Species Data for the EIA Screening Tool

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TCCs

Total of 12 TCCs:

- 3 CR
- 2 EN
- 2 VU
- 2 NT

Taxa of Conservation Concern
EIA screening tool

For species data three important factors:

• Different taxa use the landscape in different ways (highly mobile vs more restricted)
• Species data comes from different sources of information with different levels of certainty
• Species respond to different land uses in different ways
Categories for species

• Species that remain in relatively restricted areas – (phase one)
  – Plants
  – Reptiles
  – Amphibians
  – Lepidoptera

• Species that move large distances (phase 2)
  – Birds
  – Mammals (species with large home ranges e.g. bats and predators)
Engagement with experts to set rules for each taxonomic group

Co-ordinate with groups of taxon experts from different institutions

SANBI
Biodiversity for Life
South African National Biodiversity Institute

IUCN SSC
Amphibian Specialist Group

IUCN
SSC
SAFLA
Sources of species data

- **Digitised specimen records**
- **Citizen science virtual museum records**
- **Directed Atlasing & monitoring projects**
Species data available for 8 taxonomic groups

Spatial data available for:
- Mammals
- Amphibians
- Reptiles
- Birds
- FW Fish
- Butterflies
- Dragonflies
- Plants

Plants: 78000 records of threatened spp. For 2811 threatened plants

Butterflies: 15847 records for threatened & rare spp.
2811 threatened plant species ± 78 000 occurrence records
Three proposed levels of sensitivity

**Level 1: Very high**
- Critical habitat for highly range-restricted species
- Species with range-size (EOO) <10 km²

**Level 2: High**
- Confirmed presence of threatened species – recent, high-accuracy occurrence records

**Level 3: Medium**
- Suitable habitat for threatened species, but not yet surveyed
- Areas where threatened species are known from historical records with imprecise locality accuracy
Methods for generating sensitivity maps

**Level 1: Critical Habitat**

- 930 candidate species extracted from TSP Red List database
- Each species individually evaluated:
  - Does it meet the EOO <10 km² threshold?
  - Are the occurrence records precise enough to map critical habitat with high confidence?
- 614 species qualified – 69 did not have accurate enough occurrence data – prioritised for field surveys
Level 1: Critical Habitat

Mapping in fragments

Last remaining habitat of *Ixia versicolor* in Gordon’s Bay

*Lachenalia mathewsiii* remains on two fragments on the outskirts of Vredenburg
Level 1: Critical Habitat

Mapping in continuous habitat
Level 1: Critical Habitat

Mapping in continuous habitat
Level 1: Critical Habitat

Mapping in continuous habitat
Level 2: Confirmed occurrence of threatened species
Level 3: Suitable habitat for threatened species

- Very simple ‘distribution model’:
  - suitable vegetation types (national vegetation map)
  - limit to species’ altitudinal range
  - clipped with convex hull around occurrence records buffered by 10 km
- Output shapefile maps for 2370 species
Level 3: Suitable habitat for threatened species
Level 3: Suitable habitat for threatened species
Amphibians Level 2: Buffer accurate occurrence with dispersal distance unique to each taxon
Amphibians Level 3: Occupied distributions mapped by experts

Afrixalus knysnae
Amphibians Level 1: Occupied distributions mapped by experts

*Arthroleptella rugosa* Rough Moss Frog Critically Endangered
<table>
<thead>
<tr>
<th>Colour</th>
<th>Sensitivity</th>
<th>Interpretation of the sensitivity</th>
<th>Further wind and solar PV assessment requirements</th>
<th>New water use authorisation requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark red</td>
<td>Very High</td>
<td>Very high sensitivity areas are potentially unsuitable for development owing to their high ecological importance. The measures identified to make these areas highly sensitive must be thoroughly assessed and effective mitigation and offsets developed before development can be considered in these areas.</td>
<td>Proposers intending to develop a wind or solar PV facility triggering an environmental impact assessment process with a footprint exceeding 5ha which is only very high sensitivity area, and 5ha within high sensitivity area, must submit an EIA report to the relevant competent authority that the proposed development will not have an unacceptable negative impact on terrestrial and aquatic biodiversity. In order to do so, a Level 1 specialist is required.</td>
<td>In terms of non-consumptive water uses, any wind or solar PV development proposed inside an adopted REZC, and for which the project footprint (including supporting infrastructure) encroaches into the terrestrial or aquatic features on their associated buffers, will require a General Authorisation (GA) in accordance with GN 1.9(6). The information required for such an application will be provided by a competent aquatic specialist as part of a Level 2 terrestrial and aquatic specialist study.</td>
</tr>
<tr>
<td>Red</td>
<td>High</td>
<td>High sensitivity areas are likely to contain some sensitive ecological features or processes that need to be addressed before development can be considered.</td>
<td>Where the proposed footprint does not encroach on verified aquatic features or their associated buffers, or only a part of verified aquatic features with appropriate buffers and a statement prepared by a competent aquatic specialist confirming no encroachment is required at an input to the Level 1 Study. The verification of aquatic features can be undertaken either at a desktop or on-site ground level.</td>
<td>In terms of consumptive water uses, projects proposed inside a REZC or with lower spatial limits will require a GA and will need to be assessed with the relevant aquatic specialist.</td>
</tr>
<tr>
<td>Orange</td>
<td>Medium</td>
<td>Medium sensitivity areas are likely to contain some sensitive ecological features or processes that need to be addressed before development can be considered.</td>
<td>Proponants intending to develop a wind or solar PV facility triggering an environmental impact assessment process with a footprint exceeding 5ha within medium sensitivity area or within a protected area or area of special significance may be required to undertake an Environmental Impact Assessment (EIA) report. This may be submitted to the relevant competent authority at a Level 2 Specialist study.</td>
<td>Projects proposed in conservation areas must be assessed with the relevant aquatic specialist.</td>
</tr>
<tr>
<td>Green</td>
<td>Low</td>
<td>Low sensitivity areas are not considered to be sensitive or likely to be affected by the proposed development.</td>
<td>Where the proposed footprint does not encroach on verified aquatic features or their associated buffers, or only a part of verified aquatic features with appropriate buffers and a statement prepared by a competent aquatic specialist confirming no encroachment is required at an input to the Level 2 Study.</td>
<td>Projects proposed outside the REZC or with lower spatial limits will not require a GA.</td>
</tr>
</tbody>
</table>

**Note:** The table above provides a summary of the criteria used to assess the potential impacts of wind and solar PV developments on terrestrial and aquatic biodiversity. The interpretation of these criteria is subject to further assessment by competent specialists and may vary depending on the specific characteristics of the site and project.
Three proposed levels of sensitivity

**Level 1**: Very high
- Critical habitat for highly range-restricted species
- **Protocol** to provide guidelines – showing irreplaceability of site – fatal flaw should drive a change in the footprint to avoid impacting on the species.

**Level 2**: High
- Confirmed presence of threatened species – recent, high-accuracy occurrence records
- **Protocol** to provide guidance to specialists on how to adequately mitigate impact to the habitat

**Level 3**: Medium
- Suitable habitat for threatened species, but not yet surveyed
- **Protocol**: TOR for the specialists to search for the taxa that may be on site and prove that they did properly look.
Way Forward

1. Multiple polygon files for all species, for all three tiers for each different taxon group are being worked on to see how these can be used in the EIA Screening Tool.

2. Exploring options on how to provide different levels of information to the different users:
   • Applicants to have no information that allows for species identification just know what tier of sensitivity
   • Specialists need to have access to taxon name
   • Competent Authorities should have access to species names
   • There may be a need to develop quite specific guidelines linked to each taxon group for use by specialists / and possibly competent authorities

3. Three taxon groups will be provided for the Beta version of the tool: plants, amphibians and butterflies.
Thank you.