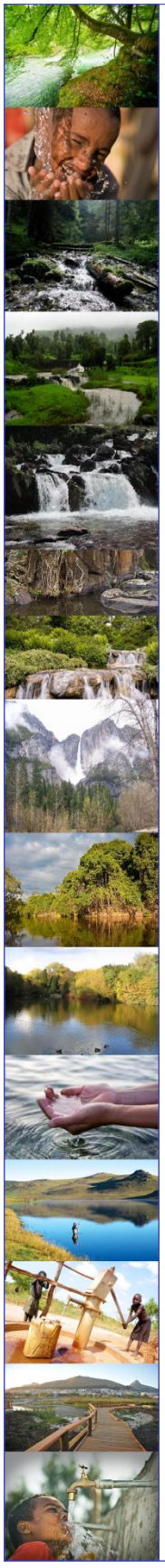

Annexure A: SIP 19 Initial Component Descriptions

Detailed descriptions of the initial set of SIP 19 components / projects reflected in the Minister's approved SIP 19 Description

Revision 1.0, Tuesday 3 March 2015

Table of contents

The following table of contents is based on the Summary of SIP 19 projects per Priority Area contained in the SIP 19 Description (Table 4, page 50).

Project Name	SIP Priority Area	Principle Implementing Agency	Page
1 Working for Wetlands project		SANBI	250
1 Working for Land project		DEA's Branch: Environmental Programmes	251
Restoration of the Central Keurbooms Catchment, southern Cape	Phase III Priority Area	WWF South Africa, in partnership with Eden To Addo Corridor Initiative.	169
Swartvlei Estuary Catchment Project		Eden to Addo Corridor Initiative	48
Building resilient landscapes by linking social networks and social capital to ecological infrastructure		WRC	13
Securing South Africa's Water Source Areas		WWF	9
WWF-SA Water Balance Programme		WWF	4
19 Working for Water projects		DEA's Branch: Environmental Programmes	247
1 Working for Wetlands project		SANBI	250
1 Working for Land project		DEA's Branch: Environmental Programmes	251
Mine pollution prevention	Phase IV Priority Area	Council for Geoscience (Environmental Geosciences Unit)	30
An integrated bioregional approach to improve water quality and production... within the Blyde Escarpment and associated catchments…		Kruger to Canyons Man and Biosphere (K2C BR)	181
Highveld crane and wetland conservation project		EWT	176
Limiting and mitigating the impact of coal mines on wetlands		WRC	55
Securing South Africa's Water Source Areas		WWF	9
WWF-SA Water Balance Programme		WWF	4
10 Working for Water projects		DEA's Branch: Environmental Programmes	247
1 Working for Wetlands project		SANBI	250
Mine pollution prevention	Phase V Priority Area	Council for Geoscience (Environmental Geosciences Unit)	30
Umzimvubu Catchment 20 year Restoration Strategy		Conservation South Africa NGO, an affiliate of Conservation International	224
Improving Water security in and around iSimangaliso Wetland Park		iSimangaliso Wetland Park Authority	199
Amathole Freshwater Species Conservation Project		EWT	41
Limiting and mitigating the impact of coal mines on wetlands		WRC	55
Protecting and expanding the Conservation areas within the Wolkberg-Lekgalameetse areas		Kruger to Canyons Man and Biosphere (K2C BR)	206
Securing South Africa's Water Source Areas		WWF	9
28 Working for Water project		DEA's Branch: Environmental Programmes	247
1 Working for Wetlands project		SANBI	250
1 Working for Land project		DEA's Branch: Environmental Programmes	251
5 Working for Forests project		DEA's Branch: Environmental Programmes	252

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**WWF-SA Water Balance Programme**
Brief Project Description (no more than 20 words):	WWF empowers corporates to invest in water security by contributing to catchment health (mostly invasive alien plant clearing). This funds clearing in phase l; ll; lll and phase lV of the priority water source areas.
Principle Implementing Agency:	WWF-SA
Key Project Partners:	NRM herbicide assistance; WfW; Eden to Addo; Nedbank; Woolworths; Sonae Novobord.
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
All of the Water Balance (WB) clearing investments fall within four of these water source areas. WB uses the financial incentive of clearing cost assistance to encourage landowners to enter their land into stewardship agreements, achieving other biodiversity benefits over and above the clearing. In the uMngeni catchment WB has been successful in facilitating the commitment of 2 properties as well as a further 3 potentially signing biodiversity agreements. All the land cleared in Vaal-Thukela-Pongola area lies within the KwaMadlangampisi Protected Environment. A target of 753 hectares (all hectares reported are condensed hectares unless stated otherwise) of invasive alien plants (IAP) is to be cleared throughout the four priority areas by the end of 2015. All hectares will receive initial clearing and a minimum of two follow up treatments, but with the majority receiving 3 or more treatments. Clearing efforts are focussed first on the riparian zone having the greatest water and other ecosystem services gains. WB explores secondary economy opportunities for the use of the resultant biomass wherever possible. Thus far 2 769 tons of charcoal and 82 tons of white wood have been created from the IAP clearing biomass. To date, WB has not had to employ active restoration measures as clearing is done in such a way as to encourage natural restoration. However, the programme is currently exploring alternative active restoration measures with various landowners.	
Specific project outcome targets in respect of water quality and/or quantity:	
Through the removal of 753ha of IAP by 2015, WB will have contributed to approximately 1,563,228kl of water remaining within the fresh water systems in these key water source areas. Additionally, this clearing will contribute to decreasing the further spread of IAP in these catchments which would have resulted in an increase in water lost as well as decreased water quality due to the impact of IAP in the riparian zone. Any cleared areas are allowed to return to natural vegetation and cannot be utilized by landowners for crop production. As such, clearing in the riparian zone introduces critical buffers of natural vegetation. WB requires its corporate participants to implement a water use reduction strategy during the WB agreement, thereby achieving additional water gains through decreasing their water demand.	

INTERVENTION TYPE (Tick most appropriate box)

1. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	x
1.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	x
2. Improved wetland-related ecological infrastructure –	
2.1 The restoration, rehabilitation and/or maintenance of wetlands;	x
2.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	x
3. Improved agriculture-impacted ecological infrastructure –	
3.1 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
4. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	X
4.2 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	x
4.3 Clearing invasive alien plant infestations in protected catchment areas;	x
5. The reinstatement and/or development of new ecological infrastructure –	
5.1 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.2 The rehabilitation of land affected by derelict and ownerless mines	
6. Ecological infrastructure for water security research and development project	
7. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
1. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	Approximately 130 ha of privately owned land will be cleared in the upper uMngeni-Mooi-Thukela water source area.
2. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	

2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	145ha are being cleared along the Leeu River (a tributary of the 24 Rivers) with a further 15ha on a tributary of the Krom River in the Palmiet Catchment near Grabouw. Additionally 44 ha will be cleared surrounding the Vyeboom wetland at the top of the Riviersonderend. Thus approximately 205ha will be cleared within the Berg-Breede water source area.
3. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	30ha are being cleared along the Traka River, a tributary of the Palmiet River in the Keurbooms catchment, which lies within the proposed protected environment.
4. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	244ha are being cleared on private land forming part of the KwaMadlangampisi Protected Environment and within the Vaal-Thukela-Pongola water source area. WB has submitted a proposal to NRM to establish additional clearing on communal land within this water source area, employing individuals from this community to do the clearing.
5. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
6. Project not associated with a specific Strategic Water Source Area	
6.1 Describe	

Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)

Water Balance Site positions	Latitude	Longitude
Leeu	33^0 10’ 29.37” S	19^0 04’ 09.81” E
Cluver	34^0 09’ 36.28” S	19^0 06’ 01.54” E
Traka	33^0 52’ 46.46” S	23^0 22’ 09.33” E
Umgeni	29^0 29’ 53.13” S	29^0 52’ 35.50” E
Luneburg	27^0 16’ 04.22” S	30^0 26’ 15.31” E

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	x	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further									

information relating to project status:	

PROJECT TIMING					
Start Date or earliest possible Start Date:	2011	**End Date or desired End Date:**	End of 2015	**Project Duration or estimated total project duration:**	Five years
Any further information relating to project timing:	WB continues to search for additional corporate funding and increases targets and "project" duration as funding is secured. Majority of agreements are for a period of 5 years with corporates and on the implementation side with landowners/implementing agents.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Thus far: 13 484 person days of work
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	WB cannot predict the total number of person days that will be created during the next 2 years as different models of implementation will be employed in the various areas cleared.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	Clearing is mostly done in upper parts of the catchments that are often isolated with little economic opportunities for the landowners or people living in settlements nearby. In the Vaal-Thukela-Pongola water source area WB is supporting other WWF work and facilitated the donation of hippo rollers (water carrying device), solar lanterns to the value of R247 000 and most recently two vegetable tunnels have been donated. WB is exploring other funding opportunities to employ individuals from this community to do IAP clearing. In the Keurbooms, the labourers used for clearing are from an impoverished settlement near to Plettenberg Bay. Along the Leeu River the clearing is done with a team employed from Saron – an ex-mission statement with high levels of unemployment. The clearing around the Vyeboom will employ two contractors from a village within the Hottentots Holland Nature Reserve.
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on	

"Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	In total WB has been able to leverage an additional R3.6mil in support of this programme. These were either donations (hippo rollers, solar lanterns, 4x4 vehicle and a camera for the programme,), herbicide through the NRM programme or donations in kind (landowners' management time and input, etc).

PROJECT FUNDING							
Total Project Cost:		Average Annual Cost:					
Tick most appropriate box below							
Total funding secured:		Some funding secured:	x	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Nedbank	investment	R9 029 248	
Sonae Novobord	investment	R2 816 000	
Woolworths	investment	R1 265 154	More funds committed for beyond 2015

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Helen Gordon	**Organisation:**	WWF-SA
Designation:	Water Balance Programme Manager	**Telephone:**	021 657 6646
E-mail:	hgordon@wwf.org.za	**Cell:**	

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Securing South Africa's Water Source Areas**
Brief Project Description (no more than 20 words):	Having identified the 8% of RSA's land area that contributes half of our run-off and the key threats to the hydrological functioning of those areas, WWF-SA is developing a strategy to address the threats (aliens, mining, over-grazing, etc).
Principle Implementing Agency:	WWF-South Africa
Key Project Partners:	WWF, SANBI, BOCMA, DWA
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Restoration projects are being considered in this first phase to reduce erosion and siltation.	
Specific project outcome targets in respect of water quality and/or quantity:	
Better land-care to enable water quality protection; Alien removal to reduce fire risk and water loss to evapotranspiration; Higher levels of biodiversity and catchment protection through concurrent implementation of The Reserve, Integrated Development Planning, Protected Environments, water stewardship.	

INTERVENTION TYPE (Tick most appropriate box)	
8. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.3 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	x
9. Improved wetland-related ecological infrastructure –	
2.3 The restoration, rehabilitation and/or maintenance of wetlands;	x
2.4 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	x
10. Improved agriculture-impacted ecological infrastructure –	
3.2 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	x
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	x
11. The conservation and protection of irreplaceable ecological infrastructure –	

4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	x
4.4 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	x
4.5 Clearing invasive alien plant infestations in protected catchment areas;	
12. The reinstatement and/or development of new ecological infrastructure –	
5.3 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.4 The rehabilitation of land affected by derelict and ownerless mines	
13. Ecological infrastructure for water security research and development project	X
14. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
7. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	X
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	X
1.3 Other (describe)	
8. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	x
2.2 Other (describe)	
9. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	George area around the Outeniqua's and the Gouritz headwaters.
10. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	Upper Pongola area.
11. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	Levubu-Mutale and Pondoland coast areas in particular.

12. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
• All the water source areas are included (as provided to DEA by WWF-SA)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**	x	**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	Initial funding to WWF-SA provided by Sanlam. We are looking at further resources for broader implementation.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	April 2014	**End Date or desired End Date:**	2017	**Project Duration or estimated total project duration:**	3 years for phase 1
Any further information relating to project timing:	We envisage this as a long term project to be continued in the future.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Not known
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	Not known
Any further information relating to project job creation:	Will be explored during phase 1.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	X
Positive impact on "Economic performance of	

poorest provinces":	
Positive impact on "Greening economy":	X
Positive impact on "Regional integration":	X
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	1 200 000		Average Annual Cost:		550 000		
Tick most appropriate box below							
Total funding secured:	1 200 000	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Partnership costs – Sanlam	Contribution	1 200 000	

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Christine Colvin	**Organisation:**	WWF-South Africa
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SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Building resilient landscapes by linking social networks and social capital to ecological infrastructure**
Brief Project Description (no more than 20 words):	The project is very innovative, as it aims to apply relatively new concepts of ecological infrastructure and social networks to improve risk prevention and management in one of the most risk-prone areas of South Africa. Due to the high risk-factor and the many ongoing initiatives in the area, this project anticipates creating outcomes around learning, acceptance and inclusion of project findings in the daily running of the area and increased homogeneity among related projects and initiatives in the Gouritz area. One such expected outcome is to lead the way for including disaster risk prevention in overall disaster risk management planning and implementation for the Gouritz area.In terms of impact beyond Gouritz, it is anticipated that the integration of concepts will help defining the role of ecological infrastructure and social networks in a national setting
Principle Implementing Agency:	CSIR (funded by WRC)
Key Project Partners:	NMMU, WWF, SANPARKS
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The overall vision of the project is to promote social-ecological transformation towards a more sustainable future in the Gouritz catchment. This will be done by influencing the way decision makers think about, value and make decisions about ecological infrastructure and social governance capacity, using emerging theoretical concepts and participatory action research to promote meaningful change	
Specific project outcome targets in respect of water quality and/or quantity:	
A step by-step guideline for identifying risks and responding to these through the management and restoration of ecological infrastructure.	

INTERVENTION TYPE (Tick most appropriate box)	
15. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.4 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	X
16. Improved wetland-related ecological infrastructure –	
2.5 The restoration, rehabilitation and/or maintenance of wetlands;	X

2.6 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	X
17. Improved agriculture-impacted ecological infrastructure –	
3.3 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	X
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	X
18. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.6 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.7 Clearing invasive alien plant infestations in protected catchment areas;	X
19. The reinstatement and/or development of new ecological infrastructure –	
5.5 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.6 The rehabilitation of land affected by derelict and ownerless mines	
20. Ecological infrastructure for water security research and development project	
21. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
13. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	Gouritz-WMA, Western Cape
14. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
15. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	Gouritz WMA, Western Cape
16. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants	

Strategic Water Source Areas	
4.1 Describe	
17. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
18. ***Project not associated with a specific Strategic Water Source Area***	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
Research project currently underway, documents are available at WRC for steering committee members only	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	x
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	This is research conducted by a consortium of organizations in partnership, based on action research or adaptive management								

PROJECT TIMING					
Start Date or earliest possible Start Date:	April 2013	**End Date or desired End Date:**	Nov 2016	**Project Duration or estimated total project duration:**	3yrs
Any further information relating to project timing:	nil				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Only project leaders and students
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS

Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	The project follows a landscape approach, covering different land uses
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	Aimed at creating resilient ecosystems
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	Learning and sharing of new knowledge, that can be exported to other similar threatened catchments

PROJECT FUNDING							
Total Project Cost:	R2.2million			Average Annual Cost:		R800 000	
Tick most appropriate box below							
Total funding secured:	x	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Water Research Commission			

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
n/a			

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
n/a			

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Dr Klaudia Schachtschneider	**Organisation:**	CSIR
Designation:	Principal Researcher	**Telephone:**	
E-mail:	kschacht@csir.co.za	**Cell:**	

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**WESSA/WWF Capacity for Catchments Project**
Brief Project Description (no more than 20 words):	A human capacity development project to support influencers and decision makers to fulfil their roles as responsible custodians of Ecological Infrastructure in the catchment.
Principle Implementing Agency:	WESSA
Key Project Partners:	WWF
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Securing the conservation and protection of ecological infrastructure by building capacity and understanding in the decision makers who regulate or influence land use activities within the Umngeni Catchment.	
Specific project outcome targets in respect of water quality and/or quantity:	
Ecological infrastructure in the Umngeni catchment is secured through responsible management, which will contribute towards improved water quality and quantity in the catchment.	

INTERVENTION TYPE (Tick most appropriate box)	
22. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.5 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
23. Improved wetland-related ecological infrastructure –	
2.7 The restoration, rehabilitation and/or maintenance of wetlands;	
2.8 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
24. Improved agriculture-impacted ecological infrastructure –	
3.4 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	

25. The conservation and protection of irreplaceable ecological infrastructure –		
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;		X
4.8 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;		
4.9 Clearing invasive alien plant infestations in protected catchment areas;		
26. The reinstatement and/or development of new ecological infrastructure –		
5.7 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);		
5.8 The rehabilitation of land affected by derelict and ownerless mines		
27. Ecological infrastructure for water security research and development project		
28. Other (describe)	Capacity building to develop decision makers' understanding of the importance of ecological infrastructure, and therefore their motivation to support all the above mentioned interventions.	X

PROJECT LOCATION(Check attached map and tick most appropriate box)		
19. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas		
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area		X
1.2Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area		X
1.3 Other (describe)		
20. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas		
2.1 Project is a component of the Berg River Improvement Plan (BRIP)		
2.2 Other (describe)		
21. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas		
3.1 Describe	Phase 3 of this project will be replicated into the Gouritz catchment area in 2014/15	
22. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-OlifantsStrategic Water Source Areas		
4.1 Describe		
23. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish		

and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
24. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS(Tick most appropriate box)								
Project Complete		**Under implementation**	X	**Ready for implementation**		**Project designed**		**Concept only**
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)								
Any further information relating to project status:	Phase1 Umngeni Capacity building needs analysis complete. Phase 2 (Capacity Development Design and Implementation) is ready for implementation.							

PROJECT TIMING					
Start Date or earliest possible Start Date:	1 July 2013	**End Date or desired End Date:**	31 March 2016	**Project Duration or estimated total project duration:**	3 years
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	3
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	3
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on	

"Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	Approx R3 million			Average Annual Cost:		R1,2 million	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	X	Some funding commitments:		No funding:	
Key secured funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	
Maas Maasen		Donor		R1,200,00			
Key committed funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	
Potential new/additional funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Kerry Rowlands	**Organisation:**	WESSA
Designation:	Project Manager	**Telephone:**	0333303931
E-mail:	kerry@wessa.co.za	**Cell:**	082 219 6758

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Drakensberg Crane and Wetland Conservation Project**
Brief Project Description (no more than 20 words):	To secure wetlands and catchments and their ecological services on privately owned land in the Umgeni, Umzimkhulu, Umzimvubu and Mooi River catchments
Principle Implementing Agency:	Endangered Wildlife Trust
Key Project Partners:	Critical Ecosystems Partnership Programme, European Union, Conservation South Africa, Environmental Rural Solutions, Ezemvelo KwaZulu Natal Wildlife (EKZN), Eastern Cape Parks and Tourism Authority (ECTPA).
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The project works towards securing catchments and wetlands and their associated ecosystem infrastructure and services contractually through the Biodiversity Stewardship Programme and other innovative mechanisms for ecosystem security and improvement. This includes providing ongoing management support and incentives to participating landowners, assessing ecosystem infrastructure health and services on all properties where the project is active. The implementation of the project also includes planning and identifying rehabilitation needs for relevant wetlands within the catchment areas and provide input into wetland rehabilitation implementers (Working for wetlands or Eastern Wetland Rehabilitation) Finally the project is raising awareness about catchments and Wetlands in the target areas.	
Specific project outcome targets in respect of water quality and/or quantity:	
The project aims to legally secure at least 6000 ha of wetlands and associated catchments in the Mooi, Umzimkhulu and Umzimvubu catchments and ensure sustainable management of the ecosystems (wetland, grassland and riparian). Where relevant the project will work towards enabling restoration work and/or alien plan control within the project area, this is done in partnership with Eastern Wetlands Rehabilitation, Ezemvelo KZN Wildlife and Working for Wetlands. The project focuses in key catchments, along rivers that provide essential ecosystem services to not only the immediately surrounding communities but also the urban centres of Howick, Mooi River, Pietermaritzburg, Durban and Kokstad. Therefore the implementation of the project will ensure improved and sustained ecosystem services including improved water quality and quantity, flood attenuation and natural resources. .	

INTERVENTION TYPE (Tick most appropriate box)		
29. Improved stream and river-related ecological infrastructure –		
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;		X
1.6 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;		
30. Improved wetland-related ecological infrastructure –		
2.9 The restoration, rehabilitation and/or maintenance of wetlands;		X
2.10 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;		X
31. Improved agriculture-impacted ecological infrastructure –		
3.5 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);		X
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);		X
32. The conservation and protection of irreplaceable ecological infrastructure –		
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;		X
4.10 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;		X
4.11 Clearing invasive alien plant infestations in protected catchment areas;		X
33. The reinstatement and/or development of new ecological infrastructure –		
5.9 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);		
5.10 The rehabilitation of land affected by derelict and ownerless mines		
34. Ecological infrastructure for water security research and development project		
35. Other (describe)	To assess and measure the quality and health of ecological infrastructure and services on several sites that is part of the process to legally secure land as part of the Biodiversity Stewardship Programme.	X

PROJECT LOCATION (Check attached map and tick most appropriate box)		
25. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas		
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area		X
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area		X
1.3 Other (describe)	Biodiversity Stewardship Projects within the Mooi and Umzimkhulu River Catchment to secure land and habitat for cranes and	

	ecosystems infrastructure and services.
26. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
27. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
28. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
29. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	Biodiversity Stewardship Projects within the Umzimvubu River catchment to secure ecosystem infrastructure and services and habitat for cranes.
30. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	N/A
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
Mooi River Catchment – Mooi/Mpofana Municipality Lat: 29.259499° Long: 29.606992°, Lat: 29.354814° Long: 29.653059°, Lat: 29.326065° Long: 29.998766°, Lat: 29.117868° Long: 29.943491° Umzimvubu River Catchment - Matatiele Local Municipality Lat: 30.409093, Long: 28.999605 & Lat: 30.43352, Long: 29.522126 & lat: 30.050064 , Long: 29.122373 & Lat: 30.564567 , Long: 29.1974778 Uzimkhulu River Catchment - Kwa Sani Local Municipality - Lat: 29.786927, Long: 29.411887 & Lat: 29.716630 , Long: 29.568735	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	X	**Ready for implementation**	X	**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Maputoland Pondoland Albany Hotspot (MPAH) uMgeni Ecological Infrastructure Partnership								
Any further information relating to project status:	An initial CEPF project is being implemented and will be concluded in at the end of 2014. An additional 12 month CEPF project and a 42 month European Union Project is ready for implementation starting								

	February 2014. All projects focus on securing habitat and ecosystems infrastructure and services on private land.

PROJECT TIMING					
Start Date or earliest possible Start Date:	1 April 2012	**End Date or desired End Date:**	1 October 2017	**Project Duration or estimated total project duration:**	24 + 42 = 66 Months
Any further information relating to project timing:	The above describes the combined period spanned by 3 different Projects which may run concurrently at times.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	4
Any further information relating to project job creation:	Project funds ensure the training of 8 Ecorangers and the employment of 4 Ecorangers for a period of 42 months. Rollout of beehives to identified beneficiaries for to start SMME / cooperatives. Through the partnership with Eastern Wetland Rehabilitation the creation of up to 30 people to conduct wetland rehabilitation as per recommendations from the project and partners, this will be in addition to Working for Wetlands operations (added value)

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	N/A
Positive impact on "Promoting rural development":	Employment and training of Ecorangers. Environmental Education.
Positive impact on "Industrial development and/or localisation":	N/A
Positive impact on "Economic performance of poorest provinces":	Security of ecosystem infrastructure and services that supply downstream users.
Positive impact on "Greening economy":	Employment opportunities, tourism development, identification of restoration opportunities.
Positive impact on "Regional integration":	Cooperating with partners to work across provincial boundaries.
Any other significant positive impacts and/or co-benefits:	Securing habitat for the conservation of species and ecosystems services and goods. Community Training in Ecosystem Infrastructure and Services Methodology.

PROJECT FUNDING

Total Project Cost:	R 6 933 000	Average Annual Cost:	R 1 260 500

Tick most appropriate box below							
Total funding secured:	X	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
CEPF (1)	Grant	$ 227394	Exchange 1:10.2
CEPF (2)	Grant	$ 48 000	Exchange 1: 10.2
EU	Grant	E 275 000	Exchange 1: 15

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Foundation Ensemble	Grant	Approx R270 000	Application under review

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Cobus Theron or Tanya Smith	**Organisation:**	EWT
Designation:	Project Coordinator	**Telephone:**	0337011323 or 0333306982
E-mail:	cobust@ewt.org.za or tanyas@ewt.org.za	**Cell:**	0795082156 or 0823947476

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SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Threatened grassland species conservation project**
Brief Project Description (no more than 20 words):	Developing an ecosystems approach towards grassland conservation by implementing conservation actions for priority areas within grasslands by focussing on priority species.
Principle Implementing Agency:	Endangered Wildlife Trust
Key Project Partners:	Provincial conservation authorities (KZN, Mpumalanga & Free State), WWF-SA, BirdLife SA.
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The focus of this work is to identify key grassland areas for conservation attention using priority specialist grassland species. The presence of these specialist species act as indicators and flagships for intact grasslands systems and hence areas with intact ecosystem functioning, especially water production. The conservation of these key areas through improved education and awareness, better management practices and formal proclamation through the stewardship programme will result in improved and sustainable water production from these key catchment areas.	
Specific project outcome targets in respect of water quality and/or quantity:	
To improve and increase the area of intact high altitude grasslands under conservation friendly management and/or formal proclamation in order to maintain large viable tracts of habitat which act as the key water catchments for the country.	

INTERVENTION TYPE (Tick most appropriate box)	
36. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.7 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
37. Improved wetland-related ecological infrastructure –	
2.11 The restoration, rehabilitation and/or maintenance of wetlands;	
2.12 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	

38. Improved agriculture-impacted ecological infrastructure –	
3.6 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	✓
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
39. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	✓
4.12 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	✓
4.13 Clearing invasive alien plant infestations in protected catchment areas;	
40. The reinstatement and/or development of new ecological infrastructure –	
5.11 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.12 The rehabilitation of land affected by derelict and ownerless mines	
41. Ecological infrastructure for water security research and development project	
42. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
31. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	✓
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	✓
1.3 Other (describe)	
32. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
33. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
34. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	All of the above (still in the priority area selection phase).

35. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	Possibly the Letaba-Olifants and Mfolozi-Phongola
36. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**	✓	**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:									

PROJECT TIMING					
Start Date or earliest possible Start Date:	September 2013	**End Date or desired End Date:**		**Project Duration or estimated total project duration:**	Minimum 5 years
Any further information relating to project timing:	This is dependent on funding, which in turn dictates scale of project.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	2
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural	

development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	Improved production capacity for grass fed beef industry.
Positive impact on "Greening economy":	Grass fed beef are ecologically more sustainable and friendly than alternatives.
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	R6,900,886.80			Average Annual Cost:		R1,200,000.00	
Tick most appropriate box below							
Total funding secured:	40%	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
RMB			
MONDI			

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Ian Little	**Organisation:**	Endnagered Wildlife Trust
Designation:	Manager	**Telephone:**	0333306982
E-mail:	ianl@ewt.org.za	**Cell:**	0842407341

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Construct passive and/or semi-passive treatment systems on mine contaminated water in flowing into strategically important catchments**
Brief Project Description (no more than 20 words):	Construct passive and/or semi-passive treatment systems on mine contaminated water in flowing into strategically important catchments.
Principle Implementing Agency:	Council for Geoscience (Environmental Geosciences Unit)
Key Project Partners:	SANBI, CSIR
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
• Improvement of water quality • Development of new wetlands and other ecological infrastructure	
Specific project outcome targets in respect of water quality and/or quantity:	
Reduced contaminant (metals, sulphate and acidity) levels in water Prevention of loss of water due to evaporation Circumneutral pH in AMD affected areas Enabled communities participating in implementation, monitoring and maintenance of enhanced ecological infrastructure	

INTERVENTION TYPE (Tick most appropriate box)	
43. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.8 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
44. Improved wetland-related ecological infrastructure –	
2.13 The restoration, rehabilitation and/or maintenance of wetlands;	√
2.14 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
45. Improved agriculture-impacted ecological infrastructure –	

3.7 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
46. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.14 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.15 Clearing invasive alien plant infestations in protected catchment areas;	
47. The reinstatement and/or development of new ecological infrastructure –	
5.13 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	√
5.14 The rehabilitation of land affected by derelict and ownerless mines	√
48. Ecological infrastructure for water security research and development project	
49. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
37. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
38. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
39. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
40. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	Enhancement of ecological infrastructure in areas heavily impacted by mining activities, with a strong emphasis on areas heavily impacted by mining. See appendix for fuller project description.

41. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	Project implementation could extend to all of the Phase V Priority areas affected by mining. (See appendix for maps and detailed project plan).
42. Project not associated with a specific Strategic Water Source Area	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
These will be provided during the scoping phase of the project, when project test sites have been identified.	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	√
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:									

PROJECT TIMING					
Start Date or earliest possible Start Date:	**01/04/2014**	**End Date or desired End Date:**	**31/03/2017**	**Project Duration or estimated total project duration:**	3 yrs
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Opportunities will be identified when the site(s) and technology(ies) have been selected.
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	Implementation, monitoring and maintenance can be achieved with community involvement.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	Community education Reliable and sustainable clean water resource for community use.
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	Job creation
Positive impact on "Greening economy":	The project aims to pilot technologies to improve water security by the enhancement of ecological infrastructure. This has the potential to create jobs in the implementation, maintenance and monitoring phases. In the longer term, these ecological services could generate funding via the maintenance and enhancement of downstream water security.
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	R6M			Average Annual Cost:		R2M	
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:		No funding:	√

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Dr. Mosidi Makgae	**Organisation:**	Council for Geoscience
Designation:	Unit Manager	**Telephone:**	012 841 1384
E-mail:	mmakgae@geoscience.org.za	**Cell:**	

Project description

This project aims to initiate a programme to manage the impacts of mining on water security in some of South Africa's heavily impacted areas. It will focus on derelict and ownerless mines, where these have become the responsibility of the South African State, but will also seek partnerships with the mining industry where legacy sites impact on downstream water resources. The aim of the project will be the establishment and enhancement of ecological infrastructure which enhances downstream water quality where this has been adversely affected by past mining activities, although other pollution sources may be included in the scope of the project, if applicable.

The priority areas for SIP 19 have been identified in important catchment areas, as identified by SANBI's Strategic Water Source Area project[1] (See Figure 1). The eastern escarpment of Mpumalanga and a portion of northern KwaZulu Natal has been selected as the site for the first implementation of this project as it comprises the a number of strategic water source areas and has been heavily mined for coal and gold, both commodities often resulting in pollution of water, over a period of more than a century (See Figure 2).

[1] http://bgis.sanbi.org/nfepa/SWSAmap.asp

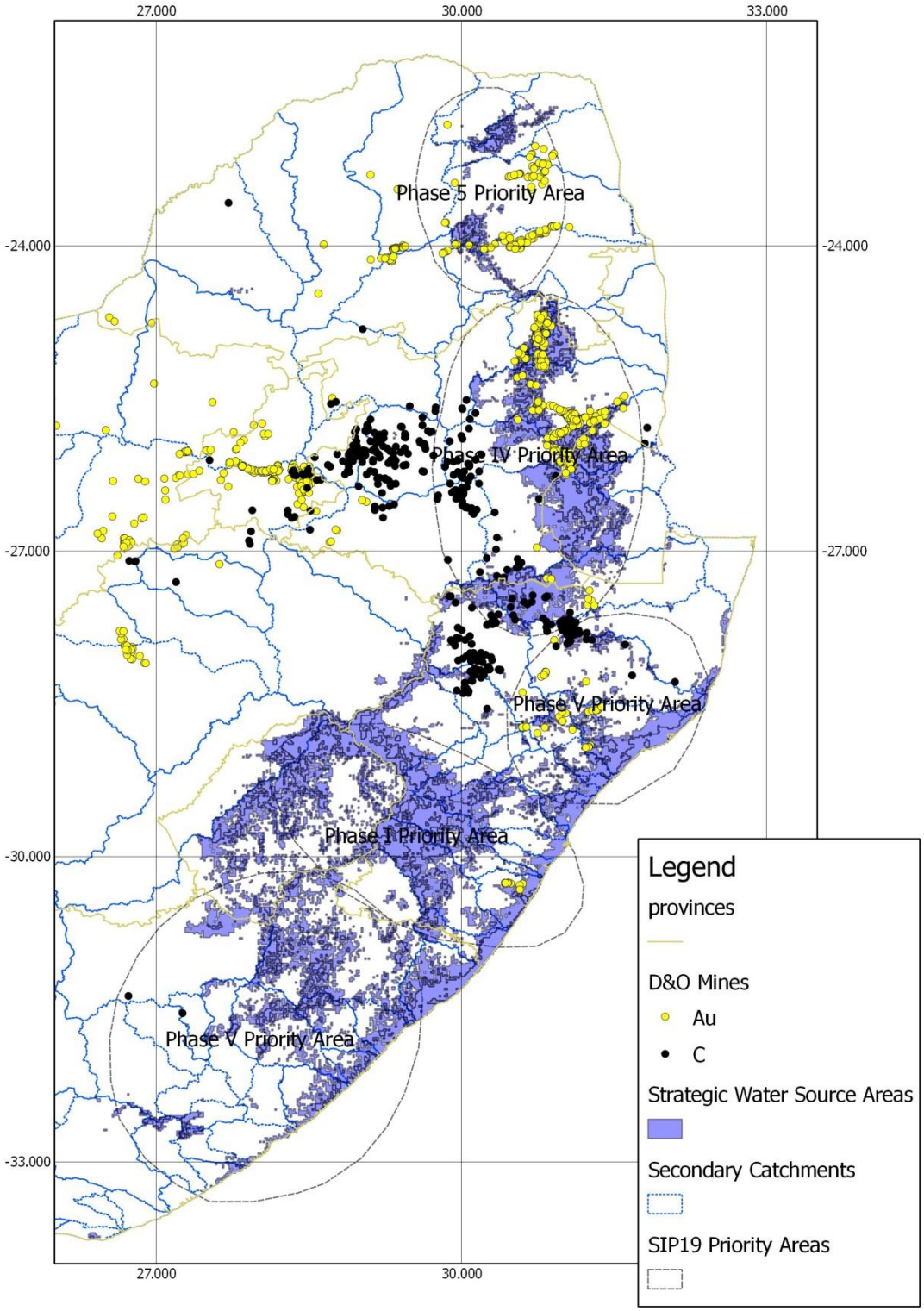

Figure 1. Location of coal and gold mines relative to Strategic Water Source Areas and important catchments

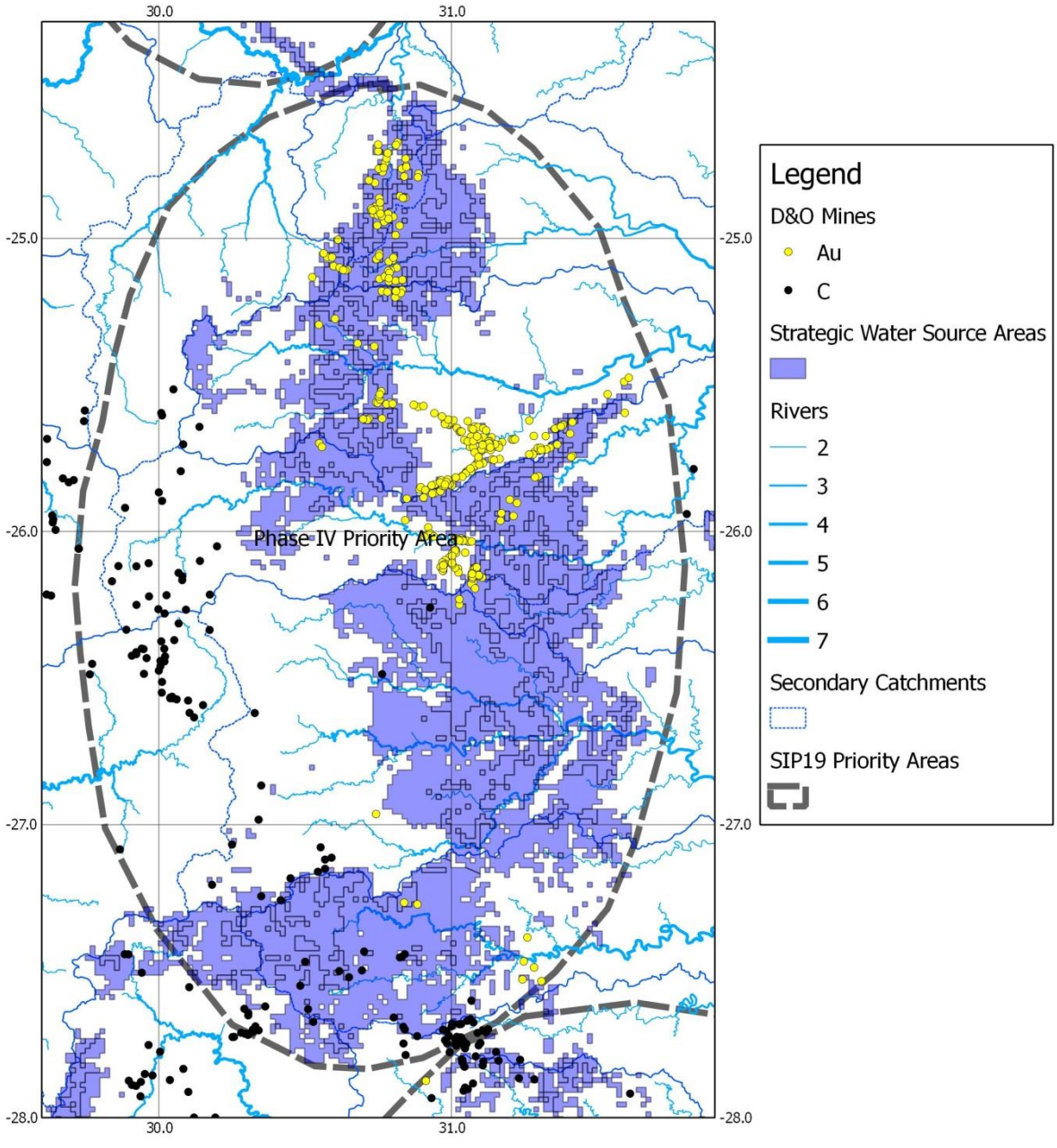

Figure 2. SIP 19 Phase IV Priority area, showing the location of Strategic Water Source Areas and historical gold and coal mining.

PROJECT PHASES:

1.1.1 Phase 1: Data collection, Gap analysis and GIS compilation

Activity	Product	Description
Data collection	GIS database containing baseline data and relevant hydrological data from public	Available data will be compiled into a coherent GIS database and spatial products.

Activity	Product	Description
	sources, CGS projects and other available data. Where required, field investigations will be undertaken in this phase of the project.	
Gap analysis	Assessment of compiled data, identifying areas where insufficient data are available to inform effective decision-making.	Information and knowledge gaps will be identified and options presented to improve future data collection and decision-seeking.
Stakeholder identification and presentation of project and results	Stakeholder list and stakeholder engagement report.	A core group of stakeholders will be identified and the information base presented to them for comment.
Scoping report	Full scoping report, presenting available data, stakeholder engagement results and identified interventions for the enhancement of ecological infrastructure.	

1.1.2 Phase 2 Technological review and establishment of baseline monitoring

The focus of this phase of the project will be the identification and benchmarking of appropriate passive and semi-passive water treatment technologies. Passive treatment technologies can be broadly defined as those which rely on natural sources of physical and chemical energy and require infrequent (albeit regular) maintenance and include chemical treatment to remove pollutants from water as well as physical measures to prevent pollution from occurring or limit the release of polluted water[2]. Semi-passive water treatment aims to achieve these aims, but may require limited external inputs of energy and/or chemical reagents.

These technologies have been proposed and implemented in a number of areas in South Africa, using a range of technologies including alkali addition (Figure 3), constructed wetlands (Figure 4) and ingress prevention (Figure 5) but have not yet made significant progress due to a combination of lack of adoption by the mining industry and regulators, largely prompted by unsuccessful implementations due to inadequate characterisation of the pollution sources and mechanisms, inappropriate technology choices and a lack of maintenance and monitoring. They have been used with a higher degree of success in other parts of the world, notably the coal mining areas of the United Kingdom[3] and parts of the United States of America[4].

This phase of the project will utilise sites identified in Phase 1 and select appropriate technologies for their remediation. It should be noted that the selection of the appropriate technology and design is a site-specific activity, informed by available gradients, water flow and chemistry etc. Where

[2] http://www.imwa.info/piramid/files/PIRAMIDGuidelinesv10.pdf
[3] http://coal.decc.gov.uk/en/coal/cms/environment/schemes/schemes.aspx
[4] http://www.netl.doe.gov/technologies/coalpower/ewr/water/pdfs/Passive%20Treatment.pdf

necessary, small-scale (laboratory or field) pilot studies may be undertaken to verify the effectiveness of the selected technologies.

Figure 3. Novel passive treatment system installed at a coal mine discharge point in Mpumalanga. This device aims to agitate a lime-AMD slurry using a vertical-axis wind turbine. At the time that this photograph was taken, the system was not functioning due to the breakage of the turbine.

Figure 4. Passive treatment system comprising a series of cascades and artifical wetlands in northern Kwazulu Natal. This system is currently only partly functional due to a lack of maintenance and monitoring.

Figure 5. Ingress prevention by the sealing of channels above underground coal workings - Kwazulu Natal

A critical component of this phase of the project will be the identification of affected parties and consultation regarding the project as well as the possibilities for engagement with communities, landowners and other stakeholders. Passive and semi-passive treatment systems are ideal for implementation, operation, maintenance and monitoring by local community groups, schools etc. Preliminary development at the Council for Geoscience[5] has identified appropriate technologies for water quality monitoring by community groups. Instruction can also be given in water flow estimation. Workshops for the capacitation of local groups will allow the collection of monitoring data as well as improve local understanding of issues and ownership of processes and projects.

Activity	Product	Description
Technological review	Report detailing: 1. Available technologies and their applicability to identified problem areas. 2. Results of any small-scale testing	
Stakeholder engagement	Report detailing stakeholder engagements and capacity building activities. Monitoring data from community-based programmes.	Further stakeholder engagement will be undertaken at this stage, primarily with the aim of building synergies with affected parties to ensure implementation. Where possible, local community members, groups, schools etc. will be capitated to assist with

[5] Coetzee, H. (2013). Rapid field based analytical techniques for the environmental screening of abandoned mine sites. Reliable Mine Water Technology (Vol II). A. Brown, L. Figueroa and C. Wolkersdorfer. Denver, Colorado, USA, Publication Printers: 943-948.

Activity	Product	Description
		the monitoring of impacted areas.

1.1.3 Phase 3: Pilot implementation

The conclusion of this part of the project will be the implementation of proposed projects at pilot level. This will allow the validation of the technology selection phase as well as the demonstration of passive treatment technology(ies). Some parts of this process may be subject to regulatory approval.

Passive treatment technologies are generally suited to environments characterised by multiple small-volume discharges. These are generally not amenable to current regulatory processes. An important portion of this phase of the project will be the proposal of an appropriate regulatory regime for the enhancement of ecological infrastructure in mining-impacted catchments. This will need to be developed in cooperation with the relevant regulators.

Activity	Product	Description
Pilot implementation of appropriate passive/semi-passive treatment at one or more sites.	Pilot site(s) with installed infrastructure and descriptive reports.	The sites will serve to demonstrate the application of passive technologies and the full involvement of local stakeholders.
Development of appropriate regulatory regime.	Proposal for appropriate regulation of multiple, small passive treatment systems.	An appropriate regulatory regime will aim to improve conditions in degraded catchments without preventing innovative approaches to water management. It will also need to acknowledge the complexities posed by multiple small-scale ecologically-based systems.

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Amathole Freshwater Species Conservation Project**
Brief Project Description (no more than 20 words):	Protecting Amathole biodiversity and water resources through conservation interventions that target communities and through the development of a water-linked green-economy.
Principle Implementing Agency:	The Endangered Wildlife Trust
Key Project Partners:	Wildlife and Environmental Society of South Africa, Conservation South Africa, Border Rural Committee, Wild Bird Trust
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
A Natural Resource Management programme within the Amathole catchment is planned for 2014 onwards, focussing on the upper catchment. This will involve the removal of alien invasive plants from affected areas as well as the rehabilitation of riparian zones and key wetlands within the upper catchment. These actions will serve to improve the water quality and quantity available for use human consumption. Rehabilitation programmes will also serve to protect the biodiversity of the Amathole freshwater systems, which are responsible for providing important ecosystem services such as supporting services (nutrient dispersal and cycling and primary productivity). A long-term programme will continually assess ecosystem health and provide guidance on effective conservation actions within the Amathole catchment area. Rehabilitation of the catchment through will protect a number of endemic and endangered species that occur within the catchment. Resource users, especially rural communities in the area, will benefit from a more pristine and more abundant water supply as well as the provision of "green jobs" and micro-enterprises to support the functioning of a healthy ecosystem. This is especially important in the Eastern Cape province which is a water-scarce and poverty priority area.	
Specific project outcome targets in respect of water quality and/or quantity:	
Water quality will be monitored using a number of indicators (similar to the River Health Programme but slightly modified): • South African Scoring System: this index uses aquatic invertebrates as an indicator of water quality. Assessments will be made periodically during the project to assess the improvement in water quality. Relevant and appropriate members of the community will be trained in performing these assessments so that water quality can be monitored continuously (as an exit strategy for the project). • Fish index: the relative abundance of indigenous fishes throughout the system will be used as an indicator of stream health since some indigenous fishes are negatively affected by siltation, erosion and encroachment of alien invasive plants • Riparian zone vegetation is assessed at each sampling location which covers as much of	

the system as possible. This is an indicator of the extent of alien invasive plant encroachment

- During stream surveys a habitat assessment is made: a score out of 5 is given to each site with 1 being poor quality habitat; 2 being fairly poor; 3 being relatively intact with some degradation; 4 being near pristine; and 5 bring pristine. These will be reassessed during each site visit which are annual or biannual.

Water quantity will be monitored using data collected from a number of gauging weirs throughout the system. Dam level data can also be obtained. This data is available on the DWAF website and historical data is also available.

INTERVENTION TYPE (Tick most appropriate box)		
50. Improved stream and river-related ecological infrastructure –		
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;		X
1.9 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;		X
51. Improved wetland-related ecological infrastructure –		
2.15 The restoration, rehabilitation and/or maintenance of wetlands;		X
2.16 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;		X
52. Improved agriculture-impacted ecological infrastructure –		
3.8 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);		X
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);		X
53. The conservation and protection of irreplaceable ecological infrastructure –		
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;		X
4.16 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;		X
4.17 Clearing invasive alien plant infestations in protected catchment areas;		
54. The reinstatement and/or development of new ecological infrastructure –		
5.15 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);		
5.16 The rehabilitation of land affected by derelict and ownerless mines		
55. Ecological infrastructure for water security research and development project		X
56. Other (describe)	The Amathole Freshwater Species Conservation Project is also involved the development of a water-linked green-economy	

	that will push the change from damaging old practices such as overstocking of rangeland to more sustainable and environmentally friendly practices and lifestyles. This will be done through education of the rural communities and spreading awareness among land users. The introduction of sustainable alternative economies such as beekeeping is also a planned aspect of project activities. Project activities also include a long term monitoring programme that assesses river health using a number of indicators: • The status of indigenous fish populations • The South African Scoring System • Water quality parameters (pH, conductivity, turbidity) • Stream state (level of infestation with invasive alien plants, level of erosion and degradation, level of disturbance e.g. cattle watering points/impoundment construction/roads) Other indicators for grassland and wetland health will be added to the tools used for assessing ecosystem health. These will be used to assess the state of relevant rangelands and freshwater sources. The project also monitors the state of a number of IUCN Red Listed species that occur in the Amathole catchment, these include: • Border barb *Barbus trevelyani* • Eastern Cape Rocky *Sandelia bainsii* • Amathole toad *Vandijkophrynus amatolicus* • Hogsback chirping frog *Anhydrophryne rattrayi* • Amathole malachite *Chlorolestes apricans* All these species rely on freshwater resources at some point in their lifecycle and are directly affected by the state of freshwater ecosystems. These species will therefore be used as some of the indicators of catchment health.	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
43. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
44. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	

2.2 Other (describe)	
45. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
46. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
47. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	The project is focussed on the Amathole area which falls within the Great Kei-Great Fish Strategic Water Source Area
48. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	Although the majority of biodiversity and water resource health monitoring efforts are currently focussed on the Keiskamma catchment, these will be expanded to include the surrounding areas. Upper catchments are the target of this project.
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
The area currently being surveyed for the biodiversity monitoring aspect of the project ranges from pproximately from latitude -32.514254° longitude 26.859038° to latitude -32.734516° longitude 27.249885°. This area will however, expand to include the greater Amathole catchment.	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**	X	**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Being in its infancy, the project is not listed or recognised by any of the NDP 2030, the IPAP II of the NGP.								
Any further information relating to project status:	Project activities are already underway and river health is being assessed using a number of indicators including the state of indigenous fish and invertebrate populations. A long term monitoring programme has been initiated to assess river health using fish and invertebrate populations and water quality parameters as indexes of river health.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	March 2014	**End Date or desired End Date:**	August 2017	**Project Duration or estimated total project duration:**	3.5 years

Any further information relating to project timing:	Project activities have already started with the initiation of a long term monitoring programme that assessed freshwater ecosystem health. The implementation of alien plant clearing is planned to start later in 2014 and continue for three years, ending in approximately August 2017. A plan for the maintenance of cleared areas will be developed through incentivising local communities and land owners to keep their land clear.

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	31
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	About 12
Any further information relating to project job creation:	Further jobs will be created through the development of a water-linked green-economy and through sustainable alternative livelihood programmes such as beekeeping.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	This project does play a role in addressing spatial imbalances in that it will be instrumental in developing a water-linked green-economy that will provide new 'green' jobs. It also aims to develop sustainable alternative livelihoods that will result in new economic opportunities for rural communities , benefiting people and the environment. Jobs will also be provided as part of the clearing of alien trees.
Positive impact on "Promoting rural development":	Through the development of a water-linked green-economy, communities will be rewarded for environmentally friendly activity and the protection of water resources. Jobs will also be provided through the clearing of alien trees. Through education of the communities about the benefits of maintaining their land, keeping alien invasives at bay, and protecting freshwater resources, long term conservation of freshwater resources can be ensured. These factors will aid in uplifting rural communities and promoting sustainable development in rural areas.
Positive impact on "Industrial development and/or localisation":	Through the conservation of freshwater resources, this project will aid industrial development by providing the ecological infrastructure for development in industrial areas. However, this project will mostly provide opportunities for small-scale rural industries, such as the production of value-added products from cleared alien invasive trees (e.g. the production of furniture). The development of sustainable alternative livelihoods and the green-economy will also promote small-scale rural development.
Positive impact on "Economic performance of poorest provinces":	Developing the water-linked green-economy as well as sustainable alternative livelihood programmes will aid in uplifting of rural communities. The possibility for value-added products being produced from cleared alien invasive trees could also promote small-scale industries in rural areas.
Positive impact on	As mentioned above, developing the water-linked green-

"Greening economy":	economy will aid in uplifting rural communities. Natural resource management programmes will further contribute to greening economy and this will also aid in increasing water supply and providing the opportunity for value-added products to be created using cleared alien plants.
Positive impact on "Regional integration":	Improving water quality and quantity at its source will ultimately benefit downstream regions and so if these positive actions eventually become consistent throughout the system, people can experience these benefits regionally. Furthermore, this project will be working in collaboration with an Umzimvubu catchment project (Umzimvubu Catchment 20 year Restoration Strategy) and an Umzimkulu catchment project with similar project activities and targets. This will aid in a more regional integration of conservation efforts that will have a greater impact than isolated projects.
Any other significant positive impacts and/or co-benefits:	This project also aims to work in collaboration with other organisations working within the Amathole area already. For example the Border Rural Committee are specialists in community work and the Wild Bird Trust are another conservation agency and through our joint efforts, we can achieve conservation and community related goals with more robust results. Through the monitoring of key species, water quality parameters and other ecosystem indicators, the state of freshwater ecosystems can be monitored and progress can measured. Monitoring these species and groups of species will also aid in developing management plans for these species which will aid in conserving biodiversity.

PROJECT FUNDING							
Total Project Cost:	R21,896,806.68			Average Annual Cost:		R6,256,230.48	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	X	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
European Union	Grant	EURO 1,058,707	This funding is available for the 3.5 years of the project
Rand Merchant Bank	Grant	R1,200,000	This funding is available for 3 years of project activities.

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan,	Value	Comments

	MTEF allocation, etc.)		
DEA NRM Grant	Grant	R5,620,819	

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Bridget Corrigan/Christine Coppinger	**Organisation:**	Endangered Wildlife Trust
Designation:	Project Manager/Project Manager on the ground	**Telephone:**	0113723600
E-mail:	bridgetc@ewt.org.za/ christinec@ewt.org.za	**Cell:**	0764405306/ 0766836324

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Swartvlei Estuary Catchment Project**
Brief Project Description (no more than 20 words):	Development and implementation of an Integrated Catchment Management Plan for the mountain catchment area of the Swartvlei estuary.
Principle Implementing Agency:	Eden to Addo Corridor Initiative
Key Project Partners:	Sedgefield Ratepayers, Friends of Swartvlei, Retired Engineers in Sedgefield

Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:

- Clearing of alien vegetation using restoration clearing methods;
- Promotion of small enterprise development opportunities based on the conversion of biomass to charcoal and compost;
- Negotiation of appropriate stewardship arrangements to secure areas that are cleared;
- Implementation of a biological control programme for target species *A. Mearnsii, A melanoxylon*

ALL OF THIS WOULD NEED TO BE IMPLEMENTED IN CONJUNCTION WITH THE FOLLOWING:

- Removal of the disused railway bridge and at least part of the embankment to allow for the restoration of the Perdespruit wetland this will include:
  - Hydrodynamic study to determine the extent of the embankment to be removed
  - EIA to gain approval for the project and provide possible alternatives
  - Appointment of civil consultants supervised by the Retired Engineers Association in Sedgefield.
  - Construction of a cut through the embankment as a temporary bypass during the removal of the bridge section
  - Removal of the bridge section including concrete foundations, piers, rocks.
  - Installation of a pre-cast concrete culvert bridge across the Perdespruit on the sand road to Montmere.
  - Deepening of the existing culverts through the railway and N2 embankments involving negotiations with Transnet and SANRAL.
  - Selective clearing of sediments along the line of the Perdespruit.
-

Specific project outcome targets in respect of water quality and/or quantity:

- Increased stream flow of the Karatara and Hoogekraal rivers resulting in greater water security for the towns of Sedgefield, Smutsville and Sizamile;

- Improved functioning of the Perdespruit and concurrent wetlands in the lowland catchment area;
- Improved salt/fresh water exchanges the return of the estuary to a tide-dominated system.

INTERVENTION TYPE (Tick most appropriate box)	
57. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	√
1.10 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	√
58. Improved wetland-related ecological infrastructure –	
2.17 The restoration, rehabilitation and/or maintenance of wetlands;	√
2.18 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
59. Improved agriculture-impacted ecological infrastructure –	
3.9 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
60. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	√
4.18 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.19 Clearing invasive alien plant infestations in protected catchment areas;	√
61. The reinstatement and/or development of new ecological infrastructure –	
5.17 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.18 The rehabilitation of land affected by derelict and ownerless mines	
62. Ecological infrastructure for water security research and development project	
63. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
49. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	

1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
50. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
51. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	The Outeniqua Strategic Water Source area which is part of the Gouritz SWSA includes the following quaternary catchments prioritised in the Western Cape IWRM Status Quo report: K40A, B, C and D, the Wolwe, Karatara, Hoogekraal and Swartvlei water bodies respectively.
52. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
53. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
54. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
34° 00' 24.18"S 22° 46' 11.14"E	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	√	**Ready for implementation**		**Project designed**		**Concept only**	√
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:		It is both in the conceptual phase and under implementation. Aspects of the engineering project have already been implemented (see report by Richard Batson below). Working for Water have cleared some portions of the catchment area but the projects have							

	subsequently been completed.

PROJECT TIMING					
Start Date or earliest possible Start Date:	2016	**End Date or desired End Date:**	2020	**Project Duration or estimated total project duration:**	5 years
Any further information relating to project timing:	It will take at least 6 months to complete a fine scale alien vegetation mapping exercise and draft a comprehensive Management Unit Clearing Plan which will provide accurate budgeting and time scales. This has been done for the neighbouring Keurbooms river catchment area so an effective model exists.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	75
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	45
Any further information relating to project job creation:	Direct jobs will be provided by landowners; the implementing agent will not employ workers. All relevant demographic requirements of the government can be adhered to as for the Keurbooms catchment management project.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	According to a feasibility study on small scale charcoal manufacturing, there is the possibility of small business development opportunities over and above those relating directly to the clearing of IAP species. The study is attached.

PROJECT FUNDING			
Total Project Cost:	Estimate based on similar catchment: R15million plus hard	Average Annual Cost:	2016 – R14mill 2017 – R6mill 2018 –R3mill

	engineering costs of R12million		2019 - R2mill 2020 - R2mill

Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:		No funding:	√

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS **(the name of the person to be contacted for further detail and/or clarification on the information contained in this form)**			
Name:	Pamela Booth	**Organisation:**	Eden to Addo Corridor Initiative
Designation:	Director and Project Manaager	**Telephone:**	082 8750342
E-mail:	pam@edentoaddo.co.za	**Cell:**	082 8750342

ATTACHMENT ONE: REPORT BY RICHARD BATSON

Ecological Water Reserve Determination studies for Swartvlei estuary and its feeder rivers: the Diep, Hoëkraal and Karatara were reported in the Main Report: Outeniqua Reserve Study (K10-K50, K60G). Report No. RDM/K000/02/CON/0907. Department of Water Affairs (DWA), 2010.

Given the ecological importance of Swartvlei estuary, its sensitivity to reductions in freshwater inflow and the fact that the estuary forms part of a National Park, the estuarine EWR requirement for Swartvlei estuary is greater than the sum of the ecological water reserves for its feeder rivers. The Preliminary Ecological Water Reserve for each of the feeder rivers is therefore set higher than the EWR actually calculated for each individual river.

Under these circumstances, the recommendation of the EWR study was that no additional abstractions from the Diep, Hoëkraal and Karatara rivers be permitted. The study also recommended the removal of all alien vegetation in the catchment area. Further recommendations was made for:

- Removal of the dysfunctional railway line and embankments.
- Reinstatement and rehabilitation of the Perdespruit channel.

The geomorphology of Swartvlei estuary: in particular the flatness of the estuary and the large area of the lake section, allowed high ebb and flow tides to take place under natural conditions. These large tidal flows and the original high freshwater runoffs from the catchment area, served to keep the mouth of the estuary open for extended periods, during which time the health of the whole system would have been excellent.

In 1927/28 the railway bridge and embankment were built across the estuary and the Perdespruit was filled in, probably in the 1950's. The effect was a substantial decrease in tidal flows and in the tidal prism (the volume of water flowing in through the mouth on a spring tide) forcing the estuary to change into a river-dominated system, under the constant threat of insufficient freshwater input. This has greatly reduced the natural scouring power of the estuary, thereby causing the estuary to close more frequently and reducing the health and biodiversity of the estuary.

Our proposal is that the disused railway bridge and at least part of the embankment be removed and that the Perdespruit (a registered wetland) be reclaimed. This will have the immediate effect of greatly improving the health of the Swartvlei, since the mouth would then stay open for a much larger percentage of the time. The estuary would become a tide-dominated system, dependent only upon infrequent high rainfall events to scour out excessive sedimentation and reset the system as necessary. Additional water could then be abstracted from the feeder rivers (subject only to their individual Environmental Water Reserves).

The scope of the project would therefore encompass:

1. A hydrodynamic study to determine the extent of the embankment to be removed and the final tidal flows.

2. An Environmental Impact Assessment study to gain approval for the project and provide possible alternatives.
3. The appointment of civil consultants to handle contractual matters. Assistance and supervision will be carried out by the Retired Engineers Association in Sedgefield.
4. The construction of a cut through the embankment as a temporary bypass during the removal of the bridge section.
5. Removal of the bridge section, including concrete foundations, piers and rocks.
6. Installation of a pre-cast concrete culvert bridge across the Perdespruit on the sand road to Montemere.
7. Deepening of the existing culverts through the railway and N2 embankments. This will involve negotiations with Transnet and SANRAL.
8. Selective clearing of sediments along the line of the Perdespruit.

Work on the project has been ongoing for the past 5 years, as and when funding became available.

In 2008, rocks were removed from between the piers of the railway bridge to determine the effect on tidal flows of the complete removal of the bridge. The tidal range in the lake section of the estuary was significantly increased following the removal of even a few rocks; a result which was very encouraging.

A substantial box culvert bridge was built across the Perdespruit, on the road leading to the Island at a cost of approx. R2 million.

Working for Water has started the process of the removal of alien vegetation from the Swartvlei estuary catchment.

The estimated cost for the above work is R12 million with an approval, design and construction time of 18 months.

ATTACHMENT TWO: CHARCOAL FEASIBILITY STUDY

The report contains photographs and will be submitted in a separate attachment and emailed with the above document.

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Limiting and mitigating the impact of coal mines on wetlands**
Brief Project Description (no more than 20 words):	By virtue of their positions in the landscape and relationship to drainage networks, wetlands are frequently impacted by coal mining activities, especially opencast methods. These impacts will be ongoing, since coal is a strategic resource and will continue to be mined extensively to support the country's development. At the same time, however, regulatory authorities and the public now have an improved understanding of the range of economic, social, ecological and hydrological costs of wetland loss and degradation. The rules of the game have changed, with regulators increasingly insisting that mines avoid, minimise and mitigate their impacts on wetlands, and internalise the true costs of wetland loss into their balance sheets. Many mining proposals entailing large-scale wetland loss have encountered delays in licence approvals, unrealistic rehabilitation commitments and unwelcome public and media attention. As a result, the coal mining sector has realised that it needs to proactively and systematically address the business risk posed by its impact on wetlands. Thus, in 2011 the CSIR and SANBI embarked on a three year cooperative applied research project, funded by the Coaltech Research Association. Supplementary funding is also being provided by the SANBI Grasslands Programme and Working for Wetlands, for particular components of the work. The project's focus is on developing mechanisms for limiting and mitigating the impact of coal mining on wetlands, and providing guidelines to the coal mining industry and regulators in this regard. Based on interest expressed by the WRC in supporting this project to expand on its original scope and thereby improve its impact, this proposal has been prepared. It highlights areas where DMR and WRC resources can add further value to the work already underway, by allowing further work to be undertaken that was not part of the original scope of the funding. The project aims to compile an atlas to guide both mining companies and regulators with regard to high risk wetland identification and offsite mitigation principles and methods. The sensitive wetlands atlas will identify key wetlands or subcatchments in the grassland biome of Mpumalanga that are particularly important or irreplaceable in terms of biodiversity, water resource management and other ecosystem services. The atlas that will be produced will guide both mining companies and regulators in their planning and decision-making. The project will pilot the mainstreaming, into the coal mining sector, of information generated through the National Freshwater Ecosystem Priority Areas (NFEPA) project.
Principal Implementing Agency:	**CSIR**
Key Project Partners:	**WRC and SANBI**
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The aims of the project are fourfold: **• To improve planning and decision-making around coal mining by developing products, for both regulators**	

and mining companies, that highlight high risk wetlands and ecosystem services. **• To improve the science and practice of wetland rehabilitation in a coal mining context, by improving current wetland rehabilitation guidelines with particular focus on post-mining landscapes and mitigating mining pollutants.** **• To enhance the quality of planning and regulatory processes by providing improved data on resource economics and risk assessment with respect to wetlands and coal mining.** **• To compensate for unavoidable residual loss of wetlands due to coal mining by developing, and testing a systematic framework for wetland offsite mitigation, as well as identifying wetland offset receiving areas.**
Specific project outcome targets in respect of water quality and/or quantity:

INTERVENTION TYPE (Tick most appropriate box)	
64. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.11 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
65. Improved wetland-related ecological infrastructure –	
2.19 The restoration, rehabilitation and/or maintenance of wetlands;	X
2.20 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
66. Improved agriculture-impacted ecological infrastructure –	
3.10 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
67. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	X
4.20 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.21 Clearing invasive alien plant infestations in protected catchment areas;	
68. The reinstatement and/or development of new ecological infrastructure –	
5.19 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	X
5.20 The rehabilitation of land affected by derelict and ownerless mines	
69. Ecological infrastructure for water security research and development project	X
70. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
55. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	National
56. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	National
57. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	National
58. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	National
59. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	National
60. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	National
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**	X	**Project designed**	X	**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to	Project ongoing, being tested on two sites.								

project status:	

PROJECT TIMING					
Start Date or earliest possible Start Date:	01/04/2013	**End Date or desired End Date:**	30/12/2015	**Project Duration or estimated total project duration:**	3 years
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	Not known (co-funded)	Average Annual Cost:					
Tick most appropriate box below							
Total funding secured:	X	Some funding secured:		Some funding commitments:		No funding:	
Key secured funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	

Coaltech	Grant	Not known	
WRC	Grant	R1,056,000	
Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Jo Burgess	**Organisation:**	WRC
Designation:	Dr	**Telephone:**	012 330 9039
E-mail:	JoB@wrc.org.za	**Cell:**	083 452 6838

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Baynespruit Rehabilitation Project**
Brief Project Description (no more than 20 words):	Reclaiming valuable water resources in the Msunduzi Local Municipality for people, business, agricuture and recreation.
Principle Implementing Agency:	Msunduzi Local Municipality
Key Project Partners:	WILDLANDS, DUCT, UKZN, WESSA
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The Baynespruit, a stream of approximately 9km's in length, has its headwaters in the residential area of Northdale making its way through the Willowton Industrial Area joining the Msunduzi River just east of the residential suburb of Sobantu. The Baynespruit, a relatively small tributary of the Msunduzi River, forms part of the Pietermaritzburg urban catchment. The Msunduzi River is among the main tributaries of the UMngeni River, which flows into Inanda Dam, Durban's primary water supply. Water from the Msunduzi River is extracted for irrigation purposed however it is more commonly known as the starting point of the famous annual Duzi Canoe Marathon. The Baynespruit has served historically as a valuable resource to the Sobantu community for fishing, swimming and irrigation purposes. The upper catchment of the Baynespruit is dominated by high density formal residential development with a concentration of trade effluent regulated industries located in the middle reaches downstream of which informal settlement and high density formal residential areas occur along the stream banks. Some natural areas within the Baynespruit riparian corridor remain intact however the majority are degraded and poorly maintained. The Baynespruit has over many years been subjected to illegal discharges of industrial effluent, illegal dumping of builders and other refuse and extensive littering by the communities living along its banks. This pollution is exacerbated by poor storm water and sanitation infrastructure as a result of pipe misalignments, root intrusions, silt deposits and the inappropriate disposal of litter and refuse through the sewer network. E.coli levels in this stream are consistently high and for example reached levels of 141 400 E.coli/100ml in January 2012. For these reasons the Baynespruit is rated amongst the worst and most polluted streams in South Africa and the water is unsuitable for any domestic or agricultural purposes. These consistently high pollution levels pose major challenges to the downstream users of water from this catchment. With Umgeni Water having conducted weekly water quality sampling along 3 fixed locations of the Baynespruit from 2010	

to current, will allow for the monitoring of *E.coli* and other contaminants within the stream. An Honour's student from the University of KwaZulu-Natal will engage with the issue of water quality of the Baynespruit in relation to land use activities along the Baynespruit using the Wetland Index for Habitat for Integrity tool.

Msunduzi Local Municipality, in partnership with a broad range of local stakeholders, will spearhead investment in ecological infrastructure through an initiative called 'the Baynespruit Rehabilitation Project'. This project aims to rehabilitate existing water-related ecological infrastructure such as wetlands and floodplains and will also identify strategic positions for the construction of artificial wetlands, the re-vegetation of stream banks to control erosion, the establishment of riparian forests and the control of listed invasive alien plants. The municipality also plans to strengthen existing, and establish new partnerships with Community Based Organisations representing residential, commercial, educational and industrial interests to address issues of illegal dumping and effluent discharge, and to raise awareness around ecological infrastructure to enhancing water security. Raising awareness around ecological infrastructure to enhance water security will also be promoted through 5 schools found within a 70m buffer of the Baynespruit by means of miniSASS – a river health biomonitoring tool. MiniSASS will be integrated into the primary and high schools life orientation and life sciences subjects to enable learners to assess and monitor water quality of the adopted reaches of the Baynespruit. Various literature and educational materials and activities will be made available to schools from grades R to 11 and further information can be obtained through WESSA Sharenet and WESSA EcoSchools.

Specific project outcome targets in respect of water quality and/or quantity:

Due to the consistently high pollution introduced into the uMngeni system by the Baynespruit even moderate improvements to water quality arising from rehabilitation of this streams ecological infrastructure is likely to benefit water quality in the uMngeni catchment. The success of this project is set to improve local economic activities, improve the quality of life of local residents and ensure the sustainability of the annual Duzi Canoe Marathon which attracts thousands of tourists to the KZN Midlands. The ultimate, and possibly most telling objective of the project, would be for an improvement in the water quality to a level where established farming community within Sobantu are once again able to irrigate their crops from the Baynespruit. The construction of artificial wetlands and rehabilitation of the riparian zones will significantly lead to a reduction in sediment loads and pollutants in the river channel, thereby helping to maintain water quality. The filtering of nutrients before entering the uMngeni River will further decrease the build-up of water hyacinth that has over the years plagued the river channel.

INTERVENTION TYPE (Tick most appropriate box)

71. Improved stream and river-related ecological infrastructure –

1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.12 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	X
72. Improved wetland-related ecological infrastructure –	
2.21 The restoration, rehabilitation and/or maintenance of wetlands;	X
2.22 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	X
73. Improved agriculture-impacted ecological infrastructure –	
3.11 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	X
74. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.22 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	X
4.23 Clearing invasive alien plant infestations in protected catchment areas;	X
75. The reinstatement and/or development of new ecological infrastructure –	
5.21 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	X
5.22 The rehabilitation of land affected by derelict and ownerless mines	
76. Ecological infrastructure for water security research and development project	
77. Other (describe) Awareness and Education and Training through the miniSASS tool	

PROJECT LOCATION(Check attached map and tick most appropriate box)	
61. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	X
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
62. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	

2.2 Other (describe)	
63. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
64. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
65. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
66. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
The project area of the Baynespruit is approximately 9km in length. Starting in the north at Otto's Bluff Road (30. 37945°E -29. 55316°S) which is situated in the residential area of Northdale and flowing in a south easterly direction through the Willowton industrial area and Sobantu residential area where it joins the Duzi River (30. 433487 °E -29.593367 °S).	

PROJECT STATUS(Tick most appropriate box)									
Project Complete		**Under implementation**	X	**Ready for implementation**		**Project designed**		**Concept only**	X
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Chapter 5 of the Government's National Development Plan (NDP) recognises that maintenance of ecosystem services such as those providing food and clean water, regulating climate and disease, supporting crop pollination and nutrient cycles, and delivering cultural benefits such as recreational opportunities, is fundamental to achieving South Africa's social and economic development objectives, as does Outcome 10 of the Presidential Outcomes. The NDP further recognises that the biodiversity and ecosystems in conservation areas are national assets and long-term planning to promote the conservation and rehabilitation of these natural assets is critical. The NDP envisages that by 2030 investments will be in place and implemented for more sustainable technologies and programmes aimed at conservation and rehabilitation of ecosystems and biodiversity assets. Such recognition is directly relevant to this project which recognises that the rehabilitation of ecological infrastructure will provide natural solutions to enhancing water security in the greater uMngeni catchment by restoring watershed services such as flood attenuation, reduction of sediment loads and improvement of water quantity to supplement built infrastructure solutions. The project is set to unlock more investment into ecological infrastructure and sustain								

	economic activities of the KwaZulu Natal-Midlands. The Partnership is laying a foundation that will directly contribute to the NDP's 2030 vision.
Any further information relating to project status:	The uMngeni Ecological Infrastructure Partnership (UEIP) stakeholders have developed a Memorandum of Understanding (MoU) that aims at formalising the partnership and commit all relevant partners to a collective vision of investing into ecological infrastructure in the greater uMngeni catchment. Over 17 organisations representing NGOs, government departments, municipalities, the private sector and academic/research institutions have signed the UEIP MoU. Msunduzi Local municipality is also a signatory to the UEIP MoU which was officially signed on the 20 November 2013 in Durban, KZN.

PROJECT TIMING					
Start Date or earliest possible Start Date:	November 2013	**End Date or desired End Date:**	November 2023	**Project Duration or estimated total project duration:**	10 years
Any further information relating to project timing:	Efforts are underway to develop a 10 year plan with the broader objectives of developing strategies for investing in ecological infrastructure in the greater uMngeni catchment. The project will adopt a phased approach catalysed by initial 5 year ecological infrastructure demonstration projects identified by the Msunduzi local municipality. During the first phase, the project will also invest in installing monitoring systems along the Baynespruit. These monitoring systems will be valuable in terms of providing indications on the ability of the river ecosystems to continue to provide goods and services. Such results will inform the planning and implementation of subsequent phases of the project.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	69 people at 4742 work hours
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	At least 20% of the people employed will be youth.
Any further information relating to project job creation:	The number of job opportunities created will be targeted at the local unemployed communities and the demographics of the labour will be based on the Expanded Public Works Programme (EPWP) norms and standards of creating jobs (i.e. 60% women, 20% youths and 2% persons with disabilities). The strategy for creating jobs will build on existing EPWP short term funding to explore long term investment. The project will build on the EPWP approach towards creating job opportunities by supporting labour intensive work on the rehabilitation and maintenance of ecological infrastructure. This will put more effort towards unlocking long–term investments from the users of the water located in the greater uMngeni catchment, thereby ensuring long-term job security that focuses on maintaining ecological infrastructure.

<table>
<tr><th colspan="2">OTHER POSITIVE IMPACTS / CO-BENEFITS</th></tr>
<tr><td>Positive impact on “Addressing spatial imbalances” :</td><td>
The conservation sector is traditionally known to operate in areas of high biodiversity value with the aim of conserving and protecting biodiversity assets and associated ecosystem services. These areas represent critical biodiversity areas that are identified using systematic biodiversity planning tools, and in South Africa these areas are often located under private or state ownership. Communal lands, due to their nature of being densely populated, are often found to be degraded with no biodiversity value and are largely ignored by the conservation sector. The concept of ecological infrastructure (EI) allows the conservation sector to move away from focusing purely on critical biodiversity areas. This opens definite opportunities for working in landscapes under communal ownership, thereby addressing historical spatial imbalances.

There are various action plans included within the Msunduzi Municipality’s Strategic Environmental Management Plan[6] which were developed to assist in the implementation of the Environmental policy- and will support and enhance the Baynespruit Project. The Action Plans which will be addressed in this project as indicated by the following tables below; Action Plans B1, 2, 3 and 7, S2, E2, DAEA & RD1 and 3 and DWA1 respectively.
<table>
<tr><th>Action Plan</th><th>Issues Addressed</th><th>Tasks</th><th>Strategic Outcomes</th><th>Timing</th></tr>
<tr><td>B1: Alien Invasive Clearing Programme for Msunduzi Owned Land</td><td>▪ Alien Plant Infestation results in land degradation
▪ The loss of agriculturally productive land and natural resources
▪ The loss of ecosystem goods and services and associated biodiversity; which will result in a decline in social and economic conditions</td><td>○ Update Alien Plant Mapping</td><td>• Reduce land degradation
• Increase water availability</td><td>➢ Short term</td></tr>
<tr><td>B2: Wetland Functionality Assessment</td><td>▪ Poor sewerage
▪ Solid waste
▪ Storm water management
▪ Water quality
▪ Loss in ecosystem goods and services and associated biodiversity;</td><td>○ Undertake a Wetland Health Assessment
○ Undertake a Wetland Goods and Services Assessment</td><td>• Improve water quality and quantity; maintain biodiversity and associated ecosystem goods and services.</td><td>➢ Medium term
➢ Medium term
➢ Medium term</td></tr>
</table>
</td></tr>
</table>

[6] Approved by the Msunduzi Municipality in July 2010

		results in a decline in social and economic conditions			
	B3: Detailed Flood Risk Assessment	▪ Impact of Storm water management on water quality	○ Identify flood hazards, impacts and risks ○ Recommend potential mitigation measures or interventions	• Reduce human vulnerability • Reduce land degradation • Improve economic opportunities	➢ Short term
	B7: Rehabilitation of land owned by Msunduzi	▪ The loss of agriculturally productive land and natural resources ▪ The loss of ecosystem goods and services and associated biodiversity; which results in a decline in social and economic conditions.	○ Implement soil erosion control measures including rehabilitation with local indigenous species	• Reduce land degradation • Maintain and Improve ecosystems goods and services and thereby create more opportunities for economic and social development.	➢ On going
	Action Plan	**Issues Addressed**	**Tasks**	**Strategic Outcomes**	**Timing**
	S2: Integrated Waste Management Plan	▪ Industrial effluent ▪ Land degradation ▪ Poor sewerage ▪ Solid waste and Storm water management impact on water and aquatic ecosystem quality ▪ The lack of basic services such as effective waste removal and the provision of appropriate sanitation and water services impact on human	○ Select a preferred alternative, including option for re-use and recycling ○ Public awareness campaign to support identified re-use and recycling initiative and education on correct waste disposal.	• Sustainable waste management that includes all aspects of the waste hierarchy	➢ Short term ➢ Short term

	health and well-being and result in a deterioration of the quality of life.			
Action Plan	**Issues Addressed**	**Tasks**	**Strategic Outcomes**	**Timing**
E2: Ecosystems goods and services assessment	▪ The unequal distribution of wealth and resources, and resulting poverty, is resulting in environmentally harmful practices which are causing environmental and resource degradation ▪ The increased demand for development within the Msunduzi area, as a result of its strategic location within the primary Provincial development corridor and being established as the Provincial capital, is placing pressure on the optimal use of land and the provision of sustainable services and infrastructure	○ Identify priority systems for valuations such as wetlands and grasslands or alternatively the systems of open space identified in the environmental services plan ○ Identify goods and services associated with the systems ○ Collect necessary information and mapping i.e. extent of ecosystems, ecosystems function and condition	• Value of Ecosystem goods and services is included in development planning	➢ Short term ➢ Short term ➢ Medium term
Action Plan	**Issues Addressed**	**Tasks**	**Strategic Outcomes**	**Timing**
DAEA & RD1: Land rehabilitation	▪ Inappropriate land use results inland degradation ▪ The loss of agriculturally productive land	○ Identify and map areas of degraded land ○ Implement soil erosion control measures	• Reduce land degradation • Maintain and improve ecosystems goods and services and	➢ Medium term ➢ On going

	and natural resources ▪ The loss of ecosystems goods and services and associated biodiversity which results in a decline in social and economic conditions		thereby create more opportunities for economic and social development	
DAEA & RD3: Alien Invasive Clearing Programme for land within Msunduzi not owned by the municipality	▪ Alien plant infestation results in land degradation ▪ The loss of agriculturally productive land and natural resources ▪ The loss of ecosystems goods and services and associated biodiversity which results in a decline in social and economic conditions	○ Undertake alien plant mapping ○ Prioritise areas in terms of extent and the role the area plays in ecological functioning ○ Devise and implement a strategy for alien plant control ○ Carry out follow up inspections to ensure reinvasion does not occur	• Reduce land degradation • Increase water availability	➢ Short term ➢ Short term ➢ On going ➢ On going

Action Plan	Issues Addressed	Tasks	Strategic Outcomes	Timing
DWA1: Refined state of the rivers reporting	▪ Industrial effluent ▪ Land degradation ▪ Poor sewerage ▪ Solid waste and Storm water management impact on water and aquatic ecosystem quality	○ Identify goods and services provided by surface water resources ○ Identify suitable management units (subcatchments) ○ Assess the surface water in terms of:	• Improved Water Quality	➢ Short term ➢ Short term ➢ Medium term ➢ Medium term ➢ Medium term

				❖ Biological data from literature review such as vegetation maps ❖ Land cover or land use within the sub-catchment ❖ Habitat Integrity ❖ Ecological importance and sensitivity ○ Identify representative sampling points and undertake sampling for the following pollutants: ❖ *E-Coli* ❖ Conductivity ❖ Dissolved Oxygen ❖ Chemical Oxygen Demand ❖ Ammonia ❖ Nitrate ❖ Soluble Reactive Phosphate ❖ Total Phosphorus ❖ Sulphate ○ Produce a management framework to include: ❖ Eco specs for each river reach ❖ Recommendations to meet targets ❖ A monitoring		

	<table><tr><td></td><td></td><td>Programme</td><td></td><td></td></tr></table> For instance, the mapping of EI for water delivery in the greater uMngeni catchments involves mapping of intact EI for protection (i.e. ecosystems that are in good conditions), potential EI areas for rehabilitation (i.e. important areas that are in poor condition) and transformed areas for impact mitigation (i.e. areas which were important such as forestry areas in high water yield catchments, but where value has been lost, but there may be opportunities to reduce negative impacts). This mapping exercise identified important degraded EI located within the informal settlements and communal lands in the jurisdiction of Msunduzi. The maps will be used to guide and prioritise the spatial focus of investments in rehabilitating wetlands and riparian zones and clearing invasive alien plants. These provide massive opportunities for unlocking investments to create jobs and contribute to the eradication of poverty in areas that are traditionally not prioritised by systematic conservation planning tools.
Positive impact on "Promoting rural developme nt":	Many rural areas and the informal settlements located in the greater uMngeni catchment depend directly or indirectly on the goods and services provided by the uMngeni River system. For instance, the Baynespruit has served historically as a valuable resource to the Sobantu community for fishing, swimming and irrigation purposes. Many of the rural communities living along the uMngeni River have no direct access to potable water and depend on the river and its tributaries to access drinking water. The project is aiming to prioritise areas experiencing water and sanitation challenges and contribute to addressing socio-economic challenges in these poverty-stricken areas. The proposed integrated approach to addressing water quality and quantity problems along the uMngeni River system has the potential to impact positively on the rural development within the uMngeni catchment. Interventions to rehabilitate EI such as wetlands and the re-vegetation of riparian zones will contribute to improve water quality to a level where the established farming community within Sobantu will once again be able to irrigate their crops from the Baynespruit. The improvement of watershed services will increase winter base flow in the tributaries of the uMngeni River. Although the water crisis in the catchment is experienced mostly downstream by the Durban users, many of the EI assets are located upstream in communal lands. The rehabilitation of EI in these areas will provide opportunities for job creation and sustainable water security.
Positive impact on "Industrial developme nt and/or localisation ":	
Positive impact on "Economic performanc e of poorest provinces":	According to Census 2011, KZN is the second most populated province in the country, with an estimated 10.3 million inhabitants. Of this total population, over 4.5 million people live in the greater uMngeni catchment. Census 2011 has also revealed that KZN is the third poorest province in the country after Limpopo and Eastern Cape. Although the economy of KZN is more powerful than the two provinces mentioned above, and its metropolitan city of Durban is the third largest economic hub in the country, the majority of the people live in tribal lands with high population densities and high levels of poverty. At 33%, the unemployment rate in KZN is well above the national average of 25%.

	The majority of the unemployed poor people in the province are rural dwellers, women and youth. Unlocking investment into EI projects will significantly contribute to addressing poverty and unemployment in the province. The project will apply the EPWP norms and standards of providing jobs and these groups (women and youths) will be targeted with job opportunities and benefit immensely from the EI projects.
Positive impact on "Greening economy":	The current KZN water reconciliation strategy for the Durban municipality has identified only the traditional and costly engineering solutions to meet the challenges of addressing water quality and quantity in a highly stressed catchment. The strategy has not included the valuable contribution that investing in the management of ecological infrastructure can make to enhance water security. The uMngeni catchment provides an ideal opportunity to demonstrate the benefits of coordinated and collaborative investment in ecological infrastructure for water security, with the potential to be scaled up and replicated in other parts of the country. In so doing, this approach can make a substantial contribution to South Africa's development agenda and the green economy, by challenging and influencing current paradigms of development that rely on built infrastructure alone. The project is thus set to contribute to South Africa's Green economy through the creation of jobs for the rehabilitation and sustainable management of ecological infrastructure and the delivery of strategically important ecosystem services. The Natural Resource Management Programmes of the Department of Environmental Affairs have over the years demonstrated that catchment rehabilitation provides substantial opportunities for sustainable job creation opportunities and promotion of the Green Economy.
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	KZN is prone to natural disasters such as floods and fierce thunder storms. These natural disasters have often led to loss of life, and damage to property and built infrastructure. In 2011 alone, five KZN district municipalities were declared disaster areas with more than R700 million in damages to homes, businesses, roads, bridges and farms. The rehabilitation of ecological infrastructure and maintaining healthy catchments will contribute significantly to disaster reduction through flood attenuation, stabilising river banks and reducing risk of damage to water reticulation and treatment infrastructure. The project will strengthen partnerships between stakeholders operating in the catchment but more importantly strengthen institutional arrangements for collaboration between the other two Water Service Authorities (eThekwini and uMgungundlovu municipalities) and the bulk water provider (Umgeni Water). The project brings together planners, engineers, ecologists, environmental activists, researchers and policy practitioners to work together towards developing approaches to integrated land use in the catchment that will encompass both natural and built infrastructure for the benefit of society. Potential exists to provide valuable lessons to influence policy development at the national level, such as Resource Directed Measures of the National Water Act, implementation of the National Development Plan, new approaches for our understanding of what constitutes infrastructure and how to invest in it, and options for enhancing sustainability and efficiency of infrastructure spend by government.

PROJECT FUNDING							
Total Project Cost:				Average Annual Cost:			
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:	X	No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Sewer upgrade		R 1 917 000	Two upgrade sites along Baynespruit at Baijoo and New Greytown Roads. 30 People employed, working 4086 hours in total.
Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Kärcher (German based company) through Wildlands Conservation Trust		R 600 000	No people employed due to Detailed project planning still to be carried out.
EPWP Projects		R403150.20	Alien control of Baynespruit with Initial and Follow up work for Labour, Petrol, Protective clothing, Materials and Herbicides. There will be 39 People Employed, working for 656 hours in total.

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
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CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Brenden Sivparsad	**Organisation:**	Msunduzi Local Municipality
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SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Demonstration of how healthy ecological infrastructure can be utilized to secure water for the benefit of society and the green economy through a programmatic research approach based on selected landscapes**
Brief Project Description (no more than 20 words):	Investigate how investment in the protection and enhancement of the environmental asset base (or ecological infrastructure) of the Umngeni catchment could contribute to resilient economic growth, greater social equity and justice and the reduction of environmental risks, thereby addressing the goals of the green economy
Principle Implementing Agency:	Water Research Commission
Key Project Partners:	eThekwini, Pietermaritzburg Municipalities, SANBI, DWA, WWF, etc
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The evidence based knowledge on what it costs to ignore the catchment as it degrades (get sick) and how much it can save the local revenue if the landscape was kept healthy. Inputs to Umngeni catchment management plan, CMA catchment strategy, adaptation to climate change, rehabilitation mechanisms, knowledgeable stakeholders working towards common vision	
Specific project outcome targets in respect of water quality and/or quantity:	
Highly integrated basin report on water resource quality of the Umngeni and how to better manage the catchment in order to continue benefitting from the goods and services it provides	

INTERVENTION TYPE (Tick most appropriate box)	
78. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.13 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
79. Improved wetland-related ecological infrastructure –	
2.23 The restoration, rehabilitation and/or maintenance of wetlands;	
2.24 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	

80. Improved agriculture-impacted ecological infrastructure –	
3.12 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
81. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.24 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.25 Clearing invasive alien plant infestations in protected catchment areas;	
82. The reinstatement and/or development of new ecological infrastructure –	
5.23 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.24 The rehabilitation of land affected by derelict and ownerless mines	
83. Ecological infrastructure for water security research and development project	X
84. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
67. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	X
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
68. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
69. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
70. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	

71. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
72. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
Umngeni catchment	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	x
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	nil								
Any further information relating to project status:	The project will start in April 2014								

PROJECT TIMING					
Start Date or earliest possible Start Date:	1 April 2014	**End Date or desired End Date:**	April 2020	**Project Duration or estimated total project duration:**	5
Any further information relating to project timing:	Aimed to coincide with Umngeni MoU, in order to be synchronized with other projects designed to transform this catchment				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Project Team
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	Training of students and locals
Any further information relating to project job creation:	Many stakeholders will be participating in this action research, in order to own the challenges and solutions to Umngeni river catchment. Many will be employed as local research and liaison persons in order to integrate science and society

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	The catchment stakeholders behaviour is going to be transformed through realization of the downstream challenge and impacts not only to farmers for example, but consumers as

	well!
Positive impact on "Promoting rural development":	Subsistence and commercial farmers will begin to realize the importance of benefit sharing, as opposed to entitlement
Positive impact on "Industrial development and/or localisation":	The costs in utilizing less polluted water (therefore cheaper to threat to portable level) in business will be realized and can be part of an incentive
Positive impact on "Economic performance of poorest provinces":	Umngeni has amongst its "residents" the economic powers, such as Durban and Pietermaritzburg, with huge population, highly diverse and high GDP for SA. However, its labour comes mainly from poorest areas in the surrounding, the spinoffs therefore are a magnitude
Positive impact on "Greening economy":	The project is exactly targeting the growth that minimises environmental risks, by looking and implementing greener options, through action research
Positive impact on "Regional integration":	This is a multi-sectoral and mutli-disciplinary project, dealing with various national, provincial and local legislations, critical to integrate, if the green development is to be realized
Any other significant positive impacts and/or co-benefits:	The adaptable water resource management framework produced by this project, will not only benefit Umngeni, it should be adopted by other work horse systems, such as Olifants, Berg, etc

PROJECT FUNDING							
Total Project Cost:	R5million			Average Annual Cost:		R1million	
Tick most appropriate box below							
Total funding secured:	R5m	Some funding secured:		Some funding commitments:		No funding:	x

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Water Research Commission	contract	R5m	n/a

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
n/a			

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
n/a			

CONTACT DETAILS **(the name of the person to be contacted for further detail and/or clarification on the**

information contained in this form)			
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SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**DUCT River Care Teams (RCTs)**
Brief Project Description (no more than 20 words):	Between 2009 and June 2013, DUCT established 9 River Care teams comprising well trained, well equipped teams to control invasive alien vegetation, waste collection and removal, prevention of illegal dumping and reporting of sewage and industrial pollution on an average of 10 km per team along the uMngeni and Msunduzi river systems The aim of this project going forward is to sustain and re-activate all 9 river care teams and establish an additional 9 new teams for a full river care cycle of at least 6 years to allow for a meaningful intervention to impact on the ecological infrastructure of the Umgeni Strategic River Resource.
Principle Implementing Agency:	Duzi Umgeni Conservation Trust(DUCT)
Key Project Partners:	eThekwini Municipality (Durban Green Corridor), Msunduzi Municipality, uMgungundlovu District Municipality, KZN Department of Environmental Affairs, Umgeni Water, WESSA Wildlife Society, Sobantu Farmers Assocation, SANBI, Umgeni Municipality, Midlands Conservancy forum.
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Project action contributed towards restoration, rehabilitation, conservation of ecological infrastructure of Umgeni-Msunduzi catchment area through: • Minimization of faecal waste in the rivers • Reduction of solid waste in the rivers • Reduction of industrial pollution in the rivers • Removal and control of invasive alien plant vegetation, both in the actual river and adjacent riparian zones • Environmental Education This work took place in the following sub-catchments of the Umngeni River Basin; the Umsunduzi River (35kms); the Baynespruit River (5kms); the Slangspruit River (10kms); the Dorpspruit River (5kms); the Umngeni River – at Howick, Nagle Dam, Inanda Dam to Durban(45kms) – a total of 100kms.	
Specific project outcome targets in respect of water quality and/or quantity:	
Reduction in e coli counts monitored weekly by Umgeni Water (records available). Hotspot problem areas where e coli counts are high, are then responded to by DUCT.	

Reduction of herbicide use in treatment of aquatic and terrestrial invasive plants. The results of research conducted in South Africa over the last 30 years do show that the reduction in alien vegetation in riparian zones does increase river flow (Everson et al). Although providing water security for large towns and cities will require new dams in the future, the timing of the construction of these dams can be pushed back if we get the catchments into better shape (e.g. the well known case of New York and their water supply from the Catskills Mountains. While DUCT does not maintain sewers itself, DUCT's presence on the ground and its relationship with the various municipalities in its area of operation does help to increase the responsiveness of those municipalities to sewer leaks and spills.

INTERVENTION TYPE (Tick most appropriate box)	
85. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas; *These operations involved the removal of both new and coppiced plants of the following species: Spanish Reed, Mulberry, Lantana, Bugweed, Bramble, Balloon-vine, Syringa, cestrum, chromelena, castor oil, wattle, pine and gum – all within the riparian zones on both banks of the sub-cathment areas of the Umngeni River Basin.* *In addition to the clearing of terrestrial weeds, DUCT also used the RCTs to locate, identify and control aquatic weeds found in both the Umngeni and UMsundusi Rivers. Methods employed to combat this increasing problem (because of excessive nutrient loading caused mainly by malfunctioning sewers discharging into rivers) included to either manually remove or chemically treat the Hyacinth and Water Lettuce which are both a threat to riverine ecology, and can quickly block large sections of the river.*	√
1.14 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
86. Improved wetland-related ecological infrastructure –	
2.25 The restoration, rehabilitation and/or maintenance of wetlands;	
2.26 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
87. Improved agriculture-impacted ecological infrastructure –	
3.13 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
88. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.26 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	

4.27 Clearing invasive alien plant infestations in protected catchment areas;	
89. The reinstatement and/or development of new ecological infrastructure –	
5.25 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.); *DUCT continued to service the many rubbish bins laid out in public places along the rivers, as well as the 'Trash Booms' which are laid across the rivers to prevent litter (mainly plastic containers/animal carcasses) from floating downstream. Approximately 17,800 refuse bags of plastic litter removed from the rivers and their banks were taken to the Pietermaritzburg Landfill site*	√
5.26 The rehabilitation of land affected by derelict and ownerless mines	
90. Ecological infrastructure for water security research and development project	
91. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
73. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area *This work has taken place in the following sub-catchments of the Umngeni River Basin; the Umsunduzi River (35kms); the Baynespruit River (5kms); the Slangspruit River (10kms); the Dorpspruit River (5kms); the Umngeni River – at Howick, Nagle Dam, Inanda Dam to Durban(45kms) – a total of 100kms.*	√
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	√
1.3 Other (describe)	
74. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
75. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
76. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	

77. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
78. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
The project falls within the Umgungundlovu District and eThekwini Metropolitan Municipality	

PROJECT STATUS (Tick most appropriate box)									
Project Complete	*See notes below	**Under implementation**	*See notes below	**Ready for implementation**	*See notes below	**Project designed**		**Concep t only**	

Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	The focus of the project has been identified as a priority in the Umgungundlovu District Municipality IDP, the Msunduzi and Umgeni Local Municipal IDPs and the KZN Provincial Growth and development Strategy (PGDS); The project is also a focus for outcome 10 of the National Priority outcomes, namely "Environmental assets and natural resources that are well protected and enhanced".
Any further information relating to project status:	* From 2006 until 2009 there was just one River Care Team (RCT) based in Pietermaritzburg. For a 3 year period from July 2010 to June 2013, a Lottery Grant made it possible for there to be nine River Care Teams operating on the uMsunduzi and uMngeni Rivers. The lottery grant ended in June 2013 but the work still carries on at a reduced scale with 4 teams on the river between Inanda and Blue Lagoon (funded by eThekwini through the Durban Green Corridor programme), two teams doing alien vegetation clearing in the Duzi catchment funded by the Department of Environment Affairs, and one team active in Pietermaritzburg funded by DUCT with partial funding from the IDT. DUCT has the experience, skills and capacity to (a) futher sustain the work of the current 7 teams for a further river care cycle (7 – 10 years), re-activate the 2 previous teams on follow up activities relating to the river care cycle, and initiate at least 9 new River Care teams at strategic sites for a full river care cycle. This will allow for a meaningful intervention to impact on the ecological infrastructure of the Umgeni Strategic River Resource.

PROJECT TIMING					
Start Date or earliest	March 2014	**End Date or desired End**	2020	**Project Duration or estimated total**	6 year programme

possible Start Date:		**Date:**		**project duration:**	
Any further information relating to project timing:	The experience, skills, capacity and systems are in place to move rapidly into a new phase of implementation in March 2014. The full River Care cycle requires sustained activity on the designated riparian zones for a period of at least 6 years, if not a full decade (10 years) in order to fully complete the cycle and secure the ecological infrastructure				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	The period 2010 to 2013 saw 9 River Care Teams create 144 FTEs. The proposed RCT project for the period 2014 – 2020 will create 384 FTEs
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	The project will provide full environmental skills training including Environmental Conservation at WESSA, First Aid, Business Management,

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	The location of the sites, and the employment opportunities will target areas adjoining rural communal and peri-urban settlements in the Umgungundlovu District and eThekwini metropolitan municipalities
Positive impact on "Promoting rural development":	The project will provide for rural employment, improve water quality for domestic and agricultural use. The project will secure and safeguard major sporting events such as the Midmar mile and the Duzi Canoe Marathon which generate significant revenue and employment in the rural municipalities of Umgeni, Mkambathini and the rural wards of Ethekwini Municipality
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	The project will secure and safeguard major sporting events such as the Midmar mile, the Duzi Canoe Marathon staging is highly dependent on water quality, and which generate significant revenue, services and employment in the local municipalities of Umgeni, Mkambathini and the rural wards of Ethekwini Municipality in KwaZulu-Natal and the proposed World Championship Flat Water Canoe Marathon in 2017 at Camps Drift, Pietermaritzburg
Positive impact on "Greening economy":	Economists have calculated that the value of ecological goods and services provided by the Umgeni catchment to the eThekwini Metro area comes to billions of rands per annum. This work helps to

	ensure that this environment will continue to be able to provide those goods and services.
Positive impact on "Regional integration":	DUCT's work spans five municipal jurisdictions and integrates the work of several provincial and national departments. Whereas government officials are sometimes through no fault of their own constrained to work in silos, DUCT's mandate is to champion the health of the Umgeni and uMsunduzi rivers, which requires a wholistic approach.
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	R60 million			Average Annual Cost:		R10 million per annum over 6 years	
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:	√	No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Ethekwini Municipality (Durban Green Corridor Project)	Grant	R7 million	For the financial year 2014/15 to undertake catchment rehabilitation in the lower Umgeni basis within the eThekwini municipality.
WWWF SA/Nedbank Green Trust	Grant	R2 million	To build capacity and awareness around sanitation along the Msunduzi catchment
DEA	Grant (2014)	R1 million	For alient clearance and eco-furniture manufacture
Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Department of Environmental Affairs (DEA)	Grant	R16 million	R16 million of for 3 years 2014/15 – 16/17 for follow up for the 2010 -2013 programme

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Doug Burden	**Organisation:**	Duzi Umgeni Conservation Trust
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E-mail:	doug@duct.org.za	**Cell:**	0828258425

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Durban Green Corridor Project:**
Brief Project Description (no more than 20 words):	This is a development initiative concentrated in the uMngeni catchment below the Msunduzi confluence, which integrates environmental stewardship along the Umngeni river, youth development and local economic development, (with a focus on outdoor adventure and cultural tourism development).
Principle Implementing Agency:	Duzi Umgeni Conservation Trust(DUCT) and the Ethethwini Metropolitan Municipality (Economic Development and Investment Promotion Unit)
Key Project Partners:	eThekwini Municipality (Economic Development and Investment Unites), Department of Water Affairs,

Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:

The environmental rehabilitation programme deals specifically with the management of water and solid waste pollution into the river system control of invasive alien plants and wetland rehabilitation. Work teams are responsible for the clearing of invasive alien within 30 metres of the river, litter removal, and the monitoring and reporting sewage spills and industrial run offs.

The main areas of focus for environmental rehabilitation are:

- The Umgeni River estuary near the Springfield industrial and commercial zone which has been affected by solid waste and industrial run-off. Businesses and industry in the area are now committing to "River Care" whereby harmful run offs are averted, and riverine habitats rehabilitated.
- The Aller Catchment which drains through the New Germany Industrial area which is heavily choked with alien plants and solid waste dumping.
- The uMhlangane Catchment which drains a substantial area of KwaMashu and Ntuzuma where opportunities exist for wetland rehabilitation. A formalised partnership between the eThekwini Municipality, Riverhorse Valley Business Estate and Springfield Park Conservancy is being formalised.
- The Palmiet catchment is a tributary of the Mgeni which runs through Pinetown and Westville and is being rehabilitated.

Specific project outcome targets in respect of water quality and/or quantity:

Removal of terrestrial and aquatic alien plants in water courses in project areas and replanting riparian and wetland species

Replanting

Removal of litter

Monitoring and reporting potable and waste water leaks

Youth education concerning waste, pollution and water conservation

INTERVENTION TYPE (Tick most appropriate box)	
92. Improved stream and river-related ecological infrastructure –	
1.**1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas**; *These operations involved the removal of both new and coppiced plants.* *In addition floating weeds are dealt with biological agents and machinery to prevent a blocked up river.*	√
1.15 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
93. Improved wetland-related ecological infrastructure –	
2.27 The restoration, rehabilitation and/or maintenance of wetlands;	
2.28 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
94. Improved agriculture-impacted ecological infrastructure –	
3.14 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
95. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.28 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.29 Clearing invasive alien plant infestations in protected catchment areas;	
96. The reinstatement and/or development of new ecological infrastructure –	
5.27 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.)	
5.28 The rehabilitation of land affected by derelict and ownerless mines	
97. Ecological infrastructure for water security research and development project	
98. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
79. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area *The project is concentrated in the uMngeni catchment. The main project area is along the uMngeni from just below the uMsunduzi Confluence. The key sites include Umgeni River Estuary, Aller Catchment, Umhlangane Catchment, Isithumba in the Valley of 1000 hills, Inanda Qadi,*	√
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
80. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
81. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
82. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
83. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
84. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	X	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:									

PROJECT TIMING					
Start Date or earliest possible Start Date:	July 2010	**End Date or desired End Date:**	ongoing	**Project Duration or estimated total project duration:**	ongoing
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	The total Green Corridor staff at end January 2014 was **172** people representing **71** FTE annual jobs. By March 2014 employment will be over **215** and the expected Full Time Equivalent employment by our June) should be close to **130** FTE's.
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	180 employees, 115 FTE's
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	The project is focused on the peri-urban and rural areas of eThekwini municipality and includes large peri-urban settlements and rural communal areas where poverty levels are high.
Positive impact on "Promoting rural development":	The project is s promoting adventure and cultural tourism products in 4 sites as well as a central marketing infrastructure. The rural tourism product development is supported by environmental management and community youth engagement. The project has tourism and youth

	development activities in 11 locations.
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:		Ongoing		Average Annual Cost:			
Tick most appropriate box below							
Total funding secured:		Some funding secured:	X	Some funding commitments:		No funding:	
Key secured funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	
EPWP		Grant		R3.8 million			
German government		Grant		500,000			
Key committed funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	
Potential new/additional funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Gary Cullen	**Organisation:**	eThekwini Municipality
Designation:	Project Manager	**Telephone:**	031-3114235
E-mail:	Gary.cullen@durban.gov.za	**Cell:**	0826595204

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Enhancing ecological infrastructure in the uMngeni catchment through collective private sector action: The role of private finance and markets**
Brief Project Description (no more than 20 words):	Understanding the role that the private sector financial institutions play in enhancing ecological infrastructure in the uMngeni catchment.
Principle Implementing Agency:	WWF-South Africa
Key Project Partners:	WWF, SANBI, eThekwini Municipality and DWA
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Specific project outcome targets in respect of water quality and/or quantity:	
The following project is aimed at enhancing the ecological infrastructure of the uMngeni catchment with a view to reducing water risks related water quality and quantity.	

INTERVENTION TYPE (Tick most appropriate box)	
99. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.16 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
100. Improved wetland-related ecological infrastructure –	
2.29 The restoration, rehabilitation and/or maintenance of wetlands;	
2.30 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
101. Improved agriculture-impacted ecological infrastructure –	
3.15 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
102. The conservation and protection of irreplaceable ecological infrastructure –	

4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.30 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.31 Clearing invasive alien plant infestations in protected catchment areas;	
103. The reinstatement and/or development of new ecological infrastructure –	
5.29 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.30 The rehabilitation of land affected by derelict and ownerless mines	
104. Ecological infrastructure for water security research and development project	X
105. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
85. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	X
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	X
1.3 Other (describe)	
86. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
87. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
88. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
89. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	

90. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
• Coordinates: 29 ° 20' to 30 ° 42' (East) 29 ° 32' to 30 ° 14' (South) • Strategic Water Source Areas: Orange-Vaal-Thukela; Senqu-Orange; uMgeni-Mooi-Thukela • National Rivers: uMgeni; • Primary Catchments: uMvoti to Umzimkulu; Upper Vaal; Thukela; Middle Vaal; Drakensberg(Lesotho)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**	X	**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:									

PROJECT TIMING					
Start Date or earliest possible Start Date:	April 2014	**End Date or desired End Date:**	September 2015	**Project Duration or estimated total project duration:**	18 months
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	2
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	1
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	

Positive impact on "Industrial development and/or localisation":	X
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	X
Positive impact on "Regional integration":	X
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	2 500 000		Average Annual Cost:		1 700 000		
Tick most appropriate box below							
Total funding secured:	2 500 000	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
DBSA	Grant	2 500 000	

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Christine Colvin	**Organisation:**	WWF-South Africa
Designation:	Senior Manager: Freshwater Program	**Telephone:**	021 657 6600
E-mail:	ccolvin@wwf.org.za	**Cell:**	083 462 9619

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Expose-a-Sewer Campaign**
Brief Project Description (no more than 20 words):	To expose/reveal long abandoned/neglected manholes that have been unsighted for many a year due to inaccessibility caused by plantation overgrowth.
Principle Implementing Agency:	DUCT- Duzi uMgeni Conservation Trust
Key Project Partners:	SANBI, DAEA (Dept. of Agriculture and environmental affairs), DGC (Durban Green Corridor),UMDM,UMsunduzI Municipality, EThekwini Municipality
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Surcharging manholes have continued unabated for many months, spewing their contents into an already strained river system. With the full exposure of these manholes, overflowing sewer surcharges that have been running for years on end will be fixed and monitored on an ongoing basis. Many of these manholes have been largely neglected due to lack of access from the overgrowth of shrubs and bushes in and around them.as a result of this, many of these manholes are largely unknown by the current municipal officials for sewers and drainage and even locals as they are situated very far away from them (found in vacant overgrown land).This programme is to keep an eye on all abandoned sewer surcharges that directly affect/contaminate the uMsunduzi & uMgeni river catchment. The fact is that many of these surcharges have been spilling over onto the river system for years causing a constant rise within the basins' e-coli count. With this initiative our river system will be less polluted thus allowing the fruitful/successful development of ecological infrastructure that'll provide watershed services. These activities will aim to nip in the bud many of the issues that we are faced with	

regarding the degradation of our riparian corridors within the uMgeni catchment. Instead of rehabilitating the problem we'll be preventing the incidence from occurring. This will be moving one step forward in terms of ensuring that our river systems return to their former pristine conditions. Our rivers will thus regain a new "lease on life". Implementation of active monitoring of sewage pollution thus improving the management of sewers under municipal jurisdiction. The programme will aim to regularly patrol the main bulk lines to look for spills. The maintenance of sewage infrastructure will be greatly improved.
Specific project outcome targets in respect of water quality and/or quantity:
Outcome targets here are closely related to the water quality of the uMgeni and uMsunduzi rivers. With the stoppage/blocking of sewer surcharges the contamination of our rivers will be drastically reduced and the e-coli count will do the same in turn. The programme will aim to improve the sewage infrastructure by making easy the work of municipal officials. The programme will ensure that sewage is kept in the sewers.

INTERVENTION TYPE (Tick most appropriate box)	
106. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	★
1.17 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
107. Improved wetland-related ecological infrastructure –	
2.31 The restoration, rehabilitation and/or maintenance of wetlands;	
2.32 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
108. Improved agriculture-impacted ecological infrastructure –	
3.16 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
109. The conservation and protection of irreplaceable ecological infrastructure –	

4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;		★
4.32 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;		
4.33 Clearing invasive alien plant infestations in protected catchment areas;		★
110. The reinstatement and/or development of new ecological infrastructure –		
5.31 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);		
5.32 The rehabilitation of land affected by derelict and ownerless mines		
111. Ecological infrastructure for water security research and development project		
112. Other (describe)	Improving the ecological health of the uMsunduzi-uMgeni river systems i.e. reduction of water borne diseases, reduction in and control of alien plant infestations	

PROJECT LOCATION (Check attached map and tick most appropriate box)		
91. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas		
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area		★
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area		
1.3 Other (describe)	The project falls within DUCT's "Natural Resource Management and Community Upliftment Project"	
92. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas		
2.1 Project is a component of the Berg River Improvement Plan (BRIP)		
2.2 Other (describe)		
93. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas		

3.1 Describe	
94. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
95. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
96. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	★	**Ready for implementation**		**Project designed**		**Concept only**	

Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Project is recognised by UMDM (uMgungundlovu District Municipality),WWF,DEA (Dept. of Environmental Affairs) and the uMsunduzi Municipality
Any further information relating to project status:	We currently have a team of 6-7 people working on the project as we speak, within the recent weeks the team has made huge progress and has found a long abandoned and neglected surcharging manhole that has been left unattended for many years within the Ashdown area. This manhole was found/situated directly on the banks of the stream which is a tributary of the uMsunduzi. The project has been recently implemented (February 2014) and it has been working/continuing perfectly with co-operative assistance from the uMsunduzi local municipality and the

	eco-champions initiative which works on monitoring and reporting surcharging sewers.

PROJECT TIMING					
Start Date or earliest possible Start Date:	3 march 2014	**End Date or desired End Date:**	15 December 2016	**Project Duration or estimated total project duration:**	3 years
Any further information relating to project timing:	There will be a planning period of one month prior to implementation of the project				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	20 to 40
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	20 to 40
Any further information relating to project job creation:	Members will be employed on a full time "green job" basis enabling a minimum 86,593 person days over the 3 year period. The project will aim to empower local communities in the areas we will be working. The project will aim to contribute to job creation and livelihood improvement of previously disadvantaged people by addressing the problem of sewer surcharges. All work will be undertaken by teams made up of local community members and will be led by a trained supervisor, teams will include designated first aiders, health and safety officers as well as designated and trained herbicide applicators plus general workers.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	A definite improvement in the sewage problems over the past year. Continued vigilance in sewage monitoring thus preventing the further degradation of rivers in city areas
Positive impact on	Empower local communities in the areas we will be working,

"Promoting rural development":	with capacity to be integral in water resource management. Providing the knowledge and tools to enable them to take ownership and responsibility for the condition of their environment
Positive impact on "Industrial development and/or localisation":	Ensuring the enhancement of ecosystem services in rural and urban areas that are hugely constrained through high unemployment and little or no basic services
Positive impact on "Economic performance of poorest provinces":	Establishment of co-operative partnerships between government,business,the scientific community and civil society integral to the effective management of the uMgeni river system
Positive impact on "Greening economy":	A minimum of 40 community members will be employed on a full time "green job" basis enabling a minimum of 86,592 person days over the 3 year implementation period
Positive impact on "Regional integration":	A respectful and cooperative relationship with the plumbers who repair the problems has developed
Any other significant positive impacts and/or co-benefits:	Improve the ecological health/infrastructure of the uMsunduzi-uMgeni river system

PROJECT FUNDING							
Total Project Cost:	+/- R120 000			Average Annual Cost:		+/- R34 666.67	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	★	Some funding commitments:		No funding:	
Key secured funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	
DEA (Dept. of Environmental Affairs)		grant		N/A		Funding secured	
Key committed funding sources							

Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
LOTTO	grant		pending
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
SANBI	grant		
UMDM	grant		
LOTTO	grant		

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Doug Burden	**Organisation:**	DUCT
Designation:	General Manager	**Telephone:**	0333457571
E-mail:	doug@duct.org.za	**Cell:**	0828258425

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Investing in ecological infrastructure to enhance water security in the uMngeni River catchment**
Brief Project Description (no more than 20 words):	Development of a strategy to guide investments in ecological infrastructure in the greater uMngeni River catchment to support water security
Principle Implementing Agency:	South African National Biodiversity Institute
Key Project Partners:	University of KwaZulu-Natal, WWF, Ezemvelo KZN Wildlife, Duzi uMngeni Conservation Trust, uMngeni Ecological Infrastructure Partnership members (35 government, civil society, academic & private sector organisations)

Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:

The overall aim of the research is to develop a framework and strategy to guide investments in ecological infrastructure in the greater uMngeni River catchment in order to support water security and climate change resilience, and to advance the inclusion of the concept of ecological infrastructure in decision-making and policy development nationally.

In pursuing this aim, the following objectives have been set:

1. Methods for mapping water security related ecological infrastructure and assessing ecosystem condition are developed.
2. A situation analysis is completed, in order to better understand the impacts and the current condition of the ecological infrastructure in the catchment in relation to water-related ecosystem service delivery.
3. Sites and types of intervention that hold the greatest potential to enhance water-related service delivery and water security are decided upon and potential lead agents identified.
4. Potential governance, institutional and financial mechanisms and funding sources are identified.
5. Baseline data and monitoring and evaluation approaches required to be able to assess outcomes of the interventions are identified.
6. Integrated Water Resource Management initiatives in the catchment are strengthened
7. An investment plan encapsulating all of the above is compiled.
8. Policy-relevant lessons are extracted and fed into key policy processes.

Specific project outcome targets in respect of water quality and/or quantity:

The project will not directly implement actions on the ground to influence water quality and quantity. It will however influence where and how to best invest in rehabilitating and managing

ecological infrastructure in the uMngeni catchment, in order to contribute optimally to water security and resilience to climate change. The research will help to achieve this by laying the groundwork for interventions that will improve water quality, reduce the risk and impact of floods, and increase winter base flows.

INTERVENTION TYPE (Tick most appropriate box)	
113. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.18 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
114. Improved wetland-related ecological infrastructure –	
2.33 The restoration, rehabilitation and/or maintenance of wetlands;	
2.34 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
115. Improved agriculture-impacted ecological infrastructure –	
3.17 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
116. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.34 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.35 Clearing invasive alien plant infestations in protected catchment areas;	
117. The reinstatement and/or development of new ecological infrastructure –	
5.33 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.34 The rehabilitation of land affected by derelict and ownerless mines	
118. Ecological infrastructure for water security research and development project	x
119. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
97. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	x

1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	x
1.3 Other (describe)	
98. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
99. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
100. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
101. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
102. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)											
Project Complete		**Under implementation**		**Ready for implementation**	x	**Project designed**		**Concept only**			
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Funded through the Green Fund										
Any further information relating to project status:											

PROJECT TIMING					
Start Date or earliest possible Start Date:	1 April 2014	**End Date or desired End Date:**	30 Sept 2015	**Project Duration or estimated total project duration:**	18 months

Any further information relating to project timing:	

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	Project will in itself not be a direct job creator, but will support the design, implementation and monitoring of projects that will be direct creators of jobs through the rehabilitation and maintenance of ecological infrastructure

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	This research also has significance beyond the uMngeni catchment, in terms of replicability in other catchments and incorporation of research findings into national policy. More broadly, the relevance of the Green Economy to South Africa's growth path is rapidly emerging but it requires a substantial amount of work to ensure that its full potential is realised. Potential exists to provide valuable lessons to influence policy development at the national level, such as Resource Directed Measures of the National Water Act, implementation of the National Development Plan, new approaches for our understanding of what constitutes infrastructure and how to invest in it, and options for enhancing sustainability and efficiency of infrastructure spend by government.

PROJECT FUNDING							
Total Project Cost:	R4,900,000			Average Annual Cost:		R3,200,000	
Tick most appropriate box below							
Total funding secured:	x	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Green Fund	Research grant	R2,500,000	
WWF	Grant for UEIP coordinator	R750,000	
SANBI	MTEF	R1,000,000	
Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
UEIP partners	Various	R650,000	
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	John Dini	**Organisation:**	SANBI
Designation:	Director: Ecological Infrastructure	**Telephone:**	012 843 5164
E-mail:	j.dini@sanbi.org.za	**Cell:**	083 420 7988

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Msinsi Alien Plant Programme**

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Msinsi Alien Plant Programme**
Brief Project Description (no more than 20 words):	Eradication of terrestrial and aquatic invasive alien plants within Msinsi managed Dams fed by the Umgeni, UMdloti and Umlaas Rivers
Principle Implementing Agency:	Msinsi Holdings (Pty) Ltd
Key Project Partners:	Umgeni Water
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Specific project outcome targets in respect of water quality and/or quantity:	

INTERVENTION TYPE (Tick most appropriate box)	
1. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	√
1.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	√
2. Improved wetland-related ecological infrastructure –	
2.1 The restoration, rehabilitation and/or maintenance of wetlands;	
2.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	√
3. Improved agriculture-impacted ecological infrastructure –	
3.1 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	√
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	√
4. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	√

4.2 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	√
4.3 Clearing invasive alien plant infestations in protected catchment areas;	√
5. The reinstatement and/or development of new ecological infrastructure –	
5.1 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.2 The rehabilitation of land affected by derelict and ownerless mines	
6. Ecological infrastructure for water security research and development project	√
7. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
1. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	√
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	√
1.3 Other (describe)	Project extends to Dams fed by Umlaas and UMdloti Rivers
2. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
3. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
4. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
5. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
6. Project not associated with a specific Strategic Water Source Area	
6.1 Describe	

Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)
Msinsi Albert Falls Dam & Game Park Msinsi Nagle Dam & Game Park Msinsi Shongweni Dam & Game Park Msinsi Inanda Dam & Park Msinsi Hazelmere Dam & Park

PROJECT STATUS (Tick most appropriate box)											
Project Complete		**Under implementation**	√	**Ready for implementation**		**Project designed**		**Concept only**			
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	NDP 2030; NGP										
Any further information relating to project status:	Projects are active in 5 Msinsi managed Dams and are ongoing. Alien plant removal and chemical handling training has been provided to organised groups identified in communities surrounding Msinsi areas of operation										

PROJECT TIMING					
Start Date or earliest possible Start Date:	1 March 2014	**End Date or desired End Date:**	28 February 2034	**Project Duration or estimated total project duration:**	20 years
Any further information relating to project timing:	The projects are annual projects and these have stages i.e. initial clearing stage and follow ups (first, second and third). The commencement and end dates of the project are subject to the availability of funds. The areas covered/cleared will be subject to the funds available.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Nagle – 100 Albert Falls – 75 Shongweni – 100 Inanda – 100 Hazelmere – 50 1 x Msinsi Alien Plant Coordinator
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	Women – 40% Youth – 58% Disabled – 2%
Any further information relating to project job creation:	Msinsi is creating a platform for impoverished, unskilled rural communities to acquire skills in the form of training and supervision, through the development of SMME's owned by the communities, which enables the communities to derive meaningful benefits from the Msinsi Alien Plant programme.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	By bringing projects to the areas or communities (rural) in which we operate, Msinsi addresses the spatial imbalances through the development and business opportunities that are created in areas that are predominantly under developed.
Positive impact on "Promoting rural development":	Msinsi impacts positively on rural development because we bring opportunities for education, training, employment and the establishment of SMME's to rural areas as opposed to communities migrating to urban areas for the benefits derived from employment
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	Msinsi operates within poverty stricken rural areas which do not have employment opportunities in KwaZulu-Natal. The existence of Msinsi within these areas has contributed to the creation of employment in these areas, broadening the reach of the economic activities resulting from the Msinsi Alien Plant Programme.
Positive impact on "Greening economy":	Msinsi has positively impacted on the green economy by embarking on removal of alien plants around the various water resources and replanting trees and shrubs that are indigenous to the province of KwaZulu Natal. Msinsi protects indigenous vegetation by erecting fences and enforcing the law to prevent illegal harvesting and/or over harvesting. Msinsi supports the sustainable use of indigenous vegetation by controlling the issuing of permits for harvesting.
Positive impact on "Regional integration":	Msinsi protects that quantity and quality of water resources in the Midlands, Inland and North Coast areas. Water quantity and quality is protected through the eradication of terrestrial and aquatic alien plants which compete with indigenous plants for water, as well as ensuring that there are no developments within the buffer zones.
Any other significant positive impacts and/or co-benefits:	Msinsi has established good stakeholder relations with Amakhosi, Izinduna, Local Councillors and general communities

PROJECT FUNDING							
Total Project Cost:	R664million			Average Annual Cost:		R33.2million	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	√	Some funding commitments:		No funding:	
Key secured funding sources							
Name		Type (grant, loan, MTEF allocation, etc.)		Value		Comments	
Umgeni Water		Management Fee		R434,100		Insufficient funds	
Key committed funding sources							

Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Ray Naguran	**Organisation:**	Msinsi Holdings (Pty) Ltd
Designation:	Acting Managing Director	**Telephone:**	031-7657724
E-mail:	Ayanda.ngubane@msinsi.co.za	**Cell:**	0828543161

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**National Lotteries KZN**
Brief Project Description (no more than 20 words):	Invasive alien plant control
Principle Implementing Agency:	WESSA
Key Project Partners:	National Lotteries Development Trust
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Invasive alien plant control within the Phase 1 priority area situated on the Umgeni Nature Reserve.	
Specific project outcome targets in respect of water quality and/or quantity:	
Controlling invasive alien plants amounting to 900 Ha of area been dealt with. Increasing water quantity within the catchment.	

INTERVENTION TYPE (Tick most appropriate box)	
120. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	✔
1.19 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
121. Improved wetland-related ecological infrastructure –	
2.35 The restoration, rehabilitation and/or maintenance of wetlands;	
2.36 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
122. Improved agriculture-impacted ecological infrastructure –	
3.18 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	

123. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.36 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.37 Clearing invasive alien plant infestations in protected catchment areas;	✔
124. The reinstatement and/or development of new ecological infrastructure –	
5.35 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.36 The rehabilitation of land affected by derelict and ownerless mines	
125. Ecological infrastructure for water security research and development project	
126. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
103. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	✔
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
104. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
105. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
106. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
107. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	

5.1 Describe	
108. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
29° 29' 10.21" S 30° 14' 46.85" E	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	✔	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	Project runs until June 2014.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	2012-08-01	**End Date or desired End Date:**	2014-06-30	**Project Duration or estimated total project duration:**	2 years
Any further information relating to project timing:	Project was started in 2012 with a 2 year duration, funding will be exhausted by June 2014.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	66 opportunities
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	45 youth
Any further information relating to project job creation:	Staff in this project are given an opportunity to start SMME's to help insure a more sustainable income.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	SMME development and mentorship, IAPs removed to increase water quantity.
Positive impact on "Industrial development	SMMEs are developed and mentored within the project.

and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	SMMEs developed are been helped to apply for work at companies in surrounding areas to secure a sustainable business.
Positive impact on "Greening economy":	All the work performed within the project revolves around sustainable green jobs, allowing people to go their own way yet still perform work for the environment, with a better understanding of biodiversity and the necessity to maintain it.
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING			
Total Project Cost:	R3 866 899.00	Average Annual Cost:	R1 900 000.00

Tick most appropriate box below							
Total funding secured:	✔	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
NLDT	Grant	R3 866 899.00	

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:		**Organisation:**	
Designation:		**Telephone:**	
E-mail:		**Cell:**	

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**uMngeni Ecological Infrastructure Partnership (UEIP)**
Brief Project Description (no more than 20 words):	Water security and sanitation services through investments into ecological infrastructure in the greater uMngeni catchment.
Principle Implementing Agency:	South African National Biodiversity Institute (SANBI)
Key Project Partners:	eThekwini Municipality; uMgungundlovu District Municipality; Msunduzi Local Municipality; UmgeniWater; WWF-SA; Department of Water Affairs (KZN Regional Office); Duzi Umngeni Catchment Trust (DUCT)

Specific contribution to the rehabilitation, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:

The 230km long uMngeni River is the primary source of water for more than 3.5 million people residing in the Durban area. However the river is considered among the dirtiest in the country with recent studies showing proof of cholera, and other harmful viruses and bacteria in the river channel. The water quality in the river has significantly deteriorated over the years with an increase in the load of sewage and agriculture pollution, illegal discharge of industrial effluent and illegal dumping from the informal settlements along the river banks. The ability of the three municipalities (namely, Msunduzi, uMgungundlovu and eThekwini) to produce the volume and quality of freshwater required to deliver the required water and sanitation services is becoming increasingly compromised by the deteriorating conditions of the upper uMngeni catchment. A further challenge is that the current KZN water reconciliation strategy, prepared by DWA, revealed a highly stressed catchment in terms of water quality and quantity, with only traditional and costly engineering solutions to meet these challenges. The UEIP has identified the rehabilitation and maintenance of ecological infrastructure as an effective complementary and natural solution to addressing water security and sanitation challenges experienced by the three critical Water Service Authorities (eThekwini, uMgungundlovu and Msunduzi) located in the uMngeni catchment.

In the upper uMngeni catchment, the uMgungundlovu District Municipality has partnered with local stakeholders to establish the 'Save the Midmar initiative'. The project will involve the rehabilitation of riparian zones within the Mthinzima River catchment and the rehabilitation of the SAPPI Lions River wetlands in partnership with SAPPI. The initiative also aim to rehabilitate key wetlands, re-vegetate river banks and address improvement of rangeland management across the three major rivers that feed into the dam, in order to improve the quality and quantity of water flowing into Midmar Dam

Msunduzi Local Municipality, in partnership with a broad range of local stakeholders, will spearhead investment in ecological infrastructure through an initiative called 'the Bayne's Spruit Rehabilitation Project'. This project aims to rehabilitate existing water-related ecological infrastructure such as wetlands and floodplains and will also identify strategic positions for the construction of artificial wetlands, the re-vegetation of stream banks to control erosion, the

establishment of riparian forests and the control of listed invasive alien plants. The Bayne's Spruit is a 9km long river that is rated amongst the most polluted streams in South Africa. It is currently infested with high levels of E.coli that have reached over 141 400 E.coli/100ml in January 2012. It feeds its water into the Msunduzi River, which is among the main tributaries of the uMngeni.

The eThekwini Municipality has identified the Palmiet river, a 26km long tributary of the uMngeni below the Nagle Dam as a priority site for rehabilitation of ecological infrastructure. The municipality has identified strategic positions along the Palmiet River to construct artificial wetlands aimed at restoring watershed services along the river. The artificial wetlands will be designed to emulate the features of the natural wetlands and act as bio-filters, trapping and removing sediments and pollutants before entering the uMngeni River system. There are plans to remove alien plants and re-vegetate the Palmiet River banks with indigenous plants to stabilise the riparian zones. The municipality plans to embark on an extensive clean-up of the Palmiet River to remove solid waste and debris before the construction of the artificial wetlands.

Specific project outcome targets in respect of water quality and/or quantity:

The uMngeni catchment has lost 36% of its ability to deliver valuable watershed services such as flood attenuation, sediment load reduction and water quality improvement. Phosphorous loads have increased significantly in the uMngeni system, by 85% at Midmar Dam, by 132% at Albert Falls and 668% at Nagle Dam in the past 10 years. The rehabilitation and maintenance of the myriad of wetlands and riparian zones in the upper uMngeni will result in improved water security to those who are dependent on the services provided by the Midmar Dam. Better management of the upper catchment will also reduce the cost of managing the dam and costs of water treatment by the eThekwini Municipality. The eThekwini Water and Sanitation Unit currently spends about R120 million a month on water purification. The rehabilitation of watershed services will very likely reduce the costs of producing potable water for almost half the province's population, whilst increased quantities of water and improved water quality will assist in building resilient communities, especially those who are reliant on extracting their water directly from natural ecosystems.

The construction of the artificial wetlands by the Msunduzi and the eThekwini municipalities will result in the rehabilitation of watershed services along the Palmiet River and the Baynes' Spruit river. This includes a reduction in sediment loads and pollutants in the river channel, thereby helping to maintain water quality. The filtering of nutrients before entering the uMngeni River will further decrease the build-up of water hyacinth that had over the years plagued the river channel. The success of this project is set to improve local economic activities, improve the quality of life of local residents and ensure the sustainability of the annual Duzi Canoe Marathon and the Midmar Mile marathons which attracts thousands of tourists to the KZN Midlands.

Of great significance and value will be the partnership approach being pursued to tackling these complex challenges at a systemic level. The UEIP recognises that a wide-scale initiative in the greater uMngeni catchment is necessary to pursue investments in the rehabilitation and sustainable management of ecological infrastructure as an effective additional strategy towards reconciling supply and demand in this system. The three projects are strategically positioned to address the water security challenges experienced in this catchment.

INTERVENTION TYPE (Tick most appropriate box)

127. Improved stream and river-related ecological infrastructure –

1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.20 The reinstatement, rehabilitation, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	X
128. Improved wetland-related ecological infrastructure –	
2.37 The rehabilitation, rehabilitation and/or maintenance of wetlands;	X
2.38 The reinstatement, rehabilitation, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	X
129. Improved agriculture-impacted ecological infrastructure –	
3.19 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	X
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	X
130. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	X
4.38 The reinstatement, rehabilitation, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	X
4.39 Clearing invasive alien plant infestations in protected catchment areas;	X
131. The reinstatement and/or development of new ecological infrastructure –	
5.37 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	X
5.38 The rehabilitation of land affected by derelict and ownerless mines	
132. Ecological infrastructure for water security research and development project	
133. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
109. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	X
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	X
1.3 Other (describe)	
110. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	

2.2 Other (describe)	
111. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
112. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
113. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
114. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)										
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	X	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Chapter 5 of the Government's National Development Plan (NDP) recognises that maintenance of ecosystem services such as those providing food and clean water, regulating climate and disease, supporting crop pollination and nutrient cycles, and delivering cultural benefits such as recreational opportunities, is fundamental to achieving South Africa's social and economic development objectives, as does Outcome 10 of the Presidential Outcomes. The NDP further recognises that the biodiversity and ecosystems in conservation areas are national assets and long-term planning to promote the conservation and rehabilitation of these natural assets is critical. The NDP envisage that by 2030 investments will be in place and implemented for more sustainable technologies and programmes aimed at conservation and rehabilitation of ecosystems and biodiversity assets. Such recognition is directly relevant to the vision of the UEIP, which recognises that the rehabilitation of ecological infrastructure will provide natural solutions to enhancing water security in the greater uMngeni catchment by restoring watershed services such as flood attenuation, reduction of sediment loads and improvement of water quantity to supplement built infrastructure solutions. The UEIP project is set to unlock more investment into ecological									

	infrastructure and sustain economic activities of the KwaZulu Natal-Midlands and the Durban region. The Partnership is laying a foundation that will directly contribute to the NDP's 2030 vision.
Any further information relating to project status:	The UEIP stakeholders have developed a Memorandum of Understanding that aims to formalise the partnership and commit all relevant partners to a collective vision of investing into ecological infrastructure in the greater uMngeni catchment. Over 17 organisations representing NGOs, government departments, municipalities, the private sector and academic/research institutions have committed to become signatories to the UEIP MoU. The official MoU signing ceremony is scheduled to take place during the official launch of the UEIP programme and projects on the 20 November 2013 in Durban, KZN.

PROJECT TIMING					
Start Date or earliest possible Start Date:	November 2013	**End Date or desired End Date:**	November 2023	**Project Duration or estimated total project duration:**	10 years
Any further information relating to project timing:	Efforts are underway to develop a 10 year plan with the broader objectives of developing strategies for investing in ecological infrastructure in the greater uMngeni catchment. The project will adopt a phased approach catalysed by initial 5 year ecological infrastructure demonstration projects identified by the three Water Services Authorities (Msunduzi, eThekwini and uMgungundlovu municipalities). During the first phase, the project will also invest in installing monitoring systems along the uMngeni River. These monitoring systems will be valuable to provide indications of the ability of the river ecosystems to continue to provide goods and services and the impact of the UEIP interventions. Such results will inform the planning and implementation of subsequent phases of the project.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Approximately 9,000 FTEs
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	At least 20% of the people employed will be youth.
Any further information relating to project job creation:	The number of job opportunities created will be targeted at the local unemployed communities and the demographics of the labour will be based on the Expanded Public Works Programme (EPWP) norms and standards of creating jobs (i.e. 60% women, 20% youths and 2% persons with disabilities). The strategy for creating jobs will build on existing EPWP short term funding to explore long term investment. The UEIP will build on the EPWP approach towards creating job opportunities by supporting labour intensive work on the rehabilitation and maintenance of ecological infrastructure. The UEIP will put more effort towards unlocking

	long–term investments from the users of the water located in the greater uMngeni catchment, thereby ensuring long-term job security that focusses on maintaining ecological infrastructure.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	The conservation sector is traditionally known to operate in areas of high biodiversity value with the aim of conserving and protecting biodiversity assets and associated ecosystem services. These areas represent critical biodiversity areas that are identified using systematic biodiversity planning tools, and in South Africa these areas are often located under private or state ownership. Communal lands, due to their nature of being densely populated, are often found to be degraded with no biodiversity value and are largely ignored by the conservation sector. The concept of ecological infrastructure (EI) allows the conservation sector to move away from focusing purely on critical biodiversity areas. This opens definite opportunities for working in landscapes under communal ownership, thereby addressing historical spatial imbalances. For instance, the mapping of EI for water delivery in the greater uMngeni catchments involves mapping of intact EI for protection (i.e. ecosystems that are in good conditions), potential EI areas for rehabilitation (i.e. important areas that are in poor condition) and transformed areas for impact mitigation (i.e. areas which were important such as forestry areas in high water yield catchments, but where value has been lost, but there may be opportunities to reduce negative impacts). This mapping exercise identified important degraded EI located within the informal settlements and communal lands in the jurisdiction of Msunduzi, eThekwini and uMgungundlovu. The maps will be used to guide and prioritise the spatial focus of investments in rehabilitating wetlands and riparian zones and clearing invasive alien plants. These provide massive opportunities for unlocking investments to create jobs and contribute to the eradication of poverty in areas that are traditionally not prioritised by systematic conservation planning tools.
Positive impact on "Promoting rural development":	Many rural areas and the informal settlements located in the greater uMngeni catchment depend directly or indirectly on the goods and services provided by the uMngeni River system. For instance, the Baynes' Spruit has served historically as a valuable resource to the Sobantu community for fishing, swimming and irrigation purposes. Many of the rural communities living along the uMngeni River have no direct access to potable water and depend on the river and its tributaries to access drinking water. The UEIP is aiming to prioritise areas experiencing water and sanitation challenges and contribute to addressing socio-economic challenges in these poverty-stricken areas. The proposed integrated approach to addressing water quality and quantity problems along the uMngeni River system has the potential to impact positively on the rural development within the uMngeni catchment.

	Interventions to rehabilitate EI such as wetlands and the re-vegetation of riparian zones will contribute to improving water quality to a level where the established farming community within Sobantu will once again able to irrigate their crops from the Bayne's Spruit. The improvement of watershed services will increase winter base flow in the tributaries of the uMngeni River. Although the water crisis in the catchment is experienced mostly downstream by the Durban users, many of the EI assets are located upstream in communal lands. The rehabilitation of EI in these areas will provide opportunities for job creation and sustainable water security.
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	According to Census 2011, KZN is the second most populated province in the country, with an estimated 10.3 million inhabitants. Of this total population, over 4.5 million people live in the greater uMngeni catchment. Census 2011 has also revealed that KZN is the third poorest province in the country after Limpopo and Eastern Cape. Although the economy of KZN is more powerful than the two provinces mentioned above, and its metropolitan city of Durban is the third largest economic hub in the country, the majority of the people live in tribal lands with high population densities and high levels of poverty. At 33%, the unemployment rate in KZN is well above the national average of 25%. The majority of the unemployed poor people in the province are rural dwellers, women and youth. Unlocking investment into EI projects will significantly contribute to addressing poverty and unemployment in the province. The UEIP will apply the EPWP norms and standards of providing jobs and these groups (women and youths) will be targeted with job opportunities and benefit immensely from the EI projects.
Positive impact on "Greening economy":	The current KZN water reconciliation strategy for the Durban municipality has identified only the traditional and costly engineering solutions to meet the challenges of addressing water quality and quantity in a highly stressed catchment. The strategy has not included the valuable contribution that investing in the management of ecological infrastructure can make to enhance water security. The uMngeni catchment provides an ideal opportunity to demonstrate the benefits of coordinated and collaborative investment in ecological infrastructure for water security, with the potential to be scaled up and replicated in other parts of the country. In so doing, this approach can make a substantial contribution to South Africa's development agenda and the green economy, by challenging and influencing current paradigms of development that rely on built infrastructure alone. The UEIP is thus set to contribute to South Africa's Green economy

	through the creation of jobs for the rehabilitation and sustainable management of ecological infrastructure and the delivery of strategically important ecosystem services. The Natural Resource Management Programmes of the Department of Environmental Affairs have over the years demonstrated that catchment rehabilitation provides substantial opportunities for sustainable job creation opportunities and promotion of the Green Economy.
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	KZN is prone to natural disasters such as floods and fierce thunder storms. These natural disasters have often led to loss of life, and damage to property and built infrastructure. In 2011 alone, five KZN district municipalities were declared disaster areas with more than R700 million in damage to homes, businesses, roads, bridges and farms. The rehabilitation of ecological infrastructure and maintaining healthy catchments will contribute significantly to disaster reduction through flood attenuation, stabilising river banks and reducing risk of damage to water reticulation and treatment infrastructure. The UEIP will strengthen partnerships between stakeholders operating in the catchment but more importantly strengthen institutional arrangements for collaboration between the three Water Service Authorities (Msunduzi, eThekwini and uMgungundlovu municipalities) and the bulk water provider (Umgeni Water). The UEIP brings together planners, engineers, ecologists, environmental activists, researchers and policy practitioners to work together towards developing approaches to integrated land use in the catchment that will encompass both natural and built infrastructure for the benefit of society. Potential exists to provide valuable lessons to influence policy development at the national level, such as Resource Directed Measures of the National Water Act, implementation of the National Development Plan, new approaches for our understanding of what constitutes infrastructure and how to invest in it, and options for enhancing sustainability and efficiency of infrastructure spend by government.

PROJECT FUNDING							
Total Project Cost:	Approximately R500 million over 10 years		Average Annual Cost:		R50 million per year, but weighted more heavily towards outer years		
Tick most appropriate box below							
Total funding secured:		Some funding secured:	x	Some funding commitments:	x	No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
WWF	Grant	R750 000	To cover the salary of the UEIP Coordinator
SANBI	MTEF allocation	R300 000	To cover the operational costs of the UEIP Coordinator
WESSA	Municipal budget	R192 000	EThekwini municipality is funding WESSA to provide training on EI to over 200 councillors, community leaders and government officials.
Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
WWF	CEPF funding	$258 712	The funding support implementation of biodiversity stewardship, water balance project and the Sustainable production/Better management practices
Working for Water	EPWP project	R15 000 000 for 3 years	To remove alien plants in critical priority areas within the catchments
Working for Wetlands	EPWP project	R3 500 000 for 3 years	To rehabilitate degraded wetlands in the catchments
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Duzi uMngeni Conservation Trust – River clean up	NRM funding	R16 000 000 for 3 years	A river care project to control invasive plants, solid wastes removal, community education, river health monitoring.
Green Fund project funding	Project grants	R5 000 000 over 18 months	Two project applications focused on EI in the uMngeni submitted

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Kristal Maze	**Organisation:**	SANBI
Designation:	Chief Director: Biodiversity Planning and Advice	**Telephone:**	0128435200
E-mail:	k.maze@sanbi.org.za	**Cell:**	082 890 0188

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**uMngeni River Basin Water Security Case-study**
Brief Project Description (no more than 20 words):	In the context of the uMngeni River Basin, it examines how the water security lessons of the commercial forestry sector might be applied to other sectors.
Principle Implementing Agency:	Monash South Africa
Key Project Partners:	Monash South Africa, University of the West of England, University of Arizona
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Develops the knowledge so that a variety of sectors (dairy, livestock, crop production, industry, public, traditional, conservation etc) can improve water security through investment in ecological infrastructure and other mechanisms	
Specific project outcome targets in respect of water quality and/or quantity:	
Sector specific mechanisms for improving water security (quantity and quality)	

INTERVENTION TYPE (Tick most appropriate box)	
134. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.21 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
135. Improved wetland-related ecological infrastructure –	
2.39 The restoration, rehabilitation and/or maintenance of wetlands;	
2.40 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
136. Improved agriculture-impacted ecological infrastructure –	
3.20 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	

137. The conservation and protection of irreplaceable ecological infrastructure –		
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;		
4.40 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;		
4.41 Clearing invasive alien plant infestations in protected catchment areas;		
138. The reinstatement and/or development of new ecological infrastructure –		
5.39 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);		
5.40 The rehabilitation of land affected by derelict and ownerless mines		
139. Ecological infrastructure for water security research and development project		Tick
140. Other (describe)		

PROJECT LOCATION (Check attached map and tick most appropriate box)		
115. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas		
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area		Tick
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area		Tick
1.3 Other (describe)		
116. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas		
2.1 Project is a component of the Berg River Improvement Plan (BRIP)		
2.2 Other (describe)		
117. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas		
3.1 Describe		
118. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas		
4.1 Describe		
119. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast		

5.1 Describe	
120. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	tick	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Part of International Water Security Network (www.watersecuritynetwork.org)								
Any further information relating to project status:	Early stages								

PROJECT TIMING					
Start Date or earliest possible Start Date:	Sep 2013	**End Date or desired End Date:**	Sep 2018	**Project Duration or estimated total project duration:**	5 years
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	N/A
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	N/A
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	

Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	Will improve environmental performance of a range of sectors
Positive impact on "Regional integration":	Will assist in regional integration of land-use governance and practice
Any other significant positive impacts and/or co-benefits:	Significant post-graduate student involvement and learning environment

PROJECT FUNDING							
Total Project Cost:	About R 2.5 mil			Average Annual Cost:		About R 500 k	
Tick most appropriate box below							
Total funding secured:	Tick	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Lloyds	Grant	R 2.5 mil	

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
WRC			
Green Fund			

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Duncan Hay	**Organisation:**	Monash and UKZN
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E-mail:	hay@ukzn.ac.za	**Cell:**	083 630 1749

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Upper uMngeni Resilient Landscape Approach**
Brief Project Description (no more than 20 words):	Piloting the "resilient landscape approach" in the Upper uMngeni production landscape through reducing shared risks and increasing shared value of ecological infrastructure amongst key private sector stakeholders.
Principle Implementing Agency:	WWF-SA (through the Mondi Wetlands Programme)
Key Project Partners:	Mondi International, Mondi SA, WWF International

Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:

Fostering resilience within a landscape will result in:

- Land users within and across sectors (e.g sugar, timber, dairy) applying better catchment stewardship practices.
- Closer linkages will be established between supply/value chain actors (e.g banking, insurance) and land users for exploring and supporting better catchment stewardship practices.
- Through gathering, sharing and engaging with contextual information key stakeholders will better understand their social-ecological context.
- The capacity of key stakeholders to apply better catchment stewardship practices will be strengthened through facilitating formal and informal learning (primary focus: local government, land users; secondary focus: supply/value chain actors).
- Biophysical and social tools will be developed applied and refined tools
- Existing governance institutions will be engaged and strengthened (e.g. UEIP & FSC environmental chamber) and new governance institutions/processes will be co-created where needed.

Specific project outcome targets in respect of water quality and/or quantity:

Water quality and River Health condition of the rivers within the Upper uMngeni River will improve within a 5 to 10 year period after project initiation.

INTERVENTION TYPE (Tick most appropriate box)	
141. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	

1.22 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
142. Improved wetland-related ecological infrastructure –	
2.41 The restoration, rehabilitation and/or maintenance of wetlands;	
2.42 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	Y
143. Improved agriculture-impacted ecological infrastructure –	
3.21 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	Y
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	Y
144. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	Y
4.42 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.43 Clearing invasive alien plant infestations in protected catchment areas;	Y
145. The reinstatement and/or development of new ecological infrastructure –	
5.41 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.42 The rehabilitation of land affected by derelict and ownerless mines	
146. Ecological infrastructure for water security research and development project	Y
147. Other (describe)	Improved understanding & recognition of the importance of ecological infrastructure in the business models of key agricultural sectors and stakeholders.

PROJECT LOCATION (Check attached map and tick most appropriate box)	
121. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	Y
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
122. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	

123. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
124. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
125. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
126. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
Please refer to attached shapefile / map of the project focus area.	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**	X	**Project designed**	X	**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	A work plan has been drafted for year 1 of the 3 year project funding and presented to Mondi, the funder.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	Feb 2014	**End Date or desired End Date:**	Dec 2016	**Project Duration or estimated total project duration:**	3 years
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	?
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	?

Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	R5 million (Mondi) + R4.94 million (co-funding) = R9.94 million		Average Annual Cost:		Approx R3.31 million per year		
Tick most appropriate box below							
Total funding secured:	R9.94 million	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
WWF-SA & Sanlam	Grant funding	R100 000	uMngeni ecological infrastructure mapping and prioritization
Critical Ecosystem Partnership Fund (CEPF)	Grant funding	R890 000	Upper Umgeni Catchment Stewardship Project, until Dec 2015.
WWF Netherlands (Maas Marsden Fund)	Grant funding	R1200 000	Upper Umgeni Capacity building of local government (WESSA to implement)
DBSA	Grant funding	R2 500 000	RESEARCH PROJECT TITLE: "THE ROLE OF PRIVATE FINANCE AND MARKETS IN ENHANCING ECOLOGICAL INFRASTRUCTURE IN THE UMNGENI CATCHMENT THROUGH COLLECTIVE PRIVATE SECTOR ACTION"
WWF-SA and Fulcrum Institute	Grant funding	R250 000	Post-Doctoral research on Collaborate Governance in the Umgeni Catchment.

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Critical Ecosystem Partnership Fund (CEPF)	Grant funding	Approx R500 000	Proposal to still be developed for engaging new agricultural sectors in the Upper uMngeni, including dairy.

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	David Lindley	**Organisation:**	WWF-SA
Designation:	Manager: Mondi Wetlands Programme	**Telephone:**	012-667 6597
E-mail:	dlindley@wwf.org.za	**Cell:**	083-222 9155

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Working for Ecosystems**
Brief Project Description (no more than 20 words):	Invasive alien plant control
Principle Implementing Agency:	WESSA, on behalf of eThekwini Municipality
Key Project Partners:	eThekwini Municipality and WESSA
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Invasive alien plant control within the Phase 1 priority area within the eThekwini Municipal boundary.	
Specific project outcome targets in respect of water quality and/or quantity:	
Controlling invasive alien plants amounting to 3800 Ha of area been dealt with. Increasing water quantity within the catchment.	

INTERVENTION TYPE (Tick most appropriate box)	
148. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	✔
1.23 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
149. Improved wetland-related ecological infrastructure –	
2.43 The restoration, rehabilitation and/or maintenance of wetlands;	
2.44 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
150. Improved agriculture-impacted ecological infrastructure –	
3.22 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	

151. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	✔
4.44 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	✔
4.45 Clearing invasive alien plant infestations in protected catchment areas;	✔
152. The reinstatement and/or development of new ecological infrastructure –	
5.43 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.44 The rehabilitation of land affected by derelict and ownerless mines	
153. Ecological infrastructure for water security research and development project	
154. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
127. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	✔
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
128. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
129. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
130. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
131. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	

5.1 Describe	

132. *Project not associated with a specific Strategic Water Source Area*

6.1 Describe	

Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)

Ntshongweni –(29° 51' 14.25" S / 30° 39' 59.16" E)
Paradise Valley Nature Reserve – (29° 50' 21.55" S / 30° 53' 39.67" E)
Roosefontein Nature Reserve – (29° 51' 29.61" S / 30° 55' 23.03" E)
Hulletts Bush –(29° 45' 58.95" S / 31° 00' 00.00" E)
Gonweni –(29° 35' 44.10" S / 30° 53' 48.17" E)
Drummond –(29° 44' 45.40" S / 30° 41' 22.91" E)

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	✔	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Profiled in the Municipality's integrated Development Plan (IDP)								
Any further information relating to project status:	Programme runs until June 2015 at which point it will go out to tender again.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	2013-07-01	**End Date or desired End Date:**	2015-06-30	**Project Duration or estimated total project duration:**	2 years
Any further information relating to project timing:	This project has been running since 2007 and is now a programme under eThekwini Municipalities EPCPD				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	146 opportunities
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	80 youth
Any further information relating to project job creation:	The people in this project are employed under SMMEs developed by WESSA and to secure sustainable living for the people are employed for the duration of the project.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial	The projects target marginalised communities with high unemployment rates

imbalances":	
Positive impact on "Promoting rural development":	SMME development and mentorship, IAPs removed helps with livestock etc.
Positive impact on "Industrial development and/or localisation":	SMMEs are developed and mentored within the project.
Positive impact on "Economic performance of poorest provinces":	SMMEs developed are been helped to apply for work at companies in surrounding areas to secure a sustainable business.
Positive impact on "Greening economy":	All the work performed within the project revolves around sustainable green jobs, allowing people to go their own way yet still perform work for the environment, with a better understanding of biodiversity and the necessity to maintain it.
Positive impact on "Regional integration":	We work closely with the provincial authorities, as well as with neighbouring municipalities
Any other significant positive impacts and/or co-benefits:	Very significant positive impacts on local biodiversity conservation, and ecosystem service provision.

PROJECT FUNDING							
Total Project Cost:	R15 554 520.77			Average Annual Cost:		R7 750 000.00	
Tick most appropriate box below							
Total funding secured:	✔	Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
eThekwini Municipality	Programme allocation	R15 554 520.77	We have a standing budget line item, for IAP control

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Errol Douwes	**Organisation:**	EThekwini Municipality

Designation:	Manager: BCGPI Branch	**Telephone:**	031-3117952
E-mail:	errol.douwes@durban.gov.za	**Cell:**	071-8507231

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Alien Vegetation Clearance & Firebreaks**
Brief Project Description (no more than 20 words):	Remove and treatment with chemical & mechanical methods of invasive alien vegetation and preparation & maintenance of network of firebreaks, from the local authority nature reserve, Paarl Mountain Nature Reserve, managed by the Drakenstein Municipality; employing persons from the local community.
Principle Implementing Agency:	Drakenstein Municipality
Key Project Partners:	Local Community, CapeNature Stewardship, DAFF & Working for Water
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Restoration of vulnerable boland granite fynbos and critically endangered swartland granite renosterveld – priorities ito National Biodiversity Assessment commissioned by SANBI & DEA. Ensure continued conservation of integrity of protected area as water catchment area, supplying drinking water to the town of Paarl. Ensure continued protection of water systems on mountain hosting breeding dam for critically endangered whitefish (extinct from berg/breede river systems). Reduction of fire hazard to residential properties neighbouring reserve and legal compliance local authority to CARA & NV&FFA.	
Specific project outcome targets in respect of water quality and/or quantity:	
Ensuring the continued supply of and increase in yield of already BLUE DROP status water from this catchment.	

INTERVENTION TYPE (Tick most appropriate box)	
155. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.24 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
156. Improved wetland-related ecological infrastructure –	
2.45 The restoration, rehabilitation and/or maintenance of wetlands;	
2.46 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	

157. Improved agriculture-impacted ecological infrastructure –	
3.23 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
158. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	X
4.46 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.47 Clearing invasive alien plant infestations in protected catchment areas;	X
159. The reinstatement and/or development of new ecological infrastructure –	
5.45 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.46 The rehabilitation of land affected by derelict and ownerless mines	
160. Ecological infrastructure for water security research and development project	
161. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
133. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
134. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	X
2.2 Other (describe)	**Core conservation area** of Cape Winelands Biosphere Reserve **CapeNature Stewardship** contract reserve Host / breeding centre for the **Critically Endangered Whitefish**, extinct from the Berg/Breede riversystems
135. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
136. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants	

Strategic Water Source Areas	
4.1 Describe	
137. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
138. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	X	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	Lack of current and medium-long term sustainable funding has posed major threat to continued succession of program.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	2014	**End Date or desired End Date:**	2018	**Project Duration or estimated total project duration:**	5 years
Any further information relating to project timing:	Program continues work, so project timeline dependant on available/allocated funding				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Dependant on funding allocation and management component (up to 1 contractors per month, emplying 10 persons each = 110 persons per month)

Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	Improved integrity of PA leading to direct and indirect improvement of eco-tourism potential of natural area. Cooperative governance between local, provincial and national spheres of government.

PROJECT FUNDING							
Total Project Cost:	R5m			Average Annual Cost:		R1m	
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:	X	No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Drakenstein Municipality	Internal Budget	R200 000	Varies with year IDP budget (KPA in IDP)

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	L de Roubaix	**Organisation:**	Drakenstein Municipality
Designation:	Nature Conservator: Paarl Mountain Nature Reserve. Section: Parks, Sport & Recreation. Directorate: Community Services.	**Telephone:**	021 807 6323
E-mail:	louiser@drakenstein.gov.za albert@drakenstein.gov.za	**Cell:**	082 744 5900 / 072 425 8675

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Berg River Implementation Programme**
Brief Project Description (no more than 20 words):	The project addresses water security concerns (i.e. quality and quantity) in the Berg River catchment in the Western Cape.
Principle Implementing Agency:	Department of Environmental Affairs and Development Planning, Western Cape Government.
Key Project Partners:	Provincial Departments: Agriculture, Human Settlements, Economic Development and Tourism, Local Government Agencies: CapeNature, GreenCape National Department: Water Affairs Municipalities: Bergrivier, Stellenbosch, Drakenstein, Saldanha Bay, Cape Winelands District Municipality
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The following 6 Tasks have been identified in terms of contributing to the restoration, rehabilitation, conservation, protection and development of ecological infrastructure, and are currently being implemented: Task 1: Implement a Berg River Water Quality Monitoring Regime Task 2: Upgrade Wastewater Treatment Works and Train Process Controllers Task 3: Upgrade Informal Settlements Task 4: Advocate Best Practice in Agricultural and Agro-Industrial Processes Task 5: Riparian Zone Rehabilitation and Bioremediation Task 6: Costing Water Management in the Berg River Catchment	
Specific project outcome targets in respect of water quality and/or quantity:	
The ultimate aim is to change the lives of people in the Berg River catchment through the implementation of simple interventions. The outcome will be a Berg River, where its value for ecosystem services is recognised, and its natural resource state as it relates to water quality and quantity returns, while promoting sustainable growth and development towards a green economy in the Western Cape. The plan identifies short (≤ 5 years) and long term (5 – 30 years) interventions, and its financial implications. The specific outcomes are: - REDUCED NEGATIVE IMPACT FROM MUNICIPAL URBAN AREAS, PARTICULARLY INFORMAL SETTLEMENTS AND WASTEWATER TREATMENT WORKS; - REDUCED NEGATIVE IMPACT OF AGRICULTURE ON THE BERG RIVER'S WATER QUALITY TO ACCEPTABLE LEVELS; - ENSURE SUSTAINABLE RESOURCE USE EFFICIENCY AND ECOLOGICAL INTEGRITY.	

INTERVENTION TYPE (Tick most appropriate box)		
162. Improved stream and river-related ecological infrastructure –		
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;		✓
1.25 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;		✓
163. Improved wetland-related ecological infrastructure –		
2.47 The restoration, rehabilitation and/or maintenance of wetlands;		✓
2.48 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;		✓
164. Improved agriculture-impacted ecological infrastructure –		
3.24 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);		✓
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);		✓
165. The conservation and protection of irreplaceable ecological infrastructure –		
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;		✓
4.48 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;		✓
4.49 Clearing invasive alien plant infestations in protected catchment areas;		✓
166. The reinstatement and/or development of new ecological infrastructure –		
5.47 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);		✓
5.48 The rehabilitation of land affected by derelict and ownerless mines		
167. Ecological infrastructure for water security research and development project		✓
168. Other (describe)	Costing Water Resource Management, Upgrading Human Settlements and Wastewater Treatments Works in the Berg River Catchment.	✓

PROJECT LOCATION (Check attached map and tick most appropriate box)	
139. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	

1.3 Other (describe)	
140. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	✓
2.2 Other (describe)	
141. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
142. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
143. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
144. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
DWA Quaternary Catchments: G10A - M	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	✓	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	Project is transversal across all spheres of government. Project is currently being implemented.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	1 April 2013	**End Date or desired End Date:**	31 March 2019	**Project Duration or estimated total project duration:**	6 yrs (initially)
Any further information relating to	This is a long-term project, with an initial 3 – 6 yr phase, followed by ongoing monitoring and implementation over a 30 year period.				

project timing:	

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Initially, 60
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	20
Any further information relating to project job creation:	The project currently has 15 FTEs projected for 2013/2014, with this number increasing during subsequent years.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	N/A
Positive impact on "Promoting rural development":	Through alien clearing programmes, the project aims to introduce Value-Add industries for local rural communities. Such Value-Add industries will look to provide the opportunity for skills development, in using the material harvested from alien clearing programmes.
Positive impact on "Industrial development and/or localisation":	The work that is being undertaken / proposed will positively impact on the industries in the Berg River catchment in that they will use best practice to ensure the efficient use of water and also to ensure that water quality is protected in the catchment.
Positive impact on "Economic performance of poorest provinces":	The successes of the project can be rolled out to other provinces where similar problems or challenges are experienced, so that water and food security can be ensured in those catchments.
Positive impact on "Greening economy":	The interventions associated with the implementation of bioremediation will introduce innovative and sustainable designs that will benefit the community and the surrounding natural environment. The positive spinoffs of using water efficiently will lead to increased GDP in the catchment (in terms of the agricultural industry).
Positive impact on "Regional integration":	The implementation of the project has enabled greater communication and facilitation between municipalities, communities and various organizations, as well as promoted co-operative governance across all three spheres of government, as evidenced by the stakeholders participating on this project. As a result, greater strategic thinking and planning is given to projects for the benefit of all regional stakeholders.
Any other significant positive impacts and/or co-benefits:	The project has attracted much attention from the scientific and research community, resulting in a platform for sharing of knowledge and expertise for the various tasks of the Berg River Improvement Plan. A partnership is being developed with the farming community along the river and its tributaries, to further assist with alien clearing operations followed by rehabilitation. This is providing the first step towards an active Water Stewardship

	Programme among the community.

PROJECT FUNDING							
Total Project Cost:	R 106 m			Average Annual Cost:		R 18m	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	✓	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Western Cape Government	MTEF Allocation	R18m	This funding is secured for a 3yr period (2013-2016). Thus, further funding is required per year, during the 6 yr period.

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Government of the Netherlands	Co-funding	Unknown	This is still in its development stages.

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Joy Leaner	**Organisation:**	Department of Environmental Affairs and Development Planning
Designation:	Director: Pollution Management	**Telephone:**	021 483 2888
E-mail:	Joy.Leaner@westerncape.gov.za	**Cell:**	084 409 6909

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Cape Critical Rivers Project (CCR)**
Brief Project Description (no more than 20 words):	The CCR project aims to bridge biodiversity conservation with water resource management in the Cape Floristic Region
Principle Implementing Agency:	Endangered Wildlife Trust (EWT)
Key Project Partners:	Cape Nature, Department of Environment and Nature Conservation Northern Cape, Freshwater Research Centre

Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:
Reverse the destruction and/or degradation of the ecological infrastructure that provides watershed services: Our focus in this sphere is primarily on the removal of alien vegetation in high priority catchments for biodiversity conservation, which are significantly impacted by reduced flows, particularly in summer, partly as a result of alien vegetation encroachment.
Specific project outcome targets in respect of water quality and/or quantity:
Improve the quantity and/or quality of South Africa's water resources: The water resource classification system (WRCS) is a regional scale scenario-based classification process used to define the future desired condition of a water resource and on this basis to assign the quantity (volume and distribution) as well as quality of water required to support ecosystem processes. The CCR project will determine current flows in 6 CFR rivers identified as National Freshwater Biodiversity Priority Areas, and compare these with the Ecological Reserve requirements as stipulated by the WRCS, thus validating the assumptions of the WRCS. Concurrently, we will conduct an assessment of current irrigation agriculture practices in the region, which will provide guidance on the scope for improving water-use efficiency to meet the ecological reserve requirements, without compromising agricultural productivity Provide cost effective and high quality alternatives to technological solutions: With the above information in hand, we will work towards developing user-friendly tools for monitoring flows in critical rivers throughout the system, and hence compliance with the ecological reserve, as well as disseminate information on efficient irrigation agriculture management systems and technologies, and the feasibility of implementing these systems, by means of expert workshops presented to farmers in the region.

INTERVENTION TYPE (Tick most appropriate box)
169. Improved stream and river-related ecological infrastructure –

1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.26 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
170. Improved wetland-related ecological infrastructure –	
2.49 The restoration, rehabilitation and/or maintenance of wetlands;	
2.50 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
171. Improved agriculture-impacted ecological infrastructure –	
3.25 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	X
172. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.50 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.51 Clearing invasive alien plant infestations in protected catchment areas;	X
173. The reinstatement and/or development of new ecological infrastructure –	
5.49 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.50 The rehabilitation of land affected by derelict and ownerless mines	
174. Ecological infrastructure for water security research and development project	X
175. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
145. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
146. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	

2.2 Other (describe)	The two "focal" catchments for our work are the Olifants-Doring and Breede-Tradow river cathments.
147. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
148. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
149. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
150. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	X	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:									

PROJECT TIMING					
Start Date or earliest possible Start Date:	Current	**End Date or desired End Date:**	End 2015	**Project Duration or estimated total project duration:**	3 years
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	

Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	R900 000			Average Annual Cost:		R300 000	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	x	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Save Our Species Fund	Grant	R 116 450	

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Water Research Commission	Grant	R 60 000	

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Table Mountain Fund	Grant	R230 000	
Mohamed Bin Zayed Species Conservation Fund	Grant	R 80 000	

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Christy Bragg	**Organisation:**	EWT
Designation:	Project Manager	**Telephone:**	0217885661
E-mail:	christyb@ewt.org.za	**Cell:**	0823325447

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**The Greater Simonsberg conservancy**
Brief Project Description (no more than 20 words):	
Principle Implementing Agency:	
Key Project Partners:	Landcare + Landowners
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
6562ha farmland of which 2315ha conserved over 1337ha …	
Specific project outcome targets in respect of water quality and/or quantity:	

INTERVENTION TYPE (Tick most appropriate box)	
176. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	√
1.27 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	√
177. Improved wetland-related ecological infrastructure –	
2.51 The restoration, rehabilitation and/or maintenance of wetlands;	
2.52 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
178. Improved agriculture-impacted ecological infrastructure –	
3.26 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	√
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
179. The conservation and protection of irreplaceable ecological infrastructure –	

4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.52 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.53 Clearing invasive alien plant infestations in protected catchment areas;	√
180. The reinstatement and/or development of new ecological infrastructure –	
5.51 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.52 The rehabilitation of land affected by derelict and ownerless mines	
181. Ecological infrastructure for water security research and development project	
182. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
151. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
152. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	√
2.2 Other (describe)	
153. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
154. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
155. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	

156. ***Project not associated with a specific Strategic Water Source Area***	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:									

PROJECT TIMING					
Start Date or earliest possible Start Date:		**End Date or desired End Date:**		**Project Duration or estimated total project duration:**	
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of	

poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:		Average Annual Cost:					
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Adele Toua	**Organisation:**	The Greater Simonsberg Conservancy
Designation:	Manager	**Telephone:**	
E-mail:	conservancy@delvera.co.za	**Cell:**	079 276 3638

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Real time monitoring of water quality in urban hotspots in Berg River, Paarl**
Brief Project Description (no more than 20 words):	To install 5 real time monitoring and 5 automated grab sample stations to provide water quality analysis in hotspots along the Berg River.
Principle Implementing Agency:	University of Cape Town
Key Project Partners:	Western Cape DEADP, Berg River Management Project
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Determination of variable water quality in order to inform the scale and type of interventions required to reduce the discharge into the Berg River. Data will inform, e.g. cost efficiencies.	
Specific project outcome targets in respect of water quality and/or quantity:	
Capable of capturing high resolution seasonal and event driven water pollution discharing into the Berg River. This will inform modelling of conditions, enable real time report and make scientific knowledge available to improve decision-making.	

INTERVENTION TYPE (Tick most appropriate box)	
183. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	
1.28 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	
184. Improved wetland-related ecological infrastructure –	
2.53 The restoration, rehabilitation and/or maintenance of wetlands;	
2.54 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
185. Improved agriculture-impacted ecological infrastructure –	
3.27 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	

3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
186. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.54 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.55 Clearing invasive alien plant infestations in protected catchment areas;	
187. The reinstatement and/or development of new ecological infrastructure –	
5.53 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.54 The rehabilitation of land affected by derelict and ownerless mines	
188. Ecological infrastructure for water security research and development project	√
189. Other (describe)	The project will provide high resolution data to inform the shape and form of interventions.

PROJECT LOCATION (Check attached map and tick most appropriate box)	
157. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
158. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	√
2.2 Other (describe)	
159. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
160. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
161. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great	

Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
162. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	√
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	NWRS 2								
Any further information relating to project status:	Project is in its inception phase. The aim is to address current concerns that are being raised repeatedly in the BRIP discussion, e.g. Berg River Water Quality Task Team								

PROJECT TIMING					
Start Date or earliest possible Start Date:	April 2014	**End Date or desired End Date:**	Aug 2015	**Project Duration or estimated total project duration:**	18 months
Any further information relating to project timing:	Real time monitoring sensors and associated telemetry will be tested in April following by a site selection and further insitu testing to determine suitability and reporting of results.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	2 students
Any further information relating to project job creation:	

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	Apart from the importance of this project is identifying point sources and quantifying the pollution load, the intention is to identify the extent to which different primary sources are discharging into the Berg. Informal settlements are blamed frequently, but other sources are escaping the spotlight because there limited knowledge. Timely and appropriate interventions in selected parts of the Berg River should be

	informed by a rigorous dataset.
Positive impact on "Promoting rural development":	Provide real time information and a warning of the risk of water pollution for downstream users principally involved in the agri-industry.
Positive impact on "Industrial development and/or localisation":	Improve understanding of the source of discharge and respective loading.
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	This project will monitor and measure the contribution of green economy type activities proposed along parts of the Berg River. The data will also inform the efficacy of the interventions envisaged such as bioremediation projects and alternative forms of treatment works.
Positive impact on "Regional integration":	The generation of this knowledge will have catchment wide scale benefits.
Any other significant positive impacts and/or co-benefits:	Scientific knowledge of water quality and runoff into the Berg River is critical to decisions affecting the scale of appropriate interventions and means of address the problem.

PROJECT FUNDING							
Total Project Cost:	R680 000		Average Annual Cost:			Total costs R680000 for 18 month period	
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:		No funding:	√

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Dr Kevin Winter	**Organisation:**	University of Cape Town

Designation:	Academic / Researcher	**Telephone:**	0216502875
E-mail:	Kevin.winter@uct.ac.za	**Cell:**	0839235890

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**River Environmental Management Plan**
Brief Project Description (no more than 20 words):	Completion of the Drakenstein River Environmental Management Plan and the implementation thereof, specifically within the Wellington urban area.
Principle Implementing Agency:	Drakenstein Municipality
Key Project Partners:	Land owners, individuals and organisations engaged in activities adjacent to or within any riverine or wetland area.
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Improve protection of freshwater ecosystems in the municipal area, improve water quality of the Berg River and to ensure all rivers have a Class D or better for water quality.	
Specific project outcome targets in respect of water quality and/or quantity:	
No further loss of wetlands. Reinstatement of buffers and maintenance of existing buffers. Focus rehabilitation efforts on identified sub catchments. Implement pollution remediation to improve water quality. Ensure all residential areas are fully serviced with respect to sewage and stormwater disposal.	

INTERVENTION TYPE (Tick most appropriate box)	
190. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	✓
1.29 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	✓
191. Improved wetland-related ecological infrastructure –	
2.55 The restoration, rehabilitation and/or maintenance of wetlands;	✓
2.56 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	✓
192. Improved agriculture-impacted ecological infrastructure –	
3.28 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	

3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
193. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	✓
4.56 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	✓
4.57 Clearing invasive alien plant infestations in protected catchment areas;	✓
194. The reinstatement and/or development of new ecological infrastructure –	
5.55 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	✓
5.56 The rehabilitation of land affected by derelict and ownerless mines	
195. Ecological infrastructure for water security research and development project	
196. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
163. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
164. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	✓
2.2 Other (describe)	It is work to be done on the tributaries that feed the Berg River
165. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
166. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
167. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great	

Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
168. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
33° 52' 35.60"S 19° 01' 50.35"E to 33° 24' 27.43"S 18° 58' 53.01"E	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	✓
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	Consultants are busy drafting phase 2.2 of the river EMP which will describe specific solutions which will need to be implemented in order to achieve the objectives and targets.								

PROJECT TIMING					
Start Date or earliest possible Start Date:		**End Date or desired End Date:**		**Project Duration or estimated total project duration:**	
Any further information relating to project timing:	This will depend on funding but the studies, planning and approvals could take up to 36 months to complete				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	Unknown at present.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	Improve sewage and stormwater services in all residential areas.
Positive impact on "Promoting rural development":	Improve water quality and water quantity reserve of the Berg river for rural upstream users.
Positive impact on	

"Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	Creating job opportunities for alien clearance.
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	No further loss of wetlands Rehabilitation of identified, special focus sub catchments Prevention of erosion or downcutting

PROJECT FUNDING							
Total Project Cost:	R 11.0 Million			Average Annual Cost:			
Tick most appropriate box below							
Total funding secured:		Some funding secured:	✓	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS **(the name of the person to be contacted for further detail and/or clarification on the information contained in this form)**			
Name:	Jimmy Knaggs	**Organisation:**	Drakenstein Municipality
Designation:	Engineer	**Telephone:**	021 807 4707
E-mail:	jimmy@drakenstein.gov.za	**Cell:**	082 497 9248

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

Onno Huyser WWF-South Africa, &
Pam Booth, Eden to Addo Corridor Initiative

SUMMARY DESCRIPTION	
Title of Project:	**Restoration of the Central Keurbooms Catchment, southern Cape**
Brief Project Description (no more than 20 words):	The project aims to improve ecological services delivered by the central Keurbooms, in the form of water flows to the water-stressed towns of the southern Cape in and around Plettenberg Bay. The project will also increase biodiversity values in the area, reduce long-term fire risk, and create potentially tens of thousands of employment days for currently unemployed local citizens.
Principle Implementing Agency:	WWF South Africa, in partnership with Eden To Addo Corridor Initiative.
Key Project Partners:	WWF South Africa, Eden To Addo Corridor Initiative, Bitou Municipality, DEA:NRM, and private landowners situated in the central Keurbooms region.

Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:

The recent water crisis experienced in the southern Cape and western portion of the eastern Cape has attracted considerable attention.

The drought of 2010 resulted in a declared disaster, with significant losses to agriculture (requiring fodder supplies to be brought in for farm animals), threatened large-scale business activities (Nestle considered closing their milk processing plant in Mosselbaai), caused social upheaval (studies show significant numbers of farm workers moved out of the Langkloof to George to take advantage of social services available within the urban environment), lead to controversial emergency approval and construction of desalinisation plants in the towns of Sedgefield and Plettenberg Bay, and substantially threatened the water security of one of south Africa's metropoles: Nelson Mandela Bay.

Plans are presently under consideration to raise the dam wall for the Garden Route dam (George), and to construct a new impoundment in the Knynsa River. However, given the geography of the region, with many short-reach rivers and few suitable sites for new impoundments, the lack of integrated basin water transfer infrastructure, and the fast growing coastal settlements (especially Mosselbaai and George), there are serious constraints upon what physical infrastructure can deliver on its own.

It is for this reason that WWF South Africa with local southern Cape partner NGO, the Eden to Addo Corridor Initiative, identified the central Keurbooms region for investment as a "high value ecological asset", in other words a region providing outstanding ecosystem services.

The Keurbooms River is the sole water source for the town of Plettenberg Bay and outlying

towns and settlements. With the rapid spread of invasive alien vegetation in the southern Cape (chiefly feral pines *Pinus* spp., escaped from national forestry plantations), the central Keurbooms (and adjoining Palmiet river) are in urgent need of restoration attention. In fact, so severe is the problem, that we estimate the entire Keurbooms system will run dry by 2025 if significant investment in restoration is not deployed now.

Ironically, the town of Plettenberg Bay has implemented an extremely costly desalinisation system, which is compromised by the low flows experienced during summer (thanks to invasive alien plants choking the upstream catchments). The town is also constructing a small off-system impoundment to assist over the critical summer months. This impoundment would also be compromised without restoration of the supporting catchments.

In the first phase of the project, WWF and Eden to Addo will clear key areas of the central Keurbooms, employing 45 people over 600 days. Catalytic funding has already been raised and deployed, from WWF, Eden to Addo, and The Table Mountain Fund.

Numerous opportunities for valuable entrepreneurial activity using the cleared biomass also exist and are being explored.

Here, we propose that the SIP19 theme of funding supports the long-term maintenance of the central Keurbooms catchment, allowing the initial clearing and follow-ups to achieve maximum reach and efficacy in the landscape. All too often initial clearing is not supported by a sustained and capacitated programme of maintenance and restoration, effectively undoing the hard work upfront.

Other long-term partnerships with Bitou Municipality, the local Forestry industry (Cape Pine), and the southern Cape Fire Protection Association (FPA), are also being explored. A pilot partnership with SCFPA is already underway (2 years old and established).

Specific project outcome targets in respect of water quality and/or quantity:

The proposed DEA:NRM project aims to clear 1256 densely infested riparian hectares over 3 years releasing 2.607million m^3/yr or a total of 20,3million m^3 of water back into system exceeding Bitou Municiaplity's annual requirement by 70 000m^3.

The complementary SIP 19 project will target approximately 3000 hectares of medium to dense infestations of Pines, *Hakea spp*. and *Acacia cyclops* (rooikrans) species in the 'terrestrial' areas that are currently not being treated at all. The potential return is approximately 5,32million m^3/annum (Nel, Marais et al 2008).

Enhanced biological control of target species: biological control for hakea (stem borer) is being sought for introduction in the next season, the moth, weevil and fungus are already established but will be redistributed where necessary.

The entire project will dramatically reduce fire risk, especially to neighbouring plantations, and will also ensure conservation of important biodiversity located across the sites.

INTERVENTION TYPE (Tick most appropriate box)	
197. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.30 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	X
198. Improved wetland-related ecological infrastructure –	

2.57 The restoration, rehabilitation and/or maintenance of wetlands;	
2.58 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
199. Improved agriculture-impacted ecological infrastructure –	
3.29 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
200. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.58 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.59 Clearing invasive alien plant infestations in protected catchment areas;	X
201. The reinstatement and/or development of new ecological infrastructure –	
5.57 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.58 The rehabilitation of land affected by derelict and ownerless mines	
202. Ecological infrastructure for water security research and development project	
203. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
169. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
170. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
171. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	This project falls into the "Tsitsikamma Strategic Water Source Area (SWSA)".

	WWF (2013) shows that approximately 8% of our land-surface is responsible for providing half of our water. These areas, known as Strategic Water Source Areas, must therefore constitute the most important areas of investment in terms of addressing water security at a national level. Whilst a significant proportion of the overall Tsitsikamma SWSA domain is under formal statutory protection (and hence attracts some form of resourcing through e.g. Expanded Public Works), the specific project area here –the Central Keurbooms- is entirely privately owned. Privately owned land that provides important services to society - such as Strategic Water Source Areas- has historically presented as a funding challenge. Only very recently, with the development of a new model of working on private land through the DEA:NRM Land User Incentive model, has some form of structured large-scale engagement to manage invasive alien plants on private land been possible. Normally, restrictions imposed by Public Finance Management regulations prevents implementing agencies from working on non State-owned land. The middle Keurbooms is a relatively simple landscape in terms of land use – it holds important biodiversity and acts as a corridor connecting the coast with the Langkloof and Outeniqua mountains, over property managed by SANParks (part of the Garden Route National Park) and, further upstream, small farms and small-holdings. Adjacent land uses are mainly forestry, managed predominantly by the ex MTO (Cape Pine) forestry company, the largest in the Western Cape. Unfortunately, records show that the rate of invasion of pines into this landscape is extreme. Terms such as "crisis", and "devastation" are not uncommonly heard from conservationists, foresters and landowners long familiar with the landscape creating extremely high fire risks in inaccessible areas (e.g. Van Wilgen & Richardson, 2012).
172. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
173. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
174. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	

Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)
Middle Keurbooms 33°52'08.28"S and 23°13'28.27"E 1.1 Portion 1 and Portion 2 of the Farm Uitvlugt No. 269, The farm adjoining Uitvlugt No. 268/1 measuring 17.1308, 250.7177 and 272.2088 hectares respectively and held under Title Deed of Transfer No. T024784/10; 1.2 Portion 4,7,10,11 and 12 of the Farm Uitvlugt No. 269, Remainder of the Farm Uitvlugt No. 269, Remainder of the Farm Uitvlugt No. 269/0 measuring 182.2305, 99.9914, 488.2650, 108.4315, 263.3476, 179.2427 and 581.5095 hectares in extent respectively and held under Title Deed of Transfer No. T00007521/2007; 1.3 Portion 6 of the Farmm Uitvlugt No 269, measuring 289.6305 hectares in extent and held under Title Deed No. T040409/08; 1.4 Portion 6 of the Farm Uitvlugt No. 269, measuring 254.3168 hectares in extent and held under Title Deed of Transfer No. T000026949/2006; 1.5 Portion 9 of the Farm Uitvlugt No. 269, measuring 101.3332 hectares in extent and held under Title Deed of Transfer No. T000100276/2006; 1.6 The Farm Onbedacht No. 270, measuring 613.4368 hectares in extent and held under Title Deed No. T037852/09; 1.7 Portion 13 (a portion of portion 5) of the farm Uitvlugt No. 269, measuring 217.1637 hectares in extent and held under Title Deed No. T024784/10.

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**	X	**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	If required we can submit the full set of DEA:NRM Land User Incentive documentation submitted and accepted. (Since it is lengthy, we are not including here unless necessary).								

PROJECT TIMING					
Start Date or earliest possible Start Date:	2015	**End Date or desired End Date:**	2020	**Project Duration or estimated total project duration:**	5 years
Any further information relating to project timing:	The DEA project will start in 2014. By July 2015 project management will be able to expand on the project to include the targeted terrestrial areas.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	40 000 person days of employment
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	10 000 person days
Any further information relating to project job creation:	Small scale charcoal production is currently being piloted. Should this prove viable it will be expanded to include small business development opportunities for clearing workers.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	This project will provide employment, and business development opportunities, for local unemployed, especially those living in isolated forestry settlements. Many of these settlements have high rates of joblessness, owing to the scaling back of state-lead forestry plantation activity, starting in the 1990s.
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	The proposal to develop value-adding businesses around the biomass through e.g. charcoal, will explore green economy principles, namely fuel switching.
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	The project will also serve as a platform for building integrated management practices (essential for long-term invasive and fire management) between different agencies of government, private landowners, and formal forestry.

PROJECT FUNDING							
Total Project Cost:	R25million			Average Annual Cost:		R5million	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	X	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
DEA Landuser Incentives	Grant	R6.9	To commence 04/14
Eden to Addo	Donations	R500 000	Project management costs
Landowners	In kind contributions	R1million	Accommodation and

			transport costs
Water Balance	Grant	R480 000	
Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Bitou Municipality	IDP project	R300 000	To be confirmed 2014
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Cape Pine	Grant	R1.5m	To be confirmed 2013

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Onno Huyser	**Organisation:**	WWF South Africa
Designation:	Senior Programme Manager: Fynbos and Succulent Karoo	**Telephone:**	083 5642233
E-mail:	ohuyser@wwf.org.za	**Cell:**	083 5642233

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Highveld crane and wetland conservation project**
Brief Project Description (no more than 20 words):	To formally conserve and improve key wetland areas on the Highveld that is also of biodiversity importance
Principle Implementing Agency:	Endangered Wildlife Trust
Key Project Partners:	Mpumalanga Tourism and Parks Agency (MTPA); Working for Wetlands; WWF Green Trust
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The formal protection and improved management (which includes restoration/rehabilitation of grass and wetlands) of key watershed and biodiversity areas in Mpumalanga through the Biodiversity Stewardship Programme.	
Specific project outcome targets in respect of water quality and/or quantity:	
The declaration of three sites as Protected Areas under the Biodiversity Stewardship Programme. These include Chrissiesmeer (aim of 80 000 ha), the Steenkampsberg (aim of 100 000 ha) and Sheepmoor (aim of 20 000 ha) areas.	

INTERVENTION TYPE (Tick most appropriate box)	
204. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	x
1.31 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	x
205. Improved wetland-related ecological infrastructure –	
2.59 The restoration, rehabilitation and/or maintenance of wetlands;	x
2.60 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	x
206. Improved agriculture-impacted ecological infrastructure –	
3.30 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	x

3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	x
207. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	x
4.60 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	x
4.61 Clearing invasive alien plant infestations in protected catchment areas;	x
208. The reinstatement and/or development of new ecological infrastructure –	
5.59 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.60 The rehabilitation of land affected by derelict and ownerless mines	
209. Ecological infrastructure for water security research and development project	
210. Other (describe)	

PROJECT LOCATION(Check attached map and tick most appropriate box)	
175. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
176. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
177. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
178. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	Project focal areas are watersheds for the (i) Crocodile-Olifants, (ii) Vaal-Komati-Usutu, and (iii) Vaal-Usutu
179. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great	

Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
180. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
Chrissiesmeer central coordinates: S -26.2984, E 30.2682 Steenkampsberg central coordinates: S -25.5113, E 30.1029 Sheepmoor central coordinates: S -26.6267, E 30.3025	

PROJECT STATUS(Tick most appropriate box)									
Project Complete		**Under implementation**	x	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)									
Any further information relating to project status:	Long term project – current funding from WWF Nedbank Green Trust is from 2013 – 2016								

PROJECT TIMING					
Start Date or earliest possible Start Date:		**End Date or desired End Date:**		**Project Duration or estimated total project duration:**	
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	Project does not directly create jobs but supports job creation through partnerships with Working for Water/Wetlands and tourism initiatives

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	Land Reform sites within Protected Areas benefit through management and other assistance.
Positive impact on "Promoting rural	Protected Areas secure sites for tourism and agricultural purposes along with conservation. Rural development is

development":	further improved through the associated tourism and skills development opportunities.
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	Protected Areas often show an increase in tourism, which results in direct economic benefits to communities living in these areas.
Positive impact on "Greening economy":	Protected Areas secure critical biodiversity and water sites while sustainable economic activities such as agriculture and tourism continues.
Positive impact on "Regional integration":	Improved partnerships between various government departments, NGO's, landowners, and organized agriculture to the benefit of local communities, water security and biodiversity conservation.
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:		Average Annual Cost:					
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
WWF Nedbank Green Trust			

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:		**Organisation:**	
Designation:		**Telephone:**	
E-mail:		**Cell:**	

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**An integrated bioregional approach to improve water quality and production, through protecting and expanding the Conservation areas within the Blyde Escarpment and associated catchments– sustaining livelihoods and improving well-being through enhanced socio-ecological and –economic benefits derived from the Protected area estate and improved natural resource management.**

SIP 19: Ecological Infrastructure for Water Security PHASE IV Proposal -

Focus on the Sabie-, Sand and-Olifants catchments (Crocodile-Olifants Strategic Water Resource Areas (*Crocodile-Olifants Strategic Water Source Areas*)

Submitted by the K2C BR and K2C Natural Resource Management Forum

SUMMARY DESCRIPTION	
Title of Project: (Addendum 2 - maps)	An integrated bioregional approach to improve water quality and production, through protecting and expanding the Conservation areas within the Blyde Escarpment and associated catchments– sustaining livelihoods and improving well-being through enhanced socio-ecological and –economic benefits derived from the Protected area estate and improved natural resource management.
Brief Project Description (no more than 20 words):	To protect, improve natural resource management and restore degraded land to enhance ecosystem and watershed services, linking this to PA benefits
Principle Implementing Agency:	**Kruger to Canyons Man and Biosphere (K2C BR)** The Kruger to Canyons Biosphere will provide project management and operational support and will establish a platform for role players to interact in order to ensure integrated planning and implementation of the projects (Phases IV and V) within the K2C BR. Coordination and interactions will be done via the Kruger to Canyons Biosphere Network Coordinating Unit (K2C NCU), and the K2C Natural Resource Management Program Forum (K2C NRMF), which represents multiple stakeholder groups. *Refer to Addendum 1 for Institutional set-up*
Key Project Partners:	*Refer to Addendum 1 for Institutional set-up* Coordination through the K2C NCU and specifically the K2C NRMF reporting to this: **A. K2C Natural Resource Management Forum** • AWARD (Association for Water and Rural Development, and implementer of the "Resilience of the Limpopo River Basin" – Olifants Catchment Program) • SANParks Biodiversity Social Projects • University of Pretoria Hans Hoheisen Wildlife Research Station (UP HHWRS) • MTPA • LEDET • Mpumalanga Working for Water • Limpopo Working for Water • Mpumalanga Working for Wetlands • Limpopo Working for Wetlands • SANBI – CEPF (John Dini) • Working on Fire • DAFF

	B. Other key strategic partners • Mametja Traditional authority • Wildlands Conservation Trust • Maruleng Municipality • Thaba Chueu Municipality • DARDLA • Buffelshoek trust • Blyde Olifants Conservancy • Blyde Water Users Association
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
This project will primarily contribute through Conservation (Protected Area management and Stewardship) within the Escarpment, to (and interlinking with other intervention types): *Restoration, rehabilitation and the development of ecological infrastructure, interlinking with other improved ecological infrastructure/land use incentives and improve rangeland practices/programs, to ensure a systemic approach and coverage of entire catchments – providing watershed services to downstream users/communities/sectors dependant on the protection and improvement or resources within the Escarpment.* *This project will maximise the impact and sustainability of the above, by closely interlinking (dove-tail) with the following major bioregional programs and projects:* *-GEF PA – linking especially with Component 3 – Socio-economic value and low-cost expansion of Protected areas – incentive models and benefits of Protected areas e.g. through PES, Natural Resource Management Programs etc;* *-GEF Mainstreaming – Stewardship incentive models and improved Land use management* *-RESILIM –Olifants – Research support with regard to the impact of different land use practices, and how this contributes to improved ecological infrastructure, and the associated biodiversity and ecosystem services and human well-being;* *-SANParks Biodiversity Social Projects (BSP) – Land Use incentives – downstream below the Escarpment, restoring rangelands and river-beds, and improving waste management and improved land use management practices;* *-Mpumalanga Working for Water teams – focusing on some areas in the Escarpment, but which will be complementary to the SIP 19 program (hence, providing co-funding);* *-Mpumalanga Working for Wetlands;* *- DEA Master Project Plan by DEA – the SIP 19 will contribute to the Vision of this integrated Plan, in attaining improved watershed services, through improved ecological infrastructure and associated biodiversity and ecosystem services, and associated socio-economic benefits and local economic development.*	
Specific project outcome targets in respect of water quality and/or quantity:	
Outcome: Improved Water quantity and quality through: improved Protected and Conservation areas estate as "water factories:" Deliverables: 1. The expansion and improved protection/conservation of the Protected area estate (link also to the MPAES, NPAES, GEF PA program, GEF Mainstreaming Program in Ehlanzeni) in important watersheds, providing beneficiation models e.g. through Stewardship; 2. *Restoration and Improved natural resource management* – including interventions to decrease the land area that is infested with invasive alien species; 3. Improve water flows by restoring river-related ecological infrastructure, resulting in: o Decreasing flooding flows o Improving Low Flows (dry season flows) o Improving yield from existing and new water infrastructure, and o Improving the ecological Reserve (water) 4. To enhance social economic benefits for communities within the Kruger to Canyons Biosphere Reserve and to contribute to employment creation;	

5. The establishment of a model for rewards for ecosystem services (link to GEF PA, GEF Mainstreaming;
6. The promotion of awareness and education on ecosystems services;
7. The development of best management practices for land restoration and maintenance;
8. To build long term climate change resilience in villages through improved rangeland management; improved access to rangeland based economic activities
9. Building institutional capacity in the K2C BR to improve biodiversity and ecosystem services.

INTERVENTION TYPE (Tick most appropriate box)

NB: Note by the K2C – Although the TOR of the SIP 19 indicates funding for PHASE IV is primarily allocated to Number 1. (*Improved stream and river-related ecological infrastructure) and Number 4 (The conservation and protection of irreplaceable ecological infrastructure),* other intervention types are so closely interlinked with these (refer to Addendum 2 – maps) – such as NFEPA wetland priorities etc, that this project application will prioritise these two interventions, but in the context of sensibly interlinking it with other interventions in order to systemically address improved ecological infrastructure approaches and improved watershed services along entire catchments. Please take note that the SIP 19 further indicates that the funding is spatially towards Escarpment approaches – hence, the focus of the motivation and funding for this SIP 19 are towards these water factories – but systemic approaches covering the entire catchments from the Top of the Escarpment to the KNP buffer zone are required to improve biodiversity and ecosystem services, and derived benefits across the broader catchment (with the emphasis on the Escarpment). Hence, other complementary co-funding and programs contributing to such an integrated catchment approach, covering the Top of the Escarpment to the buffer zone, are presented in the discussions below, to demonstrate complementary approaches and synergistic partnerships. However, further funding support in future would be required to expand this, in further support of the SIP 19, and in the broader rolling out of benefits from the Escarpment through to the buffer zone (Addendum 2 – maps).

1. *Improved stream and river-related ecological infrastructure –*	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	x- through box 4 contributing to this
1.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	x- through box 4 contributing to this
2. *Improved wetland-related ecological infrastructure –*	
2.1 The restoration, rehabilitation and/or maintenance of wetlands;	x- through box 4 contributing to this
2.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	x- through box 4 contributing to this
3. *Improved agriculture-impacted ecological infrastructure –*	
3.1 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	x- through box 4 contributing to this
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	x- through box 4 contributing to this
4. *The conservation and protection of irreplaceable ecological infrastructure –*	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	**X – key focus of this submission**
4.2 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	**X – key focus of this submission**
4.3 Clearing invasive alien plant infestations in protected catchment areas;	**X – key focus of this submission**
5. *The reinstatement and/or development of new ecological infrastructure –*	

5.1 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);		Not applicable
5.2 The rehabilitation of land affected by derelict and ownerless mines		Not applicable
6. *Ecological infrastructure for water security research and development project*		x- through box 4 contributing to this. Interlink especially with AWARD and the RESILIM program.
7. *Other (describe)*	x- through box 4 contributing to this	x- through box 4 contributing to this

PROJECT LOCATION (Check attached map and tick most appropriate box)	
1. *Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas*	
2.	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
3. *Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas*	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
4. *Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas*	
3.1 Describe	
5. *Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas*	
4.1 Describe	X – Focus on the Sabie-, Sand and-Olifants catchments (Crocodile-Olifants Strategic Water Resource Areas
6. *Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast*	
5.1 Describe	
7. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
Blyde catchment: 24°40'32.49"S, 30°48'37.62"E (at Bourke's Luck) Sabie catchment: 25°08'45.47"S, 30°39'41.87"E (top end of catchment west of Sabie) Crocodile catchment: 25°28'54.13"S, 30°13'19.85"E (top ent of catchment east of Dullstroom)	

Sand catchment: 24°43'26.64"S, 30°54'58.92"E (top-end of catchment south-west of Acornhoek)

PROJECT STATUS (Tick most appropriate box)										
Project Complete		Under implementation		Ready for implementation		Project designed	X (although interlinking with other bioregional programs)	Concept only		
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Managing and improving these catchments have important international consequences, through our obligations to provide and improve water quality and water quantity to our downstream users, such as Mozambique and Swaziland, with whom South Africa has signed agreements in this regard (In this regard, the Incomati catchment management agency – ICMA, and the newly established Olifants Catchment Management Agency - OCMA, are crucial partners).									
Any further information relating to project status:	The SIP 19 will be further supported, and sustainability ensured, by interlinking/dove-tailing it with the following programs/projects, which will maximise impact, ensuring sustainability of its outcomes through multiple outcome-based approaches towards improved water quality and quantity, and incentive-based models through protecting and expanding the Protected area estate: • SANParks Biodiversity Social Projects – Land Use Incentives – Implementation due by April 2014 • GEF Protected Area Program – Implementation due by June 2014 • Resilience of the Limpopo River – Currently being implemented • GEF Mainstreaming – improved land use management and incentive models through Stewardship • Mpumulanga Working for Water projects in the Blyde Escarpment – Currently being implemented • Working on Fire projects in the Blyde Escarpment – Currently being implemented • K2C Environmental Monitor Program – Currently being implemented									

PROJECT TIMING					
Start Date or earliest possible Start Date:	August 2014	**End Date or desired End Date:**	August 2017	**Project Duration or estimated total project duration:**	3 YEARS
Any further information relating to project timing:	Project timing would be in line with the GEF PA implementation, the GEF Mainstreaming Program (slightly later) and the Biodiversity Social Projects Land Use incentives – hence, interlinking and complementing each other, to maximise impact and cover various facets of improved and enhanced "water factories" through improved ecological infrastructure and protection and conservation of areas (e.g. linking with the GEF PA program and Stewardship incentives)				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	10 teams – 120 work opportunities
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	40% of the above = 48 positions
Any further information relating to project job creation:	Incentive models through Stewardship. Interlink with, and ensure sustainability, through the GEF PA program (Component 3 – Socio-economic models wrt PA expansion and management); Interlink with the GEF Mainstreaming Program –

	improved rangelands through stewardship – improvement of ecological infrastructure through restoration and improved land use management, contributing to job opportunities. Biodiversity Social Projects – Land use incentives supporting a catchment approach, by systemically linking SIP funding and job creation at the top of the escarpment, with LUI's at the bottom of the Olifants river and catchment (Villages: Finale, The Oaks,The Willows, Mabins) (120 jobs).

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	Bushbuckridge (Ehlanzeni DM, Mpumalanga Province) as well as Maruleng Municipality (Mopani DM, Limpopo Province), are Presidential Poverty Nodes, and the SIP 19 Program could make a major contribution ito providing jobs, as well as benefits such as improved water quality and quantity, also downstream from the water production areas / water factories. Thaba Chueu also faces major unemployment issues.
Positive impact on "Promoting rural development":	As above. The SIP 19 program can make a major contributing to rural development, through the Comprehensive Rural Development Program (CRDP), and through the following activities: Targeting labour-absorbing activities – improved natural resource management, through e.g. IAS clearing, restoration, improved rangeland practices, etc.; Leveraging social capital in the social economy and the public services; and Fostering rural development and regional integration. The SIP 19 will also complement and enhance the GEF PA, which focus on socio-economic value chains of the PA network, including Blyde Canyon, Blyde Olifants Conservancy and the Wolkberg Escarpment areas, in addition to the KNP Buffer zone Protected Areas. The SIP 19 will further support and enable the DEA Bushbuckridge Master Project Plan, supportive of Local economic development, Improved Catchments in the Blyde Escarpment, improved water provisioning and – quality and the development of the Wildlife Economy through improving and expanding the Protected Area estate. The SIP 19 will further add considerable value to the SANBI coordinated GEF Mainstreaming programme, which will address incentive models for the Blyde Catchment (Vaalhoek/Morgenzon), through Stewardship to expand the Protected Area estate, whilst providing socio-economic benefits to communities.
Positive impact on "Industrial development and/or localisation":	Not applicable
Positive impact on "Economic performance of poorest provinces":	Refer to the sections dealing with: • **Positive impact on "Addressing spatial imbalances"** • **Positive impact on "Promoting rural development"**
Positive impact on "Greening economy":	Refer to the sections dealing with: • **Positive impact on "Addressing spatial imbalances"** • **Positive impact on "Promoting rural development"** The SIP 19 program will closely link with the BSP Land Use Incentives further downstream (following a systemic approach) for the Olifants catchment – Mabins, Finale, The Oaks, Willows), with regard to Greening programs, also supported by LEDET.

Positive impact on "Regional integration":	The K2C BR forms a very important institutional and intergovernmental mechanism, to promote and help coordinate and integrate programs across various sectors, and across Mpumalanga and Limpopo Provinces. The Network Coordinating Unit within the K2C BR, supports such integration and coordination, reporting to the K2C Board (refer to Addendum 1 wrt institutional coordination). Bioregional programs already reporting/partnering with the K2C BR through the K2C Network Coordinating Unit, and its respective forums (such as the Lowveld PA forum, the K2C NRMF), and which will complement and closely link with the SIP 19 program and enhance bioregional impact and sustainability, includes: • GEF PA program • GEF Mainstreaming program • RESILIM Program • SANParks Biodiversity Social Projects (Land Use incentives) • Mpumalanga and Limpopo Working for Water/Wetlands/Working on Fire
Any other significant positive impacts and/or co-benefits:	**Also refer to the section on Outcomes.** Climate Change adaptation strategies and vulnerability assessment; Support to the expansion and protection of the Protected Area Network, through providing incentive based models; Institutional coordinating and integrated land use management and planning between different partners; local economic development; development/enhance the wildlife economy; SMME development. Capacity development and training.

PROJECT FUNDING – Presented for the SIP 19 FOCUS areas only			
Total Project Cost:	R37 500 000 (including co-funding) (focus on Escarpment only) **Required through SIP 19 funding: R21 000 000** (this is according to available budget (phased approach will be necessary, and additional resources need to be secured)	Average Annual Cost:	R12 500 000

Tick most appropriate box below							
Total funding secured:		Some funding secured:	X	Some funding commitments:	X	No funding:	Future funding to cover entire catchments, need to be obtained (from the Escarpment, to the buffer zone)

Key secured funding sources – Co-funding			
Name	Type (grant, loan, MTEF allocation, etc.)	Value per annum	Comments

Mpumalanga Working for Water	MTEF	R15 975 000	Current APO
Mpumalanga Working for Wetlands	MTEF	R300 000	Current APO
Key committed funding sources – Co-funding towards RESEARCH			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
RESILIM-Olifants	USAID grant	Roughly R1000 000 for the focus area – Olifants catchment	Research support to Stewardship, incentive models, improved land use practice, biodiversity and ecosystem services derived from these improved land uses/ecological infrastructed: link to GEF PA program
Name	**Type (grant, loan, MTEF allocation, etc.)**	**Value**	**Comments**
GEF PA program	Total R10 000 000 for the entire K2C, but roughly R1000 000 for the SIP 19 focus area		Final funding pending implementation this year
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
DEA Master Project Plan			To be established
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
GEF Mainstreaming Program	Grant		To be established – will fund complementary activities though, and not duplicated SIP 19 funding

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	1. Ms Marie-Tinka Uys 2. Dr Marisa Coetzee	**Organisation:**	1. K2C MaB (and K2C NCU) 2. AWARD (and K2C NCU)
Designation:	1. K2C Coordinator 2. Project Manager RESILIM-Olifants (Resilience of the Limpopo River Basin)	**Telephone:**	1. Cell. 0825517261 2. Cell. 082 739 3650
E-mail:	1. info@kruger2canyons.org 2. coetzeemarisa@gmail.com	**Cell:**	As above

Please return completed forms to:

Ms Fatima Rawjee

Department of Environmental Affairs

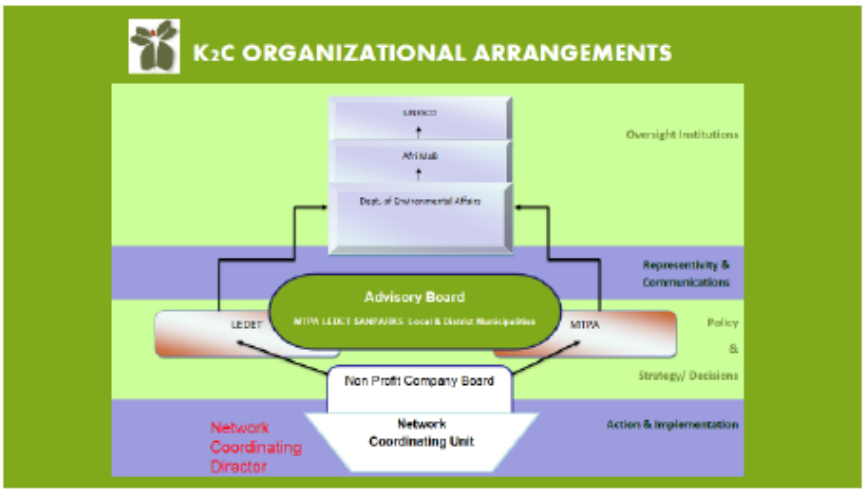
frawjee@environment.gov.za

Tel: 012-310-3002

Addendum 1 - Institutional Set-Up

A. Implementing Agency: K2C Biosphere

Reporting line: The Network Coordinating Unit (NCU) reports to the Board and Advisory Board (MTPA, LEDET, SANParks and District Municipalities), who reports to DEA.



B. K2C Natural Resource Management Forum (K2C NRMF)

- The K2C NRMF reports to the K2C NCU.

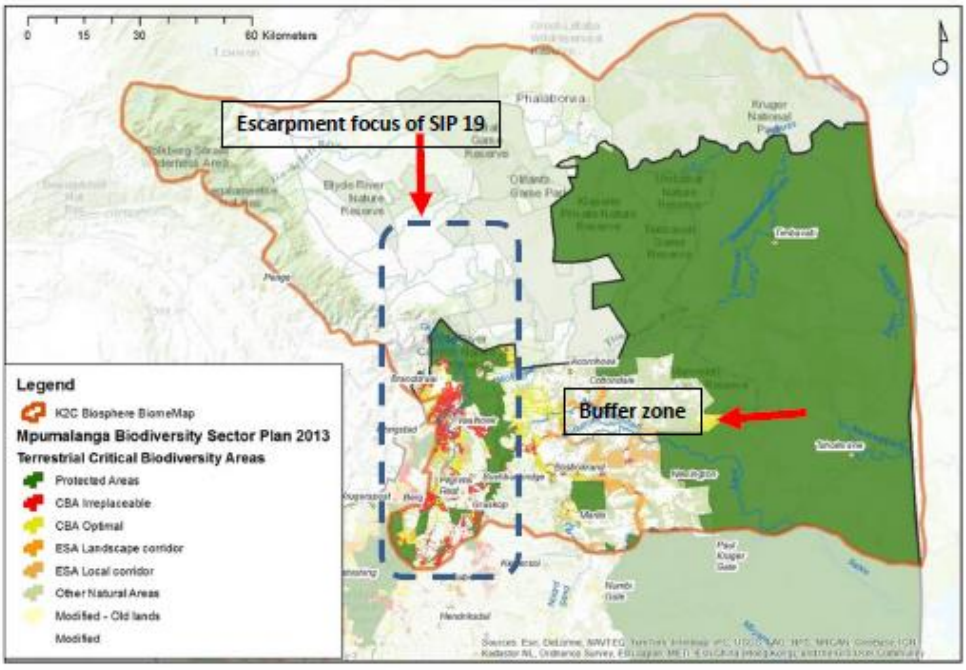
C. K2C Natural Resource Management Forum:

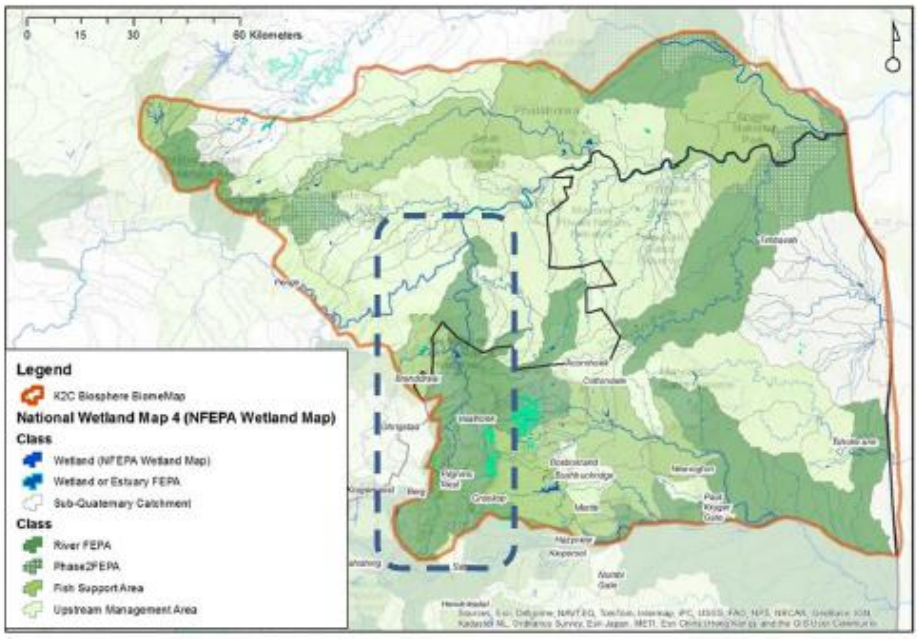
- AWARD (Association for Water and Rural Development ,and implementer of the "Resilience of the Limpopo River Basin" – Olifants Catchment Program)
- SANParks Biodiversity Social Projects
- University of Pretoria Hans Hoheisen Wildlife Research Station (UP HHWRS)
- MTPA
- LEDET
- Mpumalanga Working for Water
- Limpopo Working for Water
- Mpumalanga Working for Wetlands
- Limpopo Working for Wetlands
- SANBI – CEPF (John Dini)
- Working on Fire
- DAFF

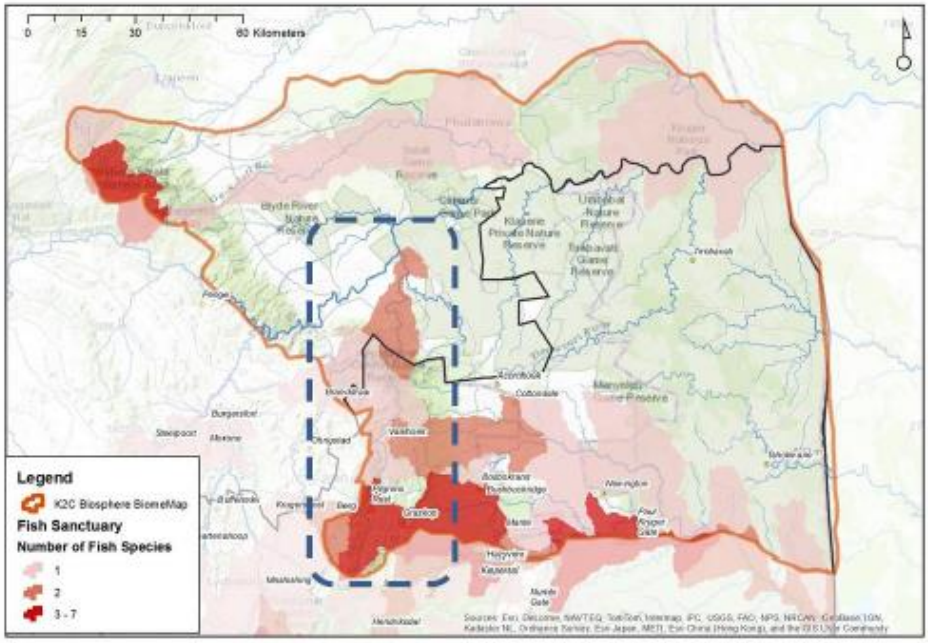
D. Other key strategic partners

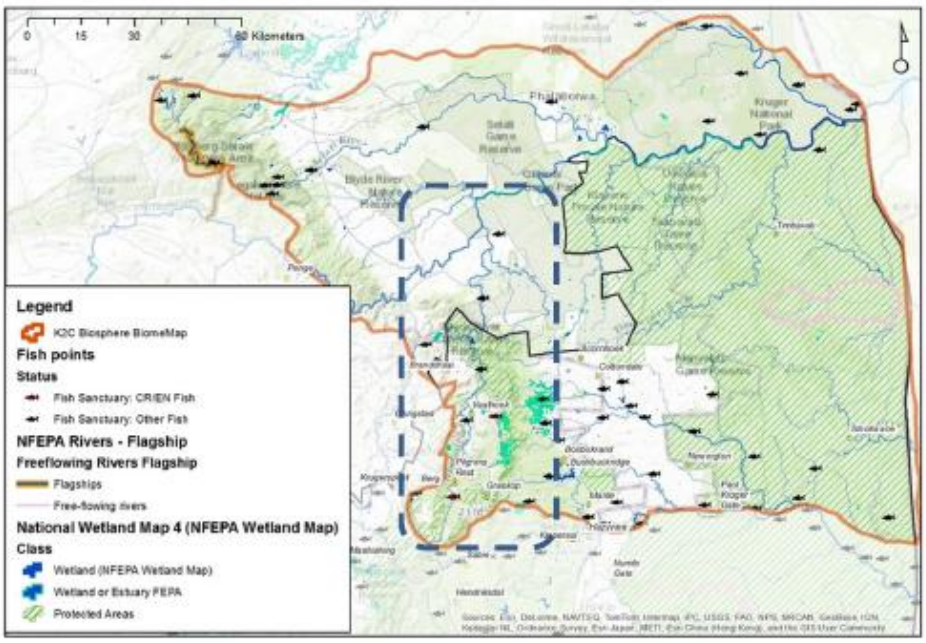
- Incomati Catchment Management Agency (ICMA)
- Olifants Catchment Management Agency (OCMA)
- Mametja Traditional authority
- Wildlands Conservation Trust
- Maruleng Municipality
- Thaba Chueu Municipality
- Bushbuckridge Municipality
- DARDLA
- SANBI (GEF Mainstreaming etc.)
- GLTFCA

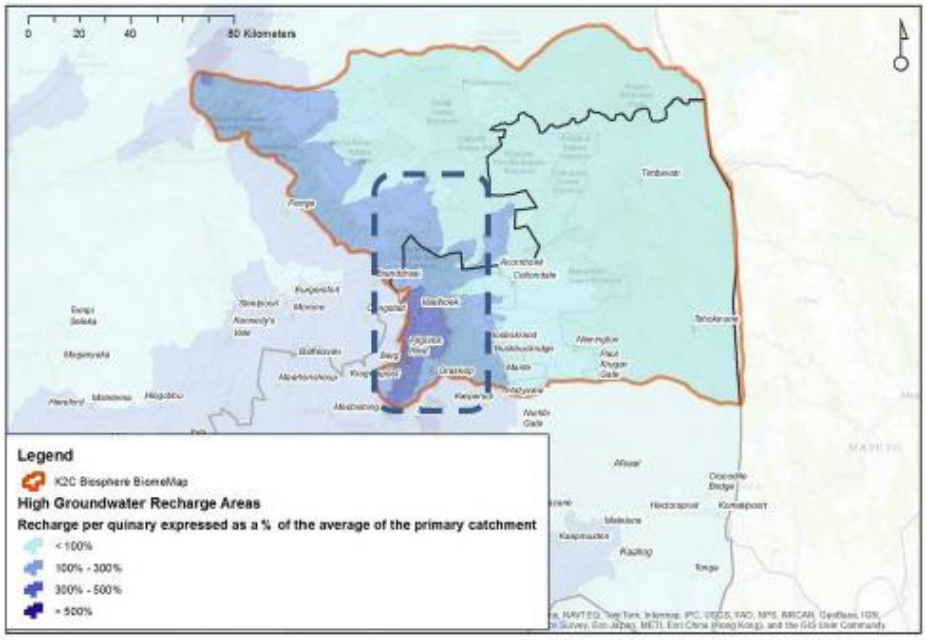
Addendum 2. Maps roughly indicating the primary focus of Phase IV in relation to Biodiversity importance, Threatened Ecosystems etc., with the specific focus on the Blyde Escarpment. Other complementary programs in the buffer, along the complements, need to complementary support SIP 19, to ensure integrated catchment approaches. Further funding need to be explored to systemically and sustainably roll this out in future.

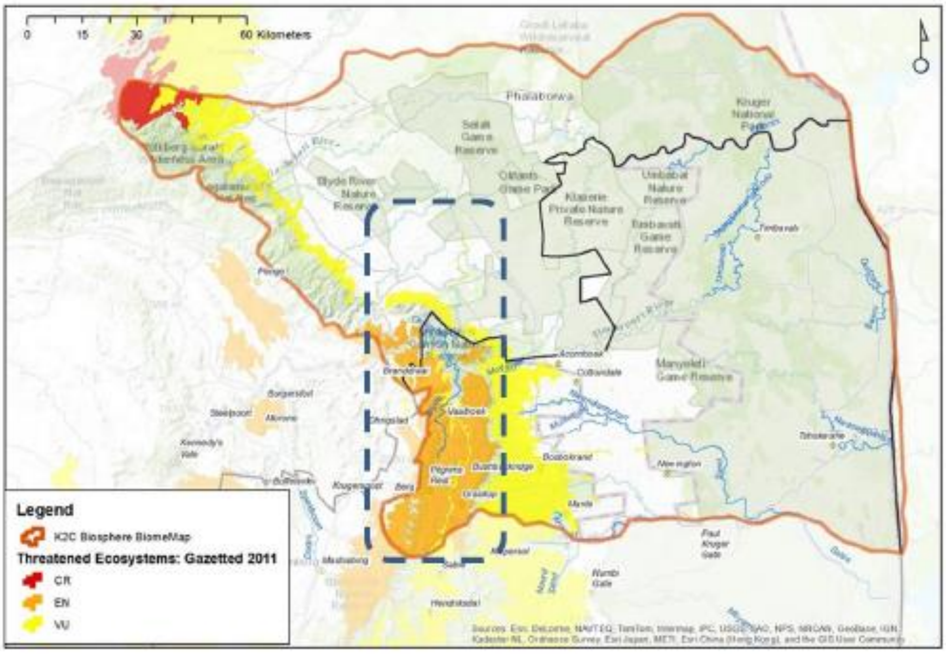


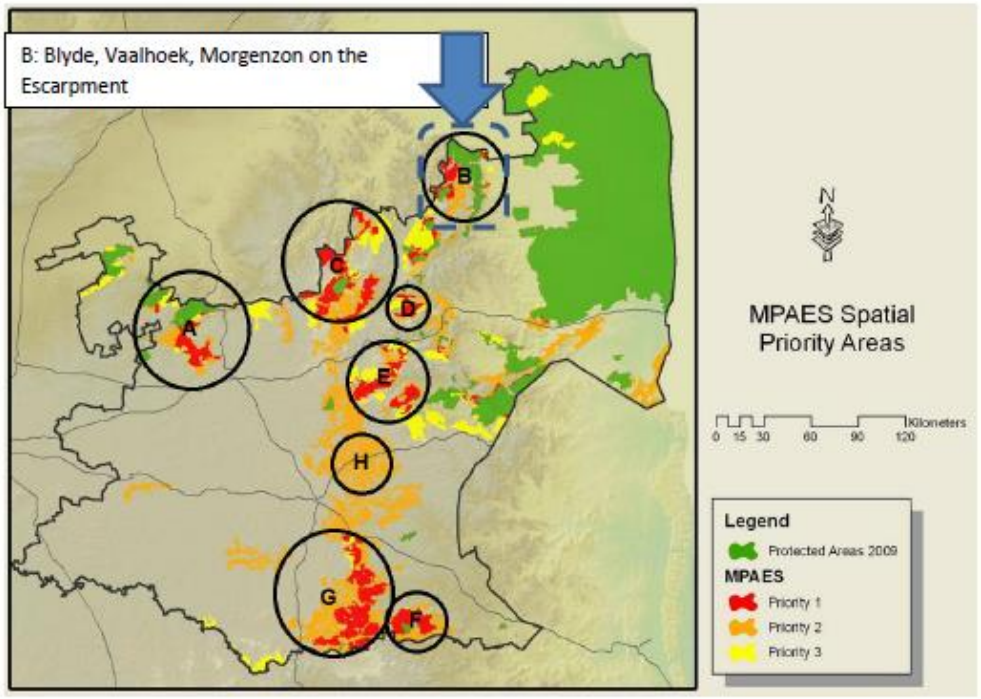

0 15 30 60 Kilometers
Legend
K2C Biosphere BiomeMap
National Wetland Map 4 (NFEPA Wetland Map)
Class
Wetland (NFEPA Wetland Map)
Wetland or Estuary FEPA
Sub-Quaternary Catchment
Class
River FEPA
Phase2FEPA
Fish Support Area
Upstream Management Area

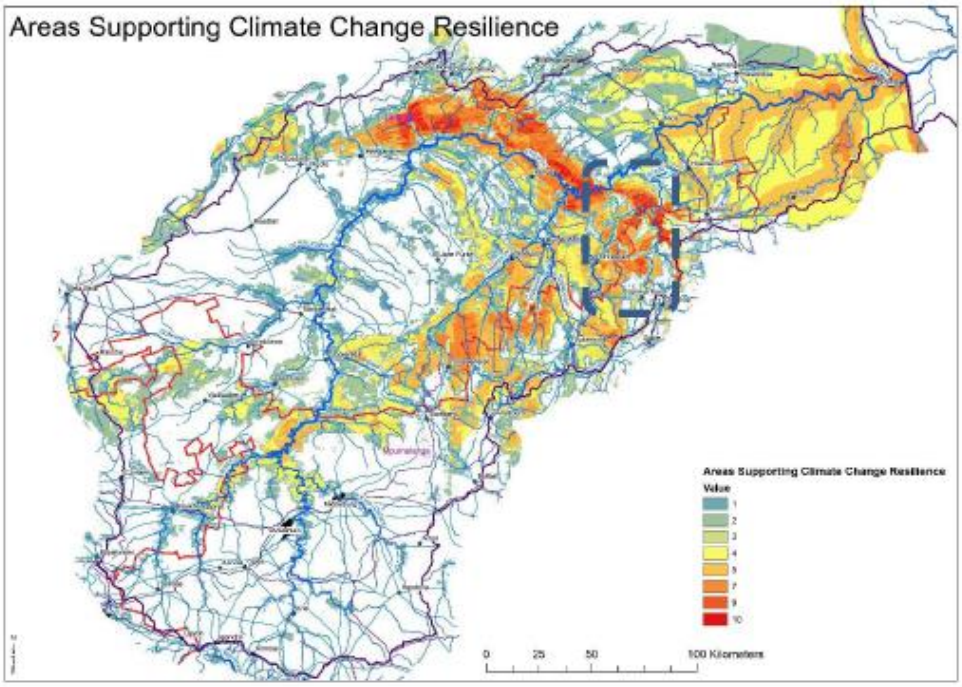

0 15 30 60 Kilometers
Legend
K2C Biosphere BiomeMap
Fish Sanctuary
Number of Fish Species
1
2
3 - 7


0 15 30 60 Kilometers
Legend
K2C Biosphere BiomeMap
Fish points
Status
Fish Sanctuary: CR/EN Fish
Fish Sanctuary: Other Fish
NFEPA Rivers - Flagship
Freeflowing Rivers Flagship
Flagships
Free-flowing rivers
National Wetland Map 4 (NFEPA Wetland Map)
Class
Wetland (NFEPA Wetland Map)
Wetland or Estuary FEPA
Protected Areas


0
20
40
80 Kilometers
Legend
K2C Biosphere BiomeMap
High Groundwater Recharge Areas
Recharge per quinary expressed as a % of the average of the primary catchment
< 100%
100% - 300%
300% - 500%
> 500%


0
15
30
60 Kilometers
Phalaborwa
Kruger National Park
Legend
K2C Biosphere BiomeMap
Threatened Ecosystems: Gazetted 2011
CR
EN
VU


B: Blyde, Vaalhoek, Morgenzon on the Escarpment
A
B
C
D
E
F
G
H
N
MPAES Spatial Priority Areas
0 15 30 60 90 120 Kilometers
Legend
Protected Areas 2009
MPAES
Priority 1
Priority 2
Priority 3


Areas Supporting Climate Change Resilience
Areas Supporting Climate Change Resilience
Value
1
2
3
4
5
7
9
10
0
25
50
100 Kilometers

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Improving Water security in and around iSimangaliso Wetland Park**
Brief Project Description (no more than 20 words):	The project will improve water security through an integrated conservation and development strategy: a) Alien clearing and rehabilitation b) Upgrading water infrastructure Providing alternatives to agriculture in wetlands
Principle Implementing Agency:	iSimangaliso Wetland Park Authority
Key Project Partners:	n/a

Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:

iSimangaliso Wetland Park, a World Heritage site is noted for its high biodiversity, unique ecological processes and diverse ecosystems. The Park also has four wetlands of international importance under the Ramsar convention. iSimangaliso is considered to be a high value ecological asset and provides many ecosystem services such as water supply, carbon sequestration and fire protection as well as being a vital economic driver, providing employment and economic opportunities to previously disadvantaged communities.

The iSimangaliso Wetland Park plays an important role in conserving and protecting wetlands, estuaries and rivers. No other locality on the globe harbours such a wide range of wetland types in a single protected area. Of the 30 distinct natural wetland forms recognised by the Ramsar Bureau, no fewer than 20 of these forms occur within iSimangaliso. Importantly, the uMkhuze system is one of South Africa's largest wetlands containing large delta swamps. The freshwater wetlands are also high in organic content. The uMkhuze swamp regulates quantity and quality of water into Lake St Lucia and thus provides an important freshwater source to the Lake. Lake St Lucia is the largest estuarine system on the African continent being approximately 36 000 ha in extent. It forms a critical habitat for a large number of species and is one of the four RAMSAR wetlands in the Park.

Given the state of South Africa's water ecosystems, the role of the Protected Area is significant. Of the 223 river ecosystem types, 60% are threatened, with 25% of these critically endangered. Less than 15% of river ecosystems are located within protected areas, many of which are threatened and degraded by upstream human activities. Of 792 wetland ecosystems, 65% have been identified as threatened and 48% as critically endangered.

In the Umkhanyakude district (located on the Zululand Coast), nutrient poor soils and poor

farming practices, unfavourable rainfall and lack of sufficient water supplies, extensive commercial forestry and sugarcane plantations, high temperatures and humidity and harmful alien invasive plants combined with high levels poverty, increasing household water demand and increasing extraction of water for commercial use has to lead to increasing wetland and catchment degradation and loss.

The SIP19 funding will enhance and support iSimangaliso Authority's existing efforts to:

a) Restore and rehabilitate ecosystems through alien clearing in and around iSimangaliso Wetland Park

Alien plants are a growing threat to ecosystem integrity and water resources in and around iSimangaliso Wetland Park. A recent CSIR study in KwaZulu-Natal (KZN) showed an annual decrease in water use of 16% following clearing of invasive alien plants. The study also found that the average annual water use of the five dominant invasive alien plants n KZN was 876mm, with exotic non-woody invasive species found to use more than 940mm of water per year – this includes Chromolena, Lantana and Solanum. The iSimangaliso Authority clears an average of 40 000 ha of alien plants a year, targeting the top invader species in the Park. The iSimangaliso Authority is also collaborating with the Department of Water Affairs on a strategy to reduce Parthenium, a weed that is shown to reduce native plant biodiversity in South Africa.

iSimangaliso wishes to extend this programme into other areas through the SIP project.

.The SIP19 funding will be used to target alien clearing in key ecosystems which are important for increasing water yields, for example, the riverine, wetland and catchment areas in uMkhuze, Mbazwana and the Coastal Forest Reserve.

b) **Conserve and protect wetlands and peatlands by offering alternative livelihoods through sustainable household food gardens**

The majority of rural communities in the Umkhanyakude region use small scale subsistence farming as part of their livelihood strategies and produce crops to not only feed their family, but to also sell at markets. Harmful farming methods like slash and burn agriculture is used and many community based farmers farm in wetlands and peatlands due to nutrient poor sandy soils of the area. These harmful farming methods are unsustainable and are leading to fragmentation and disruption of terrestrial and wetland processes.

The SIP19 funding will be used to provide alternatives to farmers farming in sensitive wetland areas by supporting best-practice sustainable agricultural practices; building technical capacity and extension services to, provide critical infrastructure inputs such as fencing, irrigation and other equipment, raise awareness and capacity of farmers communities on sustainable wise use measures; and facilitate linkages with markets for surplus production;

c) Upgrade water infrastructure to maintain and grow tourism.

There are several proposed water resource developments being considered in the Umkhanyakude region to upgrade water infrastructure and increase water supply. However, these options have yet to be planned and are very capital intensive. There are few bulk water schemes in the region and most of the area relies on surface and groundwater. There is little piped water in the region and significant backlogs in terms of water supply to households. Many residents still rely on water from natural sources

in and around iSimangaliso Wetland Park. Water resources serving the region are limited and thought to be of insufficient capacity to handle future water demand. The uMkhuze node of iSimangaliso Wetland Park is already negatively impacted from the lack of water infrastructure. During winter (low rainfall season), there is no water at uMkhuze. Lack of water often means closing key sites like game hides, campsites and chalets. Tourism is a key economic driver and job creator at the uMkhuze node of iSimangaliso Wetland Park. The iSimangaliso Authority is currently upgrading tourism infrastructure in uMkhuze and building many new attractions. uMkhuze forms one of the ten destinations within the Park that is actively promoted as a key tourist site. The SIP19 funding, by upgrading water infrastructure will ensure a sustainable water supply to key tourism infrastructure sites like game hides and gate houses. Thus the funding will help grow uMkhuze as a tourist destination, sustain livelihoods and decrease pressure on the uMkhuze system to provide both jobs and resource use for previously disadvantaged communities.
Specific project outcome targets in respect of water quality and/or quantity:
The project aims to - Implement alien control in 34 500 ha of infested riparian and wetland ecosystems and catchments which will in turn release much needed water back into the system - create homestead food gardens as an alternative to wetland and swamp forest farming, thus reducing unsustainable practices and improving water security - improve old and outdated water infrastructure in the uMkhuze area of the Park to provide a sustainable water supply and support tourism development.

INTERVENTION TYPE (Tick most appropriate box)	
211. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	✓
1.32 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	✓
212. Improved wetland-related ecological infrastructure –	
2.61 The restoration, rehabilitation and/or maintenance of wetlands;	✓
2.62 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	✓
213. Improved agriculture-impacted ecological infrastructure –	
3.31 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	✓
214. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.62 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	

4.63 Clearing invasive alien plant infestations in protected catchment areas;	
215. The reinstatement and/or development of new ecological infrastructure –	
5.61 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.62 The rehabilitation of land affected by derelict and ownerless mines	
216. Ecological infrastructure for water security research and development project	
217. Other (describe)	

PROJECT LOCATION(Check attached map and tick most appropriate box)	
181. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
182. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
183. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
184. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-OlifantsStrategic Water Source Areas	
4.1 Describe	
185. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	iSimangaliso Wetland Park falls in the Zululand Coast strategic water source area with it'scatchments in the Mfolozi-Phongolo strategic water source area. In the Zululand Coast strategic water source area, 60% of land cover has been modified to cultivation (38%), degradation (3%) and plantation (11%). Only 36% of land cover remains natural.

	iSimangaliso Wetland Park is a natural World Heritage Site and contains within it 220km of coastline and beaches; 8 interlinking ecosystems; the only significant major swamp forests left in South Africa; 20 of the 30 distinct wetland landforms recognised by the Ramsar Convention; 4 wetlands of international importance; 3 major lake systems (Kosi Bay, Lake St Lucia and Lake Sibaya); 105 red data species; 5 species of turtles; the highest number of frog species in southern Africa (of which two are endemic); 526 bird species (the greatest avifauna diversity in Africa with 50% of South Africa's bird species and 25% of Africa's); all five of South Africa's surviving mangrove tree species; 25 000 year old coastal dunes and 105 years of conservation. The important catchments for Lake St Lucia, is the Mfolozi-Phongola quaternary Catchment. iSimangaliso Wetland Park is managed by the iSimangaliso Wetland Park Authority. The iSimangaliso Authority is the nationally appointed protected area manager and is statutorily empowered to manage the Park and make conservation and management decisions.
186. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
iSimangaliso Wetland Park extends from Maphelane (28°28'35.72"S; 32°24'53.00"E) to Kosi Bay (26°51'28.85"S; 32°53'27.79"E).	

PROJECT STATUS(Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**	✓	**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	The iSimangaliso Wetland Park is a World Heritage site that is aligned with National Government priorities. Contributing towards the conservation of biodiversity whilst delivering jobs and contributing to Poverty alleviation.								
Any further information relating to project status:	The iSimangaliso Authority has had over ten years of successful implementation in amongst others, alien clearing, and food security and infrastructure projects.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	2015	**End Date or desired End Date:**	2018	**Project Duration or estimated total project duration:**	3 years
Any further information relating to project timing:	More detailed information can be provided on request. Please contact Nerosha Govender.				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	1380 jobs per year 30 360 person days per year
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	276 jobs per year
Any further information relating to project job creation:	The food security sub-project will provide jobs in the informal sector

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	n/a
Positive impact on "Promoting rural development":	The depletion and degradation of natural resources in communal areas has meant there is increasing pressure on the resources inside iSimangaliso. The agricultural alternatives to wetland farming sub-project is concerned with improving the productive capacity of small scale farmers for both subsistence and commercial use through providing inputs that will address the environmental and socio-economic factors that constrain agricultural production. The project will provide job creation and training to previously disadvantaged communities. The project aims to build human capacity through training and mentoring through the food security sub-project. The project will also provide economic empowerment by creating direct jobs under alien clearing and water infrastructure sub-projects.
Positive impact on "Industrial development and/or localisation":	n/a
Positive impact on "Economic performance of poorest provinces":	Alongside Limpopo, Eastern Cape, and Free State, KwaZulu-Natal is one of the poorest provinces in South Africa. iSimangaliso Wetland Park, being a World Heritage Site is the drawcard for economic development and investment. By protecting strategic water source areas, the project will protect ecological services, which if destroyed, would cost the district and province millions to rehabilitate and/or replicate.
Positive impact on "Greening economy":	The project will improve human well being by protecting, enhancing and maintaining access to clean water while also ensuring social equity through jobs and training. The project will also significantly reduce environmental risks like flooding and fires while also providing food security through homestead gardens.
Positive impact on	n/a

"Regional integration":	
Any other significant positive impacts and/or co-benefits:	The Park is valued globally for its high biodiversity and unique ecosystems. The project will contribute towards maintaining the ecological integrity of the World heritage Site and Ramsar sites. iSimangaliso is also one of the country's valued economic assets. The Park creates revenue through eco-tourism and is one of the biggest economic drivers in northern KZN. The project will help maintain and enhance this asset.

PROJECT FUNDING			
Total Project Cost:	31 million Alien clearing 15 m Food security: 10 m Water infra: 6m	Average Annual Cost:	10-11million

Tick most appropriate box below							
Total funding secured:		Some funding secured:	✓	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Working for wetlands	SANBI	R2.5m	
Working for Water	Expanded Public Works Programme	13.632m	
Operational (staff time)	MTEF	R24,992m	
IP Infrastructure	MTEF	R202m	

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS **(the name of the person to be contacted for further detail and/or clarification on the information contained in this form)**			
Name:	Ms Nerosha Govender	**Organisation:**	iSimangaliso Authority
Designation:	Manager: Development and Planning	**Telephone:**	035 590 1633
E-mail:	nerosha@isimangaliso.com	**Cell:**	083 321 2903

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**An integrated bioregional approach to improve water quality and production, through protecting and expanding the Conservation areas within the Wolkberg-Lekgalameetse areas (Letaba-Selati-Mkhutswi-Mohlapitsi catchments) and associated catchments– sustaining livelihoods and improving well-being through enhanced socio-ecological and – economic benefits derived from the Protected area estate, wildlife economy and improved natural resource management.**

SIP 19: Ecological Infrastructure for Water Security – PHASE V Proposal -

Focus on Letaba-Selati-Mkhutswi-Mohlapitsi catchments: Haenertsburg and Wolkberg-Lekgalameetse (Letaba-Olifants and/or Luvubu-Mutale Strategic Water Resource Areas)

Submitted by the K2C BR and K2C Natural Resource Management Forum

SUMMARY DESCRIPTION	
Title of Project: (Addendum 2 - maps)	An integrated bioregional approach to improve water quality and production, through protecting and expanding the Conservation areas within the Wolkberg-Lekgalameetse areas (Letaba-Selati-Mkhutswi-Mohlapitsi catchments) and associated catchments– sustaining livelihoods and improving well-being through enhanced socio-ecological and – economic benefits derived from the Protected area estate, wildlife economy and improved natural resource management.
Brief Project Description (no more than 20 words):	To protect, improve natural resource management and restore degraded land to enhance ecosystem and watershed services, linking this to PA benefits
Principle Implementing Agency:	**Kruger to Canyons Man and Biosphere (K2C BR)** The Kruger to Canyons Biosphere will provide project management and operational support and will establish a platform for role players to interact in order to ensure integrated planning and implementation of the projects (Phases IV and V) within the K2C BR. Coordination and interactions will be done via the Kruger to Canyons Biosphere Network Coordinating Unit (K2C NCU), and the K2C Natural Resource Management Program Unit (K2C NRMP), which represent multiple stakeholder groups. *Refer to Addendum 1 for Institutional set-up*
Key Project Partners:	*Refer to Addendum 1 for Institutional set-up* Coordination through the K2C NCU and specifically the K2C NRMF reporting to this: **A. K2C Natural Resource Management Forum** • AWARD (Association for Water and Rural Development, and implementer of the "Resilience of the Limpopo River Basin" – Olifants Catchment Program) • SANParks Biodiversity Social Projects • University of Pretoria Hans Hoheisen Wildlife Research Station (UP HHWRS) • MTPA • LEDET • Mpumalanga Working for Water • Limpopo Working for Water • Mpumalanga Working for Wetlands • Limpopo Working for Wetlands • SANBI – CEPF (John Dini) • Working on Fire • DAFF

	B. Other key strategic partners • Mametja Traditional authority • Wildlands Conservation Trust • Maruleng Municipality • Mopani District Municipality • Tzaneen Local Municipality • DARDLA • Blyde Olifants Conservancy • Blyde Water Users Association • Haenertsburg Biodiversity Group
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
This project will primarily contribute through Conservation (Protected Area management and Stewardship) within the Escarpment, to (and interlinking with other intervention types): *Restoration, rehabilitation and the development of ecological infrastructure, interlinking with other improved ecological infrastructure/land use incentives and improve rangeland practices/programs, to ensure a systemic approach and coverage of entire catchments – providing watershed services to downstream users/communities/sectors dependant on the protection and improvement or resources within the Escarpment.* *This project will maximise the impact and sustainability of the above, by closely interlinking (dove-tail) with the following major bioregional programs and projects:* *-GEF PA – linking especially with Component 3 – Socio-economic value and low-cost expansion of Protected areas – incentive models and benefits of Protected areas e.g. through PES, Natural Resource Management Programs etc;* *-RESILIM –Olifants – Research support with regard to the impact of different land use practices, and how this contributes to improved ecological infrastructure, and the associated biodiversity and ecosystem services and human well-being;* *-Potential to further expand the SANParks Biodiversity Social Projects – Land Use incentives – downstream below the Escarpment, restoring rangelands and river-beds, and improving waste management and improved land use management practices;* *-Limpopo Working for Water teams/Working On Fire – focusing on some areas in the Escarpment, but which will be complementary to the SIP 19 program (hence, providing co-funding);* *-Limpopo Working for Wetlands;* *- DEA Master Project Plan by DEA – the SIP 19 will contribute to the Vision of this integrated Plan, in attaining improved watershed services, through improved ecological infrastructure and associated biodiversity and ecosystem services, and associated socio-economic benefits and local economic development.*	
Specific project outcome targets in respect of water quality and/or quantity:	
Outcome: Improved Water quantity and quality through: improved Protected and Conservation areas estate as "water factories:" Deliverables: 1. The expansion and improved protection/conservation of the Protected area estate (link also to the MPAES, NPAES, GEF PA program, GEF Mainstreaming Program in Ehlanzeni) in important watersheds, providing beneficiation models e.g. through Stewardship; 2. Restoration and Improved natural resource management – including interventions to decrease the land area that is infested with invasive alien species; 3. Improve water flows by restoring river-related ecological infrastructure, resulting in: ○ Decreasing flooding flows ○ Improving Low Flows (dry season flows) ○ Improving yield from existing and new water infrastructure, and ○ Improving the ecological Reserve (water)	

4. To enhance social economic benefits for communities within the Kruger to Canyons Biosphere Reserve and to contribute to employment creation;
5. The establishment of a model for rewards for ecosystem services (link to GEF PA, GEF Mainstreaming;
6. The promotion of awareness and education on ecosystems services;
7. The development of best management practices for land restoration and maintenance;
8. To build long term climate change resilience in villages through improved rangeland management; improved access to rangeland based economic activities;
9. To promote the Wildlife Economy, through PPP;
10. Building institutional capacity in the K2C BR to improve biodiversity and ecosystem services.

INTERVENTION TYPE (Tick most appropriate box)

NB: Note by the K2C –A combination of most of the intervention types are relevant for this study area, as per TOR for the SIP 19. Please take note that the SIP 19 further indicates that the funding is spatially prioritised towards the escarpment – hence, the focus of the motivation and funding for this SIP 19 are primarily on these "water factories" – but systemic approaches covering the entire catchments from the Top of the Escarpment to the KNP buffer zone are required to improve biodiversity and ecosystem services, and derived benefits across the broader catchment (with the emphasis on the Escarpment). Hence, other complementary co-funding and programs contributing to such an integrated catchment approach, covering the Top of the Escarpment to the KNP buffer zone, are presented in the discussions below, to demonstrate complementary approaches and synergistic partnerships. However, further funding support in future would be required to expand this, in further support of the SIP 19, and in the broader rolling out of benefits from the Escarpment through to the buffer zone (Addendum 2 – maps).

1. *Improved stream and river-related ecological infrastructure –*	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	X
2. *Improved wetland-related ecological infrastructure –*	
2.1 The restoration, rehabilitation and/or maintenance of wetlands;	X
2.2 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	X
3. *Improved agriculture-impacted ecological infrastructure –*	
3.1 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	X
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	X
4. *The conservation and protection of irreplaceable ecological infrastructure –*	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	**X – major focus**
4.2 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	**X**
4.3 Clearing invasive alien plant infestations in protected catchment areas;	**X**
5. *The reinstatement and/or development of new ecological infrastructure –*	
5.1 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	Not applicable

5.2 The rehabilitation of land affected by derelict and ownerless mines		Not applicable
6. *Ecological infrastructure for water security research and development project*		X
7. *Other (describe)*	X – Working on Wildlife Economy; through box 4 contributing to this; Research to inform value of Biodiversity and Ecosystem Services derived from Improved Ecological Infrastructure; Research informing Improved Climate Change Adaptation strategies and Climate change vulnerability.;	X

PROJECT LOCATION (Check attached map and tick most appropriate box)	
1. *Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas*	
2.	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
3. *Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas*	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
4. *Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas*	
3.1 Describe	
5. *Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas*	
4.1 Describe	
6. *Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast*	
5.1 Describe	Focus on Letaba-Selati-Mkhutswi-Mohlapitsi catchments: (Haenertsburg and Wolkberg-Lekgalameetse) (Letaba-Olifants and/or Luvubu-Mutale Strategic Water Resource Areas)
7. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
Middle-point, top of Letaba-Selati-Mkhutswi-Mohlapitsi catchments: 24°03'31.33"S, 30°04'47.79"E (south of Haenertsburg in Wolkberg-Lekgalameetse area)	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		Under implementation		Ready for implementation		Project designed	X (although interlinking with other bioregional programs)	Concept only	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	Project timing would be in line with the GEF PA implementation– hence, interlinking and complementing each other, to maximise impact and cover various facets of improved and enhanced "water factories" through improved ecological infrastructure and protection and conservation of areas (e.g. linking with the GEF PA program and Stewardship incentives, with a special emphasis on the Wildlife Economy)								
Any further information relating to project status:	The SIP 19 will be further supported, and sustainability ensured, by interlinking/dove-tailing it with the following programs/projects, which will maximise impact, ensuring sustainability of its outcomes through multiple outcome-based approaches towards improved water quality and quantity, and incentive-based models through protecting and expanding the Protected area estate: • GEF Protected Area Program – Implementation due by June 2014 • Resilience of the Limpopo River – Currently being implemented • Limpopo Working for Water/Working on Fire projects – Currently being implemented • K2C Environmental Monitor Program– Currently being implemented • SANParks Biodiversity Social Projects - LUI								

PROJECT TIMING					
Start Date or earliest possible Start Date:	August 2014	End Date or desired End Date:	August 2017	Project Duration or estimated total project duration:	3 YEARS
Any further information relating to project timing:	Project timing would be in line with the GEF PA implementation– hence, interlinking and complementing each other, to maximise impact and cover various facets of improved and enhancing the "water factories" through improved ecological infrastructure and protection and conservation of areas (e.g. linking with the GEF PA program and Stewardship incentives, with a special emphasis on the Wildlife Economy)				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	19 teams – 228 work opportunities 14 WfW 1 Working for Land 1 Working for Wetland 3 Working for Forests
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	40% of the above = 91 positions
Any further information relating to project job creation:	Incentive models through Stewardship. Interlink with, and ensure sustainability, through the GEF PA program (Component 3 – Socio-economic models wrt PA expansion and management). Potential to follow a systemic integrated approach, by submitting LUI proposals through the Biodiversity Social Projects –, by systemically linking SIP funding and job creation at the top of the escarpment, with LUI's at the bottom of the Olifants river and catchment.

	OTHER POSITIVE IMPACTS / CO-BENEFITS
Positive impact on "Addressing spatial imbalances":	Tzaneen is a key economic driver in the Limpopo Province, and Maruleng Municipality (both Mopani DM), is a Presidential Poverty Node. The SIP 19 Program would make a major contribution ito providing jobs, as well as benefits such as improved water quality and quantity, also downstream from the water production areas / water factories. The SIP 19 program would further contribute to improved land use practices within Conservation and Agricultural areas.
Positive impact on "Promoting rural development":	As above. The SIP 19 program can make a major contributing to rural development, through the LED program, Comprehensive Rural Development Program (CRDP), and through the following activities: Targeting labour-absorbing activities – improved natural resource management, through e.g. IAS clearing, restoration, improved rangeland practices, Working on Land (restoration), Working on Wildlife, Working on Forest etc; Leveraging social capital in the social economy and the public services; and Fostering rural development and regional integration. The SIP 19 will also complement and enhance the GEF PA, which focus on socio-economic value chains of the PA network Blyde Olifants Conservancy, the Wolkberg-Lekgalameetse and BLyde Escarpment areas (catchments straddling Mpumalanga and Limpopo Provinces), in addition to the KNP Buffer zone Protected Areas. The SIP 19 will further support and facilitate the DEA Wildlife Economy initiative, supportive of Local economic development, improved Catchments in the Wolkberg- Lekgalameetse Escarpment areas, improved water provisioning and –quality and the development the Wildlife Economy through improving and expanding the Protected Area estate.
Positive impact on "Industrial development and/or localisation":	Not applicable
Positive impact on "Economic performance of poorest provinces":	Refer to the sections dealing with: • **Positive impact on "Addressing spatial imbalances"** • **Positive impact on "Promoting rural development"**
Positive impact on "Greening economy":	Refer to the sections dealing with: • **Positive impact on "Addressing spatial imbalances"** • **Positive impact on "Promoting rural development"** The SIP 19 program will closely link with the BSP Land Use Incentives further downstream (following a systemic approach) for the Olifants catchment – Mabins, Finale, The Oaks, Willows), with regard to Greening programs, also supported by LEDET.
Positive impact on "Regional integration":	The K2C BR forms a very important institutional and intergovernmental mechanism, to promote and help coordinate and integrate programs across various sectors, and across Mpumalanga and Limpopo Provinces. The K2C Network Coordinating Unit within the K2C BR, supports such integration and coordination, reporting to the K2C Board (refer to Addendum 1 wrt institutional coordination). Bioregional programs already reporting/partnering with the K2C BR through the K2C Network Coordinating Unit, and its respective forums (such as the Lowveld

	PA forum, the K2C NRMF), and which will complement and closely link with the SIP 19 program and enhance bioregional impact and sustainability, includes: • GEF PA program • RESILIM Program • SANParks Biodiversity Social Projects (Land Use incentives) and K2C Environmental Monitors • Mpumalanga and Limpopo Working for Water/Wetlands/Working on Fire
Any other significant positive impacts and/or co-benefits:	**Also refer to the section on Outcomes.** Climate Change adaptation strategies and vulnerability assessment; Support to the expansion and protection of the Protected Area Network, through providing incentive based models; Institutional coordinating and integrated land use management and planning between different partners; local economic development; development/enhance the wildlife economy; SMME development. Capacity development and training.

PROJECT FUNDING – Presented for the SIP 19 FOCUS areas only			
Total Project Cost:	R38 600 000 (including co-funding) (focus on Escarpment only) Required through SIP 19 funding: R30 600 000 (this is according to available budget (phased approach will be necessary, and additional resources need to be secured)	Average Annual Cost:	R12 200 000

Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:	X	No funding:	Future funding to cover entire catchments, need to be obtained (from the Escarpment, to the buffer zone)

Key committed funding sources – Co-funding towards RESEARCH			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
RESILIM-Olifants	USAID grant	Estimated / Roughly R1 000 000 for the focus area – Olifants catchment	Research support to Stewardship, incentive models, improved land use practice, biodiversity and ecosystem services derived from these improved land uses/ecological infrastructure: link to GEF PA program
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
SANParks Biodiversity Social Projects and K2C Environmental Monitors Program	MTEFF	R2 000 000	Improved land use/rangelands, restoration, capacity development and training, environmental monitor

			within and outside the Protected Area estate
Name	**Type (grant, loan, MTEF allocation, etc.)**	**Value**	**Comments**
GEF PA program	Total R10 000 000 for the entire K2C GEF PA (Lowveld Group), but roughly/estimated R1 000 000 for the SIP 19 focus area	Estimated R2 000 000 (including time of the broader Stakeholder group; Stewardship Offider)	Final funding pending implementation this year
LEDET Co-funding – GEF PA and Greening Programs, and MaB program; Climate Change Program	MTEFF	To be estimated – in kind Salaries and operations	LEDET PA budget
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Limpopo WfW	MTEF	R3 000 000	
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
DEA Biodiversity Economy			To be established
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
Biodiversity Social Projects	MTEF	R2 000 000	Working on land, Land Use Incdentives, restoration, wildlife economy, environmental monitors

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	1. Ms Marie-Tinka Uys 2. Dr Marisa Coetzee	**Organisation:**	1. K2C MaB (and K2C NCU) 2. AWARD (and K2C NCU)
Designation:	1. K2C Coordinator 2. Project Manager RESILIM-Olifants (Resilience of the Limpopo River Basin)	**Telephone:**	1. Cell. 0825517261 2. Cell. 082 739 3650
E-mail:	1. info@kruger2canyons.org 2. coetzeemarisa@gmail.com	**Cell:**	As above

Please return completed forms to:

Ms Fatima Rawjee

Department of Environmental Affairs

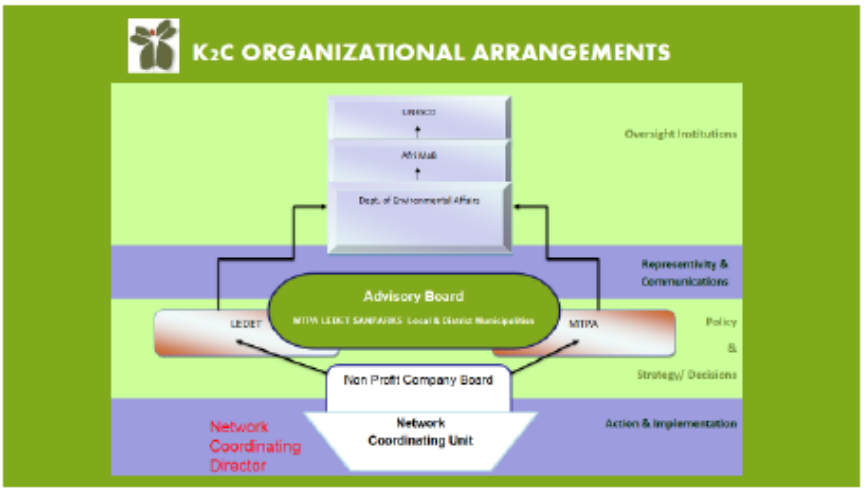
frawjee@environment.gov.za

Tel: 012-310-3002

Addendum 1 - Institutional Set-Up

A. Implementing Agency: K2C Biosphere

Reporting line: The Network Coordinating Unit (NCU) reports to the Board and Advisory Board (MTPA, LEDET, SANParks and District Municipalities), who reports to DEA.



B. K2C Natural Resource Management Forum (K2C NRMF)

- The K2C NRMF reports to the K2C NCU.

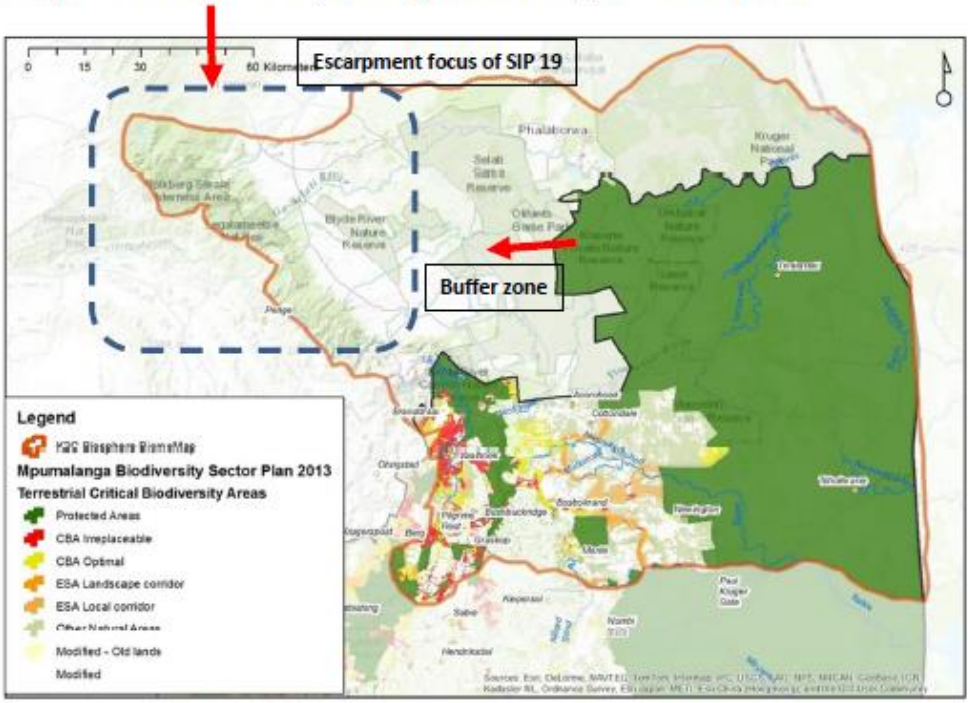
C. K2C Natural Resource Management Forum:

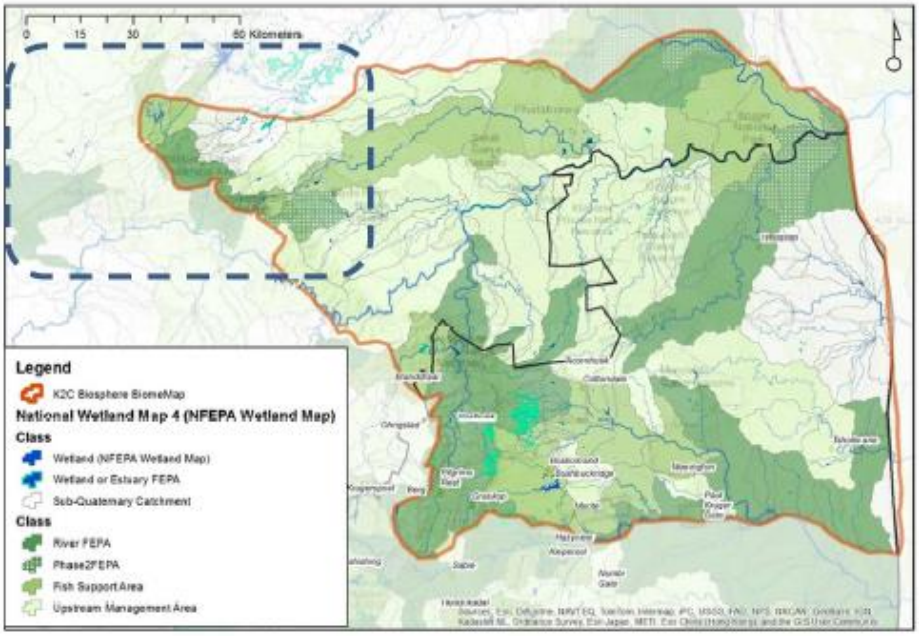
- AWARD (Association for Water and Rural Development ,and implementer of the "Resilience of the Limpopo River Basin" – Olifants Catchment Program)
- SANParks Biodiversity Social Projects
- University of Pretoria Hans Hoheisen Wildlife Research Station (UP HHWRS)
- MTPA
- LEDET
- Mpumalanga Working for Water
- Limpopo Working for Water
- Mpumalanga Working for Wetlands
- Limpopo Working for Wetlands
- SANBI – CEPF (John Dini)
- Working on Fire
- DAFF

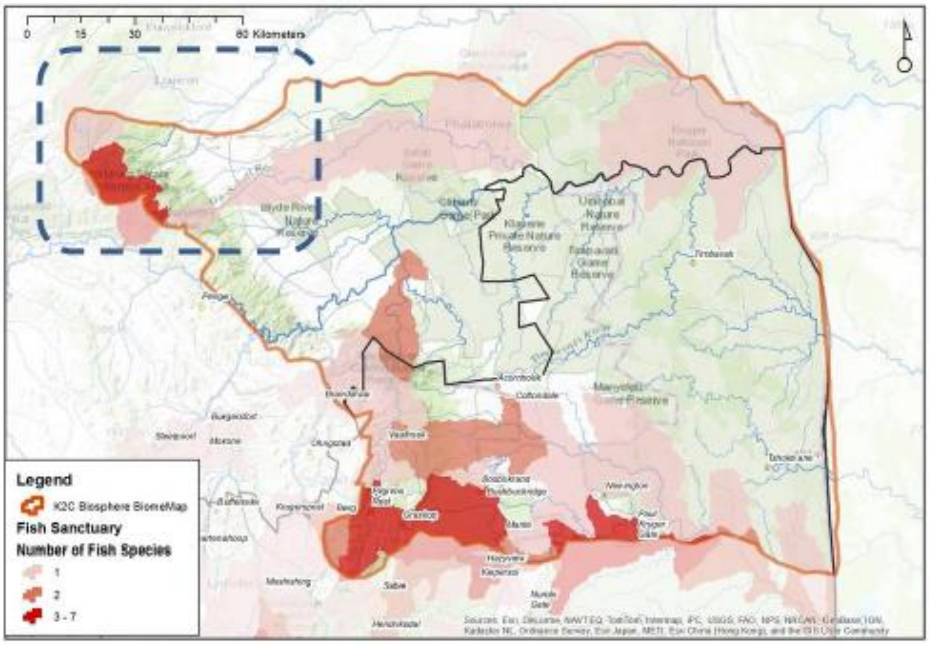
D. Other key strategic partners

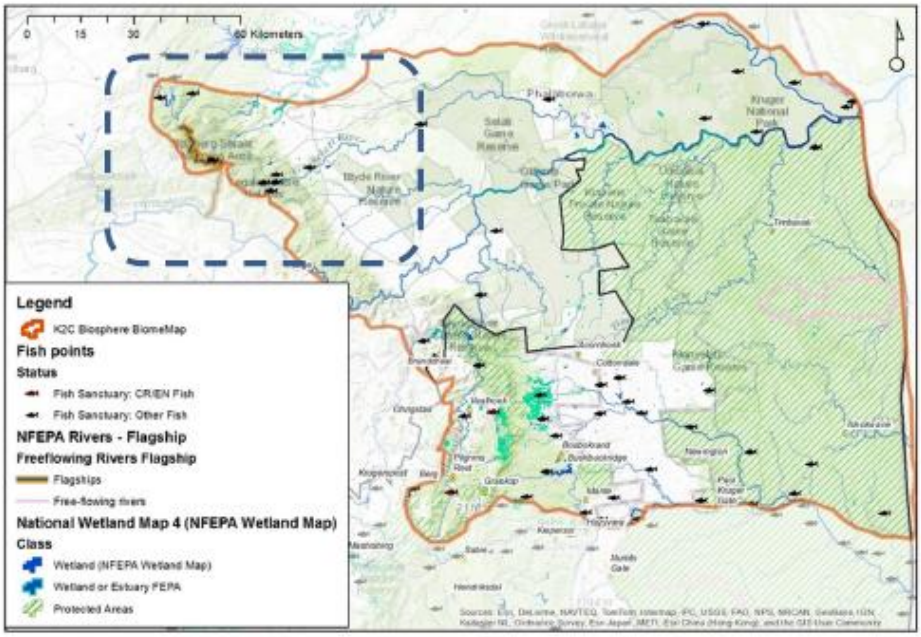
- Incomati Catchment Management Agency (ICMA) (learning between OCMA and ICMA)
- Olifants Catchment Management Agency (OCMA)
- Mametja Traditional authority
- Wildlands Conservation Trust
- Maruleng Municipality
- Mopani District Municipality
- DARDLA
- SANBI GLTFCA

Addendum 2. Maps roughly indicating the primary focus of Phase IV in relation to Biodiversity importance, Threatened Ecosystems etc., with the specific focus on the Blyde Escarpment. Other complementary programs in the buffer, along the complements, need to complementary support SIP 19, to ensure integrated catchment approaches. Further funding need to be explored to systemically and sustainably roll this out in future.

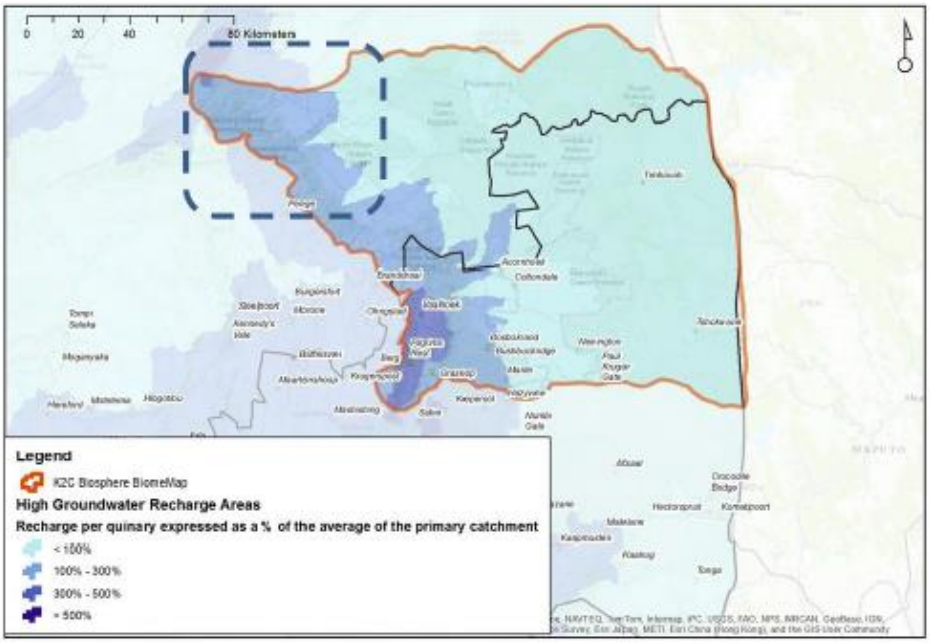



0 15 30 60 Kilometers
Legend
K2C Biosphere BiomeMap
National Wetland Map 4 (NFEPA Wetland Map)
Class
Wetland (NFEPA Wetland Map)
Wetland or Estuary FEPA
Sub-Quaternary Catchment
Class
River FEPA
Phase2FEPA
Fish Support Area
Upstream Management Area

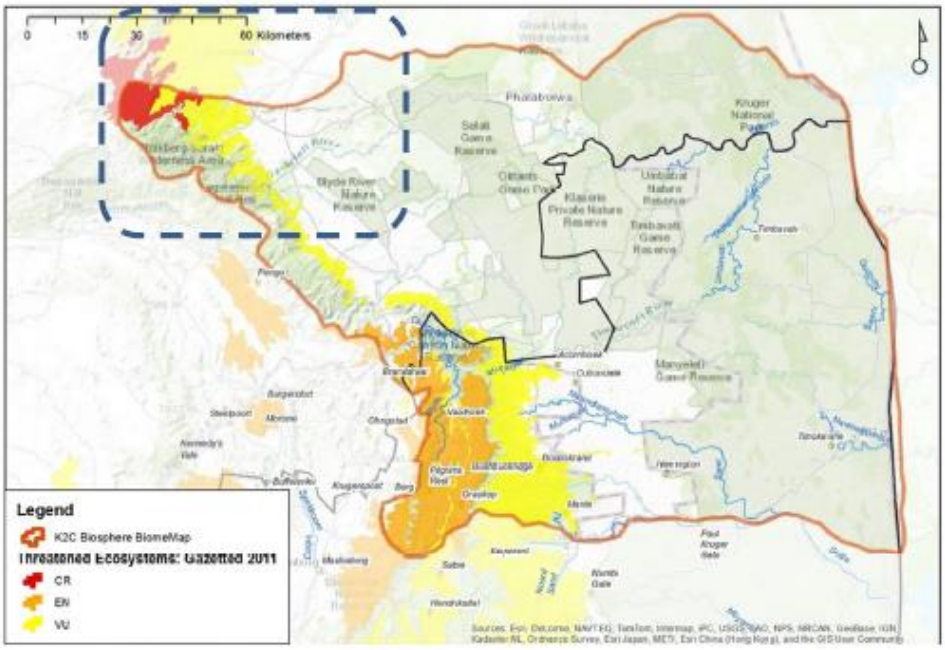

0 15 30 60 Kilometers
Legend
K2C Biosphere BiomeMap
Fish Sanctuary
Number of Fish Species
1
2
3 - 7


0
15
30
60 Kilometers
Legend
K2C Biosphere BiomeMap
Fish points
Status
Fish Sanctuary: CR/EN Fish
Fish Sanctuary: Other Fish
NFEPA Rivers - Flagship
Freeflowing Rivers Flagship
Flagships
Free-flowing rivers
National Wetland Map 4 (NFEPA Wetland Map)
Class
Wetland (NFEPA Wetland Map)
Wetland or Estuary FEPA
Protected Areas

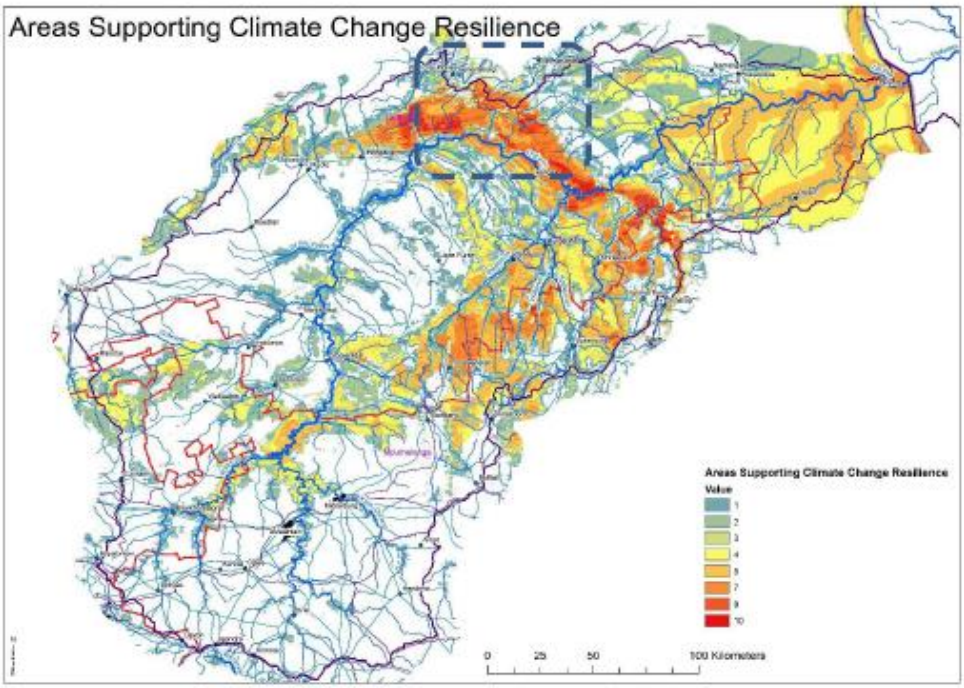
SIP 19: Ecological Infrastructure for Water Security
February 14, 2014



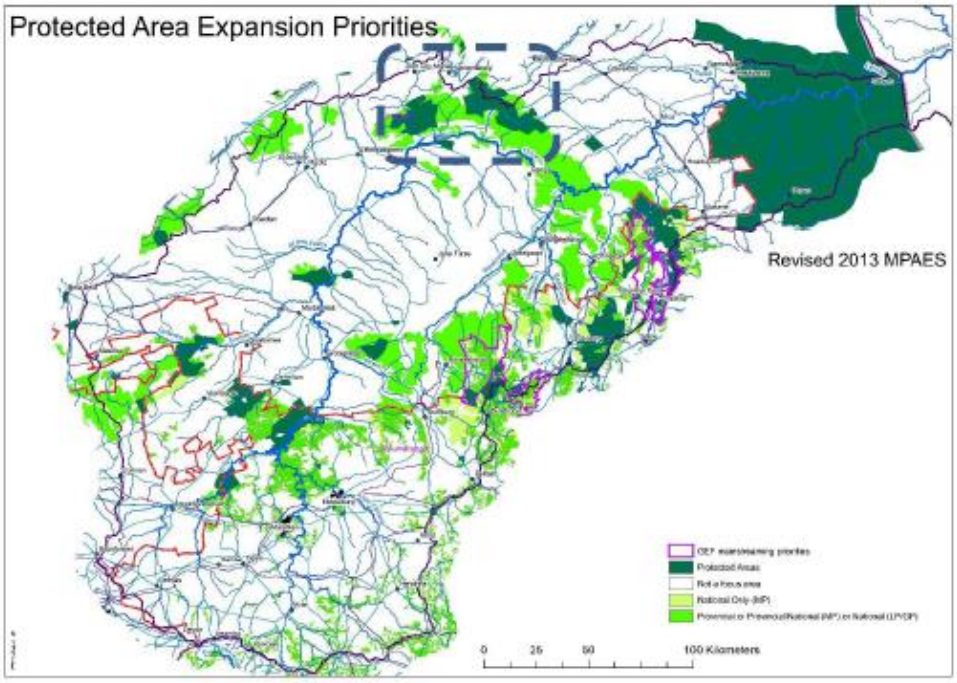
SIP 19: Ecological Infrastructure for Water Security
February 14, 2014



Page 17 of 19


Areas Supporting Climate Change Resilience
Areas Supporting Climate Change Resilience
Value
0
25
50
100 Kilometers

SIP 19: Ecological Infrastructure for Water Security
February 14, 2014



SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Umzimvubu Catchment 20 year Restoration Strategy**
Brief Project Description (no more than 20 words):	The project proposes the establishment of a catchment management strategy and restoration plan for the Umzimvubu River corridor, with demonstration projects in the Upper Catchment in first 5 years.
Principle Implementing Agency:	Conservation South Africa NGO, an affiliate of Conservation International, which is locally registered in South Africa.
Key Project Partners:	Environmental Rural Solutions, DEA Natural Resource Management and Alfred Nzo District, DRLLR, DWA Eastern Cape are key project partners. SaveAct, Firewise, IDT, and LIMA Rural Development are additional key partners for implementation actions. All other stakeholders, included in Umzimvubu Catchment Partnership Programme, will be consulted throughout the process, through the UCPP - see Appendix A for UCPP full list of stakeholders. (The UCPP MOU can be provided on request). Additionally, CSA is in the process of bringing in Massmart, Woolworth's, Nestle, and Coca-Cola for medium to long-term development of markets for livestock, dairy, and water-based products from the Umzimvubu System.
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
The 20 year strategy and programme, seeks to **demonstrate and foster improved catchment stewardship on a sustainable basis**, as a means for securing biodiversity and healthy ecosystem functions, which underpin livelihoods, boost resilience to climate change impacts and fortify South Africa's transition towards a Green Economy. This will be pursued through the development of incentives, mechanisms and extension support for target communities and land owners to restore and maintain healthy ecosystems on their lands within their respective tenure contexts. The first five year programme, will be focused in the Matatiele Local Municipality of the upper Umzimvubu catchment in the Alfred Nzo District in the northern Eastern Cape where coordinated action is already underway. However, as possible, lessons will be shared with other neighboring Districts and Local Municipalities also in the upper catchment. **The project aims to protect catchment integrity and stability, improve livelihoods and resilience of ecosystems and economies, through sound institutional co-operation in the Upper Umzimvubu Catchment.** The strategic outcomes of the five year programme in partnership with UCPP will include: • Improved land conditions and watershed services at 6 project sites in the upper catchment covering at least 116 000 ha; including: alien clearing; restoration of	

forest/riparian buffers, wetland protection and restoration and including adoption of better land management practices that will support 300 000 ha downstream in areas with reduced impact from flooding.

- Establishment and capacity building of a range of stewardship groups which can position themselves as sellers of ecosystems services (water) and sustainably produced goods and services (e.g. red meat, vegetables, and ecotourism).
- Functioning and formalized catchment management forum involving a range of stakeholders (across Alfred Nzo, OR Tambo (Port St John's LM), Joe Qguabi (Elundinin LM)and that can report into the broader Eastern Cape Catchment Management Agency.
- A comprehensive database of monitoring information providing indicators of ecosystem status and socio-economic benefits (food security, water security, income benefits, etc.)

It is estimated that the total additional baseflow in the Upper Umzimubu after restoration would be in the region of 4 million m^3 per annum, with sediment reduction of 7.3 million tons / 5 million m^3 per year. The carbon sequestration value of an intact / restored catchment is calculated at 337 718 tons per year. (Institute of Natural Resources, 2008: An Ecosystem Services Trading Model for Mnweni/Cathedral Peak and East Drakensberg Mountains) The savings with respect to reduced infrastructure damage and maintenance have not been quantified, but the District spends tens of millions every year on disaster mitigation and downstream repairs associated with flash floods most of which could be avoided in a properly maintained and functioning ecosystem (ANDM Climate Change Committee Meeting Minutes, Sept 2013).

Ultimately, CSA and its partners hope to use the pilot as a foundation for the development of a larger pro-poor ecological investment programme for the region that by December 2020 will:

- Increase water quality and quantity of water by restoration (including alien clearing)of 116,000 ha and adoption of better land management, impacting on 300,000 ha of watershed areas downstream (WMA12--T33A, T33B, T33G, T31F, T31G, T31H);
- Create >100,000 person/days of work for currently unemployed residents in the catchment in the initial clearing efforts;
- Achieve a positive annual growth in farmers engaged with and benefiting from formal pro-poor land-management/market access contracts (with a target of more than >1000 households) that are sustained through a variety of funding mechanisms;
- Generate water security benefits for the over 1 million inhabitants living in the Umzimvubu River Basin;
- Other benefits are described below.

Please see Appendix C for pilot sites identified and ha to be potentially covered as per the 5 year strategy

Specific project outcome targets in respect of water quality and/or quantity:

A detailed study on project outcomes can be derived from an investigation conducted by the INR in 2008.

Improved water security: Generally, improved management in the upper catchment,

particularly the removal of alien vegetation and improved grazing/fire management will increase dry season flows from the river by 17-23%. This dry season effect has a particular water security benefits under drought condition rainfall years which the region is experiencing more frequently in recent years. CSA is currently developing a climate vulnerability assessment for the region which will further refine this target.

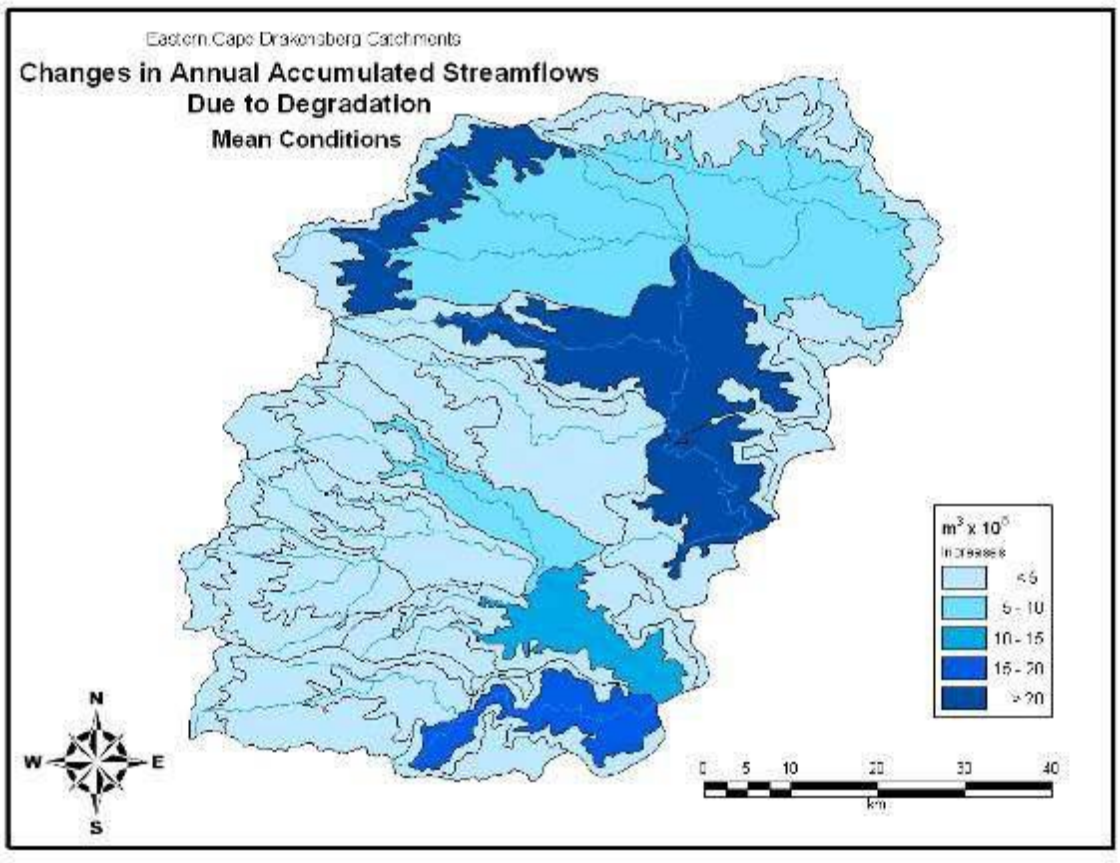


Figure 1: Current impacts of degradation by alien vegetation and poor grazing practices on accumulated streamflow (INR,2008). Note that areas with >20% reduction are targets priority target areas of intervention for the first 5 years of the project. Within these areas, CSA is directly involved with partners in removing >5,000 ha of alien vegetation (primarily black wattle) and maintaining these areas as cleared, and improving grassland management on >20,000 or critical watershed area to achieve the associated water security benefits.

Water Quality: Water quality will also be improved through improved rangeland management and ecosystem restoration, thus reducing impact of sediment in river. Detailed studies of reduction in sedimentation are still underway, but specific targets will be set.

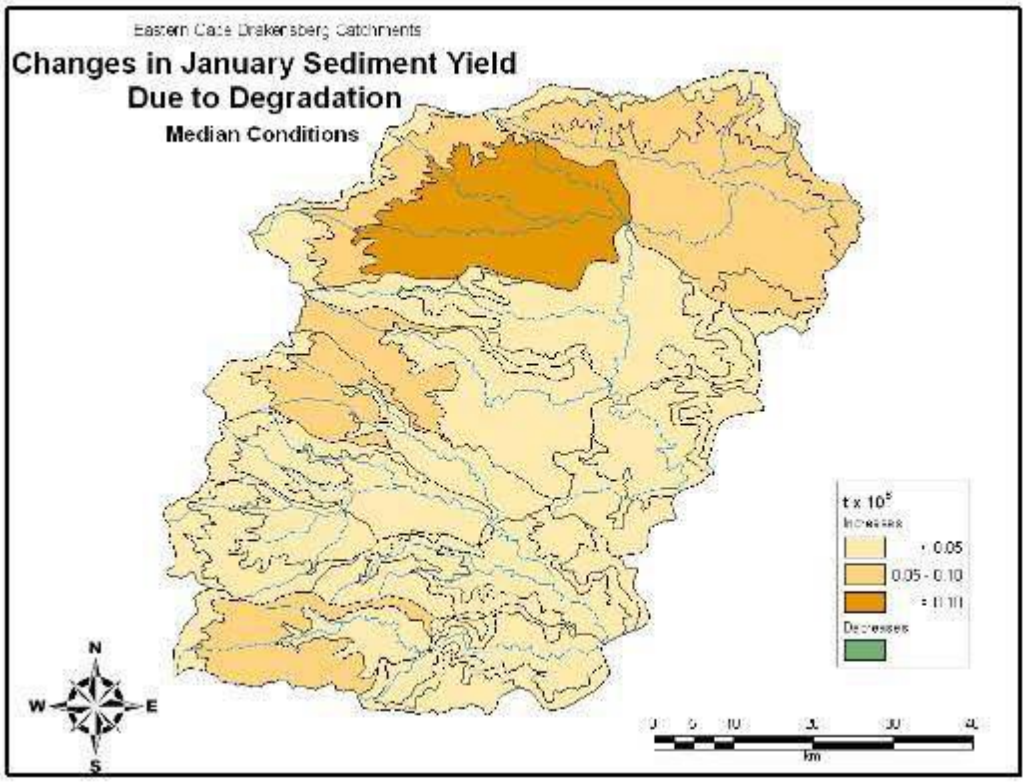


Figure 3: Sediment impacts off of different land management regimes are obvious and currently being studied by CSA and UCPP partners.

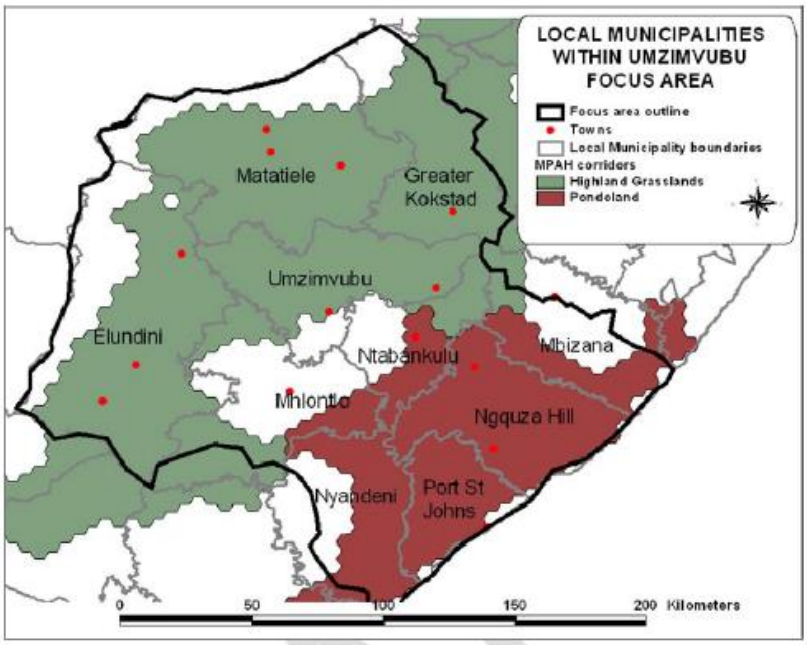
Effective Governance: One of the greatest challenges for long-term water security in a world of

increasing economic and climatic uncertainty is governance. A specific target of enhancing and formalizing the UCPP as a governance mechanism for water catchment management issues is a crucial objective of the project. Sustainable financing for Umzimvubu Ecological Infrastructure: CSA also intends to explore setting up the SIP19 project with international Social Investment Bond investors which would allow significant leveraging of any SIP 19 investments into a long-term financing vehicle for water security in this high biodiversity, high poverty region. Please see appendix B for goals for 20 year strategy including for 5 year strategy (uplands)

INTERVENTION TYPE (Tick most appropriate box)	
218. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	☑
1.33 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	☑
219. Improved wetland-related ecological infrastructure –	
2.63 The restoration, rehabilitation and/or maintenance of wetlands;	☑
2.64 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	☑
220. Improved agriculture-impacted ecological infrastructure –	
3.32 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	☑
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	☑
221. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.64 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	☑
4.65 Clearing invasive alien plant infestations in protected catchment areas;	☑
222. The reinstatement and/or development of new ecological infrastructure –	

5.63 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.64 The rehabilitation of land affected by derelict and ownerless mines	
223. Ecological infrastructure for water security research and development project	☑
224. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
187. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
188. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
189. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
190. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
191. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	This project is focused along the Umzivubu river catchment area. See below for municipal boundaries of project area for the 20 year strategy and below that the focus area for the 5 year strategy.



Insert map

Local municipal boundaries and MPAH corridors and municipal boundaries and towns. Note that I Nyandeni and Mbizana extend beyond the focus area boundary.

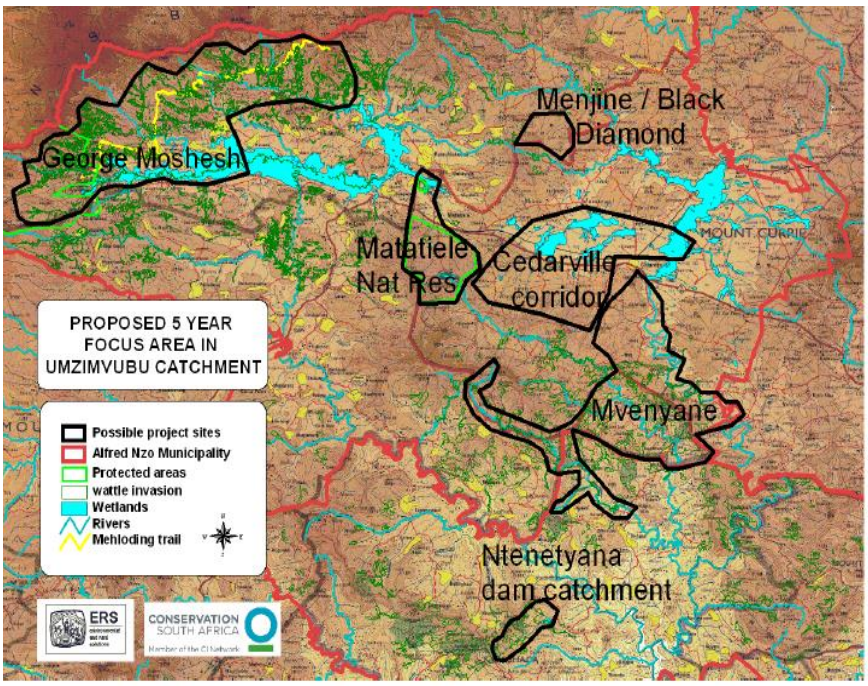


Figure 6: phase one - five year focus area in the upper Umzimvubu & Kinira catchment, in tertiary catchments T31 and T33

192. ***Project not associated with a specific Strategic Water Source Area***

6.1 Describe	

Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)

Phase one (first 5 years) will focus in the upper portion of the catchment, defined as the Uplands zone in the ecosystem profile, located in the Alfred Nzo District, primarily in the Matatiele Local

Municipality which comprises 435 000 hectares. This area includes two tertiary catchments, T31 and T33, and occurs over 1200m in altitude, located in the grassland biome with pockets of mistbelt forest totalling 600ha and over 30 000 hectares of wetlands. It is rated by the ARC as 50% moderately degraded. The Uplands zone population is approximately 250 000 people, mostly living in rural settlements with a density of 15 people per square kilometre. Unemployment is higher than the national average, with most rural dwellers dependent upon grants, remittances and the landscape for their livelihoods.

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	x	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	The restoration strategy has not been formally recognised under the NDP but the Umzimvubu river catchment has been identified as a key dam site to provide local water security and rural development in the NDP. The strategy supports the ultimate goals of NDP and NCCRWP around supporting the transition to a low carbon "green"economy, including environmental protection and rural development. It also supports outcome 10 and 7 of DEA delivery agreements. CSA has a formal MOU with Alfred Nzo district and DRDLR Eastern Cape surrounding the implementation of the project and pilot sites for 5 year strategy. Eastern Cape is also recognising and using the UCPP quarterly forum meetings for key stakeholder engagements and information distribution and we are awaiting an opportunity to respond to an invitation to present at the Eastern Cape Socio-economic Consultative Council (ECSECC).								
Any further information relating to project status:	Currently CSA and its key partners are implementing various projects (including 4 DEA-NRM Land User Incentive Projects). From these efforts, much has been learned and local capacity for implementation has been developed. With additional financial resources under SIP Project 19, the partners, coordinated by CSA would deliver an outcome that is both achievable and sustainable. The five and 20 year strategies had broad scientific and stakeholder support, and this effort provides a tremendous opportunity to have water conservation action also provide significant job creation, rural development, and youth skills development through the programme. Addressing conservation areas, communal area and farm management, and infrastructure planning are crucial for success and this initiative addresses each of these areas.								

PROJECT TIMING					
Start Date or earliest possible Start Date:	2014	**End Date or desired End Date:**	First 5 year strategy for upper catchment between 2018-2020 and further years for	**Project Duration or estimated total project duration:**	5-20 years

			full 20 year strategy for entire catchment ends 2033		

Any further information relating to project timing:	As indicated above, several alien clearing projects in Ward 8 (LIMA), Ward 12 and 13 (Firewise), Ward 14(CSA) and Ward 21 (IDT) are underway. Collectively, these projects employ >400 people. Each institution has potential to expand their projects and CSA would coordinate enhanced skills development and integration of ecological infrastructure recovery with financial savings and application of conservation agriculture that would reduce water dependencies in both livestock and crop production.

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	>5000 For upper catchment project areas
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	>2500 For upper catchment project areas
Any further information relating to project job creation:	Utilising the UCPP network of implementing agents, the project can create significant job and youth skills development opportunities. Most jobs will initially be in alien removal and maintenance, but with investments in training and community engagement, long term rangeland management groups will evolve and involve more households.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural development":	The 5 year and 20 years strategy are focusing on an area which is rural, poor (>60% unemployment), densely populated and under resourced. Local municipalities within the Alfred Nzo district, Joe Qguabi and OR Tambo district which fall within the catchment have also been identified as some of the most vulnerable to climate change. Outcomes of job creation, microenterprise development and sustainable production and market linkages- also described in detail under "impact on greening the economy" below, will all support rural development in this project area.
Positive impact on "Industrial development and/or localisation":	New technologies developed under the more sustainable rangeland management and micro enterprise development could potentially support industrial development in the area.
Positive impact on	The development of a viable Payments or Incentive mechanism

"Economic performance of poorest provinces":	for Investment in Ecological Infrastructure for Matatiele municipality in 5 year strategy, with planned outcome of establishing a payment/trade agreement between the local reserve (4750 ha) and local water user association or Municipality for Matatiele, which will have an impact of economic performance for the local district, thus supporting the province. The longer term 20 year strategy will also provide return of investment in ecological infrastructure with the provision of ecosystem services and livelihood development to help reduce vulnerability, and thus future reduce impact of climate change, which will impact of the economic performance of the province if they are spending less on disaster risk reduction and reducing vulnerability.
Positive impact on "Greening economy":	The restoration strategy and approach will also support job creation, capacity building for rural small scale farmers, local communities and government officials. as well as support development of incentives and investments/payments in ecological infrastructure which are all supporting the development of a green economy. There will also be a micro enterprise development focus and the end of the 5 years and for the 20 year strategy. Outcomes included for developing a green economy for first 5 years: i. Three project areas with six demonstration sites forming the basis of replicable models for policy and advocacy towards a Green Economy; policy development will focus at the district and municipal level as well as the national and provincial level through CSA policy team ii. Increased returns to land rights holders and owners (sellers) through improved ecosystem health, in the form of livestock quality, income for maintenance activities, sale of land based products, etc and market linkages iii. Create new markets and enable pro-poor entry into mainstream markets for sustainably-produced food products by leveraging existing and emerging legislation, government programs, and corporate sustainability drives; iv. Identification of interested buyers for ecosystem services and income streams which will contribute towards the maintenance of these services by sellers. v. The development of at least 5 micro- enterprises including biomass, recycling waste or associated ecosystem service support vi. Capture and share lessons on "pro-poor sustainable production" with other provinces and African

	countries at risk of water and food shortages. Please see 20 year strategy for longer term goals.
Positive impact on "Regional integration":	CSA also works within the Conservation International Africa, Madagascar Division, lessons and outcomes of the programme are therefore also shared within this division and can support development of similar programmes in other African countries potentially.
Any other significant positive impacts and/or co-benefits:	There will also be support for animal health and production through incentives for maintaining sustainable rangeland management such as access to markets, better veterinary care, improved security for livestock, improved conception rates, better crop yields from managed grazing. The strategy and approach for water and land management also will reduce impact of climate change on the catchment areas and support people to adapt to climate change by reducing impact of disasters such as drought and floods.

PROJECT FUNDING							
Total Project Cost:	R28 784 000(for 5 year strategy)			Average Annual Cost:		R5 756 000	
Tick most appropriate box below							
Total funding secured:		Some funding secured:	☑	Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
CEPF	Grant	R700,000	For UCPP coordination and Climate Vulnerability Assessments
NRM	Grant	R7.2 million	For Alien Clearing labour
Drylands Fund	Grant	R50,000	Baseline veld condition assessments
Private Funder	Grant	R900,000	Sustainable livestock engagement and market development

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

NRM to CSA	Grant	R11 million	Project concept submitted for Ward 7 Clearing
Green Fund		R2 million	Eco-herder development for communal land grazing management improvements

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Sarah Frazee	**Organisation:**	Conservation South Africa
Designation:	CEO	**Telephone:**	021 7998865/8655
E-mail:	sfrazee@conservation.org	**Cell:**	0828239785

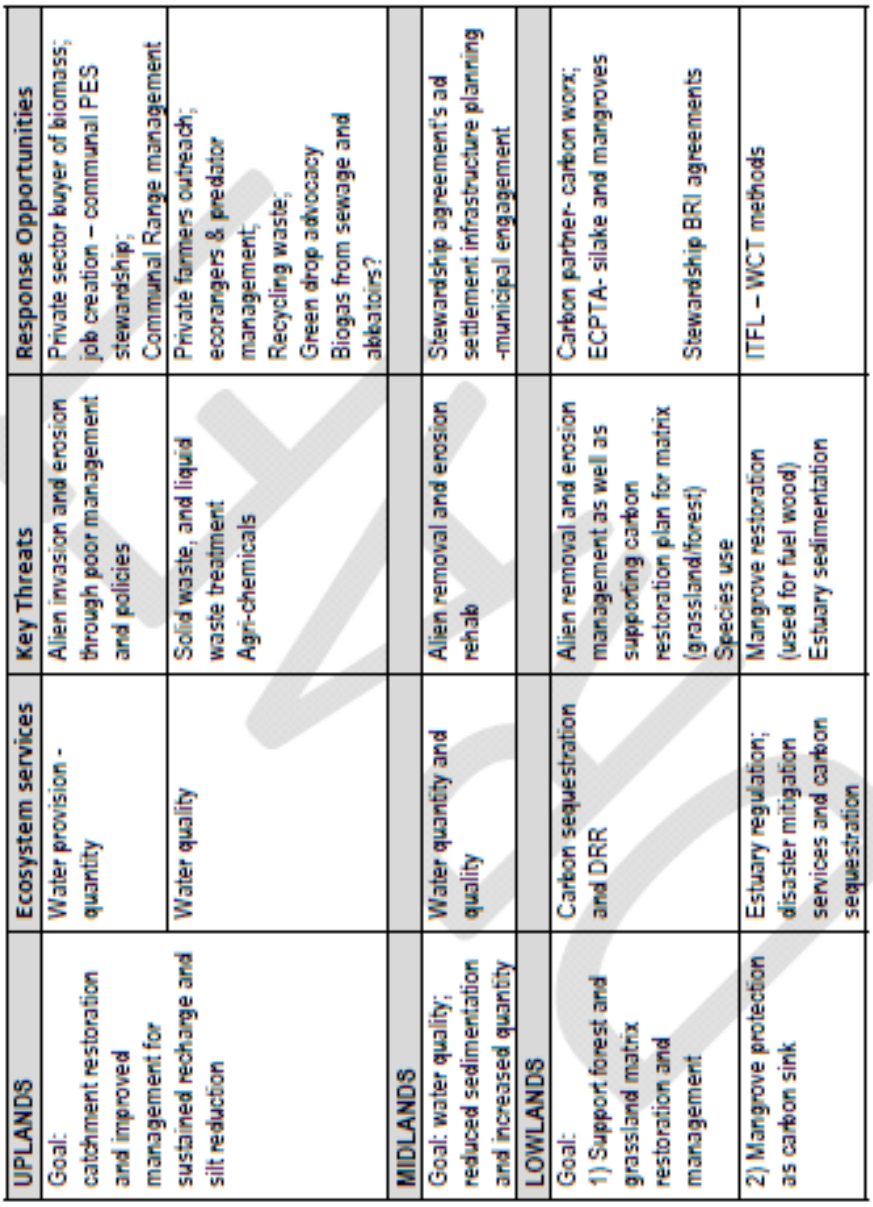
APPENDIX A

UMZIMVUBU CATCHMENT PARTNERSHIP PROGRAMME STAKEHOLDER LIST

- Alfred Nzo District Municipality (ANDM)
- Ntabankulu Local Municipality
- Port St Johns Local Municipality
- Conservation South Africa
- Environmental & Rural Solutions
- ASAP Cedarville-Mvenyane Farmers Association
- ASGISA EC
- Biotech Fuels
- Cedarville Conservancy
- CONTRALESA
- DAFF (EC region)
- DBSA Drylands Programme
- DEA WfW/NRM
- DEDEAT
- DRD&AR
- DWA (EC regional office)
- E Cape NGO Coalition
- Endangered Wildlife Trust (Drak Crane project ,
- based in KZN midlands)
- EWT (Drakensberg Crane Custodian Programme)
- LIMA
- Matatiele Local Municipality
- Mehloding Trust
- R3G
- SANBI (Grasslands Programme and Eastern Cape
- support section)
- Save Act

- Sikhulumi Bawu Women's Co-op
- Singilanga Directorate Trust
- Sustaining the Wild Coast
- TransCape
- WESSA
- Wildlands Conservation Trust
- World Vision

APPENDIX B



UPLANDS	Ecosystem services	Key Threats	Response Opportunities
Goal: catchment restoration and improved management for sustained recharge and silt reduction	Water provision - quantity	Alien invasion and erosion through poor management and policies	Private sector buyer of biomass; job creation – communal PES stewardship; Communal Range management
	Water quality	Solid waste, and liquid waste treatment Agri-chemicals	Private farmers outreach; ecorangers & predator management; Recycling waste; Green drop advocacy Biogas from sewage and abbatoirs?
MIDLANDS			
Goal: water quality; reduced sedimentation and increased quantity	Water quantity and quality	Alien removal and erosion rehab	Stewardship agreement's ad settlement infrastructure planning -municipal engagement
LOWLANDS			
Goal: 1) Support forest and grassland matrix restoration and management	Carbon sequestration and DRR	Alien removal and erosion management as well as supporting carbon restoration plan for matrix (grassland/forest) Species use	Carbon partner- carbon worx; ECPTA- silake and mangroves Stewardship BRI agreements
2) Mangrove protection as carbon sink	Estuary regulation; disaster mitigation services and carbon sequestration	Mangrove restoration (used for fuel wood) Estuary sedimentation	ITFL – WCT methods

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APPENDIX C

TABLE 4: POSSIBLE DEMONSTRATION / PILOT FOCUS AREAS IDENTIFIED IN UPPER CATCHMENT (MATATIELE MUNICIPALITY)				
LAND TENURE	AREA /NODE	SIZE ha	ROLEPLAYERS INVOLVED	KEY ACTIVITIES
Communal	Ntenetyana dam catchment (T33G)	300 ha	Alfred Nzo Municipality WSA Traditional Authority	• Implementation of removal of 300ha of alien infestation in this catchment for the Mt Frere town.
Communal	George Moshesh (T33B)	40 000	ECPTA Mehloding Trust Save Act ASAP Home based care for OVCs LIMA DEDEAT	• Alien clearing through stewardship arrangements with existing groups (savings Club, OVC board, etc) as a service provider • Range management support: Grazing and fire regime management, plus small stock predator and poaching interventions. Establish eco rangers and provide support for BRI Possible wetland delineation as a birding sanctuary and tourism attraction within the wider landscape use.
Communal	Mvenyane (T31H)	10 000	Mvenyane stock farmers ANDM CBNRM alien clearing ANDM water service authority (proposed Ntibane water scheme)	• Range management support for grazing and fire regime management, plus small stock predator and poaching interventions. Establish eco rangers and provide support for BRI. • Indigenous forest and associated species protection and monitoring, through protection of margins from fire and aliens, plus alien clearing to sustain catchment water release
Private	Cedarville conservancy	20 000	Cedarville Mvenyane Farmers Assoc Cedarville Conservancy DEDEAT ECPTA	• Range management support for grazing and fire regime management, plus small stock predator and poaching interventions. Establish eco rangers and provide support for BRI. • Promote market incentives/partnerships with corporations for Biodiversity and Red Meat / Dairy Initiative
State protected area	Matatiele Nature Reserve	4 750	Matatiele Municipality DEDEAT ECPTA Alfred Nzo WSA Local businesses and ratepayers	• Establish and implement best practise land management (including alien clearing, erosion control, etc) • Establish agreement between buyer and seller to sustain catchment maintenance
	Enabling environment support and co-ordination	100 000	All stakeholders identified in preparation phase as part of Umzimvubu Catchment Partnership programme	• Facilitation of a catchment co-ordination body which will provide a network of support roleplayers • Research, monitoring and evaluation for phase 1 activities. Includes biomonitoring of river sites across the upper catchment in conjunction with DWA hydrology section, and development of baseline spatial databases including the Green Choice Farmer Field Book Database. • Broker and formalise PES agreements within the pilot sites. Build institutional capacity and establish formal land use agreements and conservancies in the following areas: Matatiele Nature Reserve and Cedarville conservancy, for the Matatiele reserve and water users / WSA at District level, and for Mt Frere water agency and Nteneyane Dam Catchment. • Engage and develop markets: Business engagement and capacity building for water neutral programmes that will provide long-term funding for the project sites and amplification. • Policy level support for decision makers and advocacy for catchment issues such as dam construction • Small enterprise development based ecosystem stewardship opportunities e.g. biomass processing, waste recycling, food security, sanitation, etc. Based on SKEPPIES approach developed in Northern Cape.

These areas are shown in figure 6 below, and unpacked into the 10 'projects' described in section 4

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Rehabilitation of alien invaded riparian zones and catchments using indigenous trees: An assessment of indigenous tree water-use**
Brief Project Description (no more than 20 words):	To investigate the water-use of a selection of pioneer indigenous tree species suitable for forest expansion, rehabilitation programmes and riparian zone restoration following alien invasive clearing or manipulation.
Principle Implementing Agency:	WRC
Key Project Partners:	WfW
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Provide guidelines and recommendations for the management of water-efficient indigenous tree species for use in land rehabilitation programmes.	
Specific project outcome targets in respect of water quality and/or quantity:	
Incorporate the data into a modelling framework for temporal and spatial extrapolation of water-use predictions.	

INTERVENTION TYPE (Tick most appropriate box)	
225. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	X
1.34 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	X
226. Improved wetland-related ecological infrastructure –	
2.65 The restoration, rehabilitation and/or maintenance of wetlands;	
2.66 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	
227. Improved agriculture-impacted ecological infrastructure –	
3.33 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	

3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	
228. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	
4.66 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	
4.67 Clearing invasive alien plant infestations in protected catchment areas;	X
229. The reinstatement and/or development of new ecological infrastructure –	
5.65 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.66 The rehabilitation of land affected by derelict and ownerless mines	
230. Ecological infrastructure for water security research and development project	
231. Other (describe)	

PROJECT LOCATION (Check attached map and tick most appropriate box)	
193. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	X
1.2 Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	
1.3 Other (describe)	
194. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
195. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	Research at Buffeljags in Overberg
196. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-Olifants Strategic Water Source Areas	
4.1 Describe	
197. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great	

Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
198. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
The New Forest riparian site is at latitude 29°28'30" S and longitude 29°52'48" E at approximately 1760 m above sea level. The riparian area occurs along a tributary to the upper Umgeni River, within Quaternary Catchment (QC) U20A and Quinary Catchment (QnC) 3737.	

PROJECT STATUS (Tick most appropriate box)									
Project Complete		**Under implementation**	X	**Ready for implementation**		**Project designed**		**Concept only**	
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	No								
Any further information relating to project status:									

PROJECT TIMING					
Start Date or earliest possible Start Date:	01/04/2014	**End Date or desired End Date:**	2020	**Project Duration or estimated total project duration:**	Long term research due to nature of tree establishment
Any further information relating to project timing:					

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	Direct input into WfW programmes
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	
Any further information relating to project job creation:	Techniques aimed at providing long term sustainable jobs

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	
Positive impact on "Promoting rural	

development":	
Positive impact on "Industrial development and/or localisation":	
Positive impact on "Economic performance of poorest provinces":	
Positive impact on "Greening economy":	
Positive impact on "Regional integration":	
Any other significant positive impacts and/or co-benefits:	

PROJECT FUNDING							
Total Project Cost:	R5 million			Average Annual Cost:		R1.0 million	
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:		No funding:	

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
WRC	Research grant	R2.0 million	

Key committed funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	CS Everson	**Organisation:**	CWRR UKZN
Designation:	Prof	**Telephone:**	0332606093
E-mail:	eversonc@ukzn.ac.za	**Cell:**	0833209570

SIP 19: Ecological Infrastructure for Water Security

SIP 19 Component Proposal

SUMMARY DESCRIPTION	
Title of Project:	**Maloti Drakensberg Park WHS – Catchment Rehabilitation**
Brief Project Description (no more than 20 words):	Funding alternative energy around the Park, specifically in neighbouring communities, alien vegetation control, improved sanitation, donga rehabilitation and fire management.
Principle Implementing Agency:	Ezemvelo KZ Wildlife
Key Project Partners:	Department of Environmental Affairs, eight (8) Local and three (3) District Municipalities, Department of Agriculture, KZN-COGTA, Wildlands Conservation Trust and African Conservation Trust.
Specific contribution to the restoration, rehabilitation, conservation, protection and/or development of ecological infrastructure that provides watershed services:	
Funding alternative energy around the Park, specifically in neighbouring communities e.g. biogas digesters would enable more alien vegetation to be eradicated as people would be less dependent on fuelwood from alien trees. Alien vegetation control, improved sanitation, donga rehabilitation and fire management. Furthermore, unsustainable stock management in the Drakensberg mountains is causing major environmental concern. This has clear implications for watershed management. If all of the above is addressed we would make significant progressive contribution to our ecological infrastructure for water security.	
Specific project outcome targets in respect of water quality and/or quantity:	
Improved water quantity and quality, promote sustainable veld management and provide invectives for the communities who are key stakeholders with regard to our ecological infrastructure protection.	

INTERVENTION TYPE (Tick most appropriate box)	
232. Improved stream and river-related ecological infrastructure –	
1.1 Clearing invasive alien plant infestations, especially in mountain catchments and riparian areas;	√
1.35 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation along streams and rivers;	√
233. Improved wetland-related ecological infrastructure –	
2.67 The restoration, rehabilitation and/or maintenance of wetlands;	√
2.68 The reinstatement, restoration, rehabilitation and/or maintenance of buffers of natural vegetation between agricultural crops and rivers or wetlands;	√
234. Improved agriculture-impacted ecological infrastructure –	

3.34 The improvement in rangeland management practices (e.g. grazing regime and improved fire management);	√
3.2 The improvement of agricultural practices (e.g. improved tillage, contour ploughing, organic agriculture, etc.);	√
235. The conservation and protection of irreplaceable ecological infrastructure –	
4.1 The formal protection of key catchment areas as part of the expansion of South Africa's conservation estate;	√
4.68 The reinstatement, restoration, rehabilitation and/or maintenance of grass- and wood-lands, especially in upper-catchment areas;	√
4.69 Clearing invasive alien plant infestations in protected catchment areas;	√
236. The reinstatement and/or development of new ecological infrastructure –	
5.67 The establishment of natural filtration infrastructure, i.e. built wetlands, to purify various small sources of polluted inflows into streams and rivers (e.g. acid mine drainage (AMD) from old mining works, livestock farms, waste dumps, etc.);	
5.68 The rehabilitation of land affected by derelict and ownerless mines	
237. Ecological infrastructure for water security research and development project	
238. Other (describe)	

PROJECT LOCATION(Check attached map and tick most appropriate box)	
199. Phase I Priority Area: Quaternary catchment/s associated with the Orange-Vaal-Thukela and/or uMngeni-Mooi-Thukela Strategic Water Source Areas	
1.1 Project falls within the uMngeni Ecological Infrastructure Partnership focus area	√
1.2Project falls within the "Building climate change resilience in the greater uMngeni catchment" project focus area	√
1.3 Other (describe)	
200. Phase II Priority Area: Quaternary catchment/s associated with the Olifants-Doring-Berg and/or Berg-Breede Strategic Water Source Areas	
2.1 Project is a component of the Berg River Improvement Plan (BRIP)	
2.2 Other (describe)	
201. Phase III Priority Area: Quaternary catchment/s associated with the Langeberg-Gouritz and/or Gouritz and/or Kromme-Gouritz and/or Gamtoos-Gouritz and/or Tsitsikamma Strategic Water Source Areas	
3.1 Describe	
202. Phase IV Priority Area: Quaternary catchment/s associated with the Vaal-Thukela-Phongola and/or Inkomati-Phongola-Usutu and/or Crocodile-OlifantsStrategic Water Source Areas	
4.1 Describe	

203. Phase V Priority Area: Quaternary catchment/s associated with the remaining Strategic Water Source Areas including: Letaba-Olifants and/or Luvubu-Mutale and/or Mfolozi-Phongola and/or Zululand Coast and/or Great Kei-Great Fish and/or Mzimvubu-Orange and/or Pondoland Coast	
5.1 Describe	
204. *Project not associated with a specific Strategic Water Source Area*	
6.1 Describe	N/A
Please provide any further information that will facilitate the capture of the project location on the SIP 19 global information system (GIS) layer (e.g. coordinates, farm number, etc.)	
The western edge of the Park extends from 28° 52' E to 29° 45' E. The northern border of the northern component area extends from 28° 38' S and to 28° 46' S, and the southern component area extends from 28° 55' S to 29° 55' S. The proclaimed area of the Park is 242 813 ha in size and its height above sea level extends from approximately 1 200 m to 3 408 m, the highest point in South Africa.	

PROJECT STATUS(Tick most appropriate box)									
Project Complete		**Under implementation**		**Ready for implementation**		**Project designed**		**Concept only**	√
Project profiled or recognised (e.g. in NDP 2030, IPAP II, NGP, etc.)	This kind of a project is identified in NDP 2030 *"New initiatives, such as those to do with agriculture in the green economy and conservation efforts, can potentially create new employment opportunities in rural areas".*								
Any further information relating to project status:	uKhahlamba Drakensberg Park World Heritage site (now called Maloti Drakensberg Park) is within the identified "Water factories".								

PROJECT TIMING					
Start Date or earliest possible Start Date:	01 April 2015	**End Date or desired End Date:**	30 March 2018	**Project Duration or estimated total project duration:**	3 Years
Any further information relating to project timing:	There are five (5) anticipated activities: alternative energy, alien vegetation control, improved sanitation, donga rehabilitation and fire management. R5, 000,000.00 (alternative energy), R10, 000,000.00 (Alien vegetation control) R5, 000,000.00 (sanitation), R10, 000,000.00 (donga rehabilitation) and R5, 000,000.00 (fire management).				

JOB CREATION	
Total potential / actual work opportunities and/or FTEs (Full Time Equivalents)	152, 172.9
Potential / actual youth work opportunities and/or FTEs (Full Time Equivalents)	91,304.34
Any further information relating to project job creation:	Youth work opportunities would be 60% of the total budget.

OTHER POSITIVE IMPACTS / CO-BENEFITS	
Positive impact on "Addressing spatial imbalances":	In the Upper uThukela area the poorest and least serviced communities are effectively the custodians of our water factories who receive no compensation for this custodianship. This project intends to specifically address this spatial imbalance through, among others, the creation of jobs and other economic opportunities.
Positive impact on "Promoting rural development":	Water availability is a crucial input to the Rural Development Strategy; this project would provide potentially sustainable livelihoods to rural communities in prioritised water catchments. This protect seek to promote meaningful local livelihood protection and active participation in local development.
Positive impact on "Industrial development and/or localisation":	Water availability is often a key constraint for industrial development and, hence, an intervention aimed at improving water security must be regarded as being supportive of industrial development. Investments in the restoration, rehabilitation, maintenance or creation of ecological infrastructure will involve local people using local resources.
Positive impact on "Economic performance of poorest provinces":	Improved water quantity and quality is good for the economy of KwaZulu-Natal as well Gauteng province. This is good attributes and a positive contribution to the economic performance of our provinces.
Positive impact on "Greening economy":	This kind of a project is identified in NDP 2030, it is stated that new initiatives, such as those to do with agriculture in the green economy and conservation efforts, can potentially create new employment opportunities in rural areas.
Positive impact on "Regional integration":	Water is a regionally shared resource and, hence, improvements in water quantity and quality are likely to have positive impacts on our downstream neighbours in the region.
Any other significant positive impacts and/or co-benefits:	Labour intensive intervention, thus high job creation potential; Raw materials for wood products, thus chance to develop new industries with good job creation potential; improved productivity of the land, thus improved economic opportunities for poverty alleviation; improved attractiveness of the land as well as biodiversity improvements, thus improved economic opportunities for poverty alleviation.

PROJECT FUNDING							
Total Project Cost:	R35,000 000.00			Average Annual Cost:		R11,600 000.00	
Tick most appropriate box below							
Total funding secured:		Some funding secured:		Some funding commitments:		No funding:	√

Key secured funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
N/A			

Key committed funding sources			
Name	Type (grant, loan,	Value	Comments

	MTEF allocation, etc.)		
N/A			
Potential new/additional funding sources			
Name	Type (grant, loan, MTEF allocation, etc.)	Value	Comments
N/A			

CONTACT DETAILS (the name of the person to be contacted for further detail and/or clarification on the information contained in this form)			
Name:	Ms Lungile Ntuli	**Organisation:**	Ezemvelo KZN Wildlife
Designation:	Special Projects Manager	**Telephone:**	+2733 845 1961
E-mail:	ntulil@kznwildlife.com	**Cell:**	+2782 858 8051

SIP 19 Working for Water Projects

Project	Implementing Agent	Budget	Latitude	Longitude	Phase
TMNP North	SANParks	R 3 568 762.00	-33.978485	18.403678	II
TMNP Central	SANParks	R 4 991 576.00	-34.077319	18.394747	II
South Peninsula	City of Cape Town	R 377 258.00	-34.066586	18.494043	II
Waterval	CapeNature	R 1 512 769.00	-33.497520	19.111852	II
Worcester	Breede River/Winelands Local Municipality	R 876 073.00	-33.779986	19.216266	II
Berg River	Cape Winelands District Municipality	R 1 357 073.00	-33.863440	19.000426	II
Limietberg	CapeNature	R 903 154.00	-33.800767	19.043221	II
Asbos_DWAF	Cape Winelands District Municipality	R 1 999 894.00	-33.921371	19.057357	II
Asbos_TCTA	Cape Winelands District Municipality	R 1 842 549.00	-33.935598	19.081799	II
Hottentots Holland	CapeNature	R 3 292 428.00	-33.990636	19.102189	II
Elandskloof	CapeNature	R 376 411.00	-33.992890	19.252871	II
Jonkershoek	CapeNature	R 1 020 948.00	-33.967592	18.923919	II
Upper Palmiet	CapeNature	R 723 132.00	-34.097499	19.034066	II
Helderberg	CapeNature	R 395 006.00	-34.123890	18.946617	II
Steenbras	CapeNature	R 347 564.00	-34.182042	18.898043	II
Protea	Overstrand Local Municipality	R 2 143 018.00	-34.359923	18.833124	II
Botrivier	CapeNature	R 1 084 420.00	-34.308997	19.104105	II
Onrus	Overstrand Local Municipality	R 731 395.00	-34.417028	19.136682	II
Hermon	Cape Winelands District Municipality	R 346 209.00	-33.458189	18.955715	II
Duivenhoks	Overberg Water	R 1 436 468.00	-33.989437	20.987273	III
Buffeljagts	Overberg Water	R 1 108 868.00	-34.003502	20.717483	III
Bontebok	SANParks	R 420 026.00	-34.063119	20.467854	III
Marloth	CapeNature	R 426 378.00	-33.986066	20.476791	III
Grootvadersbosch	CapeNature	R 343 761.00	-33.960459	20.828785	III
Swartberg	CapeNature	R 832 543.00	-33.358194	21.795444	III
Knysna	SANParks	R 6 136 916.00	-33.968433	22.969637	III
Knysna	Eden District Municipality	R 271 783.00	-33.932435	23.078019	III
Karatara	Eden District Municipality	R 348 960.00	-33.870636	22.829006	III
Moordkuil	Eden District Municipality	R 755 881.00	-33.963429	22.094875	III
Outeniqua	CapeNature	R 744 820.00	-33.892447	22.478207	III
Groot Brak Riparian	Eden District Municipality	R 1 478 926.00	-33.963334	22.214654	III
Gwaiing	George Local Municipality	R 726 956.00	-34.008389	22.399720	III
Touw River	SANParks	R 2 265 845.00	-33.961433	22.631316	III
Goukamma	CapeNature	R 340 692.00	-34.052357	22.886096	III
Baviaans Kloof	Gamtoos Irrigation Board	R 4 327 188.00	-33.619353	23.881498	III
Tsitsikamma West	SANParks	R 6 319 027.00	-33.961516	23.552415	III

Project	Implementing Agent	Budget	Latitude	Longitude	Phase
Tsitsikamma Wage Incentives	Gamtoos Irrigation Board	R 1 003 355.00	-34.047626	24.225250	III
Tsitsikamma East	SANParks	R 2 161 463.00	-33.964532	24.025526	III
Katberg	Gamtoos Irrigation Board	R 3 430 966.00	-32.472632	26.666015	V
Kubusi River	IDT	R 1 852 666.00	-32.619630	27.341365	V
Keiskamma	IDT	R 1 805 414.00	-32.645890	27.091368	V
Hogsback	IDT	R 1 651 134.00	-32.619630	26.985801	V
Buffalo Rooikrans	IDT	R 1 977 438.00	-32.756183	27.325083	V
Pott River	Ukhahlamba District Municipality	R 492 944.00	-31.036103	28.382641	V
Pott Tsitsa	Ukhahlamba District Municipality	R 1 603 760.00	-31.211165	28.826772	V
Xuka-UKDM	Ukhahlamba District Municipality	R 2 122 025.00	-31.243606	28.190399	V
Umnga Flats 1	Ukhahlamba District Municipality	R 1 301 969.00	-31.379102	28.310515	V
Umnga Mac 2 (Mbidlana)	Ukhahlamba District Municipality	R 2 075 029.00	-31.357163	28.366553	V
Umtata Basin	IDT	R 2 119 389.00	-31.455546	28.687091	V
Umthatha River 1	Gamtoos Irrigation Board	R 3 020 562.00	-31.582289	28.765035	V
PES Mzimvubu Vuvu	Ukhahlamba District Municipality	R 304 659.00	-30.606556	28.237712	V
Upper Tsitsana	Ukhahlamba District Municipality	R 2 713 503.00	-30.812284	28.180636	V
Lambasi	IDT	R 1 130 531.00	-31.237798	29.628003	V
Pondoland	IDT	R 3 400 460.00	-31.520148	29.647247	V
Port St Johns	IDT	R 2 076 864.00	-31.666002	29.466131	V
Nyati	DEA	R 843 821.00	-27.859366	31.149632	V
Vygeboom Dam	DEA	R 3 446 021.00	-25.856017	30.539884	IV
DWAF Upper Sand	DEA	R 6 232 016.00	-24.723420	30.974310	IV
Injaka Dam	DEA	R 3 745 044.00	-24.875222	30.981900	IV
Hazyview_Sabaan	DEA	R 1 623 952.00	-25.077987	30.990574	IV
Kwena Dam	DEA	R 351 672.00	-25.713848	30.225081	IV
Barberton	DEA	R 2 734 949.00	-25.709786	30.911555	IV
Eerstehoek	DEA	R 689 715.00	-25.580231	30.477751	IV
Lydenburg	DEA	R 697 467.00	-25.135950	30.415522	IV
Nooitgedacht	DEA	R 679 657.00	-25.873515	30.160395	IV
Upper Elands	DEA	R 703 777.00	-25.622843	30.314636	IV
Modjadji	DEA	R 1 269 139.00	-23.636780	30.189444	V
Gravelotte	DEA	R 777 817.00	-23.755905	30.260919	V
Letaba	DEA	R 1 281 656.00	-23.837968	30.099439	V
Wolkberg	DEA	R 534 652.00	-23.943066	29.937417	V
Mamatola	DEA	R 1 603 791.00	-23.941210	30.213269	V

Project	Implementing Agent	Budget	Latitude	Longitude	Phase
Legalameetse	DEA	R 529 146.00	-24.174166	30.353572	V
Mutshindudi	DEA	R 1 304 207.00	-22.848318	30.474338	V
Nzhelele	DEA	R 488 811.00	-22.918482	30.137014	V
Mutoti	DEA	R 1 042 885.00	-23.031823	30.455448	V
Citrusdal Riparian	Citrusdal WUA	R 4 625 802.00	-32.732550	19.056551	II
Bushmens	DEA	R 1 690 548.00	-29.188875	29.633887	I
Loteni Tribal	DEA	R 1 015 972.00	-29.532356	29.647687	I
Nxamalala	DEA	R 1 330 738.00	-29.583606	29.769274	I
Stoffelton	DEA	R 503 894.00	-29.611767	29.660357	I
Solokholo	DEA	R 443 590.00	-29.688814	29.724861	I
Umkhomazana	DEA	R 292 777.00	-29.666724	29.605663	I
Maguzwane	DEA	R 397 690.00	-29.578166	29.533178	I
Upper Tugela	DEA	R 250 061.00	-28.708703	28.979671	I
Mnweni	DEA	R 228 777.00	-28.820516	29.124912	I
Zinkwazi	DEA	R 480 759.00	-29.252818	31.418302	V

SIP 19 Working for Wetlands Projects

Project	Implementing Agent	Budget	Latitude	Longitude	Phase
Peninsula	Unknown	R 1 858 154	-34.10652	18.37474	II
Tsitsikamma	Unknown	R 1 769 670	-34.02590	24.20530	III
Gatberg	Unknown	R 4 000 000	-31.14420	28.06210	V
KZN Midlands	Unknown	R 1 944 000	-29.31400	29.50410	I
Wakkerstroom	Unknown	R 1 650 000	-27.14187	30.31014	IV

SIP 19 Working for Land Projects

Project	Implementing Agent	Budget	Latitude	Longitude	Phase
Table Mountain	SANParks	R 1 359 266.63	-34.131350	18.393853	II
GRNP	SANParks	R 1 487 384.43	-33.997088	23.245019	III
Mhlontlo	Gamtoos Irrigation Board	R 5 627 378.03	-31.212696	28.861109	V
Golden Gate	SANParks	R 1 165 719.62	-28.500858	28.674064	I

SIP 19 Working for Forests Projects

Project	Implementing Agent	Budget	Latitude	Longitude	Phase
Cata	Gamtoos Irrigation Board	R 481 791.00	-32.564741	27.132885	V
Tsolo	Gamtoos Irrigation Board	R 447 208.00	-31.307119	28.830171	V
Ntywenka	Gamtoos Irrigation Board	R 2 234 338.00	-31.178569	28.618408	V
Cengcane	Gamtoos Irrigation Board	R 644 988.00	-31.009182	28.749683	V
Ntsubane	Gamtoos Irrigation Board	R 3 301 621.00	-31.424718	29.697651	V