

# Methodology for Identifying Locations to Investigate Sources and Characteristics of Microplastic

Version 1.1



National Environmental Science Program

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## About this fact sheet

This fact sheet outlines a systematic methodology for selecting locations to investigate the sources and characteristics of microplastics. It aims to enhance understanding of how microplastics enter and accumulate in various environments, supporting efforts to mitigate their impacts. The document provides insights into the objectives, site selection criteria, and analytical techniques that will be used in the study, highlighting the collaboration with Ocean Protect and the focus on practical, evidence-based solutions to address microplastic pollution.

This factsheet complements our full report on [Methodology for Identifying Locations to Investigate Sources and Characteristics of Microplastic](#).

The report, titled "Methodology for Identifying Locations to Investigate Sources and Characteristics of Microplastic," delves into the systematic approach for selecting study sites, analysing microplastic pollution, and developing effective mitigation strategies.

## Methodology for Identifying Locations for Case Studies

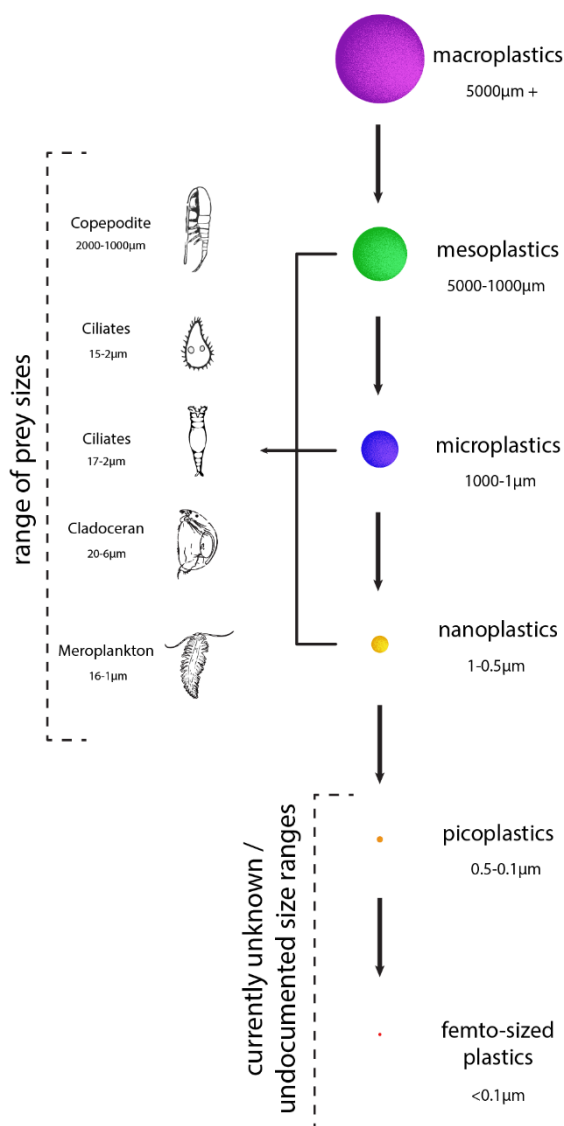
This methodology involved a systematic approach that included data gathering, site assessment, and prioritisation based on environmental and logistical factors. Researchers started with a comprehensive literature survey to identify key microplastic sources and their effects on ecosystem diversity, and potential human and ecological impacts.

In collaboration with Ocean Protect, the project evaluated and selected key sites in the Blacktown Local Government Area (LGA) in New South Wales, chosen for its extensive stormwater intervention infrastructure. By targeting specific locations and using advanced analytical techniques, the project aims to provide detailed insights into microplastic sources and sinks. This approach supports the development of effective mitigation strategies and evidence-based policy recommendations.



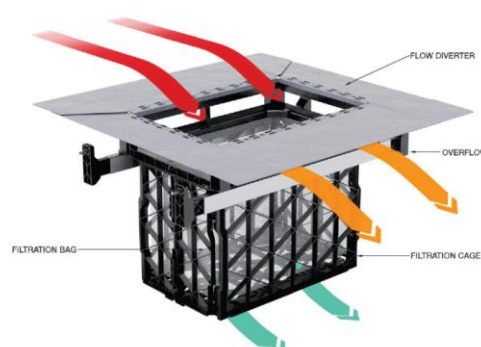
## What are Microplastics?

Microplastics are tiny plastic particles less than 5 millimetres in size, found in various environments such as oceans, rivers, soils, and even the air. They originate from the breakdown of larger plastic debris (secondary microplastics) or are manufactured at small sizes for use in products like cosmetics and industrial abrasives (primary microplastics). Due to their small size, microplastics can easily be transported through ecosystems, posing risks to wildlife and potentially entering the human food chain. Understanding their sources, distribution, and impacts is crucial for addressing plastic pollution and developing effective policies to mitigate their effects.



## Our Partnership with Ocean Protect

The partnership with Ocean Protect enhances the study of microplastic pollution through their expertise in installing and maintaining stormwater assets and infrastructure, such as their OceanGuard technology. This collaboration focuses on strategically selecting and sampling sites to provide comprehensive insights into microplastic types and prevalence, supporting the development of effective mitigation strategies and policy recommendations.



**Expertise in Stormwater Management:** Ocean Protect has over two decades of experience in designing, installing, and maintaining stormwater treatment assets.

**OceanGuard Technology:** Utilises a 200 micron filter to capture waste in stormwater drains, preventing microplastics from entering waterways.

**Strategic Site Selection:** Focuses on sites equipped with OceanGuard devices, accounting for topographic elevation, potential sources of microplastics nearby and the land usage, including residential, commercial and industrial zones.

**Systematic Collection and Analysis:** Collect and analyse microplastic samples over a 12-month period to provide detailed insights into their types and potential sources.

**Targeted Mitigation Strategies:** Aims to develop effective mitigation strategies and policy recommendations based on the findings.