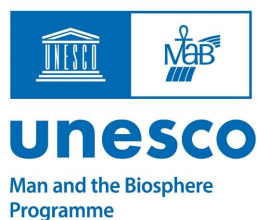


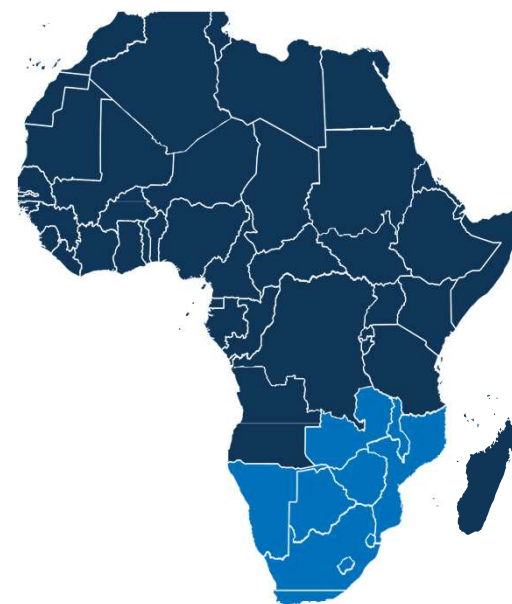
Component 3 - Direct landscape-level interventions and on-the ground implementation

WP5 (lead UNESCO): Water Funds / Payments for ecosystem services / GCF concept note

Guy Broucke, Regional Programme Specialist, Natural Sciences



Local and Indigenous Knowledge Systems



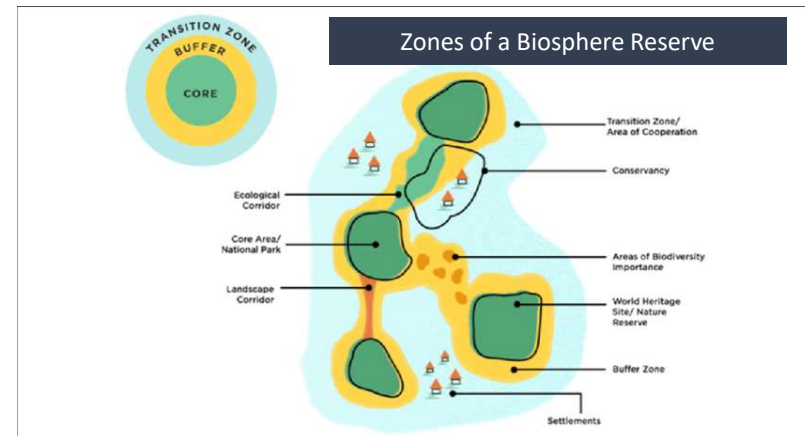
Programme Areas and countries covered by ROSA

Biosphere Reserves in southern Africa

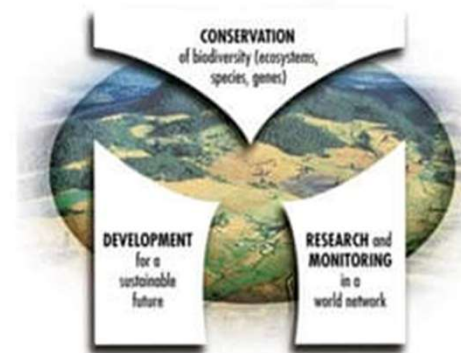
NAME OF BR	COUNTRY	YEAR
Kogelberg	South Africa	1998
Cape West Coast	South Africa	2000
Waterberg	South Africa	2001
Kruger 2 Canyons	South Africa	2001
Cape Winelands	South Africa	2007
Vhembe	South Africa	2009
Gouritz Cluster	South Africa	2015
Magaliesberg	South Africa	2015
Garden route	South Africa	2017
Groot Marico	South Africa	2018
Mount Mulanje	Malawi	2000
Lake Chilwa Wetland	Malawi	2006
Middle Zambezi	Zimbabwe	2010
Quirimbas	Mozambique	2018
Lubombo	eSwatini	2019
Matseng	Lesotho	2021
Chimanimani	Zimbabwe	2022
Kafue Flats	Zambia	2022

Evolution

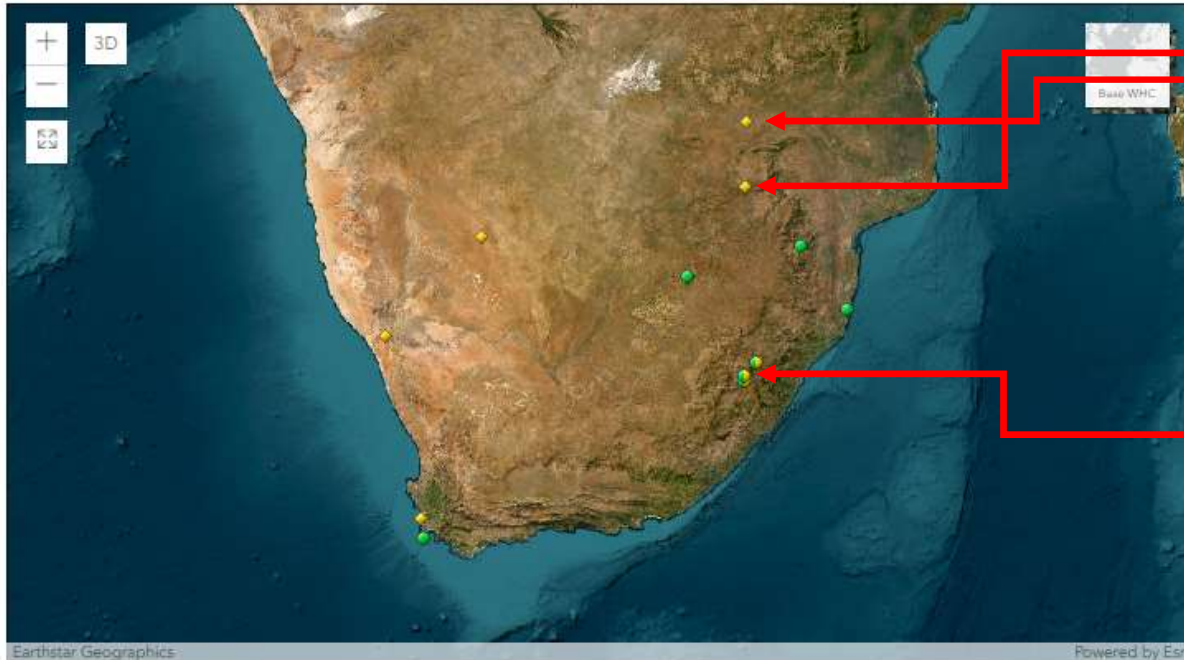
- first generation often NP with a buffer
- since 1995 – model with 3 zones, 3 functions



Functions of a Biosphere Reserve



Properties inscribed on the World Heritage List **10**



Cultural **5**

- Fossil Hominid Sites of South Africa (1999, 2005)
- Mapungubwe Cultural Landscape (2003)
- Richtersveld Cultural and Botanical Landscape (2007)
- Robben Island (1999)
- #Khomani Cultural Landscape (2017)

Natural **4**

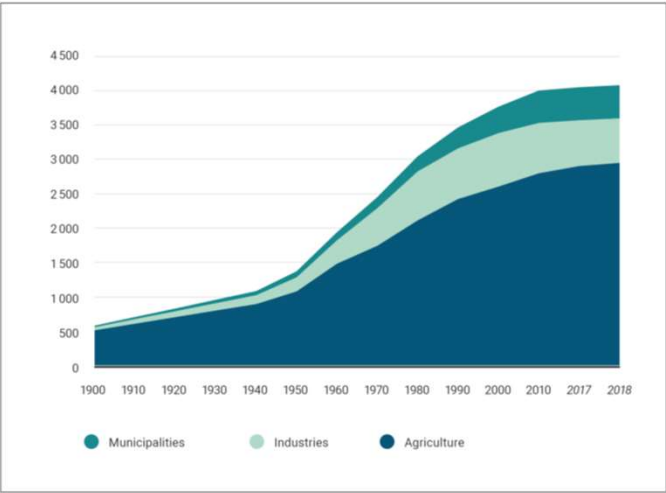
- Barberton Makhonjwa Mountains (2018)
- Cape Floral Region Protected Areas (2004, 2015)
- iSimangaliso Wetland Park (1999)
- Vredefort Dome (2005)

Mixed **1**

- Maloti-Drakensberg Park (2000, 2013)

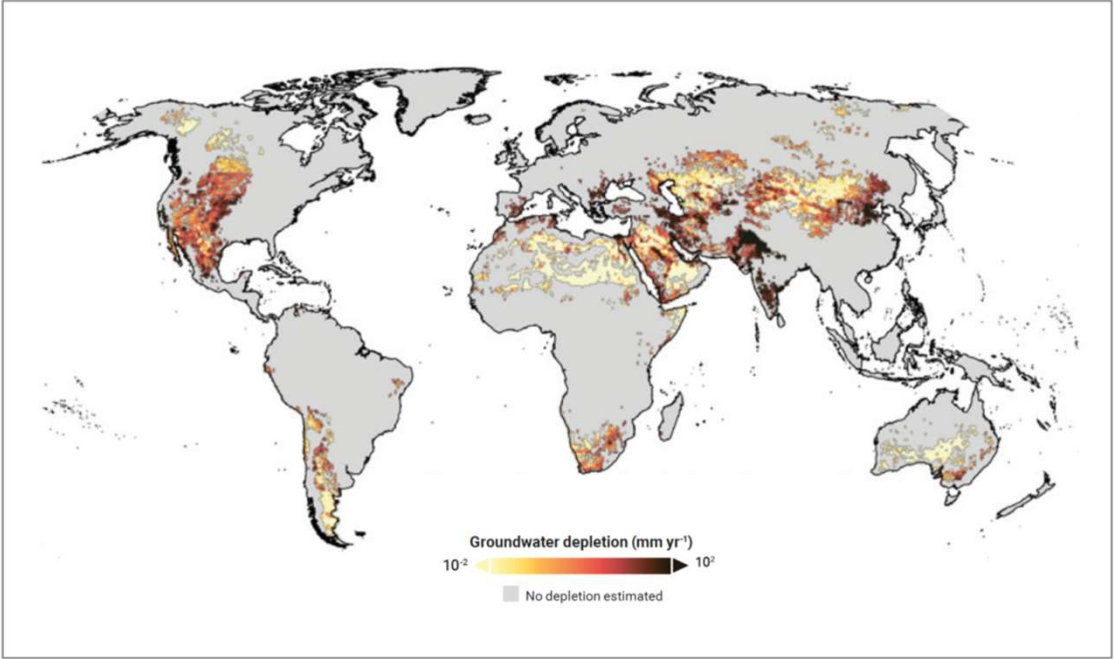
Water Risk (source: UNESCO WWDR 2023)

Figure P.1
Evolution of global water
withdrawals, 1900–2018
(km³/year)



Source: FAO (2022, fig. 1.23, p. 71, based on AQUASTAT).

Figure P.5 Groundwater depletion rates



Source: Adapted from United Nations (2022a, fig 6.3, p. 95).

Water Risk (source: UNESCO WWDR 2023)

Figure P.4 Annual baseline water stress

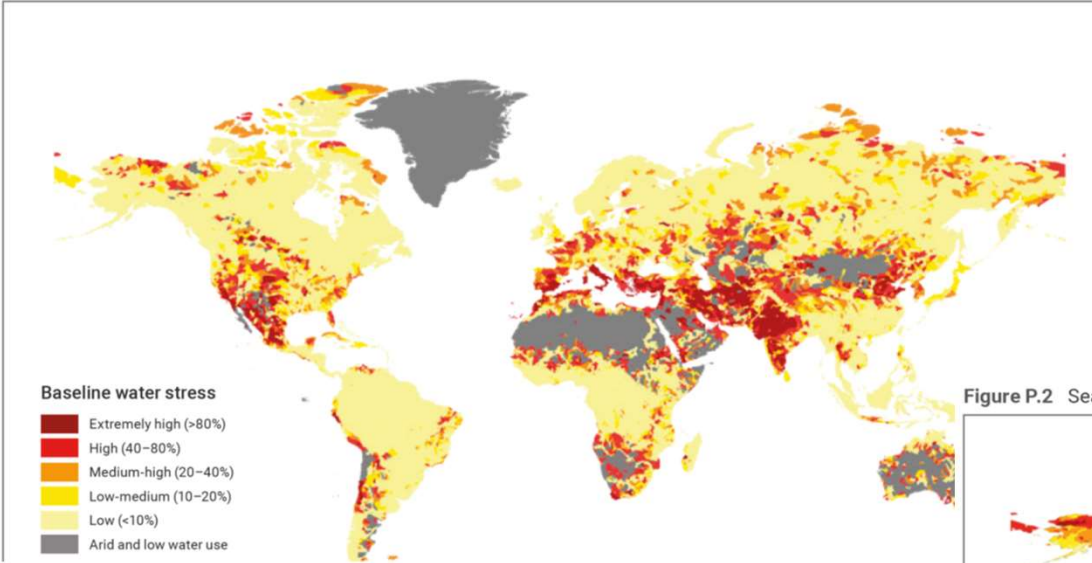
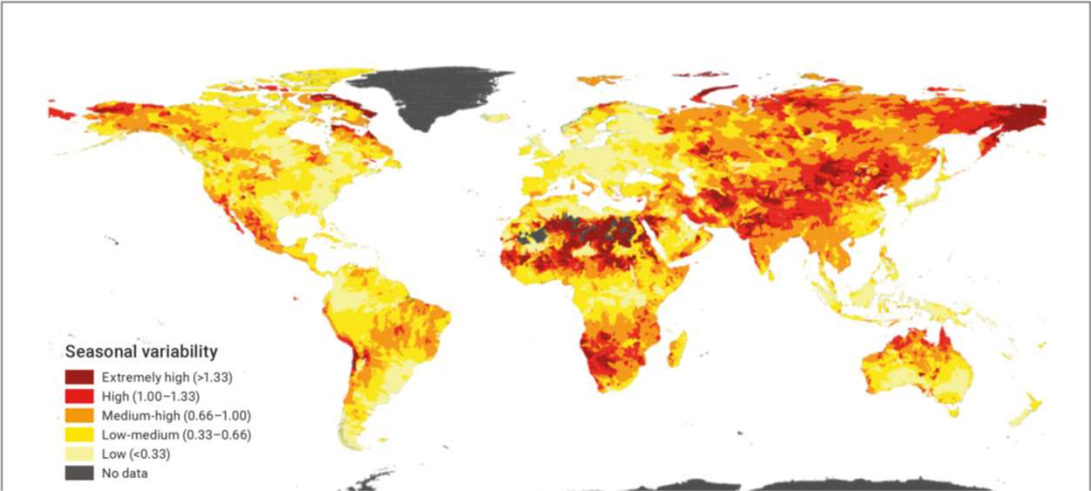
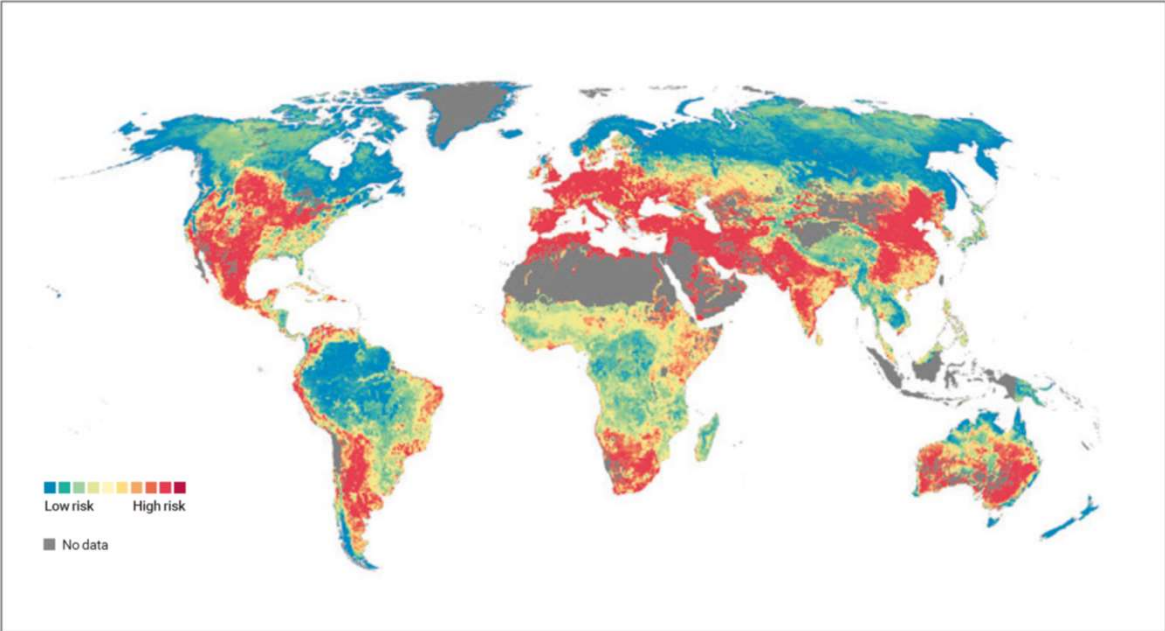


Figure P.2 Seasonal variability in water availability



Water Risk (source: UNESCO WWDR 2023)

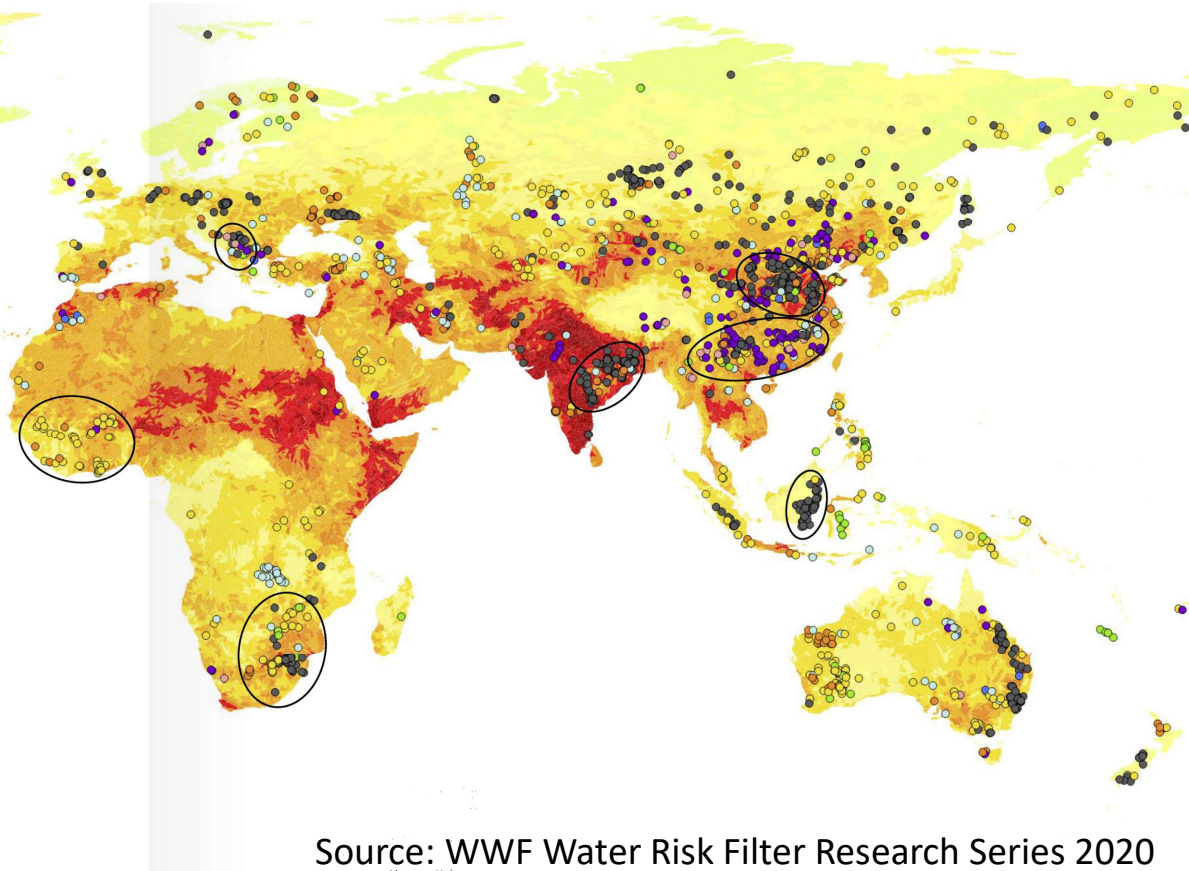
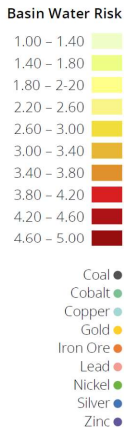
Figure P.6 Global risks of poor water quality



Water Risk

10 most at risk basins with significant mining

Figure 7: Clusters of active mine sites overlaid by commodity type underlaid with overall water risk. Note the clusters highlighted by the black circles, especially those with similar commodities (e.g., coal in Indonesia, silver in Mexico, etc.)
Source: WWF's Water Risk Filter



Source: WWF Water Risk Filter Research Series 2020



unesco



Be
Resilient

Ongoing programme



Biosphere Reserves as Observatories for Climate Change Adaptation in Southern Africa



Climate Risk
Informed
Decision
Analysis (CRIDA)



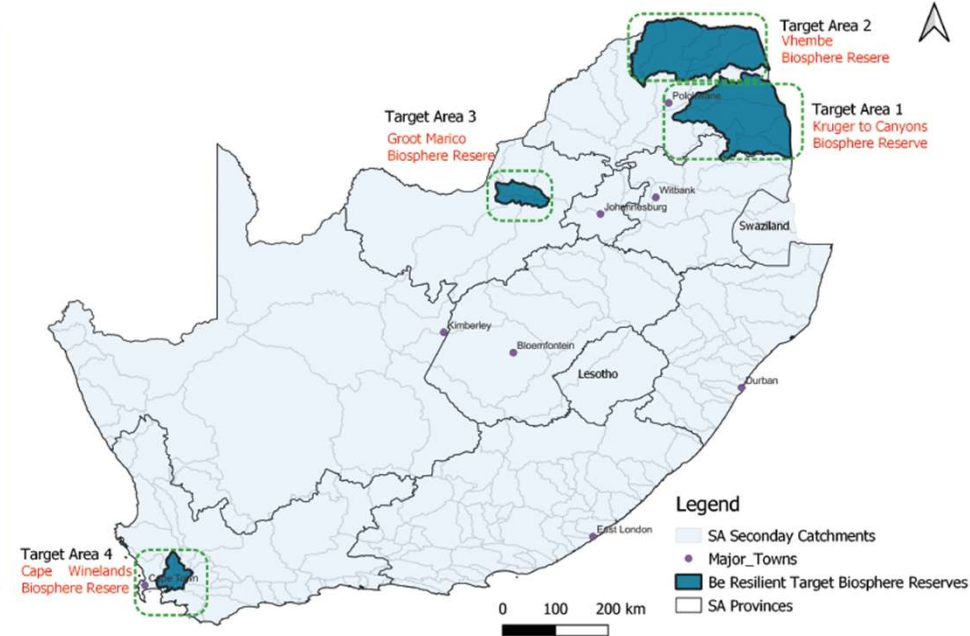
Monitoring
and Early
Warning



Capacity
building and
Technology
Transfer



Three pillars of Be Resilient South Africa

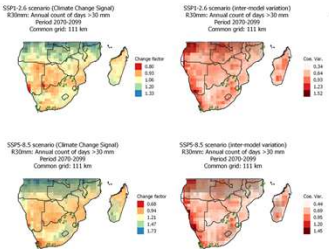


Target Biosphere Reserves

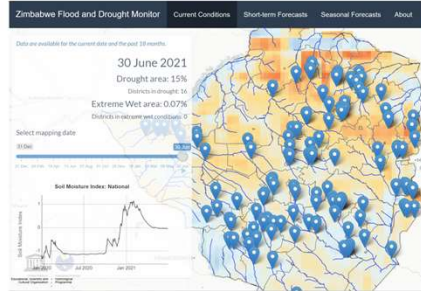
Examples of Tools



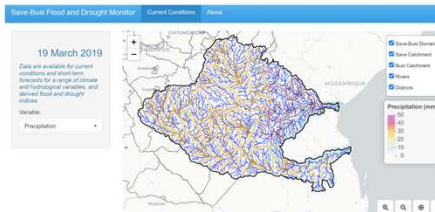
INVITATION TO VIRTUAL MEETING ON CLIMATE CHANGE IMPACT ASSESSMENT IN SOUTHERN AFRICA



Flood Monitoring and Early Warning System



http://hydrology.soton.ac.uk/apps/zim_app/



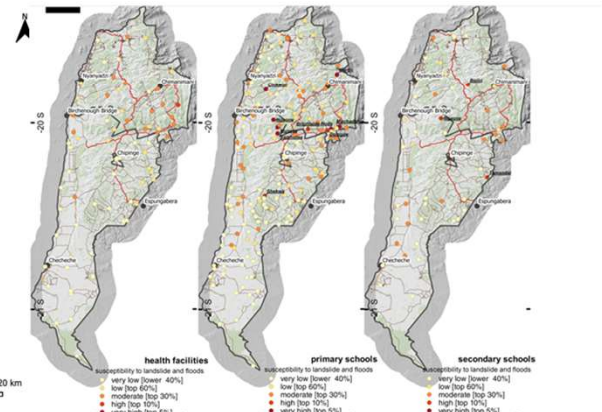
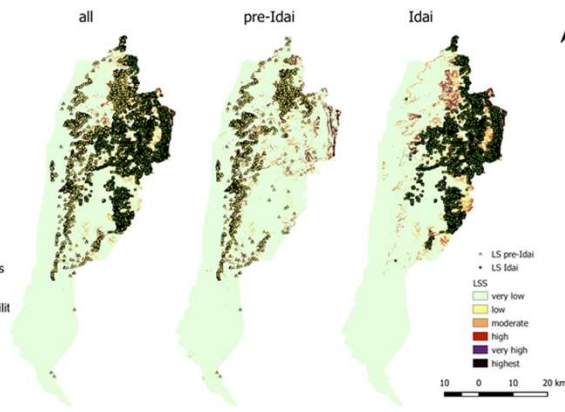
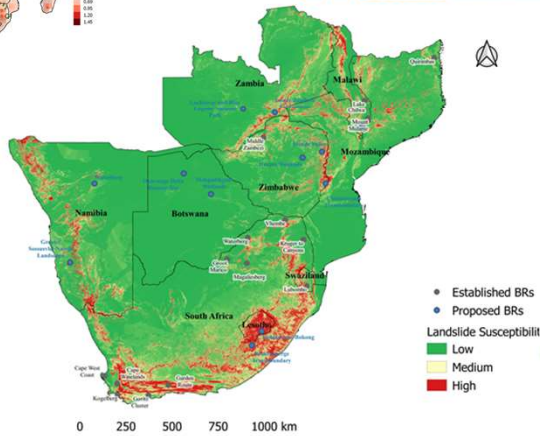
http://hydrology.soton.ac.uk/apps/savebusi_app/

A medium-resolution (5km) flood and drought early warning system for Zimbabwe has been established, and a higher resolution system (30m) focusing on Save-Busi River Basin was developed.



Comprehensive Resilience Building in Chimanimani and Chipinge Districts of Zimbabwe

28 June 2022



CRIDA - Climate Risk Informed Decision Analysis



CRIDA Tool: gender analysis and recommendations



Capacity Building – Citizen Science, ESD



- **Water Funds to sustainably drive Ecosystem Restoration in BR**
- **Other opportunities for PES in Biosphere Reserves**
- **Attracting additional public resources – GCF/AF/...**

Water Funds

Restoring and protecting Strategic Water Source Areas

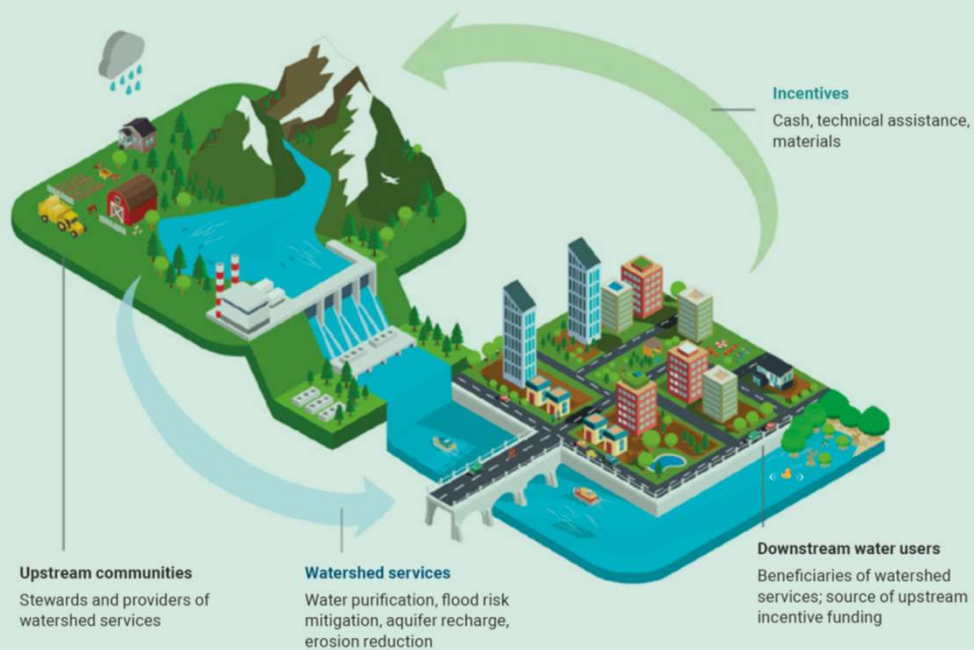
Box 3.1 Water funds mobilize multiple partnerships to address water security needs

Water funds support partnerships that bring together downstream users, like cities, businesses and utilities, to collectively invest in upstream habitat protection and land management to improve water quality and/or quantity and generate long-term benefits for people by addressing climate, nature and pollution. They help to make sense of and manage the complexities associated with water risk and nature-based source water protection (Calvache et al., 2012).

Water fund model

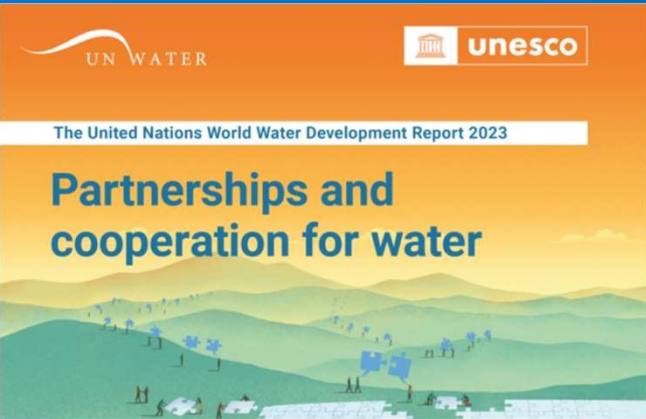
Water funds

Water funds unite public, private and civil society stakeholders around the common goal of contributing to water security through nature-based solutions and sustainable watershed management.



Source: TNC (n.d.).

Water Funds



WATER FUNDS WORLDWIDE

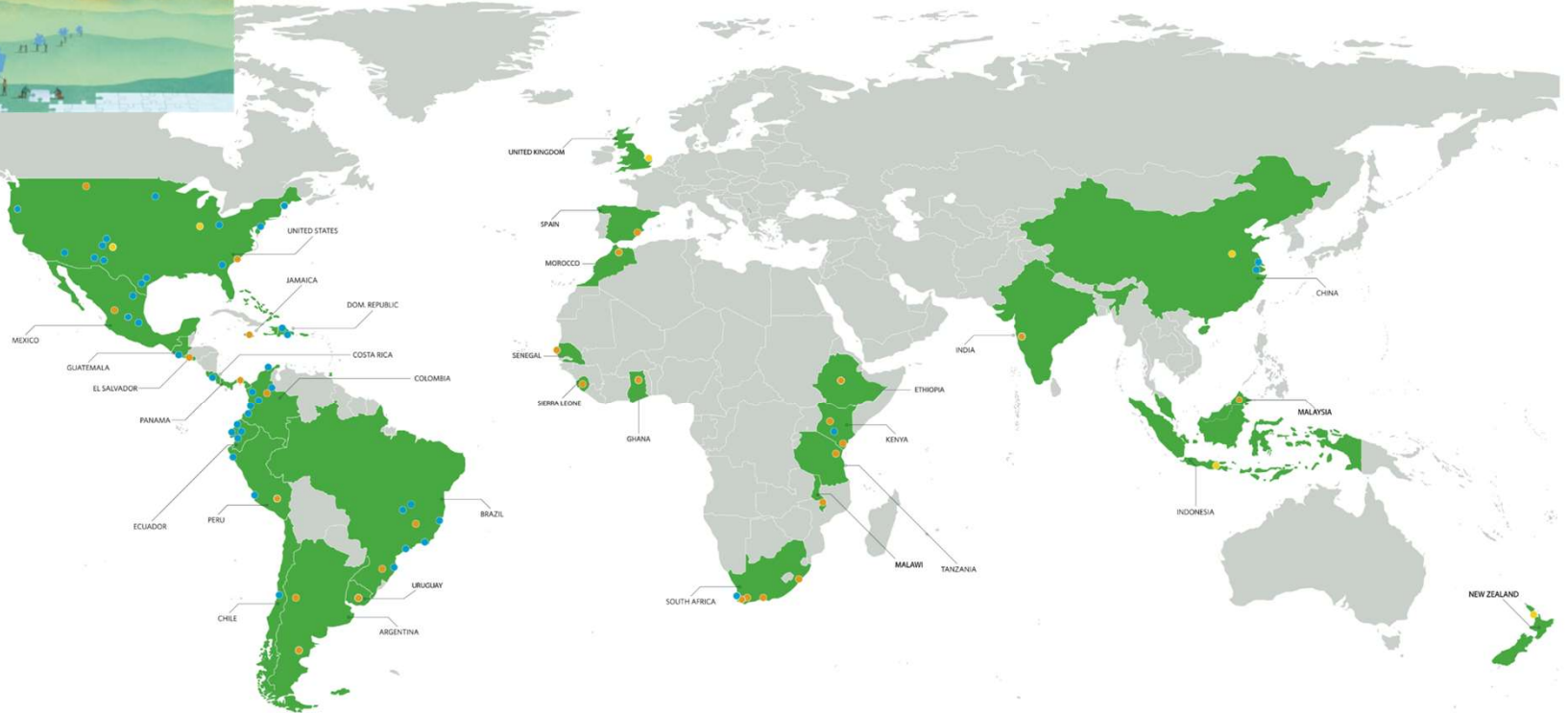
November 2020



43
WATER FUNDS
CREATED

13
COUNTRIES

● WATER FUNDS CREATED
● WATER FUNDS UNDER DEVELOPMENT



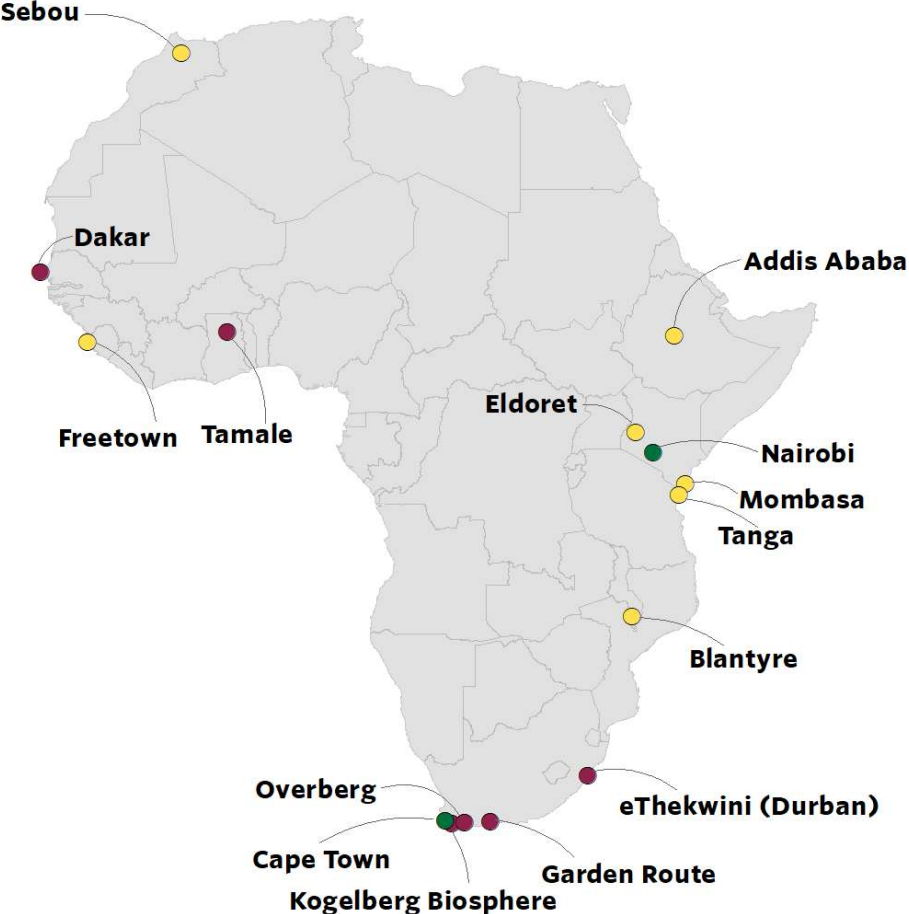
Water Funds in Africa

AFRICA WATER FUNDS

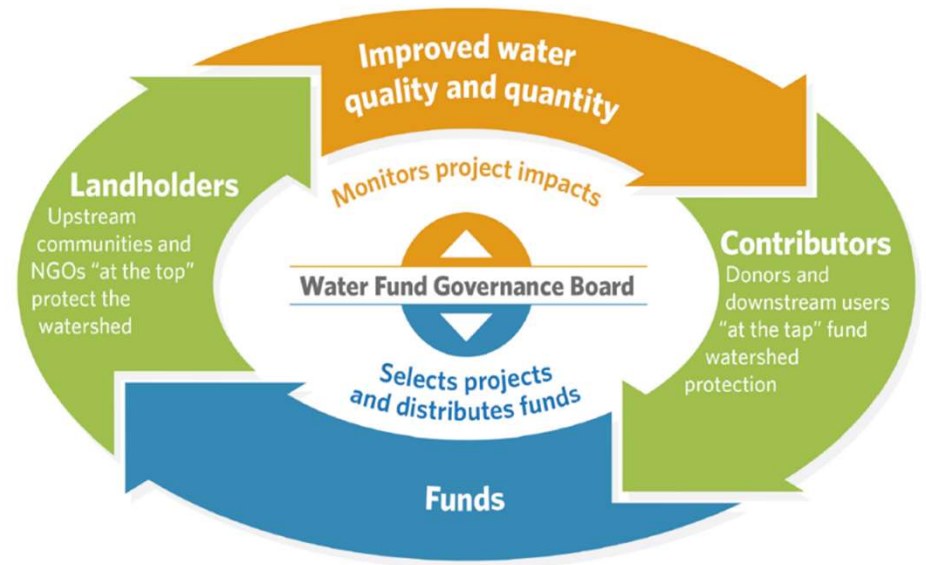
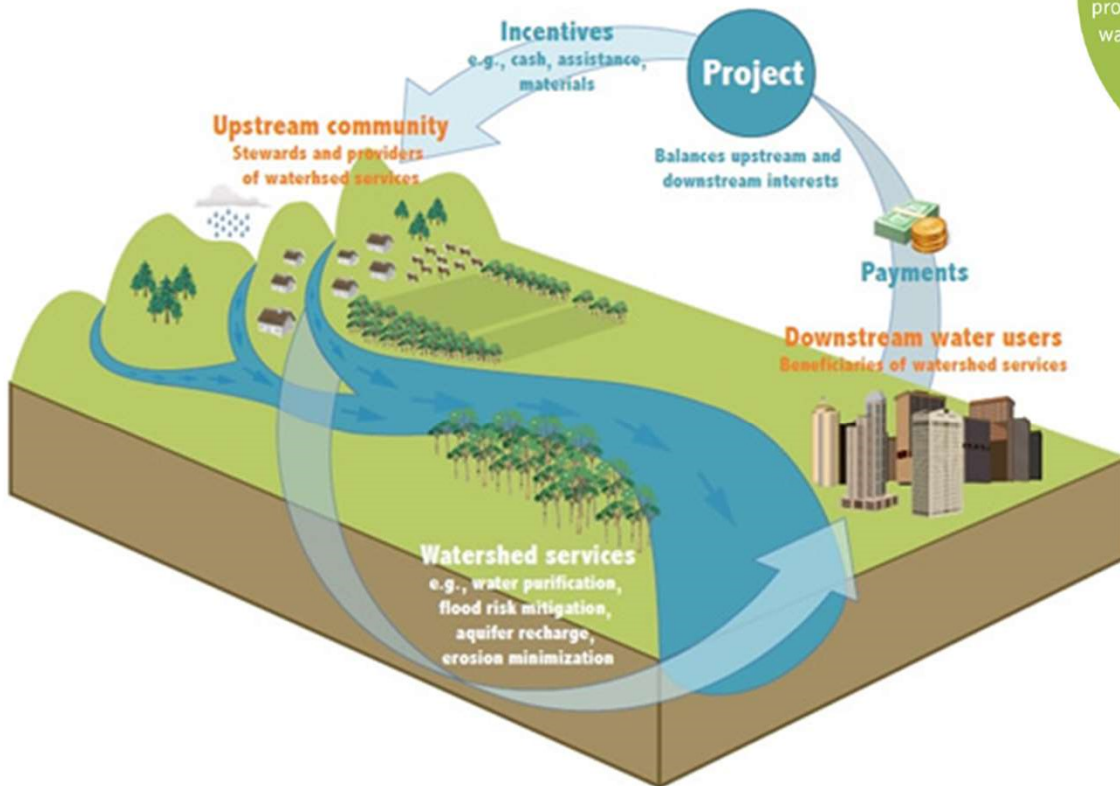
MARCH 2021

- 2 Water Funds Created
- 5 Water Funds Under Development
- 9 Countries

- Implementation
- In Development
- Feasibility

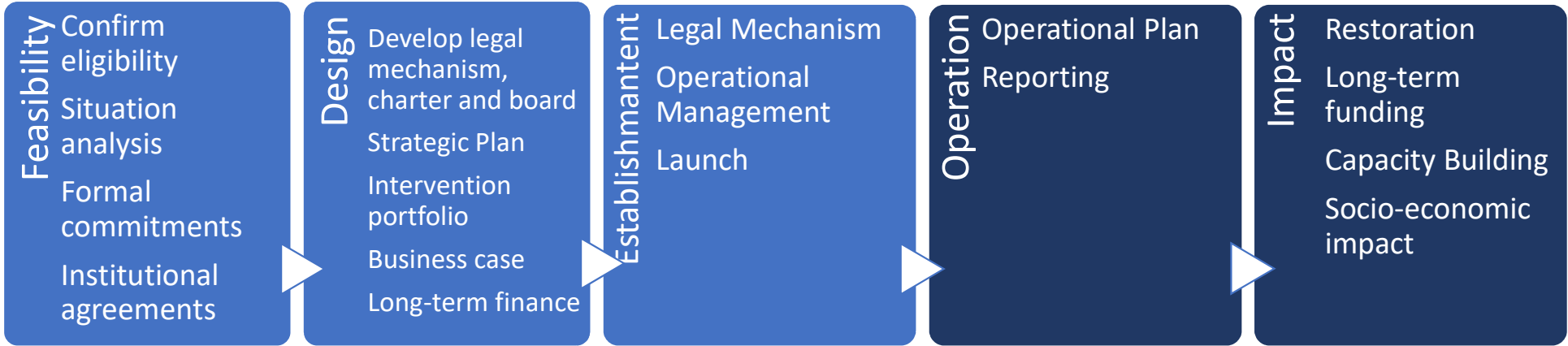
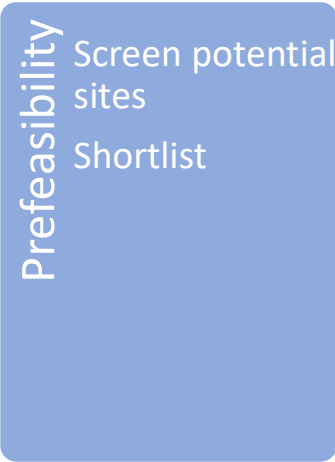


How Water Funds Work



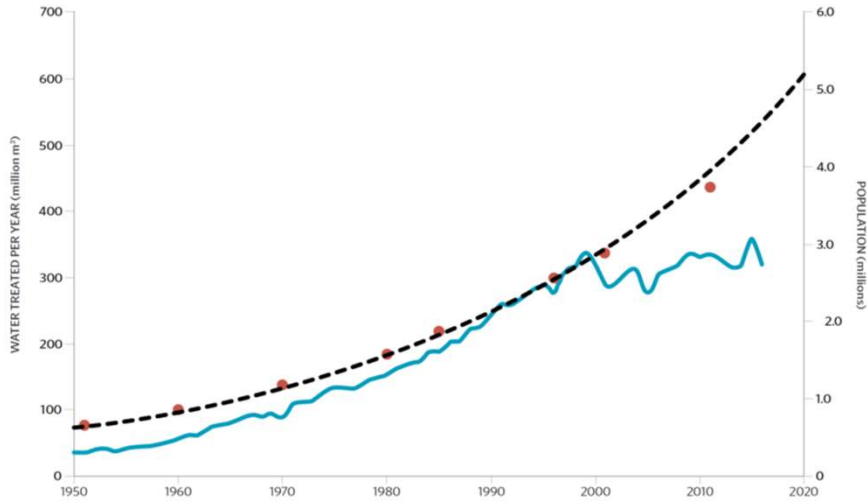
WP5 Activities - Water Fund Establishment Process

Adapted from: TNC Water Funds Toolbox

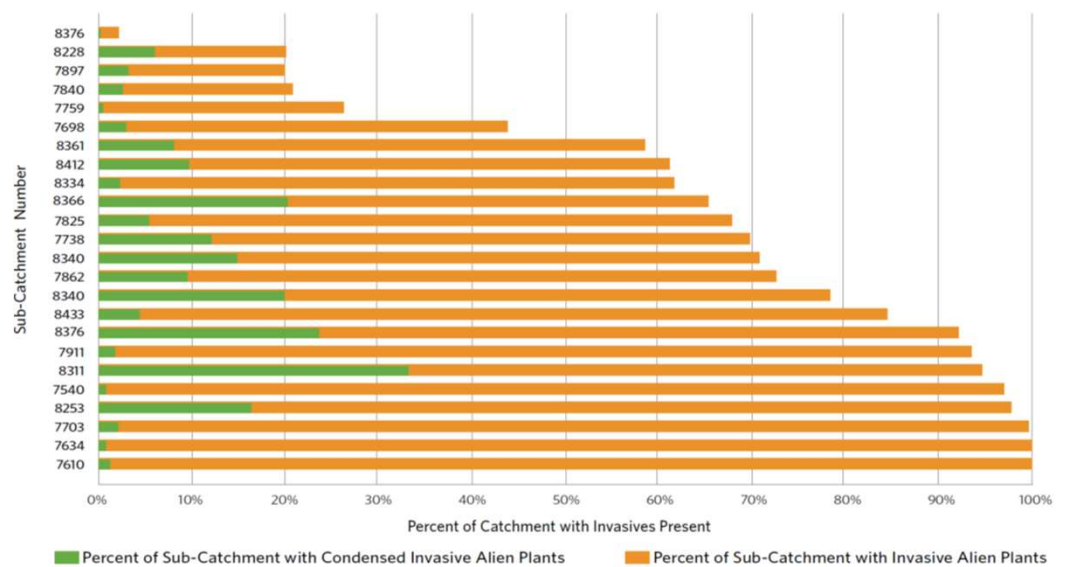


Example of Business Case – Greater Cape Town Water Fund

POPULATION GROWTH AND WATER SUPPLY

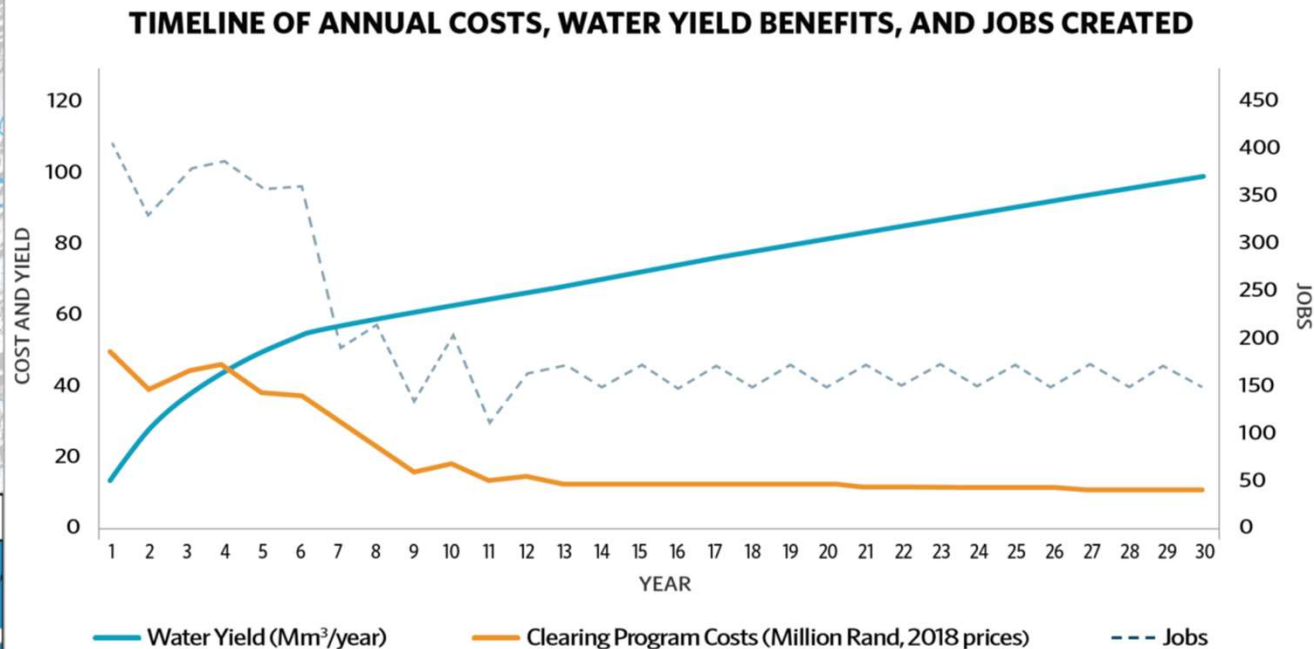
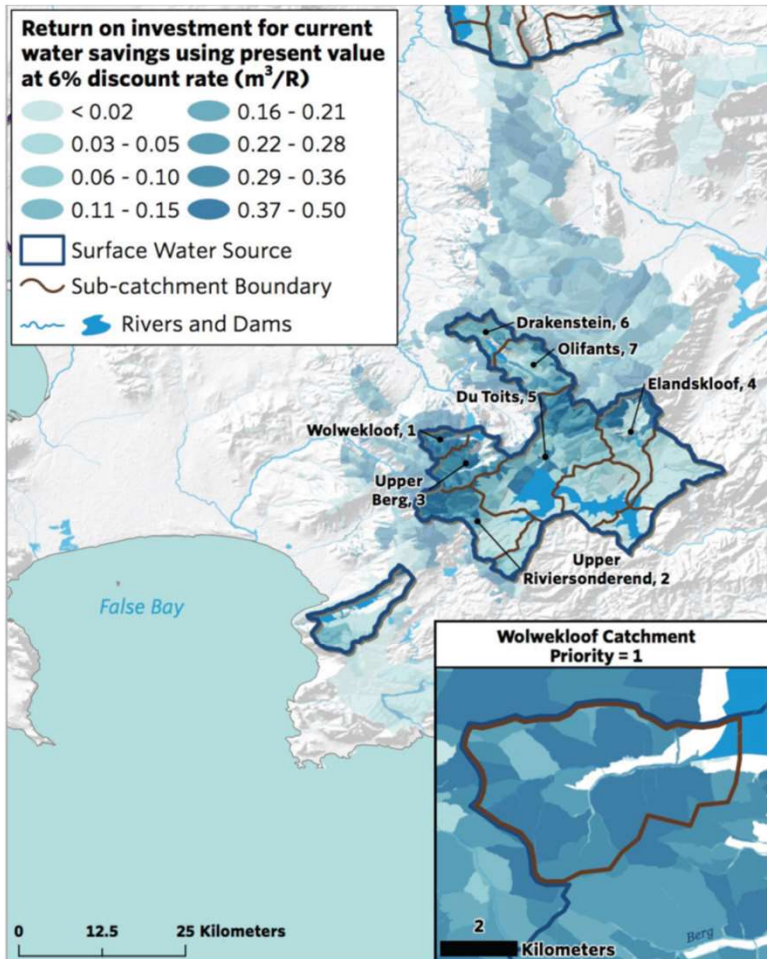


PERCENT INVASIVE ALIEN PLANT COVER



Source: TNC GREATER CAPE TOWN WATER FUND BUSINESS CASE, 2018

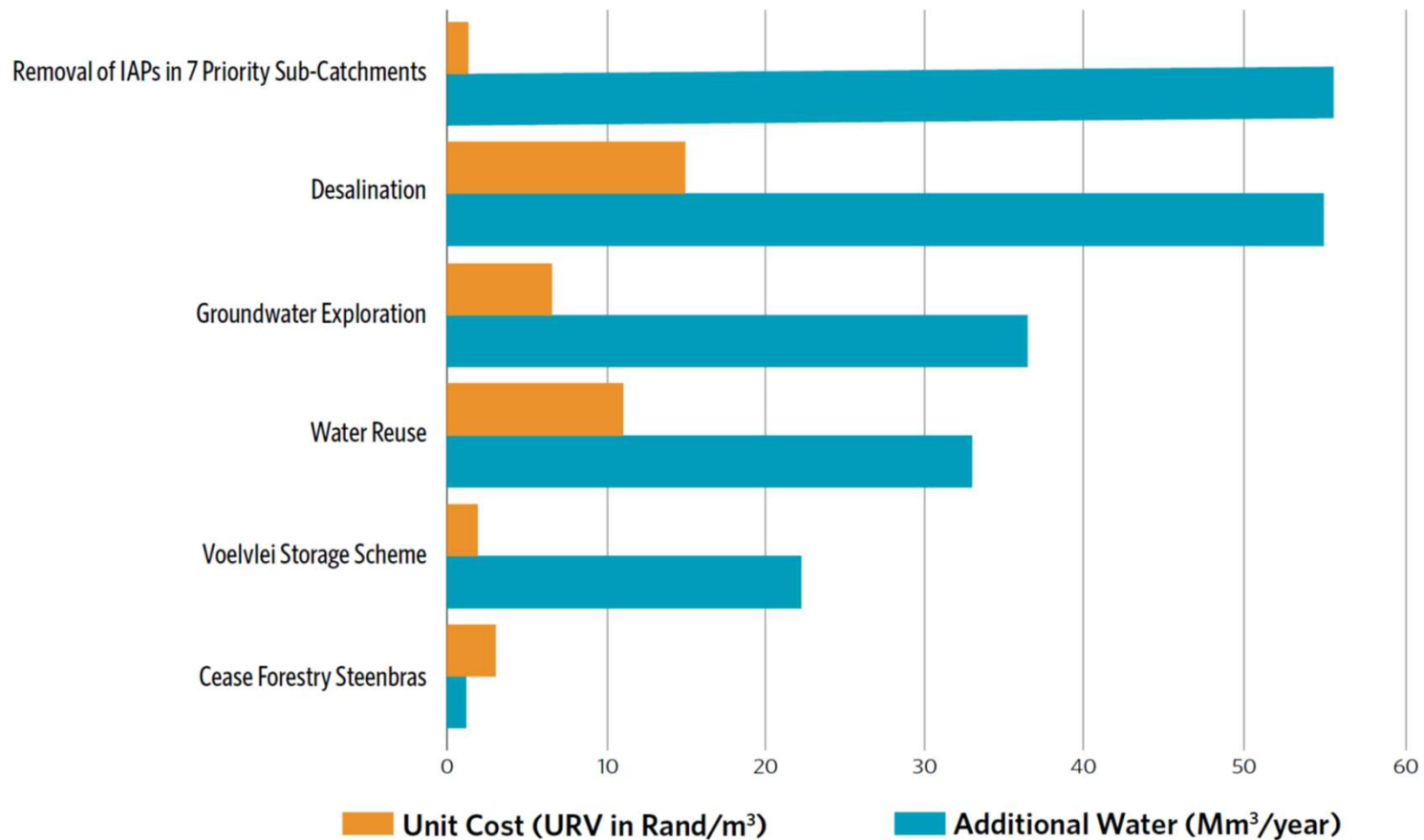
Example of Business Case – Greater Cape Town Water Fund



Source: TNC GREATER CAPE TOWN WATER FUND BUSINESS CASE, 2018

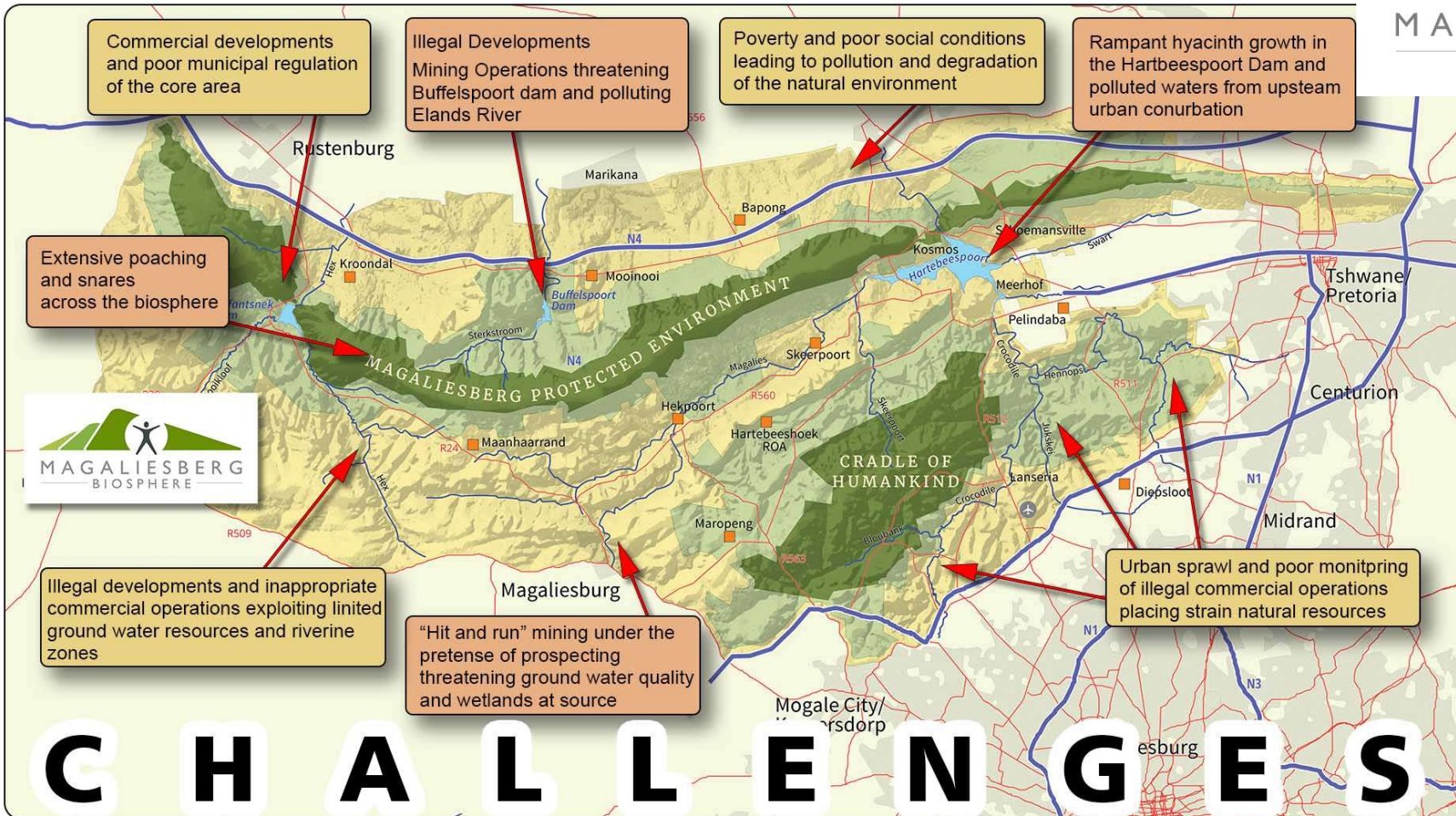
Example of Business Case – Greater Cape Town Water Fund

CATCHMENT RESTORATION INCREASES WATER SUPPLY AT THE LOWEST UNIT COST



Source: TNC GREATER CAPE TOWN WATER FUND BUSINESS CASE, 2018

Magaliesberg Biosphere



Magaliesberg Biosphere

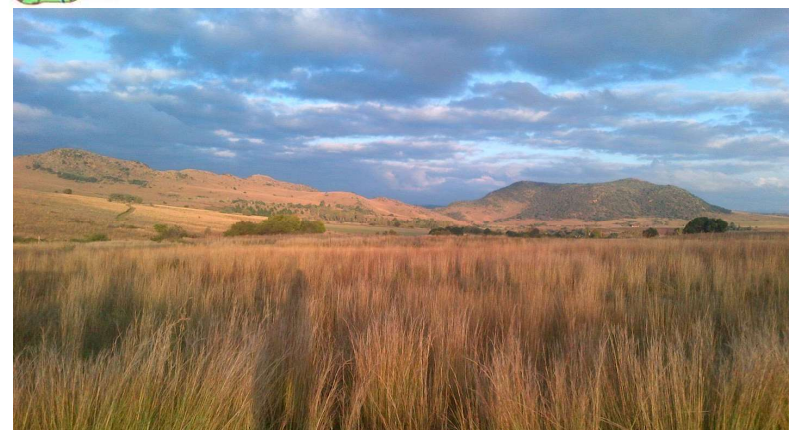
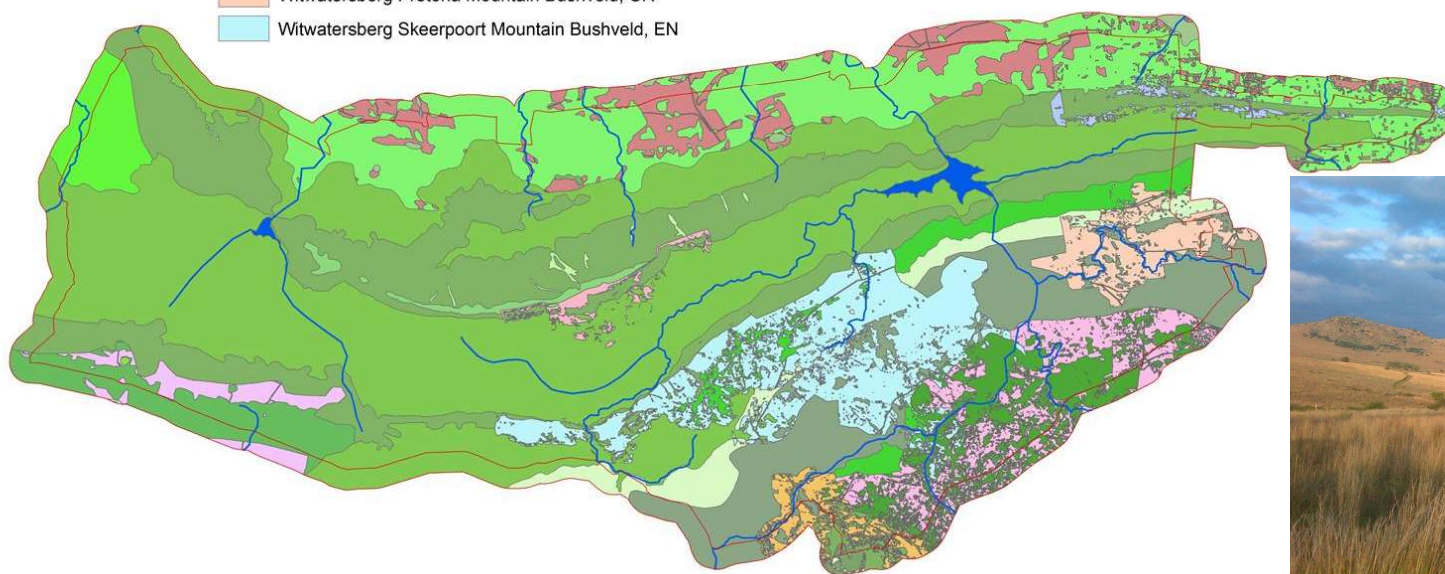


Threatened Ecos 2011

NAME, STATUS

- Eastern Temperate Freshwater Wetlands, VU
- Egoli Granite Grassland, EN
- Magaliesberg Hekpoort Mountain Bushveld, VU
- Magaliesberg Pretoria Mountain Bushveld, CR
- Marikana Thornveld, VU
- Rand Highveld Grassland, VU
- Roodepoort Reef Mountain Bushveld, CR
- Soweto Highveld Grassland, VU
- Witwatersberg Pretoria Mountain Bushveld, CR
- Witwatersberg Skeerpoort Mountain Bushveld, EN

Vegetation Types & Remaining Extent of Threatened Ecosystems

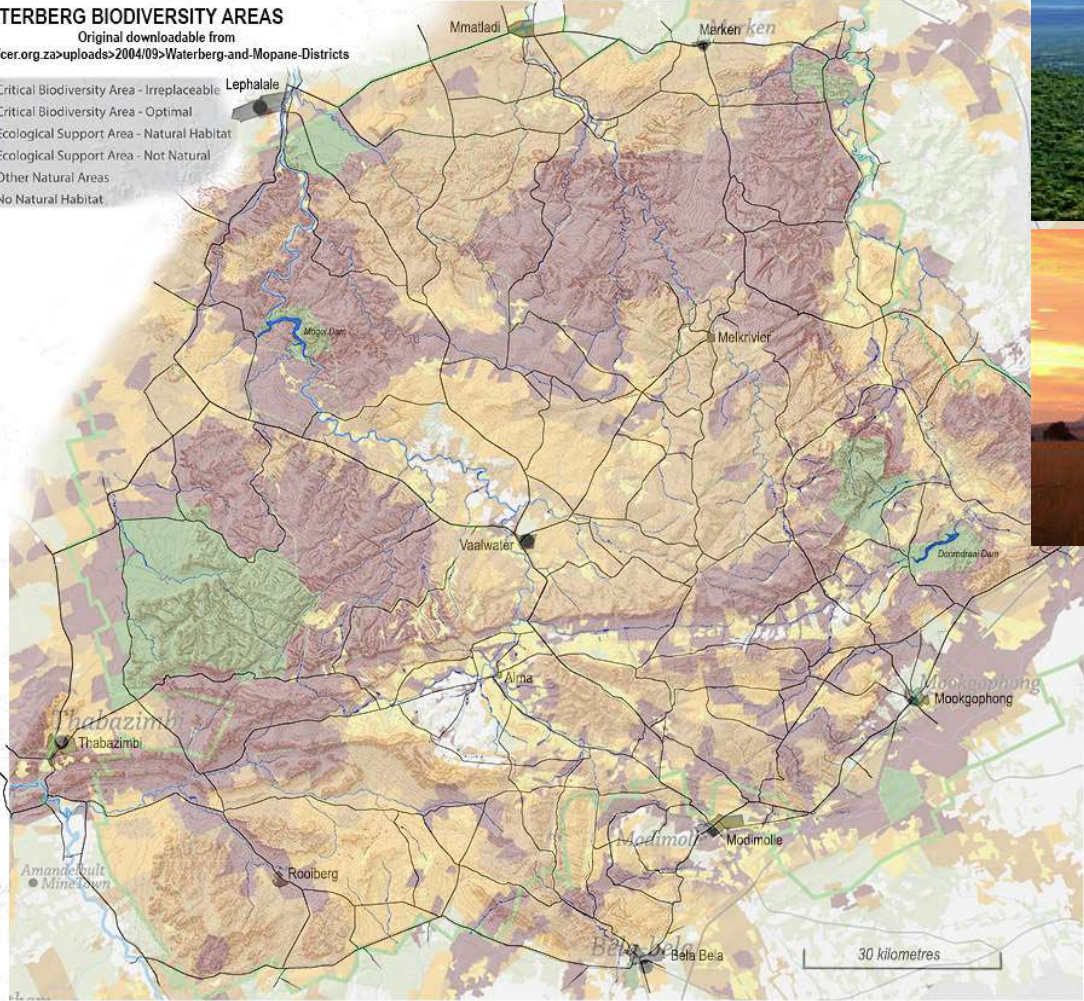


Waterberg Biosphere



WATERBERG BIODIVERSITY AREAS
Original downloadable from
<https://cer.org.za/uploads/2004/09/Waterberg-and-Mopane-Districts>

- Critical Biodiversity Area - Irreplaceable
- Critical Biodiversity Area - Optimal
- Ecological Support Area - Natural Habitat
- Ecological Support Area - Not Natural
- Other Natural Areas
- No Natural Habitat



Questions?

- Site shortlist?
- Involvement of other BR/sites?
- Existing restoration experiences – teaming up, lessons,...?
- PES initiatives – lessons?
- ...