

# Many urban waterways were once waste dumps. Despite restoration efforts, there's more to do to bring nature back

June 15 2023, by Oliver A.H. Jones

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Darebin Creek. Credit: Oliver Jones, Author provided

In the 19th century, many of Australia's urban creeks and rivers were in poor shape. Melbourne's major river, the Maribyrnong, was [full of waste](#) from abattoirs, tanneries and factories.

I live near Darebin Creek in Melbourne's north, which was next to a tip and often polluted until [cleanup efforts](#) began in the 70s. Now many

creatures have returned.

But while many waterways have been cleaned up, others have languished. As late as 2011, Sydney's notoriously polluted Cooks River was so full of industrial waste and sewage it [was dubbed](#) an "open sewer." Now, it's [starting to improve](#).

Here's what the restoration of Darebin Creek shows us about the successes and challenges of bringing life back to our urban waterways.

## **Rivers or rubbish dumps?**

Many of us, like Mole from "Wind in the Willows," find ourselves "intoxicated with the sparkle, the ripple, the scents and the sounds..." of our waterways.

But we don't always treat them very well. [European settlement had a big effect on creeks and rivers](#), we've often used them as convenient waste dumps. Pump industrial waste, chemicals or sewage into them and watch it float away. Once we might have thought "problem solved." Now we know differently. Treating rivers as dumps can (unsurprisingly) damage or even wipe out the life in it.

In Victoria, their fate started to improve when the state government passed the [Environment Protection Act](#) in 1970 (since superseded by the the [Environment Protection Amendment Act 2018](#)). Since then, [community groups](#), [government agencies](#), and [Melbourne Water](#) have started the repair job.

Now, we're starting to see the benefits. My local [waterway](#), Darebin Creek, is typical of many urban creeks and I love spending time here. Running in the morning, I pass ducks, swans, and moorhens. Kookaburras laugh in the trees, insects buzz in the morning light. It's

beautiful.

In the creek itself live frogs, invertebrates and fish. Endangered species like the growling grass frog and matted flax-lily can now [be found](#).

There are even [platypus sightings](#), which means there's food there for them like insect larvae and yabbies.

What is now the expansive Darebin Parklands was once was used as a farm, then a quarry, [then a tip](#) earmarked for a freeway, and the creek was little more than a stormwater drain. Even today, leachate from the old tip [seeps out](#).

The creek's transformation—especially in its southern reaches—is due in large part to one determined woman, Sue Course, who was rightly [recognized for her work](#) in the 2021 Australia Day honors.

In the 1970s, Sue and her husband Laurie formed a residents' group and lobbied successfully for the land to be given to the public. The group spent decades removing weeds and rubbish and planting trees.

Many urban waterways in Victoria are now in reasonable health, [providing habitat](#) for more than [1,800 species of native plants and 600 species of native animals](#). But not all. Rivers such as the Ovens and the Murray, and even the Yarra in places, are in poorer condition with [low flows and high sediment and salt levels](#) major issues.

Improvements are often connected to community efforts to revegetate, as well as watching for chemicals or other pollutants pumped into the stream. These efforts have to be ongoing. As recently as 2016, eels and other fish [died in Darebin Creek](#) due to insecticide being washed into the water.

And the wildlife of the creek has not fully recovered, as the local council [points out](#). The remarkable [plains-wanderer](#) once roamed the creekline, but the last sighting was in 1972.



Three invertebrates I found in Darebin Creek – a bloodworm (chironomid larva), freshwater crab and caddis fly larvae. Credit: Oliver Jones

## How do we fully restore our city waterways?

Native species reliant on our city waterways still face threats. These include:

- Catchment pollution. A catchment is an area of land where water collects when it rains and then flows to a low point (such as a stream). Pollution in a creek or river's catchment upstream can affect the whole waterway. A [recent study](#) on pesticides found the major source was residential use, meaning the chemicals were washed into the wetlands. A similar project used GPS to track [plastic bottles down Melbourne's creeks](#). They found bottles could travel many kilometers downstream, or get stuck and break down locally.

- Organic micropollutants. The way we live means we use a large range of chemicals, including cosmetics, [pharmaceuticals](#), pesticides, fertilizers, and artificial sweeteners. A detailed study of the Yarra, Sydney and Brisbane River estuaries [found](#) traces of these chemicals in the water, including drugs, medication, personal care products, pesticides, and even food additives. Even though they are present in very low concentrations they can still be a worry. A [recent study from Monash University](#) showed that concentrations of pharmaceuticals in rivers, though far below the therapeutic dose can still affect fish behavior.
- Stormwater. When rain runs off hard surfaces like roofs, driveways, and roads, it runs into storm drains and creeks, carrying debris, bacteria, soil, oil, grease, pesticides and other pollutants with it. In 2016 it was estimated that [95% of litter](#) on Victorian beaches was transported there from suburban areas through stormwater drains.
- Nutrients. Fertilizer runoff from farms and wastewater spills in urban areas can bring too many nutrients like nitrogen and phosphorus into waterways. Overloads of nutrients can trigger sudden plant and algae growth. These block light and reduce oxygen levels, leading to the death of fish and other aquatic animals. Some algae and cyanoabacteria (that also grow in these conditions) produce toxins that can [make us sick too](#).
- Invasive species. Many invasive species have been introduced into Australian waters including the infamous [carp](#) and [mosquito fish](#). These prey on or outcompete native species, damage habitat, and carry diseases and parasites. Careful management to reduce their impact will likely be needed for some time.

## How can we help bring life back?

If there's a lesson in the restoration work done so far, it's that we can't



expect life just to bounce back. Making our waterways healthy again takes effort, ranging from making sure rubbish doesn't escape into them through to joining your local waterway organization—or starting one.

Join a local [Waterwatch program](#) to monitor river health, or join the national [waterbug blitz](#) to learn more about invertebrate life. You can even get involved in efforts to restore riparian vegetation as natural flood dampening measures.

Above all, let's appreciate our urban creeks and rivers for what they are—and for what they can become, so the next generation will have the same chance to enjoy them as we have.

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