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**Third Project Steering Committee  
Meeting for the WIOSAP Project and  
First Project Steering Committee meeting  
for the SAPPHIRE project**

*25-27 June 2019*

*Durban, South Africa*

**THIRD PSC MEETING FOR WIOSAP PROJECT: SESSION Vh -  
PROJECT PROPOSAL ON IMPROVEMENT OF ECOSYSTEM  
HEALTH AND WATER QUALITY BY IMPLEMENTING A SOURCE  
TO SEA BASED APPROACH TO TACKLE MARINE LITTER IN FIVE  
PRIORITY RIVER SYSTEM IN DURBAN, KWAZULU NATAL,  
SOUTH AFRICA.**

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**UNITED NATIONS ENVIRONMENT PROGRAMME  
NAIROBI CONVENTION**

**WIOSAP FULL PROPOSALS TEMPLATE**

**Call title:** Implementation of the Strategic Action Programme for the protection of the Western Indian Ocean from land-based sources and activities (WIO-SAP)

**Participating countries:** Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, Tanzania [and France (not project beneficiary)]

**Executing organization:** Nairobi Convention Secretariat

**Duration of demo projects:** 2 years

**Stage of the call:** Full proposals

**Submission dateline:** 5<sup>th</sup> March 2019

**(Maximum 20 pages including cover page, budget and annexes)**

**INSTRUCTIONS**

<b>Organisation Name</b>	Department of Environmental Affairs (Branch: Oceans and Coasts)
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<b>Registration Details</b>	Type of organisation: State Department Country: South Africa Year: N/A Registration Number: N/A

**TITLE OF PROPOSAL**

**"Improvement of ecosystem health and water quality by implementing a Source to Sea based approach to tackle marine litter in five priority river systems in Durban, Kwazulu-Natal, South Africa"**

**Executive Summary:** the Department will seek to contribute to the UN Clean Seas Campaign by implementing a **"Source to Sea Initiative"** aimed at tackling land-based litter in hot spot communities located near rivers and waterways. It will be an ambitious and new strategy geared to investigate and combat pollution, in particular plastic pollution, at source in river catchments and waterways, before it reaches the coast and marine environment. This bold new initiative will scale up litter collection, promote community involvement in waste sorting at source and

recycling in cooperation with the private sector as well as assessing microplastic contamination in these rivers. This initiative will seek to respond directly to the UNEA Resolutions on marine litter and micro-plastics, by tackling waste and litter at source. A **pilot project** is being embarked on in Kwazulu Natal during 2019 – 2021. The initiative will be launched by the Minister in March 2019 in Durban and will culminate the launching of litter traps/ litter booms in the 5 major rivers (conduit to marine litter from land-based sources) of the pilot project.

## **I. BACKGROUND AND JUSTIFICATION<sup>1</sup>**

### **a) The problem or critical issue which the proposal seeks to resolve**

Marine litter and debris, such as plastic items, fishing gear, food packages, glass, metals, etc. have become environmental threats of international concern not only because it washes up on beaches and shorelines worldwide and looks unsightly, but also because debris can be transferred from one country to another via ocean currents and it impacts on commercial fisheries throughout the world.

A 2015 study conducted by Dr Jambeck and published in *Science*, showed that the amount of plastic waste entering the oceans from land each year exceeds 4.8 million tons (Mt), and may be as high as 12.7 Mt - or nearly one to three orders of magnitude greater than the reported mass of plastic in high-concentration ocean gyres. Quantities of plastic entering the ocean are growing rapidly with the global increase in population and plastics use, with the potential for cumulative inputs of plastic waste into the ocean being as high as 250 Mt by 2025. The study also revealed that the largest quantities of marine litter and plastic waste are estimated to be originating from a relatively small number of countries in Asia and other middle income, rapidly developing countries. The top 20 countries, of which South Africa is ranked 11th, account for 83% of the mismanaged plastic waste available to enter the ocean. Reducing the amount of mismanaged waste by 50% in these top 20 countries would result in a nearly 40% decline in inputs of plastic to the ocean. The research suggests that solutions to the growing problem of plastic pollution are achievable, given sufficient resources and commitment. Investments in improved waste management practices on land are critical and will lead to substantial reductions in the amount of plastic waste entering the oceans. Furthermore, a reduction in plastics use and improved recycling of plastics in developed countries is an important complement to the infrastructure improvements needed in developing economies.

With 80% of marine pollution originating from sources on land and owing to the growing concern of litter washing up on South African beaches **from inland sources via river systems<sup>2</sup>**, the Department of Environmental Affairs has decided to embark on an initiative that applies a **source-to-sea approach to addressing marine litter**. The Source-to-sea initiative will involve catchment wide or river basin wide interventions in priority areas to both recover land-based and riverine based litter, thereby **reducing the occurrence of marine litter**, and reducing litter generation. The Source-to-sea initiative will reduce the impacts from land-based sources and activities and sustainably manage critical coastal-riverine ecosystems through the implementation of waste management practices, advocacy, education and job creation. The Initiative will be cross-sectoral in nature and will include key role players and stakeholders.

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<sup>1</sup> Remember to remove all the text in grey after completing the concept ensuring that it keeps to maximum 20 pages excluding cover, budget pages and annexes.

<sup>2</sup> See for example the article [“Booming tides of change - bid to cut down on plastic pollution”](#)

There are various initiatives that have been established in South Africa with the intention to address water and environmental issues across a source-to-sea continuum. The following initiatives have the characteristics of a source-to-sea approach as it involves catchment wide interventions.

### **EXISTING SOURCE TO SEA INITIATIVES IN SOUTH AFRICA**

#### *Integrated Water Quality Management Policy, Catchment Management Agencies and Forums*

In terms of water resource management, the first National Water Research Strategy (NWRS) was approved in September 2004 fulfilling the requirements of the National Water Policy and National Water Act, No 36 of 1998. This strategy provides a framework to protect, use, develop, conserve, manage and control South Africa's freshwater water resources. A key approach to this strategy is the promotion of self-regulating Catchment Management Areas (CMA's) and other water management institutions.

The first CMA (the Inkomati CMA) was established during the 2002/03 financial year. The establishment and evolution of a CMA provides an important opportunity to give effect institutionally and organisationally to the principles of integrated water resources management to address the specific challenges at a WMA level, including stakeholder participation.

Every CMA must progressively establish a catchment management strategy and review it at least once every five years. This strategy must set out the framework for managing water resources within the WMA and the principles for allocating water to existing and prospective water users. As such it specifies the CMA's (and DWS's) intent in terms of water resources management in a WMA, and specifies the way in which water will be managed in that area. The strategy also must set out the water management institutions to be established in the Water Management Area (WMA) and guides these institutions in performing their functions in terms of the Act. All persons and organizations must adhere to the strategy, which in turn must take account of the constitutional mandate and legal powers of water management institutions, as well as other relevant organs of state. Furthermore, the strategy must indicate the manner in which the public will be enabled to participate in water resources management within the WMA. There are 19 WMA's in South Africa. The Minister of Water and Sanitation has prioritized 9 WMAs.

#### *Port St John's Umzimvubu Source2Sea Eco-catchment Initiative*

The aim of the strategy is to ensure a 'living catchment', managed collaboratively under an ethos of stewardship, providing optimal livelihoods for the maximum number of people based on biodiversity and ecosystem services (BES). This strategy will look into the restoration of the catchment by:

- identifying the feasibility for a network of source to sea adventure trails as a long-term non-consumptive ecotourism use;
- develop a 'story' of the river corridor & understand drivers of impacts & changes;
- collect footage & basic status data as a baseline;
- identify other actors, gaps and assets.

The initiative focuses on biodiversity, people and sustainability of livelihoods along the catchment.

#### *Cape Town: Zandvlei (Sand River catchment) Source-to Sea Catchment Management Plan*

The Zandvlei Catchment Management Plan aims to address flooding, water quality issues, improved access and amenities along the Sand River Catchment. It has identified management interventions required for the catchment. Urban drainage matters are greatly addressed in this plan by the adoption of recommended strategies and plans. The water quality interventions, for

example include projects around silt management, impacts from identified industrial areas along the catchment, soil management and alien and invasive vegetation management.

## **b) THE NEED FOR THE NATIONAL SOURCE TO SEA PROGRAMME ON MARINE LITTER**

Due to the increasing and recognized impact of waste from land on the coastal and marine environment, the Minister of Environmental Affairs has signed up to the **United Nations Clean Seas Campaign** on 6 December 2017 in Nairobi at the margins of the Third United Nations Environment Assembly Meeting. The Minister announced that South Africa will step up its beach clean-up programs and actions against waste created by electronics, lighting, tires, and paper and packaging. This includes extended producer responsibility for plastic packaging.

The Department has committed itself to embark on a pilot source-to-sea project that will address waste management and marine litter from land-based sources. The pilot project will be launched as part of the September 2018 International Coastal Clean-up celebrations and will serve as South Africa's flagship contribution under the UN Clean Seas Campaign.

After initial consultations were held with the Department of Water and Sanitation and various relevant divisions within the Department, in August 2017 and January 2018 respectively, the following broad interventions were identified to address marine litter in catchments before it becomes a problem for our coastlines and marine environment:

- *Identify 5 priority rivers that have been reported to be the primary vectors for plastics and other debris to enter the ocean, starting in one coastal province;*
- *Consult with relevant role players to collectively recover, remove, recycle, dispose waste and prevent further waste from entering these rivers;*
- *Determine interventions for awareness raising, education and advocacy;*
- *Determine interventions for compliance and enforcement with regard to illegal dumping and discharges.*

After further consultation with relevant authorities, the following river systems in the province of KwaZulu-Natal along the east coast of South Africa, were identified as a priority areas requiring waste management interventions:

- *uMngeni River into Blue Lagoon/ Durban North Beach;*
- *uMlazi River into Cuttings Beach;*
- *uMbilu River (into the Durban Bay);*
- *uMhlatuzana River (into the Durban Bay); and*
- *aManzimnyama River (into the Durban Bay).*

These rivers have been shown to consistently generate beach and marine litter, especially after significant rainfall events, which tends to have a 'pollution flushing effect' on the river catchments (See Figure 1). Coastal clean-up activities downstream of these loaded river systems have also not been successful due to constant ongoing litter flows. Hence, there is a need to target sources upstream from the coast.



Figure 1: Beach litter on Cuttings Beach, Durban, following heavy rainfall into the uMlazi River in May 2016



Figure 2: Beach litter on uMngeni Beach, Durban, following heavy rainfall into the uMngeni River in March 2019



Figure 3: Land-based litter on uMngeni Beach, Durban, following heavy rainfall into the uMngeni River in March 2019

A common attribute of the priority river systems identified is that they are adjacent to human (often informal) settlements and industrial areas which generate domestic and industrial wastes (see Figure 4). Where such wastes are mismanaged or dumped, there is a high risk that it enters the rivers and eventually flows into the marine environment.



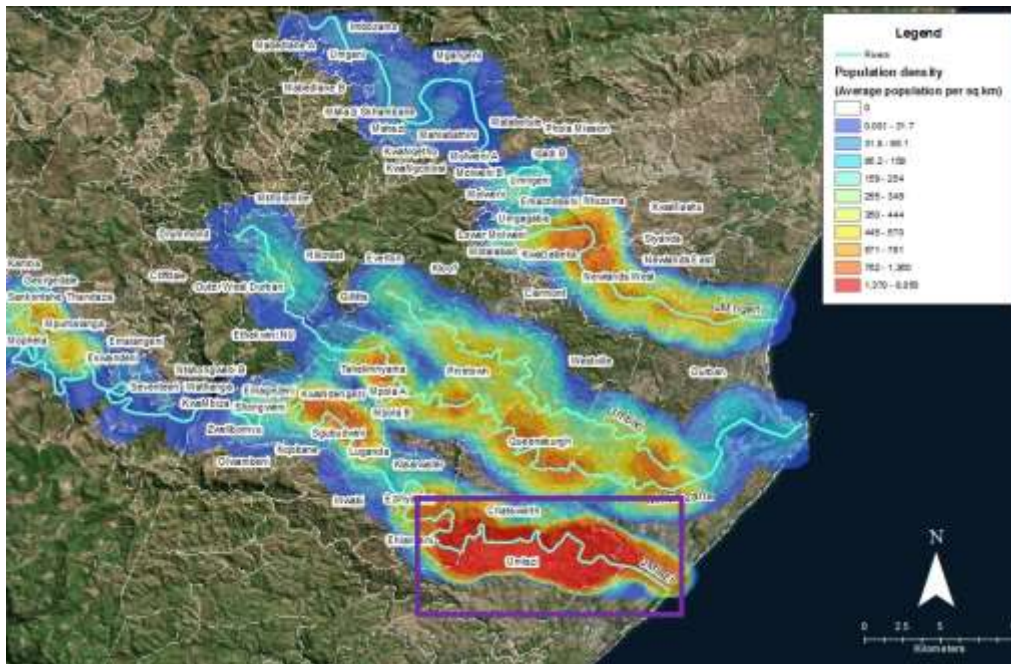


Figure 4: Map showing population density along the 5 Priority Rivers identified in Kwazulu-Natal.

**C (i) Linkage to national strategies and policies:**

In 2014, South Africa launched its **National Coastal Management Programme** as a mandatory requirement under national legislation. Under the Programme, one of the priorities is the management of pollution in the coastal zone. Under that priority, South Africa adopted Management Objective 4.3, which is to develop and implement programmes to address marine litter.

On 8 March 2019, the President of South Africa launched the National **Good Green Deeds Programme**. The Presidential **Good Green Deeds Programme** is aimed to change people’s attitudes and behaviour towards waste and its management, as well as to begin taking charge and responsibility of keeping their neighbourhood clean. The objective for the **Good Green Deeds Programme** is to drive towards a clean South Africa which is free of litter and illegal dumping. This nationwide environmental programme proposes a simple but bold blueprint for what we all can do as individuals, organisations, communities and as a nation to bring about the realisation of a cleaner and more environmentally presentable country. More emphasis is required in ensuring that the citizens now take a stand against the litter in their neighbourhoods and start to clean-up their areas. This is the same key messaging that the Source to Sea Programme will be driving.

**C (II) LINKAGE TO REGIONAL AND INTERNATIONAL OBLIGATIONS (WIOSAP AND GLOBAL):**

In 2007, a **Regional Overview and Assessment of Marine Litter** was conducted in the WIO region, as part of the WIO-Lab Project. The assessment observed that, among others, the most significant source of marine litter is solid waste in water runoff from urban areas. The proposed Initiative will make a direct contribution to the **WIOSAP** vision, by establishing partnerships between Government, industry and civil society bodies to work towards healthy rivers and the marine environment. Although Component B of the WIOSAP (Improved water quality), places an emphasis on municipal wastewater, it is believed the proposed Initiative will contribute to Output B.1.2 (Effluents at a minimum of two (2) demonstration sites are collected, treated,

recycled and/or disposed of in accordance with international best practices), although the focus will be on litter recovery and prevention.

The Initiative will contribute toward the implementation of the **Protocol on Land-based Sources and Activities** adopted under the Nairobi Convention. Under the Protocol, Contracting Parties have a general obligation to “*prevent, reduce, mitigate, combat, and to the extent possible eliminate the pollution and degradation of the Protocol area from land-based sources and activities*” (Article 4). The Initiative will respond directly to the **UNEA-3 Resolution on Marine Litter and Micro-plastics**, which under Paragraph 4(e), calls upon States to “*develop integrated and source-to-sea approaches to combat marine litter...taking into account that plastic litter and micro-plastics are transported to the oceans from land-based sources by rivers and run-off...’*”. South Africa also signed up to the UN’s Clean Seas Campaign(December 2017) in which South Africa will be address marine pollution through addressing its packaging waste, education and awareness and clean up campaigns.

Moreover the initiative will respond directly to the **UNEA-4 Resolutions on Single-use Plastics, Protection of the Marine Environment from Land-based Activities as well as resolution on Global Marine Litter and Microplastics** which calls for strengthening of activities to prevent, manage and minimise impacts of waste from land-based sources to the marine environment.

The Initiative is directly related to **SDG 14.1**, which by 2025, seeks to prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities...”

In July 2017, the **G20** group of countries, of which South Africa is a member, adopted an **Action Plan on Marine Litter**, which focuses on the following main actions:

1. Promote the socio-economic benefits of establishing policies to prevent marine litter.
2. Promote waste prevention and resource efficiency.
3. Promote sustainable waste management.
4. Promote effective waste water treatment and storm water management.
5. Raise awareness, promote education & research.
6. Support removal and remediation action.
7. Strengthen the engagement of stakeholders.

South Africa acceded to the Basel Convention on 5 May 1994, and as a Party, is bound by all obligations under the Convention. The Basel Convention COP 13 included activities related to marine plastic litter and microplastics in the work programme of the Open Ended Working Group (OEWG) for the biennium 2018–2019. The activities included considering relevant options available under the Convention to further address marine plastic litter and microplastics, taking into account, inter alia, the assessment requested by the United Nations Environment Assembly in its resolution 2/11, any relevant resolution adopted by the Environment Assembly at its third session and existing guidance documents and activities under the Basel Convention that addressed issues related to marine plastic litter and microplastics. This also included developing a proposal for possible further action, within the scope of the Convention and avoiding duplication with activities relating to the matter in other forums, for consideration by COP.

#### **D) OTHER PROGRAMMES AND ACTIVITIES WHICH COMPLEMENT THE SOURCE TO SEA PROGRAMME**

South Africa has prioritised **four waste streams** which are tyres, electronic waste, lighting and paper and packaging waste. This includes plastic waste. The packaging industry comprehensive **Industry Waste Management Plans** as part of the **Extended Producer Responsibility**



**Schemes.** The intent of the plan is to ensure that the industry commits to specific targets on the diversion of waste from landfill sites. In the context of plastic waste – the plan should outline to Government how plastics waste will be dealt with in South Africa for the next 5 years. This include details on how the waste management hierarchy will be applied across the whole value chain for managing plastics. It is the anticipation of the Government that the challenges around marine litter could be effectively addressed when the plan provides a detailed system to deal with plastics from the point of source and at post consumer level.

Additionally, South Africa has amended its **fiscal and waste management policy** to introduce **environmental levies for plastic bags** and has introduced the tyre levy on the 1 February 2017. This is part of our commitment to **circular economy** and implementing extended producer responsibility.

The country is in implementing the outcomes of the **Oceans Economy - Waste Phakisa initiatives**. The individual working groups and consultations have been initiated and are underway with Municipalities and businesses to invest in **Waste Minimization Infrastructure**. Further work is being done with the Department of Small Business Development to support SMMEs within the waste sector. Investments in **plastic palletization plants** is also emphasized under Phakisa initiatives as one of the best available ways to divert plastic waste from landfill sites.

The Department has implemented its **Working for the Coast Programme** as an Extended Public Works Project aimed at creating jobs through the clearing of litter from beaches nationally. During the 2016-2018 project cycle, the project has employed over 2400 people, of which 1320 comprises of women and 1560 comprises of youth. The new cycle over the next two years (2018 - 2020) will see the increase in participants deployed in upstream areas and is expected to employ at least 3,000 project participants. A budget of R300 Million has been approved for the implementation of this mass employment project. Whilst this initiative has been in place for several years, it directly contributes to calls under the **G20 Action Plan** and the **UN Clean Seas Campaign** to support litter removal and remediation action. This initiative further promotes the socio-economic benefits of litter collection.

With reference to **Waste Management Policy Reform**, South Africa has also conducted a Plastic Material Flows and End of Life Management Study in collaboration with industry, the South African Bureau of Standards, the National Regulator for Compulsory Specifications, National Treasury and also the Department of Health. The study assessed the current status with regard to the production and management of plastics and identified barriers to improving the diversion of plastics from landfill sites, and to significantly improve recycling rates within the country. Currently less than 25% of plastics is recycled in the country, and this rate can be improved. Additionally, South Africa is preparing to conduct a review of the impact and effectiveness of the implementation of plastic bag policies as well as conducting a **survey on prioritised single use plastic products & policy options** assessment. The study will assess the gaps in terms of current implementation of the plastic bag levy, identify possible areas of improvement and new options, including a possible ban on single use plastic bags.

Moreover, the Country is very much aware of international research and discussions around the impacts of **micro-plastics** in the marine environment. Nationally, consultations have started with **Cosmetic Toiletry and Fragrance Association (CTFA)** to consider and implement a **voluntary**

**phase out of the use of micro beads in cosmetic products.** The Department will continue to engage CTFA to commit to specific timelines for the phase out.

## **II. PARTNERSHIPS**

In January 2018, the Department of Environmental Affairs established an internal **DEA Source-to-sea Task Team** with all relevant divisions represented. These include the Branches: Oceans & Coasts, Chemicals & Waste, Environmental Programmes (for coastal and inland clean-ups), Compliance & Enforcement, and Communications. The Task Team developed a Road Map for the launch of the Initiative in 2018/19, and a draft implementation action plan.

In May 2018 the Department **consulted relevant NGOs** in Kwazulu-Natal (namely the KZN Waste Network), and held a **brainstorming session with relevant authorities** to consider actions to be included as part of the Source-to-sea Initiative. Several NGOs and private sector groups have, or are planning to initiate projects within the geographical scope of the DEA Initiative. Consultations were held with **Plastics SA** (the plastic industry's umbrella association) and an NGO called the **Durban Partnership Against Plastic Pollution** to consider possible collaborative activities under the Initiative. As part of the consultations, the Department will consider entering into Memorandums of Agreement with key role players, such as for example Plastics SA, with which the Department already has a close working relationship. Other external partners include recycling companies, packaging companies, NGOs such as Durban Green Corridors, WESSA (Coastwatch), waste pickers, community leaders and Transnet National Ports Authority (TNPA) representing the Port of Durban.

The “Durban Integrated Development Plan” and the “eThekweni Integrated Waste Management Plan”, are very on the characteristics of the project area. The economy of eThekweni Municipality is highly boosted by its tourism. Local and international tourist are visit eThekweni Municipality due to its beautiful ocean (warm Indian Ocean) and many other activities. The Durban harbour is one of the busiest commercial harbour in Africa. The five identified rivers are located within the eThekweni metropolitan Municipality. The Municipality comprises of urban and rural landscape with a wide range of settlement types ranging from formal urban to rural settlements, with the rural areas experiencing a significant amount of residential growth and experience challenges of un-service informal settlement . In addition, large numbers of informal settlements are scattered across the city, many in peripheral locations or on steep land or flood plains, placing them at higher risk of environmental degradation. There is a need to address socioeconomic issues such inadequate sanitation (housing, sewer line etc.), job opportunities, waste management, (access to waste services etc.). **The Source to Sea project will contribute to the vision of eThekweni Municipality of ensuring the nature shall be clean and safe to its people.**

There is a need to improve quality of rivers, ocean and all other natural resource through enhancing community social and economic values. The Municipality faces challenges that its population generally leave on low density areas with segregated economic and residential patterns which makes it even complicated to service all areas. Like all other townships adjacent to the identified rivers, Umlazi Township impact on Umlazi River which runs to the Treasure and Cutting beaches. The Umlazi Township is right across the N2 freeway and the issues of plastic waste is visible from the distance towards the ocean.

There are existing projects that currently focus on recycling and clean up initiatives from which resources and support for the Initiative could be leveraged. There are also opportunities for further resources from initiatives planning to focus on the growing marine litter problem. These are provisionally presented below and further resources will be solicited as the project evolves (with its detailed action plan):

#### 1. Existing programmes and MOUs

- DEA Working for the Coast Programme (will employ workers to collect litter and support community awareness-raising);
- MOU with waste pickers & recyclers (will support litter collection, separation and recycling);
- Private sector (to be explored during an upcoming consultative session);
- Current NGOs doing clean ups (to compliment litter collection and community awareness-raising activities);
- Municipality doing clean up and recycling (to compliment litter collection and community awareness-raising activities).

#### 2. Possible resources to be provided

- Municipality (GIS mapping of litter hotspot areas and where further litter traps should be deployed);
- Plastics SA (waste audit funding and data generation; supply of river litter booms);
- Awareness raising campaign and programme (DEA Branches: Oceans & Coasts, Chemicals & Waste Management).
- Durban Partnership Against Plastic Pollution & Durban Green Corridors (maintenance of river booms, litter recovery, litter monitoring).

Resources for the short medium and long term interventions is required and will be solicited from existing projects by the DEA, private sector, other government departments, NGOs and the TNPA as well as other key role players relevant to dealing with waste management and marine pollution management.

The [Sustainable Seas Trust](#), which is driving the **African Marine Waste Network's** efforts towards a similar project in the Swartkops Estuary (Eastern Cape Province, South Africa) will also assist in the national rollout of the DEA Source-to-sea Initiative with its litter tracking methodologies and lessons learned. That project will focus on remote sensing of waste and is hoped to be the blueprint for other similar projects in Africa and presents as a potential local partner in the national rollout of the Initiative.

The Department is collaborating with the International Union for Conservation of Nature (IUCN), through its **Marplastics project** (<https://www.iucn.org/news/marine-and-polar/201902/how-south-africa-will-beat-plastic-pollution>), which seems to develop a replicable methodological framework for assessing plastic waste. The IUCN has begun a 4-Year Initiative (2017-2020) on marine plastics in the Indian Ocean and Asia-Pacific with a Budget of EUR 4,280,370. The Marplastics project is aimed at 4 key outputs and activities, summarised as follows:

- Knowledge - assessing plastics in streams, developing a methodology to assess waste sources;
- Capacity – conducting stakeholder analyses, strengthening citizen-science;
- Policy – analyse current policy to discuss policy solutions;
- Business – identify effective and practical solutions.

The **United Kingdom (“Commonwealth Clean Oceans Alliance”)** has requested South Africa and others to join the initiative on marine plastic pollution. This an initiative is under the Commonwealth Blue Charter to address marine plastic pollution (known as the CommonWealth Litter Project/CLiP). Co-sponsors would commit to three main goals:

- 1) Ban of the sale and manufacture of microbeads in rinse-off cosmetic and personal care products by 2021
- 2) Significant reduction of single-use plastic carrier bags 2021
- 3) Take steps to eliminate all avoidable single use plastic waste

A Bilateral meeting with the UK government in January 2019 revealed that there may be useful scientific research and best practices made available to all Commonwealth members that South Africa (in particular the Department of Science and Technology, DST) would be interested in. The UK Government has acknowledged that South Africa is prioritising the above 3 targets as well as developing a suite of other policy options to manage the issue of waste and plastics in society, including taking steps to eliminate all avoidable single use plastics and assist the Source to Sea pilot project by undertaking a microplastics assessment.

No.	Partner Name	Mandate	Role in the project	Resources partner will provide
1	DEA Working for the Coast Programme	National level	Employ workers to collect litter, sort litter at source/river, characterise waste for data collection and support community awareness-raising	Working for the Coast implementers (human resources), litter bags and cleaning equipment such as rakes, gloves, masks, waste skips, awareness raising materials aimed at a community level and schools
2	Waste pickers & community recyclers	Local	will support litter collection, separation, waste characterisation and recycling;	Human resources and collection transportation from source to recycling facilities
3	Private Businesses (packing industry and pharmaceuticals cosmetic industry, Plastics SA)	Private sector	Extended producer responsibility options for policy and action (to be explored further), Industry waste management activities	Establishment of buy back centres for waste in communities, provision of transport to recycling facilities; assist with provisions of funding for awareness raising and litter boom deployment and maintenance
4	NGOs such as Durban Partnership Against Plastic Pollution, Coastwatch, WESSA, Durban Green Corridors	NGO	Assist with clean ups (to compliment litter collection and community awareness-raising activities), monitoring of marine litter data, litter boom management	human resources, litter bags and cleaning equipment such as rakes, gloves, masks, waste skips, awareness raising materials aimed at a community level and schools, monitoring litter collected at the litter booms.

5	Transnet	Port Authority	Assist with clean ups (to compliment litter collection and community awareness-raising activities), monitoring of marine litter data, litter boom management within the port jurisdiction only	Human resources to compliment litter collection and community awareness-raising activities, monitoring of marine litter data, litter boom management <b>within the port jurisdiction only</b>
6	Municipality	Municipal/Local	Assist with clean ups (to compliment litter collection and community awareness-raising activities), monitoring of marine litter data, litter boom management within the port jurisdiction only	compliment litter collection and community awareness-raising activities, development of Co-ops in areas upstream of the coastal environment <b>within the municipal jurisdiction only</b>
7.	Sustainable Seas Trust	NGO	None at this stage (only with further roll out)	will assist in the national rollout of the DEA Source-to-sea Initiative with its litter tracking methodologies and lessons learned
8.	IUCN's Marplasticcs Project	International/regional	Support (knowledge, capacity, policy analysis, business opportunity partnerships) the Source to Sea project as it will generate data information that will assist the theory of change actions as a start.	Knowledge - assessing plastics in streams, developing a methodology to assess waste sources; - Capacity – conducting stakeholder analyses, strengthening citizen-science; - Policy – analyse current policy to discuss policy solutions; - Business – identify effective and practical solutions.
9.	United Kingdom ("Commonwealth Clean Oceans Alliance")	International	Support (Knowledge and capacity Building)	Support (Knowledge and capacity Building) - funding a workshop on science to policy interventions as well undertaking a microplastics assessment.

**B. Immediate/specific objectives**

**III. OBJECTIVES**

**A. Overall objective**

To reduce the impacts of litter on the freshwater, coastal and marine environment and ecosystem health by implementing river basin wide interventions to recover land-based and riverine based litter, thereby reducing marine litter loads, and reducing litter generation at source.

**B. Immediate objectives**

The immediate objective of the Source to Sea Programme is to implement a pilot project aimed at reducing marine litter by intercepting land-derived litter in priority river systems which serve as conduits or pathways for marine litter to enter the marine environment. The project aims to recruit personnel to conduct litter recovery and riverine and community cleanups further upstream, to reduce litter loading on marine environment. As part of the pilot project, opportunities will be investigated and pursued to address mismanaged waste in targeted communities.

NB: the medium to longer term initiative will be to expand the footprint of the initiative nationally.

### **Objectives**

The Objectives of the pilot project are to:

1. Investigate areas of litter concern/hotspots (poorly serviced/unserved/underserved areas) along each of the 5 priority rivers during the first 6 months of the pilot project.
2. Deploy litter recovery resources, including increased clean up efforts, to recover litter from the identified priority rivers for a period of 24 months, including the deployment of 5 litter booms/litter inception devices (one in each river).
3. Monitor and evaluate (characterise) the types and quantities of litter collected in the 5 rivers during a 24 month period, including an assessment of the microplastics in the freshwater and marine system of the 5 priority rivers.
4. Identify and implement at least 1 waste management intervention (such as waste sorting, recovery and recycling) in one community per priority river.
5. Undertake educational activities and awareness raising campaigns (to school, civil society, businesses in the hot spot areas) around litter prevention from land-based sources for a period of 24 months.
6. Undertake a review of the pilot project interventions in the 5 priority rivers and hot spot areas with a view to potential replication to other coastal areas in South Africa.

## **IV. PROJECT IMPLEMENTATION AND MANAGEMENT PLAN**

### **A. Expected project results and indicators**

#### **Outcomes**

- 1. Reduced prevalence of marine litter through increased land-based/upstream litter recovery and waste management interventions.**
- 2. Increase in the scientific information on marine litter and microplastics along the 5 priority rivers that will guide future waste management interventions and a national rollout of the pilot project**

#### **Outputs**

The following outputs are envisaged:

- 3.2.1. Litter hot spot areas along each of the 5 priority rivers identified.
- 3.2.2. Deployment and management plan for the 5 litter booms developed.
- 3.3.3. Monthly litter collection and characterisation reports as well as a microplastics prevalence report for the priority rivers.
- 3.3.4. One waste management intervention per hot spot community near each river.
- 3.3.5. At least 1 community awareness raising event, at least 1 schools outreach activity and 1 electronic media coverage of marine litter and waste management per year.



### 3.3.6. Project implementation review report compiled.

#### **B. Project activities and work plan**

Annex 1 outlines the project's short term activities and the relevant role-players. In order to maximize implementation and the impact of the Initiative, funding is required for the appointment of Project Co-ordinator (2 year term) to lead the implementation of the Pilot Source-to-Sea programme (first year) and support the national roll-out of the Initiative.

#### **C. Project Beneficiaries**

Litter poses a threat to species and the recreational activities along the estuaries of the identified river systems due to improper waste management. Employment opportunities will be created in communities, **especially for women**, due to opportunities for litter collection and the establishment of waste recovery and recycling initiatives. Training and recruitment for the existing WftC project will be done. The Department will develop policies that will enhance efficiency in addressing the waste management whilst empowering local communities to benefit from the management of waste. The waste removal from sources on land will benefit the tourism sector as well as the blue economy when impacts of marine litter in the coastal areas are reduced. Recycling of waste collected (from litter traps or communities) may create employment opportunities for small business such as community buy-back centers. The up skilling of local community on general waste management matters, gathering information on litter collected as well as recycling will benefit communities and achieve a heightened sense of belonging to the environment at a community level – thereby achieving the Presidential Good Green Deeds Programmes' overall objective mentioned in Section 1 above.

#### **D. Implementing agency management of project**

The DEA is responsible for the implementation of the Initiative. Other Departments such as the Department of Water and Sanitation, Provincial Departments of Environmental Affairs, Municipalities, the private sector and NGO's will be engaged to bring-in their roles throughout the project. The Department will investigate and establish an appropriate project implementation platform, which will be represented by key interested and affected parties.

### **V. SUSTAINABILITY AND REPLICABILITY**

As part of the pilot phase of the Initiative, opportunities will be explored to implement innovative small scale litter recycling ventures and markets for recycled products that could benefit local communities and local enterprises. The results and lessons learned will be applied to the national roll-out phase of the Initiative (replication), where similar solutions could be replicated in other coastal provinces. The Initiative is listed on the Branch: Oceans and Coasts' 3-year medium term strategic plan and annual performance will be monitored by the usual business performance processes existing within the Department. The pilot project will create a methodology for sustainable continuation via the DEA's WftC programme and stakeholder commitments (private sector, municipality).

### **VI. PROJECT MONITORING AND EVALUATION**

A Project Co-ordinator will be appointed on a contract basis (2yrs) to ensure that monitoring and reporting of the project progress is conducted on a monthly basis. A project risk management and mitigation plan will be compiled.

## **VII. BUDGET**

A draft budget for the pilot phase of the Source to Sea Initiative is provided in Annex 2. The budget covers deployment of the Working for the Coast Programme to recover litter in hotspot areas, construction and deployment of low-cost river litter traps (or other litter interception devices put forward by innovative community members/ stakeholders), recovery and recycling of riverine litter, assessment of litter loads in hotspot areas (including the presence of microplastics and its type), assessment of litter and waste management practices, awareness-raising and workshops to track implementation progress, disseminate information, draft a theory of change action list, as well as develop plans for the national roll-out of the Initiative. The total amount applied for under the WIO-SAP Project is R 3 890 000 (USD 266 438).

**ANNEX 1: Expanded Workplan**

Task	Responsible	Year 1												Year 2											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
<b>Overall objective:</b>																									
To reduce the impacts of litter on the freshwater, coastal and marine environment and ecosystem health by implementing river basin wide interventions to recover land-based and riverine based litter, thereby reducing marine litter loads, and reducing litter generation at source.																									
<b>Outcome 1.0</b>	<b>Reduced prevalence of marine litter through increased land-based/upstream litter recovery and waste management interventions</b>																								
<b>Output 1.1</b>	<b>Litter hot spot areas along each of the 5 priority rivers identified</b>																								
<b>Activity number</b>	<b>Activity</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>
Activity 1.1.1	Consult municipality, provincial department and Stats SA for services and un-serviced areas to map the rivers with land-uses and identify sources of litter.																								
Activity 1.1.2	Map the sources of litter along these rivers systems and identify serviced and un-serviced areas (hotspots) as well as potential sources of litter																								
Activity 1.1.3	Map sections of each river, identify a collection point for community with the private sector that will encourage recovery and recycling																								
Activity 1.1.4	Host one Theory of Change workshop at the start of the project.																								
Activity 1.1.5	Develop and disseminate Theory of Change workshop report to all stakeholders																								
<b>Output 1.2</b>	<b>Deployment and management plan for the 5 litter booms developed</b>																								
Activity 1.2.1	Log commitments by various stakeholders, including packaging industry) and Enter into partnerships with existing co-ops or community clean up programmes with NGOs or Municipality. Obtain letters of support or partnership letters or MOUs that																								



<b>Output 1.4</b>	<b>At least 1 community awareness raising event, at least 1 schools outreach activity and 1 electronic media coverage of marine litter and waste management per year</b>																								
<b>Activity number</b>	<b>Activity</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>
Activity 1.4.1	Facilitate the development of a communication strategy (DEA Communications team) to assist with awareness raising campaigns, schools outreach programmes and communication with civil society, other departments, academia, NGOs, Private sector, etc. in each of the hot spot areas.																								
Activity 1.4.2	Identify relevant and existing national (such as Good Green Deeds, national marine week, etc), local educational campaigns and events as well as the International event days (especially UNE1.4.6P) events to raise awareness on coastal and marine pollution; and Secure these dates for campaigns and event with the office of the Minister.																								
Activity 1.4.3	Develop awareness raising materials (at least 1 print and 1 electronic media coverage) that will also be used in the pilot project as well as in the further national rollout																								
Activity 1.4.4	Host at least 1 community awareness raising event per year																								
Activity 1.4.5	Host at least 1 schools outreach activity per year																								

<b>Outcome 2.0</b>	<b>Increase in the scientific information on marine litter and microplastics along the 5 priority rivers that will guide future waste management interventions and a national rollout of the pilot project.</b>																								
<b>Output 2.1</b>	<b>Monthly litter collection and characterisation reports as well as a microplastics prevalence report for the priority rivers.</b>																								
<b>Activity number</b>	<b>Activity</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>
Activity 2.1.1	Develop Terms of Reference for as assessment of microplastics in each of the 5 priority rivers and facilitate the appointment of a researcher to undertake this study																								
Activity 2.1.2	Conduct an assessment/study of the microplastics in the freshwater and marine system of the 5 priority rivers																								
Activity 2.1.3	Provide input into the final findings of the study and make recommendation for a way forward, including dissemination of information as per communications plan.																								
Activity 2.1.4	Ensure that weekly visit are logged (information needed by the manager after each visit) and monthly report on waste characterization, volumes and litter collected at each litter trap site as well as litter collected upstream in communities (on land) from WftC implementers, representatives, waste pickers or data collectors are submitted to the Source to Sea project co-ordinator.																								
<b>Output 2.2</b>	<b>Monthly project and Stakeholder Progress meetings and workshops held</b>																								
Activity 2.2.1	The appointed Source to Sea project co-ordinator to host monthly meeting with the Municipality and committed stakeholder on progress of the project and ensure project management.																								



<b>Output 2.3</b>	<b>Project implementation review report compiled</b>																									
<b>Activity number</b>	<b>Activity</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	
Activity 2.3.1	Host 1 project review workshop (Synthesis the lessons learned from the project implementation, Review communications, deployment and implementation plans)																									
Activity 2.3.2	Compile a project review report that includes a consolidated methodology or collection of interventions that may be implemented for replication / further up scaling/ roll out in other areas in South Africa.																									
Activity 2.3.3	Provide input into the new DEA Working for the Coast Cycle (beyond pilot project)																									

**Annex 2: Logical Framework**

<b>Project title: "Improvement of ecosystem health and water quality by implementing a Source to Sea based approach to tackle marine litter in five priority river systems in Durban, Kwazulu-Natal, South Africa"</b>			
<b>Project overall objective: To reduce the impacts of litter on the freshwater, coastal and marine environment and ecosystem health by implementing river basin wide interventions to recover land-based and riverine based litter, thereby reducing marine litter loads, and reducing litter generation at source.</b>			
<b>Project Results</b>	<b>Outputs</b>	<b>Activities</b>	<b>Costs /output (US\$)</b> (1 USD = 14.31 ZAR)
<b>Outcome 1:</b> <b>Reduced prevalence of marine litter through increased land-based/upstream litter recovery and waste management interventions</b>	<b>0.1.1 Litter hot spot areas along each of the 5 priority rivers identified</b>	<p>A.1.1.1 Consult municipality, provincial department and Stats SA for services and un-serviced areas to map the rivers with land-uses and identify sources of litter.</p> <p>A.1.1.2 Map the sources of litter along these rivers systems and identify serviced and un-serviced areas (hotspots) as well as potential sources of litter</p> <p>A.1.1.3 Map sections of each river, identify a collection point for community with the private sector that will encourage recovery and recycling</p> <p>A.1.1.4 Host one Theory of Change workshop at the start of the project.</p> <p>A.1.1.5 Develop and disseminate Theory of Change workshop report to all stakeholders</p>	<p><b>Sub – total:</b> <b>ZAR 60 000</b> <b>= 4,192.87 US\$</b></p>
	<b>0.1.2 Deployment and management plan for the 5 litter booms developed</b>	<p>A.1.2.1 Log commitments by various stakeholders, including (packaging industry) and Enter into partnerships with existing co-ops or community clean up programmes with NGOs or Municipality. Obtain letters of support or partnership letters or MOUs that document commitments.</p> <p>A.1.2.2 Convene stakeholder meetings to further develop a deployment and implementation plan for litter removal and recovery (NGO’s, municipality, Department of Environmental Affairs).</p> <p>A.1.2.3. Obtain resources (such as litter traps) and</p>	<p><b>Sub - total</b> <b>ZAR 110 000 =</b> <b>7,686.93 US\$</b></p>

		deployment date from stakeholders.	
	<b>O.1.3 One waste management intervention per hot spot community near each river deployed.</b>	<p>A.1.3.1 Install skips, bins and/ or litter traps as per deployment and implementation plan in or near each hot spot, including waste receptacles for collection of recyclables and non-recyclables as per deployment and implementation plan</p> <p>A.1.3.2 Deploy litter cleanup teams (litter recovery resources) along the 5 priority river and in communities, including the WftC participants.</p> <p>A.1.3.3 Facilitate and monitor the weekly litter removal (mobilization of staff) as per deployment plan and ensure data is logged (assessment and characterization of waste).</p> <p>A.1.3.4 Facilitate discussion with the private sector for SMME's, Buy Back centers, Innovative ideas for Plastics into products, etc. (Utilise recommendations made from the workshops and meetings held with private sector and government to support the waste economy, innovative solutions, advocacy, job creation &amp; education activities)</p>	<p><b>Sub - total</b></p> <p><b>ZAR 36,000,000.00 = 2,517,723.27 US\$</b></p>
	<b>O.1.4 At least 1 community awareness raising event, at least 1 schools outreach activity and 1 electronic media coverage of marine litter and waste management per year</b>	<p>A.1.4.1 Facilitate the development of a communication strategy (DEA Communications team) to assist with awareness raising campaigns, schools outreach programmes and communication with civil society, other departments, academia, NGOs, Private sector, etc. in each of the hot spot areas.</p> <p>A.1.4.2 Identify relevant and existing national (such as Good Green Deeds, national marine week, etc), local educational campaigns and events as well as the International event days (especially UNE1.4.6P) events to raise awareness on coastal and marine pollution; and Secure these dates for campaigns and event with the office of the Minister.</p> <p>A.1.4.3 Develop awareness raising materials (at least 1 print</p>	<p><b>Sub - total</b></p> <p><b>ZAR 5,000,000.00 = 349,406.00 US\$</b></p>

		<p>and 1 electronic media coverage) that will also be used in the pilot project as well as in the further national rollout</p> <p>A.1.4.4 Host at least 1 community awareness raising event per year</p> <p>A.1.4.5 Host at least 1 schools outreach activity per year</p>	
<p><b>Outcome 2.0</b></p> <p><b>Increase in the scientific information on marine litter and microplastics along the 5 priority rivers that will guide future waste management interventions and a national rollout of the pilot project.</b></p>	<p><b>O.2.1 Monthly litter collection and characterisation reports as well as a microplastics prevalence report for the priority rivers</b></p>	<p>A.2.1.1 Develop Terms of Reference for as assessment of microplastics in each of the 5 priority rivers and facilitate the appointment of a researcher to undertake this study</p> <p>A.2.1.2 Conduct an assessment/study of the microplastics in the freshwater and marine system of the 5 priority rivers</p> <p>A.2.1.3 Provide input into the final findings of the study and make recommendation for a way forward, including dissemination of information as per communications plan.</p> <p>A.2.1.4 Ensure that weekly visit are logged (information needed by the manager after each visit) and monthly report on waste characterization, volumes and litter collected at each litter trap site as well as litter collected upstream in communities (on land) from WftC implementers, representatives, waste pickers or data collectors are submitted to the Source to Sea project co-ordinator.</p>	<p><b>Sub - total</b></p> <p><b>ZAR 200,000.00 = 13,976.24 US\$</b></p>
	<p><b>O.2.2. Monthly project and Stakeholder Progress meetings and workshops held</b></p>	<p>A.2.2.1 The appointed Source to Sea project co-ordinator to host monthly meeting with the Municipality and committed stakeholder on progress of the project and ensure project management.</p>	<p><b>Sub – total</b></p> <p><b>ZAR 3,500,000.00 = 244,584.21 US\$</b></p>
	<p><b>O.2.3 Project implementation review report compiled</b></p>	<p>A.2.2.1 Host 1 project review workshop (Synthesis the lessons learned from the project implementation, Review communications, deployment and implementation plans)</p> <p>A.2.2.2 Compile a project review report that includes a consolidated methodology or collection of interventions that may be implemented for replication / further up scaling/ roll out in other areas in South Africa.</p> <p>A.2.2.3 Provide input into the new DEA Working for the Coast</p>	<p><b>Sub – total</b></p> <p><b>ZAR 240,000.00 = 16771.49 US\$</b></p>

		Cycle (beyond pilot project)	
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### Annex 3: Project Monitoring Plan

Project Title: Improvement of ecosystem health and water quality by implementing a Source to Sea based approach to tackle marine litter in five priority river systems in Durban, Kwazulu-Natal, South Africa			
Project overall objective: To reduce the impacts of litter on the freshwater, coastal and marine environment and ecosystem health by implementing river basin wide interventions to recover land-based and riverine based litter, thereby reducing marine litter loads, and reducing litter generation at source.			
Project Results	Indicator	Target/baseline	Method
<b>Outcome 1.0</b> <b>Reduced prevalence of marine litter through increased land-based/upstream litter recovery and waste management interventions</b>	IND.1.1 Number of hot spots identified via the assessment process and theory of change processes	Target: At least 5 Litter hot spot areas along each of the 5 priority rivers identified	<ul style="list-style-type: none"> <li>- List or map of identified hot spots via meetings, workshops and consultations</li> <li>- Theory of Change Workshop report</li> </ul>
		Baseline: No hot spots have been identified	
	IND.1.2 One Deployment and management plan for the 5 litter booms developed	Target: One Deployment and management plan for the 5 litter booms developed	<ul style="list-style-type: none"> <li>- Boom deployment and management plan with schedule for litter removal as well as for data reporting</li> <li>- Monthly project meetings</li> <li>- Weekly log sheets of waste characterisation submitted to co-ordinator</li> <li>- Partnerships and commitments secured via letter or MOUs</li> </ul>
		Baseline: No boom management or deployment plan exists to date	
	IND.1.3 5 Litter traps installed in rivers and clean up teams implement as per deployment and implementation plan	Target: 5 Litter traps installed in the priority rivers and litter removal and cleanup is implemented as per deployment and implementation plan	<ul style="list-style-type: none"> <li>- Litter traps deployed</li> <li>- Weekly litter reports on litter recovered from clean up and at the boom</li> <li>- Waste sorting statistics (recyclables) where available</li> </ul>



		<p>Baseline:</p> <p>Deployment plan once developed</p>	
	<p>IND.1.4 Number of awareness raising events and schools outreach activity held and Number of electronic media coverage of marine litter and waste management per year</p>	<p>Target:</p> <p>2 events held per year, 1 electronic media coverage achieved.</p> <hr/> <p>Baseline:</p> <p>Target audience have been determined along the hot sport areas and venues are suitable for hosting events</p>	<ul style="list-style-type: none"> <li>- 1 communication strategy/ plan developed</li> <li>- Print media coverage</li> <li>- Awareness raising materials developed</li> <li>- Letters/invitations/advert developed (to target audience)</li> </ul>
<p><b>Outcome 2.0</b></p> <p><b>Increase in the scientific information on marine litter and microplastics along the 5 priority rivers that will guide future waste management interventions and a national rollout of the pilot project.</b></p>	<p>IND.2.1.</p> <p>Monthly reports compiled on waste characterisation and quantities of recovered litter</p>	<p>Target:</p> <p>Number of monthly reports compiled on waste characterisation and quantities of recovered litter</p> <hr/> <p>Baseline:</p> <p>No baseline exists</p>	<ul style="list-style-type: none"> <li>- Monthly progress meetings with stakeholders</li> <li>- Weekly data generated and compiled in monthly statistics.</li> <li>- Waste characterisation details documented.</li> </ul>
	<p>IND.2.2</p> <p>A report compiled on the prevalence of microplastics in the priority rivers</p>	<p>Target:</p> <p>1 report compiled</p> <hr/> <p>Baseline:</p> <p>No baseline exists</p>	<ul style="list-style-type: none"> <li>- The TOR for the study to be commissioned</li> <li>- Appointment letters for researcher</li> <li>- Draft and final report of findings</li> </ul>

	IND.2.3 Project implementation review report compiled	Target: 1 project review report compiled <hr/> Baseline: No baseline exists	<ul style="list-style-type: none"> <li>- Project synthesis meetings/ workshop held</li> <li>- 1 report compiled that includes a consolidated methodology or collection of interventions that may be implemented for replication / further up scaling/ roll out in other areas in South Africa.</li> </ul>
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**Annex 4: Budget** (Total budget for the Output applied for MUST NEVER exceed the ceiling given in the background document)

	Category	Quantity	Unit Cost (US\$)	Total Cost (US\$) (2yrs)	WIOSAP Support (US\$)	Co-financing (US\$)
1.	<b>Personnel</b>	1 Source to Sea Project Co-ordinator 1 DEA Project support staff 124 Working for the Coast participants)	<b>69446.00</b> (ZAR 1 000 0000) <b>34716.00</b> (ZAR 500 000) <b>19,706.50</b> (ZAR 282 000)	<b>2,550,663.87</b> (ZAR 36,500,000.00)	<b>69,881.20</b> (ZAR 1,000,000.00)	<b>2,480,782.67</b> (ZAR 35,500,000.00)
2.	<b>Equipment</b>	5 Booms, receptacles and equipment for waste removal collection, recycling in each hot spot in the 5 rivers	<b>13,976.24</b> (ZAR 200,000.00 per river)	<b>69,881.20</b> (ZAR 1,000,000.00)	<b>34,940.60</b> (ZAR 500,000.00)	<b>34,940.60</b> (ZAR 500,000.00)
3.	<b>Operating costs</b>	Telephone, communication services, data logging and report writing.	<b>69,881.20</b> (ZAR 1,000,000.00)	<b>139,762.40</b> (ZAR 2,000,000.00)	<b>27,952.48</b> (ZAR 400,000.00)	<b>111,809.92</b> (ZAR 1,600,000.00)
4.	<b>Contract Services</b>	1 baseline assessment, 1 microplastics study on 5 rivers, 24 monthly boom management and litter recording and reporting, Project implementation and management workshops, meetings and data logging, report writing, Awareness raising materials and event hosting.	<b>34,940.60</b> (ZAR 500,000.00) <b>13,976.24</b> (ZAR 200,000.00) <b>209,643.61</b> (ZAR 3,000,000.00)	<b>258,560.45</b> (ZAR 3,700,000.00)	<b>118,798.04</b> (ZAR 1,700,000.00)	<b>139,762.40</b> (ZAR2,000,000.00)
5.	<b>Travel</b>	4 Workshops, 2 events and monthly project meetings	<b>13,976.24</b> (ZAR 200,000.00)	<b>69,881.20</b> (ZAR 1,000,000.00)	<b>20,265.55</b> (ZAR 290,000.00)	<b>49,615.65</b> (ZAR710,000.00)

		<b>TOTAL</b>		<b>3,088,749.12</b> (ZAR 44,200,000.00)	<b>271,837.87</b> (ZAR 3,890,000.00)	<b>2,816,911.25</b> (ZAR 40,310,000.00)

#### Annex 4.1: Budget justification

<Justification for all the budgetary requests must be made explaining why the different budget lines are necessary for project delivery. Cost effectiveness and value for money will be an important consideration>

	Category	Justification
1.	<b>Personnel</b>	<b>A Designated Source to Sea Project co-ordinator is a critical personnel</b> required for the successful implementation of this project. This designated personnel will fulfil the current non-existing role that required co-ordination between the different levels of government, various departments and stakeholders as well as NGOs. The pilot project is in a coastal province and required someone who will not be office bound. Currently, staff capacity within the Department is a challenge and it is hoped that additional resources can be made available so that this project can be managed by a designated person, <i>and supported</i> by existing staff who have various competing priorities. NB: The Department has set aside a substantial budget to provide staff to assist with litter removal at the river.
2.	<b>Equipment</b>	Litter interception devices, such as litter booms, are a low cost solution to litter recovery in a riverine system. These litter traps and mobile, easy to deploy and effective. They can be replaced, repaired and relocated during the project duration. These devices have been installed in some rivers in the province already and are proving to be effective and easy to maintain. A minimal amount of 5 booms is being requested to be funded (with the Department co-financing 50% of them). The project does not seek to be purchasing computers, printers, scanners or any electronic equipment.
3.	<b>Operating costs</b>	A project of this nature, which requires extensive consultation, feedback, report writing, workshop hosting, monthly meetings, liaison and commitments is anticipated to have high operational costs.
4.	<b>Contract Services</b>	A thorough baseline assessment is needed in order to identify hot spot areas, workshops and meeting require contractual accommodation and catering for delegates, the scientific study on the prevalence of microplastics has to be outsourced (in-house capacity constraints exists), the litter boom maintenance and management will also be contractually outsourced. There will be hosting of awareness raising event that require service providers to render relevant services such as printing, banners (branding), media coverage, advertising ,etc.
5.	<b>Travel</b>	The Pilot project is in the Kwazulu Natal Province. The Ocean and coast Branch is in Cape Town (a 2 hr flight away). The successful implementation of the project requires monthly meetings and regular stakeholder engagements. The 5 river systems span the metropolitan area and travelling is not accessible by foot or public transportation. The costing caters for air and land travel.