Assessing and Mapping Ecological Condition: Session Introduction

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Overview

• Why is spatial data on ecological condition important?
• Proposed ecological condition classes
• Some conceptual issues
Spatial data on ecological condition is fundamental for:

- Biodiversity assessment
  - e.g. ecosystem threat status
- Monitoring the state of biodiversity
- Biodiversity planning (prioritisation)
- Ecosystem accounting
Maps of ecological condition (NBA 2011)

Terrestrial (based on land cover)

Rivers

Wetlands

Marine & coastal
Biodiversity plans

- Only sites in **good ecological condition** are selected as CBAs*
- Only sites in **at least fair ecological condition** are selected as ESAs
Ecosystem accounting

**Physical accounts**

1. Ecosystem extent (by ecosystem type)
2. Ecosystem condition (by ecosystem type)
3. Ecosystem services supply (by ecosystem type)
4. Ecosystem services use and benefits (economic units – incl. h/holds)

**Monetary accounts**

1. Ecosystem services supply and use values
2. Ecosystem monetary asset values (by ecosystem type)
3. Integrated accounts
   - Combine presentations
   - Extended supply & use table
   - Sequence of sector accounts
   - Balance sheets

## Proposed ecological condition classes

<table>
<thead>
<tr>
<th>High-level classes</th>
<th>Detailed classes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Good</strong></td>
<td>Natural</td>
</tr>
<tr>
<td></td>
<td>Near-natural</td>
</tr>
<tr>
<td><strong>Fair</strong></td>
<td>Moderately modified (e.g. over-grazed)</td>
</tr>
<tr>
<td><strong>Poor</strong></td>
<td>Severely modified (e.g. heavily eroded, wheat field, timber plantation)</td>
</tr>
<tr>
<td></td>
<td>Irreversibly modified (e.g. parking lot, mine)</td>
</tr>
</tbody>
</table>

*Lost?*
Aspects of biodiversity

After Noss 1990
## Proposed ecological condition classes

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<td>• Composition and <strong>structure</strong> altered</td>
<td>Moderately modified</td>
</tr>
<tr>
<td>• Basic ecological <strong>function</strong> still intact</td>
<td>“threshold of no return”</td>
</tr>
<tr>
<td><strong>Poor</strong></td>
<td></td>
</tr>
<tr>
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Some conceptual issues

• Distinguish between
  – Reference condition
  – Baseline condition
  – Desired condition

• Condition is not the same as “health”

• Distinguish between “different” and “degraded”
Needs going forward

• Review of existing work
• Where do we need to tighten up our thinking based on existing work?
• Where do we need research?
• How do we put in place systems for repeat assessments over time?

→ National strategy for advancing assessment of ecological condition?

“Tricky, but not intractable”