



Georges River pollution

Where is the pollution coming from?

There's a common misconception that most pollution of the Georges River comes from industry. Prior to the 1970s, industrial pollution was often discharged to waterways with the idea that 'the solution to pollution is dilution in waterways'. It became increasingly evident that our waterways were being overwhelmed by pollutants through such practices. Since the 1970s, industrial discharges have been progressively reduced through adherence to improved regulations. There are, however, industrial pollutants from the past that remain bound up in the sediments of the Georges River.

Stormwater

Most of the water-borne pollution that enters the Georges River comes from stormwater runoff. When it rains, water flows across hard surfaces that have no capacity for filtration (roofs, paths and roads) and carries pollutants to the waterways.

Stormwater pollution can include oils, detergents and tyre residue that runs off roads; fertilisers, pesticides and lawn clippings that run off lawns and gardens; sediment that runs off poorly maintained construction sites; gross pollutants from litter; and, any other pollutants that are thoughtlessly disposed of down outdoor drains. Water flowing through stormwater systems picks up more pollutants that dissolve from concrete.

Sewage

Sewage leaks and overflows occurring from broken pipes and blockages, and sewage overflows that result when high flows overwhelm the system during large storms, and also sometimes as a result of blockages, pollute the river. Everything that is flushed down toilets or goes down indoor drains in households ends up in sewage water, including human waste and

associated microbiological pathogens (e.g. harmful bacteria, *Escherichia coli*), soaps, detergents, wet wipes, personal care products and drugs (both legal and illicit). There are many issues with sewage in the environment: there are severe human health issues caused by coming into contact with water contaminated by human waste; detergents cause nutrient enrichment; and drugs that are specifically designed to cause a physiological change in users continue exerting effects on animals when released into the environment, as they are not fully processed as they pass through the human body.

Other pollutants

There are pollutants that enter the Georges River from mining activities in the upper catchment. Emerging contaminants such as per- and polyfluorinated alkyl substances (PFAs) have been detected in the river, presumably sourced from fire-fighting training activities. Some industries are permitted to release pollutants to waterways, within the limits of their licence. People also carelessly pollute the Georges River by tipping substances such as paint or oil down their drains, or dumping them directly near waterways. Pollutants that enter the air as particulates can also settle into waterways.

Sediment

Sediment and nutrients occur naturally in waterways. But, excess sediment enters water when erosion is

Did you know?

Most (>90%) of the pollution in the Georges River enters through stormwater. Stormwater is not treated before it enters the Georges River, so everything that goes into the gutter is destined to enter the river.

Did you know?

Before they could be returned for a cash refund under the Return & Earn Scheme, it is estimated that every day there were 68,000 plastic bottles being littered in the Georges River catchment. Many of these bottles were ending up in the river. Fortunately, we have seen a recent reduction in the number of littered bottles along the river. This is attributed to the success of Return and Earn.

accelerated by removal of protective vegetation. Too much sediment in rivers causes a range of problems, including reducing amenity, smothering plants and habitats, clogging the gills of fish, reducing growth of food sources and/or hindering hunting by visual predators. Excess nutrients can fuel problematic growth of algae or plants, as well as cyanobacterial blooms.

Plastic

Plastic litter is the most highly visible pollution in waterways. Georges Riverkeeper collects over 100 tonnes of litter from along waterways each year, with most being plastics such as single-use drink bottles, plastic bags and takeaway food containers. Plastic pollution is unattractive and can concentrate other pollutants that become bound to plastic surfaces. Plastics are inorganic and don't fully degrade, they just break up into small pieces that persist in the environment and can enter food webs.

Inorganic pollutants

Inorganic pollutants that are not derived from living things and typically decay very slowly, or not at all, so they can persist in our waterways. Some legacy pollutants from past discharges are still trapped in the sediments on the bed of the Georges River. Examples of inorganic pollutants include metals, dioxins,

phenols and other chemicals with long names, such as polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs).

Organic pollutants

There are also organic pollutants, which are derived from living things, including faeces that pollute the river. Organic pollutants decay, but in the process of decaying they can stink. Also, bacteria and fungi that contribute to the decay of organic pollutants can consume all of the oxygen in the water, leading to fish kills.

Water quality

Owing to pollution, mainly from stormwater, the water quality in urban areas of the Georges River catchment is typically poor (see Georges River Report Cards and State of the Georges River Reports on our website), which causes loss of much biodiversity and limits the human uses of waterways owing to lost aesthetic appeal and health risks.

To keep pollution out of the Georges River you can:

- Put litter in appropriate bins, recycling when possible
- Don't flush wet ones down the toilet
- Never put anything except water down drains
- Be a responsible pet owner and pick up dog droppings
- Wash cars on lawns
- Fix any of your car's oil leaks
- Build a raingarden to capture and utilise the water from your property
- Report stormwater pollution: Call 000
- Report other river pollution: Call EPA on 131 555



"Best practice environmental management for a liveable Georges River."

Georges Riverkeeper coordinates projects on behalf of our partners to protect the Georges River from litter, pollution, stormwater, weeds and pest invasions.



For more information:

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