



The DUCT Story

2005–2013



Healthy communities need healthy rivers

The Duzi-uMngeni Conservation Trust

Dedicated to the health of the uMsunduzi and uMngeni Rivers

Healthy communities need healthy rivers

November 2013

The Duzi-uMngeni Conservation Trust is registered as a non-profit company

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Cover photos, clockwise from top left: DUCT River Care Team cleaning up an illegal dump site on the banks of the Baynespruit; Hugh Raw, Dickie Edwards and Bruce Baxter, who have volunteered a morning of their time for DUCT's work nearly every month for seven years; school group on River Clean-up day in Edendale; Thulani Mbanjwa and Sibonelo Zondi negotiate Tops Needle Rapid during the 2012 Dusi Canoe Marathon; Howick Falls – visited by up to 1 000 tourists daily, including many from outside of South Africa; DUCT River Care Team during environmental education training at WESSA's Umgeni Valley reserve; valley children enjoying the river; DUCT Land Care team working on erosion control structures; Kelvin Price removing a car wreck which had been in the river for more than ten years. **Centre left:** the uMngeni Valley below the Cumberland Nature Reserve. **Centre Right:** A DUCT River Care Team maintains the trash boom above Campsdrift in Pietermaritzburg.

All photographs in this report are from DUCT's photo library, except for the following:

Dusi canoeists (cover, p. 3, p. 24): Dave Macleod / Gameplan Media

Howick Falls (cover): Bjørn Christian Tørrissen

Source of the uMngeni (p. 2), Midmar dam (p. 2) and Albert Falls dam (p. 3): Umgeni Water

Inanda dam (p. 3): JMK / Wikimedia

All photos on p. 21: Durban Green Corridor

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DUCT's mascots – Mo the malachite kingfisher and Ntini the otter – were painted especially for DUCT by artist Rose Rigden.

Midmar Dam

Capacity: 235 400ML

Surface area: 15.643 km²

Each year, the world's largest open water swimming event, the Midmar Mile swimming race, is held here.



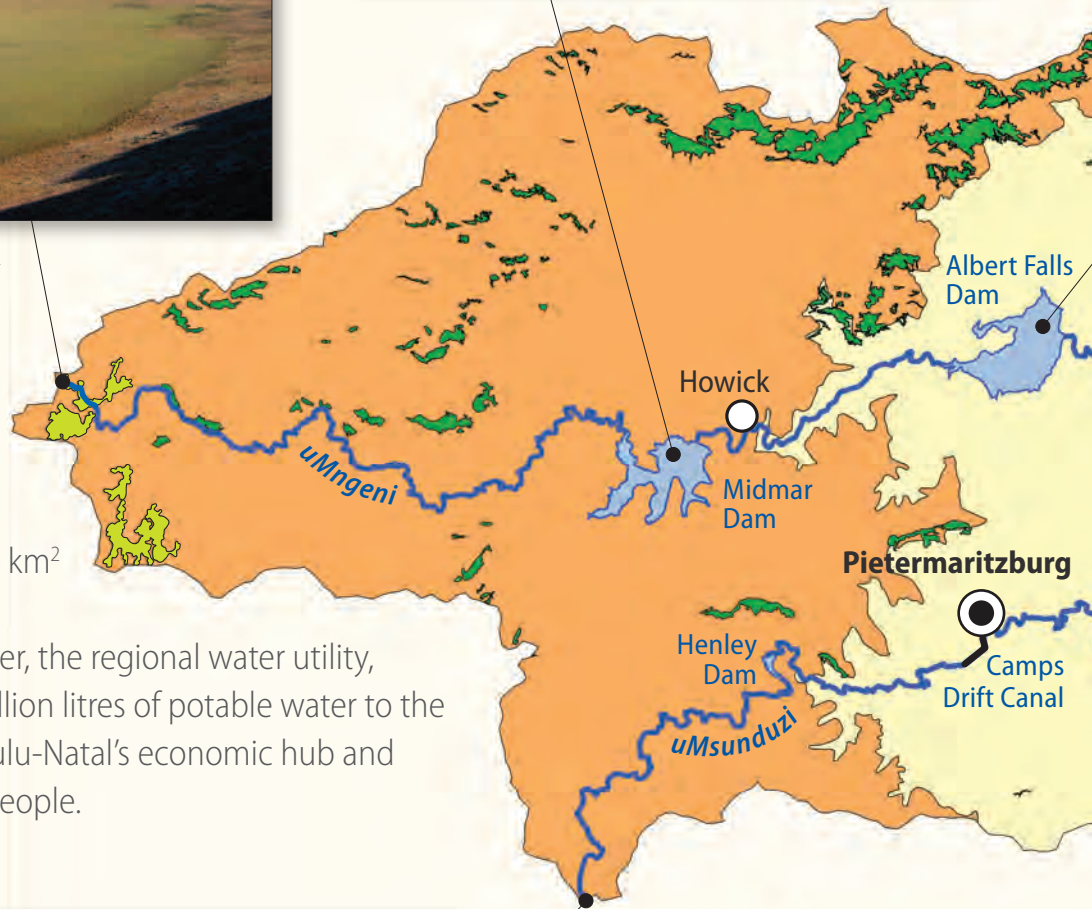
The source of the uMngeni – the extensive uMngeni Vlei lies on a high plateau below Drinkkop.

uMngeni

Catchment size: 4416 km²

River length: 265 km

Every day Umgeni Water, the regional water utility, distributes over one billion litres of potable water to the region, which is KwaZulu-Natal's economic hub and home to four million people.



The source of the uMsunduzi, below Elandskop.

uMsunduzi

Catchment size: 875 km²

River length: 115 km



Albert Falls Dam






Capacity: 290 100 ML

Surface area: 23.521 km²



A good birdwatching spot with over 280 bird species recorded.

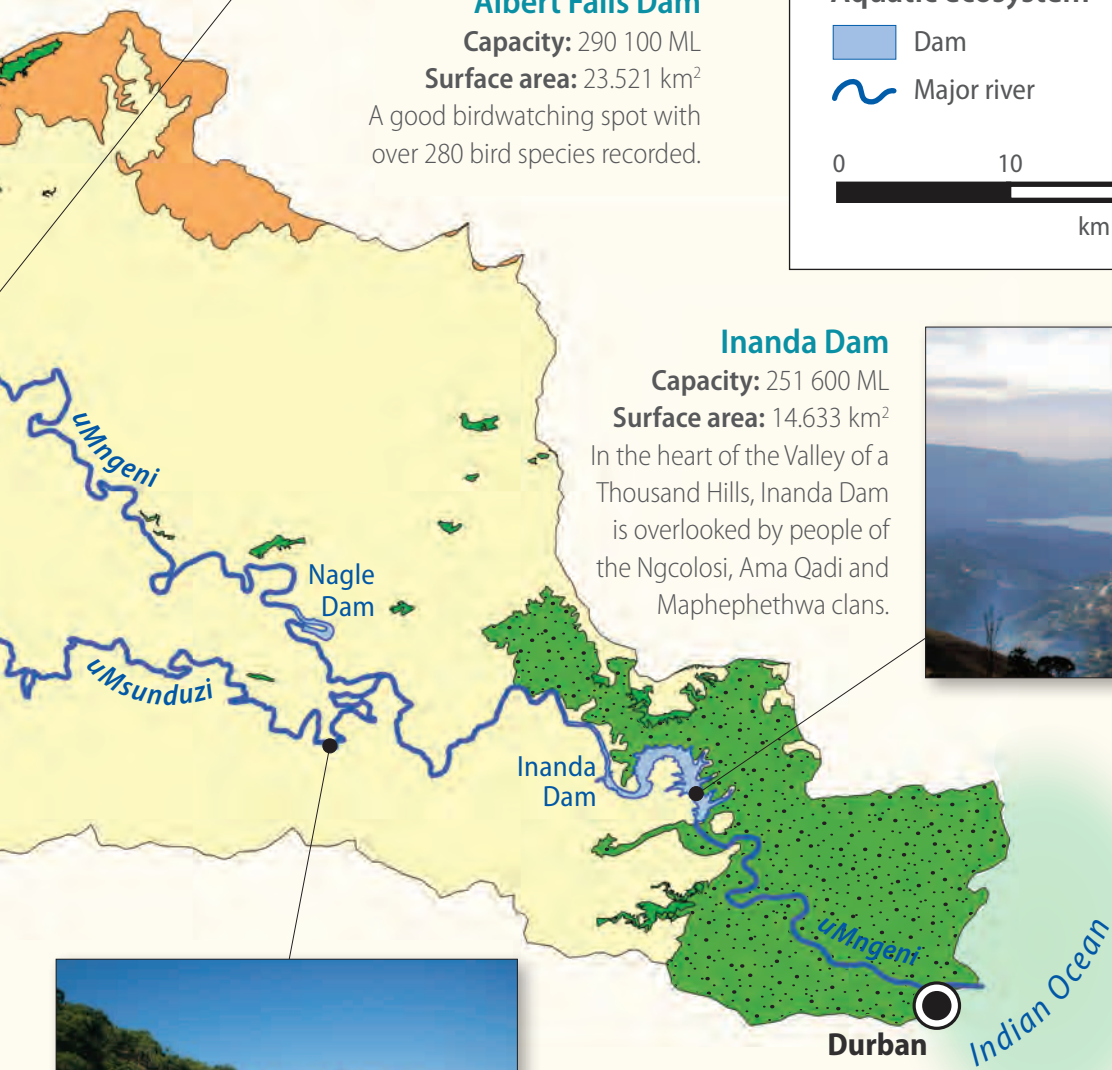
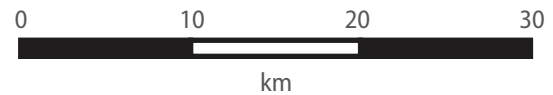
LEGEND

Biome

-  Eastern temperate freshwater wetlands
-  Southern mistbelt forest
-  Midlands mistbelt grassland
-  Ngongoni veld
-  KwaZulu-Natal coastal belt

Aquatic ecosystem

-  Dam
-  Major river



Inanda Dam

Capacity: 251 600 ML

Surface area: 14.633 km²

In the heart of the Valley of a Thousand Hills, Inanda Dam is overlooked by people of the Ngcolosi, Ama Qadi and Maphephethwa clans.



Dusi canoe marathon

A prestigious annual three-day canoe race from Pietermaritzburg to Durban, the Dusi was pioneered in 1951 by Ian Player, who went on to become one of South Africa's best known conservationists.

Our mission: To champion the health of the uMsunduzi and uMngeni Rivers

If your river is sick, your city is sick.

– DR IAN PLAYER

Founder of the Dusi Canoe Marathon and one
of South Africa's best known conservationists

Rivers do not lie. If your city does not have a functional waste management system and if too many people do not care what happens to their waste, then far too much of that waste is going to end up in the river. If your city is not spending enough on the construction, operation and management of its sewage systems, then too much sewage is going to end up in the river. If your landowners – public and private – do not make an active effort to stem and defeat the tide of alien vegetation invading their land, then fairly soon the indigenous vegetation will disappear, with all the attendant consequences.

For a good sense of a river's health, try a duck's perspective and float down the river. The original initiative and impetus to form the Duzi-uMngeni Conservation Trust, or DUCT – a non-profit public benefit organisation with the express purpose of championing the health of the uMsunduzi and uMngeni Rivers – came from concerned individuals within the KwaZulu-Natal canoeing community, in existence since the first Dusi Canoe Marathon in 1951. Since the formation of DUCT in 2005 and its official registration in February 2006, DUCT has grown to include all those who are passionate about river health in this region, not only those with the inclination to mess about in boats.

DUCT functions in different ways. It lobbies for higher priority to be given to any actions and programmes which will improve river health, such as the removal and control of invasive weeds, the improvement of waste management systems, and the implementation of the environmental flow provisions of the National Water Act of 1998. In many instances it provides skills and manpower to give effect to those actions and programmes, particularly where there is something new that needs to be tried out or demonstrated. It monitors matters which have a direct bearing on river health, such as sewage pollution, uncontrolled sand mining operations and illegal dumping. It works on raising the public awareness of river health issues through education of school groups, public campaigns and the use of the media. It provides ready access to a network of highly experienced professionals with relevant skills, and uses these skills to formulate proposals and to manage programmes which are making a difference. This report provides an overview which will give some idea of the scope of our work, and how it all relates to the overarching river health theme.

The task of turning around river health in a catchment is massive, for it touches on virtually every aspect of the way we manage our society. It is easy to become overwhelmed and wonder what difference one individual or one organisation – an



The confluence of the uMngeni (left) and uMsunduzi Rivers.

NGO at that – can possibly make. My answer to these concerns is two-fold. One is to repeat that old maxim, that the way to climb a big mountain is one step at a time. Instead of bemoaning the magnitude of the task, rather get on with it and before long one will look back and see that substantial progress has been made. The other is that the world is run by those who show up. Our job is to show up for the sake of river health, so that when the decisions are made and the resources allocated, issues affecting river health are not relegated to the bottom of the list.

There is no question in my mind that, despite growing population pressure which militates against river health, we are slowly winning this struggle. For example, we are starting to see serious budgets being allocated by the relevant authorities for sewer upgrades and upgrades of sewage treatment plants, for alien invasive plant removal and for improved land care in general. We are seeing more attention being given to catchment health matters, and we are seeing growing public awareness of the value of our rivers to society. We have not yet reached the tipping point after which

improvement will be rapid and marked, but I do see evidence that we are moving in that direction.

As chairman of DUCT it has been my privilege to work with a number of high calibre individuals – members of our staff, board members, supporters or representatives of other organisations or government bodies who share our objectives. The characteristics that stand out amongst these people are enthusiasm, passion and an unselfish willingness to work for the public good. They have greatly enriched my life and have given me hope for the future of this part of our wonderful country.



David Still

DUCT Chairman
September 2013

Directors and management team

Directors

Chairman:

Dave Still *Water engineer*

Dave is the director of the Pietermaritzburg based civil engineering company, Partners in Development. He has 30 years of experience in the water engineering field covering a wide range of activities from water resources to water supply and sanitation. He enjoys canoeing and hiking.

Vice-chairman:

Colin Everson *Landcare specialist, hydrologist*

Colin is an honorary professor at the University of KwaZulu-Natal and Extraordinary Professor at University of Pretoria. His primary field of expertise is in catchment management. Colin is a seasoned Comrades marathon runner, cyclist and Dusi paddler.

Treasurer:

Trevor Gorven *High court judge*

Trevor is a judge in the KwaZulu-Natal High Court. He is a passionate supporter of conservation causes, and has completed several Comrades marathons, cycle tours and Dusi canoe marathons.

Steve Cohen *Sustainable development practitioner*

Steve is a Chartered Management Accountant with past experience in facilitating community development in ecologically important areas and who now specialises in finance in the health and social welfare sectors. He is a keen birder, trail runner and paddler, and has completed 15 Dusi marathons.

Mark Graham *Aquatic scientist*

Mark has over 20 years of experience in terrestrial and aquatic ecosystem functioning and management and has been involved in the National River Health Programme, the standardisation of the SASS5

technique and the development of community based tools for water quality assessment. Mark is also a seasoned Dusi canoe marathon participant.

Jean Lindsay *Conservation activist*

Jean is a Durban city councillor heading up the conservation portfolio. She has been a teacher of special needs children and an Executive Member of the KZN Conservancies Association for 15 years. Jean has represented South Africa for sailing and is a keen hiker, birder and mountain biker.

Liz Taylor *Eco-Champions co-ordinator*

Liz has a B.Sc Honours (Botany) and a teaching diploma. A member of both the board and management team, she has played a key role in launching and managing DUCT's Eco-champions.

Ian Bailey *Aquatic scientist*

Ian is Head of Biological Sciences at Umgeni Water, where he has worked for over 20 years. He is passionate about rock and ice climbing, mountain climbing, adventure racing and canoeing and has completed more than 10 Dusi marathons.

Kirsten Oliver *GIS specialist and environmental activist*

Kirsten specialised in catchment management in her studies and has worked with the Endangered Wildlife Trust, the South African Crane Conservation Group and now the Wildlands Conservation Trust. She is an experienced and talented paddler and photographer.

Past board members include **Barry James, Carl Haycock, Graham Evans, Tim Cockbain** and **Pat Reddy**. For more details on the committee members see www.duct.org.za/Committee-Information/

Note: all DUCT's directors serve in a voluntary capacity.



DUCT directors and management team meeting at Mfula Store on 31 August 2013.

Management team

Doug Burden *General Manager*

Doug was appointed as DUCT's General Manager at the end of 2011. A well-known Midlands-based conservationist, he worked with the Natal Parks Board for 19 years and Mondi Forests for 17 years. He is also a talented and enthusiastic paddler with a love for the Duzi and uMngeni Rivers.

Caroline Clover *Financial Manager*

Caroline joined DUCT in 2010. She has a B.A. (Visual Arts) degree and a B.Com (HR management) degree. Caroline is passionate about the environment, and enjoys any activity which takes her into the great outdoors, including hiking, camping, mountain biking, fly fishing and trail running.

Wendy Ngcobo *Environmental Educator*

After matriculating in 2006 Wendy volunteered at WESSA's uMngeni Valley and went on to study environmental education through SustainEd at WESSA. This was followed by an internship year ending in 2008, and some volunteer work for DUCT until she joined DUCT as an environmental educator in 2009. Assisted by **Zakhele Mdunge**, **Hlengiwe Nxele** and **Pandora Long**, Wendy currently looks after eco-clubs in over 27 schools.

Sithembiso Sangweni *River Care Teams Manager*

Sithembiso joined the DUCT management team in June 2010 after graduating with a diploma in Nature Conservation and worked for two years as River Care Team Supervisor before being promoted to manage the River Care Programme. He recently completed his B.Tech in Nature Conservation.

Bart Fokkens *Field Manager Durban*

Bart studied forestry at Saasveld and worked for the Natal Parks Board in conservation field management. Bart manages fieldwork for DUCT in the Durban area and is a specialist in alien invasive plant control, in particular using biological agents. In addition to running his own businesses, he runs a cub scout pack and enjoys adventure sports of all sorts.

John Butler *Pollution Control Officer*

After a long career in the Environmental Health field John joined DUCT in 2006. His principal function within DUCT has been that of Pollution Control Officer, but he has played a vital support role in all aspects of our work. Currently much of his time is dedicated to mentoring the four interns employed by DUCT under SANBI's Groen Sebenza Programme.

Jane Bain *Administration Manager*

A keen cyclist and paddler, Jane has completed a number of Dusi Canoe Marathons. She joined

DUCT in April 2013, having recently retired from 29 years with Standard Executors and Trustees. Administration Manager does not adequately define her work, which is essentially to back up and support DUCT's senior management.

Penny Rees *EIA Monitor*

Penny has a Nature Conservation diploma and has worked in the environmental field all her life. One of her roles with DUCT is to keep an eye on any new developments which might affect river health, but she is also involved in water quality monitoring in the Howick area. She initiated and led the Mayday for Rivers Source to Sea Walk on the uMngeni in May 2012.

Pandora Long *Eco-School Co-ordinator*

Pandora joined DUCT in 2007 and initiated the annual DUCT Schools Art Campaign. Pandora's DUCT work is in collaboration with Pietermaritzburg Eco-Schools cluster which she coordinates and she chairs the newly formed 'Happy Earth' Environmental Education Sustainability Forum, of which DUCT is a founding member.

Liz Taylor *Eco-Champions Co-ordinator*

Although also a board member Liz has played a key role in launching and managing DUCT's Eco-champions programme in Mpophomeni, where she is assisted by **Louine Boothway**. This programme is now being replicated in Edendale.

Devlin Fogg *Durban Green Corridor General Manager*

Devlin is well known for his accomplishments in the adventure sports world. Apart from having trekked to both the south and north poles while still in his early twenties, he played a key organising role in the 2008 international Land Rover G4 Challenge. With DGC his role is to integrate nature rehabilitation, youth development and local economic growth through adventure sport and eco-tourism.

Chantal Pillay *Durban Green Corridor Administrative Manager*

Chantal has a background in financial management and tourism. She joined the DGC team as an office manager at the beginning of 2012.

In May 2013 DUCT welcomed three interns to the team, sponsored by SANBI's Groen Sebenza Programme (an initiative funded by the Presidential Green Jobs fund). **Sanele Vilakazi** is focusing on the control and removal of invasive alien vegetation; **Kholosa Magudu** on river health and water related diseases; and **Siyabonga Ndlovu** on land care, in particular on the problem of unregulated sand mining. Sanele and Kholosa are B.Sc graduates from UKZN and Siyabonga is a B.Tech graduate from Saasveld Forestry College.

Grateful acknowledgements to **Su Erskine**, **Andrew Booth** and **Deren Coetzer**, each of whom served DUCT in a senior management capacity during its early years.

In June 2013 five of DUCT's River Care Team supervisors – **Nicholas Gumede, Sibusiso Ntinga, Alfred Zuma, Jacob Sikhonde** and **Wiseman Mhlongo** – graduated from our three-year National Lottery funded River Care Programme. In recognition of their hard work, the one-ton Nissan bakkies they had been using on the programme were handed over to them along with a brushcutter and a chainsaw each. They now work as subcontractors in the environmental management field, with three of them currently doing contract work for DUCT, Durban Green Corridor or WWF.



Patrons and members

DUCT patrons

DUCT is supported by five patrons, all highly respected local community members who have made, and continue to make, major contributions to conservation in KwaZulu-Natal and beyond.

Dr Ian Player

has had a lifetime in conservation and is well-known for his leadership of the "Operation Rhino" team which made a major contribution to saving the white rhinoceros from extinction. He is a founder of the Wilderness movement in South Africa and founded the Wilderness Leadership School which aims to teach conservation values and environmental education. He is also the founder and a past winner of the Dusi Canoe Marathon and thus has a keen interest in the health of the Dusi and uMngeni Rivers.

Inkosi Bhengu

is the senior inkosi, or traditional leader, for the KwaNgqolosi Traditional Authority area in the Valley of a Thousand Hills, the valley area between Pietermaritzburg and Durban, and also chairs the house of Traditional Leaders for the KwaZulu-Natal province. He has been very involved with supporting the Dusi Canoe Marathon over many years.

Inkosi Mlaba

is the past inkosi for the KwaXimba Traditional Authority area in the Valley of a Thousand Hills. He has played a significant role in supporting the Dusi Canoe Marathon over the years, and has completed several Dusi Marathons himself. Inkosi Mlaba is also a retired provincial member of parliament,

where among other roles he served as the Chairman of the Environmental Committee.

Professor Charles Breen

is the former head of the Institute of Natural Resources. Over the years Professor Breen supervised many students who are now senior researchers in the field of water research. He has been a member of the Kruger National Park Rivers Research Programme, and has been instrumental in the development of the Consortium for Estuarine Research and Management.

Cameron MacKenzie

has been Chairman of the Dusi Canoe Marathon for the last ten years. Apart from himself being a veteran of many Dusi Marathons, he has also been one of the hardy group who have re-enacted the original Dusi Canoe Marathon in canvas and wood canoes. Cameron is a well-known member of the Pietermaritzburg business community.

DUCT members

DUCT members with voting rights are individuals who have made a positive and selfless contribution to the rehabilitation of the Dusi and the uMngeni Rivers, as well as to conservation and environmental education in general.

Members contribute to DUCT by donating either money or time towards the DUCT mission. In 2013 there were 80 members of DUCT. Their names are listed on the DUCT website.

Partners and sponsors

Since 2006 DUCT has been supported by and worked in partnership with many people and organisations. A full listing of these organisations year by year can be found on our website at www.duct.org.za. The following have all contributed more than R10 000 in cash or in kind towards our mission. Also a large number of organisations and people helped with food, logistics, equipment and accommodation for the 2012 Mayday for Rivers Walk. Their names can be found on the site www.umngeniriverwalk.wordpress.com/supporters.

- A Rocha
- African Conservation Trust
- Bruce Baxter and Friends
- Colenbrander Inc
- Cumberland Nature Reserve
- Dargle Conservancy
- Datcentre, Pietermaritzburg
- Department of Environmental Affairs
- Department of Water Affairs
- Dorpspruit River & Community Regeneration Project
- Dr Peiser & Associates, Howick
- Dunranch Spur / John Dory's
- Dusi Canoe Marathon
- Dusi2C Cycle Race
- Duzi Productions
- Epworth School
- eThekweni Metropolitan Municipality (Durban Green Corridor Programme)
- Ezemvelo KwaZulu-Natal Wildlife (EKZNW)
- Ferroprint
- GlassFibre Products and Services
- Ground Truth
- Hazclean
- Hilton College
- Hulamin
- IDT (Independent Development Trust)
- Idwala Mining
- Institute of Natural Resources
- Janet Edmonds Consulting
- Karkloof Conservancy
- Ken Collins Charity Trust
- Kingfisher Canoe Club
- Kloof Conservancy
- KwaZulu-Natal Canoe Union (KNCU)
- KZN Department of Agriculture, Environmental Affairs and Rural Development (DAEARD)
- KZN Trail Running
- Liberty Midlands Mall
- Makro
- MBB Consulting Services (PMB)
- Merrill King
- Midlands Conservancy Forum
- Mpushini Conservancy
- Msinsi Holdings
- Msunduzi Innovation and Development Institute (MIDI)
- Msunduzi Municipality
- Natal Canoe Club
- National Lottery Board
- National Manpower
- NCP Alcohols
- Parklane Spar
- Partners in Development
- Paul Firman
- Popes Canoe Centre
- Prosys.Com
- Rotary Pietermaritzburg
- Rotary Pietermaritzburg Azalea
- Royal Haskoning DHV
- SANBI (South African National Biodiversity Institute)
- SASRI (South African Sugarcane Research Institute)
- South African Forestry Training College
- Stihl SA
- Symonds Lane Stream Conservancy
- Talbot Laboratories
- Temple Creative
- Terratest
- The Natal Witness
- Tourette Fishing
- Trevor Gorven
- Umgeni Estuary Conservancy
- Umgeni Water
- uMgungundlovu District Municipality
- uMngeni Municipality
- Uniprint
- University of KwaZulu-Natal (UKZN) – Dept of Geography
- Water Research Commission
- Wembley Conservancy
- Wembley Pharmacy
- Wildlands Trust (incl. Critical Ecosystems Partnership Fund)
- Wildlife and Environment Society of South Africa (WESSA)
- Winterskloof Conservancy
- Workwear (formerly Protectowear)
- WWF Nedbank Green Trust
- WSP Environmental



SELECTED DUCT PROJECTS

River Care Teams

A River Care Team is a group of well trained, well equipped and motivated workers who are based on a particular stretch of river. On this stretch their work includes control of invasive alien vegetation, trash collection and removal, prevention of illegal dumping and reporting sewage or industrial pollution.

The length of river that a team of ten can meaningfully look after varies according to the location, but 10 km is the average. The number of

DUCT teams on the ground varies according to the availability of funding. From 2006 to 2009 there was just one team based in Pietermaritzburg. With support from the National Lottery and then the advent of the Durban Green Corridor Programme the number peaked at twelve in 2012. With the ending of the Lottery funding in June 2013 the number has now reduced to seven, four of which fall within the DGC programme.

Best operating practices are employed by DUCT's well supervised river care teams at all times. This has led to DUCT being recognised as a valuable partner in the fight against damage to, and pollution of KwaZulu-Natal's most important river catchment.

Clockwise from top left

DUCT team clearing alien plants along the uMngeni; a river care team removes plastic and other waste collected at a trash boom; streambed clearing and rehabilitation work; a team works their stretch of river.





SELECTED DUCT PROJECTS

Invasive Alien Weed Control

From Howick down to Durban there are well over 50 species of alien invasive plants being tackled by DUCT's river care teams. Lotto funding from 2010 to 2013 has enabled River Care Teams to make significant inroads with alien invasive plant control over a 100km zone on average 30m wide either side of the river. With regular follow-ups after the correct initial treatments, alien plant infestations have been significantly reduced. DUCT aims to extend the width beyond 30 metres in the future, subject to receiving enough support.

Alien plants controlled by DUCT range from 45m high Eucalyptus trees to the small aquatic Kariba weed plants, only a few centimetres high. The common terrestrial weeds encountered and treated are Bugweed, Lantana, Bramble, Cassia, Wattle,

Gum, Cromolaena, Mexican Sunflower, Brazilian pepper, Castor Oil, Syringa, Spanish Reed, Sesbania, Mulberry and Canna. Invasive creepers ranging from Cats Claw, Ipomea, Pereskia, Balloon Vine to Madeira Vine are also included in the control programme.

Aquatic weeds spread amazingly fast, doubling the area they infest in as little as ten days (this varies according to temperature and nutrient level in the river). Hyacinth, Water Lettuce, Kariba Weed,

Clockwise from top left

*Massive water hyacinth infestation at the headwaters of Inanda Dam in 2011; a DUCT team physically removing hyacinth; biocontrol agents – *Neochetina bruchii*, a weevil that feeds and breeds exclusively on water hyacinth; distinctive yellowing of water lettuce after the introduction of *Neohydronmus* weevils.*



Azolla, Ludwigia and Parrots Feather are some of the more common aquatic weeds in our systems.

With support from the Department of Environmental Affairs (Natural Resource Management Programme) DUCT is able to access herbicide for both terrestrial and aquatic work and have been loaned boats for spraying the aquatic weeds.

DUCT liaises with the South African National Biodiversity Institute (SANBI) with regard to emerging weeds, and has treated Demoina weed, Mauritius Hemp, Pom Pom weed and Arrow Head. DUCT also has access to biocontrol agents from the South African Sugar Research Institute (SASRI). These host-specific agents have been distributed by DUCT staff and are making a significant impact on aquatic weeds like hyacinth, water lettuce, parrots feather and Kariba weed.

Eco-Furniture

In 2012 DUCT was approached by the Department of Environmental Affairs' Natural Resource Management Programme (under which the Eco-Furniture Project falls) to supply processed timber to their Cedara manufacturing centre for the production of coffins, school desks, church and outdoor furniture.

Large exotic trees growing within the riparian zones (worked by DUCT's River Care Teams) are felled, planked and delivered to the centre. These trees were previously ring-barked, treated with herbicide and left to decay – what a waste! In addition to the eco-furniture, by-products from the processing of these trees include material highly sought after for mulching, composting, animal bedding and bio-fuel.

Right

Alien vegetation is put to good use with the help of appropriate, portable technology.





SELECTED DUCT PROJECTS

Land Care

DUCT has initiated a programme of improved land care and soil erosion prevention in the upper Duzi catchment, and has also implemented erosion control measures along other sections of the Duzi. This work will be expanded if funding can be sourced from, for example, the Department of Environment Affairs *Working for Land* programme. Unless land care in the catchment can be improved, siltation of the rivers and the dams will continue at an excessive rate.

During September 2008 a team of DUCT workers were employed to commence a soil rehabilitation project in the upper catchment of the Duzi River. Known as the Mafunze Land Care project, it was initially funded through an off-set arrangement between conservation authorities and the developers of the Edendale Mall shopping complex. Rock was imported from a nearby quarry and rock pack structures were then created strategically across the steep slope to lessen the effects of soil loss. A number of these rock packs have succeeded in diverting run-off from active dongas, thereby lessening the impacts caused from overgrazing and accelerated run-off down the steep slopes. Vetiver grass was also used successfully as an alternative to the more expensive rock packs. It is imperative that this project is replicated both upstream and downstream of Mafunze in order to minimise sedimentation of the water-courses feeding the Duzi River as well as protecting fragile river ecology and preventing Henley Dam from silting up prematurely.

DUCT also assisted the KwaZulu-Natal Canoe Union with the procurement and management of a contractor to desilt a critical portion of the Campsdrift Canal in 2011, and in 2007 constructed erosion prevention measures on a badly affected section of the Dusi Canoe Marathon's "Guinea Fowl" portage route.

Left

Erosion control works on a steep slope, in a donga and on the "Guinea Fowl" portage route; desilting the Campsdrift Canal.



Monitoring of Sand Mining

Sand for construction will always be needed to feed the growing cities of Pietermaritzburg and Durban, and sand mining (also known as sand winning) is an important part of the Valley economy. However, this industry is poorly regulated and managed and there are many illegal operators. The responsible authorities have to cover the whole province and cannot be everywhere at once. This is where DUCT can play a role, as we and our support network have a strong presence on the ground and we can note whether mining operations remain within the limits of their permits, and in fact whether they even have permits. It has taken several years to build the necessary relationships necessary with the respective authorities (Departments of Water Affairs and Environment Affairs, eThekweni Metro and the Department of Mineral Resources), but we are now making good progress.

A key step has been the employment of Saasveld graduate, Siyabonga Ndlovu, on a 30-month contract funded as part of SANBI's Groen Sebenza programme. Siyabonga is focusing on the development of our own sand mining monitoring programme, and on building relationships with both the tribal authorities and the responsible government officials.

DUCT would like to see the sand mining industry focusing its efforts on the headwaters of dams such as Inanda and Shongweni where sand deposits have accumulated and will accumulate further over time. This sand could be designated as 'Green Sand', i.e. sand which has been harvested in an ecologically responsible manner, and we would like to see the major industry players insisting on the use of this sand. We would also like to see a special levy being raised on all sand mining in the valley which will go towards community based monitoring and rehabilitation work, thus helping to further support the Valley economy while simultaneously protecting the environment.

SELECTED DUCT PROJECTS

uMngeni River Walk from source to sea

In May 2012, DUCT's Penny Rees led a five-person team on a walk down the full length of the uMngeni River, from source to sea. The walk started at Drinkkop, which overlooks the uMngeni Vlei on the plateau above Dargle and Fort Nottingham, and ended at Blue Lagoon, where the river reaches the Indian Ocean.

The aim of the walk was:

- to raise awareness of the plight of the uMngeni and all South African rivers; and
- to familiarise DUCT with the entire river.

The team consisted of five walkers: Pandora Long, Penelope (Pens) Malinga, Preven Chetty, Mike

Farley and Penny Rees with support from John Fourie, Hugh Raw and Wendy Ross, and film crew, Sphiwe Mazibuko and Nontokozo Mncwabe of Duzi Productions. Along the way they documented and recorded all impacts on the river and posted daily stories of their adventures and findings on a blog (go to <http://umngeniriverwalk.wordpress.com> and browse to May 2012).

Following the river entailed rock hopping, wading, or walking, always keeping the river in sight. The many impacts were recorded on GPS, dictaphone, in photographs, or in writing. In addition, regular water tests were conducted and water samples were taken for laboratory analysis.

The story of our river that emerged as we walked this journey at times not only gave us incredible joy but also humbled, angered and saddened us. The contrasts between the many people who care for the uMngeni River and those who do not are enormous, and we hope that our walk will, if not engender a passion for our river, at least awaken a sense of responsibility into those who so abuse her and take her for granted.

– PENNY REES

Below, from left

The uMngeni estuary; river walkers Penny Rees, Pens Malinga, Pandora Long, Preven Chetty and Mike Farley break for lunch.





River Clean-up Days

Since 2006 citizens from all walks of life and hundreds of school children, supported by DUCT, have donned rubber gloves and filled countless numbers of bags with solid waste found in the uMngeni and Duzi Rivers.

The events are timed to coincide with International Coastal Clean-up day in September when thousands of volunteers remove litter from beaches, estuaries, and inland waters all over the world.

Initially the focus was on the Duzi River and partnerships were organised with local schools, interested and affected parties such as Qhakaza from Sobantu, canoeists and provincial and

government agencies. Later years included the badly polluted tributaries of the Slangspruit and Wilgefontein, with residents of Imbali and Edendale participating too.

The clean-up, which has been sponsored by Hulamin since its inception, has grown to include some 40 schools collecting 8 000 bags of refuse!

Clockwise from top left

This low level bridge at Grimthorpe Road backs up with trash several times each summer; a DUCT team removing refuse from a river bank; school children hard at work in their community; a group of volunteers cleaning up a stream.





SELECTED DUCT PROJECTS

Working with Schools

There are 227 schools situated within two kilometres of the Duzi and uMngeni Rivers. For many of them, Mo the Malachite Kingfisher (the DUCT mascot) and Ntini, the cape clawless otter (an indicator species for healthy rivers) are becoming familiar figures, as are DUCT river care workers and education co-ordinators, Pandora Long, Wendy Ngcobo, Zakhele Mdunge, Hlengiwe Nxele and Louine Boothway. The DUCT education programme is aimed at:

1. Raising environmental awareness amongst youth;
2. Evaluating and monitoring the river;
3. Facilitating youth action towards rehabilitation and restoration;
4. Encouraging creative expression in caring for our environment;

5. Reporting, sharing and inspiring others to take catchment action.

Benefits of participation for schools include cross-curricular opportunities to engage learners in learning about river catchments and river health, as well as challenging learners to find innovative solutions to environmental health and social issues to bring about lifestyle change and restored river health. The programme encourages the concept of communities working together towards the goal of clean and healthy river systems and encourages collaboration with other schools. The programme also provides for recognition of practical school involvement in environmental issues and helps to promote schools' commitment to broader environmental health issues.

Through this campaign we hope to raise the voices of our children and give them an opportunity to express their need for a clean and healthy environment, for beautiful natural surroundings to explore and healthy river systems to play in.

— PANDORA LONG

Ntini's High Five reminds everyone of the values needed to take care of our environment: **safety, commitment, love and respect, accountability, encouragement, attitude and interconnectedness.**



Over the past eight years DUCT has worked with over 40 schools to:

- Encourage and support schools and communities to Adopt-a-River;
- Conduct Mini SASS tests on the river (an analysis of the invertebrate life in the river, as indicator species of river health);
- Encourage the formation of Eco-clubs and ongoing monitoring, data collection and reporting activities;
- Address river health issues such as alien eradication, pollution, illegal sand mining through schools monitoring and data collection projects;
- Participate in annual coastal and river clean-up days;
- Provide Eco-Schools information and support;
- Participate in an annual Arts and Cultural campaign (initiated in 2007). Winning entries are displayed at the Midlands Mall and Howick Museum, and a colour calendar is produced annually including some of the best artwork.

Sewage Monitoring

Water testing in tributaries in the Pietermaritzburg area over the years has indicated ongoing pollution from sewage spills and leaks. In some instances, surcharging manholes have continued unabated for many months, spewing their contents into an already strained river system.

DUCT's river care teams often reported sewage surcharges. Their observations were, however, limited to the particular areas in which they were working. DUCT management thus decided in 2012 to ensure that all the sewage manholes which could impact on the upper Msunduzi and its tributaries (Kwa Pata, Slangspruit and Wilgefontein) were inspected at least once a week by a member of the DUCT staff. They focused especially on those areas where Umgeni Water routine weekly sampling results indicated high *E.coli* counts.

Initially these manholes were difficult to find, even though maps were provided, but constant vigilance

and sleuthing by dedicated DUCT employees has uncovered a number of surcharges in areas otherwise neglected. On many occasions it has been necessary to carry out house to house surveys to ascertain the origins of the pollutants, especially when stormwater channels are involved.

DUCT is determined to continue its vigilance in sewage monitoring, in order to prevent further degradation of rivers in city areas. The Enviro Champs in Mpophomeni (reported on page 20) also play an active role in sewage monitoring in their areas. A similar monitoring capacity is being developed in Durban within the Durban Green Corridor Programme.

Opposite

Encouraging creative expression of river health issues through art: DUCT annual schools art display at Liberty Midlands Mall, 2012.; Wendy Ngcobo at WESSA's Shelter Falls Camp, Umgeni Valley with a group of primary school Eco-Club members, 2011.

Below

Sewage run-off in a residential area; inspecting a surcharging manhole.





SELECTED DUCT PROJECTS

Enviro Champs

DUCT's Enviro Champions have volunteered their services because of their commitment to the environment and because they are near a particular problem site such as a regularly spilling sewerage manhole or a site of illegal dumping. Currently twenty Enviro Champs (ten in Edendale, two in Sobantu and eight in Mpophomeni) report local environmental issues and developments on a monthly basis. A small stipend of air-time is paid to each Enviro Champ so that they can phone or SMS the relevant authorities and report the problem.

This grounded network of community participants has been an extremely successful part of the Mpophomeni Sanitation Education Project (MSEP) which was funded by the uMgungundlovu District Municipality and reports show a definite improvement in the sewage problems over the past year. It has also led to a municipal decision to replace certain problem sewers. A respectful and cooperative relationship with the plumbers who repair the problems has also developed.

The MSEP is a partnership between DUCT, WESSA and the uMgungundlovu District Municipality. It was started in November 2011 as a direct result of the pollution problems in Midmar Dam, which is situated 4km downstream of Mpophomeni township.

In addition to the Enviro Champs, the Mpophomeni Youth Productions Drama Team performs at high profile public meetings, at the eight schools in Mpophomeni as well as at the churches, crèches, gardening groups and other community gatherings. Colourful, engaging and humorous drama presentations cover topics that are relevant to sanitation education and include: how to treat your waterborne sewage, what not to throw down the toilet and how overflowing sewage is bad for environmental and human health.

Durban Green Corridor

Urban development in close proximity of the uMngeni River has caused serious environmental pollution of the water. Despite this, the uMngeni River system possesses substantial recreation and eco-tourism potential and is a vitally important economic resource for residents. The estuary is also an important feature for Durban, both as an ecological system and as a recreational facility.

The eThekweni Municipality and DUCT work together on an initiative called the Durban Green Corridor. The programme is supported by the Department of Water Affairs as well as numerous businesses, sport and environmental associations.

Since 2010, the Durban Green Corridor programme has sought to integrate nature rehabilitation, conservation and environmental awareness, youth development and local economic growth through adventure sport and eco-tourism within the uMngeni River Valley. The Durban Green Corridor has developed a network of trails and promotes related sports such as mountain biking and trail running within the valley. Another priority of the Durban Green Corridor is to ensure growth and sustainability and the support and involvement of the local business sector, sports bodies, environmental groups and funding partners.

The efforts of the DGC teams in building new mountain bike trails were integral to the success of the inaugural Dusi2C mountain bike race in June 2013.

Opposite

Enviro Champ Andile Vilakazi at a site of spilling sewage in Mpophomeni; MSEP staff investigate a blocked manhole; uMgungundlovu District Municipality plumbers respond to a call from the Enviro Champs.

Right

Integrating adventure sports and recreation with environmental awareness in the Durban Green Corridor.



DUCT – Changing people's lives whilst improving catchment and river health

This report highlights some of the various activities that have taken place during the last eight years of DUCT's existence: invasive vegetation over a hundred kilometres of river banks has been greatly reduced; over a hundred thousand bags of rubbish have been collected from river environs; illegal sand mining operations have been closed down; and countless pollution sources have been identified and fixed. All this has certainly helped to improve the health of our river system, but like any job of maintenance, as soon as you get to the end, you have to go back to the beginning again...

The real revolution in the catchments, however, has been in how people living and working in these areas have had life changing experiences,

interactions and insights – it is hoped that DUCT's work has helped to inspire this. From over a thousand school children who have shared in the wonder of identifying many of the aquatic insects in our rivers during Wendy Ngcobo's schools education outreach programme, to the two hundred or so individuals who have come through the ranks of the DUCT's River Care Teams and Enviro Champs. These people have all had training in various aspects of their work and are now incredibly proud of their teams' achievements in making the Duzi and uMngeni Rivers healthier. Read some of their stories of inspiration and life change which ultimately have to be part of the longer term solution to changing the way we view, respect and care for these vital resources in our area.

Wendy Ngcobo
Environmental Educator, DUCT



I started with DUCT after I completed an Environmental Education internship at WESSA. DUCT trusted me to start an environmental education programme. As DUCT was a small NPO, there was nobody responsible for administration and particularly to answer calls. I had to answer these calls; as a person who stutters when I talk I felt this was a big responsibility. However, DUCT helped me gain confidence and helped me get a diploma in Office Administration from Varsity College and this built my confidence even more. This made my environmental education work much easier because the more I spoke, the more my confidence levels advanced. I felt I could address whoever I needed to. Now I'm in the process of getting a driver's licence. I have grown as a person and professionally. DUCT is opening so many opportunities for its employees; I know that this doesn't end here.



S'phamandla Dlamini

River Care Team member and Enviro Champs manager in Ashdown

I started to work for DUCT in 2006. When I first started it was just a job, cutting down the bush. But after a time I started to learn about what I was doing, I spoke to people like John Butler and they told me about the environment and about rivers. I learnt a lot. I went on the Environment Practices course. Now I am passionate about nature and the environment, it is in my blood.



Sthembiso Nkomo

EnviroChamp, Mpophomeni

I was not working before, but then I got the chance to do the Enviro Champs work in my area. The big problem in my area is the illegal dumping. I realise now that I must do something. I organised a petition of 50 signed names to take to the uMngeni Municipality. I have now got a job with Wildlands Trust working on recycling. I am still doing my Enviro Champs work.



Ayanda Kwali

River Care Team member – Howick Team

DUCT has given me the opportunity to develop in life. Before my work with DUCT I did part-time garden work. I then had the opportunity to work for three years on the River Care Team. I got my chainsaw certificate and driving licence. I attended the ten-day Environment Practices training course. I feel much more confident as a person and have a love for the environment.



Andile Vilakazi

Ex-Enviro Champ manager, Mpophomeni

I helped out for a short time managing the Enviro Champs in Mpophomeni while Pens Malinga did the river walk along the Umgeni River. I got to know DUCT'S work and also to meet Jim and Liz Taylor. When my contract with DUCT was finished I managed to secure a full-time job at WESSA as I had shown my passion for the environment.

DUCT – Supporting Dusi paddlers

Each year the Dusi Canoe marathon, South Africa's longest running and best known canoe race, takes place from Pietermaritzburg to Durban, over a total distance of 120km and spread over three days. In

2013 there were 1700 paddlers. Over the years, the quality of the water and the river condition had deteriorated. Since DUCT has got involved, things are improving...

"Congratulations to DUCT on the amazing work they have done and are doing to clean up the Dusi and Umgeni Rivers. The transformation of the section of river and river banks down stream of Low Level, alongside Sobantu and on to the Campbells take out was amazing. It was also great to see the DUCT guys working there and in other places along the course during the actual race. Well done to David Still and the DUCT team."

– Tim Cornish, four times Dusi winner

"The positive results of DUCT's efforts were obvious throughout the river over the entire three days. I spent many hours in the air and on the ground and can attest to the fact that the river is far cleaner than in previous years. There is huge evidence of eradication of alien vegetation ... DUCT's presence along the course was also very evident and some people even helped with marshalling duties and cutting access paths on the golf course portage. The hyacinth was only problematic in the last three kilometres ... All other sections over the river were clear. Thanks for all the involvement and support."

– Paul Lancaster,
Chairman of Natal Canoe Club, 2010/11

"We at KCC would like to thank DUCT for their ongoing work and tireless efforts in keeping our natural resources healthy for the benefit of



our environment, and for future generations. Their efforts in education in local communities and in physically cleaning up the river valleys of the Dusi and Umgeni Rivers have been invaluable in the conservation and restoration of these areas.

Down in the Blue Lagoon area, DUCT have been instrumental in making the valley more accessible to the public for recreation by building riverside trails and Adventure Centres. They have played a significant role in bringing the plight of the Lagoon, the Mangrove and the lower Umgeni Valley to the attention of the powers that be.

KCC fully supports DUCT in all of their endeavours. Their contribution to the conservation and restoration of the natural environment of the Dusi and Umgeni River Valley is invaluable."

– Stuart Clifton,
Past Chairman, Kingfisher Canoe Club

DUCT – Making a difference to the environment

More words of encouragement... from local river residents and partners in caring for the river.

"Umgeni Water is the main water services provider (bulk treated water provision to over 3 million people) in the area where DUCT operates. The work done by DUCT is clearly of great benefit to our organisation as well as the environment and all those living in the area. We rely on water resources in the Mgeni and Msunduzi River catchments, and having an independent, suitably skilled, knowledgeable and enthusiastic NGO working to protect those catchments and water resources is reducing risks and enhancing sustainability of those resources, in both quantity and quality. Their actions in alien plant control work, clean up campaigns, education/awareness, identifying problems/pollution, and lobbying municipalities and other authorities is clearly beneficial and necessary. There is also no other such group or Municipality within the area capable of taking on the work done by DUCT throughout the catchment."

– Steve Terry,
Water Quality Scientist at Umgeni Water

"As part of our turnaround strategy, we have identified credible institutions with whom we have partnered in our quest to pursue our common vision. DUCT fits within that category as we both want to protect and sustain the fragile ecological infrastructure within our area of jurisdiction. We are extremely grateful about this partnership model, and wish DUCT the best in all their future endeavours."

– Sbu Khuzwayo, Municipal Manager,
uMgungundlovu District Municipality

"Could I congratulate Mike Farley and his River Care Team for an excellent job of clearing alien vegetation along the banks of the Umgeni River in Howick. This has not only allowed the indigenous vegetation to flourish but no doubt improved water flow in the Umgeni River into Albert Falls Dam."

– Bill Speight,
Chairman, Howick River Conservancy

"The work by DUCT has contributed to the improved functioning of natural ecosystems, and has bolstered the ecosystem services provided. If left unattended, without any follow-up efforts, infestation rates will undoubtedly revert back to serious levels."

– E. Douwes, Environmental Planning and
Climate Protection Department, eThekweni
Municipality

"We have been working with DUCT over the last two years, supplying them with insect biological agents which are specifically bred to control water weeds. Through an integrated management plan, driven by DUCT, using biological control, herbicides and hand clearing, these aquatic invasive alien plants are being kept under control in these river systems. In addition, DUCT are providing a continual monitoring service of the system, so that upsurges of these plants are quickly seen and remedial action taken, should these outbreaks need it."

– D.E. Conlong, Project Manager: Mass rearing
alien weed biocontrol insects, SASRI

Financials

The seven years from March 2006 to February 2013 show certain clear trends in the DUCT finances. General donations and sundry income, along with the KNCU levy and Dusi canoe marathon charity batch input has remained reasonably static in real terms during the period. These contributions should not be construed as insignificant, however. Together they provided just short of R2 million over the seven-year period. They cover the collective items of office expenses, depreciation and insurance, finance and bank charges and accounting fees which amounted to R1.7 million over this period. Further, they do not take into account the donations in kind made by many members by way of volunteering their time and expertise and the hidden savings by way of favourable rental on the DUCT premises by the late Graeme Pope-Ellis, initially, and Owen Hemingway at present.

Some concern may be expressed as to what will happen now that the lottery funded River Care programme has run its three-year course. This accounted for income of R15 million which was expended on the River Care programme over the three-year period from July 2010 to June 2013. It will be noted that the budget for the Durban Green Corridor project has increased over the years in question and will be further increasing in the future. In addition, other project income has increased in the past three years from R100 000 to R500 000. There are, moreover, other projects in the pipeline.

All of this means that DUCT has positioned itself as a credible presence in the River Health sector. It is acknowledged in the various Catchment Management Forums as being a crucial contributor and a leader. It has provided a wide range of inputs in the target areas and it is clear that, with ongoing regular financial contributions, it has the capacity and expertise to be even more effective.

It is therefore crucial not only that the existing donor base should continue to contribute, but that it be expanded. This will continue to provide and expand the platform for project funding to be obtained and applied in the work of DUCT. This is all the more important since many of the projects do not in themselves provide adequate funding for overhead expenses.

Thanks are due to our accountants Colenbrander Inc who have audited our books since our inception, and who have significantly discounted their rates as a contribution to our work. Despite the new Companies Act providing that non-profit companies, such as DUCT, do not have to conduct full audits of their financial statements, DUCT has, in its revised Memorandum of Incorporation, provided for continued annual audits for the sake of transparency and to promote accountability to donors and confidence in the financial conduct of the affairs of DUCT.

Trevor Gorven

DUCT Treasurer



Duzi-uMngeni Conservation Trust: Audited Financials

Income and Expenditure for March 2006 - Feb 2013

	Mar 2006 – Feb 2007	Mar 2007 – Feb 2008	Mar 2008 – Feb 2009	Mar 2009 – Feb 2010	Mar 2010 – Feb 2011	Mar 2011 – Feb 2012	Mar 2012 – Feb 2013
INCOME							
General donations and sundry income	176 892	93 113	200 057	222 776	160 270	121 828	182 737
Durban Green Corridor					725 045	2 856 954	4 165 739
River Care Teams – lottery funded					4 909 462	4 647 628	4 901 328
KNCU levy and Dusi canoe marathon	102 771	125 627	104 639	135 966	101 331	131 083	132 683
Education, environmental awareness	24 742	47 203	45 000	41 594	55 419	121 015	528 120
Other project income	10 544	83 271	251 134	290 204	97 164	43 280	496 614
Interest received					351	5 558	7 657
TOTAL INCOME	314 949	349 214	600 830	690 540	6 049 042	7 927 345	10 414 879
EXPENSES							
Staff costs (excluding project staff)	198 041	183 277	298 794	288 804	579 104	824 362	1 078 587
Office expenses	10 475	26 174	46 810	73 596	160 092	218 680	262 222
Depreciation and insurance	13 577	12 040	20 221	40 187	216 784	269 433	195 634
Finance and bank charges	-22	852	18 856	14 319	20 920	16 751	28 828
Accounting fees	1 964	435	16 045	18 143	19 465	28 161	18 793
Project expenses	93 756	142 061	258 475	305 821	4 475 118	6 278 569	8 549 587
TOTAL EXPENSES	317 791	364 838	659 202	740 870	5 471 483	7 635 956	10 133 651
NET INCOME	-2 842	-15 624	-58 372	-50 331	577 559	291 390	281 228

Note

All DUCT's directors provide their services in a voluntary capacity.

Balance Sheet

	28 Feb '07	29 Feb '08	28 Feb '09	28 Feb '10	28 Feb '11	29 Feb '12	28 Feb '13
ASSETS							
Current Assets Cash, accounts receivable and work-in-progress	26 828	123 330	178 076	198 749	256 795	1 482 678	839 998
Fixed Assets Vehicles and equipment (book value)	37 590	25 550	45 403	15 000	259 056	148 711	386 419
TOTAL ASSETS	64 418	148 881	223 479	213 749	515 851	1 631 389	1 226 417
LIABILITY AND EQUITY							
Current Liabilities Accounts payable, accruals and short term loans	285	62 297	82 398	200 206	65 460	889 608	203 408
Long Term Liabilities Long term unsecured loans	66 975	105 049	217 919	140 710	0	0	0
TOTAL LIABILITIES	67 260	167 346	300 316	340 917	65 460	889 608	203 408
NET ASSET VALUE	-2 842	-18 466	-76 837	-127 168	450 391	741 781	1 023 009
TOTAL LIABILITIES AND EQUITY	64 418	148 881	223 479	213 749	515 851	1 631 389	1 226 417

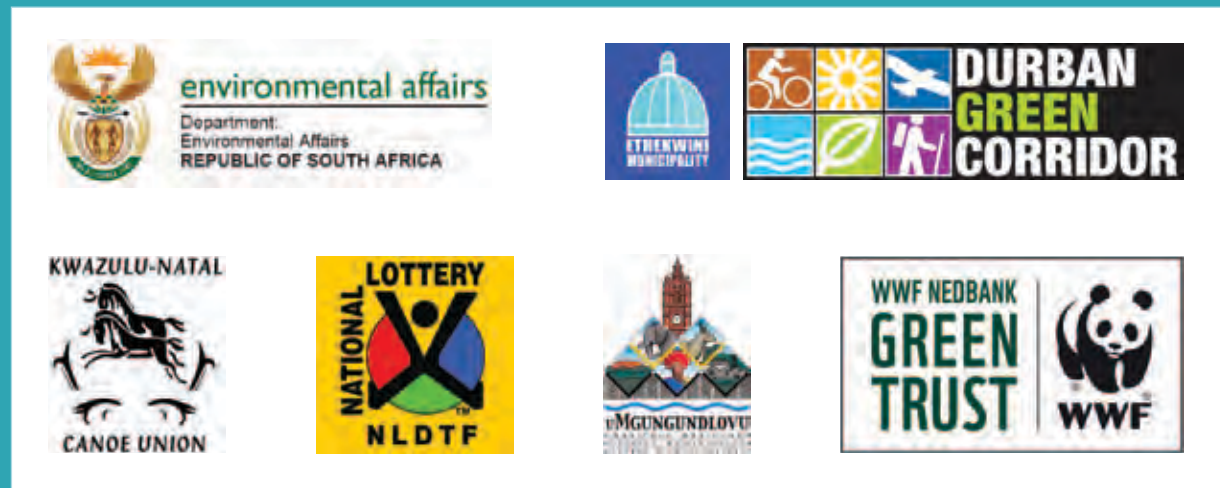
Notes

1. Full details of DUCT's financials can be found at www.duct.org.za/Sponsors/
2. These figures exclude advance payments against future obligations which are kept in separate bank accounts and drawn down as work proceeds.

DUCT's major partners

We would like to acknowledge the support and good faith of the following major partners who have helped to build DUCT's capacity over the last eight years:

Department of Environmental Affairs • eThekweni Metropolitan Municipality (DGC Programme)
KwaZulu-Natal Canoe Union • National Lottery Board • uMgungundlovu District Municipality
WWF Nedbank Green Trust



The production of this report would not have been possible without the generous support of the following organisations:

John Dory's • Ground Truth – water, wetlands and environmental engineering • Hulamini
MBB Consulting Engineers • Msunduzi Innovation and Development Institute (MIDI) • Stihl SA
Talbot Laboratories • Wembley Pharmacy





The Duzi-uMngeni Conservation Trust (DUCT) is a non-profit public benefit organisation founded for the express purpose of championing the health of the uMsunduzi and uMngeni Rivers in KwaZulu-Natal. For the past eight years DUCT has worked on:

- Improving water quality through lobbying for improvements to the sewage infrastructure and the operation and maintenance of that infrastructure in Pietermaritzburg and Durban;
- Reducing solid waste in the rivers by lobbying for better waste management and by collecting and removing much of the waste that ends up in the rivers;
- Reducing industrial pollution by providing an early warning system and assisting with monitoring;
- Removing and controlling invasive alien vegetation both terrestrial and aquatic, using physical, chemical and biological control methods;
- Increasing flow in rivers through lobbying for the implementation of the environmental flow provisions in the Water Act of 1998;
- Education and public awareness through media campaigns, training and support of community eco-champions, and long term work with eco clubs in schools;
- Better regulation of sand mining through building relationships with the responsible authorities, and through on the ground monitoring;
- Improving land care and reducing soil erosion through the training and employment of erosion control teams;
- Investing in valley communities with typically between 100 and 200 people employed at any one time in various aspects of DUCT's environmental work, from alien plant control to erosion protection, mountain bike trail building and litter removal;
- Reducing the incidence of bilharzia through locating the most affected areas and then developing education, testing and treatment campaigns.



Dedicated to the health of the uMsunduzi and uMngeni Rivers