



Investing in ecological infrastructure to enhance water security in the uMngeni River catchment



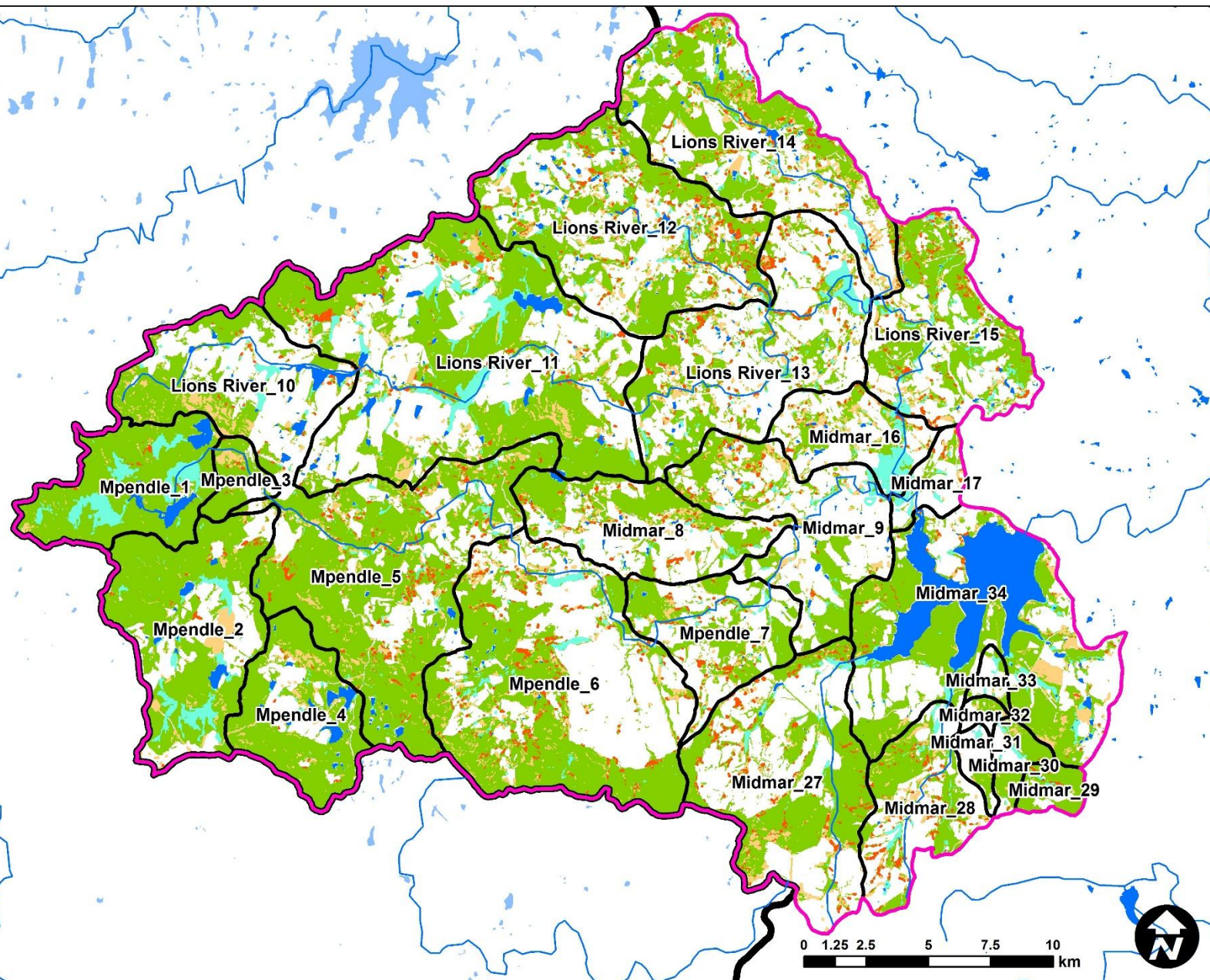
environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



UNIVERSITY OF
KWAZULU-NATAL
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Ecological Infrastructure (Natural & Degraded) for the Upper uMngeni River Catchment



Ecological Infrastructure

- Alien vegetation
- Grassland & thicket (degraded)
- Grassland & thicket (natural)
- Riparian & wetlands

Scale: 1:200 000

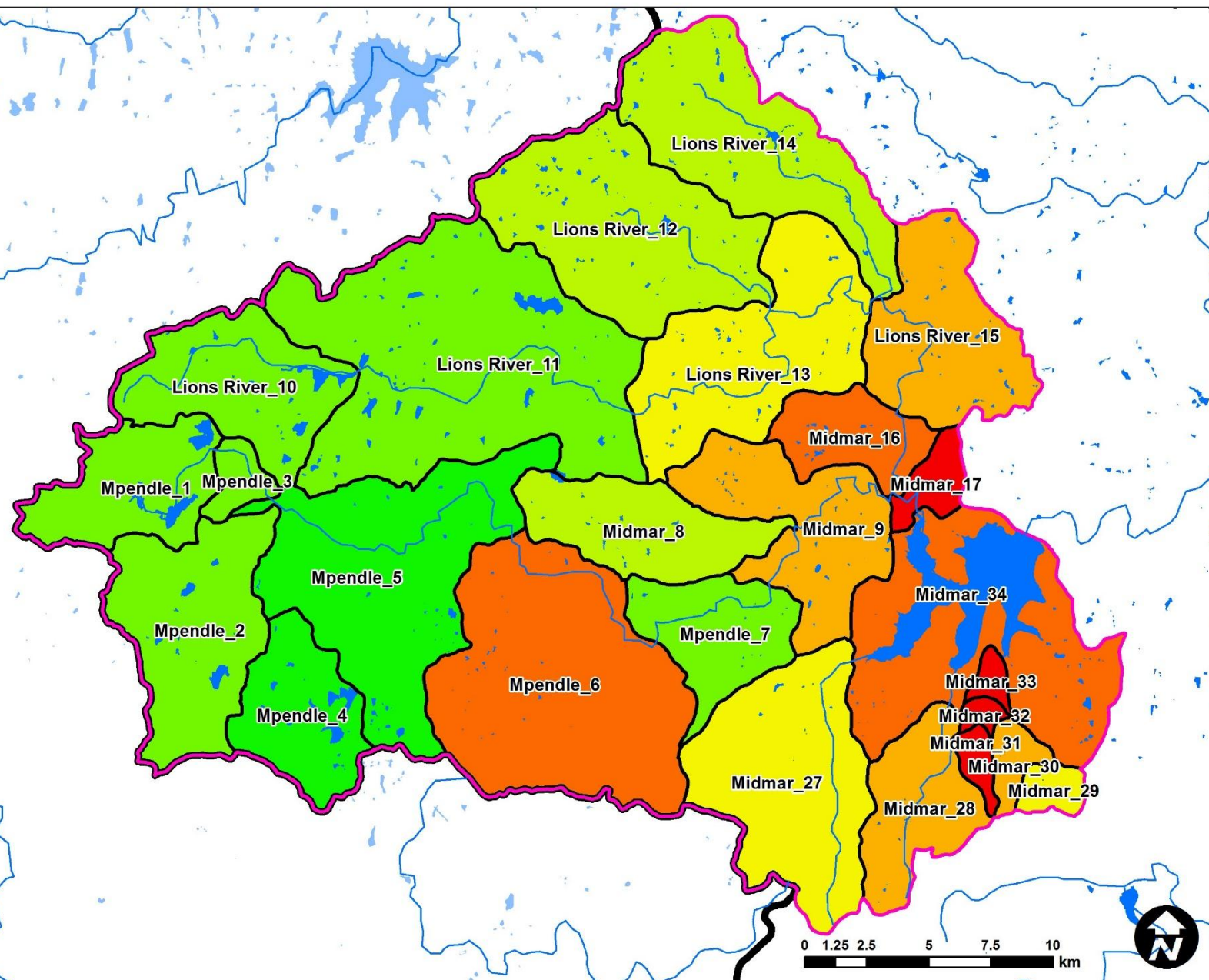
Projection: Transverse Mercator
Meridian: Lo31

Dry-season Baseflow Produced from Natural Ecological Infrastructure



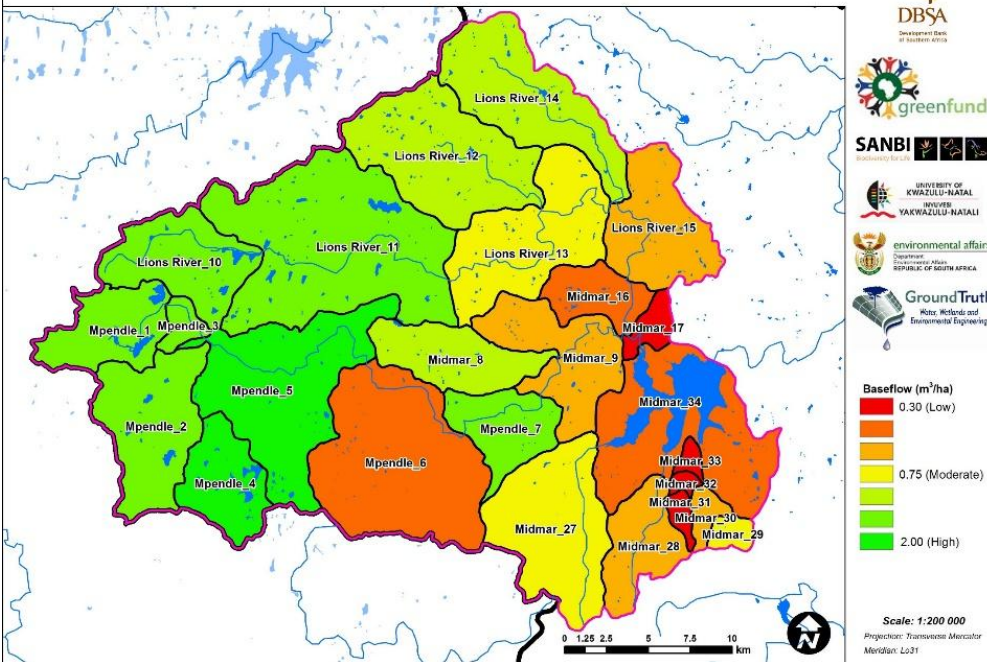
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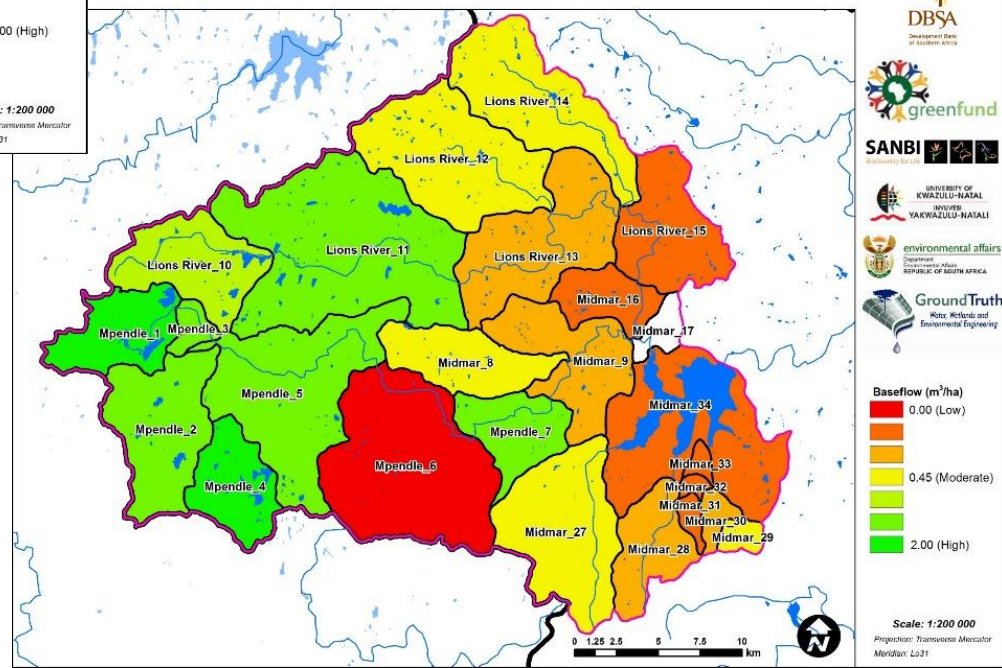
Comparison between degraded and healthy ecological infrastructure

Dry-season Baseflow Produced from Natural Ecological Infrastructure



Good condition/natural grassland

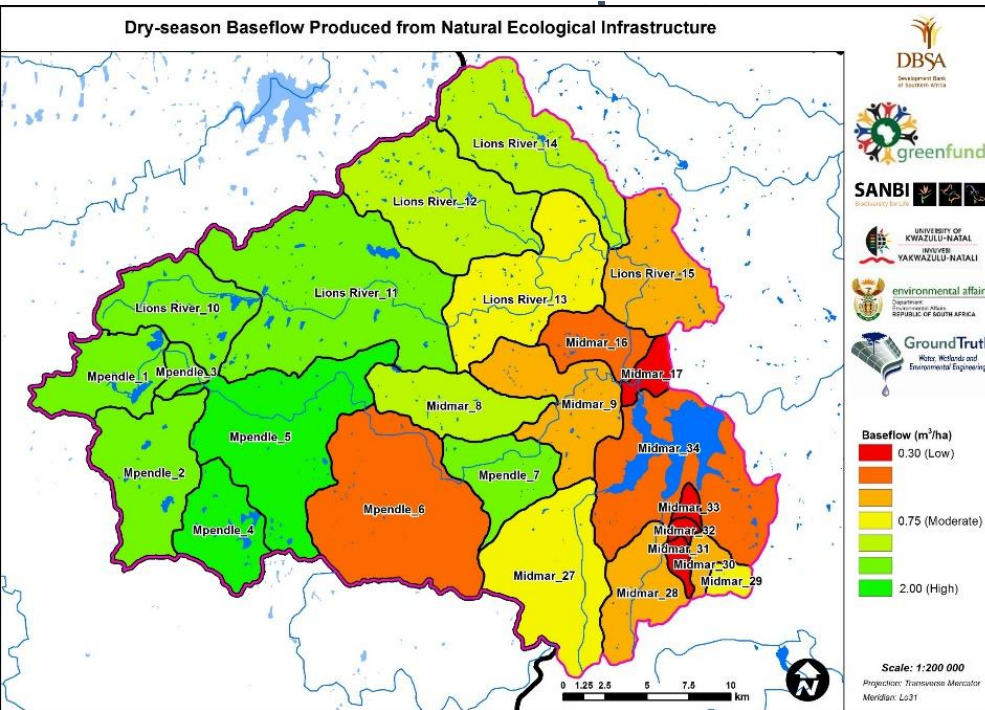
Dry-season Baseflow Produced from Degraded Grassland



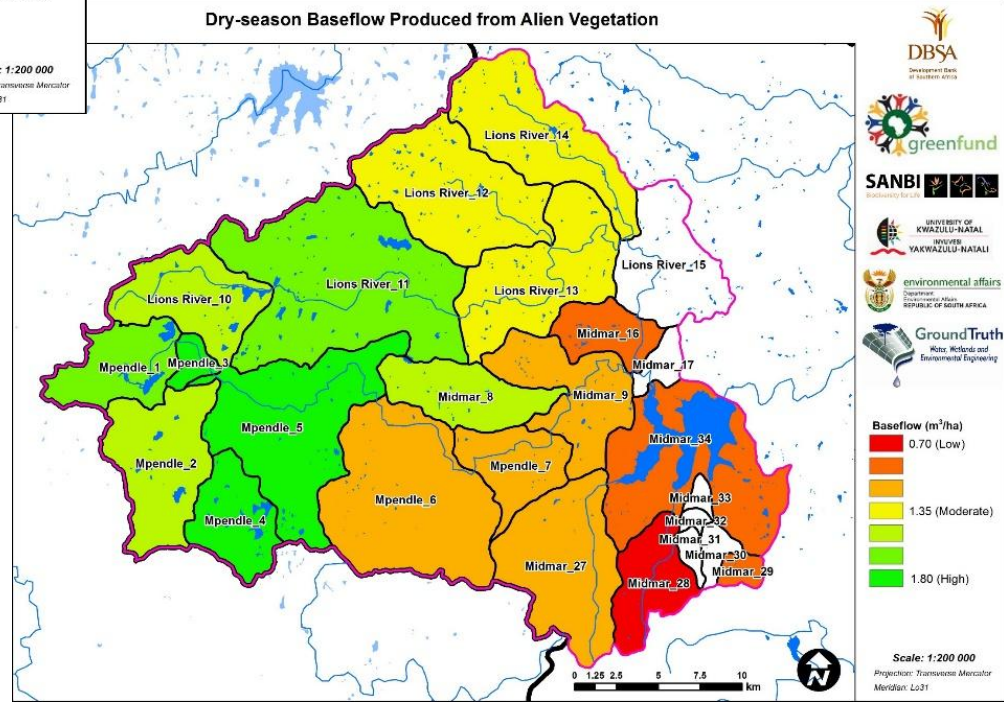
Degraded grassland

Alien plants vs. no alien

Good condition/natural grassland



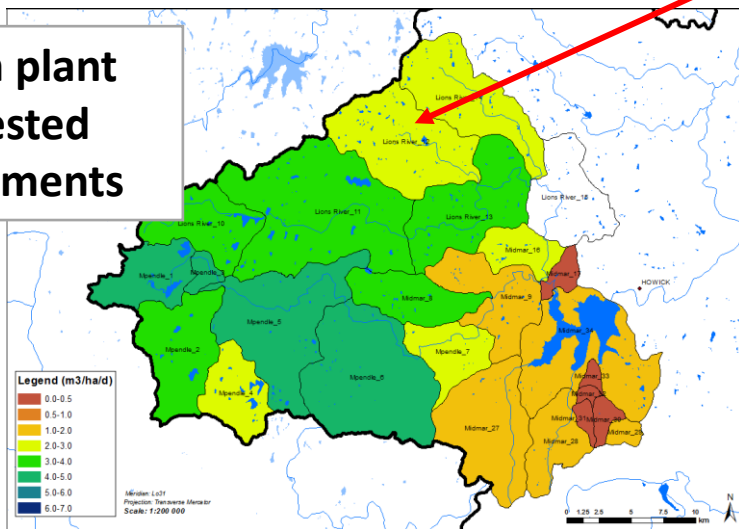
Alien plant infested
catchments



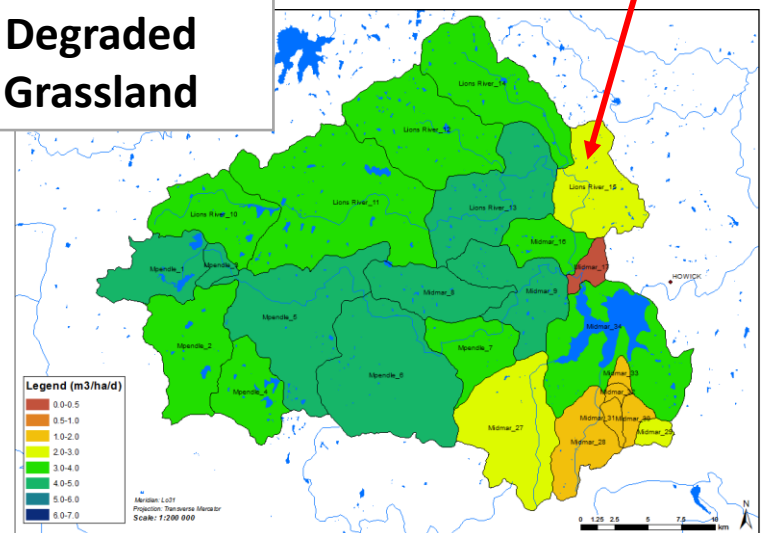
Investment Guide – Hydro Component

| | Streamflow (m³/ha/mon) in wet season | | | | Potential gain per ha rehabilitated (m³/ha/mon) rehabilitated to nat veg (assuming full functionality) | |
|-----------|--------------------------------------|-------------------|--------|--------------------|--|--------------------|
| Catchment | All EI | Natural Grassland | Wattle | Degraded Grassland | Wattle | Degraded Grassland |
| LR 10 | 91 | 131 | 99 | 105 | 32 | 26 |
| LR 11 | 135 | 143 | 99 | 118 | 44 | 22 |
| LR 12 | 111 | 131 | 66 | 102 | 65 | 29 |
| LR 13 | 137 | 138 | 98 | 134 | 41 | 3 |
| LR 14 | 113 | 111 | 69 | 108 | 42 | 3 |
| LR 15 | 114 | 137 | 137 | 68 | - | 68 |

Alien plant infested catchments



Degraded Grassland





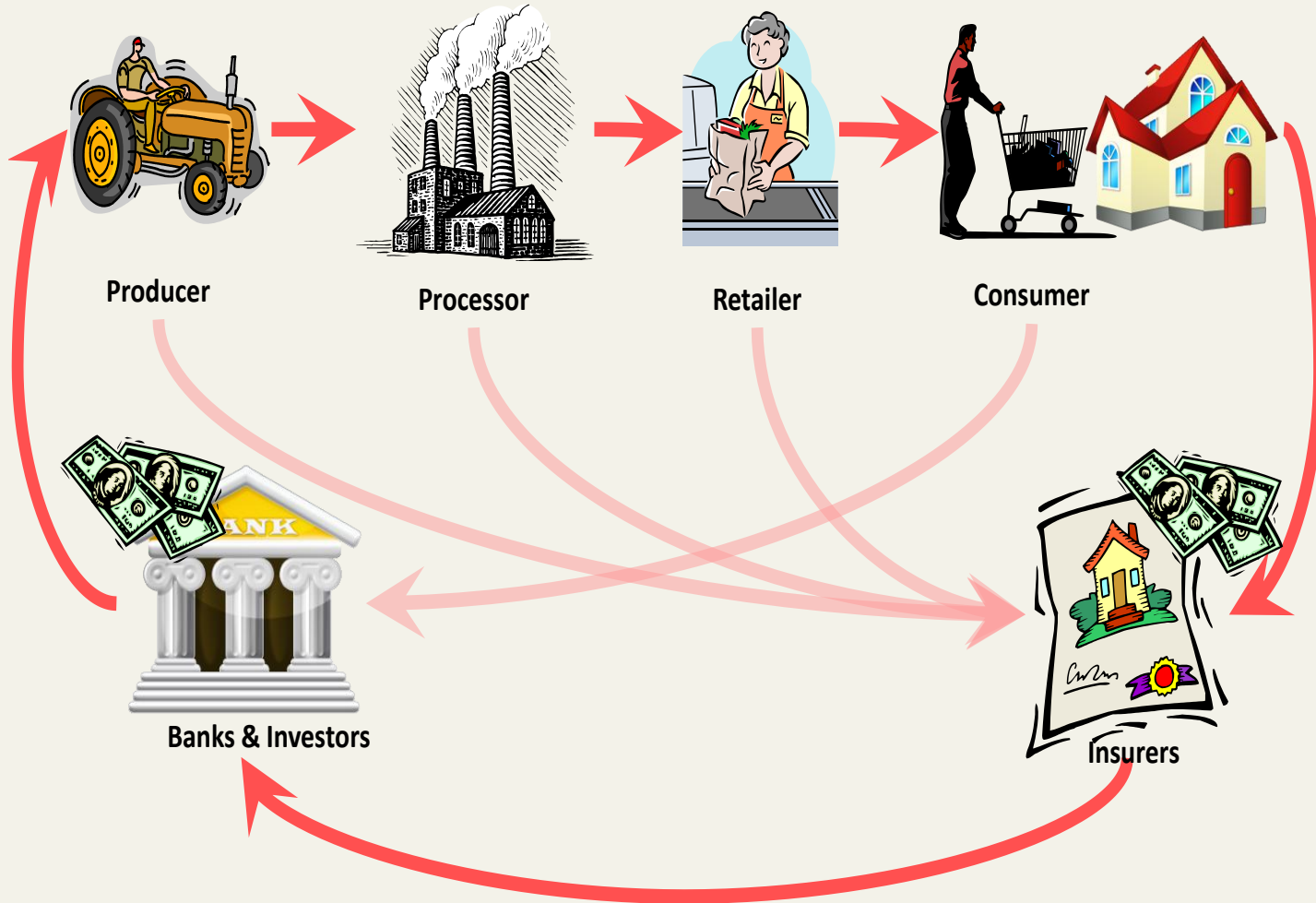
Enhancing ecological infrastructure in the uMngeni catchment through collective private sector action: The role of private finance and markets

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Major landuse and landcover types

Landuse

- Plantation
- Orchards
- Sugarcane
- Mines
- Urban
- Low density settlement
- Subsistence
- Commercial annual crops
- Smallholdings - grassland
- Dams
- Infrastructure

Other

- Wetlands
- Bushland and forest
- Grassland
- Other types

