



# 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:

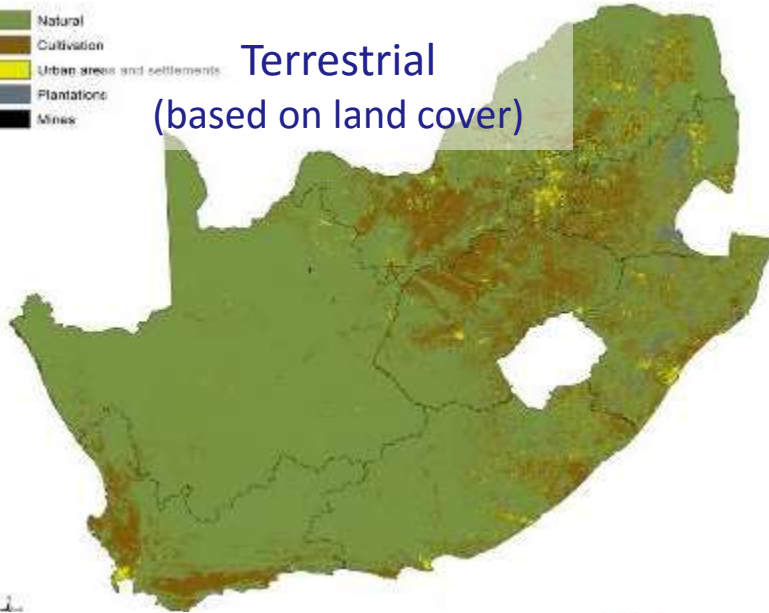
- Biodiversity assessment
  - e.g. ecosystem threat status
- Monitoring the state of biodiversity
- Biodiversity planning (prioritisation)
- Ecosystem accounting



# Maps of ecological condition (NBA 2011)

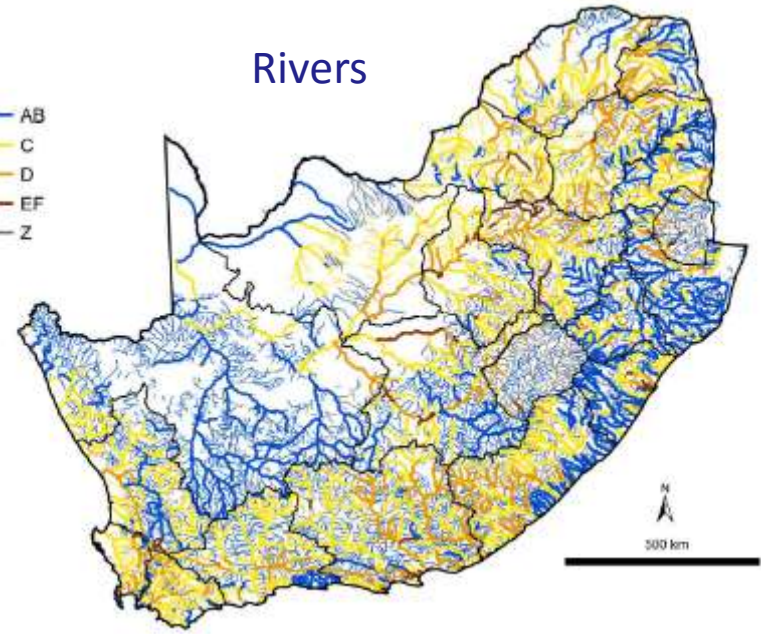
- Natural
- Cultivation
- Urban areas and settlements
- Plantations
- Mines

Terrestrial  
(based on land cover)



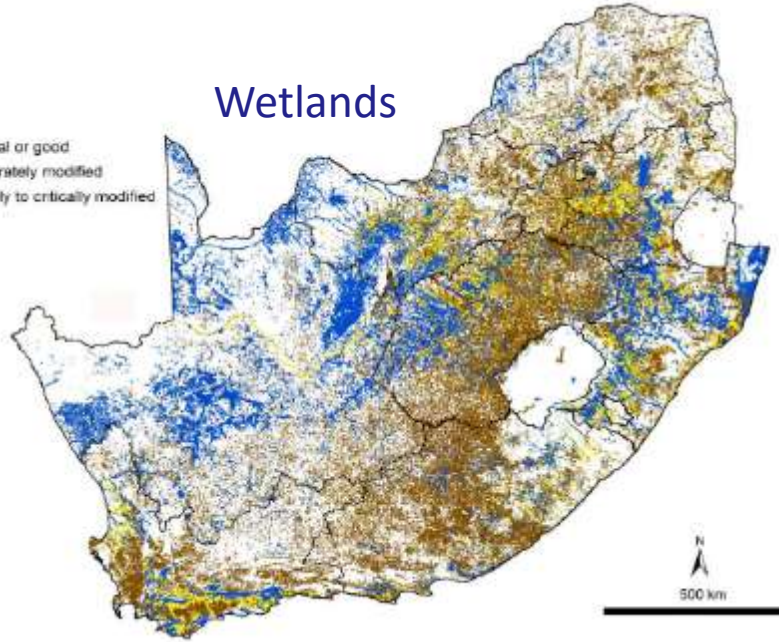
Rivers

- AB
- C
- D
- EF
- Z



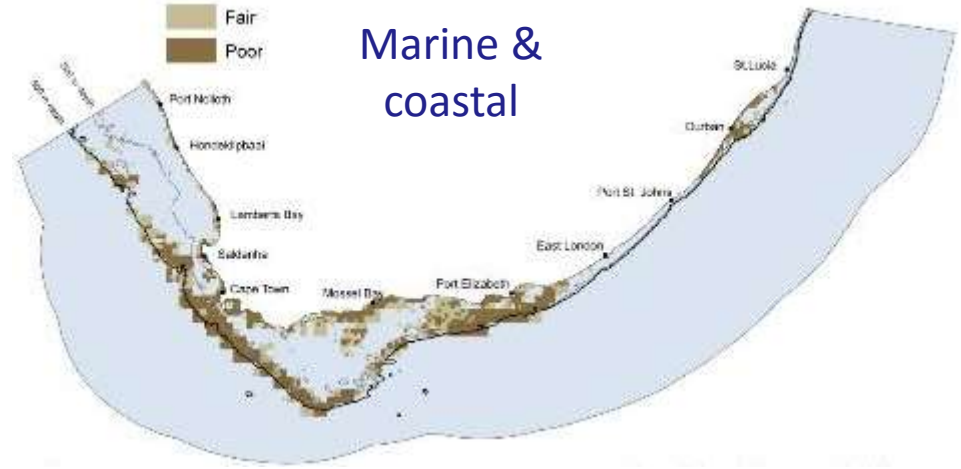
Wetlands

- Natural or good
- Moderately modified
- Heavily to critically modified

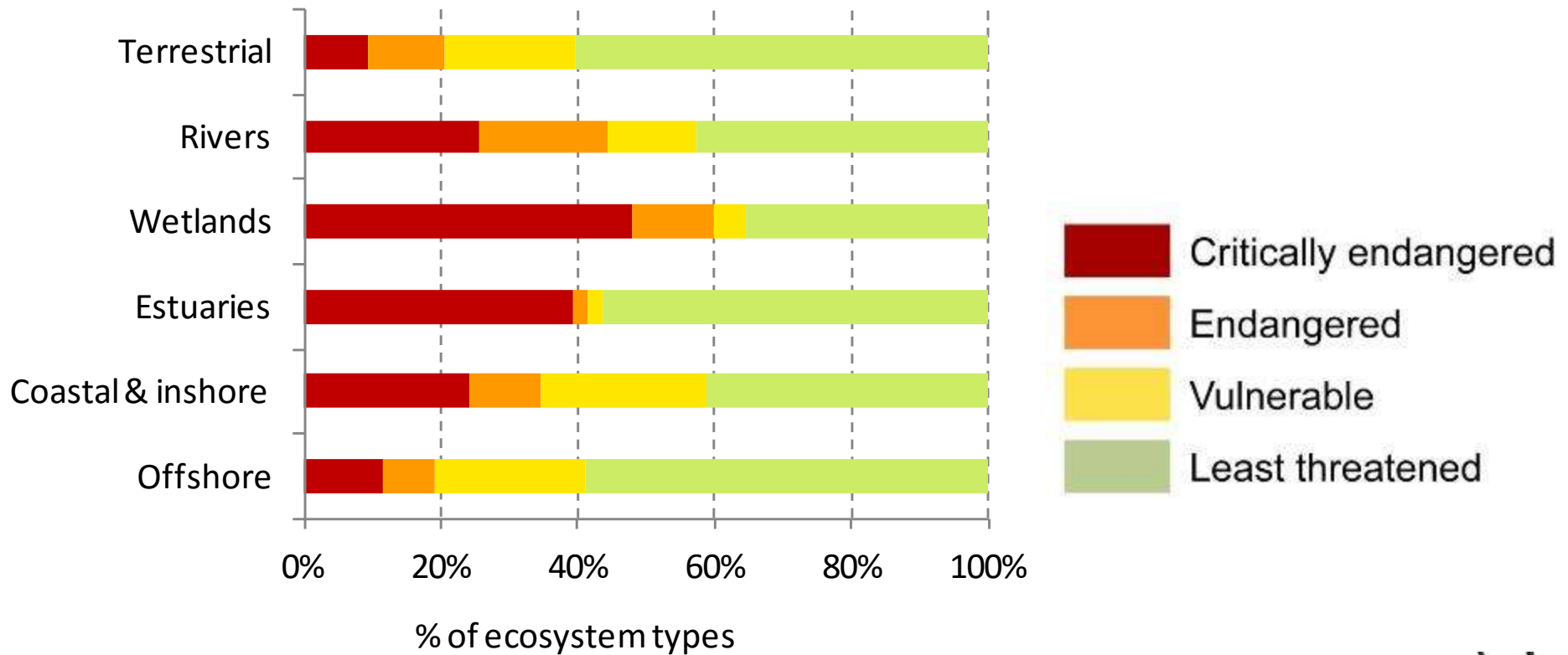


Marine & coastal

- Good
- Fair
- Poor



# Ecosystem threat status



# Biodiversity plans

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

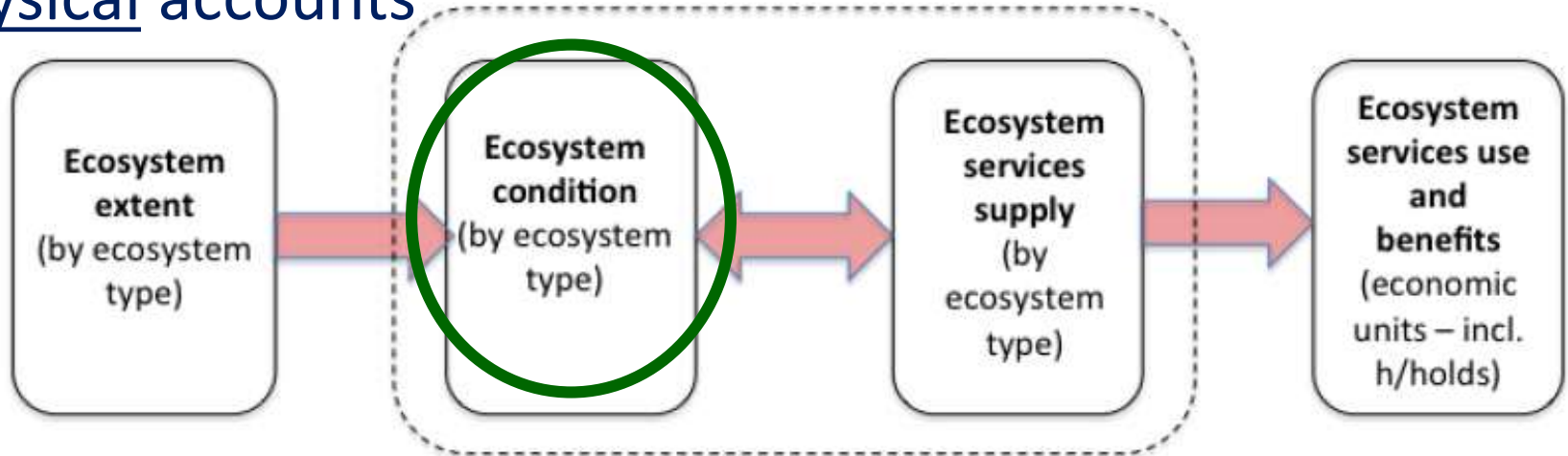


- Critical Biodiversity Areas (CBA)
- Ecological Support Areas (ESA)

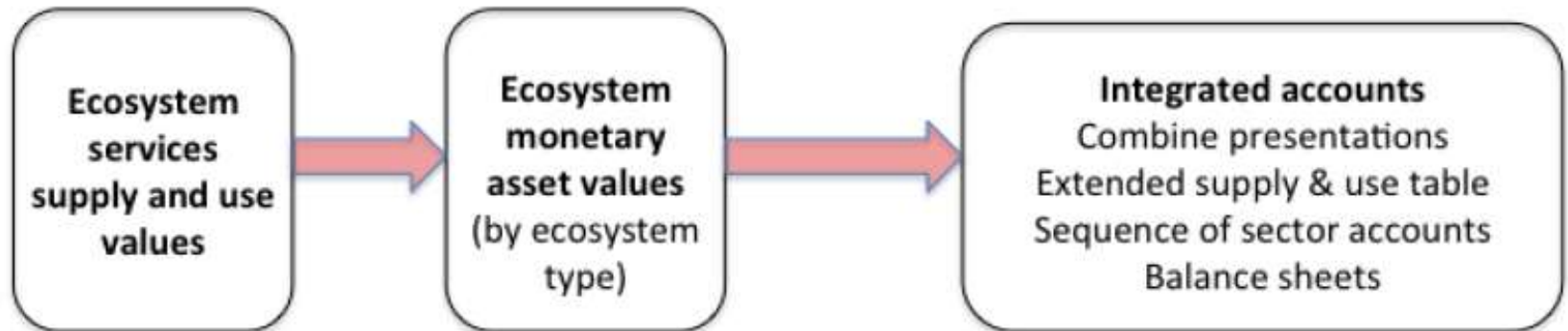


# Ecosystem accounting

## Physical accounts



## Monetary accounts



# Proposed ecological condition classes

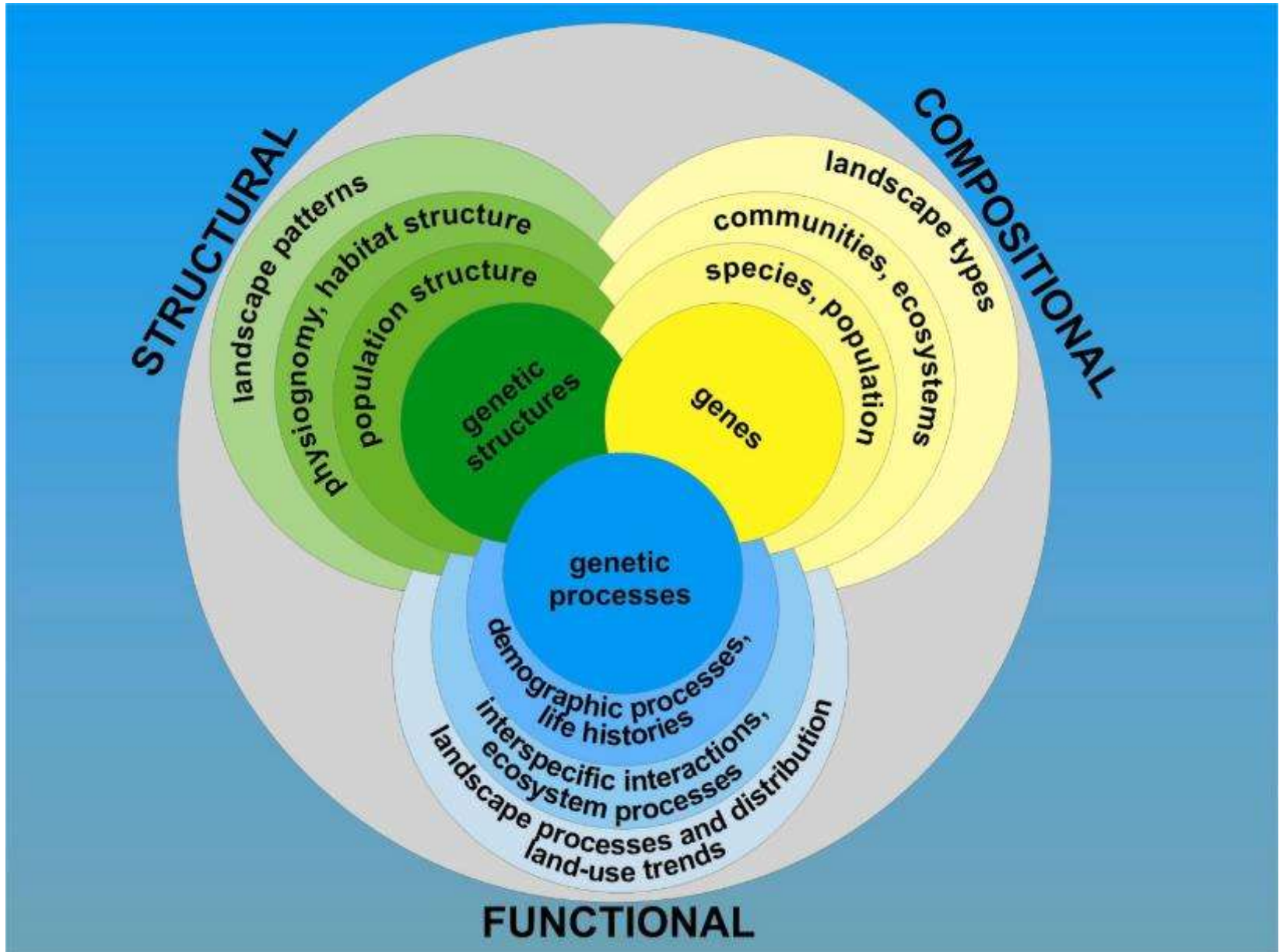
High-level classes	Detailed classes
<b>Good</b>	Natural
	Near-natural
<b>Fair</b>	Moderately modified (e.g. over-grazed)
<b>Poor</b>	Severely modified (e.g. heavily eroded, wheat field, timber plantation)
	Irreversibly modified (e.g. parking lot, mine)

**Lost?**





# Aspects of biodiversity



*After Noss 1990*

# Proposed ecological condition classes

High-level classes	Detailed classes
<b>Good</b> <ul style="list-style-type: none"><li>• <b>Composition, structure</b> and <b>function</b> still intact</li></ul>	Natural
	Near-natural
<b>Fair</b> <ul style="list-style-type: none"><li>• <b>Composition</b> and <b>structure</b> altered</li><li>• Basic ecological <b>function</b> still intact</li></ul>	Moderately modified
<b>Poor</b> <ul style="list-style-type: none"><li>• <b>Composition, structure</b> and <b>function</b> all severely altered/lost</li></ul>	Severely modified
	Irreversibly modified

*“threshold of no return”*

# 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 monitoring based on existing work?
  - Where do we need research?
  - How do we build systems for repeat assessment over time?
- National strategy for advancing assessment of ecological condition?

*“Tricky, but not intractable”*

