



Keeping shipping channels clear for safe navigation

Award-winning project safeguards the environment and improves safety at Port of Brisbane

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Dredging is an essential part of port maintenance and keeps shipping channels clear for safe navigation.



Australia's ports are committed to ensuring safety for all port users and managing the marine environments in which they operate.

Every year, more than half a million tonnes of sediment enters the lower Brisbane River, with approximately 80% of this originating from eroded streams in the Lockyer Valley, west of Brisbane.

After extreme flooding in 2013, more than 2 million tonnes of sediment was deposited in the Port of Brisbane's navigational channel. Extensive dredging was required to safely re-open the channel.

Heavy rainfall events and stormwater run-off cause erosion, creating dirty water and the transfer of sediment into the Brisbane River and Moreton Bay.

Ports use research and monitoring programs to understand the marine environment and inform an environmentally sustainable approach to port development and maintenance that has minimal impact.

The Port of Brisbane has traditionally treated stormwater run-off using onsite methods including water sensitive urban design and regularly monitors stormwater to assess the effectiveness of control measures and minimise environmental impact.



Solution

The Port of Brisbane is tackling the sediment problem at its source, leading Queensland's first scientifically-based stormwater treatment project in the Lockyer Valley.

Following the success of the pilot, the port will now invest a total of \$1 million in funding over three years and is working with a number of partners to deliver the project.

The project was recognised at the 2016 Healthy Waterways Awards, winning the following awards:

- Sustainable Water Management Award
- Minister's Grand Prize – awarded by the Minister for Environment and Heritage Protection to the most innovative and outstanding winner across all award categories.

The stormwater treatment project builds on the important work of the Resilient Rivers Initiative, a partnership between South-east Queensland councils and the Queensland Government to address sediment pollution.

The first stage of the pilot project was completed in June 2016 and involved:

- stabilising a 750 metre section of badly eroded creek bank at Laidley Creek (100km upstream from the port)
- installing two cross stream bed erosion control structures including an additional 200m of bank stabilisation
- re-planting more than 4,000 native trees and grasses.

This location adjoins valuable horticultural land owned by Mulgowie Farming Company, who worked in partnership with the port.

The project's first stage also included a major research component. Scientists from the Australian Rivers Institute at Griffith University used innovative techniques to identify the sources of sediment pollution at the port.

Commencing in April 2017, stage two of the pilot will involve stabilising an additional 700 metre section of badly eroded creek bank at Laidley Creek (immediately upstream from the existing work) and installing an additional two bed erosion control structures.

A monitoring program will also be established to verify the success of the works.



Outcome

Port of Brisbane's stormwater treatment pilot project is an example of Australia's ports safeguarding the environment and managing port safety.

The project is also redefining best practice in stormwater treatment and changing the way sediment pollution is addressed to deliver the best outcomes for the environment, community and industry.

In its first 12 months, the pilot project delivered significant benefits including:

- prevention of 4,800 tonnes of sediment (250 truckloads of dirt) from entering Laidley Creek
- significant water quality improvements in the Brisbane River and Moreton Bay
- improved flora and fauna habitats
- increased agricultural productivity and resilience
- protection from future flood events.

Port of Brisbane donated \$10,750 in award prize money to Tangalooma EcoMarines, a Brisbane not-for-profit group that works with schools, individuals and groups to protect Moreton Bay's marine environment and wildlife. The donation will enable new schools to participate in EcoMarines programs.

Project partners:

- Healthy Waterways and Catchments
- Mulgowie Farming Company
- Lockyer Valley Regional Council
- Department of Environment and Heritage Protection
- Department of Infrastructure, Local Government and Planning
- Department of Science, Information Technology and Innovation
- Planfuture
- Alluvium
- BMT WBM
- Australian Rivers Institute (Griffith University)
- O2 Environment and Engineering



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