

Gross Pollutant Trap Effectiveness

COUNCIL NAME

Queanbeyan
Palerang Regional
Council

WEB ADDRESS

qprc.nsw.gov.au

SIZE

5,319 square
kilometres

POPULATION

56,368

FUNDING PROGRAM

[Building Resilience
to Climate Change](#)

Overview

Queanbeyan Palerang Regional Council (QPRC) identified that projected increases of intense rain from climate change could lead to a decrease in water quality from sediment, debris and pollutants entering waterways. QPRC applied for a grant under the Building Resilience to Climate Change program to investigate how to adapt and improve the effectiveness of Gross Pollutant Traps to reduce the runoff of sediment and debris into local waterways under future climate change conditions.

A field-based audit of the Gross Pollutant Traps (GPTs) was undertaken to identify issues that might impact performance, including inappropriate design and maintenance regimes. The assessment recommended a range of design, construction, operational and maintenance changes to ensure optimal performance of the GPTs into the future under projected increased rainfall intensity.

Council's capacity to address likely future increases in stormwater and water quality issues was improved through staff involvement in the audit process, integration of project recommendations into council's asset management and corporate planning, cross-divisional working groups and sharing of knowledge within and outside Council.

Background

Council's climate change risk assessment identified increased impacts from intense rain periods, with the 1 in 40 year flood event projected to increase by 7% by 2030. It was determined that this could lead to a decline in water quality via sediments, debris and gross pollutants entering waterways. To manage stormwater and water quality, Council uses a range of methods including waste management, litter and source control, education, environmental compliance programs and structural treatment. GPTs are the main component of this structural treatment system.

Implementation

In February 2016, consultants were engaged by QPRC to undertake audits of Council's 25 GPTs. The audit process and data capture procedures were developed collaboratively between Council and the project consultant to ensure relevance and consistency of information as well as to assist in the identification of design, construction, operational and maintenance issues pertaining to each GPT.

Field validation was undertaken by the consultant and key maintenance staff to identify why the GPTs were not performing at optimum level. The audit report provided recommendations for the maintenance and monitoring of each GPT, along with a rectification list to improve the functionality of the GPTs to cope with increased rainfall. The audit found that out of the 25 GPTs, 4 were in perfection condition, 5 were in good condition, 10 were unsuitable but operational, 4 were in poor condition and 2 were non-operational. QPRC has implemented: several measures in response to the recommendations, including:

REFERENCES

environment.act.gov.au/water/ACT-Healthy-Waterways/h2ok

- Undertaking ongoing monitoring of Council's to proactively identify operational issues.
- Allocate ongoing budget for capital improvements on many of the GPTs to improve effectiveness and efficiency to ensure stormwater pollutants are effectively captured.
- Updating Council's Climate Change Action Plan to include the findings of the GPT assessments.
- Roll out of the H2OK education program aimed at reducing the amount of litter and other stormwater pollutants entering waterways.
- QPRC is also considering the replacement of some of the old GPTs to improve effectiveness and efficiency.



Trashrack (GPT) at Collett Street Queanbeyan



H2OK education campaign

Outcomes

By applying an adaptive management approach, QPRC's GPTs were audited and options to improve performance were made. Previously, Council's 25 GPTs had a designed capacity to remove 99 tonnes of litter and debris. By implementing the audit recommendations and scheduling bi-annual cleaning, an estimated 136 tonnes could potentially be removed. This is an optimisation of 138%, which will enable better management of increased erosion and pollutants being carried by future heavy rainfall events. Council will continue to monitor the effectiveness of the GPTs and make improvements as budgets allow.

Council's capacity to address likely future increases in stormwater and water quality issues was improved through staff involvement in the audit process, integration of activities into corporate planning processes and the sharing of learnings through a stakeholder workshop and education program. The project has enabled the improvement of both staff and the GPTs to better manage the stormwater runoff into local waterways under future climate change conditions.

Key Learnings

Improved understanding of the maintenance requirements and functionality of the existing GPTs has meant that Council is in a better position to ensure sediment and rubbish are captured and kept from entering nearby waterways and will be better equipped to cope with increased intense rainfall periods in the future. In addition, Council is committed to ensuring that any new GPT infrastructure considers climate change risks to ensure effective and ongoing stormwater management and water quality under changed climatic conditions.



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