Classifying and describing ecosystems

lessons from the grassland ecosystem guidelines

2013 Biodiversity Planning Forum

Jeffrey Manuel
Biodiversity Planning and Policy Advice
j.manuel@sanbi.org.za
Walking off the map into the landscape

Terrestrial CBA
- CR ecosystem

Desired management objective
- Maintain in natural condition
- Rehabilitate

CBA Map

1

2

3

4
1. What are the main **ecological characteristics**?

2. What are the main issues, vulnerabilities or **pressures**?

3. What are the signs of **healthy ecosystems**?

4. What are the **management** best-practices and ecological **non-negotiables**?

5. What are the broad spatial guidelines for **locating land-use**?

6. What indicators can be used to assess and **monitor** ecosystem **management**?
Vegmap bioregions vs EG Ecosystem Types

Ecosystems

<table>
<thead>
<tr>
<th>Ecosystems</th>
<th>Veg types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal</td>
<td>17</td>
</tr>
<tr>
<td>Lowland Fynbos</td>
<td>19</td>
</tr>
<tr>
<td>Midland-Upland Fynbos</td>
<td>64</td>
</tr>
<tr>
<td>Renosterveld</td>
<td>30</td>
</tr>
<tr>
<td>Succulent Karoo</td>
<td>35</td>
</tr>
<tr>
<td>Mainland Thicket</td>
<td>3</td>
</tr>
</tbody>
</table>

Bioregions

- East Coast Renosterveld
- Eastern Fynbos-Renosterveld
- Karoo Renosterveld
- Namaqualand Cape Shrublands
- Northwest Fynbos
- South Coast Fynbos
- South Strandveld
- Southern Fynbos
- Southwest Fynbos
- West Coast Renosterveld
- West Strandveld
- Western Fynbos-Renosterveld
Grasslands Ecosystem Types

- Dry Highveld
- Mesic Highveld
- High Altitude
- Sub-escarpment
- Coastal

- Drakensberg
- NE Escarpment

- Wetlands
- Forest
- Rivers
Bioregions according to the vegmap
Ecosystem types from a management perspective

- High Altitude Grasslands
- Sub-Escarpet Grasslands
- Indian Ocean Coastal Belt Grasslands
- Mesic Highveld Grasslands
- Dry Highveld Grasslands
Bioregions according to the vegmap
Ecosystem types from a management perspective

- Dry Highveld Grasslands
- Mesic Highveld Grasslands
- High Altitude Grasslands
- Sub-Escarpment Grasslands
- Indian Ocean Coastal Belt Grasslands
Including a Map of Threatened Ecosystems
Criteria for threatened terrestrial ecosystems

• **Criterion A1:** Irreversible loss of natural habitat
• **Criterion A2:** Ecosystem degradation and loss of integrity*
• **Criterion B:** Rate of loss of natural habitat
• **Criterion C:** Limited extent and imminent threat*
• **Criterion D1:** Threatened plant species associations
• **Criterion D2:** Threatened animal species association
• **Criterion E:** Fragmentation
• **Criterion F:** Priority areas for meeting targets defined in a SBP
How we assembled the TE map

• Used the Ecosystem Type Classification
• Apportioned TEs as Dry Highveld, etc)
• But...only 25% of Grasslands TEs are based on Criterion A1
• Criterion F is ....troublesome.
  – TEs across multiple Ecosystem types = listed in all
  – TEs across multiple Biomes = listed in GL type, and will be held over to the other Biome guideline

• But...issues remain....
If this guideline is about management...

- And we already include IOCB...
- And we classify grasslands i.t.o. management requirements...

Then what about

- A1 Ecosystems classified as Savannah, but described as predominantly Grasslands?
- Criterion F grassland mosaic ecosystems?
So, the question remains

• How far do we push a classification based on management?

• Is this issue real or imagined?

• How much confusion will this induce?