Combining social and environmental outcomes through wetland rehabilitation

John Dini & Prof. Fred Ellery

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Overview of presentation

- Background to Working for Wetlands
- Research partnership with WRC
- Significant research outcomes
- Conclusion





Background to Working for Wetlands

1. Reason for being

2. The power of partnership

environmental affairs
water affairs
agriculture,
forestry & fisheries

+

WATER RESEARCH COMMISSION

+

SANBI
Biodiversity for Life

+

EXPANDED PUBLIC WORKS PROGRAMME
CONTRIBUTING TO A NATION AT WORK

+

Mondi Wetlands Project

=

Working for Wetlands

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3. The means

EXPANDED PUBLIC WORKS PROGRAMME
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Background to Working for Wetlands

4. The results

Before rehabilitation

After rehabilitation

Vital statistics

Since 2004:

- 621 wetlands rehabilitated (>40,000 hectares)

- 12,854 employment opportunities provided

- 145,924 training days

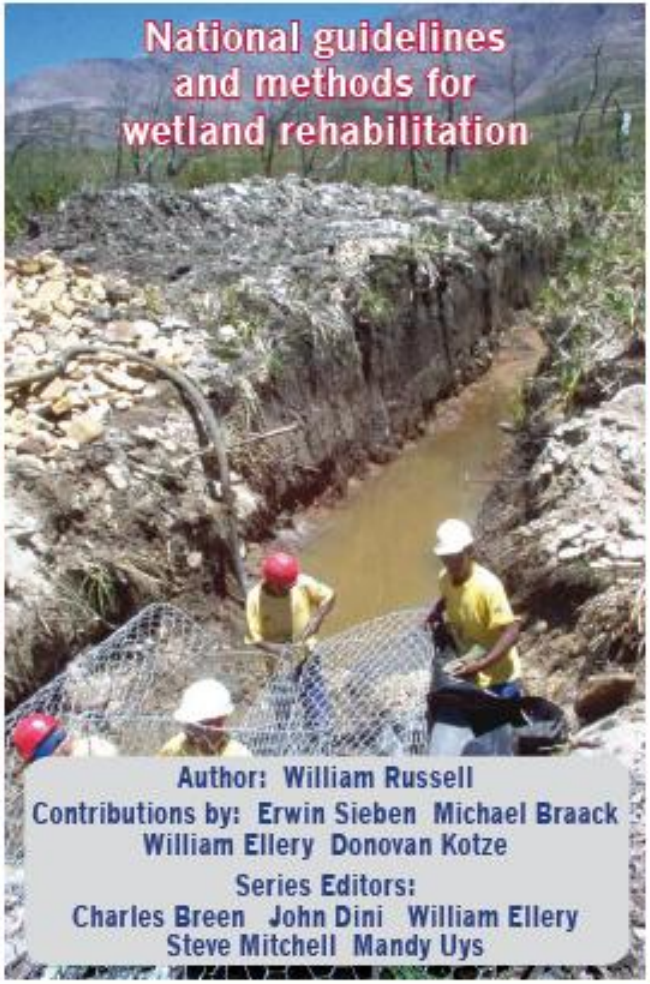
- 1,062 SMMEs utilised

Research partnership with WRC

1. Purpose
2. Structure
3. Products

Wetland Management Series

WET-RehabMethods



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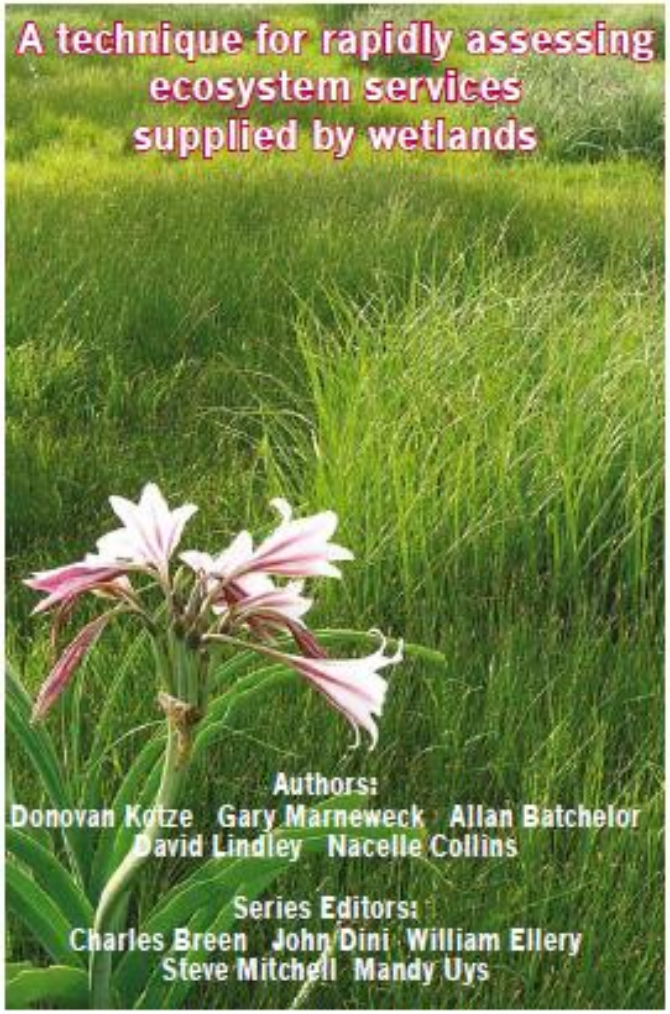
WET-EcoServices



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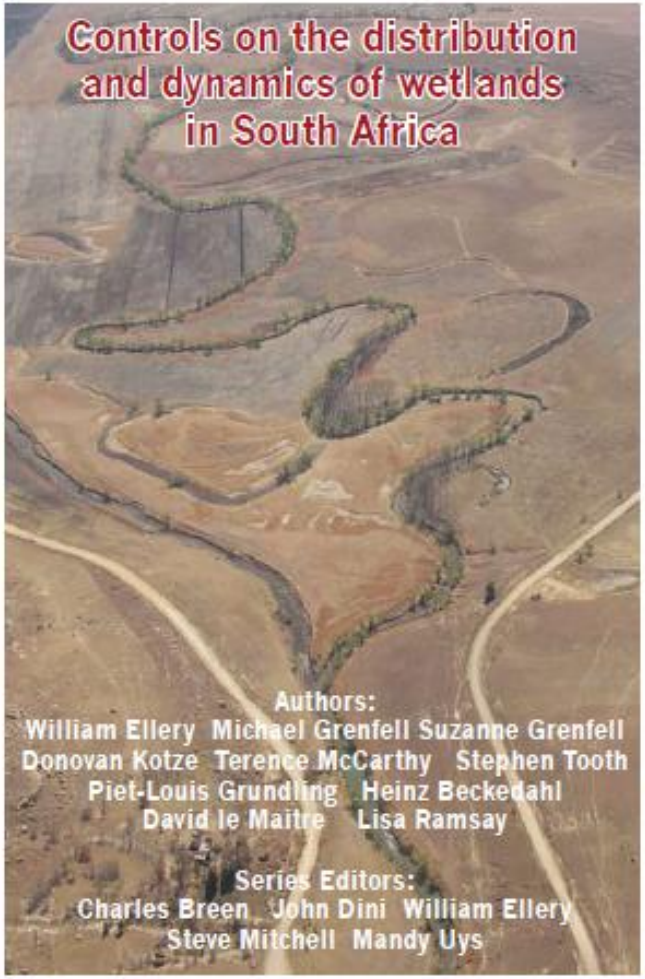
Wetland Management Series

WET-Origins

Controls on the distribution and dynamics of wetlands in South Africa



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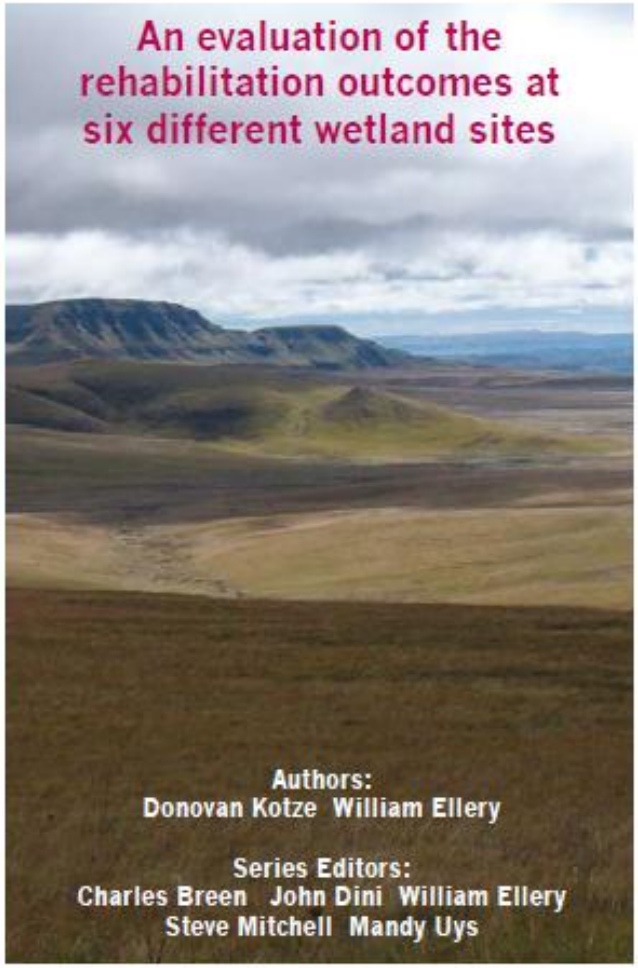
Wetland Management Series

WET-OutcomesEvaluate

An evaluation of the rehabilitation outcomes at six different wetland sites



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Research partnership with WRC

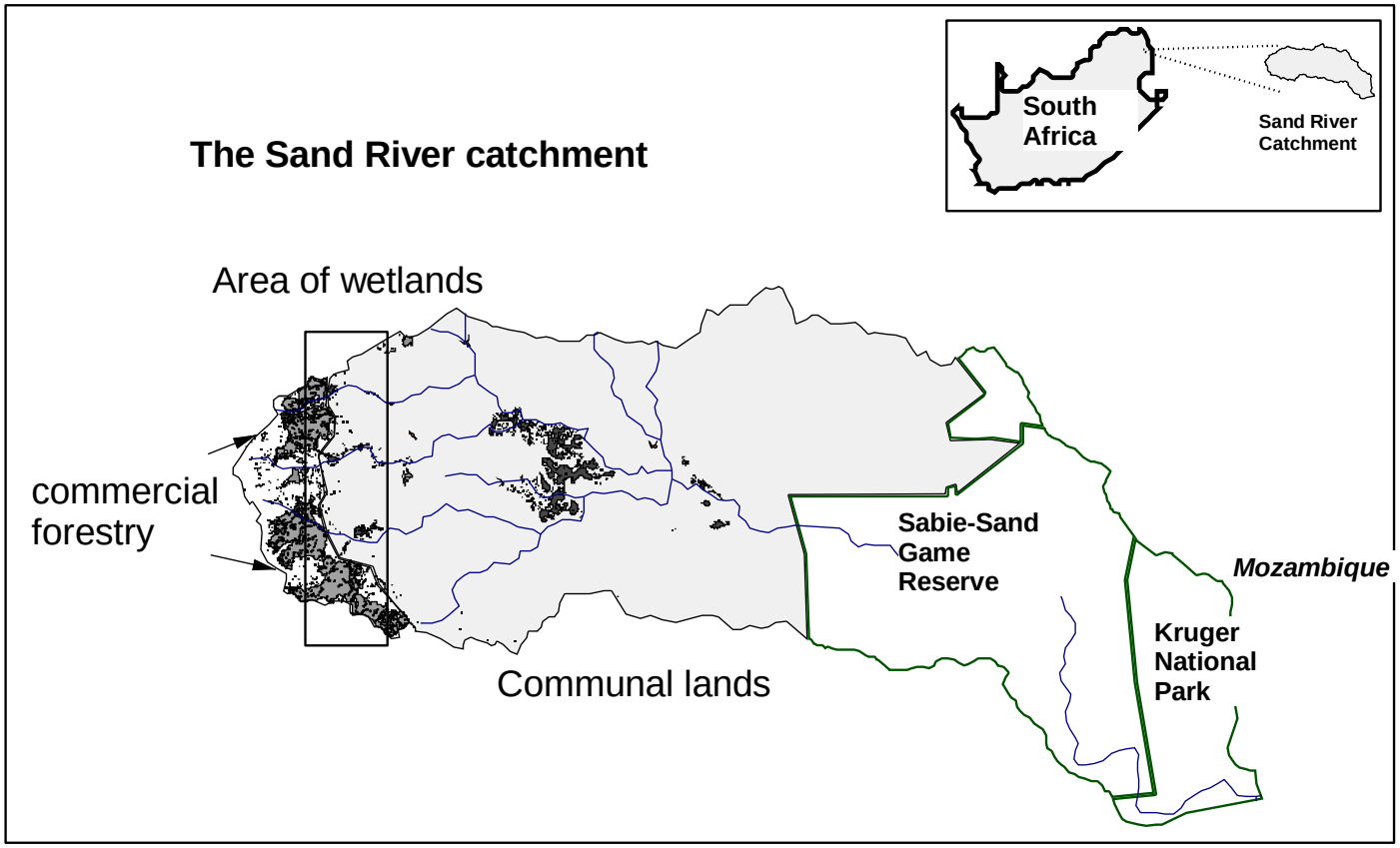
1. Purpose
2. Structure
3. Products
4. Application



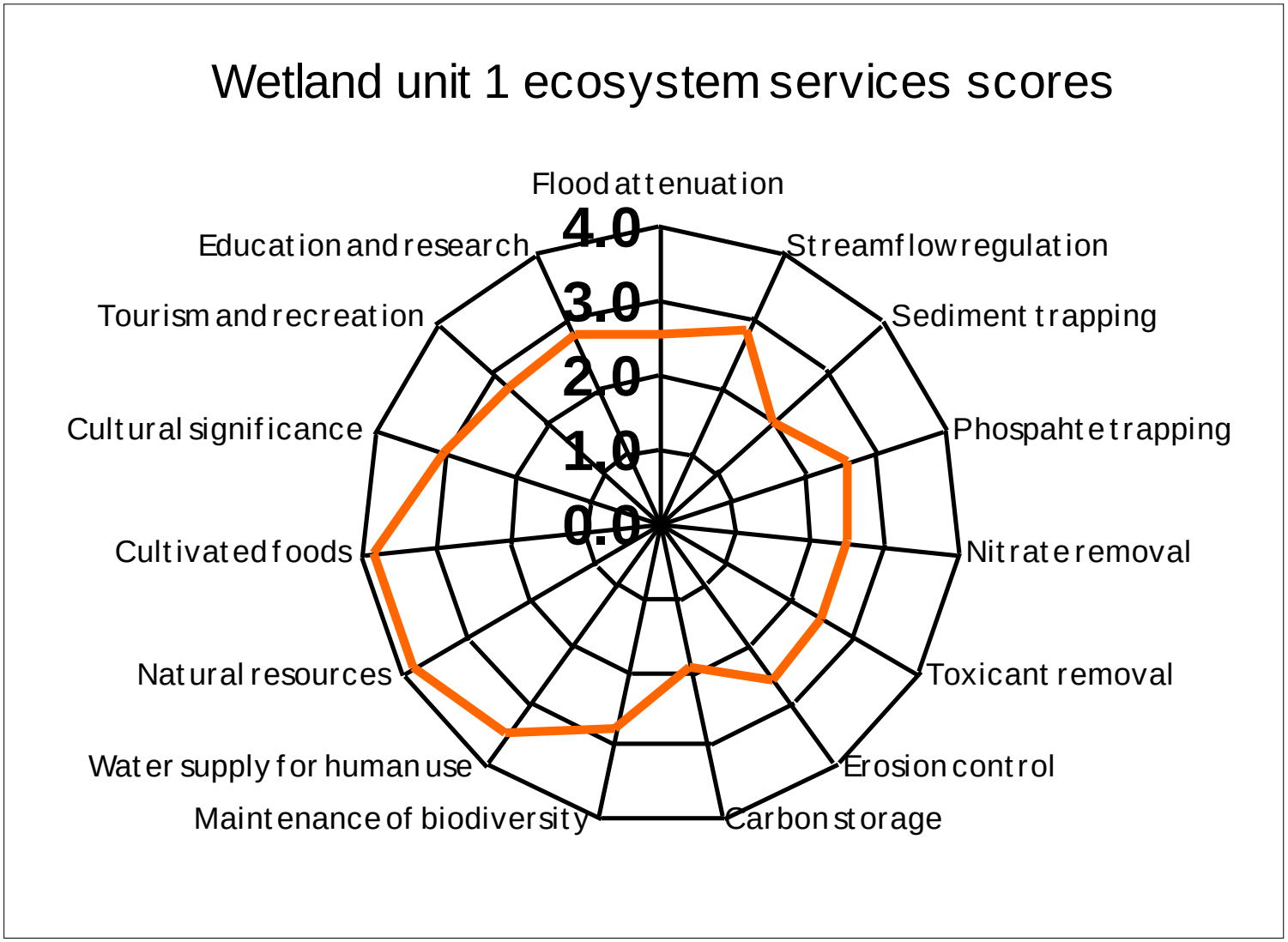


Significant research outcomes

- Evaluation of rehabilitation outcomes:
  - Manalana wetland, Bushbuckridge

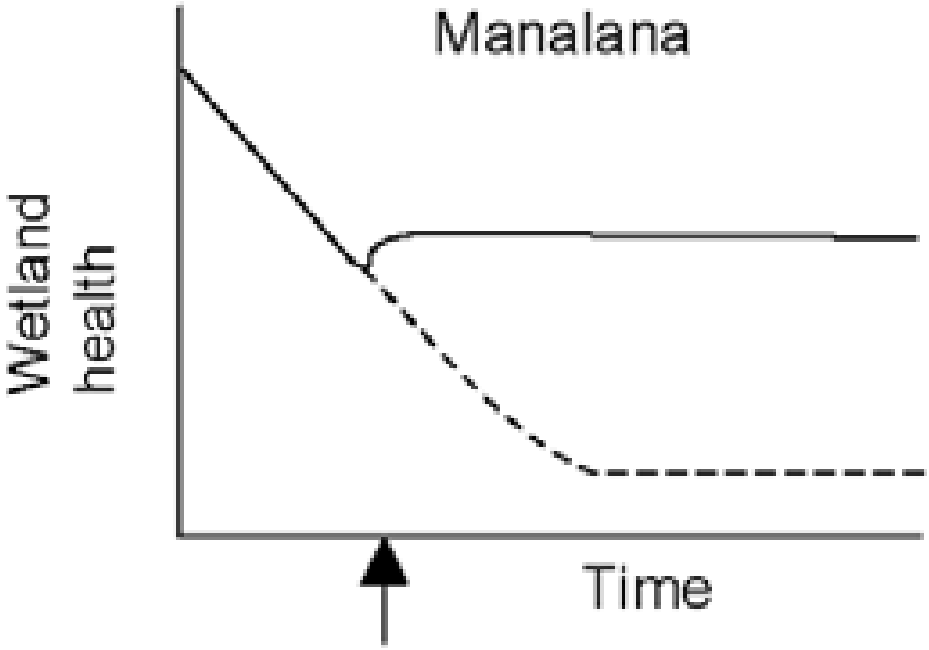


- 50% of households survive on <R5,700 p.a.
- 70% of local people use the wetland in some way
- 25% depend entirely on it as their only source of food and income
- Wetland contributes about 40% of the food grown locally.


Wetland unit 1 ecosystem services scores
Flood attenuation
Streamflow regulation
Sediment trapping
Phospahte trapping
Nitrate removal
Toxicant removal
Erosion control
Carbon storage
Maintenance of biodiversity
Water supply for human use
Natural resources
Cultivated foods
Cultural significance
Tourism and recreation
Education and research
4.0
3.0
2.0
1.0
0.0


• 36,000 tons of soil lost
• 863 farming plots lost
• 215 farmers lost resource

Trajectory of change



Return on investment

- Economic value of livelihoods benefits provided by the rehabilitated wetland increased by 294% from the degraded state

- The wetland now contributes provisioning services estimated at R3,466 per household per year to some 70% of local households

- NPV of livelihood benefits (R1,995,885) far exceeds cost of the rehabilitation interventions (R947,328)

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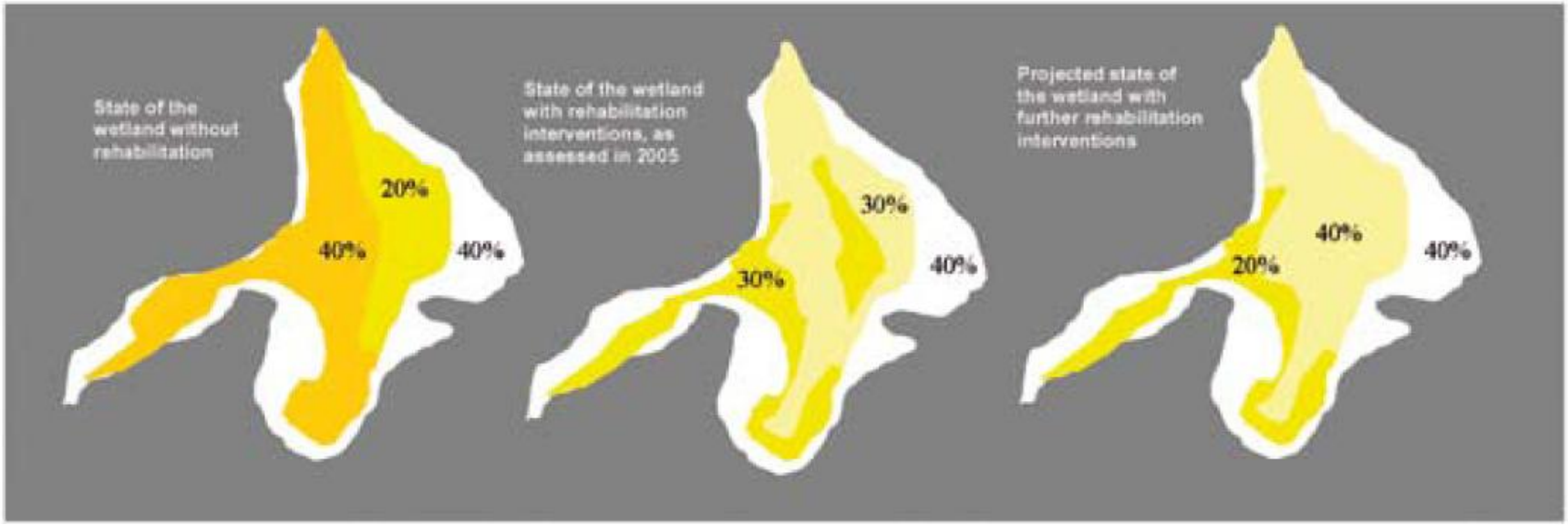
Dartmoor wetland, KZN

Health classes
Unmodified, natural
Close to natural with few modifications
Moderately modified
Largely modified
Extensive loss of habitat and function
Critical



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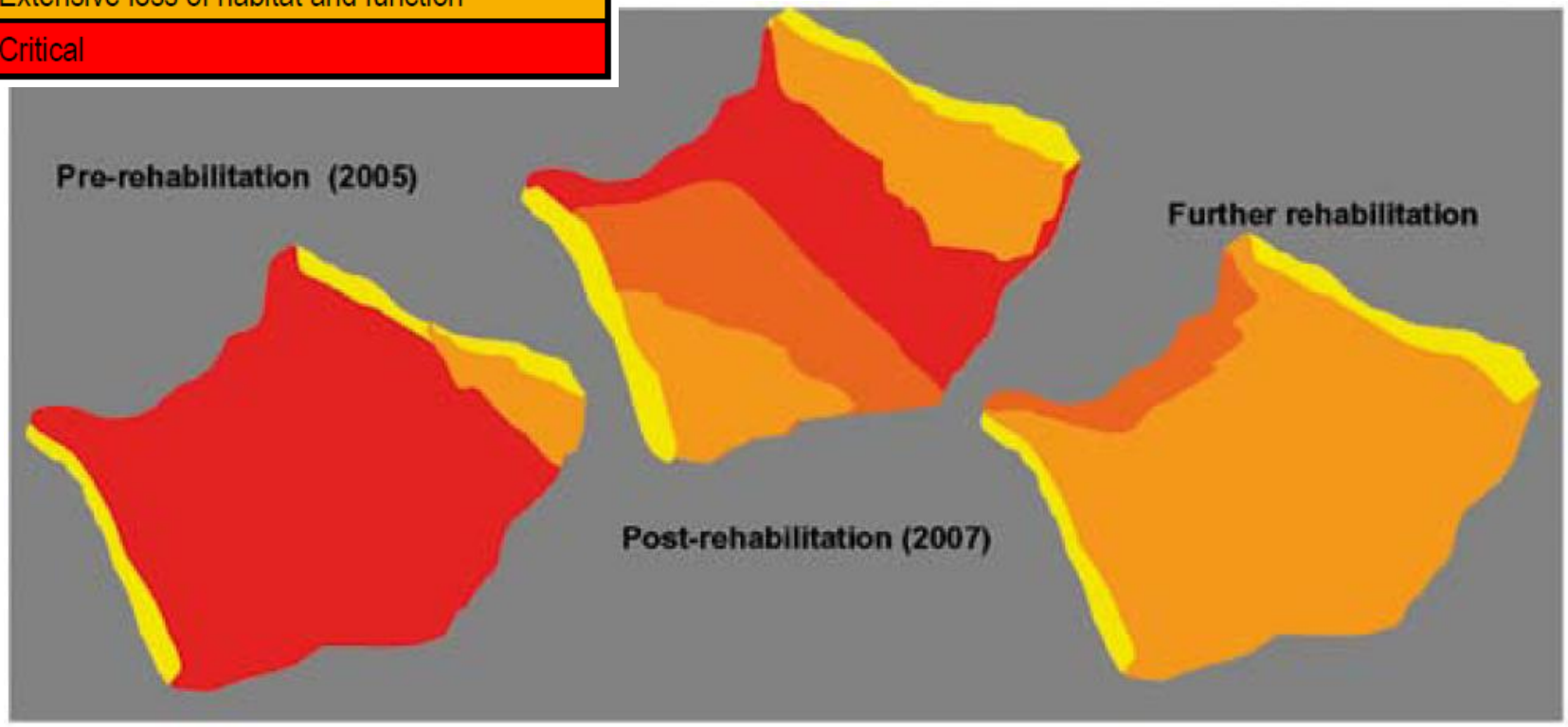
Kruisfontein wetland, KZN

Health classes
Unmodified, natural
Close to natural with few modifications
Moderately modified
Largely modified
Extensive loss of habitat and function
Critical



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