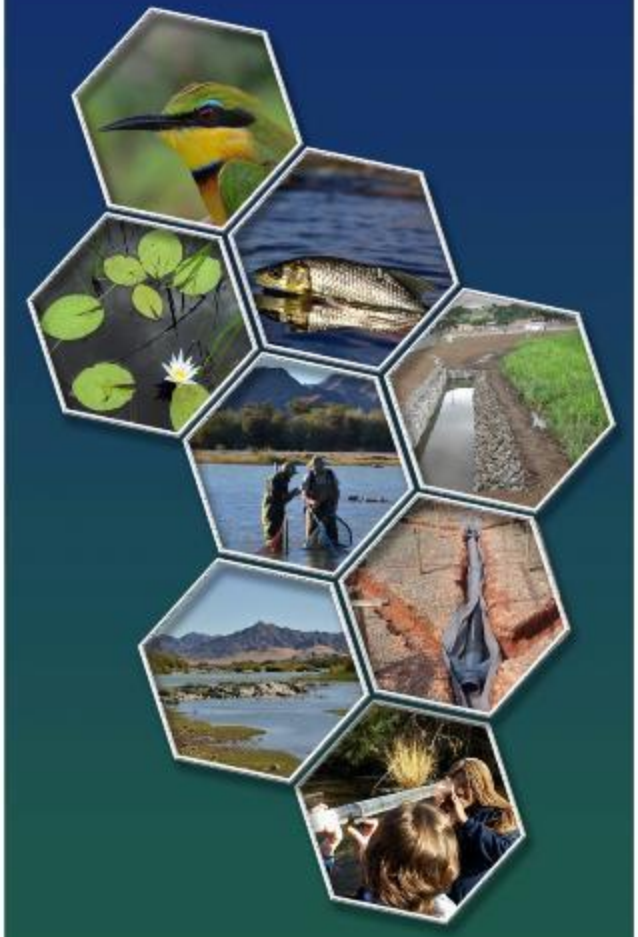
25th UCPP STRATEGIC PLANNING MEETING



July 2019

Conservation South Africa

Water Access, Sanitation and Hygiene **(WASH)** in the uMzimvubu Catchment

UMZIMVUBU CATCHMENT PARTNERSHIP PROGRAMME

ALFRED NZO DISTRICT MUNICIPALITY

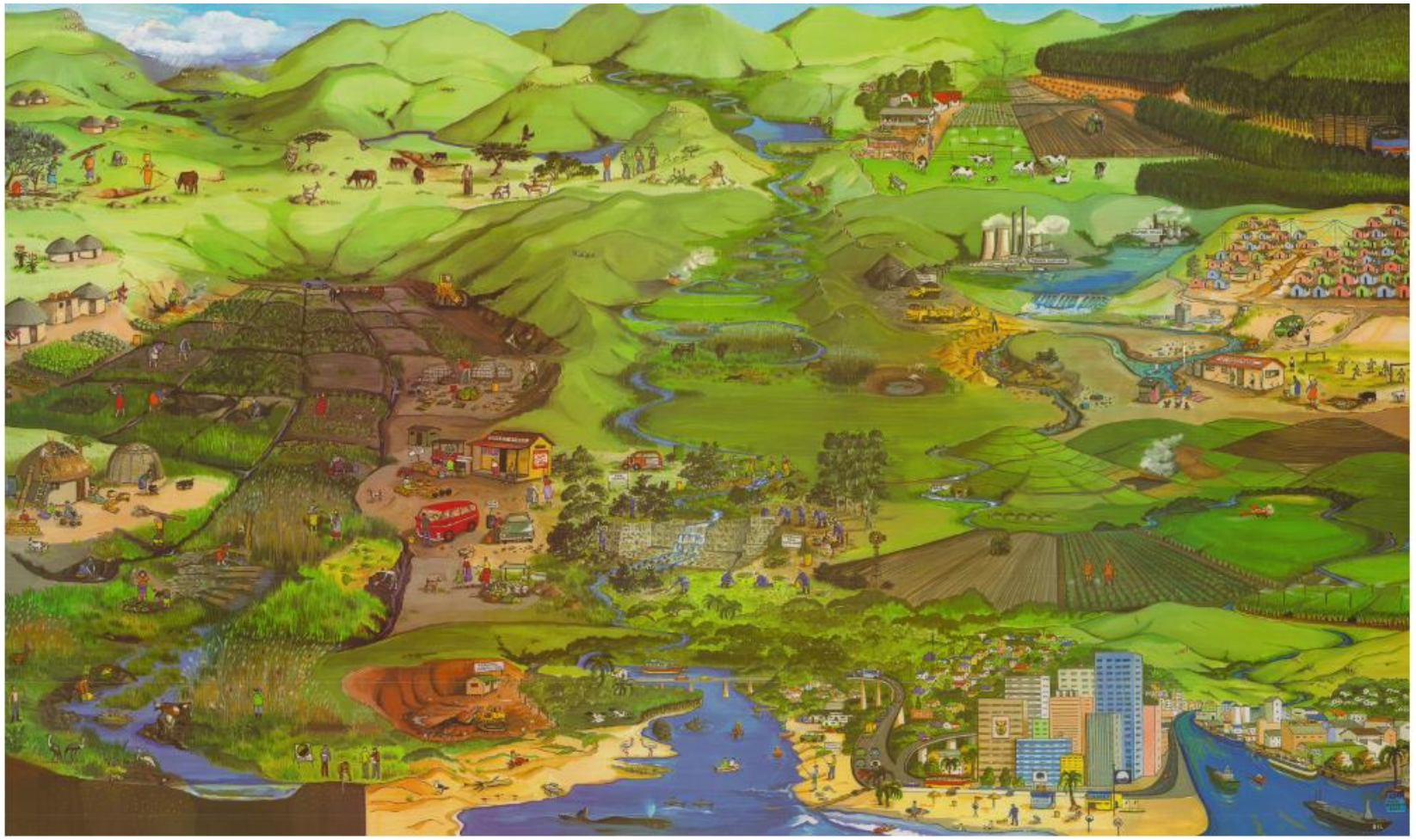
GroundTruth
Water, Wetlands and Environmental Engineering

CRITICAL ECOSYSTEM PARTNERSHIP FUND

ERS environmental and rural solutions

CONSERVATION SOUTH AFRICA
Member of the CI Network

Capacity for Catchments



https://capacityforcatchments.org/tools

GROUNDTRUTH

Dialogue & Discussion Tool

Dialogue Focused Discussion tool - Mzimvubu Catchment

General Questions

General questions relating to rivers and the environment - GroundTruth Water, Wetlands and Environmental Engineers, in conjunction with Conservation South Africa are interested in the environmental condition of the uMzimvubu Catchment. To better understand this, we would like to ask your a few questions below. Your input will be greatly appreciated. Should you require further clarity on this, please feel free to contact Bayanda Sonamzi 0732220937 or 0333431331.

Have you noticed any change in the catchment (rivers & the environment) lately?

Your answer

What previous/current activities surrounding rivers and the environment do you think has been the most beneficial?

Your answer

What do you think inhibits the work in this catchment?

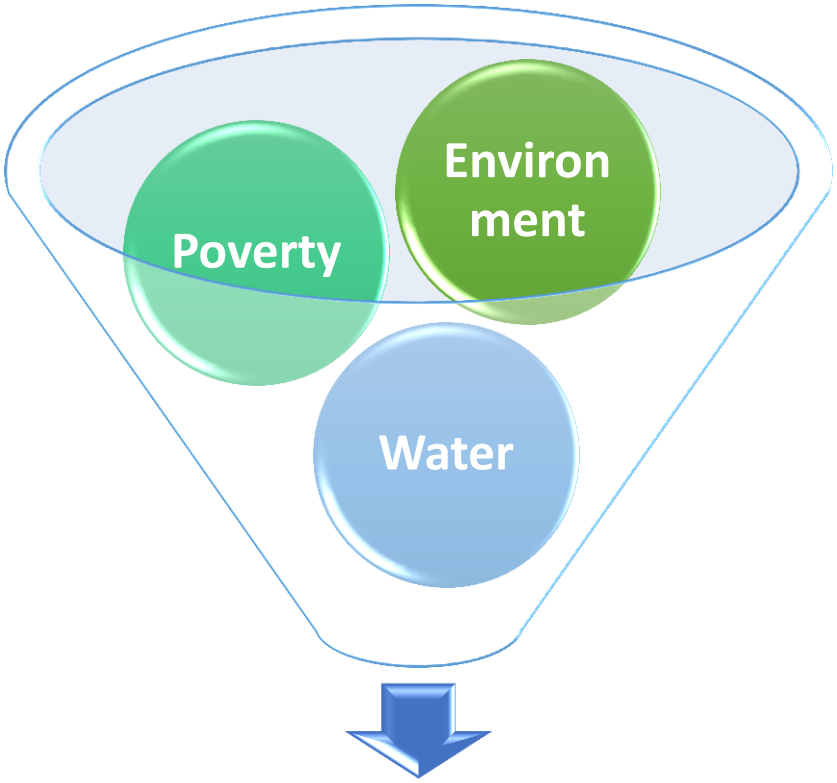
Your answer

What solutions would you suggest to improve management and conservation of rivers and the environment?

GROUNDTRUTH

uMzimvubu Catchment Partnership Programme

Develop and implement a collaborative catchment management strategy and restoration plan for the uMzimvubu Catchment.



'healthy catchments, *healthy rivers, healthy people*'

Small gains in WASH can translate into…
Significant gains for water-scarce countries such as South Africa!

GROUNDTRUTH

WASH in Watersheds: Design & Implementation

CORE PRINCIPLES

A

WASH projects should **protect/enhance ecosystem health and water related ecosystem services** (e.g. sustainable water quantity & quality)

B

Conservation projects should incorporate /consider WASH goals that provide **social/environmental benefits** in conjunction with **conservation goals**

C

WASH & conservation programs to promote **resilience** to future changes in water use, availability & climate patterns through **adaptive management** of **both natural & built infrastructure**

D

Climate-smart siting, design and operation of built infrastructure should be utilized to conserve and protect the broader watershed for sustainable WASH services.

E

WASH projects should use **natural infrastructure** to complement built infrastructure in planning and implementation.

F

Multi-level, multi-stakeholder engagement should be included for the adoption and long-term sustainable management of integrated WASH and conservation programs.

G

Stakeholder efforts to integrate freshwater conservation & improved WASH services should include **gender sensitivity** and a comprehensive approach to increase **equitable access** & **participation** of all groups

PRINCIPLES TO ACTION

1 Setting a common vision

2 Gathering information

3 Design

4 Implementation

5 Monitoring & evaluation

(adapted from Edmond *et al.*, 2013)

GROUNDTRUTH

WASH Monitoring Framework

GOAL: Improved human well-being and ecosystem health

SO: Increase access to and use of WASH products and services integrated with the ability of an ecosystem to sustain these services

IR 1 Increase first time and improved access to sustainable water supply

- **1.1** % of households (HH) with access to improved drinking water source
- **1.2** # of people with access to improved drinking water source
- **1.3** # of reported incidence of water borne diseases
- **1.4** # of water points with 0 fecal coliforms per 100/ml
- **1.5** #of village water user committee active at least 3 months after training

IR 2 Increase first time and improved access to sanitation

- **2.1** # of people gaining access to improved sanitation facility
- **2.2 (a)** # of people practicing open defecation
  2.2 (b) # of open defecation areas in a village
- **2.3** # of communities certified as "open defecation-free" (ODF)
- **2.4** # of sanitation entrepreneurs
- **2.5** # of sanitation products and services available locally
- **2.6** % of population with improved access to sanitation products and services
- **2.7** # of people with improved sanitation products and services

IR 3 Increase adoption of key hygiene behaviors

- **3.1 (a)** # of people practicing hand washing at critical times
  3.1 (b) # of functional hand washing facilitates
- **3.2** % of HH with soap (or ash) and water at a hand washing facility commonly used by family members
- **3.3 (a)** # of liters of drinking water disinfected with point-of-use (POU) treatment products
  3.3 (b) % of HH that treat drinking water with POU treatment products
- **3.4** % of HH in target areas purchasing and correctly using recommended water treatment technologies
- **3.5 (a)** % of HH using safe handling practices
  3.5 (b) # of households storing their drinking water safely in clean containers
- **3.6** # of reported incidences of water borne diseases

IR 4 Improved governance of water resources

See value-added indicators below

IR 5 Improved freshwater ecosystem functionality, including water quality and natural flow regime

- **5.1 (a)** reduction of turbidity levels and total suspended solids (TSS) of water (where levels are impairing ecological function)
  5.1 (b) % difference between turbidity level and 5 or >5 NTUs
- **5.2** reduction in levels of phosphates and nitrates (in mg/L)
- **5.3 (a)** changes in the abundance and distribution of indicator species
  5.3 (b) # of E. coli and other fecal coliforms per 100 ml of water found at water source
- **5.4** natural variability of the system and continuous stream flow are maintained (including sedimentation patterns)
- **5.5** ratio of total renewable freshwater resources to freshwater withdrawal rate
- **5.6** % change in water flow/oxygenation rates/temperature regimes
- **5.7** % reduction in color (Pt-Co units. 'Platinum Cobalt' or Hazen units)
- **5.8** # of physical barriers obstructing migratory movements of species

IR 6 Enhanced integrity of terrestrial and freshwater biodiversity

- **6.1** % of native vegetative cover
- **6.2** changes in the diversity index of native flora and fauna
- **6.3** distribution and abundance of invasive species

3

(ABCG, 2014)

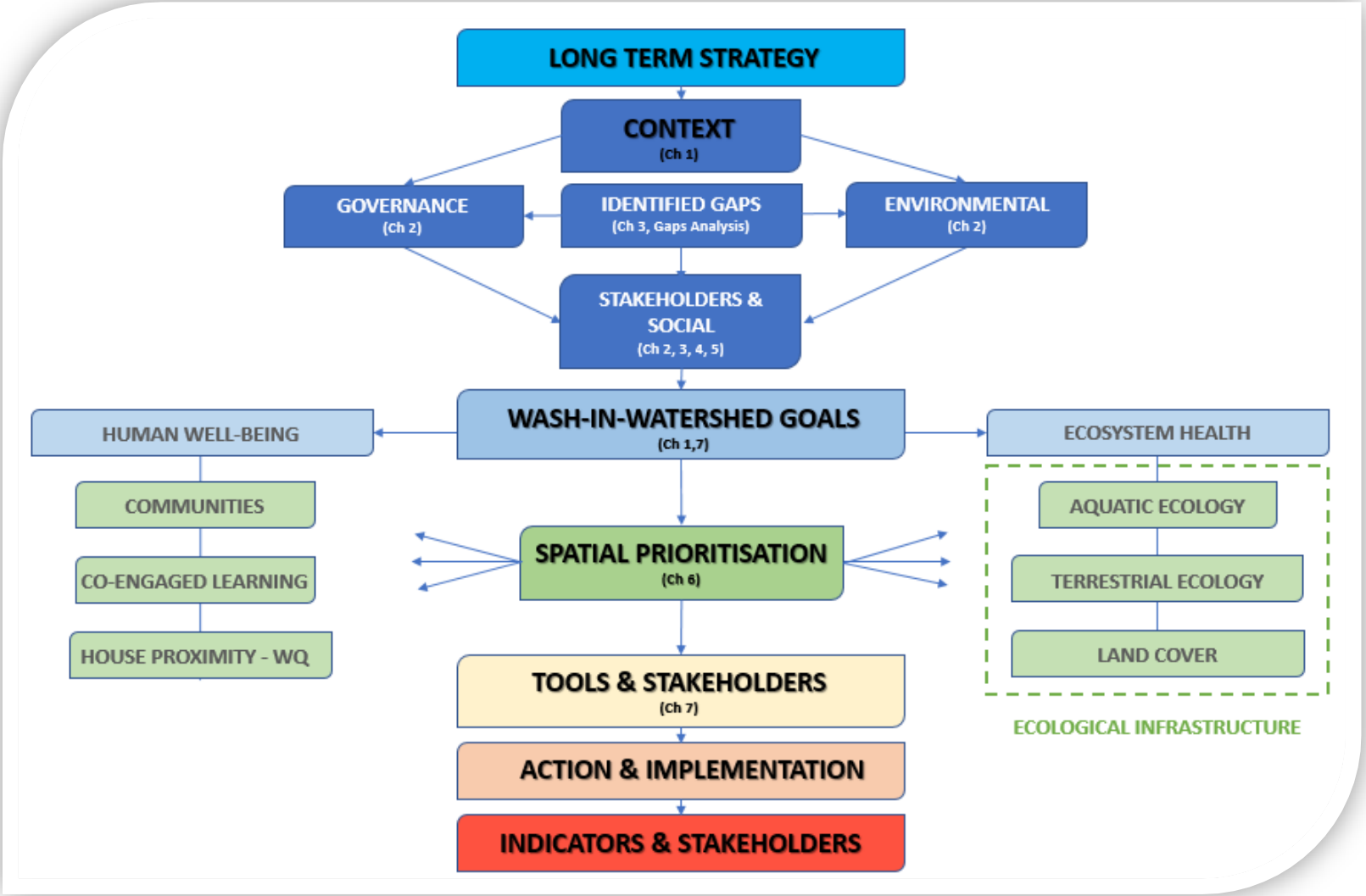
GROUNDTRUTH

Objective of this Study

Provide **collaborative support** to CSA to **build understanding of WASH** (Water Access, Sanitation and Hygiene) within the uMzimvubu Catchment in order to inform **design, implementation and coordination** of future WASH projects in the catchment.

GROUNDTRUTH

Study Process: Flow & Structure



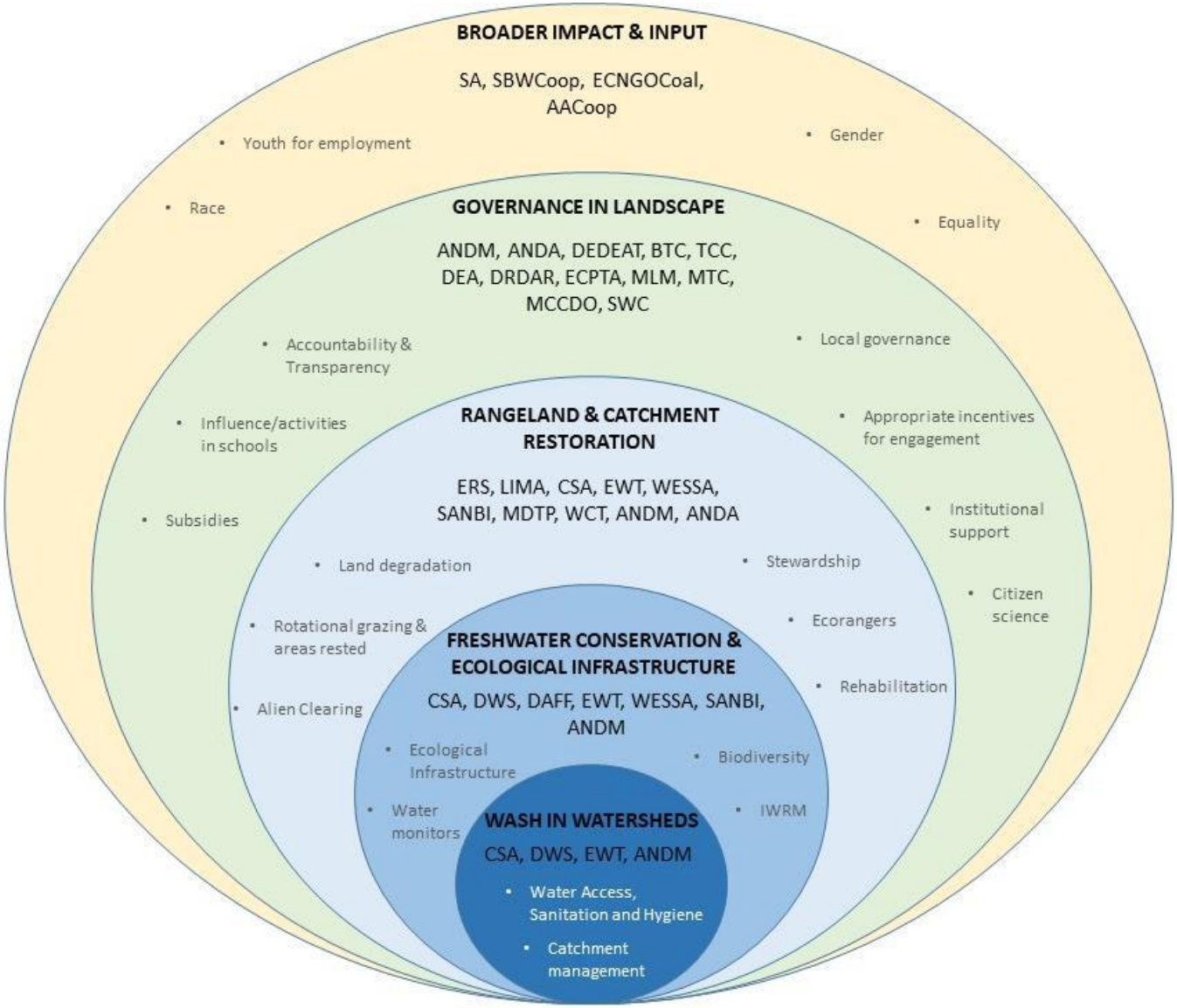
GROUNDTRUTH

Summary of Key Gaps

- **Lack in consistency of data** collection across temporal and spatial scales
- **Irregular sampling**, with several large gaps in years where no data was collected
- **Limited coverage** of data collection within the uMzimvubu Catchment, and the ANDM specifically
- Distinct **lack of comprehensive baseline** sampling of aquatic ecosystems
- **Poor site selection** for sampling to monitor potential impacts, and very few sites have been continually monitored
- Most notably, **spatial datasets** pertaining to work carried out in the catchment (as well as raw biophysical and climate data) are not readily available

GROUNDTRUTH

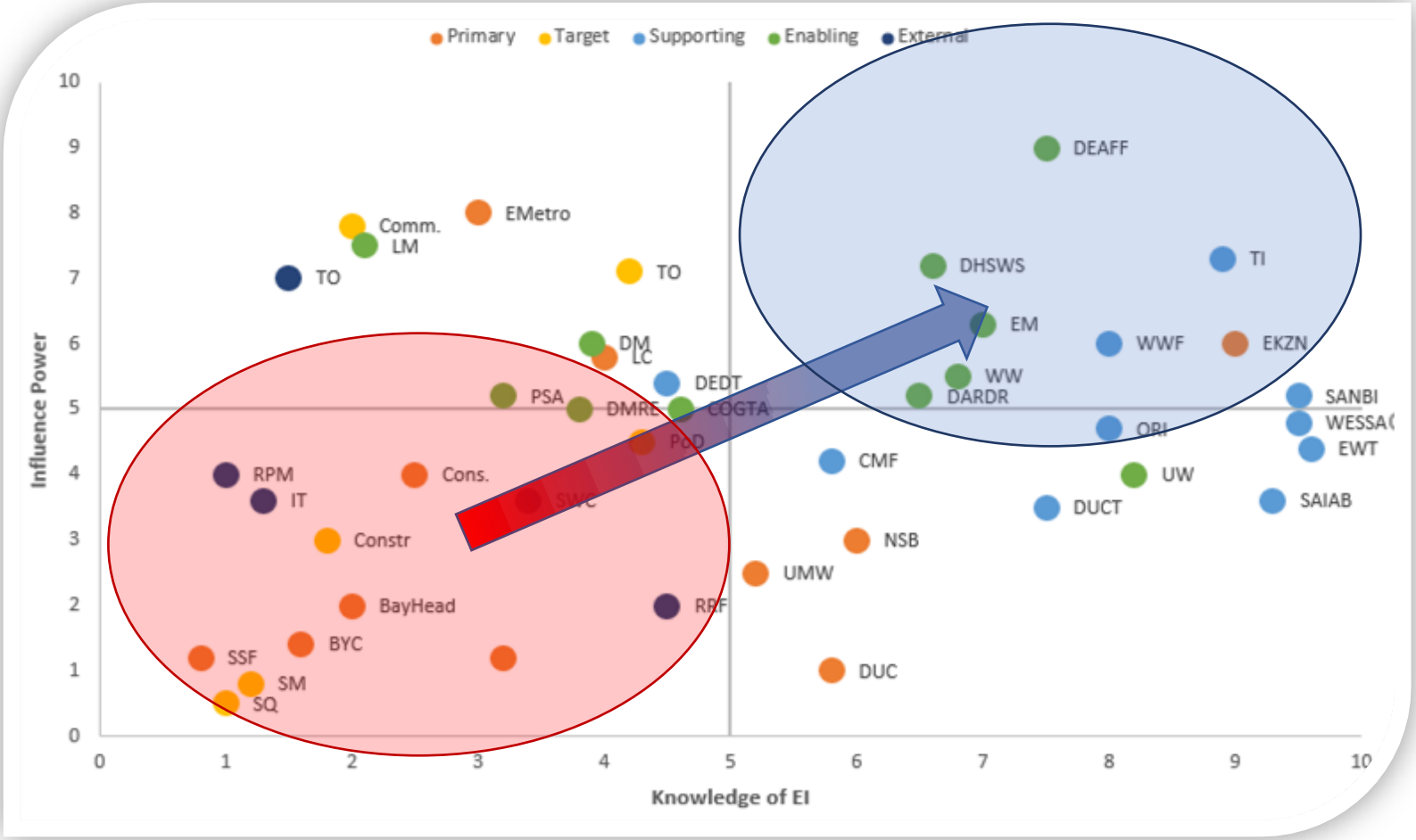
Spheres of Stakeholder Influence



GROUNDTRUTH

Stakeholder Considerations

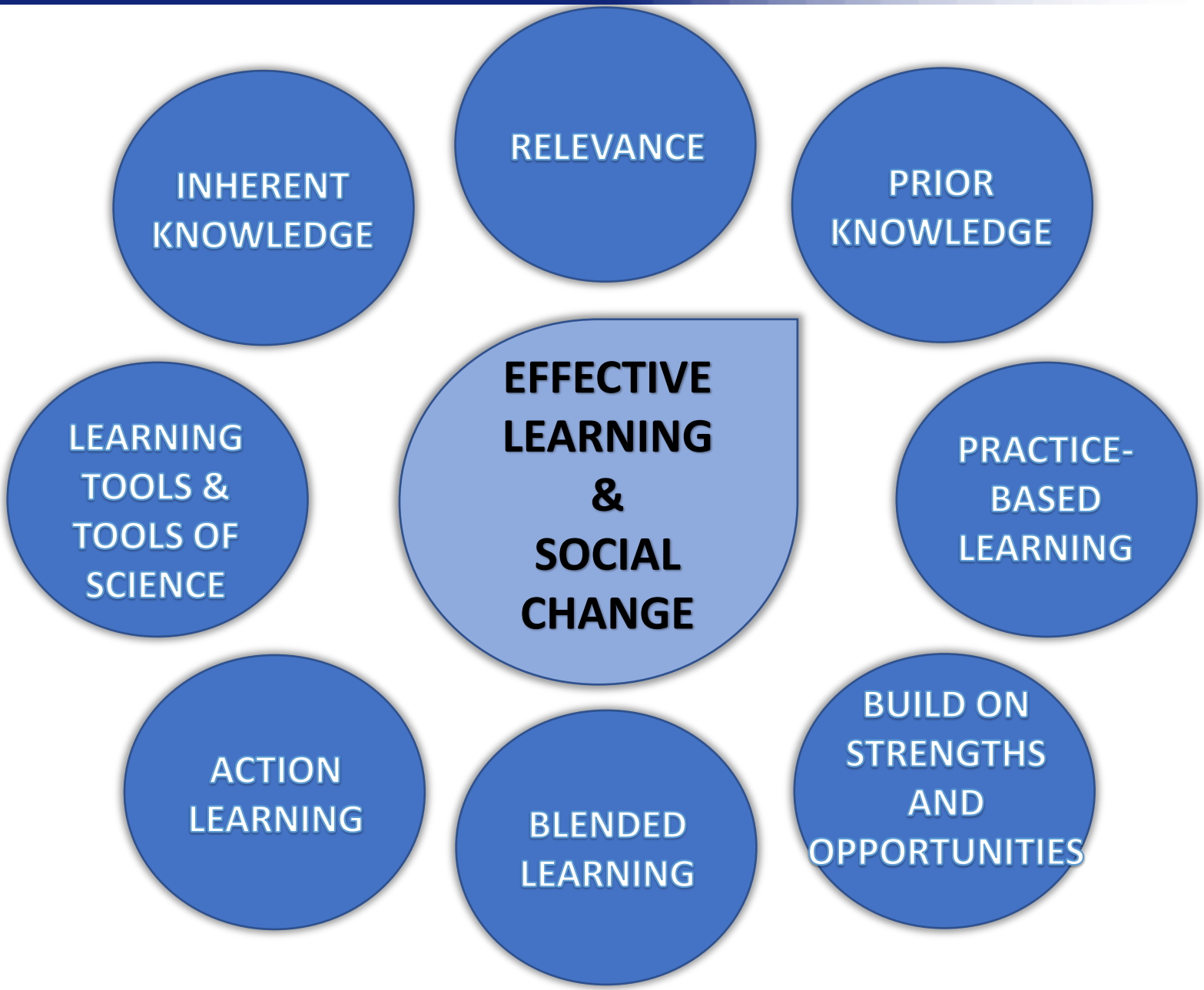
Stakeholder mapping: important for evaluating long-term sustainability



Example of power mapping exercise of stakeholders within the Umngeni Catchment
(GroundTruth 2019 for the NIRAS S2S report)

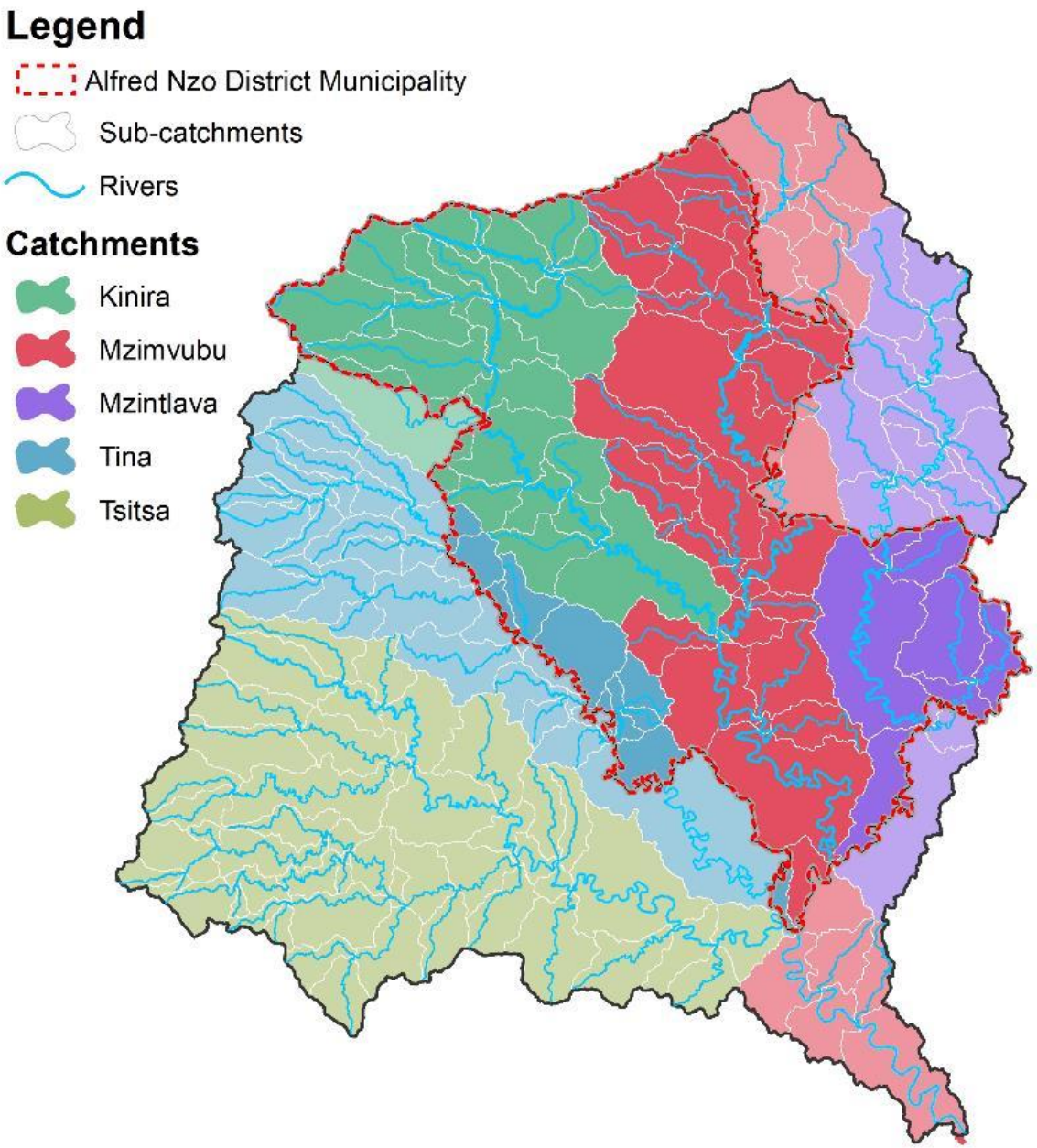
GROUNDTRUTH

WASH in Watershed: Social Process



GROUNDTRUTH

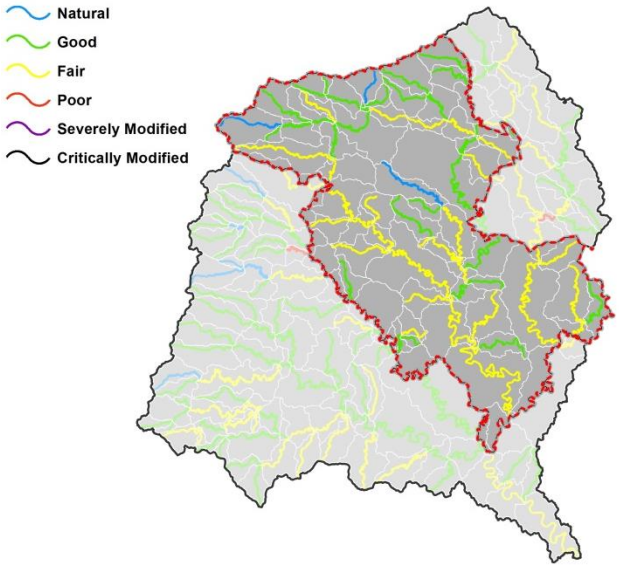
WASH Focus in the uMzimvubu Catchment



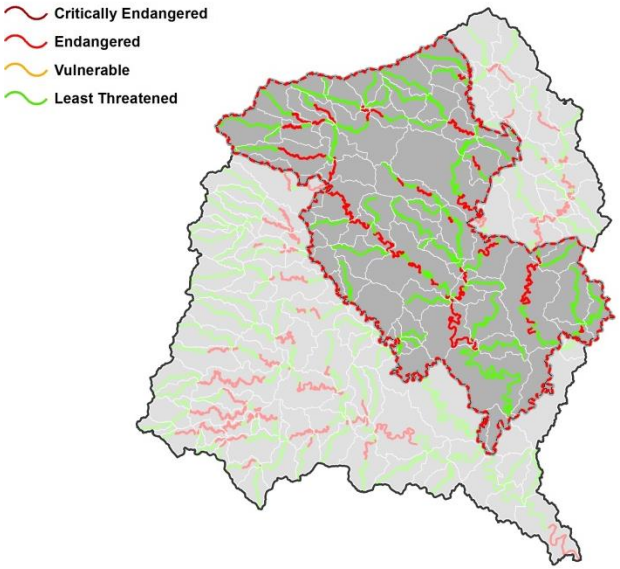
GROUNDTRUTH

Catchment Prioritisation: Freshwater Ecosystems

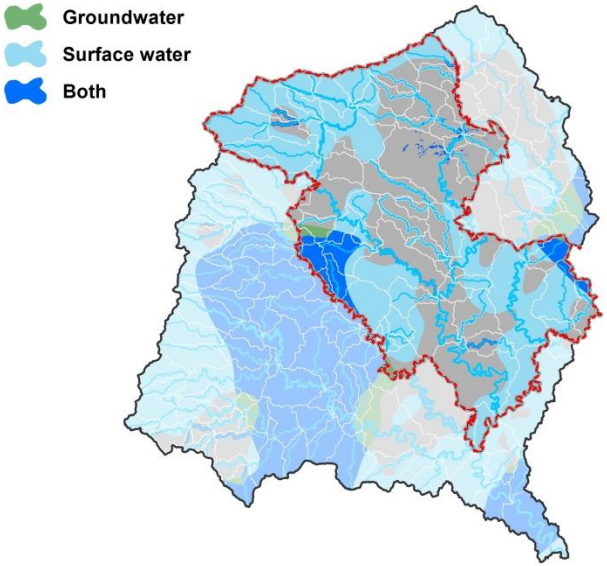
2014 River Present Ecological State (PES)



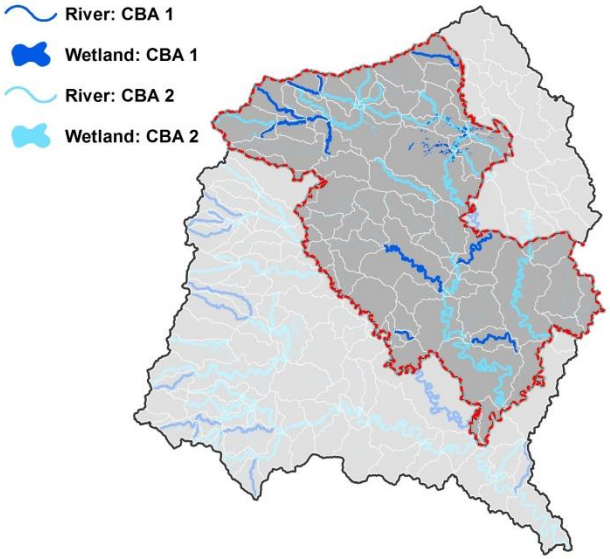
River Threat Status



2017 Strategic Water Source Areas (SWSAs)

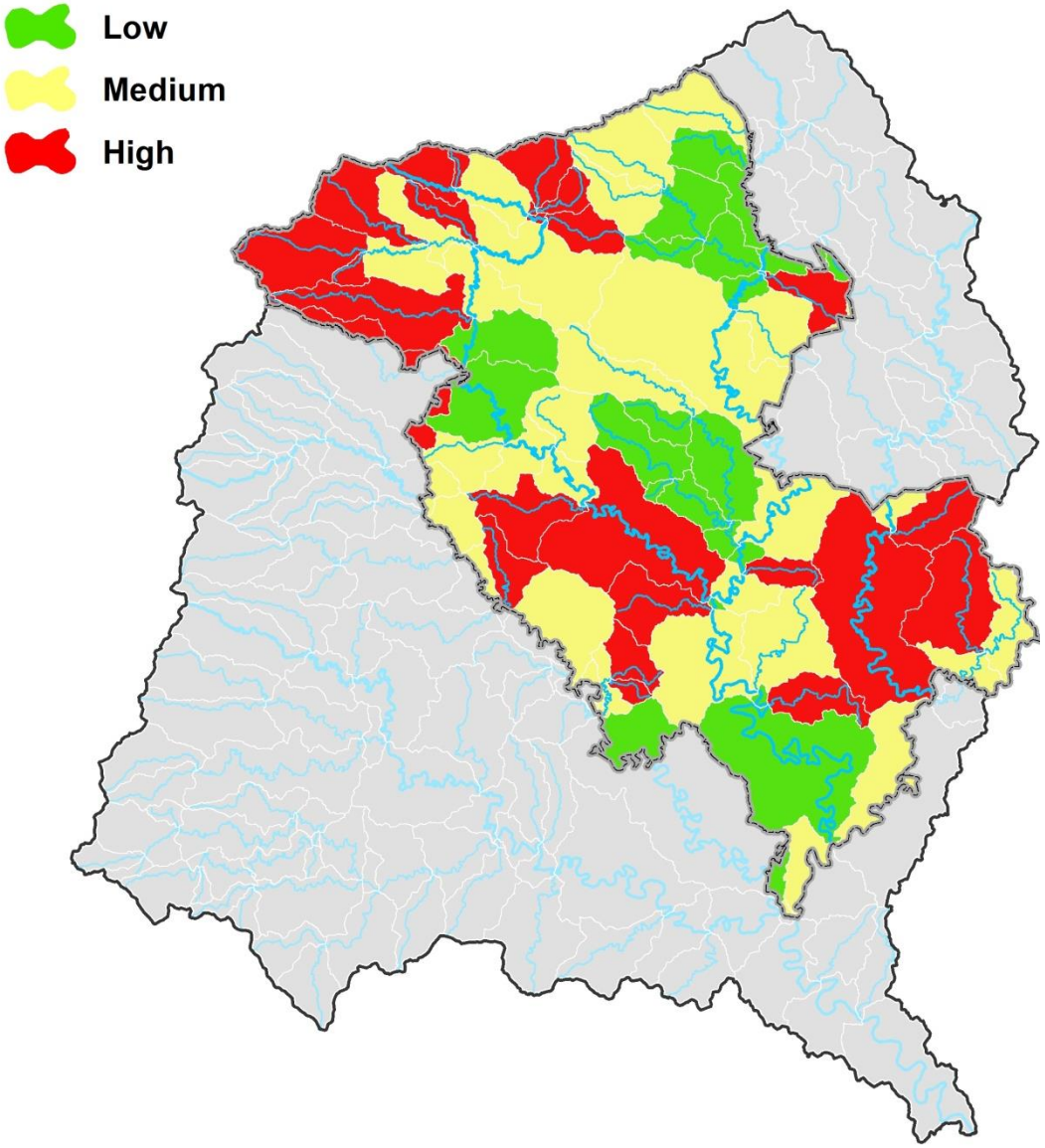


2017 Aquatic Critical Biodiversity Areas (CBAs)



GROUNDTRUTH

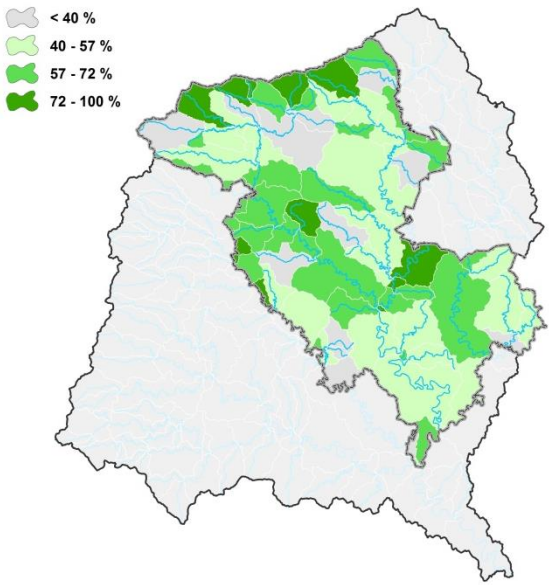
Catchment Prioritisation: Freshwater Ecosystems



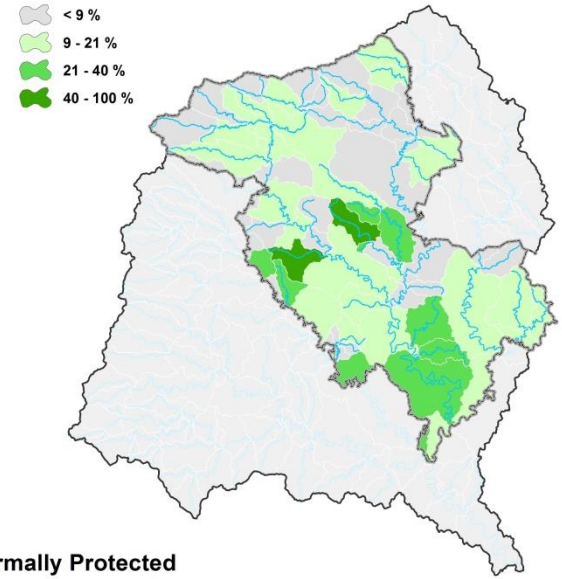
GROUNDTRUTH

Catchment Prioritisation: Terrestrial Biodiversity

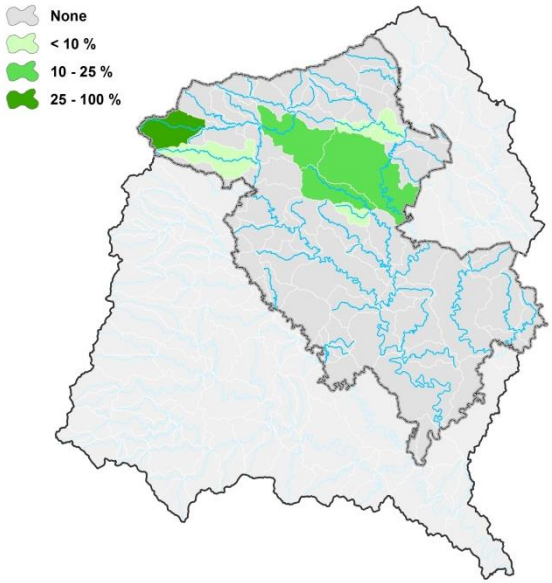
Percentage of Catchments: CBA1 (2017)



Percentage of Catchments: CBA2 (2017)

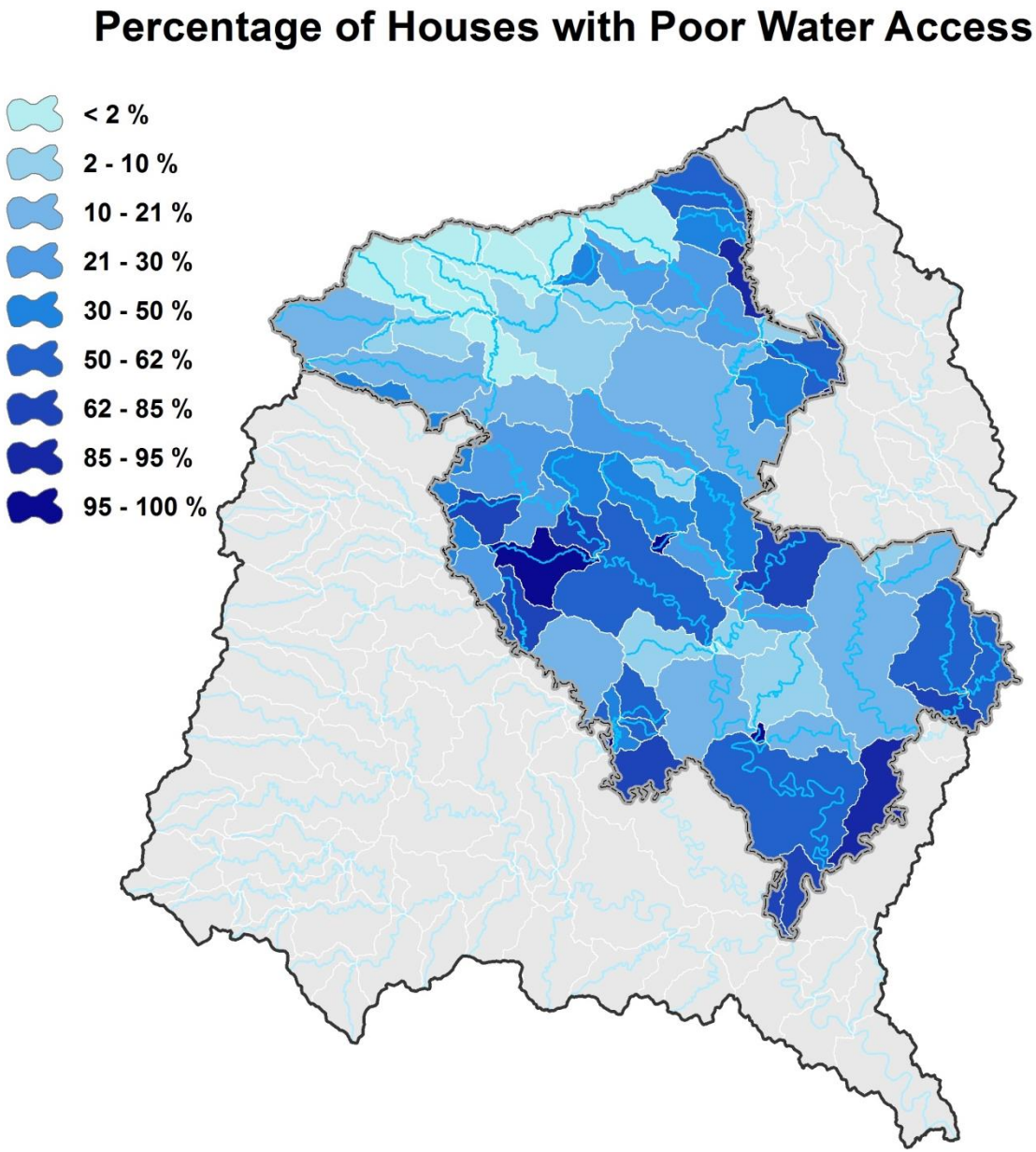


Percentage of Catchments: Formally Protected



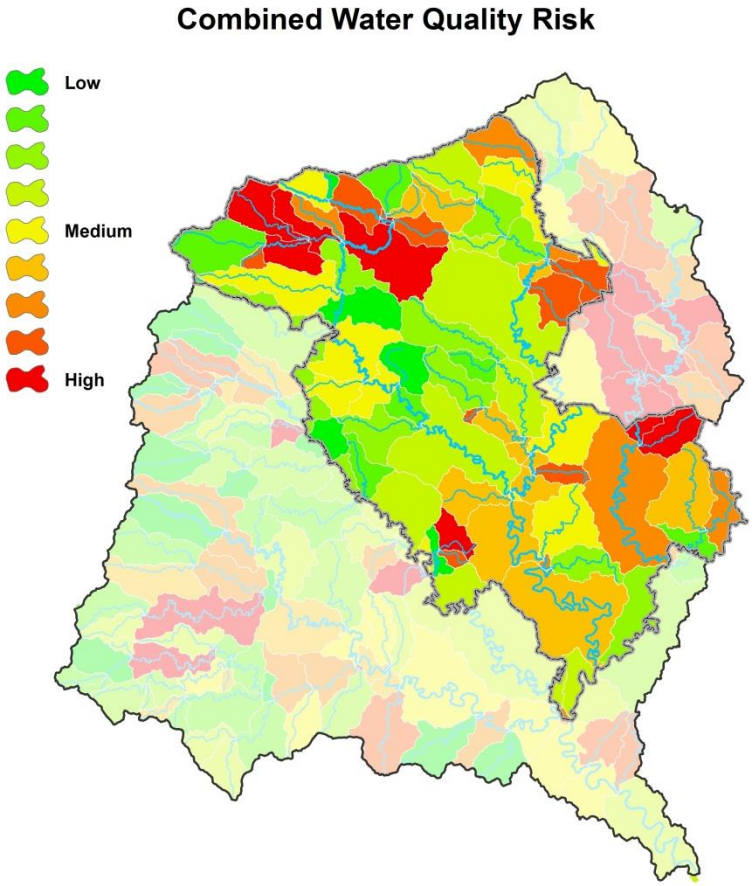
GROUNDTRUTH

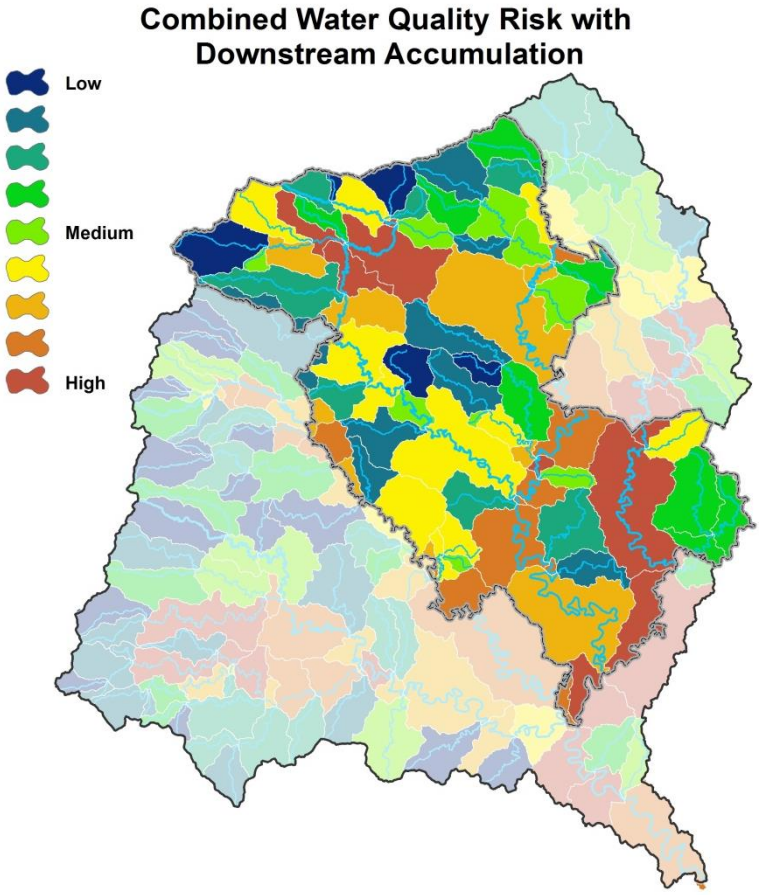
Catchment Prioritisation: Water Access



GROUNDTRUTH

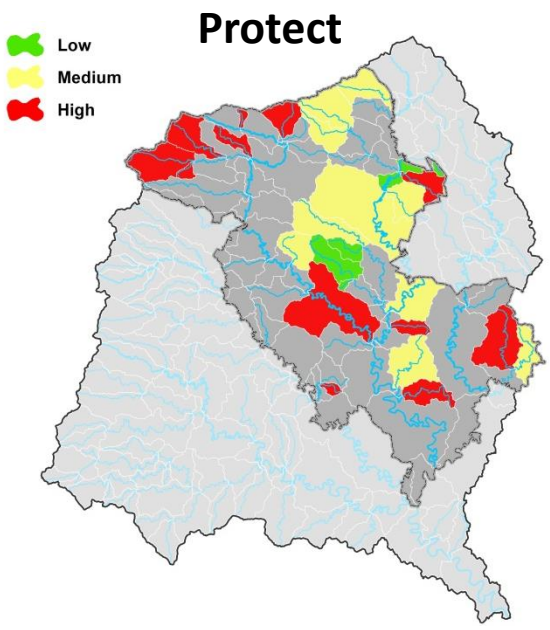
Catchment Prioritisation: Water Quality Risk

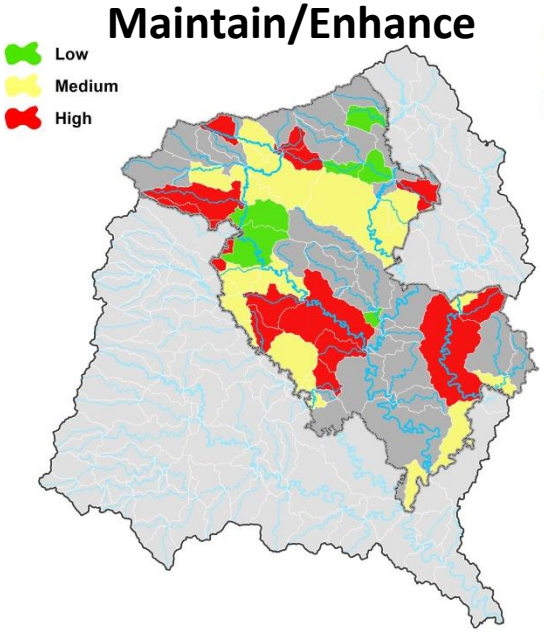


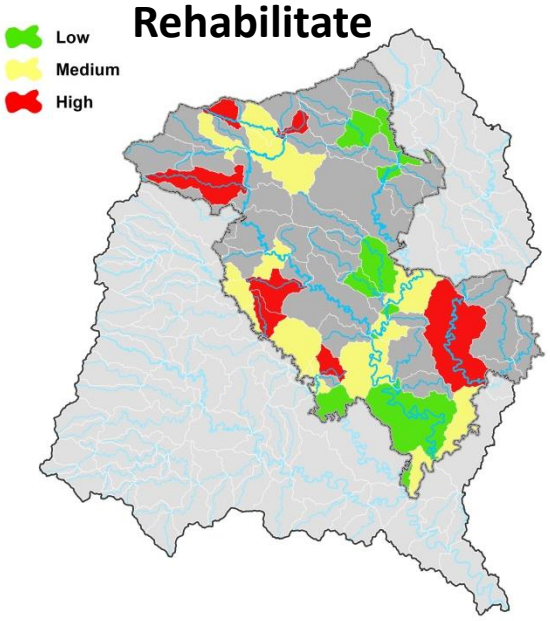


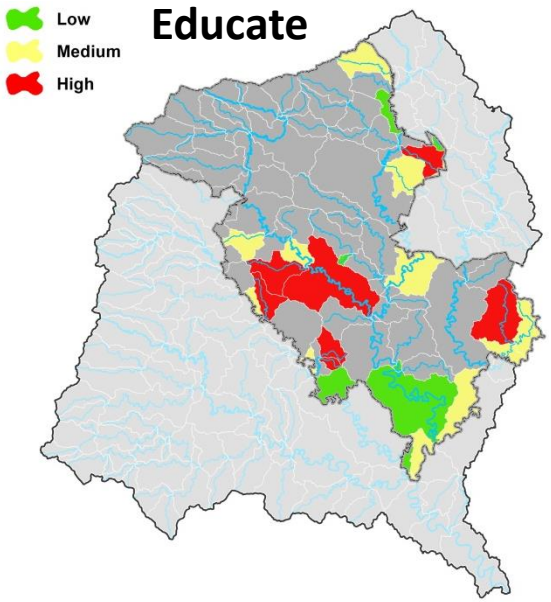
GROUNDTRUTH

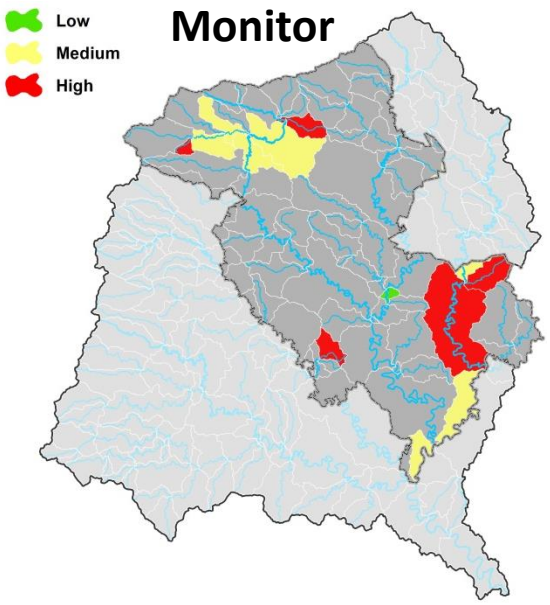
Catchment Prioritisation: WASH Interventions











GROUNDTRUTH

Strategic Spatial Response Framework

SQ4	Communities (top five biggest)	Protection of Ecological Infrastructure		Maintain Ecological Infrastructure		Rehabilitate/Restore Ecological Infrastructure		Access	Sanitation	Co-engaged action learning processes	Monitoring
		Aquatic	Terrestrial	Aquatic	Terrestrial	Aquatic	Terrestrial				
Kinira Catchment											
4887	HILLSIDE, LOKISHINI, BEDFORD	•	•								
4892	MABULA, TSITSA-MVULA, DRESINI, THUTHANENG, KWAMADLANGALA		•	•		•					
4898	KWAMADLANGALA	•	•								
4903	MAGOGOGWENI, ST PAUL, NKOSANA, MABULA, TSENULA			•	•	•	•				
4912	EZIKAMERENI, KGUBETSOANA, KUNTLOKOVANG, KGUBETSOANA, MAHARING	•	•						•		
4928	MATIMA, HILLSIDE, MAGEME, TSITSONG		•	•		•			•		
4939	KGUBETSOANA, DIKOTOBANG, KGUBETSOANA, DIAHOS PONTSENG, KUMETSWENG					•	•				•
4956	DIKOTOBANG, MOPENG, DIAHOS PONTSENG, TSITSA-MVULA, MALOTO	•			•		•				

GROUNDTRUTH

enkosi kakhulu!

"The uMzimvubu, the catchment that can teach South Africa a new way of being"

(Jules Newton, 12th UCPP Strategic Planning Meeting, Matatiele, February 2019)