

22 April 2015

Environment and Communications References Committee for inquiry:

Stormwater Resources in Australia

DesignFlow submission

Who we are

DesignFlow is a small consulting group that specialises in Water Sensitive Urban Design, in particular sustainable stormwater management. We work on projects in all states of Australia that include developing policies, strategies, training, guidance and designs and providing advice on constructing and maintaining stormwater treatment and harvesting systems. We have designed hundreds of stormwater treatment systems (mainly wetlands and biofilters) and stormwater harvesting systems we have designed collectively capture more the 4,000 ML each year.

We have a holistic understanding of the opportunities to improve stormwater management. Our staff have worked in the environmental stormwater management industry since its inception in the mid-1990s and we have strong networks with researchers, policy makers, approval authorities and asset managers. We regularly collaborate with other professionals (urban designers, landscape architects, service engineers and economists) to design stormwater assets that have maximum environmental, community and financial value.

Submission

Our submission focuses on the key strategic priorities to improve stormwater management in Australia and identifies opportunities for the Commonwealth Government to effect change.

Importance of stormwater management

Stormwater impacts major iconic Australian fresh and marine waters including – the Great Barrier Reef, Sydney Harbour, Port Phillip Bay, Moreton Bay, Gulf St Vincent and Edithvale-Seaford wetlands (and many others). Many of these waterbodies are listed under the Ramsar Convention and therefore considered matters of environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999*.

Stormwater is identified in many studies as a major threat to aquatic environments. These aquatic environments bring enormous value to the community – socially, culturally and economically.

Stormwater plays a central role in delivering Green Infrastructure that enhances the liveability of our new communities. Creating Green Infrastructure using stormwater has many tangible benefits with improved social outcomes ranging from better exercise, improved mental health and more social interactions creating interactive communities. These benefits are difficult to measure in economic terms, but have been identified as major national issues affecting Australians.

Current practice evolution

Stormwater treatment design has evolved in last 15 years from single objective infrastructure (i.e. stormwater pollutant capture) to multi-objective systems that enhance the liveability of communities. Common objectives include enhancing recreation, biodiversity, providing for active play and learning as well as reducing stormwater pollutants and in some cases harvesting stormwater to offset mains water use.

Key priorities for improving stormwater management

The key priorities for improving stormwater management in Australia are:

1. developing and supporting the implementation of a framework for managing stormwater from existing urban areas
2. Improving the accountability for implementing appropriate stormwater management and ongoing asset management of stormwater infrastructure.



Oaklands Park stormwater harvesting wetland in SA – example of retrofit stormwater system with multiple benefits

Addressing stormwater from existing urban areas

Standards and approval systems for managing the environmental impacts of stormwater in new development have been introduced in most states over the last decade. Development controls are administered by local government or state government agencies and funded by developers. The systems for managing stormwater from new development still needs some implementation and accountability work but the framework is established in most states.

Existing urban communities don't generally get the benefit of current stormwater management policy and approaches. Stormwater from existing areas remains largely untreated and contributes the majority of urban stormwater pollution. The legacy of no stormwater treatment or poor landscape outcomes in old communities needs to be addressed to enhance local parks and open spaces as well as reducing impacts on aquatic environments. A prominent example of this is the Torrens Lake in central Adelaide. The lake is frequently subjected to regular algal blooms as a result of urban stormwater pollutant loads. These would be vastly reduced if stormwater treatment systems are widely retrofitted throughout the existing areas.

Brisbane City Council are in the process of reviewing the way it delivers stormwater and parkland design in its old suburbs to deliver multiple use open spaces that deliver a stormwater and waterway function. Council has invested considerable funds on the review, however they only have funding for a small portion of the planned works.

There is a dire need to address stormwater from existing areas. We recommend that the Commonwealth government support this change through:

1. **Setting performance standards and timelines** for retrofitting environmental stormwater management systems into existing urban areas in collaboration with local stakeholders. Standards should be set with consideration of the value and sensitivity of the receiving waterway (e.g. highest standards for areas that drain to waterbodies that are matters of environmental significance). Some regions have voluntarily set stormwater management objectives and targets which indicates community support for improved stormwater management. The benefits of best practice stormwater management extend beyond municipal and state boundaries. A federal framework for performance standards and timelines will provide a strategic and consistent approach and allow the cumulative performance and impact to be tracked.
2. **A Federal funding program** to support retrofit projects and the administration of new standards. This would provide an incentive for contributions from local agencies to develop projects that enhance the liveability of existing communities, provide stormwater treatment and harvest water to reduce mains water consumption. The recent National Urban Water and Desalination Plan funding provided valuable support for stormwater harvesting projects across Australia. The ongoing benefits to the community for many of these projects have far outweighed the Federal monetary contribution. But it was the Federal contribution that was the catalyst. It is recommended that the new federal funding program is made available to projects that achieve some or all of the following objectives:
 - Reduce stormwater pollutant impacts on receiving waters
 - Provide a source of non-potable water to off-set mains water use
 - Increase biodiversity
 - Provide for recreation and provide for more active communities
 - Reduce urban heat island effects.

Investing in stormwater projects with these multi- criteria requires many disciplines and creates many jobs. From planning, design construction as well as ongoing maintenance and operation.

An investment of the scale of \$500m over 5 years would be required to see significant impacts. This investment could convert in the order of 200-250km² of existing urban area to best practice stormwater management.

Improving accountability for stormwater management

Existing legislation sets out the role of municipal councils and state government agencies in managing stormwater, however there is currently no process for assessing the effectiveness of this management. An accountability system will provide an incentive for appropriate performance and ensure equitable investment and protection across Australia.

There are existing requirements for stormwater treatment systems to be provided as part of new development however the onus is on public asset owners to decide how much to invest in maintaining them and whether to renew them if they are underperforming. Existing systems enable development approval agencies to accept contributions (i.e. offsets) from developers to fund regional treatment systems however the onus is on the approval agencies to decide when and how to spend these funds.

Some agencies are investing in retrofitting stormwater treatment and harvesting systems however there is no coordination of the approach, comparison of performance or consistency in the level of commitment to stormwater management.

There is a need to create an equitable system that ensures accountability of those responsible for managing our stormwater. It is recommended that the Commonwealth Government support this change through:

1. **Amend the EPBC Act** such that all water resources are considered matters of national significance (rather than them only being considered significant when a coal seam gas or large coal mine is involved).
2. **Delegate responsibility for managing the impacts** of stormwater on water resources (other than Ramsar Wetlands) to municipal and state/territory based agencies.
3. **Set performance standards** for managing stormwater from new development and managing the impacts of stormwater discharges from existing urban areas.
4. **Define responsibilities for checking performance standards are met** by working with each state/territory to nominate a state/territory based agency (e.g. Environment Protection Authority) responsible for regularly reviewing the performance of those responsible for stormwater management.
5. **Provide seed funding** to establish these systems and provide compliance incentives.

This system would provide accountability and transparency to support the delivery of ongoing best practice stormwater management.