

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

3<sup>rd</sup> WIO-SAP Project Steering Committee meeting



Oceans and Coasts



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

25 June 2019



# OUTLINE:

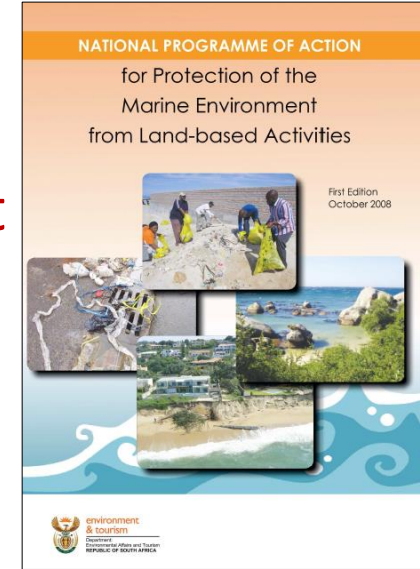
- (i) Project implementing institution and mandate,
- (ii) Background and justification of proposed project,
- (iii) Project objectives,
- (iv) Partnerships in the project (partners and their roles),
- (v) Linkages to ongoing initiatives,
- (vi) Expected results,
- (vii) Summary of project workplan
- (viii) Summary of project budget.



# IMPLEMENTING INSTITUTION & MANDATE:

## National Department of Environmental Affairs:

- Branch: Oceans & Coasts:
  - Provide strategic leadership in the **management & promotion of the ocean and coastal environment**;
- Direct mandate to **combat and prevent marine pollution** from land-based and sea-based sources.
- 2008: **National Programme of Action** for Protection of the Marine Environment from Land-based Activities inline with UNEP GPA;
- 2013: **Mandatory National Coastal Management Programme adopted** → *Priority Area 4: Develop and implement specific programmes to address marine litter.*



# PROJECT BACKGROUND & JUSTIFICATION:

- Despite ongoing beach clean-up initiatives such as DEA **Working for the Coast & International Coastal Clean-up Day** – litter continues to reach Durban beaches on ongoing basis.
- Especially after heavy rainfall events.
- Litter literally flowing to Durban coastline from upstream sources **via rivers and other waterways**.
- Need to invest resources to **tackle problem at source along rivers** and **in communities** living adjacent to rivers.
  - > *will reduce beach clean-up costs.*
  - > *counteract negative media coverage.*



# PROJECT BACKGROUND & JUSTIFICATION:

## Plastic waste inputs from land into the ocean

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- Between **4.8 – 12.7 million tons** of plastic enters world's oceans per year from 192 coastal countries.
- South Africa ranked 11<sup>th</sup> out of 20 countries with the highest level of mismanaged waste.
- 56% of our waste is mismanaged & **potentially becomes litter**.
- Mismanaged plastic waste = **630 000 metric tons**.
- Plastic marine litter entering the sea:  
**- 90 000 – 250 000 tons per year.**



# May 2016 – Cuttings Beach



# October 2018 – Umgeni River Mouth



# March 2019 – Durban North Beach





# March 2019 – Umgeni River Bank



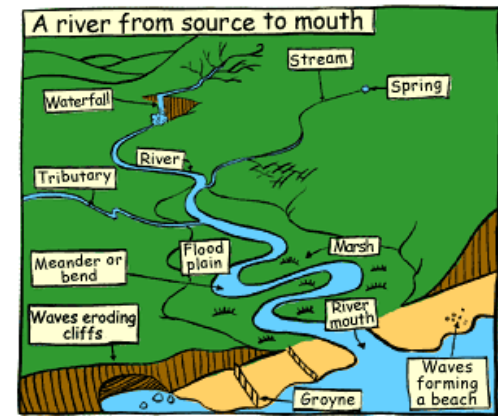
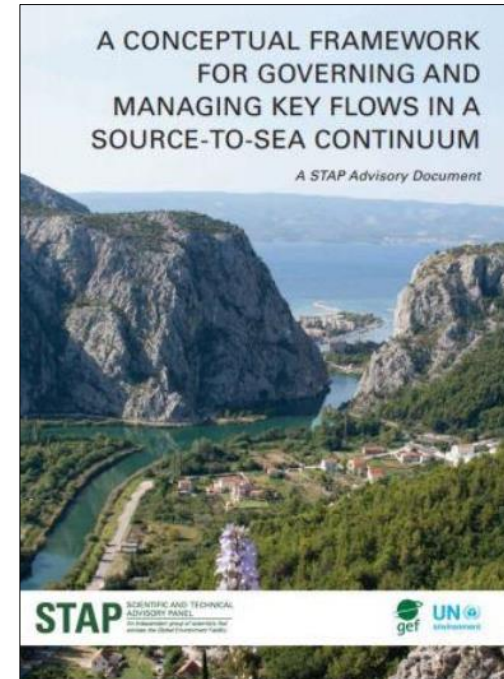
**...this is an recurring problem...**

# March 2019 – Ohlanga River



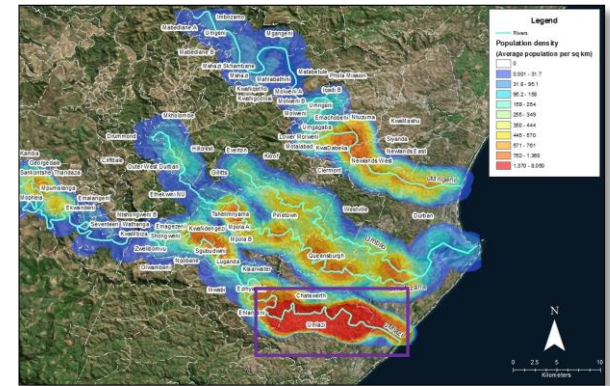
# PROJECT BACKGROUND & JUSTIFICATION:

- Looked at **Source to sea concept** as practiced in Nordic countries (SIWI):
  - Emphasizes **connectivity of ecosystems** (catchments and coasts);
  - Problems in one system can jeopardize sustainability in another (**pollutant flows**).
- **Concept document** drafted, focussing on applying a Source to Sea based approach to tackling marine litter.
- Implications for potential scale – huge.
  - *Start with a Pilot Project.*
- Various brainstorming sessions and consultations held within the Department and with stakeholders in the eThekweni metro area since 2017.



# PROJECT OBJECTIVES:

1. Investigate areas of litter concern/hotspots along 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 inception devices (one in each river).
3. Monitor and evaluate (characterise) types and quantities of litter collected in the 5 rivers during a 24 month period, including an assessment of the micro-plastics.



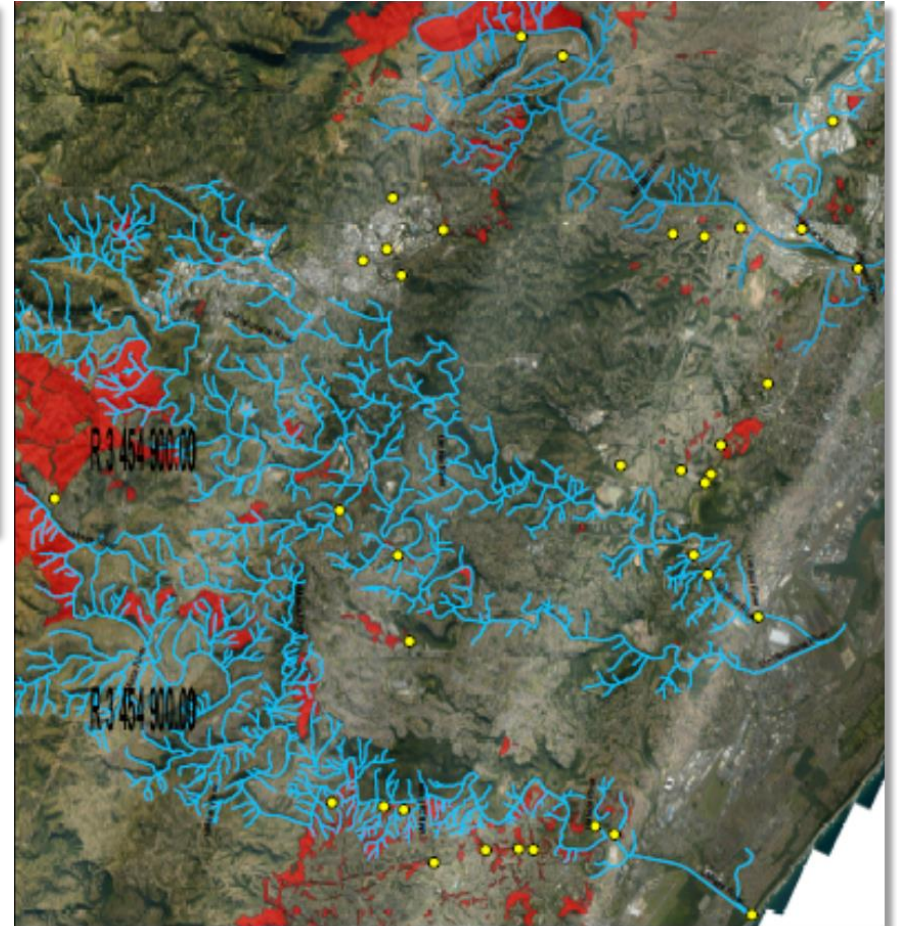
# PROJECT OBJECTIVES:

4. Identify and implement at least **1 waste management intervention** 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.



# PROJECT OBJECTIVES:

Examples of low cost riverine litter interception devices and identified sites:



# PARTNERSHIPS:

- **eThekweni Municipality:**
  - *Removal of non-recyclables to landfill.*
  - *Provision of waste management facilities.*
  - *Community Outreach & Awareness Raising.*
- **Plastics Industry (Plastics SA):**
  - *Training of field workers in identifying recyclables.*
  - *Facilitating linkages with waste buy-back centres.*
- **Durban green corridors (NGO):**
  - *Management of 5 litter booms and development of a standard operating procedure and training protocol.*
- **Commonwealth Marine Litter Programme:**
  - *Assessment of micro-plastics in priority rivers and Durban Harbour.*
  - *Community Outreach & Awareness Raising.*
  - *Strengthening the science to policy interface.*



# LINKAGES TO ONGOING INITIATIVES:

## @ National Level

- **DEA Working for the Coast Programme:**
  - recurring beach cleaning programme aimed at job creation, especially women and youth.
  - teams to be deployed to collect litter from 10 litter interception devices.
- **DEA Good Green Deeds Campaign:**
  - mobilising public to undertake clean-ups.
  - awareness of illegal dumping.
- **Civil Society:**
  - Durban Green Corridors river booming & litter recovery.
- **Private sector:**
  - Plastics SA river booming & plastic recovery.



**Plastics | SA**



# LINKAGES TO ONGOING INITIATIVES:

## @ International Level

- **African Marine Waste Network:**
  - Similar project in Eastern Cape Province
  - Sharing of information & experience
- **MOU with IUCN MARPLASTICS Initiative:**
  - Capacity-building & promotion of circular economy initiatives to address plastics.
- **Commonwealth Marine Litter Programme:**
  - South Africa 1 of 6 countries supported.
  - Research on micro & macro litter, education & community outreach.
- **RSA – Sweden MOU on IWRM:**
  - Advice on implementation of Source to Sea approach.
  - Case study presentation to 2019 World Water Week.



Swedish Agency  
for Marine and  
Water Management

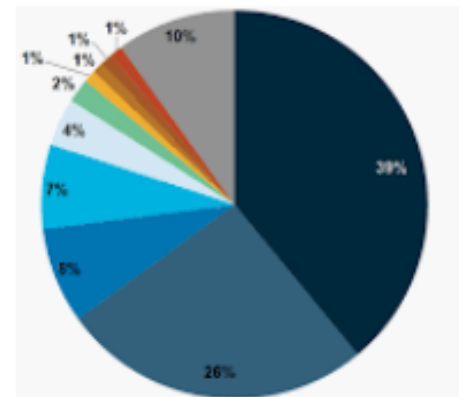
# EXPECTED RESULTS:

## OVERALL RESULT / OUTCOME:

- *Reduced prevalence of marine litter through increased land-based/upstream litter recovery and waste management interventions.*

## SPECIFIC RESULTS:

1. Litter **hot spot areas** identified along each of 5 priority rivers.
2. **Deployment and management plan** developed for 5 litter booms.
3. **Monthly litter collection and characterisation reports** compiled as well as a microplastics prevalence report for priority rivers.



# EXPECTED RESULTS:

## OVERALL RESULT / OUTCOME:

- *Reduced prevalence of marine litter through increased land-based/upstream litter recovery and waste management interventions.*

## SPECIFIC RESULTS:

4. **One waste management intervention** undertaken per hot spot community near each river.
5. At least **1 community awareness raising event**, **1 schools outreach activity** and **1 electronic media coverage** of marine litter and waste management per year.
6. Project implementation **review report**.



# WORKPLAN SUMMARY:

## **Outcome 1: Reduced prevalence of marine litter through increased land-based / upstream litter recovery and waste management interventions**

<b>Output</b>	<b>Activities</b>	<b>Timeframe</b>
<b>1.1 Litter hot spot areas along each of the 5 priority rivers identified</b>	Consultations to identify <b>serviced and un-serviced areas</b> ; Mapping of <b>sources of litter</b> ; Identification of <b>collection points</b> for litter & waste; Hosting of <b>Theory of Change workshop</b> .	7 months
<b>1.2 Deployment and management plan for the 5 litter booms developed</b>	<b>Log commitments</b> by various stakeholders; <b>Enter into partnerships</b> with existing co-ops; Develop <b>deployment and implementation plan</b> for resources; <b>Source resources</b> .	5 months
<b>1.3 One waste management intervention per hot spot community near each river deployed.</b>	<b>Install skips, bins and/ or litter traps</b> as per deployment and implementation plan; <b>Deploy litter cleanup teams</b> ; Facilitate and <b>monitor</b> the weekly litter removal; <b>Facilitate discussion</b> with the private sector for Plastics into products.	18 months

# WORKPLAN SUMMARY:

**Outcome 1: Reduced prevalence of marine litter through increased land-based / upstream litter recovery and waste management interventions**

Output	Activities	Timeframe
<b>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>	Facilitate development of a <b>communication strategy</b> ; Identify relevant and existing <b>national educational campaigns</b> ; <b>Develop awareness raising materials</b> ; At least 1 community awareness event, 1 schools outreach, and 1 media coverage.	14 months

**Outcome 2: Increase in the scientific information on marine litter and micro-plastics along the 5 priority rivers that will guide future waste management interventions and a national rollout of the pilot project.**

Output	Activities	Timeframe
<b>2.1 Monthly collection and characterisation reports as well as a micro-plastics prevalence report for the priority rivers.</b>	<b>Logging of marine litter data</b> on central database; TOR for <b>micro-plastics assessment</b> .	18 months

# BUDGET SUMMARY:

Category	Quantity	Unit Cost (US\$)	Total Cost (US\$) (2yrs)	WIOSAP Support (US\$)	Co-financing (US\$)
Personnel	1 Source to Sea Project Co-ordinator.	32,258.06	238,242.96	64,516.12	173,726.83
	1 DEA Project support staff	34,317.08			
	25 Working for the Coast participants.	52,546.32			
Equipment	5 Litter booms, receptacles and equipment for waste removal collection, recycling in 5 priority rivers.	1,594.37 (per boom)	7,971.85 (5 booms)	7,971.85	15,943.71 (10 additional booms via Working for the Coast Project)
Operating costs	Communication, consultation, workshop hosting, report writing, monthly meetings, liaison services etc.	68,634.17	137,268.34	0.00	137,268.34
Contract Services	24 month litter boom management and litter recording and reporting,	11,069.32	538,284.14	126,479.06	411,805.08
	project management meetings, data logging,	5,490.73 (Manual)			
	Development of standard operating procedure & training manual;	10,295.12 (M&R system)			
	Awareness raising materials and outreach activities.	205,902.53 (Awareness)			
Travel	4 Workshops, 2 events and monthly project meetings.	6,190.80	36,197.66	4,292.41	29,803.70
		2,621.82			
		9,286.20			
TOTAL			957,964.95 (ZAR 13,957,549.32)	203,259.44 (ZAR 2,961,490.04)	989,934.07 (ZAR 14,423,339.39)

# ADOPTED PROJECT LOGO:



*Source to Sea*  
LITTER FREE LAND FOR LITTER FREE OCEANS



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Directorate: Coastal Pollution  
Management

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THANK YOU



**environmental affairs**

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