

## **Three Mile Scrub – Communities working together to build resilience in their place**

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### **1. INTRODUCTION**

Too many times we see urban design solutions imposed upon local communities that are ill fitting; developed without an understanding of how a community uses and values their local place. Such designs significantly risk failure as they miss a critical piece of the design puzzle – who are the people who will use and value this place into the future and how and where are their needs captured?

In cities such as Brisbane many citizens report feeling concerned for the health of the environment including urban waterways (Healthy Land and Water, Social survey, 2019<sup>1</sup>). We know that South East Queenslanders gain many benefits from their local waterways. Rivers, creeks, lakes and beaches that are easily accessible and usable are an important place of recreation where locals can walk, cycle, swim, boat, fish, camp, picnic, socialise and relax while enjoying nature (Healthy Land and Water, Social survey, 2019<sup>2</sup>). Locals also spend and save money using local waterways for recreation which contributes to the economic value of an area. Waterways and catchments also provide financial benefits to local communities by contributing to low-cost drinking water, as treatment is needed for purification. Waterways continue to offer a destination that contributes to well-being through relaxation and offering a break from routines. SEQ residents reported high levels of personal benefits from these experiences, indicating both social and health values from relaxation (Healthy Land and Water Social Survey, 2019).

### **2. ACHIEVING MULTI-BENEFIT OUTCOMES**

In 2017 Healthy Land and Water began delivery of an Australian Government funded project to improve the health of the Brisbane River. The main project site was situated in inner-city Brisbane and was identified as one in which creek restoration works could improve the health of the local waterway leading to improvement to the downstream internationally recognised Moreton Bay Marine Park. The site is located along the Enoggera creek sub-catchment of the

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<sup>1</sup> Healthy Land and Water, Ecosystem Health Monitoring Program, 2019

Brisbane River in the Lower Brisbane catchment of South East Queensland. This highly urbanised catchment was recently given a C- for ecosystem health in the annual Healthy Land and Water Report Card (2019) with key stresses cited as sediment and pollutant runoff entering the waterways from surrounding urban areas.

The Healthy Land and Water Report Card is the key monitoring and evaluation program for waterways across South East Queensland and as one of Australia's first official waterway Report Cards is highly regarded. As well as ecosystem monitoring, the waterway benefit rating of the Report Card provides an assessment of social and economic benefits, which are combined to reach an overall rating. Within the targeted catchment, the 2019 Lower Brisbane, Report Card results showed that 50% of residents were satisfied with the condition of their local waterways (compared with 58% for all of South East Queensland). Results showed that residents valued their local waterways for recreation, with 48% of residents reporting enjoying recreating in or alongside their local waterway at least monthly. High numbers of residents' valued local waterways as a place of rest and relaxation (53%) or for social interaction with friends and family (46%). The most frequent recreation activities included walking/running (42 day/year), enjoying nature (17 days/year), cycling (8 days/year) and picnics/BBQs (5 days/year). The 2019 Report Card showed that only 30% of residents within the Lower Brisbane catchment would be willing to contribute volunteer time to undertaking stewardship activities within their local waterways.

Utilising the knowledge gleaned through the Report Card, Healthy Land and Water sought to identify ways to not only improve the water quality rating of the Lower Brisbane catchment but also to increase opportunities for citizens to participate in nature related behaviours, and increase the opportunities for stewardship of urban waterways.

### **3. A LIVING WATERWAYS APPROACH**

Thanks to the funding impetus provided by the Federal Government, this project presented an opportunity for Healthy Land and Water to practically implement and apply its Living Waterways framework. Living Waterways was developed through a collaboration by local and state governments from across Queensland with input from the stormwater industry. Living Waterways is a framework that incentivises collaboration and integrated planning and design of urban water systems. These outcomes are achieved through simple and measurable

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<sup>2</sup> Healthy Land and Water, Ecosystem Health Monitoring Program, 2019

targets, against which designs can be easily assessed whilst ensuring ongoing operation and maintenance costs are reduced. The framework recognises that green infrastructure contributes to a more resilient community when it is designed to achieve not only stormwater management objectives, but other benefits such as mitigating urban heat island impacts, providing a diverse water supply and helping people to connect with each other and their natural environment. The framework is underpinned by fundamental multi-benefit principles which recognise that well-designed urban green infrastructure supports connections between people, water and nature, and creates opportunities for experiences that improve human wellbeing. Living Waterways is underpinned by the participatory approach recognising that while the integrated design process can be challenging, a known success factor for achieving these outcomes is a collaborative design approach, where planners, landscape architects, engineers and other disciplines contribute equally to the process.

Using Living Waterways and recognising the collaborative opportunities within the framework this project was determined as a pilot to test and validate an extension of the participatory approach to include a broad spectrum of the local community in the design process – this would help the industry to collectively understand how community co-design could contribute to local stewardship and social resilience outcomes.

Co-design enables communities to become an integral part of a design project through working together to design spaces that acknowledge the community's unique connection to their local place, their understanding of the local environment and cultural systems and the recognition that they will ultimately become the end users and legacy holders of the project. To successfully develop and implement the ensuing integrated design plan that united all of the complexities and nuances of this special place, Healthy Land and Water partnered with CoDesign Studios and were mentored through the co-design process.

Healthy Land and Water subsequently utilised the condition assessment module within Living Waterways to paint a picture of the overall condition of the catchment and guide best practice waterway interventions. The aims of the project were clearly defined and baseline understanding of the sites condition as well as the local communities' levels of water literacy were established. As the creek was largely hidden from site due to its high level of weed infestation and inaccessibility, the community were largely disconnected from the site and there was a strong need identified to build local stewardship.

The project involved extensive collaboration with a diverse cross-section of the local

community. This included local residents, businesses, scouts, schools, aged care, artists, local walking and catchment care groups and the local heritage society. The co-design process involved many workshops and meetings that were designed and delivered to facilitate creativity and ideation with specific regard to the re-design of the targeted site.

Community insight was key to informing a bespoke, naturally integrated site that consisted of a student led and designed interpretation trail, a viewing platform integrated into the landscape, nest boxes and bee hives and a dry creek bed installed to provide an example of historical ecological components of the site. The project treated site runoff via a soakage basin fulfilling the spirit of the Queensland State Planning Policy legislation i.e. to protect and enhance waterway values. Additionally, over 3,500 species of the original regional ecosystem, a littoral vineforest, were restored on the site, significantly boosting local biodiversity values.

Without community insight, park embellishments that are standard across this area of Brisbane, including kids playgrounds, dog parks and outdoor gym equipment could have been installed. Once the community had been authentically engaged they expressed a strong desire to not have these elements included in any future design and instead worked toward a design that highlighted and integrated the intrinsic natural values of the site.

The installation of native plants was very hands-on for local residents increasing the communities' sense of ownership of the area. As the project came to completion residents took it upon themselves to establish a formal and dedicated Bushcare group whose aim would be to care for the works undertaken and together manage and protect this well-loved local area. Importantly, Brisbane City Councils 'Habitat Brisbane' model, provided a key overarching governance and support mechanism for the new residents group, enabling the group to maintain momentum and immediately begin to undertake on-ground stewardship activities on the site.

#### **4. LEGACY**

One of the key measures of a project is its legacy. Too often WSUD assets are at high risk of becoming neglected and losing their integrity soon after commission. In this case study, the project has resulted in the community taking during stewardship and ownership of the site, including the WSUD assets, raising local awareness regarding the role and function of WSUD, practical application of the integration of WSUD within the broader landscape features, resulting in harmonious and flowing restorative design; building on the initial investment by the community extending the creek restoration a further 200 metres upstream

and downstream; continued funding from the Federal Government for other similar projects across the sub catchment; a readiness to adopt similar co-design projects from Brisbane City Council and the Federal Government; a website and video library (9 videos, 1000+ views) to further inspire; seed funding from the State Government (\$20k) to develop proposals seeking funding to pilot the approach in five Reef coastal centres; a PhD thesis at the University of Queensland investigating the role of the project in building social resilience; a street full of neighbours ready to get their hands dirty on the weekend and some very happy sugar gliders and native bees who now have some comfy accommodation in the local gum trees.

Perhaps the biggest impact however has been on the local students at St Ambrose located at the head of Davidson Street. The students now have a direct and special interest in caring for the creek and natural surrounds located at the end of their road. The challenge for both the school team and the project team was to link the building of the student's stewardship into delivery of outcomes against the curriculum. The students worked with the design and development team to make digital 'Sways' that described in a visual and audio narrative what the students valued most about the site. The influence this project has on these children, although not quantifiable just yet, is evident in their research projects. To view the *Sways* visit: [www.wsca.waterbydesign.com.au](http://www.wsca.waterbydesign.com.au)

This project has helped to shape and connect the essential relationships between natural water processes and the environment to human activities and experience and realised the significant value to the local community of place. It demonstrates why communities are essential to the design process and how co-design forges profound values of community stewardship, social cohesion and develops a community's understanding of the value and role of water sensitive urban design.

This project has shown that waterway health outcomes are much broader than just water quality load reduction targets and while end of the line stormwater treatment devices are part of the solution there is much that can be done to achieve multiple benefits for the environment and the local community who rely on and utilise the spaces we seek to improve.

There are many ways that local waterways can be protected and enhanced through direct rehabilitation and habitat restoration, the missing link is the integration of the local communities who also call these places home and who have a very unique and special bond with their local place.

## **ACKNOWLEDGMENTS**

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