



# MICROPLASTICS

## 1. INTRODUCTION

The Port Phillip EcoCentre is a not-for-profit organisation that empowers local communities to engage in environmental stewardship where they live. We strive for “*development which aims to meet the needs of Australians today, while conserving our ecosystems for the benefit of future generations.*”<sup>1</sup> EcoCentre’s Port Phillip Baykeeper provides education and practical action and an independent, informed voice for the long term health of Port Phillip Bay to the benefit of all Victorians.

A position paper outlines the evidence-based position of the Port Phillip Baykeeper on an issue regarding the health of the Bay. A suite of position papers is available for download from the EcoCentre website<sup>2</sup>.

## 2. PURPOSE OF THIS PAPER

This position paper provides recommended actions to Local, State and Federal Governments, to address the threats presented by microplastics to the health of Port Phillip Bay.

## 3. BACKGROUND

- 3.1** Microplastics (pieces of plastic smaller than 5 mm in diameter) are a ubiquitous pollutant in oceans and waterways across the planet. Produced as plastic preproduction pellets (nurdles), or formed from broken up larger plastic items, such as littered take-away food packaging, polystyrene building waste, plastic bags and synthetic turf, microplastics make their way into the waterways and Port Phillip Bay from the suburbs via the stormwater system. This includes creeks and rivers, as well as stormwater drains draining directly into the Bay.
- 3.2** Microplastics can be ingested by fish and other wildlife, which can block their gut, causing damage and starvation and bioaccumulation of toxic chemicals in the food chain - both from the plastic itself, and adsorbed to the plastics from urban waterways.

<sup>1</sup> National Strategy for Ecological and Sustainable Development’s definition

<sup>2</sup> [www.ecocentre.com](http://www.ecocentre.com)

## 4. RELEVANT LEGISLATION AND POLICY SETTINGS

- 4.1** SEPP (Waters) provides a framework for the protection and management of water quality in Victoria, covering surface waters, estuarine and marine waters and groundwater across the state. A 2018 SEPP (Waters) review added plastic pollution to the recognised threats to waterway health. Per July 2021, all SEPPs will be rolled into the General Environmental Duty<sup>3</sup>, the central component of the Environmental Protection Act 2017.
- 4.2** The EPA Civil Construction Building and Demolition Guide has no mention of microplastics and defines litter as including “a variety of solid and putrescible wastes such as building material, general rubbish, packaging material, prunings and discarded food and is often caused by lack of awareness of staff and unavailability of suitable bins”<sup>4</sup>.

## 5. SPECIFIC ISSUES

- 5.1** The Yarra and Maribyrnong rivers annually transport a combined 2.4 billion plastics - of which 85% are microplastics- to the Bay from their surface waters alone<sup>5</sup>. Both the Yarra and Maribyrnong River catchments include highly urbanised areas and industrial precincts with potential to generate chemical and plastic pollutants to waterways. This heightens the probability of chemicals adsorbed to plastics that enter the Bay.
- 5.2** The significant majority of litter entering Port Phillip Bay comes from streets in Port Phillip Bay’s water catchments. As Port Phillip Bay is a semi-enclosed ecosystem, other than litter removed from beaches, these pollutants remain in the Bay environment.
- 5.3** Recent modelling done by Borrelle et al (2020)<sup>6</sup> predicts that the projected growth in plastic waste in the next 10 years far exceeds the impacts of mitigation efforts currently deployed. Therefore, more effective action needs to be taken by everyone involved in the production, manufacturing, retail, use and disposal of plastic.
- 5.4** Despite an increasing global awareness of microplastics as a threat to waterways, our policies and practices adopted for street cleaning, waste disposal, stormwater management and construction remain focussed on gross pollutants.
- 5.5** In addition to this, when industrial leakage of microplastics (e.g. nurdle pollution around plastic factories) is reported, EPA and local councils defer the responsibility to each other, leaving the issue unsolved without action taken. Local councils need to work with EPA on this issue so there is clarity about the enforcement responsibilities across the state.

## 6. DISCUSSION

- 6.1** Plastic pollution, including microplastics, is contributed to in different degrees by different sectors. Therefore solutions to specific pollutants need to be planned and implemented through effective cross-sector collaborations between relevant levels of government, NGOs, research institutes, community, business and industry. The only way to reduce plastic pollution with any certainty is to reduce the volumes of plastic produced and consumed.

<sup>3</sup> <https://www.epa.vic.gov.au/for-business/new-laws-and-your-business/general-environmental-duty>

<sup>4</sup> EPA Civil Construction Building and Demolition Guide (EPA Publication 1834\* November 2020 Waste Guidance sheet 4: Litter (p. 60)

<sup>5</sup> Clean Bay Blueprint (2020), <https://ecocentre.com/cleanbayblueprint>

<sup>6</sup> Borrelle, Ringma, Law, Monnahan, Lebreton, 2020. Predicted growth in plastic waste exceeds efforts to mitigate plastic pollution. Science, Vol 369, IOssue 6510, pp. 1515-15-18

**6.2 The goal is to have waterways and a Bay free of microplastic pollution.**

**6.3** It is imperative that continuous, meaningful action is taken by stakeholders to reach this goal.

## 7. RECOMMENDATIONS

**7.1** Local councils can play a big role in reducing microplastics pollution at the source. Although the below prompts are not exhaustive, these measures that local councils can take have a direct impact on microplastics leakage into the environment. We recommend:

**7.2** That **Sustainability Victoria** convene a cross-sectoral task-force of relevant state and local government agencies, waterways managers, waste and recycling industry and not-for-profit organisations to identify:

- high impact initiatives to achieve an overall reduction in plastic consumption;
- potential barriers to achieving the above objective; and
- any required legislative, resourcing and enforcement reforms;
- Adoption of Operation Clean Sweep<sup>7</sup> to be a mandatory requirement of industry.
- Construction contract specifications providing clear accountability for preventing plastic pollution leakage entering the environment.

**7.3 Federal and State governments** should:

- incentivise research and development of alternative materials to plastics to enable effective transitions to non-polluting materials;
- expand product stewardship legislation to cover a broader range of non-essential plastic products;
- provide clarity on the responsibilities for industrial nurdle and microplastics pollution between local councils and the EPA.

**7.4 Local councils** should:

- ensure that any service contractors have contract specifications to prevent and eliminate plastic pollution as a result of their operations: e.g. remove litter from parks and nature strips before mowing grass; waste contractors picking up litter off the street after emptying bins and containing microplastics while cutting, installing artificial turf from sportsgrounds;
- hold construction contractors accountable for preventing plastic pollution leakage from their building sites. Site inspection visits to residential and commercial building sites by litter enforcement officers are essential: e.g. to look for polystyrene pollution and smaller items like strapping bands and food packaging left by workers. Waste on-site should be contained in suitable skips, not in uncontained piles of rubbish or only contained by metal fencing.
- support residents and community organisations to reduce the amount of plastic used in daily life, especially single use plastics and packaging; and
- monitor local areas for plastic pollution with verified and effective citizen science methods and share this data with councils and other stakeholders.

## CONTACT

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<sup>7</sup> <http://www.opcleansweep.org.au/>