

# **SECURING ECOLOGICAL INFRASTRUCTURE TO ENHANCE THE VALUE OF, AND RETURNS FROM THE ZANDVLEI CATCHMENT: A PILOT INVESTMENT PLAN FOR THE SOURCE-TO-SEA**

## **Executive Summary**

The city of Cape Town is known for its natural, heritage and cultural assets that contribute to making the city popular as a tourist destination. It is one of the world's very wealthy cities in terms of ecological biodiversity and contains natural vegetation of wetlands, forest, fynbos, renosterveld, strandveld including thicket. Located within the Cape Floristic Region with the fynbos biome being the principal vegetation and known of its diversity and beauty, it is crucial that these biodiversity hotspots be well-managed, protected and appreciated by all.

The Zandvlei Catchment, situated in the South Peninsula area, is an area of great environmental, social and economic value to the City of Cape Town, with the rivers running from Table Mountain, through biodiversity rich areas, through very heterogeneous urban areas where rivers and wetlands provide cultural, recreational and aesthetic value, to the Zandvlei estuary. The estuary, a Nature Reserve, also offers many recreational benefits aside from its environmental value. Value is also created through the buffering services (such as wetlands) that build resilience against natural hazards such as flooding and improving water quality, which are important for consideration of damage costs avoided, replacement costs and insurance claims. Much of the value of the Zandvlei Catchment is also created through tourism and recreation, and the aesthetic value of living close to or alongside these, which increases property values. Overall the ecological functioning of the rivers in the catchment and of the estuary are fair to good, but there is an ever present risk of deteriorating water quality and threats to the ecosystem from the constant pressures of urbanisation and exploitative use of the river corridors if not managed properly.

This pilot business and funding plan is for two key river corridors that are part of the Source-to-Sea Corridor, an initiative in the Zandvlei Catchment. Too often river courses have become negative open spaces – little more than “crime and grime” storm water conduits, carrying high pollution loads, invaded by aquatic exotic vegetation and having a significant adverse impact on adjacent property values. The overarching vision of the project is to: *“Maximize urban natural recreational spaces, restore degraded natural and open space corridors for healthy ecosystems, develop eco-heritage, educational, recreational and tourism opportunities and provide short and long-term local employment opportunities”*.

It is intended that this pilot interim business and funding plan for the next three (3) years will profile and market the many opportunities, building interest and capacity in relevant CoCT departments, private business, NGOs, funders and research institutes to engage in the development of the desired biodiversity/ecosystem services supply chains and markets stimulating investment into the entire area of the Source-to-Sea.

This business case also supports the parallel effort to develop a Green Economy as outlined by the Western Cape Government, reflecting the similarities and overlap in conceptual thinking between ecosystems services and goods and the broader concept of Green Infrastructure.

What the Source-to-Sea business and funding plan offers is a coherent and coordinated approach for implementing projects that provide demonstrable improvements to the ecological health of urban rivers **and** significant social and economic benefits, improving the

social amenity of the ecosystem services that are essential to urban riparian corridors. **Of importance is that the business case builds on what is happening effectively, efficiently and sustainably.**

The business plan takes an integrated approach, promoting coherence within government and between government and non-government interventions, building bridges between communities and stakeholders, and creating the linkages between nodes along the rivers. It is underpinned by having in place a coordination function to ensure collaboration, coherence and partnership building. It seeks to optimize opportunities for job creation and for cost-efficiency in its approaches. It provides the basis for also promoting the City of Cape Town, and also for stimulating the local economy. **Investing in natural assets can leverage relatively high economic values in city economics: through tourism and recreation; through buffering services that build resilience to climate change and reduce vulnerability; through increased property values.**

**The plan addresses risks and opportunities with respect to:**

**1. Ecological rehabilitation at key nodes and on-going ecological maintenance:** *The management and rehabilitation of degraded natural and open space corridors for healthy ecosystems.*

**Goal:**

Rehabilitation of degraded natural and open space corridors that will contribute to improving water quality and ecosystem functioning while also improving lives of citizens in many ways.

- 1.1 Control and/or eradicate invasive alien plants in invaded areas, and
- 1.2 Improve and protect natural habitats
- 1.3 Improve and maintain wetland habitats
- 1.4 Stream bank improvements and remedial action:
- 1.5 Poverty Alleviation – Green jobs
- 1.6 Post-fire rehabilitation

**2. Sustainable use:** *Building on the primary principle of environmental protection, rehabilitation needs are broadened to include a vision for creating recreational opportunities along ecological corridors, maximizing urban natural recreational spaces, developing eco-heritage, educational, recreational and tourism opportunities.*

**Goal:** A green stimulus package to maximize natural open space and optimize recreational and social opportunities for the benefit of all users. It follows international best practice in focusing on health, sustainability and social responsibility in the management of our urban rivers.

- 2.1. Expanding the multi-use trail system: linking the Cape Flats to the Mountain
- 2.2 Mapping the multi-use trail system
- 2.3 Improved pedestrian commuter routes
- 2.4 Educational / awareness programmes
- 2.5 A communication and branding campaign
- 2.6 Annual events

**3. The plan also motivates for establishing a discrete and dedicated **Project Coordinator** in the interests of effective cooperative governance, effective forward planning, management of public communication and stakeholder relations.**

**Based on the opportunities presented the plan outlines a variety of recommendations and budget requirements for the adoption of the Source to Sea project including:**

- **Support the Green Jobs unit** in order to manage the clearing of IAPS (aquatic and terrestrial); the rehabilitation and maintenance of wetlands, riverine and green open areas; ecological infrastructure for path maintenance; bio-control; and support for the Western Leopard Toad programme. *Requires funding for 6 teams of 10 people working to address all these issues for nine months of the year.*
- **Continuation and expansion of wetland rehabilitation** – including habitat creation and substantive rehabilitation of the Kirstenhof wetland. *The estimated cost for the rehabilitation of these wetlands (Kirstenhof, Mocke, Little Princess Vlei and Langevlei) is estimated at up to R 2 million (pers.comm).*
- **Extend stream-bank improvements** (using ‘soft’ approaches) - candidate areas are Brommersvlei; Pagasvlei; Prinskasteel; Spaanschemat and in the Grootboschkloof river. *Budget between R500,000 – R1,5 mn.*
- **Post fire rehabilitation** - *Funding has been made available by various government departments (primarily DEA – NRM and EPIP), but there is a shortfall of some R300,000 to address these actions. Potential funders include Save Our Species Fund - Rapid Action Grants” and “Rapid Response Facility Grants”.*
- **Deployment of more river wardens** to focus primarily on the two river corridors. *It is proposed that an additional 50 river wardens are employed (from the local communities in the Cape Flats) on a full time basis.*

Up scaling and replicating the Green Jobs Unit model will contribute significantly to broadening the reach of what the GJU and the Friends groups are currently able to achieve in their joint efforts to manage the river corridors, the estuary and the Greenbelts. Their roles and responsibilities embrace a wide range of complimentary functions: they carry out minor repairs of green infrastructure (maintenance of paths and bridges); bio-control; add considerable value to ensuring safety and security; provide a monitoring and compliance presence; assist with litter removal; the minor removal of invasive plants as they sprout; report leaking sewers; assist with re-planting and they can contribute to much needed environmental awareness. There is potential for Wardens to receive more advanced training that skills them for undertaking guided walks in which they share knowledge and skills about the flora, fauna and cultural history of the areas.

- **Appointing a dedicated Project Manager** (with dedicated administrative support) to guide and play a coordinating role in the on-the-ground implementation of this business plan and most particularly coordinate and oversee the significantly larger number of Green wardens. The river warden’s programme has not really grown because of lack of capacity and resources, coupled with the biggest challenge of transport and issues with moving equipment. Situated institutionally in the City of CT, probably within the GJU, and reporting to SW&S as the unit responsible for Catchment Management, the project coordinator would be appointed to:
  - a) Coordinate the ecological work – the clearing of IAPS and follow-up, wetland rehabilitation, stream bank rehabilitation, maintenance of footpaths and green open spaces
  - b) Coordinate and have oversight of some 100 green river wardens;
  - c) Undertake intensified coordination between stakeholders within the city and much needed collaborative efforts between the city and external stakeholders: Friends Groups, SANParks, W.C. Government, etc.; and
  - d) Be responsible for publicity and communication around Source-to-Sea activities, and on-going fundraising.

*It is proposed that R18 million be spent over the three years.*

- **Expand the multi-use trail system** – The report provides a variety of ‘low hanging fruit’ for the 1) Diep River: Kirstenbosch to Princess Vlei and 2) “Princess Trail”: Elephants Eye to Princess Vlei along the Prinskasteel/Keysers river. *A feasibility assessment is needed to determine the feasibility of the different route options and the budget required. Cost of a preliminary assessment (including public consultation) and costing of various options: R200, 000. Potential sources of funding include CCT - TCT Dept; City Parks; DEA-EPIP; Donors.*
- **Map the multi-use trail system** – commission consultants to draw up a comprehensive mapping of all the walking trails, cycle and bridle path, and picnic spots, how these link up, access points, parking and nearby facilities. This should be available electronically and on smart phones “apps”. *Budget: R700,000. Potential sources of funding include CCT Tourism Dept for seed funding; Business community (travel companies; outdoor adventure groups; hospitality industry; Real Estate companies; local businesses) Donors; Friends groups.*
- **Improve pedestrian commuter routes** – 1) linking little Princess Vlei to Prince George Drive via Princess Vlei and 2) around Princess Vlei. *Budget: Total Costs = R560.000 (excluding removal of topsoil, earthworks, P&G’s, bridging and improvements to existing bridges professional fees and VAT). Potential sources of funding include CCT – TCT: NMT unit; City Parks; DEA, Environmental Protection and Infrastructure Programmes (EPIP). EPIP programmes focus on infrastructure related projects that contribute towards the environmental protection, conservation and sustainability, whilst creating work opportunities, and providing skills development to enable beneficiaries to secure permanent employment. Business partners such as Ellies could support energy efficient lighting using solar powered lights.*
- **Education and awareness programmes** including school groups making use of the trails for lessons, awareness-raising around pollution, littering and dumping and the inappropriate use of alien invasive species, using educational signage, and community engagement around security issues. *Budget R500 000.*
- **Communication and branding campaign** – the development of a landscape that provides design guidelines for the construction of pathways, bridges, signage, mapping etc. with the aim to establish a consistent theme or “branding” that the public can identify with. *Budget R150 000.*
- **Annual Events** – includes open air concert or a night time market, geocaching/amazing race event, weekly cycle/runs or guided tours along the trails. *Budget: R150,000 for community consultations and preparation of a detailed budget.*

*Given the limitations of this study a cost-benefit analysis study was not possible. Future developments of an investment plan for Source-to-Sea should give consideration to using cost-benefit analysis to make the case for investments.*

The report concludes with an overview of a variety of financial streaming mechanisms. They include:

- Donor Funding
- Corporate social investment
- Green asset classes
- Public-private partnerships
- Volunteer contributions