

# Booms, Grids and Nets

Intercepting macroplastic debris in rivers



Kyle Maclean and Peter Ryan

University of Cape Town, South Africa





Main impact of marine plastic waste is economic  
= direct incentive to reduce leakage



# Booms, Grids and Nets

Intercepting macroplastic debris in rivers

- Inventory of screening measures
- Efficacy of different screen devices
- Identify key sites for deploying devices



Telephonic questionnaire

Coastal metro municipalities ~~XXXX~~

Most info from contacts through litter network



Passive traps where  
gradient allows







Inclined grids on large canals



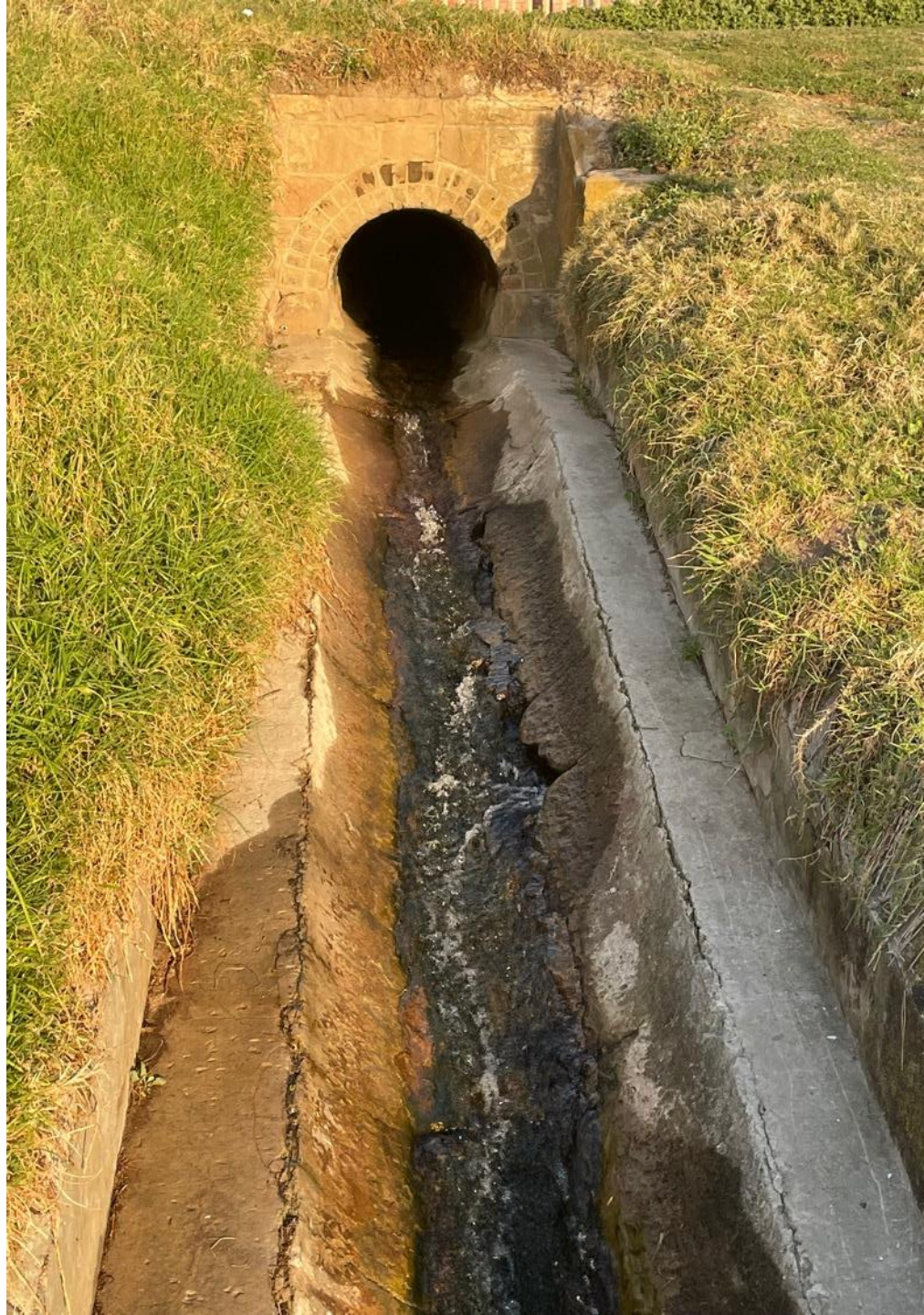
# Grids and traps need regular servicing













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Sampling litter intercepted at devices

Release of marked litter items















# Litter boom trial







Sample litter in boom and nets

8 rain events

18 646 items, 53 kg

Boom/nets kept separate  
to assess efficacy

Fine net at end to catch  
all litter (washed away)





2 rain events

2 847 items, 12.2 kg

Trap and net kept separate



# Matching street litter



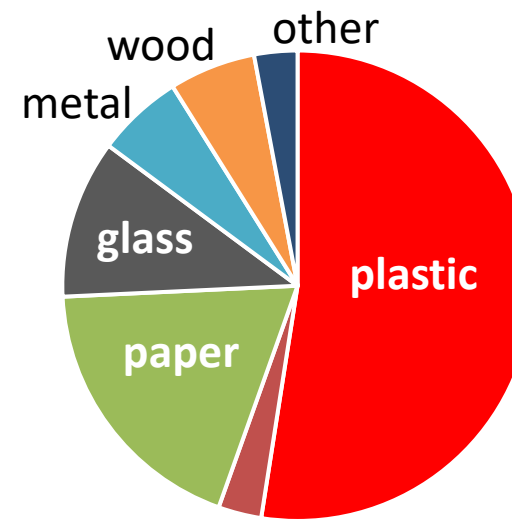
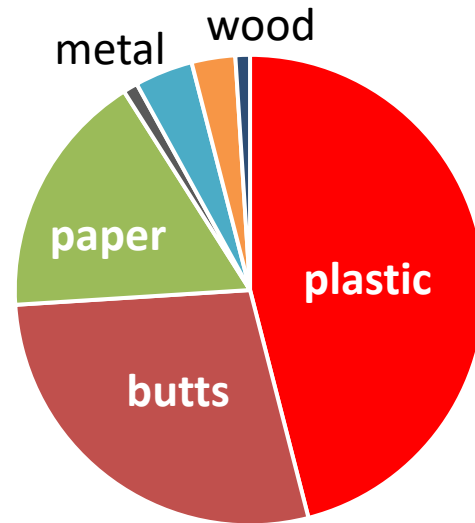


# Preliminary data on litter composition

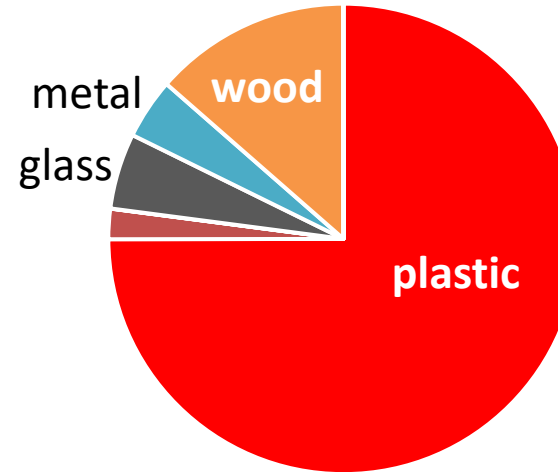
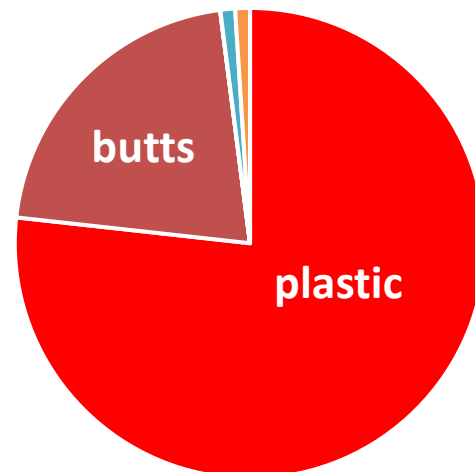
Number

Mass

Street

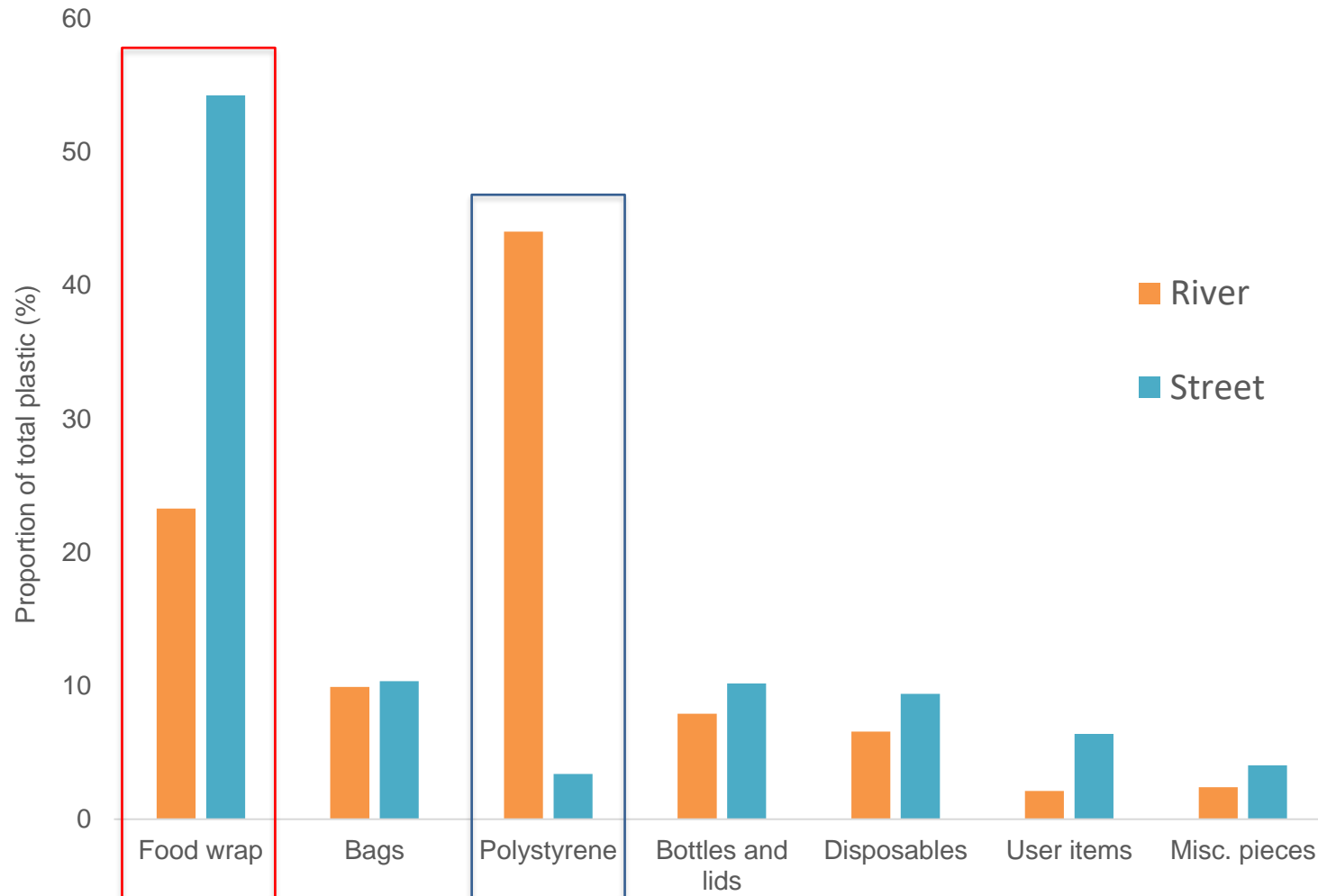


Canal/river





# Plastic breakdown - by number

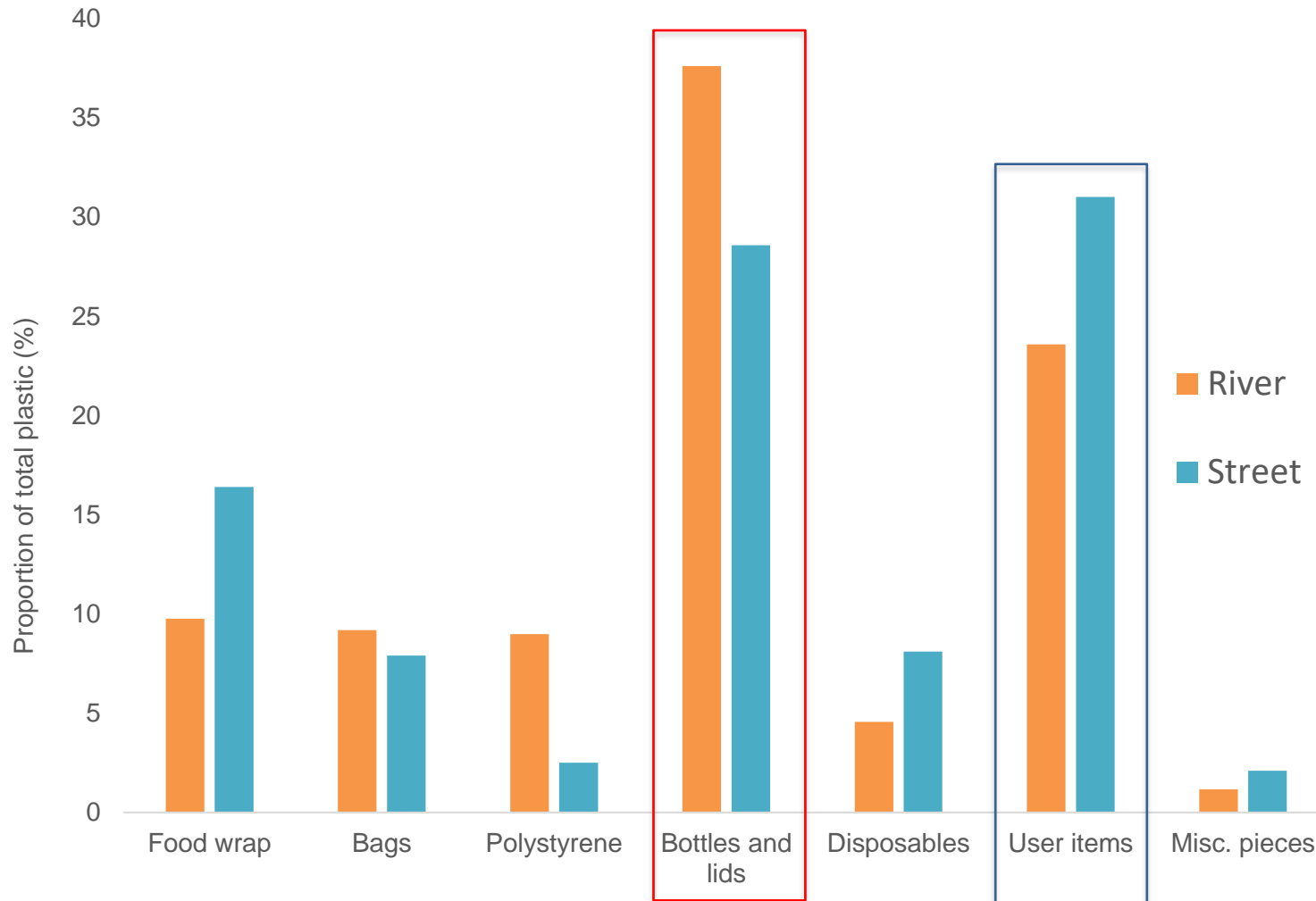


- Food packaging – chip packets, individual sweets, ice lolly wrappers

- Polystyrene – food trays, disposable cups



# Plastic breakdown – by mass



- Bottles & lids – cooldrink, food containers
- User items – flip flops/shoes, CDs, car parts etc.



# Single-use packaging





# Litter loads in Cape Town storm drains



2-250 g/ha/day      52% plastic

~1000 tonnes/year from Cape Town (500 tonnes plastic)

[<< 30,000 – 100,000 tonnes predicted by global models]

**Little change in litter *rate* over two decades, but  
amount increasing with urbanisation - **need for action****







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GIS model



