

Submission: Next steps for fresh water National Policy Statement Fresh Water – Reform 2016

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Zealand.

Submitter Information

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Introduction

I, Mike Hannah, am the chairman of the Water New Zealand Stormwater Special Interest Group. This group was established in 2001 and has a membership of over 400 stormwater management professionals throughout New Zealand. I have been a member of this group for 11 years.

I am also the co-founder and Managing Director of a specialist stormwater management company, Stormwater360, New Zealand.

I have 25 years' experience as a stormwater management and green infrastructure practitioner. I have designed, developed and implemented numerous stormwater solutions across the Asia Pacific region. I am highly regarded within the industry, and have had four academic peer review papers published. I also have written and presented 18 non-academic published conference papers and journal articles around the world.

As part of my ongoing commitment to stormwater management, I have many international affiliations, and am a regular attendant at international stormwater conferences.

I am also regularly called on to consult on planning and legislative changes to the New Zealand stormwater policy and practice, including the Auckland Unitary Plan, Auckland Council Stormwater publications and the Christchurch City Rebuild Stormwater workshop.

Scope of Submission.

Much of my experience has been in the area of urban stormwater quality. As such the comments and suggestions generally relate to the management of urban fresh water. This being said, many of the techniques for managing urban fresh water can apply to rural areas.

MCI & Effluent Quality Limits

The use of a macro invertebrate index (MCI) as a measure for stream health is supported. However, more research is required to link MCI with discharge effluent quality and measures to ensure base flow, i.e. retention / infiltration techniques.

The use of the MCI will indicate whether a freshwater body requires improved management or if the waterbody is in decline or improving but it does not give guidance as to what measures need to be adopted to improve the stream health.

The use of effluent quality limits for urban stormwater also needs to be carefully considered as at present it is not possible to design a stormwater quality device to obtain a defined effluent quality with any certainty. The California State Water Resource Board Stormwater Panel has investigated the feasibility of numeric effluent limits. Their report is available at http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/numeric/swpanel_final_report.pdf

The report states as follows:

“Even for conventional pollutants, there presently is no protocol that enables an engineer to design with certainty a BMP that will produce a desired outflow concentration for a constituent of concern.”

Funding

Local Government Capacity Building

Stormwater360 supports the funding initiatives proposed for capital works for remedial works. Nevertheless, it would be more appropriate to fund for capacity building and enforcement within Local Government and the Industry.

The aforementioned Californian Water Report highlights the fact that the primary reason for failure for stormwater best management practices (BMP's) is improper BMP selection, design and/or lack of maintenance. From my experience, the same is true within New Zealand with the added factor of poor construction.

Given that BMP's are used to mitigate the environmental effects in order to obtain a discharge permit issued by a Local Government, more resources are required to ensure Local Government has the capability to address these issues.

Stormwater Utilities

Local government agencies that are charged with delivering fresh water outcomes often inherit or construct stormwater BMP's that manage the quality and quantity of the stormwater. As previously mentioned, these BMP's require maintenance. The estimated cost of maintaining a stormwater BMP is between 10 – 20% of the capital cost.

Unlike wastewater or water supply services, which can be charged to individual property owners, Local Government agencies do not have any direct funding mechanisms to raise the income needed to undertake the construction and operation of stormwater assets.

A stormwater utility operates much like a fresh water utility, where the utility may collect fees related to the control and treatment of stormwater that can be used to fund a Local Government stormwater management program.

One method of determining the fees is a levy based on the amount of impervious surface a property has. Offsets or discounts can be applied if the property manager undertakes on-site management. As such the stormwater utility model encourages a "user pays" approach.

Another benefit of a stormwater utility is that it generates high visibility of the issues and efforts to better manage stormwater and encourages better design.

Encouraging Innovation

The cost of implementing effective stormwater management is extremely high, particularly where the land is of high value or if the topography does not allow for large above ground facilities.

A paper by Auckland Council on the cost of the new stormwater initiatives suggests that the construction costs to meet Stormwater Management Area Flow (SMAF) 1 requirements are between \$4,000 and \$27,000 per lot. Auckland has a need to build 400,000 houses over the next 30 years giving an estimated cost of \$1.6 billion to \$10.8 billion. In addition, 10 to 20% of the capital cost per annum is required to effectively operate these systems.

Central Government needs to encourage and support innovation in how we manage runoff. Unfortunately, some local government agencies have a fear of new technology. The Auckland City Council has included in its Stormwater Code of Practice, a general ban of proprietary treatment technology in Greenfield developments without any reason or justification. Initiatives such as this will do little for encouraging investment in better technology from the industry players.

Private investment in better freshwater management technologies will see better performing and lower cost systems being developed. Since the introduction of proprietary

stormwater devices in New Zealand in 2004, the market has seen an inflation adjusted reduction in the price of treatment by 54%. This has come about through technology advancements as well as competition.