Global standards, protocols & systems for biodiversity assessment, monitoring & action

Andrew Skowno
Global standards & protocols aimed at consistently & defensibly identifying:

<table>
<thead>
<tr>
<th>Elements of biodiversity (species &amp; ecosystem types) that are threatened with extinction or collapse.</th>
<th>Places / regions/ areas that are unique or “important” in terms of specific elements of biodiversity or due to the combination of biodiversity features &amp; threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples:</td>
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<tr>
<td>• <strong>Red List of Species</strong> (IUCN, SSC), based on population reduction, range reduction, small populations &amp; decline, very small populations</td>
<td>• <strong>Hotspots</strong> (CEPF/Myers), regions, based on endemism and extent of habitat loss.</td>
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<tr>
<td>• <strong>Red List of Ecosystems</strong></td>
<td>• <strong>Important Plant Areas</strong> (Plantlife), locations, based on species richness, and threatened species and habitats</td>
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<td></td>
<td>• <strong>Important Bird &amp; Biodiversity Areas</strong> (BirdLife), locations, Red List species, endemism, congregations,</td>
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<tr>
<td></td>
<td>• <strong>Key Biodiversity Areas</strong></td>
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</table>
KBAs

A Global Standard for the Identification of Key Biodiversity Areas

Version 1.0

Prepared by the IUCN Species Survival Commission and IUCN World Commission on Protected Areas in association with the IUCN Global Species Programme

23 March 2016


Red List Ecosystems

Guidelines for the application of IUCN Red List of Ecosystems Categories and Criteria

Lucie M. Bland, David A. Keith, Rebecca M. Miller, Nicholas J. Murray and Jon Paul Rodríguez (eds)

Version 1.0
Why adopt and follow these global approaches?

- International obligations such as those linked to the UN Convention on Biological Diversity (CBD) and the UNDP Sustainable Development Goals (SDGs), rely on global biodiversity focused systems such as Red Listing and KBAs to ensure consistency of indicators and reporting.
- International funding agencies use the global systems such as (e.g. Red Lists, KBAs & Hotspots) to assess applications.
- In many cases these global approaches are very similar to existing approaches but have involved global consultation and have published descriptions (e.g. SA-list of threatened ecosystem); thus the focus is on alignment.
These global approaches have **various goals** but most are concerned with informing biodiversity monitoring and action.

Importantly the approaches are often **interlinked**; many area-based approaches use Red List information in their criteria.

These global approaches have **various goals** but the **input data** sets required to delineate the areas or compile the lists are often shared:

- well resolved **taxonomy** of species and ecosystems,
- **distribution** maps of species and ecosystem types,
- information on threatening processes or **pressures**, 
South Africa as a Receiving Environment

- South Africa has had an ecosystem red list & methodology since 2004 (NSBA 2004, NBA 2011)
- Extensive experience and existing information on ecosystem type classification and ecosystem type maps (Across all realms)
- Established policy links for threatened ecosystems (National List of Threatened Ecosystems 2011, EIA Regs)
  - Well developed IBA network in place – these form a starting point for KBAs – refinement required.
  - Complete CBA network – resulting from 17 years of systematic biodiversity planning
  - Systematic Biodiversity Planning and RLE and RLS experience makes a lot of useful information readily available to the KBA process
Figure 1. Red List of Ecosystems assessments completed, underway and planned. Strategic management assessments are for single ecosystem types. Successive assessments have been carried out in South Africa, Finland and Norway.
# SA Threatened Ecosystems List & IUCN Red List of Ecosystems

<table>
<thead>
<tr>
<th>Theme</th>
<th>SA threatened ecosystem listing</th>
<th>IUCN red list of ecosystems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reduction in geographic range – habitat loss</strong></td>
<td>SA uses ecosystem specific biodiversity target linked to target for ecosystem type (SA), no rate of loss consideration (A1)</td>
<td>IUCN RLE has fixed thresholds and uses rates of habitat loss over various time periods (A)</td>
</tr>
<tr>
<td><strong>Restricted geographic distribution</strong></td>
<td>Size cut offs &amp; imminent threat (C)</td>
<td>Size cut offs (AOO /EOO)&amp; Ongoing loss /imminent Threat (B)</td>
</tr>
<tr>
<td><strong>Degradation &amp; Disruption of biotic processes or interactions</strong></td>
<td>Degradation (A2) &amp; OR Fragmentation (E)</td>
<td>Split into Environmental degradation (C) Disruption of biotic processes &amp; interaction (D)</td>
</tr>
</tbody>
</table>
## Differences

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<th>Theme</th>
<th>SA threatened ecosystem listing</th>
<th>IUCN red list of ecosystems</th>
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</thead>
<tbody>
<tr>
<td><strong>Species associations</strong></td>
<td>Threatened species (D)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Special ecosystems or areas</strong></td>
<td>Ecosystems identified as part of systematic biodiversity planning process planning (F)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Quantitative models</strong></td>
<td>-</td>
<td>Quantitative analysis that estimates the probability of ecosystem collapse (E)</td>
</tr>
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</table>
Key Biodiversity Areas & Critical Biodiversity Areas

• CBAs seek to guide local & regional **land use planning and decision making**
• KBAs are aimed at identifying a **globally comparable** set of areas with significant & unique biodiversity - well suited to international profile & reporting (referred to in SDGs and CDB documents)

Figure 4. Relationship between KBAs and Systematic Conservation Planning

Bob Smith 2014
Introduce speakers

- Maphale will show us the very preliminary results of her work testing the IUCN RLE for South Africa’s vegetation types
- Daniel will introduce the KBA concept and explain the structures, institutions and criteria in general
- Domitilla will round off the session by discussing the South African situation regarding KBAs
  - how our existing species and ecosystem data could be used – and the potential outcomes.
  - Some key differences between CBA & KBAs
- Followed by some questions