



## **SUMMARY OF KEY FINDINGS FROM THE SEDIMENT TASK FORCE REPORT**

*ECONOMIC COST OF EROSION AND SEDIMENT LOSS FROM CONSTRUCTION SITES*



Department of Biodiversity,  
Conservation and Attractions



SWAN CANNING  
RIVERPARK



## Summary of key findings from the Sediment Task Force report

### *Economic Cost of Erosion and Sediment Loss from Construction Sites*

When soil erosion and sediment runoff is not effectively controlled on subdivision, building and roadworks sites, it can become a significant source of water pollution. Sediment can accumulate in permanent pools of rivers, destroying critical habitat. Free floating sediment can clog the gills of fish and reduce the available light required for photosynthesis in aquatic plants, causing ecosystem collapse. Sediment can also contain high levels of introduced nutrients, promoting toxic algal blooms and pollutants in our waterways. It can lead to an increase in mosquito and midge populations and can negatively impact on our enjoyment of spending time in or near our waterways.

Recent research in southeast Queensland estimated the annual sediment contribution (unmitigated loads) from construction activities can be up to 202,000 tonnes of mobilised sediment per annum.

For more local data, research commissioned by the Sediment Task Force studied a development site over several years, finding as much as 17 tonnes of builders sand and other construction related sediment leaves uncontrolled construction sites annually, escaping into the environment, stormwater drains, rivers and waterways for every hectare of development. This is particularly prevalent during significant weather events.

During and after urban development activities, local and state governments are often left to bear the costs of sweeping roads, repairing and maintaining stormwater and Water Sensitive infrastructure, remediating/restoring environmental assets, retrofitting poorly designed or maintained erosion and sediment control infrastructure and enforcement.

Examples of expenditure on sediment management by Local Government Authorities (LGAs) across Australia range from \$100,000-\$1,663,400 annually. Below are selected Western Australian examples of expenditure by government authorities to clean up and remediate sites impacted by sediment.

**Table 1 - Examples of cleaning-up costs (street sweeping)**

Street Sweeping	Cost (\$)	Source/Reference
Cost of sweeping program for internal roads and paths (associated with sediment control).	\$1,310,400 per annum	City of Cockburn (WA) 2020
LGA budget for street sweeping of new subdivision stages after residential building.	\$267,000 per annum (estimated cost)	City of Swan (WA) 2019

**Table 2 - Examples of cleaning-up costs (unblocking pipes)**

Unblocking Pipes	Cost (\$)	Source/Reference
Council budget for cleaning drainage pits and lines full of sand within new subdivisions. (462 work requests related to drainage were received by the City of Swan's Assets Management Department during 2018).	\$375,000 per annum (estimated cost)	City of Swan (WA) 2019
Cost of waste disposal from sweeping and educting (associated with sediment control).	\$103,000 per annum	City of Cockburn (WA) 2020



**Table 3 - Examples of cleaning-up costs (sediment impacting drainage infrastructure assets)**

Sediment impacting drainage infrastructure assets	Cost (\$)	Source/Reference
Cost of educting program (associated with sediment control).	\$250,000 per annum	City of Cockburn (WA) 2020
Maintenance of drains where builders sediment has run-off and been captured. (Represents 10% of City of Bayswater 's annual drainage maintenance budget).	\$15,000 per annum (estimated cost)	City of Bayswater (WA) 2019

**Table 4 -Examples of cleaning-up costs (sediment impacting drainage infrastructure assets and waterways)**

Sediment impacting drainage infrastructure assets and waterways	Cost (\$)	Source/Reference
Removal of 1200m <sup>3</sup> sediment from Wharf St Stormwater Basin (WSSB). The planned depth of boardwalk and bridge structures had to be increased by 4-5m due to extensive sedimentation, at extra cost to the City of Canning. (Sediments extracted from WSSB had a high organic matter over sand particles, so it was difficult to determine if it was builders sand or otherwise).	\$100,000 (estimated total cost)	City of Canning (WA) 2020
A. 74.25 cubic metres removed from a sensitive site on the Ellen Brook (inert material disposed onsite).	\$100.31/m <sup>3</sup>	Department of Biodiversity, Conservation and Attractions (WA) 2020
B. As per above in the Ellen Brook - based upon wet sand density (1905kg/m <sup>3</sup> ).	\$52.66/tonne	

Clear legislative requirements supported by a range of cost-effective regulatory compliance tools and the availability of simple, affordable, and effective erosion and sediment control practices exist.

Taking basic sediment control measures on site can reduce the amount of materials entering the environment by up to 90%, making environmental management a simpler and more cost-effective task, while protecting the environmental, social and cultural values of our waterways.

The costs of enforcement to local governments are often cited as a barrier to improving erosion and sediment control compliance. A cost-benefit analysis has identified there is a clear economic case for erosion and sediment control regulation and enforcement, with a conservative economic benefit of \$1.20 for every \$1 invested in current best practice erosion and sediment control.

The direct operational costs of running an Erosion and Sediment Control Compliance Program may be at least partially, if not fully, offset by a reduction in Council expenditure to remove sediment and maintain drainage and environmental assets and the revenue generated through issuing of infringement notices to those companies found to be causing or allowing sediment pollution to occur. The likely cost of one dedicated Full Time Equivalent Erosion and Sediment Control Compliance Officer resource is estimated at \$100,000 per annum.

The lack of consistent enforcement for non-compliance with erosion and sediment control legislative requirements is perpetuating a culture of non-compliance within the building and construction industry on sites where best practice sediment management is not adopted. Sustained and consistent erosion and sediment control compliance and enforcement activities result in high levels of effective onsite erosion and sediment control performance.

For further examples of expenditure incurred nationally and internationally and to view the full report, go to this link: <https://bit.ly/3sIXT6T>

