Georges Riverkeeper
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Date: 21 August 2020

To: Productivity Commission - water.reform.2020@pc.gov.au

Subject: Submission to National Water Reform Inquiry, 2020

Dear Commissioner Doolan and Associate Commissioner Collins,

We appreciate the opportunity to provide a submission for consideration during the National Water Reform Inquiry to assist with policy development to facilitate achieving effective waterway management in the long-term interest of the Australian community.

Urban stream degradation is a national issue

We represent an organisation funded by local government to provide support for their waterway management initiatives across the Georges River catchment in southern Sydney. The catchment has approximately one and a half million residents. As for other highly urbanised landscapes, the tributaries flowing to the Georges River display all the symptoms of the Urban Stream Syndrome. There has been a gradual decline in the provision of ecosystem services from the river, largely owing to catchment-scale declines in water quality. Communities continue to highly value their local waterways and local governments invest considerable resources into urban waterway management. However, there are substantial barriers to achieving integrated urban water management, including the legacy of extensive ageing engineered stormwater infrastructure designed to provide drainage without consideration of other environmental, social or economic impacts. Given that the urban population across Sydney is growing and there will be increased demands on water resources, a business as usual approach to urban waterway management will exacerbate the existing problems of degraded water quality and altered stormwater flows. Climate change (e.g. increased severity of drought, more intense storms, rising sea levels) will also increase the pressure on water resources, ageing stormwater infrastructure and urban communities. There has been considerable work done to demonstrate the multiple benefits of integrated urban water management, by the federally funded Cooperative Research Centre for Water Sensitive Cities (CRCWSC) and others. Our submission is in support of regulatory reform that incentivises integrated urban water management to realise the vision of stormwater being transformed from a problem into a valuable resource.

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Local evidence of urban stream degradation

It is well recognised that urban streams are highly degraded, owing to the surrounding landscape being transformed, with a dramatic increase in cover by impervious surfaces, and being constantly bombarded by high flows of polluted stormwater. Stormwater continues to be a resource that is being turned into a burden hindering achieving multiple environmental and other public benefits. Our evidence from Georges River Health Report Cards is that local urban streams have highly degraded riparian vegetation, very poor water quality and highly depauperate waterbug communities. Within Report Cards, local urban streams have consistently been graded 'Poor' over the past decade. Further, in a comparison of concreted and non-engineered ('natural') urban streams, we found that urban streams across the catchment were severely ecologically impaired, whether engineered or not (Reid & Tippler, 2019[1]). In summary, that study showed that all urban streams are currently functioning largely as drains, rather than realising the full range of environmental, social and economic values that they could provide through an integrated urban water management approach.

Local consequences of urban stream degradation

The documented evidence of local consequences of poor water quality in the Georges River include:

- heightened prevalence of diseases compared to less urbanised waterways, which have decimated the formerly highly productive and economically valuable oyster cultivation industry (Reid & Bone, 2020[2]). That oyster cultivation industry was formerly one of the most productive in NSW, with a conservative estimate that it would presently be worth over six million dollars per annum, had productivity remained the same as that at its peak in the 1970s, prior to declines associated with increased urbanisation of the catchment and decimation by diseases that were far less damaging in less urbanised estuaries.
- declining water quality, reducing amenity and recreational opportunities in the river (e.g. swimming baths at Oatley and Carss Park declining from 'Good' to 'Poor' over recent years, as shown in State of the Beaches Reports). There is ever increasing knowledge about the multiple values of well managed urban streams (e.g. improved urban amenity reflected in values from improved mental

[1] Reid DJ & Tippler C (2019). Access to natural substrates in urban streams does not counter impoverishment of macroinvertebrate communities: a comparison of engineered and non-engineered reaches. Water Air and Soil Pollution, 230: 8.
[2] Reid DJ & Bone EK (2020). The rise and fall of oyster cultivation in the highly urbanized Georges River estuary, Sydney, Australia: a review of lessons learned. Regional Studies in Marine Science, 35: 101246.

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health to increased local property values), from studies of 'willingness to pay' and hedonic valuations. Economic valuations are useful, but somewhat abstract and it is very challenging to put a price on many social and environmental values, including those that may already have been lost owing to legacies of past poor management and/or are intangible. One example where environmental values have been valued economically, is documented in Costanza R et. al., (2014). Costanza reports that tidal marsh/mangroves are estimated to be worth $US 194,000 per hectare per year[3].

These local examples are similar to the well-documented declines in the environmental condition of urban waterways across Australia, with associated loss in social and economic opportunities. Recent studies done in partnership between Georges Riverkeeper and UNSW show that local councils are investing in Water Sensitive Urban Design, but resourcing constraints (anecdotally including an over reliance on unreliable grant funding) are hindering optimising the environmental, social and economic benefits. The recent drought highlighted the vulnerabilities of current water supplies and the folly of directing most of the potentially useful stormwater resource down the drain in urban landscapes.

The river has clear targets for improving some components of water quality from the Botany Bay and Catchment Water Quality Improvement Plan, which was developed by the Sydney Metropolitan Catchment Management Authority, with federal support (SMCMA, 2011[4]). However, that organisation no longer exists, and remaining authorities do not have adequate resources to implement the plan.

Opportunities for sustainable urban stream management

Fortunately, the 2004 National Water Initiative (NWI) explicitly acknowledges that 'governments have a responsibility to ensure that water is allocated and used to achieve socially and economically beneficial outcomes in a manner that is environmentally sustainable'. The specific issues related to urban waterway management have been acknowledged within the NWI (e.g. paragraph 92), which was expanded upon in the 2017 inquiry (PC, 2017[5]). There has been considerable investment in exploring solutions, including regulatory frameworks, which would improve the wellbeing of the community as a whole. However, our experience on-the-

[3] Costanza R et. al., (2014). Changes in the global value of ecosystem services. *Global Environmental Change*, 26, 152-158, May 2014
[4] SMCMA (2011). Botany Bay and Catchment Water Quality Improvement Plan. Sydney Metropolitan Catchment Management Authority, Sydney.
[5] PC (2017). National Water Reform, Productivity Commission Report no. 87, Canberra.

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ground is that the hindrances to effective integrated urban water management remain, which is unfinished business from the NWI, as detailed in the recent paper from the Productivity Commission (PC, 2020[6]). It would be very beneficial to have policy settings that incentivised such management, which would have benefits for both water quality (e.g. improved quality of raw private and community water sources (stormwater/greywater/wastewater), improved water quality for safe recreation, improved water quality for healthy aquatic ecosystems, etc.) and water quantity (e.g. improved integrated urban flood management, improved water resource recovery management (water reuse), etc.). This should be prioritised in line with the rapid expansion of urban development across Australia, as decisions on waterway management and infrastructure are expensive, cannot feasibly be reversed and in growth areas present decisions have long-term implications. National reform should aim to prompt local planning and implementation that will deliver lower cost solutions for achieving the full suite of community benefits from water in urban landscapes.

Recommended reforms to support sustainable urban stream management

In broad terms, we support the recommendations from the CRCWSC (McCallum & Boulot, 2015[7]) and Productivity Commission (PC, 2020[5]) targeted at improvements in policy to support integrated urban water management for both water quantity and quality.

Specifically, to support the implementation of the extensive knowledge that Australia has gained about integrated urban water management, and facilitate achieving the objectives of the NWI for urban waterways and communities, we recommend consideration of the following regulatory changes:

- Having management of water quality featured more prominently in a renewed National Water Initiative, to match the focus on the challenge of water quantities and supply.
- Reconfiguring **regulatory frameworks** that impede the emergence of innovative water sensitive service delivery.
- Through **regulations**, providing economic incentives to incentivise water sensitive initiatives that provide a broad range of environmental and other public benefit outcomes in surface and groundwater systems to protect water

[6] PC (2020). Integrated urban water management: why a good idea seems hard to implement. Productivity Commission Research Paper, Canberra.
[7] McCallum T & Boulot E (2015). Becoming a water sensitive city: a comparative review of regulation in Australia. Cooperative Research Centre for Water Sensitive Cities, Melbourne.

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sources and their dependent ecosystems, as well as the multitude of ecosystem services with social benefits.

- Providing **regulatory incentives** to improve monitoring and maintenance of water sensitive design assets.
- Developing **pricing policies** consistent with the principle of including externalities in pricing of water resources, as stated in the NWI. Continue to encourage efficient use of stormwater as a resource, rather than as a burden to be quickly directed into drains.
- Clarifying roles and responsibilities for implementation of integrated urban water management. Improve **policy frameworks** for making planning decisions that balance enhanced liveability and resilience provided from integrated systems against their additional upfront costs.
- **Integrating** the framework and principles of the **National Water Quality Management Strategy** into the NWI and providing clarity on responsibilities for implementing those principles, plus ensuring there are adequate resources supporting implementation.
- **Legislating** for increased State Government support for catchment management organisations in urban regions of NSW, which lack Catchment Management Authorities or similar organisations with adequate resourcing for catchment-scale waterway management.

Thank you for consideration of this submission. Please contact Georges Riverkeeper if you require clarification or more information regarding this submission.

Yours Sincerely,

Peter Ryan
Georges Riverkeeper, Program Manager

Councillor Geoff Shelton
Georges Riverkeeper, Executive Group Chairperson