



## Corridors of Concrete: The Benefits of Naturalising Urban Streams Across Melbourne

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Waterways are prominent landscape features across Australian cities and suburbs. However, in many cases these waterways have been substantially modified. Throughout the 20th Century, waterways in Australian cities were commonly buried in pipes, straightened, deforested and lined with concrete. These modifications were intended to create more urban area, reduce maintenance requirements, and reduce flooding of adjacent areas. However, there have been substantial negative side effects, including the fragmentation and destruction of habitats, loss of urban forest, reduced amenity for local communities, loss of nutrient processing capacity, and increased downstream flooding.

There is strong community support for the naturalisation of urban waterways, and recent Australian studies have demonstrated the economic benefits (Polyakov et al. 2016[1]; Thomy et al. 2016[2]). Naturalising waterways is expensive, so prioritising investment is critical. Effective prioritisation is challenging: there is a lack of data on waterway condition and the datasets needed to assess the multiple benefits of naturalisation are diverse, disparate and often inaccessible.

To address this knowledge gap, we analysed more than 150 km of piped and concrete waterways across Melbourne. We used a range of spatial data sets to identify waterways that—if naturalised—would provide the greatest benefit in reducing heat vulnerability[3], providing access to open spaces, connecting habitats along waterway corridors, and increasing the value of properties close to the waterway.

By combining the outputs from our spatial analysis with published research and tools we were able to estimate some of the potential economic, social and environmental benefits from naturalising waterways across Melbourne. The findings of this study will help inform naturalisation programs and activities by government agencies, councils and community groups.