negatively impacted by the development.

- BirdLife South Africa wants to make it clear that accessing this data **cannot** replace an on site assessment of the birds occurring in the area. Other factors should be investigated, for example, the location of roosting and breeding sites. Assessing the above mentioned data should only be seen as an initial assessment and a further source to inform the EIA process.

4. Conclusion

BirdLife South Africa encourages EAPs to pay closer attention to birds in their assessments. Birds are often indicators of environmental health and provide valuable ecosystem serves, and are threatened by habitat transformation. There is a wealth of existing, freely available information that EAPs and avifaunal specialists can and should draw on. It is important to be aware of the strengths and limitations of these data sources; they cannot replace a detailed specialist study, but can help scope issues and determine if further assessment by a specialist (i.e. site visit) is required. EAPs and specialists are encouraged to not only use these valuable resources, but to also contribute to them by adding data where possible and appropriate.

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