

# TEEB: THE VALUE PROPOSITION FOR SA NATURAL CAPITAL

CAPE FLORAL KINGDOM IS WORTH  
**R10 BILLION**  
TO THE SOUTH AFRICAN ECONOMY ANNUALLY

OVER  
**60%**

OF OUR ANNUAL TOURISM  
INDUSTRY IS DEPENDENT  
ON ECO-TOURISM

**R2.6  
BILLION**

ANNUAL VALUE OF  
WATER RELEASED BY  
ALIEN REMOVAL

**R8,6  
BILLION**  
CURRENT WORTH OF CARBON  
STORED IN NATURE

**R73 BILLION**  
BIODIVERSITY IS WORTH OVER  
ANNUALLY IN SOUTH AFRICA

**R50 MILLION**

IS CONTRIBUTED EACH YEAR BY DUNG  
BEETLES THROUGH THEIR EFFORTS IN  
REMOVING CATTLE DUNG

**R5.6  
BILLION**

COMES FROM INSECTS  
POLLINATING CROPS  
EACH YEAR

SOUTH AFRICA HAS OVER  
**27 000**  
FISHERMEN & WOMEN

A CHILD'S WONDER AT  
THE ENDLESS WONDERS OF  
BIODIVERSITY

**INVALUABLE**

BIODIVERSITY - POWERING THE GREEN ECONOMY

# NATIONAL PROVISIONS FOR SA TEEB

- High level Ministerial Delivery Agreement: Negotiated Charter
- **Outcome 10: Protected and enhanced environmental assets and natural resources**
- **Output 4: Biodiversity protected**
- Suboutput 4.4
- Valuing ecosystem services
- 4.4.1 Environmental costs related to the provision of resource based services
- (a)Number of tools developed for the economic valuing of ecosystem services
- **Activities**
- Quantify the economic value of biodiversity and ecosystem services
- Promote incentives for conservation and improved ecosystem protection

# NATIONAL PROVISIONS

- **NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN**
- Outcome 1: The value of biodiversity to the economy and to people's lives is quantified and monitored to inform policy, strategy and action
- Activity 1.1.1

Conduct a periodic countrywide total economic valuation of biodiversity, with an emphasis on goods and services that draws linkages between biodiversity, the economy and poverty alleviation

- Activity 1.1.2

Determine periodically at the local and regional scale, the use values of biological resources to people at a household level, and identify opportunities to encourage the sustainable management of biological resources and ecosystems

# Making the Case Study

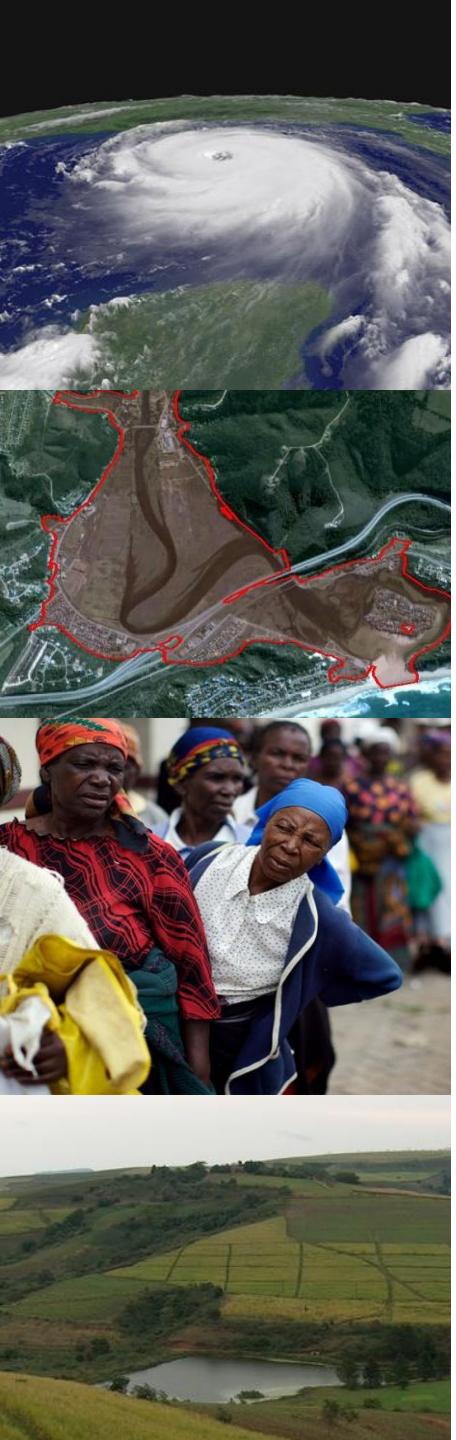
A Strategic communication strategy-geared initially to mobilise more financial resources towards the biodiversity sector

## Aim and Vision

To Unlock the potential of biodiversity and ecosystem services for development by creating and demonstrating the value proposition for Biodiversity and Ecosystem Services

To support the development of an economically viable biodiversity sector that is based on a positive brand and sustainable economic model





# Our Approach: The State of Valuation

- Collate economic valuation studies throughout South Africa to form a baseline: State of Play Report
- Analysis of Making the Case for Biodiversity: Making the Case for Biodiversity Report
- Identify valuation research gaps
- Unbundle ecosystem services across the heterogeneous SA landscape and identify representative areas for valuation based on analysis of how decisions affect selected bundles of ecosystem services, incorporating resilience, risk and uncertainty factors
- Message the valuations
- Develop an SA TEEB Programme for sustainability

# RESULTS OF STATE OF PLAY

- Inconsistent piecemeal way studies have previously been conducted
- Need agreed and consistent framework for valuing services
- So future individual studies could fit together to form national picture
- Will need to prioritise areas, services or issues on which to focus
- Past work will allow for cross validation
- Most comprehensive valuation study- valued SA Biodiversity at 73 Billion Rand--7% of GDP
- Cost of Managing Biodiversity- NBF- 6.7 Billion Rands



# Mainstreaming Biodiversity & ES into the National Green Economy Landscape

**2009 -2014 MTSF**

New Growth Path

Industrial Policy Action Plan (IPAP-2)

National Climate Change Policy

National Strategy on Sustainable Development

Science and Innovation Plan

Integrated Resource Plan -2

National Development Plan (Vision 2030)

Environmental Fiscal Instruments (i.e. Carbon tax)

BES



RSA – R14,50 (Incl.VAT) Other countries R11,84 (Excl.duties)

**EXCLUSIVE**

Senior delegation from  
Russian nuclear group  
to visit South Africa

►8



Sergey Kirienko

**FEATURES**

Materials Handling  
& Logistics ►34

Gas ►50

**NEWS FOCUS**

Despite stiffer opposition,  
Team SA stars yet again  
at Dakar Rally

►9



Creamer Media's

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REAL ECONOMY NEWS WEEKLY

# ENGINEERING NEWS

February 1–7 2013

Volume 33 no 3

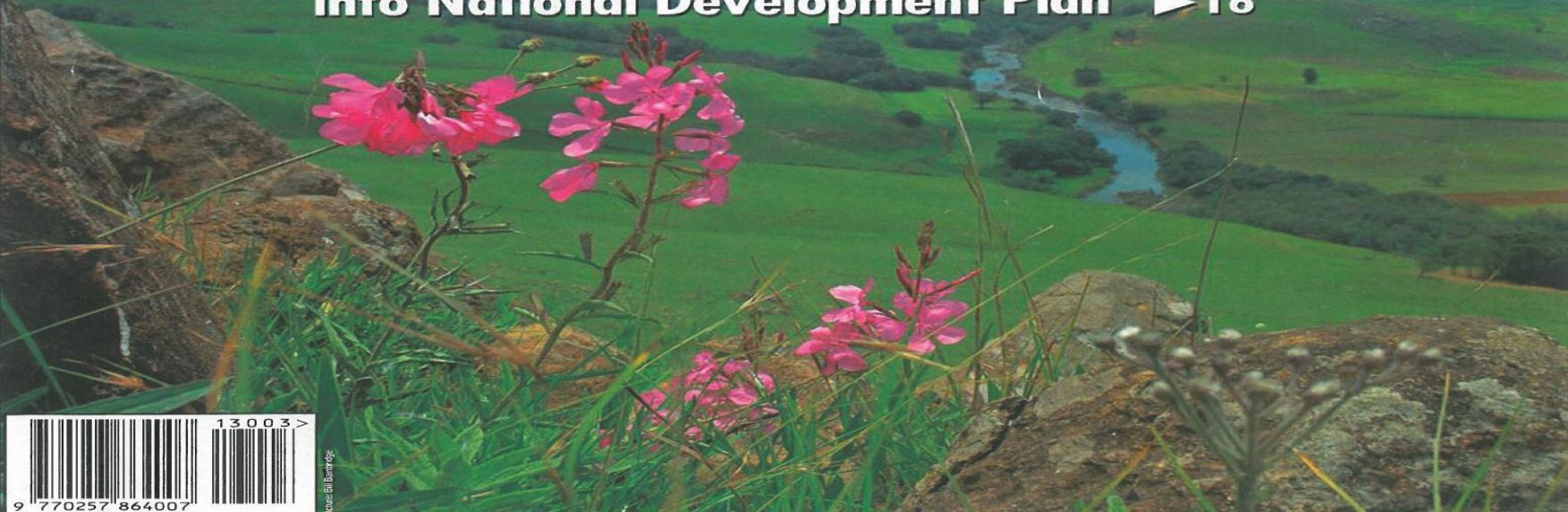
ISSN 0257-8646

[www.engineeringnews.co.za](http://www.engineeringnews.co.za)

ECOLOGICAL INFRASTRUCTURE

## PUBLIC GOOD

Call made to fully integrate ecological investment  
into National Development Plan ►16



13003 >



Picture: Bill Barnard

9 770257 864007

ALSO PUBLISHER OF **MINING WEEKLY** and **POLITY**

# ECONOMIC GROWTH & BIODIVERSITY

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## INVALUABLE

BIODIVERSITY - POWERING THE GREEN ECONOMY



**3.7 Trillion for  
ecological  
infrastructure**



# Collaboration & Partnerships & appropriate tools key for any TEEB

- Partnerships
- CSIR-ProEcoServe
- SANBI- National Biodiversity Assessment-2012
- linkages with Business and Biodiversity
- DEA- Ecosystem Services Decision Support Tool





# Ecosystem Services Focussed Decision Support Tool



## 2. ESS ANALYSES

*Data layers selected that best represent each service*

### *Provisioning*

- Food (*Arable Land*)
- Freshwater (*Quaternary Runoff*)
- Mineral Value (*Broad regions*)

### *Regulating*

- Climate (*Carbon Sequestration*)
- Groundwater (*Recharge Areas*)
- Climate change (*Resilience*)

### *Supporting*

- Biomass (*Primary Production*)
- Critical Ecosystems (*Terrestrial*)
- Critical Biodiversity Areas (*CBAs*)

### *Cultural*

- Scenic Value (*Aesthetic Value*)
- Conservation (*Priorities*)
- Heritage Value (*Heritage Sites*)

# ESS VALUE ANALYSES

- Relevant ESS layers described
  - *Aimed at broad level of understanding*
- Scored ITO importance to specific service
  - *Essential* **3**
  - *Important* **2**
  - *Less important* **1**
  - *n/a* **0**
- Method summary tables (*Record of decisions*)

REGULATING						
ESS LAYER	GENERAL DESCRIPTION	CLASS DESCRIPTION	ESS VALUE	COLUMNS	CLASSIFICATION RATIONALE	
<b>CLIMATE REGULATION</b>	Above ground Carbon Sequestration (Tree cover) used as a proxy for CLIMATE REGULATION. The capture of carbon dioxide from the atmosphere and depositing it in a reservoir.	Essential (43 - 253 million m <sup>3</sup> / year)	<b>3</b>	REG_CARBON	Ability to capture carbon dioxide from the atmosphere and depositing it in a reservoir store	
		Important (21 - 42 million m <sup>3</sup> / year)	<b>2</b>			
		Less important (9 - 20 million m <sup>3</sup> / year)	<b>1</b>	REG_CARBV		
		Not applicable (0 - 8 million m <sup>3</sup> / year)	<b>0</b>			
<b>WATER REGULATION</b>	Groundwater Recharge used as a proxy for WATER REGULATION. Recharge per quinary as a % of the average of the primary catchment into which it falls.	Essential (501 - 2213% of ave of primary)	<b>3</b>	REG_GRNDW	Recharge/Quinary as a % of the average of the primary catchment into which it falls	
		Important (301 - 500% of ave of primary)	<b>2</b>			
		Less important (101 - 300% of ave of primary)	<b>1</b>	REG_GRND_V		
		Not applicable (0 - 100% of ave of primary)	<b>0</b>			
<b>CLIMATE CHANGE RESILIENCE</b>	Remaining natural or near-natural areas important for climate change resilience (Value for supporting climate change resilience)	Essential (High resilience)	<b>3</b>	REG_CLIM	Remaining natural or near-natural areas important for climate change resilience	
		Important (Moderate resilience)	<b>2</b>			
		Less important (Low resilience)	<b>1</b>	REG_CLIM_V		

# COMBINED ESS VALUE INDEX

*Data layers selected that best represent each service*

## *Provisioning*

- Food (*Arable Land*)
- Freshwater (*Quaternary Runoff*)
- ~~Mineral Value~~ (*Broad regions*)

## *Regulating*

- Climate (*Carbon Sequestration*)
- Groundwater (*Recharge Areas*)
- Climate change (*Resilience*)

## *Supporting*

- Biomass (*Primary Production*)
- Critical Biodiversity Areas (*CBAs*)
- Critical Ecosystems (*Terrestrial*)

## *Cultural*

- Scenic Value (*Aesthetic Value*)
- Conservation (*Priorities*)
- Heritage Value (*Heritage Sites*)

## Simplified ESS Index

- Essential
- Important
- Less important
- Other

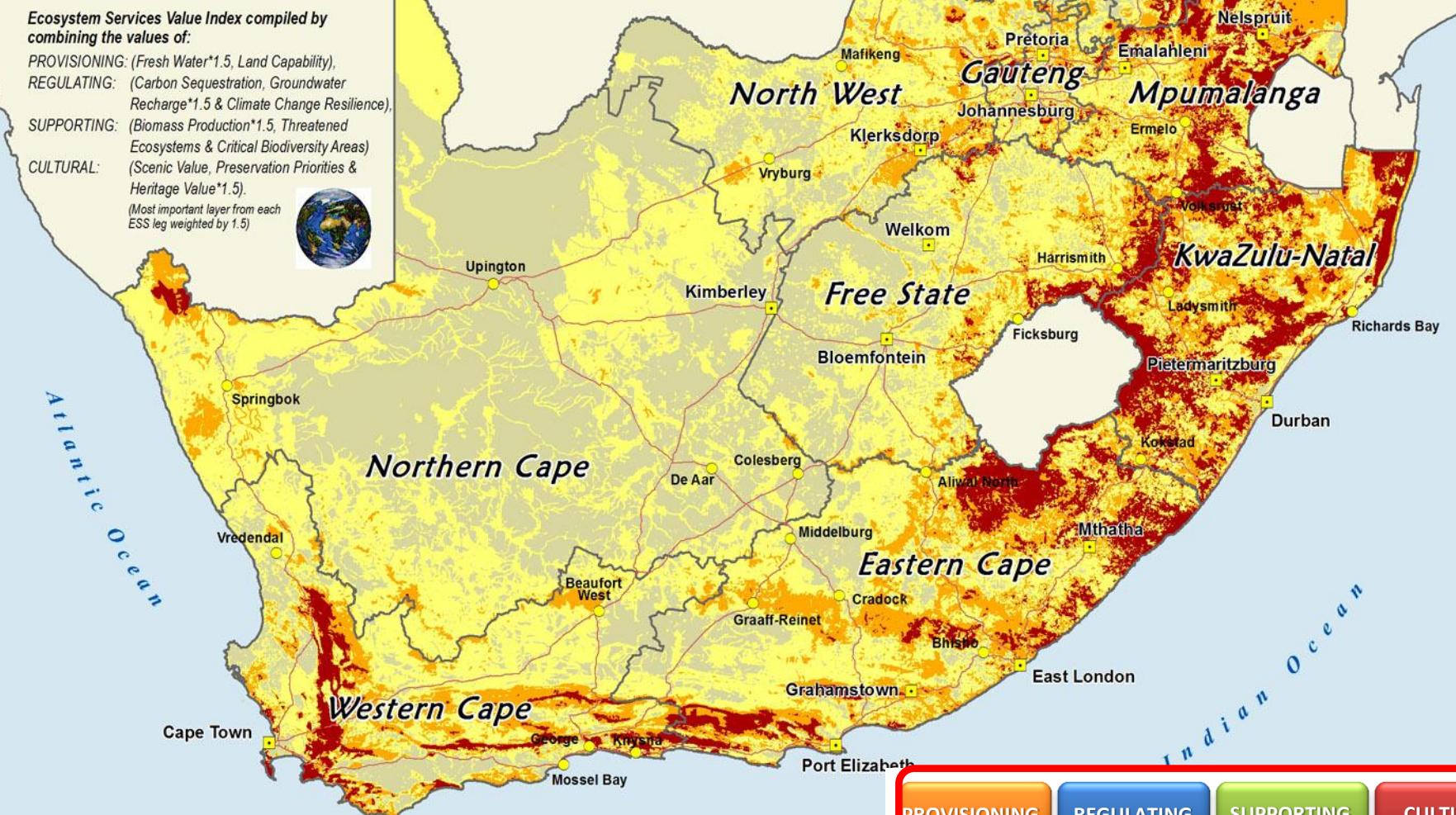
# ECOSYSTEM SERVICES VALUE WEIGHTED & SIMPLIFIED

Ecosystem Services Value Index compiled by combining the values of:

PROVISIONING: (Fresh Water\*1.5, Land Capability),  
REGULATING: (Carbon Sequestration, Groundwater Recharge\*1.5 & Climate Change Resilience),

SUPPORTING: (Biomass Production\*1.5, Threatened Ecosystems & Critical Biodiversity Areas) (Scenic Value, Preservation Priorities & Heritage Value\*1.5).

CULTURAL: (Most important layer from each ESS leg weighted by 1.5)



PROVISIONING

REGULATING

SUPPORTING

CULTURAL

# **From Project → Program → Institution**

Government expenditure on biodiversity conservation-related matters in 2012/13 was around ZAR 1.9 billion, an increase from ZAR 1.3 billion in 2009/10. .

**The increase in budget allocations driven by the National Treasury has Institutionalized a Chief Directorate dedicated to the integration of biodiversity and economy and the nationalization of TEEB:**

## **CD: BIODIVERSITY ECONOMY AND SUSTAINABLE USE**

### **2 Directorates**

- Threatened or Protected Species and CITES**
- Biosprospecting and Bio-Economy**

### **PURPOSE**

- Development and coordination of the implementation of policy and legislation relating to sustainable use & sustainable land management, threatened species, species posing threats to biodiversity, to coordinate the implementation of these policies & legislation, and to promote biodiversity economy and investments in ecological infrastructure**

# National Biodiversity Economy Development Strategy (NBEDS)

- **Scope**: Commercialisation of SA biodiversity and components for inclusive economic development
- **Aim**: Implementation framework to achieve optimum economic benefits—direct, indirect and induced—from the sustainable commercialisation of biodiversity in South Africa.
- **Key sectors**: Biotrade, bioprospecting and wildlife industries
- **Timeframe**: 2014 – 2024



# NBEDS key areas... 1

1. Policy approaches for the indigenous biological resource and wildlife sectors for the sustainable use of biodiversity for economic development
2. Determination and development of value chains in the indigenous natural and wildlife sectors
3. Institutional arrangements for the management, regulation and support to the indigenous natural and wildlife sectors (including industry associations / forums)
4. Valorisation / beneficiation opportunities for the indigenous natural and wildlife sectors



# NBEDS key areas... 2

6. Certification of indigenous natural and wildlife products
7. Quality standards of indigenous natural and wildlife products
8. Supply side capacity / international demand of indigenous natural and wildlife products
9. Contribution to livelihoods / poverty reduction through indigenous natural and wildlife products
10. Conservation of biodiversity through sustainable use of indigenous natural resources and wildlife
11. Harmonisation of policies / strategies in the biodiversity economy sector



# NBEDS key areas... 3

12. Facilitate private sector investments and Public Private Partnerships
13. Infrastructure development for the biodiversity economy
14. Transformation of the biodiversity economy
15. Coordination of research in the indigenous natural and wildlife sectors
16. Champion communication, awareness raising and information dissemination of the biodiversity economy initiatives
17. Set up reporting mechanisms on impact of NBEDS interventions



# **Some Case Studies**

## **Assessment of ecosystem goods and Services and the value of biodiversity in KwaZulu-Natal (KZN)**

**KZN nature body told to fund itself**

2012-09-28 14:19 – The Mercury

“The nature conservation agency was under pressure to operate independently as other departments like health and education needed more resources to deliver services.”

- March 2011, the Board discussed a preliminary assessment of ecosystem services and endorsed the development of a proactive programme to demonstrate and support; (1) the importance of biodiversity in providing services to people in KwaZulu-Natal, and (2) the role and value of Ezemvelo in providing these services.



# Examples of value of natural resources, or “ecosystem goods and services” to people

- **Water**

Ukhahlamba Drakensberg Park provides 25% of SA's water, adds value of at least R2.6 billion



- **Medicine**

Approx. 750 **medicinal plant** species traded annually, valued at R305 million.



- **Energy source**

**Forests** Rural and Urban people use natural source of fuel



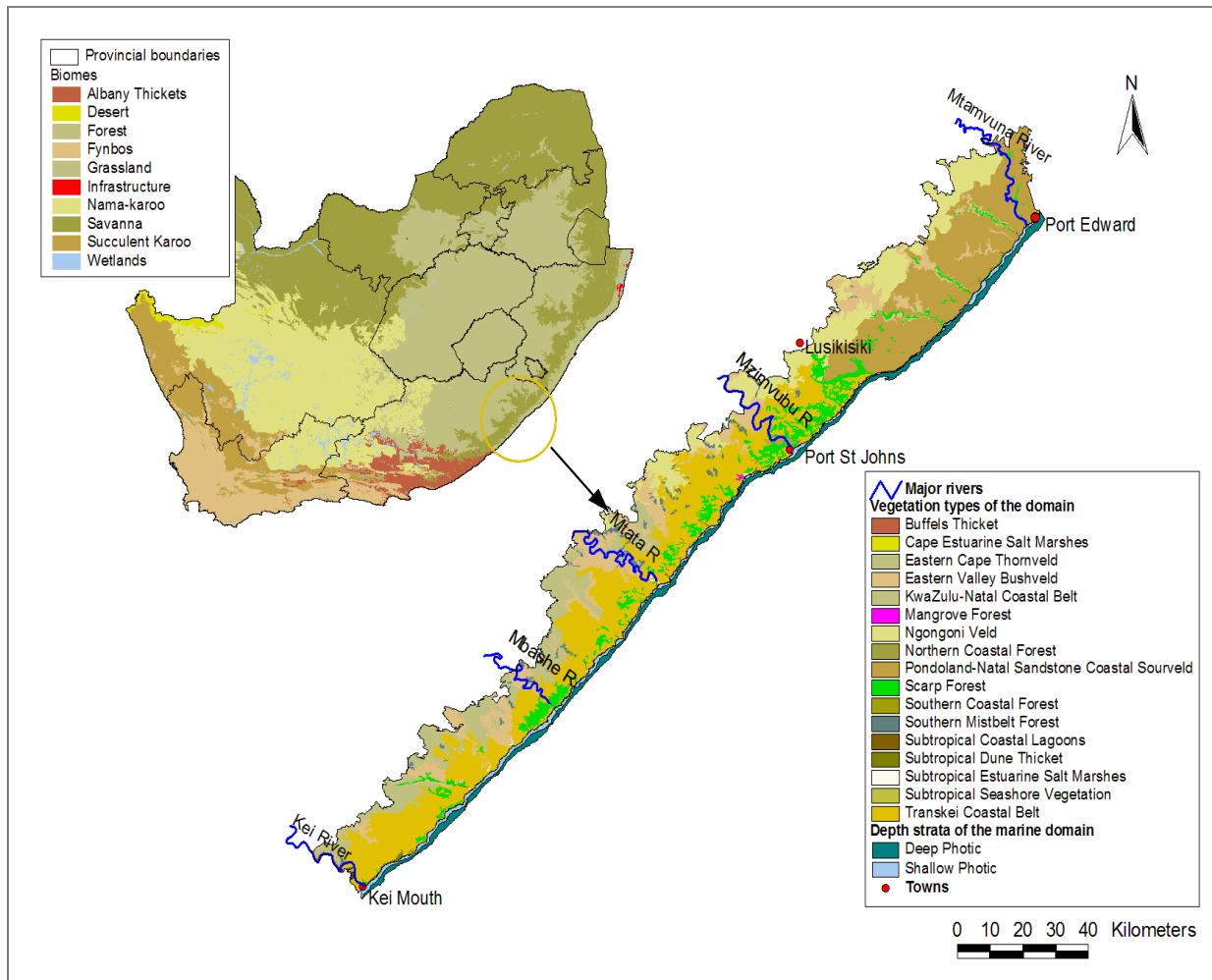
# Benchmarking

- The overall value of ecosystems services provided by KZN is calculated at R149 billion per year
- An independent study by Ethekwini values their ecosystems services at R 4.0 billion (eThekwini Municipality 2010)
- City of Cape town its R4.2 billion and R1 billion as the value of the animals that could be valued (City of Cape Town 2009).



# THE WILD COAST PROJECT

## Conservation and Sustainable Use of Biodiversity on the Wild Coast



# BioEconomic Approach: The PA as a Development Catalyst For Rural Communities

• RESERVE • OPERATIONS	NATURAL RESOURCES	LOCAL ECONOMICS	INDIRECT
• Forest rangers	Honey	Sewing- t/suits, traditional, school	Technology
• Alien vegetation	Sea Food	Knitting	Training
• Rehabilitation	Plantations	Fruit and veg.	Funding
• Fencing	Tourist related	Furniture	Skills services
• Monitoring	Game	Road main.	EE comps
• Guiding	Crafts	Local markets/ trading centres	Sport equip
	Housing		Education



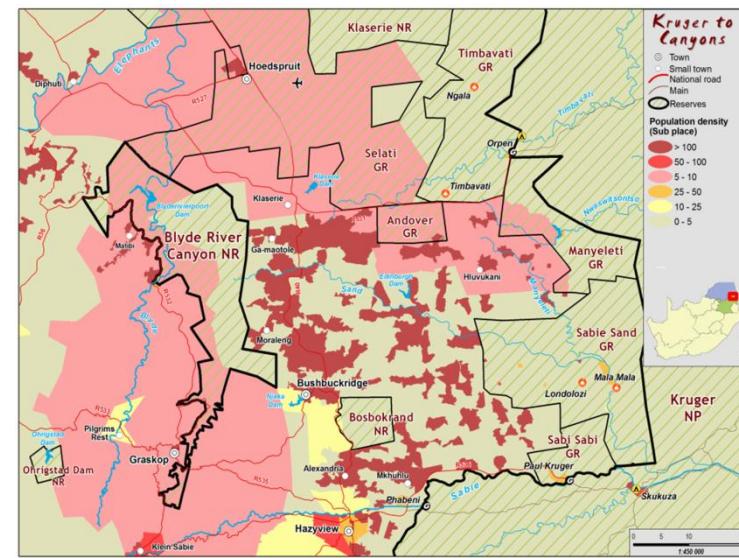
# Bushbuckridge

## Integration into the regional Wildlife & Ecotourism Economy

### An integrated rural economic development model

- Expand regional eco-tourism economy via corridors by:
  - Incorporating BEE / Community / Individual entrepreneurs
  - In equity participation arrangements

- Potential developments
  - Property / hotel
  - Lodge & entertainment
  - Tours & support services
  - Consumptive use of wildlife



# **Some Lessons Learned and Policy Implications**

- Highest level buy in for Study
- Quick and dirty economic valuations are not advisable
- Need a strategic level communication strategy
- Project to Programme approach- Institutionalisation is the Cherry on the top
- Cost benefit Analysis for major infrastructure Projects could be mandatory



# Thank You

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