



Report **06.311**
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Committee **Environment**
Author **John Sherriff Manager, Resource Investigations**

Summary of Science and Research Support 2005/06

1. Purpose

To inform the Committee about how the Division's Science and Research budget has been used over the past year.

2. Significance of the decision

The matters for decision in this report do not trigger the significance policy of the Council or otherwise trigger section 76(3)(b) of the Local Government Act 2002.

3. Background

The Environment Division currently has a budget of \$20,000 per annum to support science and research projects undertaken by outside agencies. Greater Wellington receives a large number of requests each year to support projects. These range from students undertaking theses, to research institutes and consultants seeking contributions to support applications to other funding schemes, e.g., the Ministry for the Environment's Sustainable Management Fund. Many funding schemes require some contribution from end users before committing funds from their budget. Historically we have found it difficult to support worthy projects from existing budgets. Since 2000, \$20,000 per year has been provided in our budget with the idea that four to five projects could be supported each year. This is consistent with approaches taken by other regional councils.

4. Project assessment

Staff have developed a list of science and research needs for the Division. This list provides the basis for assessing the worth of proposals received by Greater Wellington. When a proposal is received it is reviewed by a relevant staff member and they assess its benefits to the Greater Wellington work programme.

Assessment is made on a wide range of criteria including:

- The relevance of the project to our role, responsibilities and our strategic directions;
- The creditability of the science provider;
- The methodology, outputs and timeliness of these outputs; and
- The costs and benefits to Greater Wellington.

Funds are allocated on a first come first serve basis.

5. Projects supported during 2004/05

The following projects were supported in the last financial year.

Project: Nitrogen Leachate Measurement
Provider: Wairarapa Monitor Farm Community
GW Contribution: \$5,000

This is the second year of support for this project which has been designed to assess the extent of nitrogen leachate from fertiliser application in the dry east coast Wairarapa high country environment. The information it provides will enable the calibration of the “Overseer” nutrient budgeting software and other nutrient balancing models for use on the dry east coast hill country.

Nationally there has been an exponential increase in the use of nitrogen fertilisers as farmers continue to intensify their production systems. The environmental impacts of nitrogen fertiliser application are now coming under intense scrutiny, particularly the effects of nitrogen fertiliser use and consequent nutrient leaching and run-off on water quality. This project is part of a larger national project focussing on the wise use of nitrogen on hill country.

This project is funded in collaboration with Castlepoint Station, Meat and Wool NZ and AgResearch.

Project: Maintaining and Restoring Wetlands
Provider: Landcare Research
GW Contribution: \$3,000

The aim of this project is to increase the protection and restoration of wetlands by providing scientifically based guidelines to landowners, managers and policy makers. These guidelines will enable improved management and restoration strategies, and enhanced wetland policy. The research focuses on major wetland types along the swamp–bog gradients under greatest threat in coastal and lowland New Zealand. The influence of water and nutrient regimes on wetland structure and function will be investigated through integrated

studies of plant ecology, plant physiology, ecohydrology, biogeochemistry, and invertebrate ecology, to develop predictive species–environmental models. These will be tested by field manipulations and adaptive management research in wetlands that have been drained, nutrient enriched, invaded by alien plants, or otherwise modified, to provide input into guidelines for effective restoration techniques.

Project: Variability in shallow groundwater quality in the Peka Peka area
Provider: Desiree Craig, Victoria University of Wellington
GW Contribution: \$1,500

This project focuses on the variability in shallow groundwater quality in the Peka Peka area. The concentrations of iron and manganese are highly variable in shallow groundwater on the Kapiti Coast and we believe this variability may be attributed to the distribution of peat on the shallow groundwater quality. This information will help us to identify areas where the groundwater quality may be poor so we can advise prospective groundwater users.

Project: Interaction between Waikanae River and adjacent shallow groundwater
Provider: Alastair Osborne, Victoria University of Wellington
GW Contribution: \$3,000

This project focussed on the interaction between the Waikanae River and the adjacent shallow groundwater system. It builds on work completed by other students over the past few years. The project will enhance our understanding of the importance of the river on the shallow groundwater system and the spring-fed Waimeha Stream. The information arising from this project will fine tune our numerical model of the area.

Project: Antifouling Biocide Survey
Provider: Carol Stewart
GW Contribution: \$1,150

Funding was provided to include Greater Wellington sites in a national investigation into the concentrations of antifouling co-biocides in New Zealand coastal waters. The survey focused on the presence of new generation marine antifouling biocides used in paints. The results of the investigation were presented to the last Environment Committee meeting.

Project: An evaluation of landholder environmental attitudes and behaviours towards wetlands and conservation in Lake Wairarapa and Whiteman's Valley
Provider: Carol Ammundsen, Victoria University of Wellington
GW Contribution: \$700

The aim of this project is to analyse private landowner attitudes and behaviours towards wetland conservation. The outputs will be used to develop more effective and informed management strategies to promote and encourage private wetland conservation.

Greater Wellington has a non-regulatory programme to encourage wetland protection and restoration on private land. This project will assist us in reviewing and refining the wetlands incentive programme.

Project: Cliff Erosion from Cape Palliser to Hawkes Bay, South East Coast, North Island, New Zealand

Provider: Pauline Blake-Johnstone, Victoria University of Wellington

GW Contribution: \$5,000

This project is being undertaken as PhD research at Victoria University of Wellington. The methodology involves:

- Measuring present rates of cliff line evolution and failure through consistent surveying;
- Historical research of cliff line failure through the study of aerial photos and mapping;
- Building an holistic overview of prevailing coastal processes utilising environmental parameters collated by NIWA;
- Building a localised overview of climatology with collation of weather data from the MetService; and
- Quantifying localised El Niño effects

The principle output will be a modelling tool which will predict future cliff failure rates along the south-eastern Wairarapa Coast. This will provide useful information for Greater Wellington's on-going hazards work.

6. Communication

No further public communication is necessary for this report. The outcomes of the projects will be reported to the Committee as and when they are completed.

7. Conclusion

The provision of funds to support science and research has enabled us to help in a wide range of projects which will ultimately benefit Greater Wellington in its management of the region's environment.

8. Recommendations

It is recommended that the Committee:

1. ***Receive the report; and***
2. ***Note the contents.***

Report prepared by:

Report approved by:

John Sherriff
Manager, Resource
Investigations

Nigel Corry
Divisional Manager,
Environment Management