NATIONAL SENSITIVE SPECIES LIST PROTOCOL

http://nssl.sanbi.org.za
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Preamble

The South African National Biodiversity Institute (SANBI) has a legal obligation to manage biodiversity information in terms of the Biodiversity Act [Act. 10 of 2000]. However, a number of provisions on the management of information are imposed on SANBI by several other related Acts governing the management of data and information. SANBI has therefore obtained a legal interpretation of its obligations in relation to the management of data and information. The outcome of this work is the development of information policies and principles that ensures compliance with national legalisation and, international agreements. The Biodiversity Information Policy Framework Series: Principles and Guidelines therefore provide the legal interpretative and defensible basis for managing biodiversity information and in a great part focusses on key aspects, such as managing sensitive biodiversity data.

The Digital Access to Sensitive Taxon Data policy, as a component of the above-mentioned policy series, provides the principal framework for managing sensitive biodiversity data. This document, the National Sensitive Species List Protocol in turn provides comprehensive practical guidance for the listing, management and publication of sensitive species.

This protocol has been developed based on inputs into the NSSL process from the broader conservation partnership throughout South Africa. Each chapter provides context and information on the process or practical operations to develop and maintain a list of sensitive species.

The national listing of sensitive species is an experimental and learning process. There are very few direct international examples on the sensitive species listing and no other comparative initiative on the implementation of a NSSL tool, website and / or processes. The NSSL can therefore act an international case study. Given this novel approach to sensitive species listing, it must therefore be accepted that the tools, processes and protocols should be reviewed annually and if necessary, revised, to make it more relevant and responsive to the users’ needs.
Section 1: Introduction and Context

The Biodiversity Act requires SANBI to manage information about South Africa’s biodiversity. This broad legislative obligation includes the collecting, collating, generating, coordinating and dissemination of information on biodiversity and the sustainable use of these resources. Furthermore, in terms of the Biodiversity Act, SANBI has a responsibility to judiciously manage access to this information to ensure that our biological heritage is not compromised. The requirement of the Biodiversity Act cannot be viewed in isolation from other legislation such as the Promotion of Access to Information Act, Copyright Act and the Protection of Personal Information Act which places further provisions on how the data must be managed.

As a point of departure, and to comply with legislation, SANBI is committed to the principle of open and free access to data. However, it needs to implement this principle with the necessary responsibility and accountability. Given this complex legislative environment, in 2010 SANBI commissioned a legal interpretation of the Biodiversity Act and other applicable legislation to formally define the concept of biodiversity information and how this information should be managed. The outcome of this process was the development of a Biodiversity Information Policy Framework, providing overarching principles and guidelines for the management and sharing of data. Accompanying this framework are two policies:

- the Intellectual Property Rights policy (IPR), establishing guidelines to ensure that the IPR of data owners are not compromised.
- the Digital Access to Sensitive Data Taxon policy aimed at protecting sensitive taxa by justifiably withholding components of sensitive data.

The Digital Access to Sensitive Data Taxon policy calls for the development of a National Sensitive Species List (NSSL). The aim of the NSSL is to identify species that may be at risk of

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1 The Biodiversity Information policy Framework and the Policies are currently undergoing legal review.
harmful exploitation should information be made available that could lead to the identification of their localities. The intention is therefore to comply with all legislative requirements to justifiably withhold such information from general public access. The data may still be accessed, but only after the formal data request procedure\(^2\) has been followed.

Following this review, the National Sensitive Species List was developed in 2010, with the intention of undertaking regular annual updates. To date, no updates have been made to the list. Given changes in legislation, technology, content and feedback in the intervening years, the process to revise the list has been amended. The revised process should ensure greater integrity in the selection of sensitive species and a clearer justification for withholding data.

### 1.1 Policy statement\(^3\)

SANBI recognises the imperative that open access to biodiversity information is in the public interest and that biodiversity data is a public good. As a general principle, biodiversity information in the possession or control of SANBI should be made freely available to users who want to use such information. It must be noted that SANBI respects the data sharing conditions placed upon data shared by the conservation partners and will therefore not compromise the data and the partnership by violating these agreements.

SANBI also recognises that in certain circumstances the principle of open access to biodiversity information could have a significant adverse impact on certain biological resources that are vulnerable or sensitive to exploitation. In response to these challenges, SANBI has prepared a policy on Digital Access to Sensitive Taxon Data which lays down the principles and general guidelines applicable to the management, control, dissemination of


\(^3\) [http://biodiversityadvisor.sanbi.org/online-biodiversity-data/access-and-policy/](http://biodiversityadvisor.sanbi.org/online-biodiversity-data/access-and-policy/)
ecologically sensitive data, including the different levels of controls to be applied by SANBI in restricting access to sensitive data.

The purpose of this Policy is:

- To facilitate the availability and use of information about South Africa’s biological diversity for administrative decision-making, education and research purposes.
- To safeguard threatened and protected taxa that are vulnerable or potentially vulnerable to collecting, over-exploitation, commercial and/or medicinal use by striking an appropriate balance between the imperative of open access to biodiversity information and the protection of sensitive taxa.
- To establish the general principles applicable to the management, control, dissemination of data relating to sensitive taxa, including the different levels of controls to be applied by SANBI in restricting access to data on sensitive taxa.
- To establish the criteria and procedures to be applied by SANBI in determining the sensitivity of data relating to sensitive taxa.

The policy therefore stipulates that SANBI must have a defined process to undertake the identification of sensitive species, and that this process must be clear, consistent and scientifically defensible.

1.2 Purpose of the NSSL Protocols

The purpose of the NSSL Protocols is to define the process by which the sensitive species must be listed. The Protocols therefore allows for a consistent and defensible manner to define, publish, approve and review sensitive species.

The NSSL Protocols serves to:

- Ensure focus is maintained on the NSSL objectives.
- Ensure that all participants understand the process and their roles and responsibilities.
- Eliminate any subjective, digressive or biased listing.
• Promote focussed, substantive and in-depth discussions and debate.
• Build a Community of Practice to build and expand the skills base.
Section 2: Defining Sensitive Species

The 2010 NSSL listing process was experimental as it was the first time this process was undertaken. Based on this experience and drawing on other related work, the criteria and process to update the list has been refined and streamlined. General principles, such as the need for supporting data, and specific criteria for the adding of species to the list have been clarified. The intention is to have a consistent, repeatable approach to identifying species as sensitive and to document the decision-making process.

2.1 Guiding principles

The following principles were adopted to guide the process of developing an updated National Sensitive Species List. The principles are based on the work of Arthur Chapman and Oliver Grafton\(^4\) and have been revised to be applicable to the South African context.

*Principle 1*

Wherever possible, environmental information should be freely available to all. Generally, this benefits the environment by increasing awareness, enabling better decision-making and reducing the risk of damage.

*Principle 2*

In a small number of cases, public access to information can result in environmental harm. It should be recognised that in such cases, the availability of information may need to be controlled; although the presumption remains in favour of release and any restrictions should be interpreted rigorously.

**Principle 3**

All data regarded as being sensitive should include a date for review of their sensitivity status, along with documented reasons for the sensitivity status. The date for review may be short or long depending on the nature of the sensitivity. Whenever a data provider receives an application for enhanced access to restricted data they should avoid assuming continued sensitivity and use it as an opportunity to revisit the determination.

**Principle 4**

If the data are to be restricted for distribution, then this should only be done to a copy of the data at the time of distribution. Data should never be altered, falsified or deleted from the stored record.

**Principle 5**

Documentation is essential for many reasons, and where data have been restricted or generalised it is important that that information is recorded as metadata that remains with the record.

**Principle 6**

Where data are restricted or generalised for distribution (such as the name of a collector, textual locality information, etc.) this should be documented by replacing with appropriate wording (e.g. redacted) – the field should not be left blank or null.

**Principle 7**

There are extremely strong reasons not to restrict data on related collections (e.g. collector’s numbers in sequence, collector’s name, etc.) because of the restrictions this places on data quality / data validation procedures and the limits it places on the effectiveness of filtered push technologies.
**Principle 8**

Users of sensitive data should respect any and all restrictions of access that the data provider has placed on the data. If granted enhanced access to restricted information users must not compromise or otherwise infringe the confidentiality of such information.

**Principle 9**

Data providers should respect the needs of data users to have access to data and documentation in order to determine the ‘fitness for use’ of the data, and to ensure that analyses are robust and not misleading.

### 2.2 Sensitive species

A species is defined as sensitive when the dissemination of detailed geographic information of its populations, exposes the species to the risk of harmful exploitation.

The approach to identifying sensitive species is both quantitative and qualitative in nature and should clearly articulate the underlying reasons, opinions, and motivations regarding a species sensitivity status.

There are three ways to identify species as sensitive:

1. Either adult or immature specimens are targeted: the exploitation extent is significant and the regeneration potential of the species is slow.
   - The species is threatened by widespread, unregulated exploitation of wild populations. Utilisation is destructive, and this species’ life history is such that it does not recover easily from utilisation.

2. Either adult or immature specimens are targeted: the exploitation extent is insignificant but the population is small or localised, and the regeneration potential of the species is slow.
3. The species may not be utilised, or this could be unknown, but a close relative with similar life forms or other relevant traits is sensitive, the species population is small or localised, and the regeneration potential of the species is slow.

- The species is extremely rare in the wild and belongs to a group of species that are popular in trade. Utilisation is destructive, and this species’ life history is such that it does not recover easily from utilisation.

### 2.3 Identifying Candidate Genera

In some cases, the number of candidate species that could be identified for sensitive species assessment may be too many and therefore impractical to assess. This is most likely the case for plants where there may be hundreds of genera and thousands of species that could possibly meet the criteria of sensitive species. In this case it is most practical approach would be to undertake an assessment of candidate genera that may contain species that could fit the sensitive species criteria. Once this has been completed and verified, the final list of candidate sensitive plant species can be assessed as a second phase in the assessment of the respective taxon.

### 2.4 Precautionary approach for locally sensitive species

Species can be considered sensitive at a regional scale while not being considered sensitive nationally. This could lead to data on locally sensitive species being made available at a national level and the undermining of conservation actions at provincial or local levels.

To prevent this, the NSSL protocol has been designed to take this into consideration.
2.5 Decision support analysis

The criteria for listing species as sensitive require a logical approach to navigate the assessment. The possible outcomes are known, however, to reach those outcomes in a systematic, consistent and defensible manner requires a logical decision support analysis. Existing initiatives on developing a logical and defensible analysis are available and were therefore used as a basis to refine the approach for the NSSL. The logic for the NSSL approach is based on:

1. IUCN classification scheme for utilised species to build-upon research already completed;
2. CITES No Detriment Finding questionnaire;
3. The Chapman and Grafton 2008 principles for generalising sensitive species occurrence data;
4. Decision support tree was developed.

The decision support analysis assists the assessor to determine an outcome that is both justifiable and defensible. The assessor is required to answer a series of questions to determine species sensitivity. The process of listing a species as sensitive involves breaking down the question into components. These components represent the probability of different outcomes and the value attached to those outcomes. The process is therefore developed to create exit points at various stages for species that do not meet the full criteria to be deemed sensitive.

The initial question is to categorise the exploitation of the species in terms of its impact on the wild population. If the wild population is impacted upon, with the removal, killing or significant weakening of its members, then the extent of the species’ range and population size are considered, in combination with its potential for regeneration. Even widespread species can be sensitive, if they are widely exploited and have poor regeneration. Localised or rare species are sensitive even in the face of limited or unknown exploitation if their regeneration is poor.
The decision support tree provides an overview of the flow of the questions to arrive at a finding (Figure 1). The decision tree flow diagram is divided into two sections, a orange section where there is evidence of exploitation of the species, and a blue section where there is no evidence of direct exploitation.
Figure 1: The Sensitive Species Decision-Support Tree used a basis for the NSSL
Section 3: Governance

3.1 Governance structure

The aim of establishing a governance model for the NSSL is to ensure that the project operates within a framework of purpose and accountability. The governance structure is therefore inclusive, representative of the conservation partnership, efficient and responsive.

The governance responsibilities of the various role-players are different from the NSSL roles performed in assessing species. The governance role focusses on ensuring effective function and accountability of the project. The governance model comprises of the following:

**Review committee**

The Review Committee comprises of nominated members from the conservation partnership. The main purpose is to:

- Perform an oversight role.
- Champion the project.
- Monitor progress.
- Assist with issue resolution.
- Recommend Species Experts and Contributing Scientists.

Annexure 1 outlines the Terms of Reference for the Review Committee.

**Project Sponsor**

The Project Sponsor is the Director of the Biodiversity Information and Planning Directorate responsible for the following:

- Representing the project on SANBI Senior Management Committees.
- Securing resources for the functioning of the project.
- Ensuring effective operational or partnership functioning.
- Reviewing progress.
**NSSL Coordinator**

The NSSL Coordinator plays an active role in managing the project and being the liaison between all other role-players and the Review Committee. The NSSL Coordinator governance functions include:

- Managing Review Committee meetings every five years.
- Act as liaison between the Species Experts and the Review Committee.
- Preparing Review Committee agendas, minutes and other relevant material.
- Providing reports on progress.
- Elevate issues to be resolves by the Project Sponsor or the Review Committee.

**Species Experts**

The Species Experts do not play a direct role in the governance of the NSSL, but do feed into the work of the NSSL Coordinator by:

- Accounting for progress on a yearly basis.
- Elevating disputes to the Project Manager.
3.2 Taxon Specialist groups

Each taxon group must be constituted as a Taxon Specialist Group. The purpose of which is to have a team of experts as reference for the review of content, to make recommendations for new assessments or research and to periodically discuss the NSSL processes to ensure it remains applicable and relevant. It is recommended to explore the extent to which existing specialist groups, such as the Lepidopterist Society, can take on the function, provided that the necessary resources available. The Taxon Specialist Group is not a formal structure within SANBI or any of the partner organisations. The Taxon Specialist Group will be headed by a Species Specialist. The Group will meet at least once per year by affordable means. A possible meeting point is the annual Biodiversity Information Forum. The proceedings of the Taxon Specialist Group will be documented and made available to all members of the NSSL team. The group will be encouraged to publish any relevant findings in peer review journals, newsletters or other appropriate media.
3.3 Inviting members to join the various Taxon Specialist Groups

The Review Committee will recommend names for the Species Experts. The Species Experts, in conjunction with the NSSL Coordinator, will take the lead to make a public call for scientists to join the various taxon groups as Contributing Scientist. The Species Experts will review the nominations and submit the list to the Review Committee for final review and approval.

3.4 Budget allocation

The successful functioning of the NSSL initiative also depends on adequate funding to support the work of the specialists and scientists. The following operations must be funded:

- Review Committee meetings every five years.
- Annual Taxon Specialist group meetings.

The use video conferencing facilities can reduce the costs of the meetings.

The Project Sponsor will assess the budgetary requirements for meetings on an annual basis and make provision for the meetings.

3.5 Reporting

The Project Manager is responsible for providing reports to the Review Committee every five years. The reports must include the following information:

1. Number of species per taxon group.
2. Number of species listed as sensitive per taxa.
3. Number of species listed as not sensitive per taxa.
4. New species added per taxa.
5. Any changes in status of existing species listing per taxa.
6. Number of users accessing the website.
7. Statistics of most visited pages.
8. Number of data requests.
9. Status of the data requests.
10. Institutions represented in the data request.
11. Number of new data sharing agreements, and names of institutions.
Section 4: Management and Access

SANBI, through the NSSL aims to promote open and free access to information. As stated previously, the aim is to give effect to relevant legislation and policies as means to empower citizens, be transparent and support accountable and responsible decision making. Access to the NSSL information must therefore be managed through effective access authorisation and authentication of users. This is primarily based on having defined users’ roles to ensure a structured and defensible approach to the management of user access.

4.1 NSSL Website

The NSSL website has been designed to allow collaborative entry, review and publication of data. The intention is to eliminate the need for back-end data entry, edit, assessment and manual publication, all which could act as a bottleneck to the effective flow of the data. The website is meant to streamline the process to allow the scientists and content experts to have greater control over the sensitive species listing NSSL. The NSSL website therefore uses predefined forms for data entry and defined decision-tree logic to arrive at a determination once the required data has been entered. To ensure the integrity of the online NSSL process and the content, access to the website must be carefully managed and constantly monitored.

The management of access to the website is important to have an audit trail of registered users, their roles and contributions. The following reasons underscore the need for access management:

1. The risk of data breaches is reduced as users will be held accountable for their use of the website.
2. It ensures regulatory compliance by managing access to sensitive information.
3. The development of user and access metrics as evidence to support the investment of resources.
4. It improves the user experience by knowing the users and having more direct channels of communication.
4.2 Roles

The definition of users’ roles will ensure that all users are informed of their role, and the permissions associated with that role. The following are the minimum set of roles that can be assigned to the NSSL website. The roles are not jobs, but functions. More than one function can be performed by one person, but this is not recommended.

**NSSL Coordinator**

The role of the Coordinator is to:

- Manage the overall NSSL process.
- Coordinate Review Committee meetings and liaise with the Review Committee members.
- Identify species experts that may be able to contribute expertise and content.
- Enter into agreements with species experts on their role and commitments.
- Ensure that the content is mobilised.
- Ensure the content is quality checked.
- Ensure the content is published and promoted to the end users.
- Liaise with all role-players.
- Respond to all data requests.
- Manage the website developer.

**Website Developer**

The NSSL Website Developer is responsible for:

- Ensuring that the website is operational.
- Ensuring users have access rights assigned.
- Updating the website with new functionality.
- Addressing technical problems.
- Responding to technical queries.
- Training of users.
• Monitoring and reporting on website performance.

Species Experts
The role of the Species Expert is to update the website with new information on sensitive species by:

• Reviewing previous sensitive species listing.
• Reviewing content entered by contributing scientists.
• Updating the website with new information.
• Ensuring that all justifications and references are provided.
• Addressing any conflict of opinion between Contributing Scientists.
• Alerting the Project Manager to any challenges that may need the intervention of the Review Committee.
• Where necessary, identifying species experts that can assist with the review of the list.

It is recommended that two Species Experts are appointed per taxon group. The rationale is to ensure that one expert is available to review the other expert’s contribution and to ensure that at least one species expert is available to review the contribution of the scientists at any given time.

Contributing Scientist
The role of the contributing scientist is to add content to the NSSL by listing, reviewing or recommending the ‘de-listing’ of species. The Contributing Scientists cannot approve any changes but can make recommendations for review by the Species Expert who may approve, reject or defer it to the Review Committee for considering. Specifically, the Contributing Scientist will:

• Add new species information.
• Review existing species listing.
• Make recommendations to the Species Expert.
General user

The general user will have access to the publicly available content on the NSSL website. It is important to note that feedback from the general users is vital to ensure robust and defensible content. Therefore, only registered users will have access to a feedback feature to provide comment on any listed species or to alert the NSSL Coordinator to a species that may meet the NSSL criteria.

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<tr>
<th>Role</th>
<th>Description</th>
<th>Permissions</th>
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<tr>
<td>NSSL Coordinator</td>
<td>Responsible for the management of the NSSL process and product.</td>
<td>Full access to the website and back-end database.</td>
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<td></td>
<td></td>
<td>Authenticate users, approve users.</td>
</tr>
<tr>
<td>Web Developer</td>
<td>Responsible for the management, update, upgrade and effective functioning of</td>
<td>▪ Full access to the website back-end database.</td>
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<tr>
<td></td>
<td>the website. Provide new users with access credentials, remove users.</td>
<td>▪ Register new users.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Remove users.</td>
</tr>
<tr>
<td>Species Expert</td>
<td>▪ Add new species information.</td>
<td>Add new species information.</td>
</tr>
<tr>
<td></td>
<td>▪ Add new comments.</td>
<td>Edit existing information.</td>
</tr>
<tr>
<td></td>
<td>▪ Approve species listed by other experts.</td>
<td>Change species status.</td>
</tr>
<tr>
<td></td>
<td>▪ Recommend Contributing Scientists</td>
<td></td>
</tr>
<tr>
<td>Contributing Scientist</td>
<td>▪ Add new species information.</td>
<td>Add new species information.</td>
</tr>
<tr>
<td></td>
<td>▪ Recommend the listing of species.</td>
<td>Edit existing information.</td>
</tr>
<tr>
<td></td>
<td>▪ Recommend a change in existing species sensitivity status.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Edit existing information for approval from the Species Expert.</td>
<td></td>
</tr>
<tr>
<td>General User</td>
<td>View publicly accessible information.</td>
<td>Registered users can provide feedback.</td>
</tr>
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Table 1: NSSL Roles

4.3 Authentication

New Species Experts and Contributing Scientists will need to be authenticated before any access credentials can be provided. The NSSL Coordinator and the Web Developer are part of the management team and will therefore be authenticated. The general user will be registered as per the SANBI data access process and policy.
The authentication of the Species Expert or Contributing Scientist is necessary to ensure that the user have the authorisation from the respective institution or organisation to:

- Access this information.
- Contribute information.
- Be a delegated authority.
- Be accountable in the event of a breach in policy.

The authentication process applies to all Species Experts and Contributing Scientists. The Species Expert must always be part of the process or be informed of the registration requests for Contributing Scientists. The form, attached as Annexure 1, must be completed and submitted to the Project Manager.

### 4.4 Authorisation

Upon receiving a duly completed application form, SANBI will authorise:

- The registration of a new user.
- An amendment to existing users’ rights.
- Remove an existing user.

SANBI is also authorised to add the user’s name, role, affiliation and area of expertise on the NSSL website.

### 4.5 Breach of policy

All users of the NSSL website are responsible to read and understand SANBI’s policies as it pertains to:

- Using the technology.
- Sensitive data.
• Intellectual property rights.
• Confidentiality.
• Data requests.

Any breach of SANBI’s policies will result:

• An immediate suspension of access.
• An investigation into the breach.
• Internal SANBI remedial action for SANBI staff.
• Formal notification to the listed principal in the event that the breach has been affected by a staff member from a conservation partner organisation.
Section 5: Data Entry

Data entry is a critical part of the NSSL data management process. The success of NSSL depends upon the quality of the data entry process. The ultimate outcome of NSSL data entry is to create a valid and organised set of data, in a specified format, which can be accessed and used easily to support research, planning, decision-making, policy development and monitoring. The entire data entry process and its outcome are attuned to the achievement of this goal.

The data entry process has been simplified to ensure that the data is captured in a consistent manner, the inputs can be justified and where appropriate, evidence is provided to substantiate an opinion or judgement.

5.1 NSSL Tool

The online NSSL tool has been developed based on the decision support tree described earlier. The tool does not repeat all the questions as per the diagram. It has been simplified to ask the questions once in the process to arrive at a determination. The questions have been grouped to ensure that taxon experts have fewer questions to answer, while maintaining the integrity of the decision analysis. The NSSL tool has been purposely designed to simplify the process of capturing information. The graphics (3 & 4) below is a schematic overview of the website logic.
Figure 3: Graphic illustration of the NSSL website decision analysis
Figure 4: Graphic illustration of the NSSL website decision analysis

5.2 Data entry

Information detailing the sensitivity of a species must be entered into the NSSL online tool. Species will not be considered sensitive unless the information and supporting material have been captured on http://nssl.sanbi.org.za.

The 2010 list of sensitive plant and animal taxa can be downloaded from the NSSL website. This will allow the user to review all the previously listed species for particular groups.

Before adding new information, first search the NSSL database to assess whether information for the species under review already exists. If the species information exists, review the information. Proceed to make any edits or rebuttals, if needed.
If the species under review does not appear on the list, proceed to add the information by clicking on “Add species”. Follow the steps as per the website by selecting the ‘Type’ followed by the ‘Family’ and ‘Species Name’ respectively. Following this, information on exploitation, targeted demographics, population vulnerability and regeneration potential can be entered.

The next step in the process is to provide information to justify the responses as well as to provide references. The references can be included as a link to the source. Alternatively, material can be uploaded, but this should not be published material that is subject to copyright that prohibits it being shared in this way.

The process of identifying the sensitivity of a species cannot be determined on incomplete information. All relevant information must be captured to complete the process of assessment. When completed, the NSSL tool will provide the result of the assessment.

5.3 Need for evidence-based justifications

The aim of the decision support tree is to systematically and objectively guide the decision-making process. The responses to the questions cannot be based on implicit knowledge only. At each juncture in the decision tree, evidence is required to substantiate an opinion. The purpose of the evidence is to ensure that locality and other sensitive information relating to species can be justifiably redacted. This justification will be used when a basic data request is made, as well as in the case of a request for data under the Promotion of Access to Information Act, or in the extreme case, in litigation. The provision of defensible and verifiable scientific evidence is therefore a non-negotiable requirement. The decision analysis process requires evidence at the following junctions:

1. Defining the exploitation extent.
2. Identifying targeted demographics.
3. Specifying population vulnerability.
4. Specifying the regeneration potential of vulnerable species.
The evidence must be in written (preferably published) form. The material can constitute a journal article, monograph, book, management plan or any other document. Access to this evidence must be provided either through an internet link or, where the written evidence is not available online, by uploading a scanned document onto the website.

5.4 Uploading of documents

The provision of evidence to support an assessment should be in published written form. An internet link to the published source can be included as part of data entry on the NSSL Tool. In cases where the evidence is not available online, a document can be uploaded.

When uploading material, please note the following:

- No copyrighted material which prohibits its distribution in the manner that it will be used on the NSSL website should be uploaded. However, a Uniform Resource Identifier (URI) to the copyrighted material should be added.
- The document must be in either PDF, Word, TXT or RTF format.
- The maximum individual file size is 2MB.
- There is no limited on the number of supporting files that can be uploaded.
- The document file name must reflect the title of the document.
- Additional supporting information (metadata) such as contact name and contact details should also be provided.

5.5 Data entry requirements: free text fields

Information entered in the free text boxes must be in full sentences. The explanation must be contextual and clear for any user to understand. Do not use abbreviations or acronyms without first providing the full name or phrase. No comments of a personal nature, defamatory remarks or *ad hominem* attacks. The comments can be constructively critical.
5.1 Referencing style

The Harvard referencing style will be used as illustrated below:


The references in the text must be aligned with the reference list.

The full Harvard style guide is available on http://openjournals.net/files/Ref/HARVARD2009%20Reference%20guide.pdf
Section: 6 Quality Control

The data that is collected as part of the NSSL will add significant value to the overall data content held by SANBI. The data will assist users with making decisions that will ultimately influence the species in question. The NSSL data is therefore a contributor to our collective understanding of the status of a species, and this is an asset.

The NSSL will not be recording information such as species descriptions, life history or localities. This information is held in other repositories within the National Biodiversity Information System (NBIS). The content of the NSSL will be used to classify species as sensitive within the larger NBIS and based on this classification, the appropriate data management rules will be applied. The quality of the NSSL will have a systemic impact on data held across the all SANBI databases.

The value of the NSSL data as an asset is directly related to the quality of the content as well as the credentials of the contributors making the assessment. The quality of the NSSL content is therefore based on the following:

- Completeness of the species assessment.
- The review of the submission.
- Management of personal information.

6.1 Completeness of species assessment

Source of the species names

The species names must be sourced from SANBI’s master taxon list. This is an authoritative list that is compiled within input from all the conservation agencies. The list will be made available through the NBIS. The approach will ensure consistency in the use of names. Any discussion or deviation from the established names must therefore be addressed as part of the NBIS management of species names.
The provision of a defensible justification, rebuttal and evidence

As mentioned in the previous section, the assessment of species cannot be considered for approval without the provision of a defensible justification, a rebuttal (if needed) and written evidence. Without this information, the assessment will not be published. The submission of the text must be in the form of complete sentences with minimal abbreviations and acronyms. The text must be written for both scientific and non-scientific audience.

6.2 The review of the submission

Review by the NSSL Coordinator

The NSSL Coordinator is responsible for reviewing the submission for completeness and for the quality of its narratives. The coordinator assesses whether the arguments supporting an assessment can undergo the scientific review.

Review by the Species Experts

The second step in the review process is the scientific review. The two Species Experts per taxon will assess the scientific veracity of the assessment. The Species Expert can make the following assessment:

- The species assessment meets all criteria and can be published.
- The species assessment may have merit, but additional justifications and / or evidence must be provided.
- The justifications and /or evidence does not support the listing of a species as sensitive.

Dispute resolution

While evidence must be used to justify the sensitivity of species, there may be instances of contradictory data. In general, any authorised user can submit comments or conflicting
evidence against species assessments, and these will be summarised by the Species Expert into a form that will be visible to general users of the NSSL website.

There may also be instances of disagreement between the Species Experts as well as between Contributing Scientists. It is the role of the Species Expert to resolve any disagreements. If the disagreement cannot be resolved by the Species Expert, the evidence, as well as the arguments, must be submitted via the NSSL Coordinator to the NSSL Review Committee for a final decision. Until a final decision has been made, the species in question should not be published.

### 6.3 Intellectual property rights

The intellectual property developed as part of the process of identifying sensitive species will belong to the conservation partnership. If a partner organisation wishes to remove its contributions, a formal request must be submitted to the NSSL Coordinator for tabling at the Review Committee for consideration. The Review Committee can recommend the appropriate action in dealing with such a request.
Section 7: Data Requests

The main purpose of collecting information on species sensitivity is to support the protection of the species. Access to this information is therefore critical to advance this work. However, the challenge remains to manage the release of the information without providing details that could be used by unauthorised users to exploit the resource.

At the most fundamental level, the information on sensitive species will be published via the NSSL website. This information which freely accessible include the sensitivity determination, the justifications and the evidence. No locality or related information will be available.

The information on sensitive species falls with the category of data that requires special conditions for access and distribution. Therefore, information such as localities, associated species or the collectors’ details must be requested via the formal data request process. The data request must be submitted via the SANBI data request page on the Biodiversity Advisor (http://biodiversityadvisor.sanbi.org/online-biodiversity-data/access-and-policy/request-for-data-supplied-by-sanbi). All data requests are subject to the conditions as stipulated in the SANBI Data Sharing Agreement for Hosting, Publishing and Use.

The request must be processed as per the SANBI data request protocols. In addition to the established SANBI data request protocols, the respective Species Experts must also be included as part of the reference group to evaluate the request. If the request is declined the requester will have recourse to apply under the Promotion of Access to Information Act (2000). This request shall follow the established SANBI prescripts.

In addition to the current fields of the SANBI data request from, the data requester must also indicate the following:

5 http://biodiversityadvisor.sanbi.org/online-biodiversity-data/access-and-policy/
• Whether the project is registered with an academic institution, provincial or national protected area and/or conservation agency, and if so, to provide the project number.

• The requester must indicate whether he/she is registered at an academic institution and list the name of the institution.

• Date the project is estimated to be completed.

• The data requester must also agree:
  o to share a copy of the outcome of the research or product development with SANBI and the conservation partners,
  o To provide feedback in the case of errors and/or omissions in the data.

7.1 Data sharing with public environmental conservation and management entities

SANBI will enter into a data sharing agreement with the all public sector entities that wish to access and use information on sensitive species. Each of these institutions must provide the names and contact details of the officials that will have the privilege to access the data. These institutions will have direct access into the NBIS to view the sensitive data of the sensitive species. It is the responsibility of the partner institution to inform SANBI of any change in the delegation of this role. The responsible official must be informed about the role, responsibility and accountability in accessing information on sensitive species. It must be noted that the partner institutions will have to accept responsibility and where applicable, liability, if the conditions of use or access are breached.

7.2 Non-disclosure

All users who have been granted long-term or request specific data must not disclose this data to a third party in its raw form. The data can be used in analysis and decision-making, but the final product must not compromise the species in question. Should the final product
publish sufficient detail to identify localities of the species, it will be viewed as a breach in agreement. In this case, the NSSL Coordinator must inform the Review Committee must be informed who in turn will evaluate the breach and will formulate an appropriate response.

7.3 Releasing data on sensitive species per Quarter Degree Square

Traditionally, data has been collected by QDS, approximately 25 x 25 km². Data on sensitive species can be released at this granularity, based on the requester meeting the requirements as stipulated in the data request form and subject to being approved by the delegated authority. If any specific localities are required, it may be provided, again, based on the data request process.
Section 8: Data Management

SANBI is in the process of developing a new National Biodiversity Information Management System (NBIS). The aim of the NBIS is to provide easy and seamless access to all biodiversity information held by SANBI. The current NSSL system will be integrated into the new NBIS architecture to manage all user roles, systemic links between NSSL content, species information and associated related data.

At a high level, the data management practices adopted by SANBI for the effective functioning of the NBIS will apply to the NSSL.

8.1 Managing updates

The NSSL will be updated on an ongoing basis. New information can be captured, review and approved for release as it is entered by the specialists or scientists. The formal National Sensitive Species List will be reviewed and published every five years and aligned to the publication of the National Biodiversity Assessment.

8.2 Managing personal information

All personal information (including any name, number or code that can be used to identify a person) must be managed in accordance with the relevant legislative requirements and SANBI policies.

8.3 Managing access

Access to the detailed species data can be:

1. Restricted
2. Redacted
3. Severed
4. Generalised
Restricted

By default, the detailed sensitive species data that can be used to identify the locality of a species must not be published. The information related to sensitive species that must be redacted include:

- Coordinates
- Geographical descriptions
- Route descriptions
- Date ranges
- Collector’s name
- Collector’s surname
- Any other name that can identify a collector
- Identification number
- Collector’s number

Redacted

Not all the information about sensitive species can be considered sensitive. For example, a photograph, description or life history classification could be made available. In the interest of disclosure, SANBI has the obligation to inform the user that certain components of the record cannot be accessed. In this case, those sensitive components must be redacted. The user must be informed that it has been redacted as well as be advised of the recourse available to request access to the redacted content.

The wording should read: *Sensitive information redacted due to sensitivity status of the species. The information may be provided upon request.*
**Severed**

When providing the user with a copy of the data, the principle of severability can apply. This means that the user has the right to access the component of the record that is not considered sensitive or only the components that have been approved for release. The difference to redaction is that when such information is made available, the redacted parts of the record have been completely removed. It must be disclosed to the user that the sensitive component of the record has been removed.

The wording should read: *Sensitive information severed due to sensitivity status of the species. The information may be provided upon request.*

**Generalised**

The mapping of sensitive data must also be generalised to avoid users obtaining the locality information from the map. The intention is to illustrate the geographic spread of sensitive species without compromising the locality information. The NSSL classifies data as sensitive or not sensitive. Therefore, the generalisation of the data can be uniformly applied to all sensitive data.

The spatial representation of the sensitive data can be generalised to a quarter degree square. A number of older records will only be available at QDS and therefore not generalised but represented at the granularity of capture.

If the data has been generalised, in response to a successful data request application, the user must be informed that the data has been generalised to a QDS.

The following principles must apply:

- No data must be deleted or severed from the database.
- The locality information must not be altered to be generalised in the underlying database.
- Vetted users (contributing scientists) must only have access to the minimum information that is needed, associated with their access rights.
- Vetted user (contributing scientists) may not alter input from other vetted users.
- All record versions must be kept to audit input and changes.

### 8.4 Notifications

Given that the NSSL will form part of the overall workload of all participants, the implementation of notifications will be beneficial function. The authorised users will receive notifications relevant to their area of expertise in the event of the following:

- New species information added
- Changes to existing species information
- Data requests submitted

The Taxon Lead will be required to act on the notification in the event of new species information added or changes made to existing species information. The Taxon Lead can review the submission or delegate the review to another registered scientist for review. The final approval still rests with the Taxon Lead.

The data request notification will be sent to registered representatives from the various provincial conservation agencies. This notification will provide the representatives with an opportunity to be immediately informed of a data request and to liaise with the NSSL Coordinator in responding.
### Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Related species</td>
<td>Close relatives (in the same family or genus, found in South Africa or globally) that are known to be utilised. The species in question has a similar life form or other relevant traits to its exploited relative(s), making it highly likely that it could be exploited for the same purposes</td>
</tr>
<tr>
<td>Vulnerable population</td>
<td>Where the size is (\leq 2500) mature individuals OR the number of known subpopulations is (\leq 5) OR range is (\leq 100\text{km}^2) OR species at risk of localised extinction</td>
</tr>
<tr>
<td>Exploitation extent</td>
<td>The extent to which species is being exploited collected, traded, utilised.</td>
</tr>
<tr>
<td>Targeted demographics</td>
<td>The extent to which individuals are significantly weakened or permanently removed from the wild OR immature individuals are targeted that will result in a significant impact the mature individuals.</td>
</tr>
<tr>
<td>Regeneration Potential</td>
<td>The ability of a population to recover from exploitation.</td>
</tr>
<tr>
<td>Rarity</td>
<td>Localised distribution in the landscape coupled with small number of individuals.</td>
</tr>
<tr>
<td>Sensitive Species</td>
<td>A species is defined as sensitive when disseminating detailed geographic information of its populations, exposes the species to the risk of harmful exploitation.</td>
</tr>
</tbody>
</table>
Annexure 1

Terms of Reference
National Sensitive Species List
Review Committee

Approved on 21 September 2017

Background

The drafting of the National Sensitive Species List (NSSL) is a SANBI policy prescript emanating from the current legislative requirements. The aim of the list is to provide guidance on the dissemination of data related to sensitive species.

Scope

The aim of the current National Sensitive Species Listing process is to draft a revised national list, based on the agreed criteria and methodology, with appropriate access, reporting and review controls in place.

The NSSL Review Committee is an ad-hoc committee of representatives that will support this process and has the principle objectives to:

- Review the NSSL listing process.
- Recommend a final list of Taxon Experts to lead the listing process.
- Support the Taxon Leads in obtaining support to finalise the respective lists.
- Resolve any disagreement in the listing of sensitive species.
- Review and approved the final list.

Composition

- The Review Committee shall comprise of six members, excluding the secretariat and the service providers.
- The Review Committee must be representative of the biodiversity partnership involved in this process.

Quorum and attendance

- The quorum necessary for a meeting to proceed shall be 3 members, excluding the secretariat and service providers.
- The chairperson may invite any other member of the partnership to attend a meeting.

Term of Office

- The term of office is the length of time required to complete the current listing process.
Meetings

- Meetings shall be convened by the Project Manager and will be timeously arranged as required.
- Meetings will be held by tele/video conference and in-person meetings may also be held.
Annexure 2

User Access Management

Purpose of the User Access Management form is to register new Species Experts or Contributing Scientists to access the NSSL website.

User Details

Name: 

Date: 

Designation: 

Field of expertise: 

Email: 

Telephone Number: 

Organisation: 

Request type: 

New  Termination  Change in Role

Line Management approval

Name: 

Designation: 

Email: 

Telephone Number: 

Expertise

Please select the taxa / taxon
☐ Amphibians
☐ Beetles
☐ Birds
☐ Butterflies
☐ Marine Fish
☐ Freshwater Fish
☐ Reptiles
☐ Plants
☐ Scorpions
☐ Mammals
☐ Lepidoptera
☐ Sea Urchins
☐ Spiders
☐ Taxon not listed. Please indicate the taxon and provide a short rationale for the listing.

Suggested Taxon:

Rationale: