System of Environmental Economic Accounting

United Nations

UN environment

PROPOSED SCENARIO ANALYSIS FOR KWAZULU-NATAL, SOUTH AFRICA

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Forum on Natural Capital Accounting

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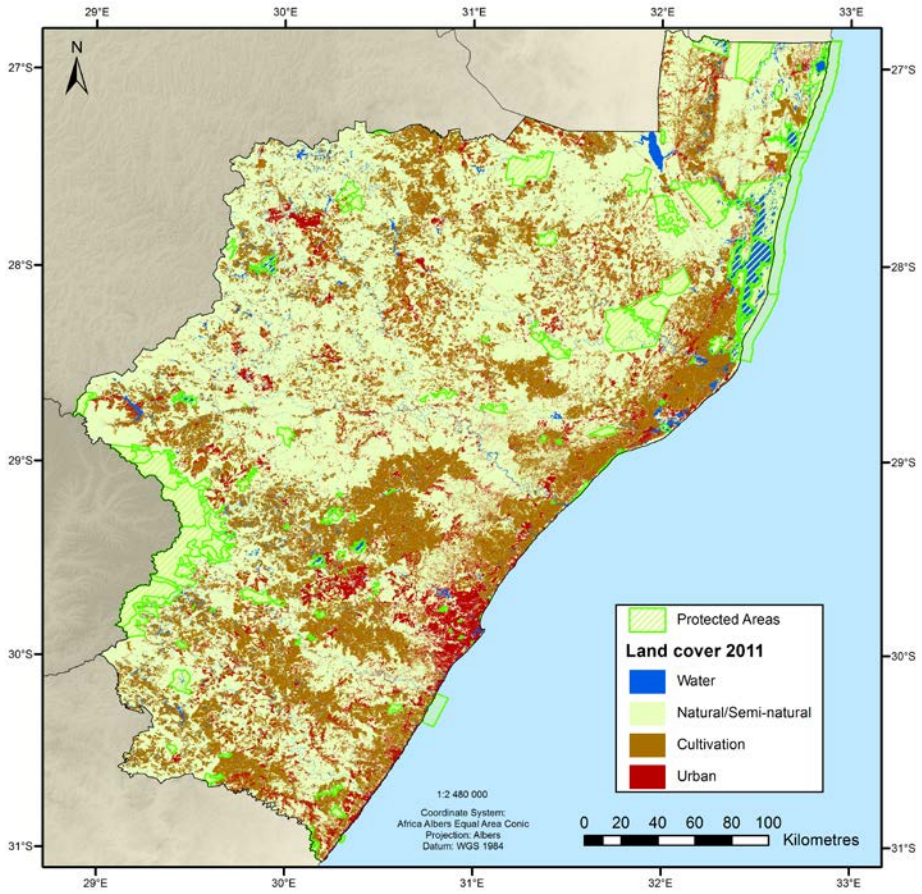
Land-cover related conservation issues in KZN

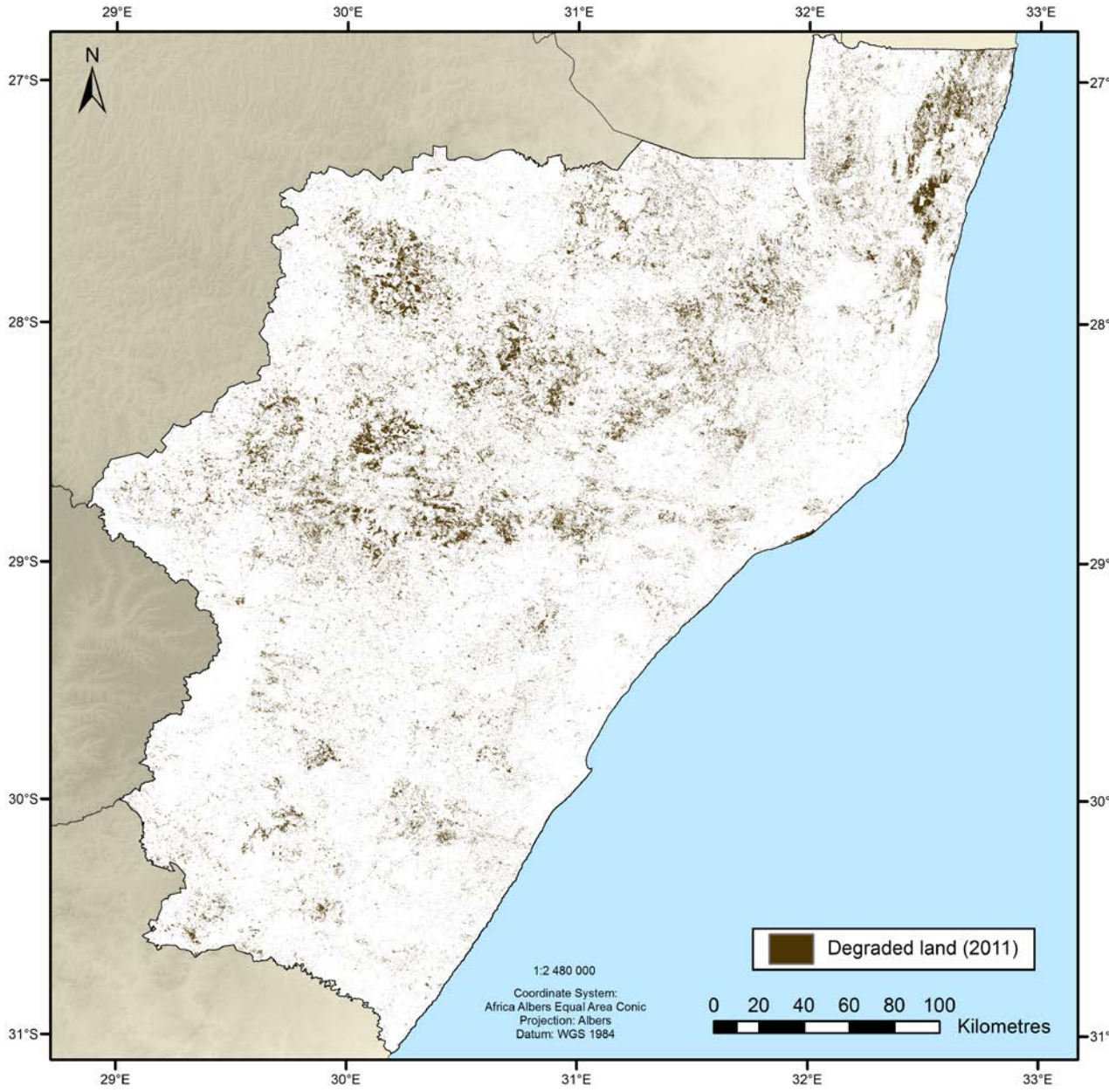
Land cover change



- Loss of natural habitat due to
  - Urbanisation and roads
  - rural settlement expansion and densification, and
  - expansion of agriculture, forestry, mining
- Natural habitat loss has averaged 1.2% per year since 1994
- ~53% left in 2011

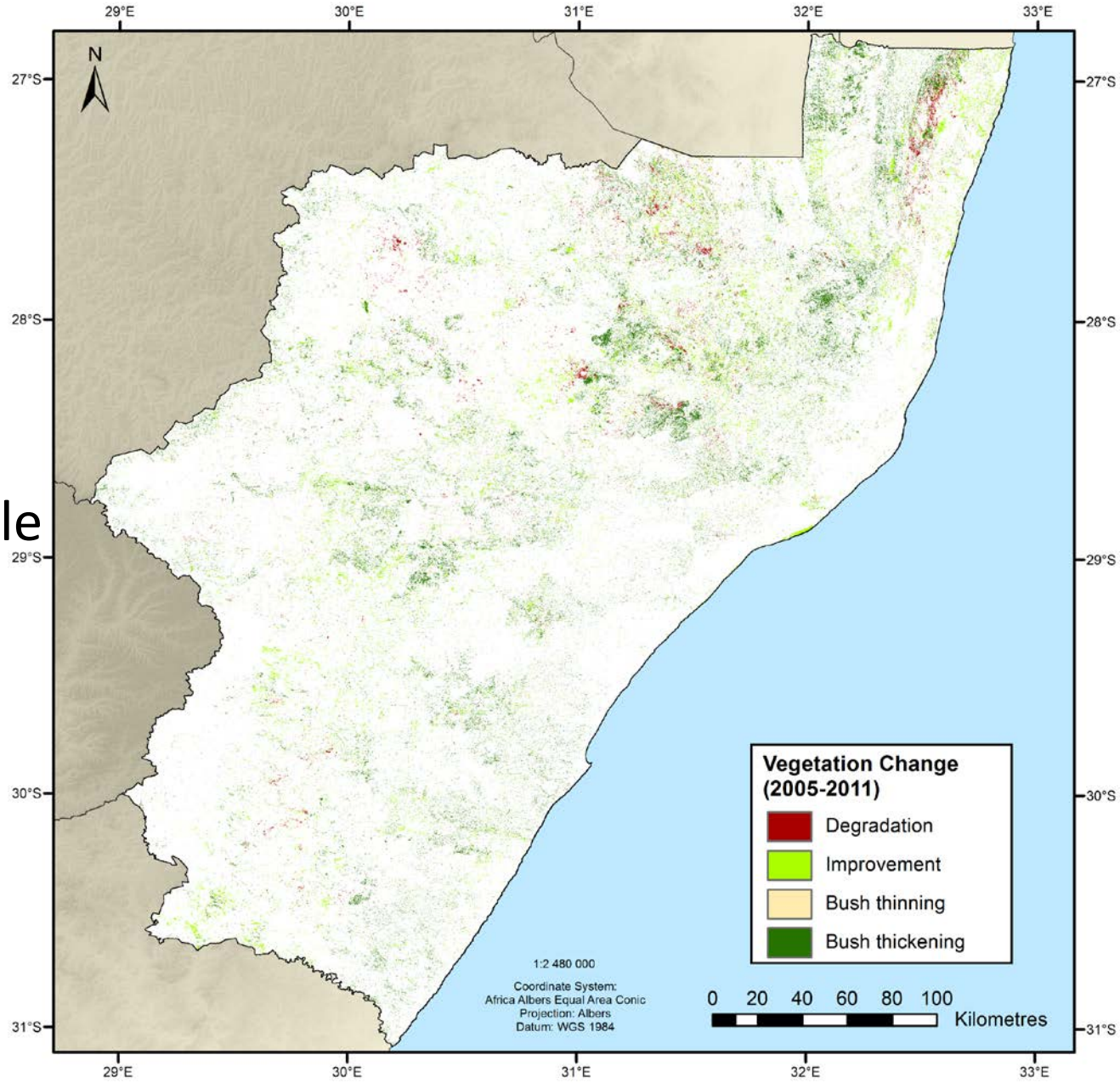
Land & wetland degradation and erosion

- Loss of vegetative cover in grassland and savanna areas due to overgrazing
- Soil erosion is a serious problem
- Wetland degradation goes hand in hand with land degradation

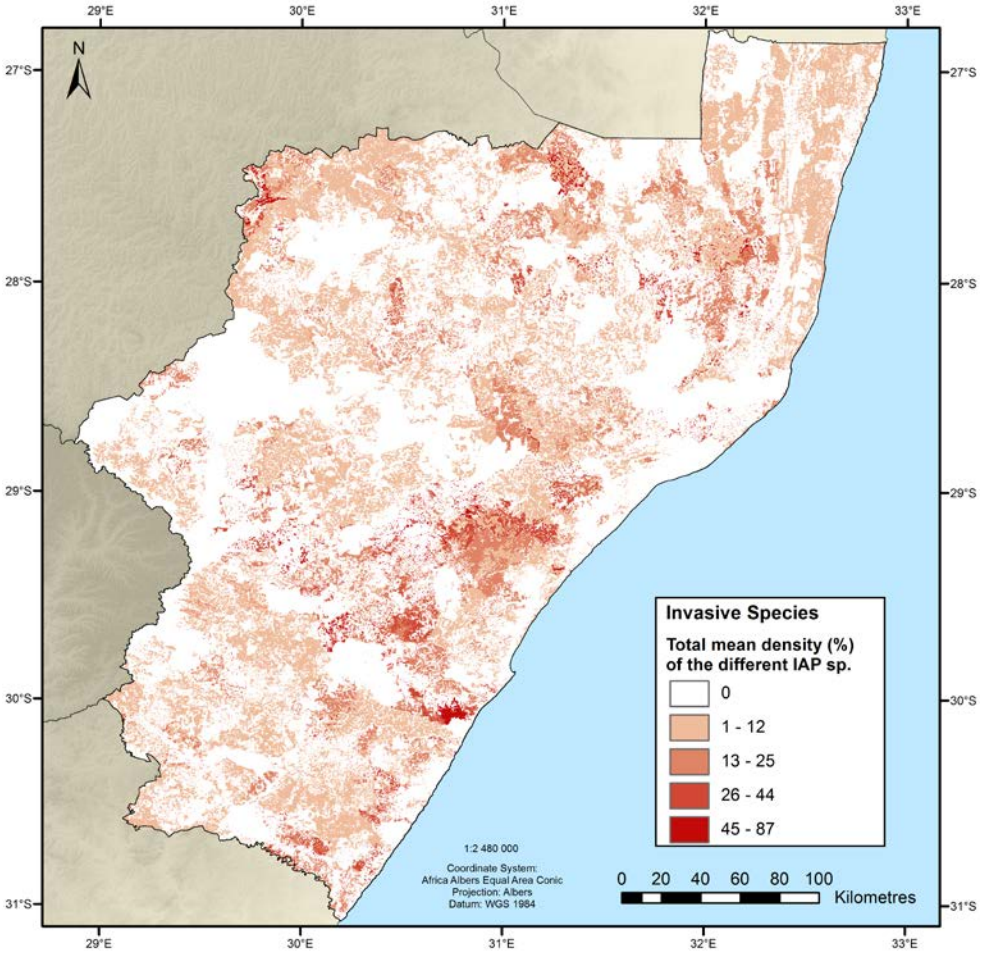


Bush encroachment

- Bush thickening in savanna and grassland areas due to poor rangeland management, fire suppression
- Impacts on water supply
- KZN biomes particularly susceptible



Invasive Alien Plants

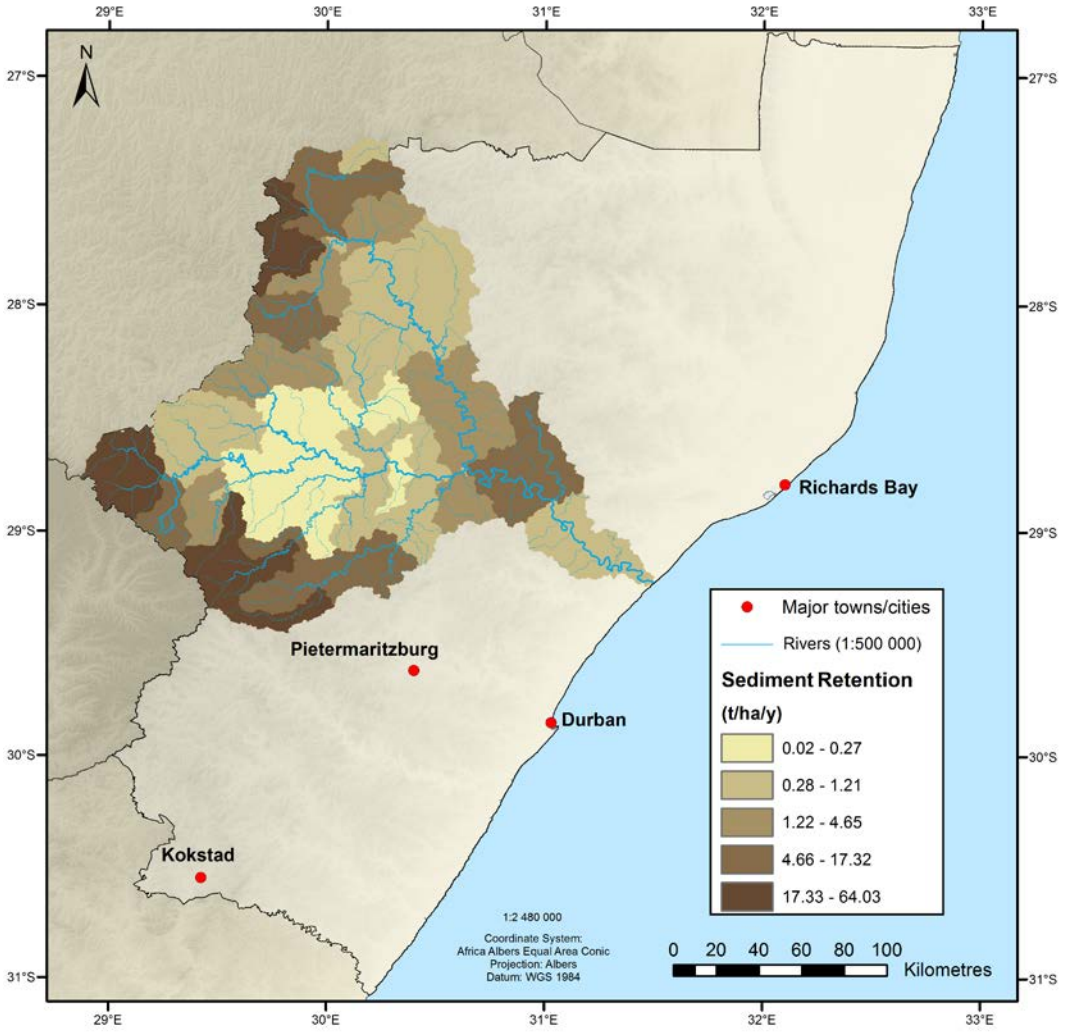


- IAPs are a problem throughout KZN
  - Reduce water flows by 2.3-5%

Proposed scenario analysis

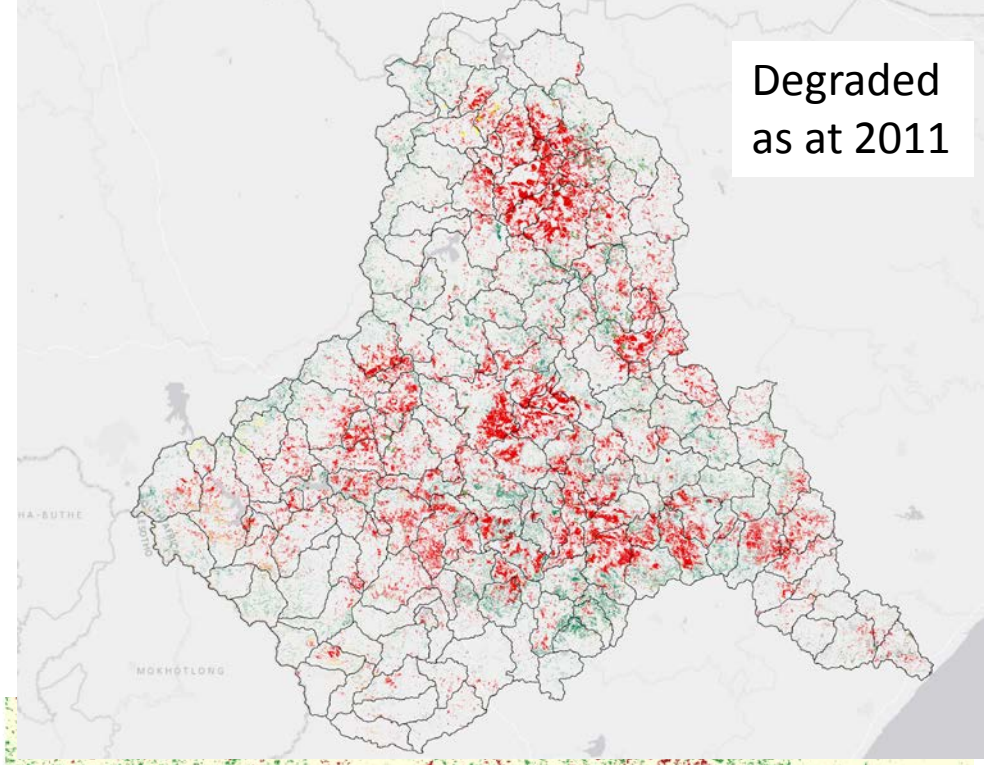
Aims of the study

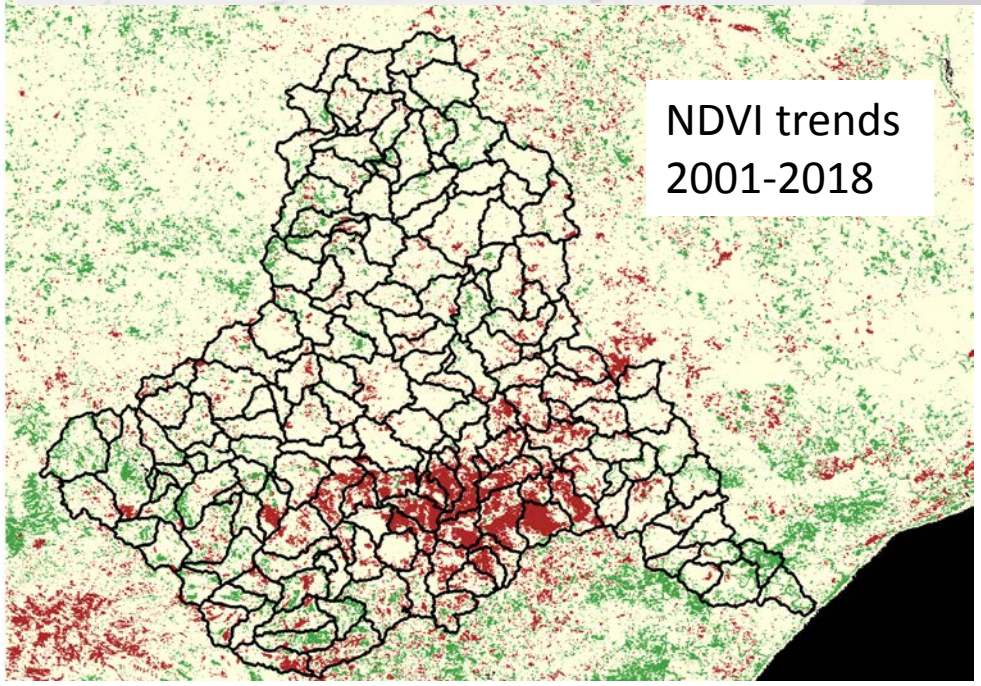
- Investigate the costs and benefits of rangeland restoration in the Thukela catchment area
  - through improved land management practices and
  - active restoration, i.e.
    - fixing dongas and wetlands, and
    - active removal of bush encroachment and IAPs
- Investigate the best strategy for intervention based on ROI
  - Taking into account spatial variation in the current state, projected rate of decline, and the costs and benefits of intervention

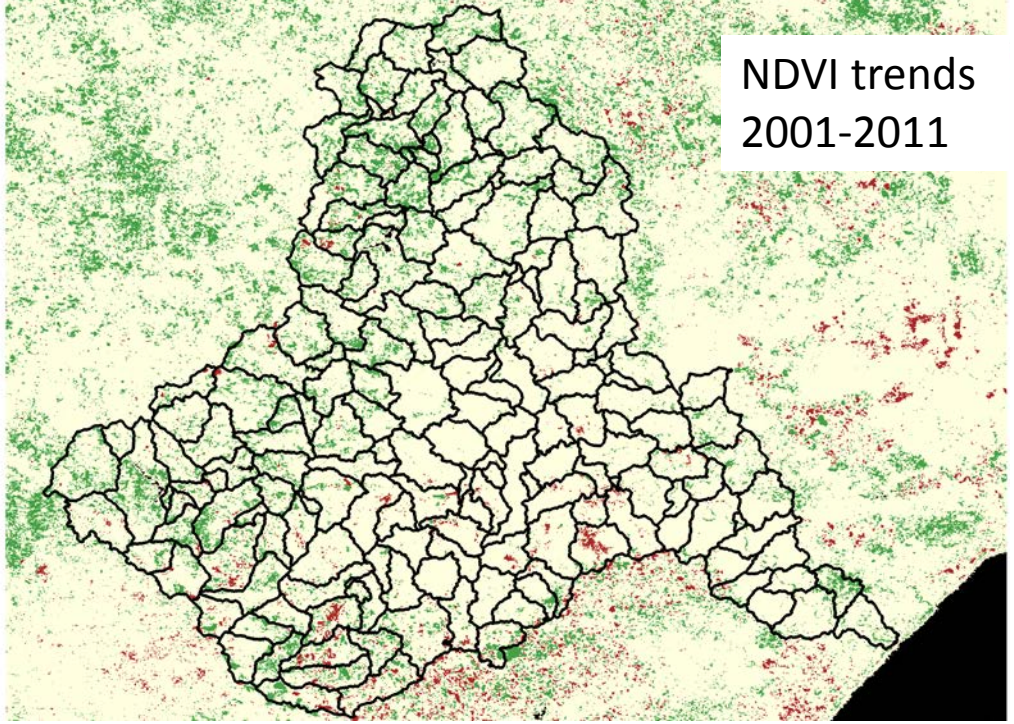


Proposed approach

- Develop BAU
  - Analyse past trends, understand drivers and estimate the Business as Usual trajectory and land cover as at 2040
- Develop Restoration Scenario(s)
  - Select areas for different types of intervention, and develop a restored land cover for 2040
- Estimate and map the costs of the interventions
  - Based on existing gov data on the cost of restoration programmes in relation to level of degradation and restoration outcomes
- Estimate supply and value of ecosystem services under each scenario
  - using the methods and tools developed for the ecosystem accounts
- Analyse ROI, determine restoration priorities


Degraded
as at 2011


NDVI trends
2001-2018


NDVI trends
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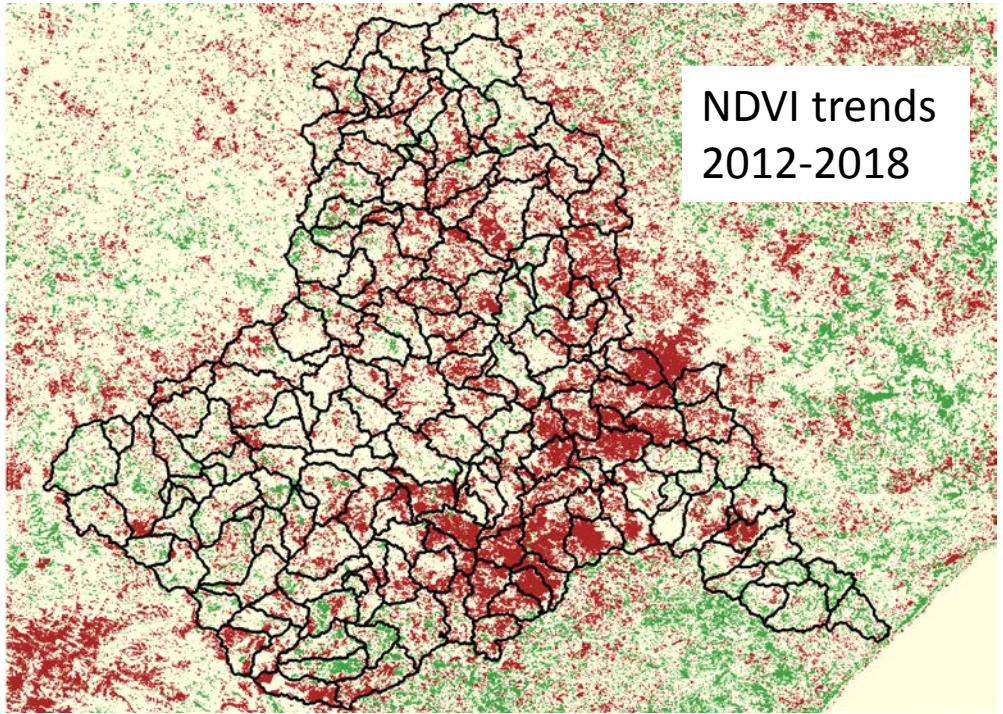
NDVI trends
2012-2018

Thank you!