

# ENVIRONMENT & SUSTAINABILITY



Reducing urban impacts on the natural environment.

OUTCOME 1	OUTCOME 2	OUTCOME 3	OUTCOME 4
Increased energy efficiency and climate resilience of vulnerable households.	Increased public understanding of the climate challenge.	Secure, healthy and sustainable food systems.	Protected and rehabilitated aquatic eco-systems.

To access in-depth information about the other outcomes in the Environment & Sustainability Impact Area, visit [lmcf.org.au/our-impact/environment-sustainability](https://lmcf.org.au/our-impact/environment-sustainability)

## Challenge

### Meeting the needs of a growing population while protecting aquatic eco-systems.

We need to meet the water consumption needs of our growing population, projected to reach 10.1 million people by 2051 as well as meeting the needs of the environment, which ultimately supports all life, including our own.<sup>1</sup>

Our waterways and bays supply eco-system services, recreational opportunities and support a variety of residential, agricultural and industrial uses. They also provide habitat to more than 12,000 plant and animal species, many of which are not found anywhere else. However, these environments face significant challenges, due to urbanisation, various land uses, commercial and recreational fishing, invasive species the changing climate and population growth.<sup>2</sup>

The Yarra River and Port Phillip Bay Report Card monitors the health of the bay and its catchments. Samples from 102 catchment sites and eight marine sites in 2016 were assessed. 40 per cent were under 'considerable stress' or 'severe stress'.<sup>3</sup>

Aquatic eco-systems are impacted by pollution from various sources, including industry, treatment plants, runoff and waste streams - a significant pollutant is the increasing amount of litter, which affects coastal and marine eco-systems. Approximately three-quarters of the debris found along the Australian coast is plastic and coastal waterways are now threatened by microplastics and nanoparticles, which are largely unregulated and whose effects are poorly understood.<sup>4</sup>

While rainfall is variable and normal cycles are driven by phenomena such as El Niño, La Niña, and the Indian Ocean Dipole, long-term trends show a shift towards drier conditions across south-eastern Australia. There has been a decline of around 11 per cent in April to October rainfall in the last 20 years and streamflow has decreased. These trends are expected to continue as a result of climate change, which is increasing pressure on many of Victoria's waterways.<sup>5</sup>

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There are many information gaps regarding eco-system health, threatening processes and management strategies. There is a need to address these gaps and influence relevant responses from policy makers, industry and the community.

## Our Response

Lord Mayor's Charitable Foundation is improving its understanding of aquatic eco-system health, reducing human impacts and restoring damaged eco-systems. This will help meet the needs of a growing population as well as the environment - on which the community and many other species depend. The Foundation is focused on Victorian, particularly Melbourne's, waterways and bays.

**The Foundation's support is focused on:**

- **Communication, citizen science and education activities that demonstrably reduce aquatic eco-system impacts.**
- **Development of new technologies that reduce adverse urban impacts or support eco-system health.**
- **Research that improves our understanding of aquatic eco-system health, threatening processes and management strategies.**

**The Foundation will consider other activities that address this outcome.**

## Contact

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## Endnotes

<sup>1</sup> Commissioner for Environmental Sustainability, Victoria, *Victorian State of the Environment*, 2018. <https://www.ces.vic.gov.au/reports/state-environment-2018>

<sup>2</sup> Commissioner for Environmental Sustainability, Victoria, *Victorian State of the Environment*, 2018. <https://www.ces.vic.gov.au/reports/state-environment-2018>

<sup>3</sup> Department of Environment, Land, Water and Planning, *Yarra River and Port Phillip Bay Report Card 2015-2016*, 2017. <http://yarraandbay.vic.gov.au/report-card/report-card-2016>

<sup>4</sup> Jackson WJ, et al. Australian Government Department of the Environment and Energy, *Australia state of the environment*, 2016. <https://soe.environment.gov.au/sites/default/files/soe2016-overview-launch-version328feb17.pdf?v=1488792535>

<sup>5</sup> Bureau of Meteorology, *State of the Climate*, 2018. <http://www.bom.gov.au/state-of-the-climate/State-of-the-Climate-2018.pdf>