



Envirolink Evaluation Report  
2019

## Report Information

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Prepared for Ministry of Business, Innovation and Employment

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- support and participation from the Envirolink Co-ordinator who provided access to the Envirolink administrative databases

Their support and willingness to take part made this evaluation of the Envirolink Scheme possible.

### ***Evaluation team***

An internal team from the Ministry of Business, Innovation and Employment were closely involved with the evaluation.

Judy Oakden of Pragmatica Limited held the contract for this evaluation. Judy Oakden and Kellie Spee of Kellie Spee Consulting Limited undertook the evaluation in consultation with the internal evaluation team. External peer review was conducted by Julian King of Julian King & Associates, who also provided advice and support on the value for money aspects of this evaluation.

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## Disclaimer

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## Executive summary

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### Introduction

1. The Envirolink Scheme (Envirolink) is a fund that invests in the transfer of environmental science knowledge to support select regional councils<sup>1</sup> each in their environmental management. This works in two ways: Envirolink supports translating existing environmental science knowledge into practical advice and second, it supports adapting management tools to local needs.
2. Envirolink was established in 2005. Envirolink makes funding of \$1.6 million (note all amounts quoted in this report exclude GST) available to regional councils each year, a total of \$22.4 million over the last 14 years. Scientists within selected regional councils use the money to contract government-funded research organisations, including Crown Research Institutes, universities and some not-for-profit associations. Envirolink enables selected regional councils to access existing environmental science from the Crown Research Institutes and other approved research providers. The Specialised Investments team from the Ministry of Business, Innovation and Employment (MBIE) currently oversees Envirolink.
3. There are four types of funding available:
  - small advice grants of up to \$5,000
  - medium advice grants of up to \$20,000
  - large advice grants of up to \$40,000
  - funding for tool development of up to a total of \$500,000 (with tools ranging in value from \$49,500 to \$350,000).
4. MBIE commissioned this evaluation to provide assurance to internal and external stakeholders of transparent impact from investments made through Envirolink. MBIE also sought independent advice to inform future funding decisions relating to Envirolink. Key Evaluation Questions (KEQs) for this evaluation were:
  - KEQ 1: To what extent and in what ways is Envirolink working as intended and delivering on the expected objectives?
  - KEQ 2: To what extent and in what ways is Envirolink producing valuable outcomes and impacts?
  - KEQ 3: To what extent and in what ways does Envirolink provide value for money for New Zealand?
5. The evaluation used an evaluation-specific methodology<sup>2</sup> informed by rubrics and a mixed-methods research approach. The evaluation framing drew from the Envirolink outcomes framework and from a scoping stage. Interviews for the evaluation took place between June and August 2019 and comprised 24 respondent interviews with scientists from regional councils and from participating research provider organisations. The evaluation also obtained evidence from existing Envirolink research and evaluation reporting, administrative reporting and a sense-making session held with staff from MBIE and the Ministry for the Environment (MfE).

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<sup>1</sup> Northland Regional Council, Gisborne District Council, Hawkes Bay Regional Council, Horizons Regional Council, Marlborough District Council, Tasman District Council, Nelson City Council, West Coast Regional Council, Environment Southland Regional Council.

<sup>2</sup> For further information on what constitutes an evaluation-specific methodology see the following publication: King, J., McKegg, K., Oakden, J. & Wehipeihana, N. (2013) Rubrics: A Method for Surfacing Values and Improving the Credibility of Evaluation. *Journal of Multidisciplinary Evaluation*, 9:21, 11-20.

## Key findings

6. The evaluators concluded that Envirolink makes a **worthwhile and valuable contribution** in the way it supports select regional councils to engage with and use environmental science research and technology. According to respondents, Envirolink increases the value of existing environmental science research by supporting higher uptake by users.
7. The evaluators rate the Envirolink scheme as **very good overall**. There is clear evidence that regional councils, through Envirolink, have built the capability to access and use environmental science information for planning and decision making. Many respondents valued the partnerships and relationships developed between regional councils and with the research providers. There was also clear evidence that the transfer of knowledge has helped mitigate some local environmental problems and concerns. Regional councils gave examples of successful implementation of practical solutions to environmental issues, as a direct result of the scientific knowledge gained from Envirolink advice and tools funding.
8. Envirolink works as intended and therefore the evaluators rated Envirolink **very good** for this aspect. Respondents saw Envirolink as a well-run fund that helps to connect regional councils with scientific information for better planning and decision making. A highly committed Envirolink Coordinator provides effective coordination with the Envirolink Governance Group. Envirolink operates in alignment with the strategic priorities outlined in the original Ministerial paper introducing Envirolink to “improve science input to the environmental management activities of regional councils; ... increase the engagement of regional councils with the environmental RS&T sector; ...and contribute to greater collective engagement between councils and the science system generally (Minister of Research, Science and Technology, 2005).
9. Envirolink enables eligible regional councils to problem-solve, respond to concerns from the community, develop policy, plan more effectively, manage environmental issues and respond to demands of government. Envirolink advice grants act as a catalyst to build and strengthen collaborations between regional councils and stakeholders. Because of information gained through Envirolink funding, regional councils can provide and exchange knowledge with community stakeholders, including Māori.
10. Envirolink produces valuable outcomes that impact on regional councils’ capacity to use science and therefore, the evaluators rated this aspect **very good**. There is evidence that advice and tools support regional councils to develop practical solutions to deal with local problems. Respondents remarked that Envirolink supports regional councils to obtain science information that helps focus their responses to environmental challenges and that the advice is fit for the intended purpose. As well, councils share some of the scientific advice they obtain with each other. There is evidence Envirolink supports regional councils to make evidence-based decisions that help manage their local environments more effectively.
11. Envirolink delivers on its value for money proposition. It is a relatively small investment that enables regional councils to leverage science resources to help carry out their various statutory roles. Envirolink is a centralised fund that supports regional councils to develop monitoring of critical environmental measures with some cohesion and consistency. As reported by respondents, there are widespread benefits achieved that would not occur without a dedicated fund. The economic efficiency of Envirolink was not evaluated. However, we observe that resources were allocated to Envirolink based on a set of expectations, which the evaluation finds were well met. From the available evidence, we conclude that Envirolink is likely to provide **good value for money** overall. As one respondent commented:

*It has a national significance, I think. If we didn't have an Envirolink then everything would be more piece-meal. (Respondent comment)*

## Suggestions for the future

12. The evaluators found evidence from respondents that the programme would benefit from:
  - streamlining the administration processes, particularly for the smaller grants
  - an increase in funding overall (reflecting the complex issues faced by regional councils and increasing demands from national policy statements)
  - an increase in the amounts for small, medium and large advice grants (reflecting cost increases for science providers to provide advice).
13. Some respondents noted that there is an opportunity for regional councils to seek greater transfer of environmental mātauranga Māori (Māori science knowledge), and that this could be achieved through Envirolink, but is not currently occurring often. Drawing on environmental mātauranga Māori knowledge would support regional council planning and policy development and help regional councils to contribute towards further emphasis on partnerships with Māori/hapū/iwi to meet Te Tiriti o Waitangi obligations.
14. There is also potential for Envirolink to act as a source of advice to help regional councils respond to the changing environment and prepare to respond to natural disasters. Some respondents called for Envirolink to widen its scope to include aspects of hazard management.

## Conclusion

15. In conclusion, overall Envirolink is a well-regarded, well-run fund. It provides an important mechanism to help select regional councils access much needed science advice.

*[Envirolink] is providing an impetus, a catalyst for the regional councils and the various scientific disciplines and policy disciplines within regional councils to actually come together ... in terms of a single point, a single funding mechanism, a single group of recognised priorities. It all comes together beautifully. (Respondent comment)*

## Introduction

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16. The Envirolink Scheme is a regional council-driven scheme, with investment funds managed by MBIE. The scheme is available to eligible councils including Northland Regional Council, Gisborne District Council, Hawkes Bay Regional Council, Horizons Regional Council, Marlborough District Council, Tasman District Council, Nelson City Council, West Coast Regional Council, Environment Southland Regional Council. Founded in 2005, Envirolink aims to promote the outcomes of:
  - increasing the value from existing environmental research by supporting greater uptake by users
  - improving science input to the environmental activities of regional councils, and
  - increasing the engagement of regional councils with the environmental research, science and technology sector.<sup>3</sup>
17. Envirolink invests in the transfer of scientific, environmental knowledge. Envirolink aims to support regional councils in two areas of environmental management: translating existing environmental science knowledge into practical advice and adapting management tools to local needs.
18. Each year investment funding of \$1.6 million (excluding GST) is available for select regional councils to contract government-funded research organisations to provide them with environmental research knowledge. Research organisations (Crown Research Institutes, universities and some not-for-profit associations) provide regional councils with advice and support for managing their regions' environmental needs.
19. Initially three types of funding were available:
  - small advice grants of up to \$5,000
  - medium advice grants of up to \$20,000
  - funding for tool development of up to \$500,000 (with tools ranging in value from \$49,500 to \$350,000).
20. In 2014, MBIE added a further large advice grant up to the value of \$40,000 for a consolidated advice request involving more than one regional council.

## Evaluation approach

21. This evaluation is a summative review undertaken between June and October 2019. The evaluation used an evaluation-specific methodology<sup>4</sup>. The MBIE Envirolink outcomes framework helped frame the evaluation. The evaluation used rubrics to describe the selected performance aspects, as well as to judge Envirolink's performance on these.
22. Data collection and analysis used mixed-methods research. It drew on existing data collected from the Envirolink Coordinator and MBIE, and information from the Envirolink website. The evaluation also drew on new data obtained in three ways. First, the evaluators conducted interviews with 24 respondents<sup>5</sup> lasting about an hour. Second, a one-and-a-half-hour workshop with the relevant staff from MBIE and the Ministry for the Environment (MfE) compared the Envirolink fund with other funds to identify its unique value. Third, the evaluators ran a two-hour sense-making session with the team from MBIE, MfE and with the Envirolink Co-ordinator to help further triangulate findings. See page 40 for more details on data collection.

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<sup>3</sup> Ministry of Business, Innovation & Employment. (2018). Guide to the Envirolink Scheme. Wellington, NZ.

<sup>4</sup> For further information on what constitutes an 'evaluation specific methodology' see the following publication: King, J., McKegg, K., Oakden, J. & Wehipeihana, N. (2013) Rubrics: A Method for Surfacing Values and Improving the Credibility of Evaluation. *Journal of Multidisciplinary Evaluation*, 9:21, 11-20.

<sup>5</sup> See page 36 for the numbers interviewed in each category. Overall, respondents were from nine eligible regional councils (Northland Regional Council, Gisborne District Council, Hawkes Bay Regional Council, Horizons Regional Council, Marlborough District Council, Tasman District Council, Nelson City Council, West Coast Regional Council, Environment Southland Regional Council); and Crown Research Institutes, independent consultants, universities, Envirolink personnel, Special Interest Groups Conveners and matauranga Māori researchers.



23. As part of the analysis, the evaluators developed five vignettes to exemplify performance in areas of:
- environmental issues of land management and monitoring, nutrient concentrations, water quality, impacts and causes of sedimentation
  - evaluative criteria and indicators including: engagement with science, strengthening of relationships and managing of local environments
  - impacts and outcomes of Envirolink for regional councils and communities.
24. The evaluation was commissioned to provide: first, assurance to MBIE and stakeholders about what the investment in Envirolink has achieved and second, to assure transparency of the results. The evaluation also provides independent advice to inform MBIE’s future funding decisions on Envirolink.
25. The Key Evaluation Questions (KEQs) for this evaluation were:
- KEQ 1: To what extent and in what ways is Envirolink working as intended and delivering on the expected objectives?
  - KEQ 2: To what extent and in what ways is Envirolink producing valuable outcomes and impacts?
  - KEQ 3: To what extent and in what ways does Envirolink provide value for money for New Zealand?
26. The term “to what extent” warrants further explanation. In an evaluation sense this is the aspect of the question intended to address issues of quality, value and importance about Envirolink. This aspect provides the foundation for judging and drawing evaluative conclusions.

### Evaluation criteria

27. Table 1 contains the key criteria for assessing aspects of performance and impact of Envirolink. The evaluators developed these criteria in the scoping phase to reflect: the MBIE Envirolink investment logic map (Figure1, see page 7); early analysis of Envirolink database; key background documents; and early discussions with MBIE and Envirolink stakeholders. The top three criteria are for KEQ 1 and the bottom two are for KEQ 2. KEQ 3 uses all the criteria.

Table 1: Evaluative Criteria

Criteria	Indicators
Build science capacity (to use science)	<ul style="list-style-type: none"> <li>• Regional councils engage with Science</li> <li>• Regional councils can apply technical, science information for better planning and decision making</li> <li>• Increased capacity among partners and key stakeholders in community; including Māori and local environmental groups</li> </ul>
Engagement and networks	<ul style="list-style-type: none"> <li>• Collaborative partnerships form, including with Māori researchers</li> <li>• Relationships strengthen between regional councils and research providers and between the different regional councils</li> <li>• Sustainable relationships develop</li> </ul>
Knowledge exchange	<ul style="list-style-type: none"> <li>• Sharing information and disseminating existing research</li> <li>• Building increased awareness and knowledge in topic areas</li> <li>• Developing a common understanding of the topic areas and possible responses to manage environmental issues</li> </ul>
Usability of research	<ul style="list-style-type: none"> <li>• Provides practical solutions to locally based problems</li> <li>• Meets the needs of regional councils</li> <li>• Creates accessible outputs and tools</li> </ul>
Influence and impact	<ul style="list-style-type: none"> <li>• Supports evidence-based decision making by regional councils</li> <li>• Local environments are managed more effectively</li> <li>• Communities benefit through better use of science in regional council decision making.</li> </ul>

28. The five evaluative criteria received equal weighting for importance.

### Levels of performance

29. The evaluators assessed Envirolink’s performance for each evaluative criterion using the performance rating system in Table 2. These descriptions of generic levels of performance were agreed with MBIE, taking account of the age and stage of the Envirolink scheme.

Table 2: The performance rating system

Rating	Description
Excellent: (Always)	<ul style="list-style-type: none"> <li>• Clear example of exemplary performance or great practice; no weaknesses of any real consequence.</li> </ul>
Very good: (Almost Always)	<ul style="list-style-type: none"> <li>• Very good to excellent performance on virtually all aspects; strong overall but not exemplary; no weaknesses of any real consequence.</li> </ul>
Good: (Mostly, with some exceptions)	<ul style="list-style-type: none"> <li>• Reasonably good performance overall; might have a few slight weaknesses.</li> </ul>
Adequate: (Sometimes, with quite a few exceptions)	<ul style="list-style-type: none"> <li>• Fair performance, some serious, but non-fatal weaknesses on a few aspects.</li> </ul>
Marginal: (Barely or not at all)	<ul style="list-style-type: none"> <li>• No clear evidence has yet emerged that the aspect of performance has taken effect.</li> </ul>
Poor: Never (or occasionally with clear weaknesses evident)	<ul style="list-style-type: none"> <li>• Clear evidence of unsatisfactory functioning; serious weaknesses across the board on crucial aspects.</li> </ul>

### Limitations of this evaluation

30. The evaluation tightly focused on reviewing the processes, outcomes and impacts of Envirolink. It does not include feedback from community stakeholders directly. Instead, information reflecting the benefits and outcomes is mainly from the perspectives of regional council and research providers as well as representatives from MBIE and MfE. Respondent comments were triangulated with each other and with evidence from regional council websites, media releases and relevant Envirolink reports.
31. The scope of regional council work is broad, and these organisations draw on a range of sources of information. The contribution of Envirolink does appear to be beneficial for councils. The evaluators are modest in the contribution claims made. While not the biggest contributor, there is evidence that the advice provided through Envirolink lifts councils’ performance at times through them having access to appropriate, relevant and sufficient science information for planning and decision making. There was evidence that the smaller councils find advice provided through Envirolink invaluable. To back up claims of contribution, the evaluators triangulated respondent comments with regional council reports, including Envirolink reports and minutes from council meetings where possible.
32. Economic evaluation (e.g., cost-benefit analysis) was out of scope. Therefore, the value for money assessment qualitatively examined available evidence of performance against Envirolink’s value for money proposition. It does not assess whether the total value contributed by the fund, valued monetarily, exceeds its costs.

## Envirolink: Summary of findings

### Overview

33. The evaluators rated Envirolink **very good** overall and found it generally meets the needs of regional councils. The relationships developed between research providers and councils are an area of strength that underpins other positive outcomes. These relationships support the transfer of knowledge and advice about environmental issues and council concerns. Participants of Envirolink work together collaboratively in a manner that heightens Envirolink's ability to support regional councils to more effectively manage the environment.
34. Through Envirolink, regional councils have:
- built capability in environmental science and used scientific information to plan and make decisions relating to environmental management
  - engaged in partnerships with research providers and other regional councils and used these relationships to deal with environmental issues that affect regions throughout New Zealand
  - accessed research that supports them to implement practical solutions to environmental issues
  - developed an increased understanding and knowledge of different research topics and developed action plans to mitigate local environmental problems and concerns
  - communicated to community stakeholders the scientific evidence that informed Council decision making.
35. Therefore, the evaluators found that the value of Envirolink to regional councils is positive. The following dashboard shows a summary of the evaluator's overall ratings for the five evaluative criteria. The following sections provide more detail on the specific ratings for each of the five evaluative criteria given in this section.

Table 3: Ratings for overall effectiveness for Envirolink and on the five evaluative criteria.

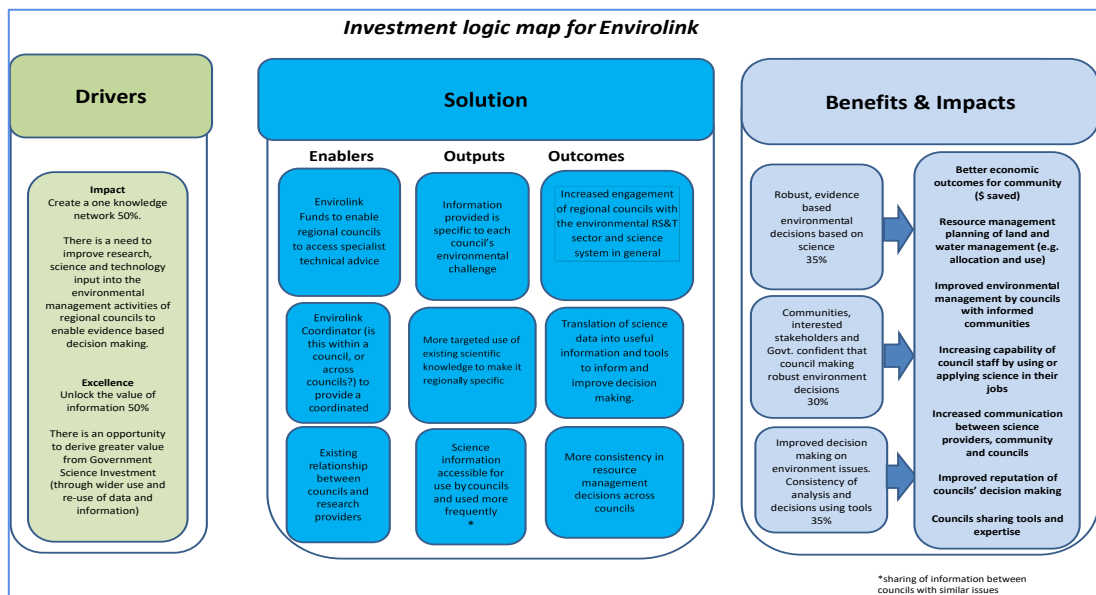
	Poor: Never (or occasionally with clear weaknesses evident)	Marginal: (Barely or not at all)	Adequate: (Sometimes, with quite a few exceptions)	Good: (Mostly, with some exceptions)	Very good: (Almost Always)	Excellent: (Always)
Overall rating						
Builds science capacity						
Engagement and networks						
Knowledge exchange						
Usability of research						
Influence and impact						

## KEQ 1: Envirolink is working as intended and delivers on the expected objectives

### Introduction

36. This section first describes the ways Envirolink was intended to work and assesses the extent to which Envirolink is delivering to the expected objectives. The original Ministerial paper introducing Envirolink under section 8(a) of the Foundation for Research, Science and Technology Act 1990, specifies the intent that forms the basis for this evaluation. According to the Gazette notice, Envirolink was intended “to increase the return on investment in environmental research, science and technology by facilitating its uptake by regional councils... Envirolink’s objectives [were] to:
- improve science input to the environmental management activities of regional councils;
  - increase the engagement of regional councils with the environmental RS&T sector; and
  - contribute to greater collective engagement between councils and the science system generally” (Minister of Research, Science and Technology, 2005).

Figure 1: Envirolink Investment Logic Map



### Envirolink application and funding process is well run

37. Respondents consider Envirolink is a well-run scheme. Respondents said it works well to help regional councils access the scientific knowledge they need to do their work. They said Envirolink has a positive impact on the level of scientific expertise within the regional councils and supports excellent connectivity between the different councils.
38. Respondents noted that, where possible, Envirolink aligns with the strategic priorities of the Regional Council Science and Technology Strategy. These priorities include: better science use, policy effectiveness, and retaining and building science capability and capacity.

*So in terms of Envirolink... when we sit down with a tools application, the first question we ask is, 'Well how does this measure up with what the regional councils have collectively agreed are the things that matter?' So that has been incredibly useful for us to be able to say, 'Okay, no, these are the top priorities for us as a sector as a whole. This particular proposal, even though it might be a wonderful proposal in terms of the*

*science – and yes, it is a new need that needs to be met. [But] right now we can't give it a prioritisation.'* (Respondent comment)

### Advice grants process

39. Regional councils and research providers have a good understanding of how the application process runs. From an efficiency perspective, the different levels of funding help the smaller regional councils to enhance their limited resources. The advice grant application process is easy to follow across the three different levels of funding. Often projects align with other work already funded through research providers and MBIE science programmes.
40. There is a three-stage approval process. Each application is reviewed in turn by:
- the Envirolink Coordinator and Governance Committee
  - the MBIE Senior Investment Manager (who summarises the form, outlining: the reasons advice is needed, the intended objectives and benefits of the project)
  - the MBIE Manager Specialised Investments.
41. Although considered thorough, a few respondents suggested the small and medium advice grants processes could be streamlined. Many respondents wondered if the Envirolink Coordinator and Governance Committee might provide enough reliable and robust oversight for checking the small and medium grants, with oversight from MBIE.
- So, a sub-group vet those medium advice grants and say 'Yes, they represent what we need', or 'no, they don't'. So, there is that check in the system, so that [the Envirolink Coordinator] is not putting stuff to MBIE that MBIE really shouldn't be seeing.* (Respondent comment)
42. Feedback from within MBIE suggested that redeveloping the application form so it did not need summarising was a way to streamline the process. The evaluators suggest making one person responsible for sign off for the small to medium advice grant applications within MBIE rather than two is another option.
43. Despite the layered approval process, there is a quick, three-to-five-day turnaround for the small advice grants, signalling a dedicated response from MBIE. Respondents said they use small grants to respond to unplanned events or issues that arise, and to obtain small amounts of advice or get Crown Research Institutes to run workshops. Regional councils appreciate the non-bureaucratic process for the small advice grants. However, Crown Research Institutes said they can only provide limited advice for the small grants amount of \$5,000. Small advice grants remain useful for buying workshops or simple letter reports, but Crown Research Institutes are finding it increasingly difficult to provide advice that meets regional council expectations.
- This year we have actually got more medium [grants] and the small [grants] have whittled down... I think because of those constraints.* (Respondent comment)
- Typically, a \$5,000 one is just a quick snapshot, advice on like a question I suppose, or it might be a starting advice grant and move into the \$20,000 medium grant. I tend to find that they tend to be a leapfrogging advice fund... probably have to go up to the \$20,000 one to actually get some really good advice.* (Respondent comment)
44. The medium-size grants usually take two to three weeks for approval and are the most popular advice grants among regional councils. Councils like the mid-sized grants because they can receive good quality tools and advice for this sum that includes enough in-depth knowledge or information to be useful. Crown Research Institutes can provide more extensive advice with this level of funding however respondents reflected this still requires careful scoping and planning to avoid scope creep.
- I think for \$20,000, we are really struggling with it [especially] if we bring in two other staff members, it really starts to cut down our ability to do something. I think \$30-\$40,000 could almost become the minimum.* (Respondent comment)



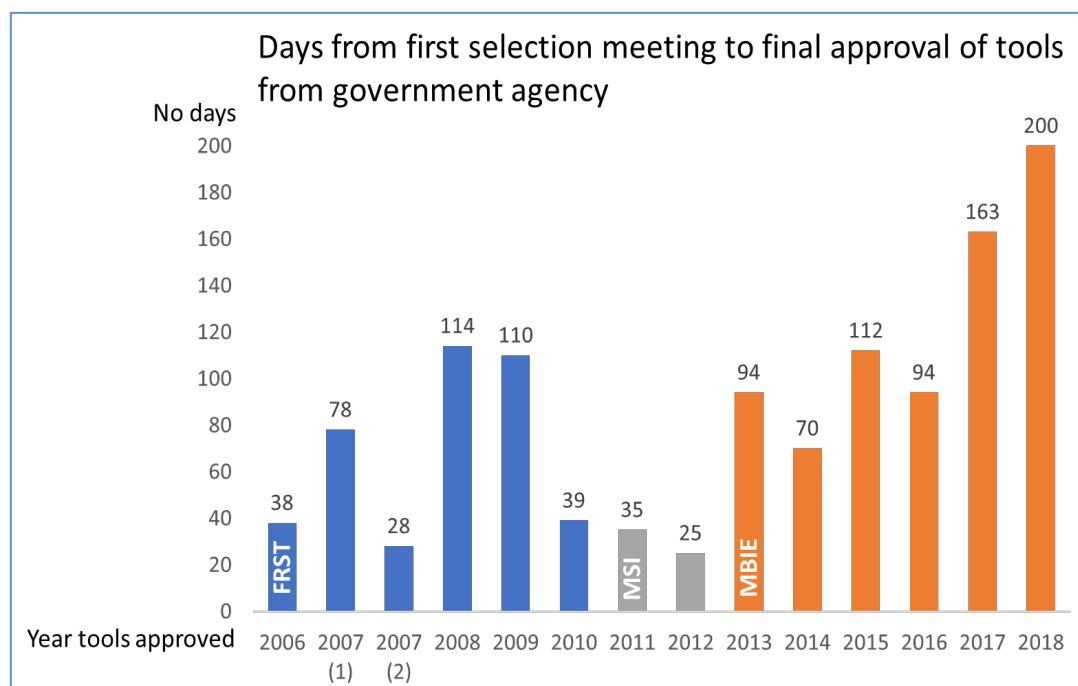
45. The large \$40,000 grants were used less frequently. Respondents said where two councils wanted to collaborate, these more significant grants were useful. One council needs to champion the work, and the budget is assigned to them. These grants allow for a more substantial programme of work but take longer to organise.
46. Respondents suggested that across all three advice grants (small, medium, large) there is a need to increase funding levels to reflect the needs of the regional councils' and the cost of providing advice by Crown Research Institutes.

*My plea would be alongside an increase in the total size of the bucket to review those [grant] limits... \$5,000 should become \$10,000 for a small advice grant. The \$20,000 should become \$40,000 the advice, the large advice grant \$40,000 should become \$80,000. (Respondent comment)*

#### **Tool grants process**

47. The application for tool development is seen as more robust and complex by respondents, possibly because the amounts applied for are larger. The mean size of a grant for tools is \$173,230 with the largest grant being for \$329,175 (excluding GST). However, for a larger sized grant of over \$250,000 the application is relatively straightforward compared with other funds, according to the MBIE Specialised Investment team.
48. According to respondents often the original idea for a tool project comes from tools and advice delivered within a medium or large advice grant. Some councils might register an interest in developing an approach or method further. These ideas go to the Special Interest Group that has overall responsibility for the topic area. Discussion among Special Interest Group members, including the larger councils, typically occurs over two to three months. The Special Interest Group decides if there is interest among all regional councils and the relevant research providers. If there is enough interest, the Special Interest Group decides which regional council will champion the project.
49. Again, there is a multi-stage approval process. The Special Interest Group first develops a short outline and summary explaining those involved and expected costs. Each application is reviewed in turn by the MBIE Senior Investment Manager, the MBIE Manager Specialised Investments and the MBIE General Manager of Science System Investment and Performance. Each may accept or decline the idea – occasionally sending it back for further clarity. If the summary is approved the Special Interest Group is invited to develop a full proposal. The MBIE Senior Investment Manager then contacts independent reviewers to assess the final proposal. Locating independent reviewers can be challenging. Based on the independent reviewers' feedback and MBIE Specialised Investments team input, the application for the tool is then contracted either with or without conditions.
50. The process for tool development proposals is considered extensive and a "bit excessive" by some respondents, based on the number of approvals and checks required to get to the full proposal writing stage. The process can be time consuming to administer and takes approximately eight to ten months from inception to proposal sign-off. The average length of time from the first selection meeting to final approval of tools is 86 days. More recently the process took 163 days in 2017 and 200 days in 2018. The following graph shows the length of time approval has taken since 2006.

Figure 2: Length of time to approve Tools Grant applications



51. Mostly, respondents understand the application process and can follow it easily. However, respondents seemed unclear about MBIE’s rationale for decisions relating to applications that are turned down at final approval stage.

In terms of funding, respondents suggested that regional councils face more complex environmental issues and are under considerable pressure to incorporate a number of new environmental legislation and regulatory requirements (e.g. Essential Freshwater). However, funding for Envirolink has remained static for the past 12 years as there has not been a review of the fund. Because of the increasing complexity of issues, the (static) Envirolink investment delivers comparatively less than it was able to do in its early years. Respondents reflected that Envirolink needs an increase in funding to achieve the same level of impact and value, particularly if demands on regional councils continue to grow.

**KEQ 1: Envirolink works as intended and is rated very good**

52. The evaluators’ overall assessment of Envirolink is that it works as intended is therefore rated **very good**. Envirolink is helping to connect different systems between council and science producers such as Crown Research Institutes and universities, and between regional councils. Envirolink effectively coordinates and provides a way for smaller councils to leverage the support and involvement of the larger councils, to the common benefit of all.
53. The evaluators judged the performance of Envirolink using the following three evaluative criteria:
- building science capacity
  - engagement and networks
  - knowledge exchange.

**Envirolink helps build science capacity**

54. Envirolink effectively supports regional councils to build science capacity, providing a mechanism to:
- engage with science
  - apply technical, scientific information for better planning and decision making
  - increase capacity among partners and key stakeholders in the community; including Māori and local environmental groups.

55. In general, feedback from respondents suggested regional councils have access to more science knowledge that they can use to make well-informed decisions because Envirolink offers a way to obtain science advice. Respondents from regional councils say they are transferring this knowledge out to their local communities, including Māori and environmental groups, which extends the knowledge and understanding of local issues and solutions into the community.

*It is kind of our only means of bringing in different types of science. Because we don't have enough resource to have a person in that space and so we rely on Envirolink to help build that up. And particularly if there is something a bit new, you know... you can't always sell the benefits of something new until people actually see it and get a feel for it – and we just don't have those skills inhouse. (Respondent comment)*

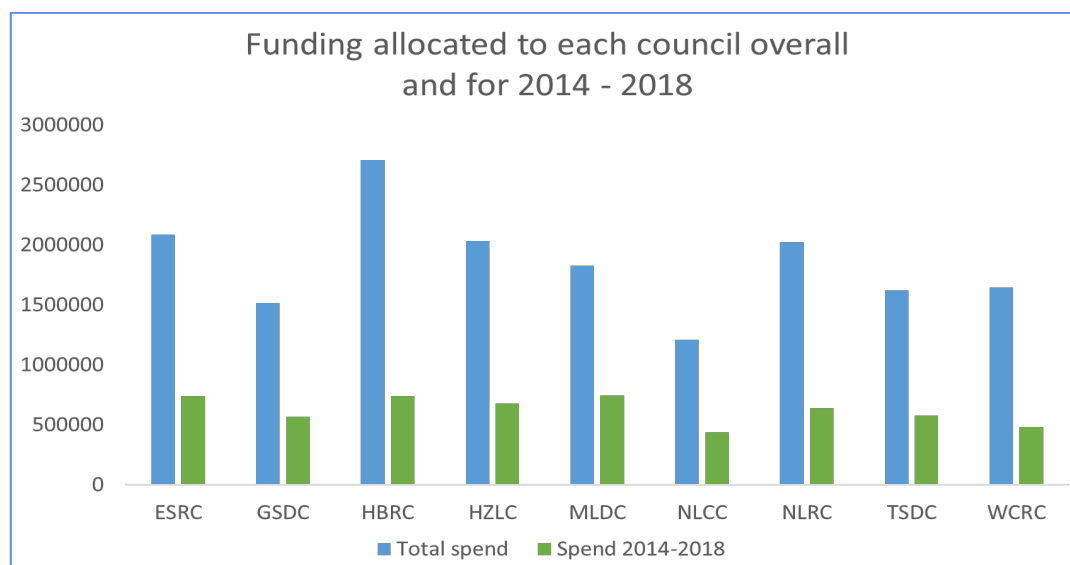
#### **Regional Councils are engaging with science**

56. Regional councils apply to Envirolink for tools and advice that helps them problem-solve, respond to concerns from the community, develop policy, plan more effectively, manage environmental issues and respond to demands of government. With support from Envirolink many respondents say regional councils can better respond to the environmental needs of the region, and that they have gained skills and knowledge through engaging over advice with the researchers.
57. Envirolink supports regional councils to engage with science differently. Respondents said they have become more planned and structured in their approach to obtaining science advice. As one respondent said, *"I think we are better scientists from having Envirolink."* There are clear examples of councils prioritising the environmental areas that need addressing. Council respondents said they engage with a broad range of sciences, not just in the subjects in which they have expertise and knowledge. Respondents observed that access to a full range of scientific knowledge is critical, as regional councils are responsible for managing the whole environment including: air, water, land, biosecurity, biodiversity, marine and coastal.
58. Envirolink has provided extensive funding to the nine<sup>6</sup> smaller regional councils across New Zealand so they can access the pre-existing scientific information as advice. This information helps these smaller councils make evidence-based environmental management decisions.
59. Prior to 2014 select regional councils were allocated funding on a first come first served basis. Those select regional councils who assigned a staff member to coordinate Envirolink, resulted in some councils accessing more funding than others because they were more co-ordinated in applying for the advice grants. Figure 2 shows the variance in the funding the regional councils received early in Envirolink's history.

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<sup>6</sup> Northland Regional Council (NRC), Gisborne District Council (GDC), Hawkes Bay Regional Council (HBRC), Horizons Regional Council (HRC), Nelson City Council (NCC), Marlborough District Council (MDC), Tasman District Council (TDC), West Coast Regional Council (WCRC), Environment Southland Regional Council (ESRC).

Figure 3: Funding allocations to councils for Advice Grants<sup>7</sup>



For explanation of the acronyms see footnote below.

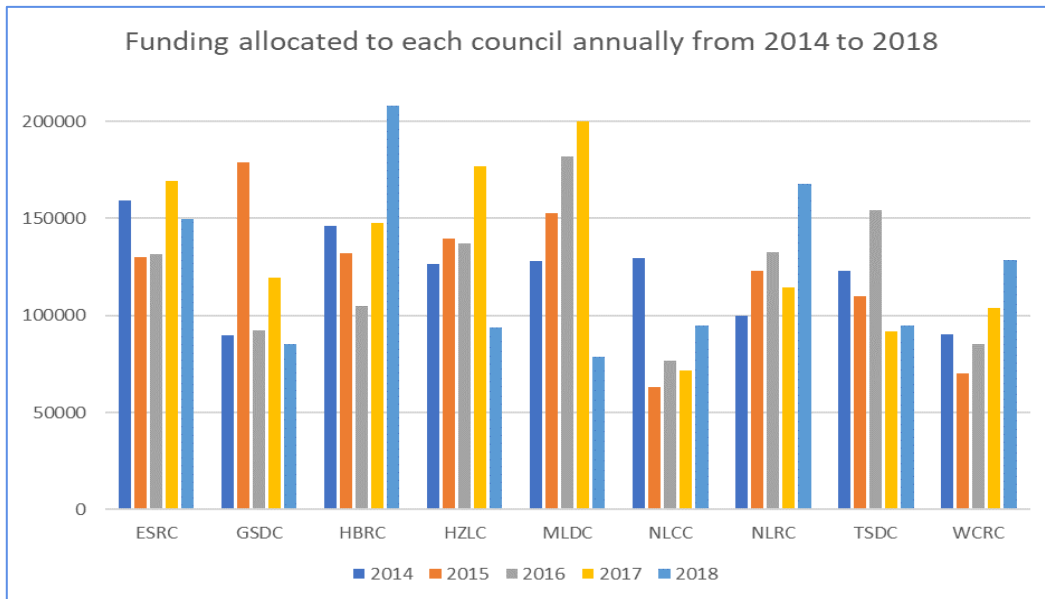
60. More recently, from 2014 to 2018, Envirolink Governance decided to earmark \$150,000 for each year for each council to ensure that all had an equal chance to apply for tools and advice. This aimed to ensure a fairer process across councils and to encourage each council to consider matters where they needed advice.

*So you know five years ago or thereabouts we simply said to all the councils “look this is the amount of money [available]” ... It has actually worked [and] each council thinks a lot more carefully about what they [can] use it for [instead of], first in first served and get the money. (Respondent comment)*

61. The earmarking of funds alongside the multi-layered selection and prioritisation processes of SIGs and the Envirolink governance group potentially mask the over-subscription of the fund. For example, the Research, Science and Technology Strategy sets out what the Science Advisory Group consider to be the key priorities facing the sector. Therefore, any tool proposals outside the priority area are likely to be lost to the sector. Regional Councils respondents also report they prioritise their projects for funding applications. They suggested that each year there are five or six projects that they are unable to put forward for consideration due to available funds.
62. Variation still occurs between councils and between years in the funding each council takes up. Possible reasons for the variations include councils leading one of the larger grants, and that at times staff within small councils do not have the time to apply for grants.
63. The following graph shows the distribution of funds allocated to each council from 2014 to 2018. While there is variability in funding applications between the regions each year, overall all the select regional councils except West Coast Regional Council have received more than the \$150,000 allocated at least once in the past five years.

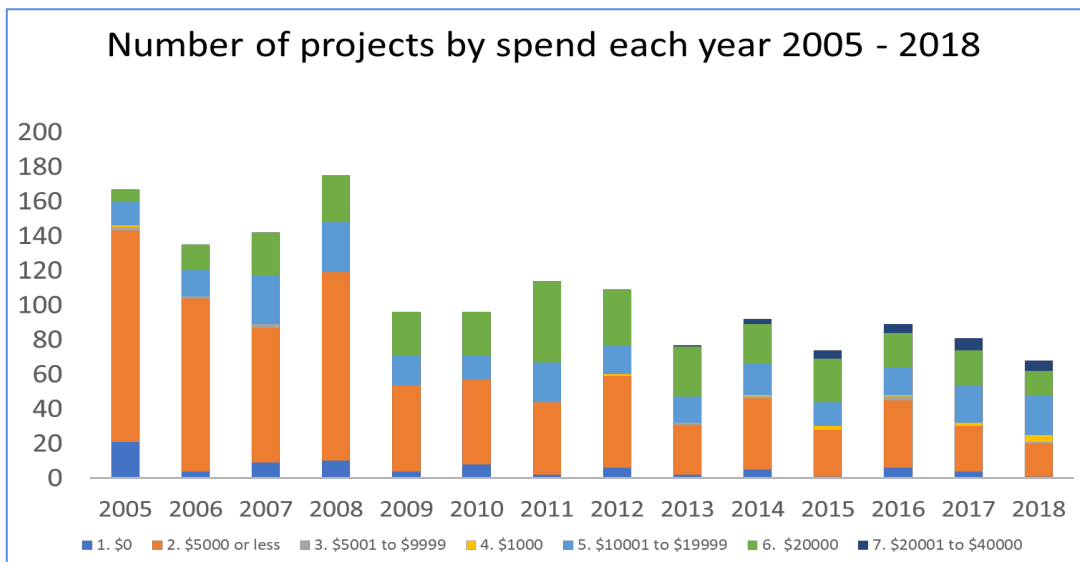
<sup>7</sup> The acronyms in Figure 3: Environment Southland Regional Council (ESRC), Gisborne District Council (GDC), Hawkes Bay Regional Council (HBRC), Horizons Regional Council (HRC), Marlborough District Council (MLDC), Nelson City Council (NCC), Northland Regional Council (NRC), Tasman District Council (TDC), West Coast Regional Council (WCRC).

Figure 4: Funding allocations to councils between 2014 and 2018 for Advice Grants



64. Figure 5 below shows in the first four years of Envirolink the number of projects was significantly higher, with many \$5,000 small advice grants. The large advice grant of \$40,000 was introduced in 2014. Since then, there has been a more even distribution of projects across the funding levels, and fewer total projects (between 60-80) each year. Of the 402 projects completed in the last five years; around two in five (38%) used small advice grants of up to \$5,000, half (51%) used medium advice grants of up to \$20,000 and 6% used large advice grants of up to \$40,000. As well in 4% of cases projects did not proceed<sup>8</sup>. This finding confirms the observations by participants on page 9 that the small and medium grants are currently the most used.

Figure 5: Number of Advice Grant projects by spending each year

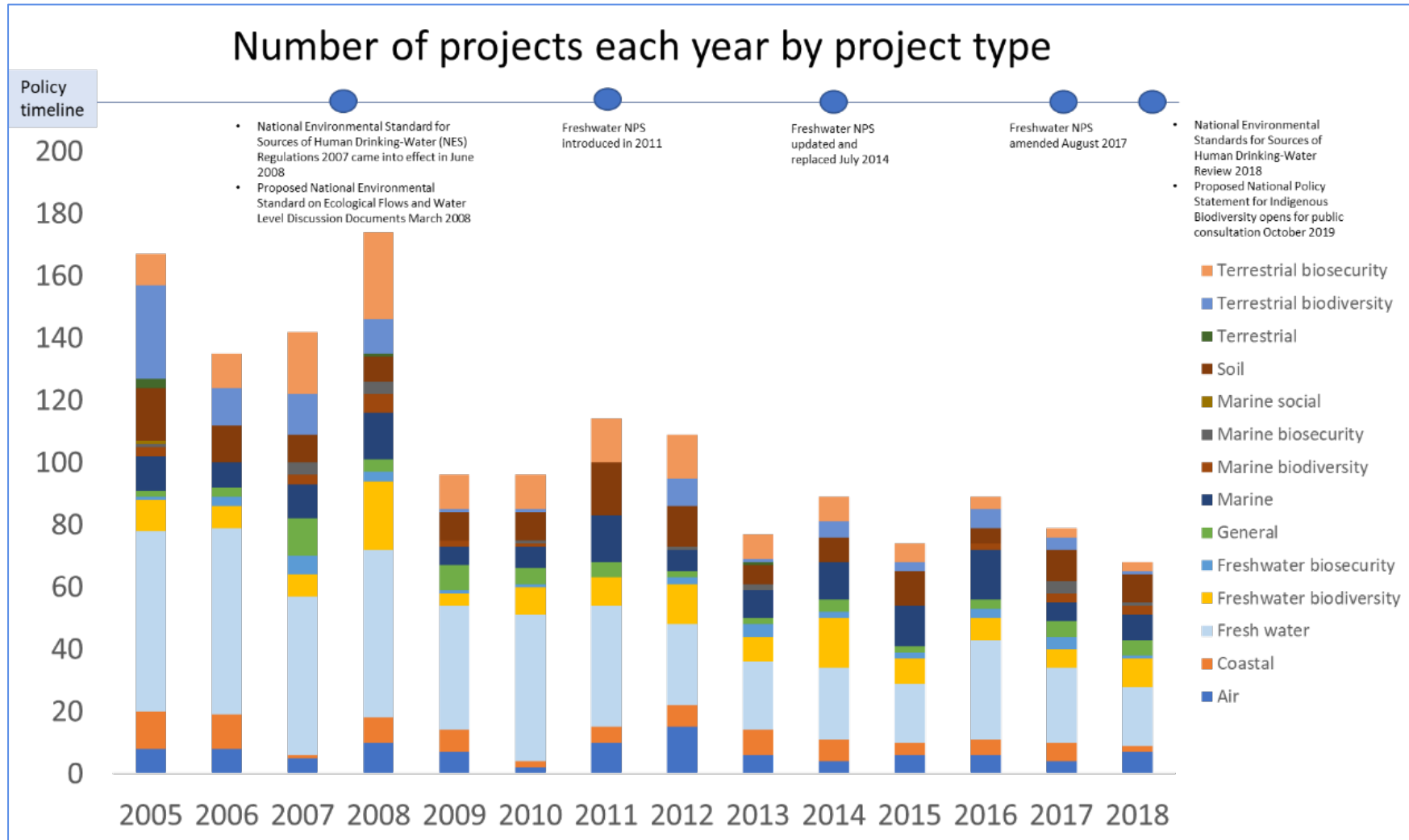


65. Figure 6 overleaf shows the number of projects each year by project type. As regional councils carry out their responsibilities under the Resource Management Act 1991, they must fulfil national policy statements in several environmental fields. The environmental fields are: freshwater, soil conservation, and air quality.

<sup>8</sup> Note due to rounding this adds to over 100%

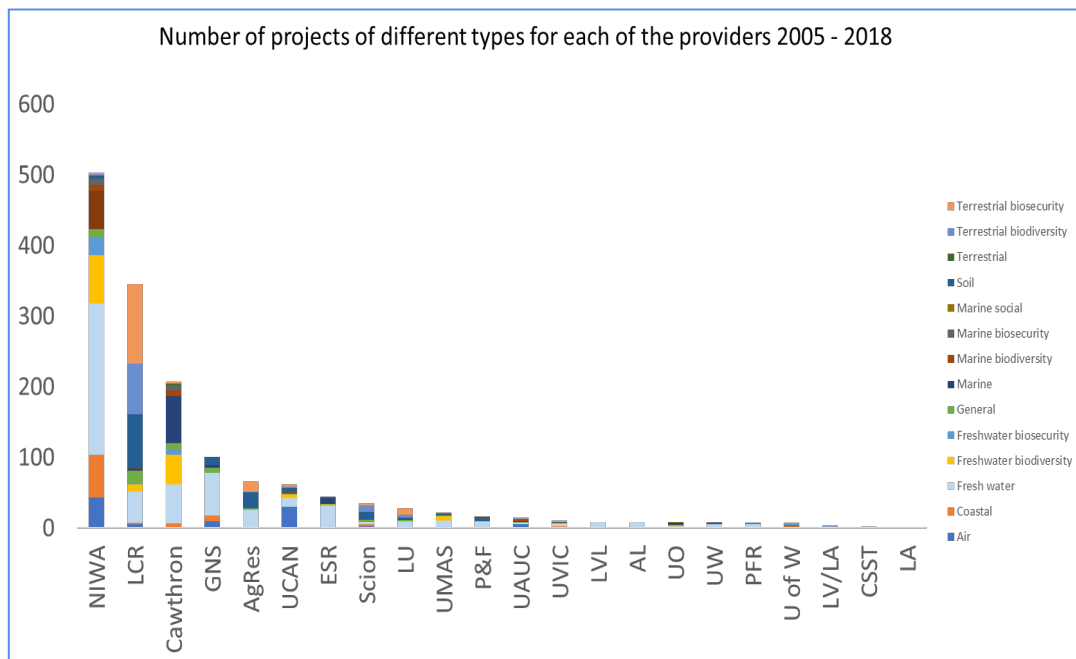


Figure 6: Number of Advice Grant projects each year by project type



66. With the government's consistent focus on developing and upgrading National Environmental Standards for improving the quality of freshwater, there were more projects in freshwater than any other topic area from 2005 to 2011. Since 2012, a more balanced distribution occurs across the topic areas. More recently the focus is on a mix of freshwater, marine and soil.
67. Figure 7 shows that across the life of Envirolink three research providers: NIWA, Manaaki Whenua Landcare Research and Cawthron Institute, have undertaken many of the projects. GNS and AgResearch have also consistently provided services through Envirolink, coming in with the fourth and fifth highest number of projects respectively. The sixth most active provider is the University of Canterbury; the only University among the top eight research providers by number of projects.

Figure 7: Number of Advice Grant projects of different types for each provider



### Information on tools grants

68. Since 2006, Envirolink has supported 51 tools grants. Feedback from some respondents suggests examples of some of the important tools are those that have supported National Environmental Monitoring Standards, reviewed the New Zealand instream plan and nutrient guidelines and developed an extended decision-making framework, and developed an Estuarine Tropic Index. For a full list of projects contracted see page 41.
69. The following graphs (Figures 8 and 9) show the number of tools grants and amount of funding allocated to each provider for development of tools from 2006 to 2018. As with the advice grants, NIWA, Manaaki Whenua Landcare Research and Cawthron Institute, AgResearch and GNS have undertaken many of the projects.

Figure 8: Number of Tools Grants from 2006 to 2018 by research provider

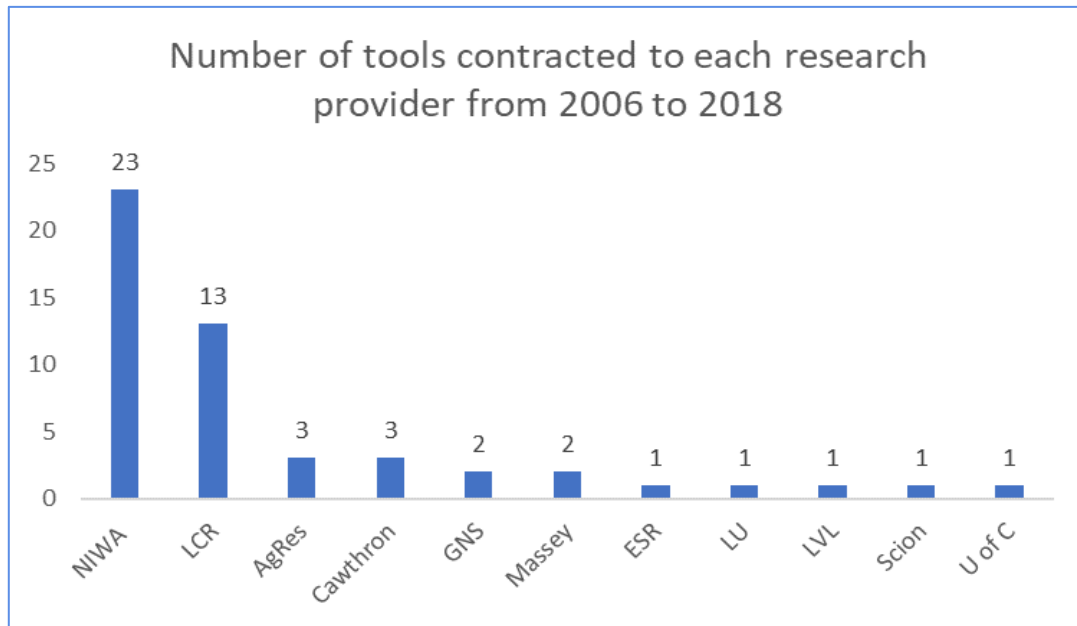
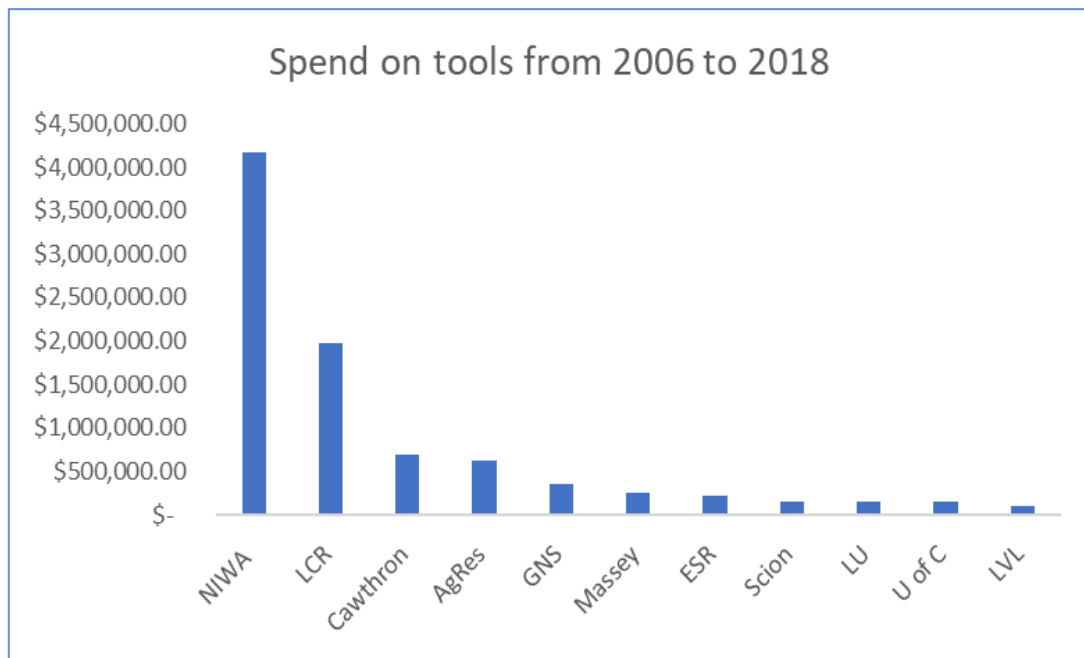


Figure 9: Spend of Tools Grants from 2006 to 2018 by research provider



**Regional councils are applying technical, scientific information for better planning and decision making**

70. Respondents from regional councils said they apply technical information and use the advice and information provided by the research providers to solve problems. They use Envirolink advice grants to respond directly to concerns from the community as well as meeting government needs for environmental monitoring and reporting.
71. Data from 141 Envirolink feedback surveys completed by regional councils over the past five years show that 92% of respondents expected councils to use the advice coming from Envirolink funding. Most respondents said advice funded by Envirolink helped guide and direct

regional councils to make the best possible decisions at the time. Respondents from regional councils said they felt more confident in the decisions they made because they had that advice.

*So, without that advice, we would cut to the chase and have an expedient outcome, but it might not be particularly satisfactory for the community... Using Envirolink we can actually give them a fuller answer... which means that they get better advice and we have more certainty or confidence about what we are saying. (Respondent comment)*

***Envirolink is increasing capacity among partners and key stakeholders in the community, including Māori and local environmental groups***

72. Envirolink helps build capacity among key partners including: policymakers, council scientists, councillors and community groups. Advice obtained through Envirolink helps select regional councils provide technical information to the public in ways that they can understand. For example, citizen science monitoring and online videos show community group involvement in monitoring water quality.
73. The following vignette provides an example of how regional councils engage with science and apply technical information to make well-informed, evidence-based decisions which impact positively on the economy, environment and local communities.
74. In February 2015 Marlborough District Council received a medium advice grant (\$20,000) to review information relating to historic changes to the seabed (benthos) of Pelorus Sound (Te Hoiere), and to assist in the development of planning environmental outcomes. The advice drew from previous Envirolink projects carried out by Tasman District Council on the historical impact and composition of benthic environments of Tasman and Golden Bays (Handley, 2006; Handley & Brown 2012). Based on the advice received in February 2015 Marlborough District Council used Envirolink funding to get further advice (December 2015 and June 2017) on mitigating sediment from forestry and mussel bed restoration within the Pelorus Sounds (Te Hoiere).

**Vignette #1 Building Science Capacity**

**Regional councils are engaging with science and applying technical information to make well-informed, evidence-based decisions which impact positively on the economy, environment and local communities**

**The need**

Marlborough District Council received expressions of concern from iwi, local fishers and residents about the changes in fishing in the Pelorus Sound (Te Hoiere). The Council also got anecdotal information from marine farming consent processes, focus group discussions with locals and advisory group meetings. This raised questions around changing seafloor habitats for the benthic communities (organisms that live on the seabed floor). Concerns included: loss of extensive intertidal and subtidal green-lipped mussel reefs, loss of biogenic habitats and related changes to sediment structure. Several possible causes were suggested, such as over-fishing of shellfish stock, contact fishing methods, increased sedimentation from changing land use over time and ongoing aquaculture. There was speculation that aquaculture was negatively impacting the seafloor habitat. People wondered what this might mean for the ongoing development and running of aquaculture enterprises.

**The response**

In response to concerns, using Envirolink, Marlborough District Council commissioned NIWA in February 2015 to undertake a review of available historical information about changes to the seabed of Pelorus Sound (Te Hoiere). This would provide the Council with critical information for managing marine farming and deciding their position around future developments in aquaculture enterprise. NIWA undertook a wide-ranging search. They scanned historic maps of shellfish beds and geo-rectified them using geospatial information systems technology (ArcMap 10.2.1). They could then digitize the shellfish beds' location and extent. NIWA also conducted interviews with long-term Marlborough Sounds residents, fishers and aquaculturists.

The report shared knowledge about land use, fishing and aquaculture from the early 1800s to the current century including: gold mining, forestry and pastoral farming. The report identified environmental impacts from these activities on Pelorus Sounds. The Council saw that sedimentation from plantation forestry activities were the main cause of damage to the marine site in the Marlborough Sounds. These effects included fine sediment smothering seabed habitats and discolouration of the water column, particularly in areas of low current flow in the Sounds. The ecological impacts noted included damage to sensitive biogenic (or 'living') habitats and a decline in fish numbers.

#### Outcomes

The technical information created an impetus to change land-use practices and stop the ongoing adverse effects on the Marlborough Sounds ecosystems. The technical information will contribute to a range of benefits in the future, including: fish and shellfish abundance and increased recreation and tourism. Following the NIWA report (February 2015), Marlborough District Council wrote a technical report, *Mitigating Fine Sediment from Forestry in Coastal Waters of the Marlborough Sounds December 2015*. This discussed several options to reduce the transfer of fine sediment into coastal waters. The options included: a range of setbacks from the shoreline for replanting; controls on replanting on slopes over 30 degrees; and a requirement for stricter engineering standards for forestry-related earthworks (such as roading).

As knowledge was shared and exchanged with Marlborough District Council, it responded to concerns and thought through possible actions to mitigate the situation. With the information, the Council came up with possible solutions that supported forestry while allowing for more consistent management, as well as ensuring the ongoing viability of aquaculture. Without this information, it is likely the Council would have taken a more precautionary approach to future development. This would have potentially had negative economic impacts for the region and the livelihoods of aqua culturalists, forestry workers and wider community well-being.

Based on the information provided in both reports, augmented with the statutory review of the Marlborough Environment plan and the promulgation of the NES for plantation forestry, Marlborough District Council was able to provide greater stringency and consenting requirements for forestry in the Sounds. This provides a higher level of protection for the Marlborough Sounds.

#### Potential opportunities for Envirolink in providing mātauranga Māori advice

86. Envirolink to a lesser degree supports regional councils to have conversations and engage with Māori/hapū/iwi. This engagement provides an avenue for Māori to exercise kaitiakitanga and includes mātauranga Māori in advice provision focusing on topics such as freshwater management<sup>9</sup> and reporting of environmental impacts.<sup>10</sup>
87. Regional councils and research providers see a need and opportunity to engage better with Māori/hapū/iwi. In general, regional councils recognise their responsibility to Māori/hapū/iwi within Te Tiriti o Waitangi and the Local Government Act 2002. Regional councils see a need for advice grants from Envirolink to support working in partnership with Māori/hapū/iwi on mātauranga Māori, to translate existing Māori environmental science knowledge into practical advice and second, and to support adapting mātauranga Māori management tools to local needs. However, currently there seems low awareness that Envirolink can be used this way. The evaluators suggest raising the awareness that Envirolink can provide mātauranga Māori environmental science advice to the selected regional councils.

#### Other opportunities and needs that may be outside the scope of Envirolink

88. Some respondents suggested there is also a need for a parallel Envirolink-style Maori-focussed investment mechanism. A few respondents also identified an increased need for advice on natural hazards.

<sup>9</sup> Robb, M., Harmsworth, G., & Awatere, S. (2015) Māori values and perspectives to inform collaborative processes and planning for freshwater management. *Landcare Research Manaaki Whenua*, Wellington, NZ.

<sup>10</sup> Scheele, S., Carswell, F., Harmsworth, G., Lyver, P., Awatere, S., Robb, M., & Taura, Y. (2016) Reporting environmental impacts on te ao Maori: A strategic scoping document. *Landcare research Manaaki Whenua*, Wellington, NZ.



### Envirolink supports regional council engagement and networking regarding science

89. With the support of Envirolink advice and tools grants, regional councils engage, network and develop collaborative partnerships with research providers and others such as local community groups. According to respondents, Envirolink advice and tools grants also help to strengthen and sustain positive working relationships between regional councils.

### *Collaborative partnerships are formed, including with Māori researchers*

90. There is evidence from most respondents of positive working relationships developing through Envirolink projects between regional councils (small and large) and research providers including: Crown Research Institutes, universities other research providers and independent research organisations such as Cawthron and Aqualink. Regional councils use Envirolink funds to collaborate on activities such as workshops, development of tools and large advice grants.
91. Envirolink advice and tools grants provide a focus and driving force for relationships to develop. The presence of good links and secure ongoing connections help Envirolink work well. Given Envirolink has been going for 14 years, there are now some long-standing, robust relationships and associations, according to respondents from the different organisations. However, those not well connected into councils or research providers, like new regional council staff and Māori/hapū/iwi, need encouragement to join in. In these cases, it is essential participants take time to build relationships and learn processes.

*I guess it's people dependent. So, because I am new to the role, it has taken me a couple of years to make those connections with the CRIs [Crown Research Institutes] and get really good relationships with [the coordinator] and MBIE. (Respondent comment)*

92. Although we heard anecdotally that Māori research capacity is already stretched, there is an opportunity to increase engagement with mātauranga Māori researchers and Kaupapa Māori research methodology. Better engagement with Māori would satisfy the goals of both council and iwi in their roles as kaitiaki and help integrate mātauranga Māori in regional council planning and decision making.

*Whether it be water quality, biodiversity, biosecurity... any of the issues. Even, how do you do collaborative research? I mean, Māori are so far progressed in that area. They have been running hui and wānanga for hundreds of years... Māori are absolute experts in collaboration and setting kaupapa. (Respondent comment)*

### *Relationships are strengthened*

93. Respondents recognised Envirolink acts as a catalyst to enhance relationships between regional councils and research providers, and there are some strong and longstanding links between some of the regional councils and some Crown Research Institutes that extend beyond Envirolink. Envirolink advice and tools grants usefully provided access to research advice for isolated regional councils. Before Envirolink, some of the smaller regional councils said they relied on a limited number of friendships to get the information and knowledge they needed. Some respondents indicated that often they tried to address issues on their own, which was not particularly successful. Respondents said Envirolink positioned smaller regional councils to access the advice and support they need.

*There is no doubt about that at all. From a small council's perspective too, it does allow us to have access into those organisations. (Respondent comment)*

### *Developing sustainable relationships*

94. To some extent, Envirolink has led to lasting relationships developing between Crown Research Institutes and regional councils. The Envirolink Coordinator plays a critical role in supporting relationships and acting as a conduit, getting people in the room together to help one another.

95. There is much movement of staff between regional councils and research providers. It is common to have Crown Research Institutes scientists with prior regional council experience and vice versa. This movement of scientists between organisations leads to improved understandings about how the organisations work, their needs, barriers and priorities.
96. While Envirolink can support sustainable relationships, there are also challenges. Lasting relationships need to be nurtured and protected – and this does not happen through one-off projects within a two-to-three-year period. Staff changes can result in loss of knowledge within an organisation. Drawing from the literature, successful relationships need all parties to have “mutual confidence, strong translational focus, understanding of industry needs and objectives, alignment of mutual goals and research objectives”.<sup>11</sup>
97. The following vignette provides an example of how regional councils are forming collaborative and sustainable relationships with each other, research providers and community stakeholders and are responsive to Crown and community needs. In 2018 West Coast Regional Council received a medium advice grant (\$13,933) to obtain advice on E. coli contamination in the Buller River at Marrs and Shingle Beaches. Ongoing monitoring of these sites for swimming purposes in summer months indicated that E. coli contamination was still a periodic problem. Advice was needed to establish the extent of the problem and possible solutions.

### Vignette #2 Engagement and Networks

Regional councils are forming collaborative and sustainable relationships with each other, research providers and community stakeholders and are responsive to Crown and community needs.

#### The need

Over several years West Coast Regional Council has accessed Envirolink to help it respond to changes in Government legislation and community concerns relating to freshwater management. The National Policy Statement for Freshwater Management requires councils to work with communities to understand how they value waterways and set goals based on economic, social, cultural and environmental factors. The National Policy Statement for Freshwater Management recognises Te Mana o te Wai<sup>12</sup> and sets out objectives and policies that direct local government to manage water in an integrated and sustainable way. Through Envirolink, West Coast Regional Council has sought a number of audits of its water management programme. It has used the knowledge gained to inform program and policy changes which extended into its annual state of the environment reporting. It helps give the Council confidence about how it will meet the requirements to maintain and improve the quality of rivers, lakes and groundwater that it is responsible for.

*[We] often do a bit of an audit and a refresher on our water quality programme to make sure that it is fit for purpose, that it is financially sustainable and the things and parameters that we are measuring will meet the National Policy Statement for Freshwater Management. (Respondent comment)*

Being able to stay abreast of freshwater issues and monitor water quality led to the establishment in 2017 of the Marrs and Shingle Beach Community Working Group (the MSB Working Group). There were concerns within West Coast Regional Council and among local rūnanga over high E. coli levels at these two beaches. The presence of E. coli bacteria suggested there was also a significant risk from other pathogens such as Campylobacter. The MSB Working Group was made up of a representatives of iwi, councillors, Surf Rescue, an ecologist, residents and farmers. It had a mandate to study faecal contamination at local beaches, evaluate community values and provide recommendations to the Council on how to improve water quality at these sites.

#### The response

In January 2018 (after ongoing discussions through the second half of 2017), West Coast Regional Council engaged the University of Waikato through Envirolink. The University delivered two one-day workshops during which participants used systems thinking to examine the factors causing E. coli contamination in the Buller River at Marrs and Shingle Beaches. The workshop sessions aimed to help the MSB Working Group develop recommendations to the Council to help manage the issue of high

<sup>11</sup> Cited in Schofield, T. (2013) Critical success factors for knowledge transfer collaborations between university and industry. *The Journal of Research Administration*, (44)2, p 52.

<sup>12</sup> Concept of Te Mana o te Wai as the integrated and holistic well-being of the water, Ministry of Environment.

*E.coli* levels. Participants used a qualitative tool called a Causal Loop Diagram to build a map of the system believed to be causing the issue. An online modelling tool called Mental Modeller was used to calculate the impact of the relative change in all factors. From these workshops and further meetings participants identified where to best target interventions.

**Outcomes**

The MSB Working Group achieved a shared, deeper understanding of the system, including the availability of resources that could be applied to create change. They identified possible future solutions to deal with the *E.coli* issue. The group prioritised possible solutions based on likely effectiveness and cost. The group found the Envirolink funded workshops provided a strong foundation on which to build constructive relationships. The MSB Working Group has continued to meet monthly and maintained its focus on the water quality of local beaches, including water sampling and catchment survey programmes.

*This is a group that is completely voluntary, who are giving up their time to see real improvements made for the wider community. (Media release)*

MSB Working Group progress, shared in Council Resource Management Meetings, included possible mitigations and their projected impact on reducing the high levels of *E.coli*. This process helped to connect the science and policy and further explore other possible mitigations.

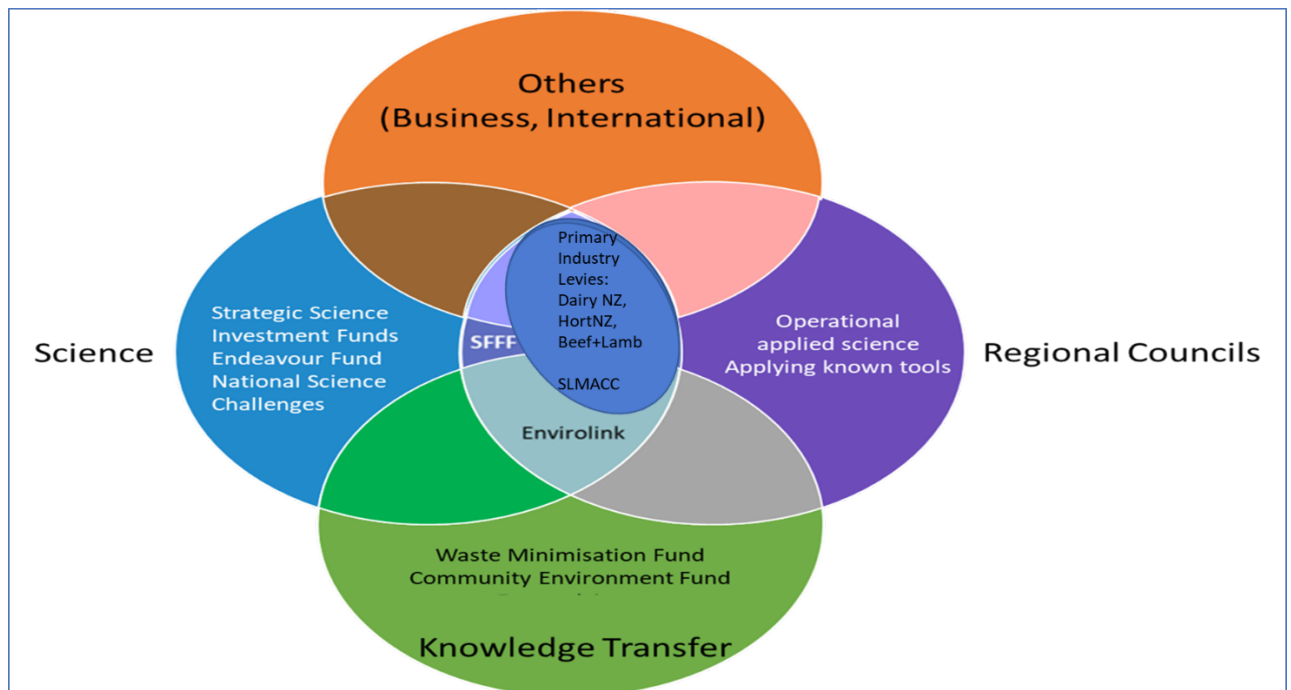
The following recommendations are being adopted and implemented by the West Coast Regional Council as a result of the Envirolink advice:

- Work with farmers in the Bradshaws Creek catchment to reduce sources of faecal contamination to waterbodies
- Aim to improve *E.coli* concentrations in Bradshaws Creek to above the National Policy Statement for Freshwater Management D category by 2023
- Pursue avenues for working with farmers to implement voluntary measures that will lead to less faecal contamination of Marris Beach
- West Coast Regional Council are working with Buller District Council to make the content of public health signage at Marris Beach more relevant for the public.

**Envirolink supports knowledge exchange**

111. Representatives from MBIE and MfE took part in a workshop on the role of Envirolink compared with other funds. The following diagram outlines the various funds identified by participants as operating within the science and knowledge transfer areas.

Figure 10: Focus of Envirolink and other Funds operating in the science and knowledge transfer areas



112. The evaluators sourced descriptions of the various funds from official sites to further understand the differences between the funds, which are outlined in Table 3.

Table 3: Comparison of funds

Fund name	Description of the fund from official sources	Value of fund
Strategic Science Investment Funds (MBIE)	“The Strategic Science Investment Funds supports longer-term investment in underpinning science platforms. It is non-contestable and stable (in contrast with the agility provided by the contestability in the Endeavour Fund) and focussed on long-term capability to support priorities across the New Zealand science system” (New Zealand Government, 2017, p.10 <sup>13</sup> ).	\$230m for 2019/2020
Endeavour Fund (MBIE)	“The Endeavour Fund supports discrete science projects through a contestable process that provides agility to respond to new opportunities. Through this Fund, the Government invests in excellent science that could be high risk but has potential impact in areas of future value, growth and critical need for New Zealand” (New Zealand Government, 2017, p.10).	\$223m for 2019/2020.
National Science Challenges (MBIE)	“The National Science Challenges target eleven big challenges in New Zealand which, if successfully addressed by science, will have major and enduring benefits. They are cross-organisation, cross disciplinary programmes. CRIs continue to use some SSIF funding to contribute to Challenges” (New Zealand Government, 2017, p.10).	\$84.4m for 2019/2020
Envirolink (MBIE)	“The Envirolink Scheme funds Crown research institutes, universities and private research organisations to provide regional councils with advice and research on environmental projects. Funding of \$1.6 million (excluding GST) is available each year for Crown research institutes, universities and private research organisations to provide regional councils with advice and research on environmental projects” (MBIE, n.d. para 1 and 3 <sup>14</sup> ).	\$1.6m for 2019/2020
Sustainable Land Management and Climate Change Research Programme, known as SLMACC, (MPI)	“The Sustainable Land Management and Climate Change (SLMACC) Research Programme helps the agriculture and forestry sectors with the challenges arising from climate change. The SLMACC Research Programme invests in targeted basic, applied and policy research, including: the impacts of climate change and adaptation to climate change; mitigation of agricultural and forestry greenhouse gas emissions; cross-cutting issues, including economic analysis, life-cycle analysis, farm, catchment and systems analysis and social impacts; policy research to address targeted policy questions (Ministry for Primary Industries, 2019, para 1 and 3 <sup>15</sup> ).	\$2.3m per annum

<sup>13</sup> Source: <https://www.mbie.govt.nz/assets/436ecb3be9/strategic-science-investment-fund-investment-plan.pdf>

<sup>14</sup> Source: <https://www.mbie.govt.nz/science-and-technology/science-and-innovation/funding-information-and-opportunities/investment-funds/envirolink-scheme/>

<sup>15</sup> Source: <https://Sustainable Land Management and Climate Change>

Sustainable Food and Fibre Futures, known as SFFF (MPI)	<p>“Sustainable Food &amp; Fibre Futures (SFF Futures) funds innovative projects that will create more value from the food and fibre industries.</p> <p>Projects could be about developing new products or services, or ideas for creating new jobs, increasing skills and capability, or encouraging better collaboration and information sharing. They can range from small, one-off initiatives requiring a small grant, to long-running, multi-million-dollar partnerships. SFF Futures supports projects from all over New Zealand, created by businesses, non-government organisations, researchers, training institutions, Māori landowners, community groups, and industry bodies. Applications are expected to prioritise value over volume” (Ministry for Primary Industries, 2019<sup>16</sup>).</p>	\$40m per annum
Waste Minimisation Fund (MfE)	<p>“The purpose of the Waste Minimisation Fund is to boost New Zealand’s performance in waste minimisation. There is considerable scope to reduce waste and increase the recovery of useful resources from waste. Lifting our performance in recovering economic value from waste also provides environmental, social and cultural benefits and reduces the risks of harm from waste.</p> <p>This will require investment in infrastructure and systems for waste minimisation and developing educational and promotional capacity. The purpose of the fund is to provide some of the funding to ensure that this occurs” (Ministry for the Environment, n.d.<sup>17</sup>).</p>	Approx. \$10 - 15m per annum
Community Environment Fund (MfE)	<p>“The purpose of the Community Environment Fund is to empower New Zealanders to make a positive difference to the environment. It supports projects that strengthen environmental partnerships, raise environmental awareness and encourage participation in environmental initiatives in the community....Projects which focus on supporting community initiatives that contribute to: reduced greenhouse gas emissions; improved freshwater management;; improved coastal management; improved air quality” (Ministry for the Environment, 2019, para 1 and 3<sup>18</sup>).</p>	\$2.172m per annum
Primary Industries Levies	<p>Primary industries including Dairy NZ, Beef+Lamb and HortNZ provide advice on environmental management and issues. This is funded via levies received and investment made into the environmental sector.</p>	

<sup>16</sup> Source: <https://www.agriculture.govt.nz/funding-and-programmes/sustainable-food-and-fibre-futures/about-sustainable-food-and-fibre-futures/>

<sup>17</sup> Source: <https://www.mfe.govt.nz/more/funding/waste-minimisation-fund/about-waste-minimisation-fund>

<sup>18</sup> Source: <https://www.mfe.govt.nz/more/funding/community-environment-fund/eligibility-criteria>



113. Workshop participants from MBIE and MfE indicated they view Envirolink as a unique scheme that targets knowledge transfer into the smaller regional councils, helping regional council scientists and other staff in their role as environmental managers.
114. Representatives from MBIE and MfE suggested that the funding from Sustainable Food and Fibre Futures (MPI) and funding from Dairy NZ, HortNZ and Beef + Lamb New Zealand can bridge business, science, regional council needs and knowledge transfer. However, while these funds provide support to regional councils, Envirolink is specifically for select regional council's use to access advice to address their specific needs either individually or as a group. The perception that Envirolink is unique also aligns with the view of respondents from regional councils and from the providers. Therefore, the evaluators concluded that Envirolink does occupy a unique position helping a group of smaller regional councils to access existing science through knowledge transfer.
115. The Ministry officials from MBIE and MfE wondered if all nine select regional councils still need Envirolink support or if some may have grown big enough and received enough support now to fund their own science knowledge transfer. A few representatives from MBIE and MfE observed that regional councils should be able to anticipate the science they will need in the future. They noted that councils become aware of upcoming legislation and regulations during the consultation phase. Some representatives from MBIE and MfE wondered if regional councils sought money from Envirolink that should come out of their own working funds because the activity is effectively business as usual. Envirolink rules exclude funding regional councils for work that is seen as business as usual.
116. However, the evaluators found that regional councils were making note of upcoming legislation and regulations. Respondents from councils observed that upcoming legislative and regulatory requirements for science were always on top of business as usual.

*Of course [with the] the 2019 NPS, NES, and s360 stock exclusion proposals-Action for healthy waterways [will affect the demand for advice grants]. There will be an absolute heap of [research and advice] requirements that spin out of these documents, because so much is being thrown back to the councils to establish links (or non-links), appropriate criteria, natural contributions, correlations between land uses and offsite effects, etc. (Respondent comment)*

117. Respondents indicated that when new information or advice is needed to fulfil these requirements, existing budgets within council could not always cover them.
118. The evaluators suggest that Envirolink does meet the "market failure" test. Without Envirolink respondents suggested existing science information and knowledge would not be accessed as advice. Necessary improvements to bring council practices in line with new regulations and requirements might occur more slowly or in a piecemeal fashion, without the support of Envirolink advice and tools grants.
119. From a theory-of-change perspective, Envirolink supports the smaller regional councils to initiate knowledge transfer themselves, rather than relying on scientists from provider organisations to drive it. Therefore, the evaluators concluded the knowledge transfer system funded through Envirolink supports regional councils to:
- access shared information and share existing research to communities and other key stakeholders
  - gain an increased awareness and knowledge in environmental topic areas
  - build a common understanding of topic areas and possible responses to manage environmental issues.

#### *Sharing information and distributing existing research*

120. Sharing information and knowledge is mutually worthwhile to regional councils and research providers. Regional councils gain access to information that helps them deliver on their responsibilities; the research providers gain access to council data and a chance to socialise their research in practical everyday situations. Research providers at times offer in-kind support

(where some work is undertaken at no extra charge) when they have a more substantial work programme that aligns with a regional council's needs.

121. Once the regional councils receive research advice, respondents described ways they share that information such as: using advice at monthly regional management meetings, sharing the information with councillors to inform their decision making or presenting advice to local environmental groups at community meetings.
122. Over time some research providers have come to better understand the research information regional councils need and how to present that information. Council respondents maintained that scientists have learned to make information accessible to audiences with less technical knowledge. There are ongoing efforts to ensure the data produced is useful, easy to understand and easy to engage with – particularly for local communities.

#### *Building increased awareness and knowledge in topic areas*

123. Envirolink has promoted knowledge transfer of scientific information that respondents say is critical to regional councils. Envirolink advice and tools grants have also enabled sharing of science information. That science information has helped create conversations and activity about some critical environmental issues faced by all regional councils in New Zealand. For example, knowledge transfer commissioned within Envirolink helped identify the best strategies for pest monitoring and destruction. This work included advice on how to find out how to engage with communities more effectively to update them on best practice.
124. Most respondents suggested that regional councils making planning or policy changes like having the added confidence of knowing decisions are sound because they are based on robust science research advice. Regional council science staff are often involved in consent processes and Envirolink advice supports and enables evidence-based decision making.

*So, it does allow us to get additional support for the staff and of course that means we are providing the latest thinking to the community and not our thinking, because we are not always 100% on track. (Respondent comment)*

#### *Common understanding of the topic areas and possible responses to manage environmental issues*

125. Respondents suggested Envirolink advice helps to fill knowledge gaps and can lead to tangible outcomes of improved decision making and acting where there will be the most impact. There are many ways research information provided to regional councils as advice is useful, according to respondents. Research advice includes; advice on best-practice guidelines, suggesting cost-effective mitigation measures, outlining monitoring standards, suggesting causal factors and recommending possible remediation options.
126. Because of Envirolink advice, most respondents said regional councils have a clearer understanding of specific environmental issues and can incorporate this information into the council long-term planning processes. This advice encourages an increased understanding and supports a more consistent approach among regional councils nationwide to improve water quality, manage impacts of land use and report the state of the environment.
127. Respondents suggest Envirolink advice grants support regional councils to do work on time, rather than by trial and error. Envirolink advice and tools also help develop alignment among different groups, particularly where people have different opinions on what are the best decisions going forward.

*So, what we are really wanting to do – and we have got a couple of councillors around the table who refuse to believe that there has been any sea-level rise at [place] at all – what we are wanting to do is to take this data to council and ask for them to adopt them as our organisational numbers. (Respondent comment)*

128. The following vignette describes how Envirolink supported sharing and spreading advice between regional councils to build increased awareness and knowledge about soil conservation and farm environmental planning and to manage environmental issues more consistently. In 2018 Horizons District Council received a large advice grant (\$40,000) and, on behalf of the

Land Monitoring Forum (LMF), the Land Managers Group (LMG), and regional councils across New Zealand, they championed a project to review regional councils' soil conservation and farm environmental planning. This project was the first step in developing a suitable National Environmental Monitoring standard by evaluating the soil conservation practices, riparian protection works and farm environmental plans. The advice sought was essential for improving the consistency and quality of regional reporting needed for national Environmental Monitoring and Reporting (EMaR), and for reporting Land Air Water Aotearoa (LAWA).

### Vignette #3 Knowledge Exchange

Information is shared and disseminated between regional councils to build increased awareness and knowledge of topic areas and generate consistency in managing environmental issues.

#### The need

Horizons Regional Council is engaged with the Land Monitoring Forum and the Land Managers Group. On behalf of these groups, Horizons Regional Council contracted Manaaki Whenua Landcare Research, through Envirolink, to assess regional sector data and information holdings with regard to soil conservation, riparian protection and farm environmental plans. Regional councils and unitary authorities are responsible for promoting the sustainable management of the environment however, the ways and processes used to do this can differ significantly between regions. Variation occurs because the Resource Management Act (1991) and the Local Government Act (2002) allow "councils to largely self-determine how best to accommodate council-by-council differences in financing, environmental issues, and community priorities." (Manderson, 2017, p.11).

Councils have been working toward more aligned monitoring and reporting through initiatives such as National Environmental Monitoring Standards and the Land, Air, Water Aotearoa website (LAWA).<sup>19</sup> However, more information is required to progress toward more consistent, high-quality monitoring, reporting and management relating to land management and use. An important step was to understand what regional councils were monitoring, how they were collecting data and how to improve this process.

#### The response

A survey of council data and information holdings was undertaken during August 2017 with each of the 16 regional authorities receiving three separate questionnaires on soil conservation, riparian protection and farm environmental plans. Fifteen regional councils responded with 45 (of a total 48) questionnaires completed. In addition to providing a stock take of existing data and information the project also assessed the ability of regional authorities to report collectively on the state of soil conservation, riparian protection and farm environmental plan progress in New Zealand.

#### Outcomes

Regional councils and the Land Managers Group and Land Monitoring Forum shared and disseminated much information from this project. A database was created that outlined the existing monitoring and management practices of the 15 councils that took part. A clearer picture emerged about the regional councils' soil and land monitoring activities as well as the constraints they faced in collecting data and maintaining monitoring programmes.

*The report provides a useful overview of how programmes differ between regions, including the types of indicators we monitor and how data and information is collected and managed. (Respondent comment)*

A number of indicators were recommended by the authors to support a more consistent approach to data collection and reporting. The indicators also supported best practice through standardised measures and robust data collection, and help to demonstrate the national progress toward environmental improvement.

*Achieving consistency in our collective monitoring and reporting is key to providing a concise national picture of the state of our environment, as well as linking actions on the ground to environmental outcomes, such as water quality and ecosystem health. (Respondent comment)*

Horizons Regional Council encouraged council representatives to reflect on and respond to the knowledge exchanged. Horizons Regional Council and other smaller regional councils involved in the Special Interest Groups said they discussed their issues and concerns around monitoring and managing land.

<sup>19</sup> <https://www.mfe.govt.nz/more/environmental-reporting/improving-environmental-reporting-data>

*We now have solid data to move forward with in forming a nationally consistent monitoring framework. (Respondent comment)*

*Knowledge transfer and information sharing are crucial to achieving consistency, but it's also about maximising the benefit of our collective investment in soil and land information. (Respondent comment).*

## KEQ 2: Envirolink is producing valuable outcomes and impacts

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### Introduction

129. In this section, the evaluators describe how Envirolink produces valuable outcomes and impacts for regional councils, providing advice and tools that support them to respond to local needs and find an appropriate solution. To make this evaluative judgement, the evaluators considered the ways Envirolink performs, using the following evaluative criteria: “usability of research” and “influence and impact”.

### KEQ2: Envirolink is rated very good for producing valuable outcomes and impacts

130. The evaluators assessed that overall Envirolink produces valuable outcomes and impacts and therefore rated this aspect **very good**. Because of Envirolink, respondents said councils have vital information needed to decide about how to manage the environment. Information from Envirolink supports councils to be responsive to local emergencies, meet some Regional Management Act (RMA) requirements and respond to aspects of the national policy statements released by Government.

*[Envirolink] it feeds into something that we are trying to make happen and it provides some scientific rigour and some technical knowledge that we might not have in-house. And also, some reassurance that we are not way off track; you know, other Councils are doing this, and other people are doing this, yeah. (Respondent comment)*

### Envirolink uses existing research to provide advice

131. In general respondents from regional councils said they find Envirolink advice grants very useable. They said they could get useful information and advice and use them in strategic planning, education and training. Regional council scientists can produce and apply science to current issues and can train other council staff to use science as intended.

*[The body of water] showed quite severe signs of being in poor condition and it has international significance... We had to pull together a lot of information quickly, including developing some guidelines around what you might do to maintain or to restore the health of [it]... Envirolink [helped] to get some work done quite quickly to help inform that process. (Respondent comment)*

### Practical solutions for locally based problems

132. Each regional council said they have issues that are specific to them and need constant advice to manage. For example, the Tasman District Council has several small and dynamic aquifers where automated groundwater levels are monitored every 15 minutes in real-time. This monitoring is needed to manage the risk of drought. Through Envirolink, Tasman District Council undertook several research projects to improve its understanding of groundwater movement and age in aquifers as well as develop guidelines for monitoring and managing aquifers.
133. Although Envirolink supports regional councils to respond to their local problems, there is often an element of transferable knowledge shared with other parts of the country. An example of this is a research project undertaken for West Coast Regional Council to understand better the factors influencing periphyton blooms in West Coast rivers. This information is applicable nationally to help manage water quality and ecology.
134. Respondents suggested that in transferring science knowledge through advice, Envirolink helps regional councils find the right solution for their local context, based on their available resources. With support from Envirolink, councils can focus their attention and efforts on what is needed to address a situation. Respondents found value in being able to target their limited resources to ensure that they responded in the best way possible.

*There is a national environmental standard around contamination and so the big question for us became, how far do we have to look? We can go get some advice on*

*what persistence actually means in a national context and... we can focus our attention on these really old, persistent pesticides and not waste time and effort on stuff that the community brings up and says – ‘What about this?’ We have the confidence to say, ‘This is not something that we are going to be worrying about’... (Respondent comment)*

#### ***Fit-for-purpose projects meet the needs of regional councils***

135. In general, Envirolink supports projects that are fit for purpose and regional councils get advice and information from research providers that is tailored to their needs, according to respondents.

*Envirolink provides a lot of value in responding to information that we have come across ourselves. So, when the drought happened a lot of our native trees died... We needed some science knowledge... if we are going to be recommending planting programmes in certain places to people about drought-resistant trees. (Respondent comment)*

136. Envirolink enables regional councils to access the depth of science knowledge that is often not present internally. Regional councils want to fill knowledge gaps and gain a better understanding of the specific environmental issues they face, according to respondents. One reflected that Envirolink advice helps

*to actually get the bigger picture about what you need ... It gives that context because [in council] you get subject matter experts rather than jack of all trades which scientists [in] councils [need to be].*

137. As the issues and needs of regional councils become more complex, there are some things that regional councils cannot currently use Envirolink for. Respondents suggested at times there is a need to test ideas in their region that involves collecting small pieces of new data and information. A few respondents said at times they are challenged to try to meet specific information needs for advice based on existing information. A few respondents said they would value the opportunity to get research to “ground-truth” new ideas coming out of advice grants.

#### ***Creates accessible outputs and tools***

138. Regional councils typically receive advice on tools and outputs in the form of letter reports (small advice grants), workshop presentations (small/medium advice grants), literature reviews on existing research information (medium advice grants) and visual presentations, mapping and modelling across regional councils (large advice grants). From this advice, they adjust the ways they manage local environmental issues.
139. The following vignette illustrates how regional councils are developing practical solutions to their locally based problems which are fit for purpose. The vignette shows how Envirolink supports regional councils providing useful tools, outputs and opportunities for growth. In 2018 Hawkes Bay Regional Council received a medium advice grant (\$20,000) to review instream DIN concentrations following treatment using constructed wetlands. This advice was intended to help the Council to sustainably manage the Tukituki River with practical and affordable actions. The advice was also essential in meeting the National Policy Statement for Freshwater Management (NPSFM) requirements.

#### ***Vignette #4 Usability of research***

***Regional councils are developing practical solutions to their locally based problems which are fit for purpose and provide useful tools, outputs and opportunities for growth.***

##### ***The need***

In 2011, Government introduced the National Policy Statement for Freshwater Management (NPSFM) to improve freshwater management in New Zealand (with updates in 2014, 2017 and the 2019 proposal currently out for consultation). The evolution of the NPSFM is requiring regional councils to constantly establish and update new objectives and set limits for freshwater in their regional management plans. The new nitrogen targets established for the Tukituki catchment were “considered ambitious” which caused significant concern.



*And so now we've got these nitrogen targets to meet... in terms of reducing nitrogen levels by 80, 90 percent. Just like, how ... are we going to do that? (Respondent comment)*

The Tukituki Plan change was being undertaken and appealed during the evolution and notification of subsequent NPSFMs, with the process being handled by an EPA Board of Inquiry. The Tukituki River Change 6 plan aimed to sustainably manage the land and freshwater to enable recreational use, ecosystem health, safe drinking water, decreased algal growth, enhanced mauri (life force) and the use of water for primary production and processing purposes.

Hawke's Bay Regional Council knew the Tukituki River was likely to develop slime and algae (periphyton) during warm summer months when water flows were low and this created unhealthy environments for fish, river bugs and insects. The river during this time was not good for public recreational use. The Council also knew that nutrients – particularly nitrogen (N) and phosphorus (P), sunlight and water temperatures determined how much slime and algae grows in the rivers and streams. What the Council did not know was how to meet nitrogen targets in a realistic and affordable manner. This information could support freshwater management in the region, helping to ensure water quality and appropriate growth of algae and plants.

#### The response

Through Envirolink, Massey University was contracted by Hawke's Bay Regional Council to advise on Dissolved Inorganic Nitrogen (DIN) concentration levels following stream treatment using wetland areas. The advice also helped to determine if the cost-efficiency of using wetlands to reduce nitrate concentration could be improved by targeting specific streams at certain times (Guieysse, 2018). Massey University shared two models that predicted wetland area and costs. Findings from the literature highlighted ways that wetland areas could support the Council to meet the annual targets of getting DIN concentrations below 0.8 mg N/L (and addressed an additional criterion being to reduce the mean concentration during spring and summer below 0.3 mg N/L).

Firstly, the wetland area required to meet the annual target for DIN in the stream was determined to be 163, 179, 17.4 and 21.5 ha at Mangaonuku, Kahakakuri, Porangahau and Tukipo, respectively. These wetland areas represented 0.45, 2.2, 0.24 and 0.10% of their respective total catchment areas (35984, 8026, 7256, and 22040 ha). These figures were lower than the general rule that 1–5% of the catchment area is considered necessary to reduce annual loads. The findings indicated to the Council that wetlands could be cost-effective approach to target reductions related to DIN concentrations.

The capital, as well as operation and maintenance costs of wetlands (including topographic survey, engineering, earthworks, water control structures, piping and contingency) were estimated at \$165,000–167,000/ha (capital costs) and \$36,533/ha (operation and maintenance costs). These related to expected capital costs of \$22.5M, \$24.6M, \$2.4M and \$3.0M for the Mangaonuku, Kahahakuri, Porangahau and Tukipo wetlands, respectively.

#### Outcomes

Armed with this information, the Council were in a much stronger position to consider how it could respond to the national targets of the National Policy Statement on Freshwater Management. The modelling provided them with confidence to make decisions that would lead to positive change in nitrate concentration levels. They also had clear guidelines around the future development of wetlands and had a greater understanding of the benefits and costs.

It was serendipitous, as not long after the Envirolink project was completed the dairy company Fonterra approached Hawke's Bay Regional Council with a scheme to invest in 50 catchments throughout the country to improve water quality.

*Fonterra approached the Council to discuss ideas to make water quality better? Where [could they] focus their investment to help the most? And we were able to refer to the Envirolink grant, which said we need to build this much wetland.' They immediately provided \$30,000 to help us find suitable sites and then just a couple of weeks ago they were able to offer \$150-grand for you to build a wetland.' (Respondent comment)*

## Envirolink science advice has influence and impact

140. The evaluation looked at whether regional councils were:
- making evidence-based decisions from the Envirolink research advice that was shared
  - managing local environments more effectively based on the research advice
  - using the science knowledge to benefit the communities they have responsibility for.
141. The evaluators rated the influence and impact that Envirolink has on regional council decision making processes and management of their local environments as **very good**.
142. Envirolink plays a crucial role in contributing to regional councils' planning and supports them to develop policies that reflect current research knowledge. It enables regional councils to look towards the future and to be intentional and proactive about areas in which they choose to engage.

*Envirolink is providing an impetus, a catalyst for the regional councils and the various scientific disciplines and policy disciplines within regional councils to actually come together you know in terms of a single point, a single funding mechanism, a single group of recognised priorities. It all comes together beautifully. (Respondent comment)*

## Evidence-based decision making by regional councils

143. Respondents' comments confirm that regional councils are making evidence-based decisions as a result of obtaining scientific advice through Envirolink. The information or advice gives councils more confidence in the processes they undertake to look after the environment. Some respondents mentioned it also gives them confidence to respond to the community.
144. Envirolink supports more than science decision making. It provides a pathway for regional council staff working in the areas of policy, planning and communication to access information that enables them to undertake their responsibilities efficiently and accurately.
145. Most respondents recognised that each Envirolink research report or project does not lead to an issue being completely resolved by a regional council. But what it does do is give much-needed advice that a regional council can take into consideration when planning possible responses to a problem.

*Envirolink has been a part of just the general recognition of the need for good science for good decision making. And that is not something that you do overnight or quickly or easily. I think just the awareness of the importance of science is definitely changing and that is pretty evident. ... I guess that happens through time, but I think Envirolink has actually been a big part of showing the importance of science. (Respondent comment)*

146. Respondents reflected that the Envirolink advice given can ensure the best decision and direction is taken based on available science knowledge at the time, and they valued this contribution. Examples of where Envirolink advice has influenced council decision making include:
- Understanding the most appropriate air quality models to purchase based on applicability, cost and council need
  - Understanding the best drought resistant trees to plant following a drought
  - Getting buy-in from landowners to make changes to farming practices by presenting spatial mapping of hydric soils, wetlands and water bodies
  - Finding more efficient ways of burning crops following harvest to avoid spreading disease and to reduce impact on communities
  - Developing:
    - restoration plans for shallow and deep lakes and explaining how the community can help
    - regional climate change projections to grow awareness and understanding amongst communities of the likely impacts
  - Forecasting groundwater levels so water users are better placed to make decisions around water use over the forecast period.

### *Local environments are managed more effectively as a result of Envirolink*

147. Regional councils need to operate in a way that meets government and community expectations. Managing local environments is an enormous responsibility and requires support and advice from several areas including: Ministry for the Environment, Environmental Protection Authority, NGO's, and Department of Conservation. Respondents all agree that Envirolink is a critical resource for regional councils and makes an important contribution to providing advice and tools than helps them manage the environment more effectively.
148. For example, to provide national consistency in the assessment and prediction of estuary eutrophication, regional councils recently championed the development of an Estuary Trophic Index (ETI) with support of an Envirolink tool grant. Developed by NIWA, Wriggle Coastal Management, regional council coastal scientists and Hume Consulting, this tool enables users to determine the susceptibility of an estuary to eutrophication, assess the current trophic state, and assess how changes to upstream nutrient loads may alter the estuary ecosystem. Regional Councils now use this tool to report on their estuarine ecosystem in State of the Environment reporting.
149. Without Envirolink advice grants respondents felt that regional councils would be unable to respond to some of these requirements for national consistency. In addition, respondents felt that regional councils would be unable to respond to unplanned situations as they arise. Respondents suggested their ability to perform would be significantly compromised without Envirolink advice and tool grant support, as some key issues would not be dealt with due to lack of resources.

*We'd be in a lot of trouble. It's not big money, but it makes a lot of difference.  
(Respondent comment)*

### *Communities benefit through better use of science in regional council decision making*

150. Envirolink directly supports regional councils with advice to respond to communities, according to most respondents. Armed with research information and advice, regional councils can go back to their communities and share their knowledge. Often the need to seek advice results from a direct question from the community.
151. Envirolink advice can be used as a mechanism by regional councils to manage and maintain positive relationships with key stakeholders. An example of this occurred at a local community meeting, where landowners and council scientists were discussing the pressures on water usage, irrigation and the role landowners and managers can play in water conservation. Locals had concerns, particularly about the willows that protect local riverbanks. The willows were not native trees and locals had heard that "willows use a lot of water". At the time the Council scientists were unable to respond to these concerns, as water ecology is a vast field and they did not have that specialist expertise in-house. Therefore, the Council used Envirolink funding for advice to get answers for the community. Existing research provided as advice to the Council showed that willows may use significant amounts of water and are indeed "thirsty trees". This advice will be used to help focus further investigations and will be taken back to the landowners to look at possible solutions together.
152. The following vignette provides an example of ways Envirolink grants support regional councils to make evidence-based decisions, manage local environments more effectively, and ensure that communities benefit from council decisions and development. In 2019 environment Southland received a medium advice grant (\$20,000) to identify the key environmental considerations for dairy effluent irrigation systems and establish criteria to assess whether a dairy effluent system is realistic and practical. This advice was obtained to help the Council to develop a template which would also contribute to national consistency in how new effluent irrigation technology is assessed through regional councils' resource consent processes.

## Vignette #5 Influence and Impact

Regional councils are making evidence-based decisions, managing local environments more effectively, and ensuring that communities benefit from council decisions and development.

### The need

The dairy industry plays a significant role in the New Zealand economy. In 2017–18, \$15.1 billion export revenue was earned from dairy products, and 46,000 people were employed. Dairy contributed 28% of the total value that New Zealand earned from its merchandise export – two and half times more than meat and three times more than wood. With a total of 1.76 million hectares in dairy production, there are significant impacts on water quality and water environment that need to be managed and monitored. New Zealand regional councils are responsible for managing the environment effectively, supporting land managers to implement sustainable practices. They also have a role in supporting economic activity. To meet these responsibilities, Environment Southland works with dairy farmers and the New Zealand dairy industry to advise on grazing buffers and other good management practices to achieve the community's goals for water quality and dairy farmers' compliance with their resource consent conditions.

Regional councils also assess resource consent applications from dairy farmers to determine the level of environmental effect dairy activities may have and assess this against current policy to see whether the scale of effects is appropriate. To do this Environment Southland requires up-to-date information and knowledge to support policies, plans and rules on managing the impact of dairy in its community. Farm dairy effluent irrigation is a dairy activity that needs to be assessed to make sure that the systems are “realistic, practicable, deliver high standards of environmental performance, and that the effects of discharge using these systems are able to be assessed” (Monaghan & Laurenson, 2019 p.2). Consent also requires that consenting staff have a consistent and robust assessment process in place.

### The response

To get help with this, via Envirolink, Environment Southland approached AgResearch to guide them in developing a farm dairy effluent consent assessment template. This consent template aimed to provide guidance for farmers when applying and adopting new farm dairy effluent technology. The assessment criteria were also helpful for regional councils providing them with useful guidelines when reviewing applicant information.

### Outcomes

The Council received information that enabled it to develop practical quality-assessment protocols for guiding farmers and consenting staff. This information was shared through workshops with farmers and industry groups. Having trusted researchers lead some of those conversations was of great value.

*One of the key [reasons for] its success was having researchers that were trusted and seen as independent. And at that time ...[based on our current in-house capacity this work would] never have happened without Envirolink. (Respondent comment)*

With accepted background material and information on the minimum criteria needed to assess an effluent system against key environmental considerations, the Council could respond appropriately to the dairy farmers. The consent assessment framework was implemented into Council processes. The Council have confidence in their ability to manage the environment and make good decisions, as they are applying nationally accepted thinking around good practice.

*[Envirolink] has been hugely beneficial in terms of helping us develop policy... There is a direct correlation around that work and what has gone into our policy framework... I think in terms of the benefit in helping improve our policy processes, it has been huge. (Respondent comment)*

Having current knowledge supports the Council's engagement with local farmers and the community who may have concerns. It also contributes to a broader pool of knowledge commissioned through Envirolink including the dairy manures and slurries tool programme.<sup>20</sup> The knowledge transferred has helped significantly progress and confirm robust management practices for regional councils.

*I think Envirolink has been quite key in [addressing] some of those knowledge gaps to help to get to this point. [Otherwise] it would be difficult to get into that space where [we are] having those sorts of conversations – which turns into the action on the ground. (Respondent comment)*

<sup>20</sup> <http://www.envirolink.govt.nz/assets/Envirolink/Characterising20Dairy20Manures20and20Slurries.pdf>

## KEQ 3: Envirolink provides value for money for New Zealand

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### Introduction

153. In this section, we look at the ways Envirolink provides value for money for New Zealand. Value for money is concerned with how well resources are used, what value is derived from the resource use, and whether the resource use is “worth it”, bearing in mind the opportunity cost (foregone alternatives) of the resource use (King, 2017).
154. Envirolink’s value-for-money proposition is that it supports regional councils to take up existing environmental science knowledge and put it into practice. It is expected this should lead to better decisions, leading in turn to better outcomes (which could include environmental, economic, social, and cultural outcomes). Envirolink aims to enhance the effectiveness of things regional councils would be doing anyway; in value-for-money terms, a relatively small investment in Envirolink should leverage to more effective science informed use of the much larger pool of resources that regional councils manage in carrying out their various statutory functions. In essence, Envirolink’s value-for-money proposition is about leverage.
155. To assess value for money, we examined:
- what resources were used
  - how productively the resources were used
  - the extent to which Envirolink achieved its intended aims
  - the 'additionality'<sup>21</sup> of Envirolink’s outcomes and
  - the extent to which enough outcomes were achieved to justify the costs.
156. Economic evaluation is outside the scope of this project. We have evaluated these five aspects of value for money based on the available information. The rest of the chapter explores the evidence we have and the claims about value for money we can make based on that information.

### The resources used

157. In order to fully understand the resources used we would need to quantify:
- direct costs of the Envirolink fund
  - administrative costs borne by MBIE and regional councils
  - how Envirolink affects wider costs, such as whether it catalyses additional input from volunteers or donors, or additional compliance costs for industries, over and above those that would have happened without Envirolink.
158. In this evaluation, we only know the direct costs of Envirolink grants, which are \$1.6m per year. Qualitatively, however, we also understand that regional councils incur some administrative costs when applying to the fund and share the cost of the Envirolink Coordinator. In proportionate terms, the overhead costs of the application and approval processes are likely to be relatively high in comparison to the value of the smaller grants, and we suggest this be investigated further to determine whether a more streamlined process is warranted for the smaller grants.
159. It is also apparent that advice grants generally offer mitigation strategies or possible actions that have flow-on costs associated with them. *Vignette 1– Building Science Capacity* illustrates how advice and research knowledge in one area also impacts on other environmental sectors which may include associated costs in new operation standards. In some cases, the costs to other players in the sector are likely to well exceed the costs of the fund itself. To fully understand these costs and resultant benefits would require regulatory impact analysis of each intervention.

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<sup>21</sup> “Additionality” is a way we assess value for money in evaluation, but was not part of the current terms of reference for Envirolink.

## Findings suggest resources were used productively

160. In coming to understand how productively the resources were used to produce outputs, we looked at three types of efficiency (NZ Productivity Commission, 2017):
- Allocative efficiency ('doing the right things'): how, and how effectively resources are allocated to projects targeting relevant needs, with appropriate designs and budgets, bearing in mind potential impacts and risks
  - Technical efficiency ('doing things right'): to what extent projects are completed within budget and deliver their intended outputs
  - Dynamic efficiency ('doing things right and the right things over time'): how, and how well the fund responds to emergent opportunities and risks.
161. Allocative efficiency: From available evidence, we see that Envirolink is well-coordinated, with a fund co-ordinator who works closely with councils to ensure projects are relevant and have potential impact and value. Funds are distributed to each council based on a clear process and decision criteria, which involves three levels of approval; firstly from the Envirolink Coordinator and Envirolink Governance Committee and secondly and thirdly from two levels of MBIE staff (pp. 8-11). There are also a few tools projects of up to \$500,000 in value each year, and these are agreed by all regional councils. These fund distribution processes are designed to promote good allocative efficiency, i.e. an efficient mix of project investments by Envirolink. Moreover, respondent feedback indicates that the projects are fit-for-purpose and meet the needs of regional councils.
162. Balancing allocative efficiency with equity considerations, since 2014 the selected regional councils have each been initially allocated an annual \$150,000 funding pool to undertake Envirolink projects, with a view of giving each council an equal opportunity for funding. Grants are open throughout the year, allowing councils to make advice requests as they are needed. Later in the year unused funding is opened up to the wider council group allowing select councils to make requests for less urgent advice.
163. Technical efficiency: Our data also shows that providers completed and delivered contracted Envirolink advice grants and tools. Furthermore, projects were delivered with high satisfaction. Those responding to the self-completion survey at the end of each small to large advice grant gave a rating of four or five out of five (where one is worst and five is the best rating) for:
- 92% expected the research will be used in Council
  - 94% said the research provider delivered what was expected
  - 98% were satisfied with quality of Envirolink coordinator engagement
  - 90% were generally satisfied with that particular project overall.
- This suggests effective use of the resources allocated to projects.
164. Dynamic efficiency: Stakeholder feedback suggests that Envirolink advice grants are flexible and responsive. Councils can ask for advice grants to respond to emergent opportunities. Where requests fit within the criteria, they are processed quickly. However, there is potential to expand the dynamic efficiency of Envirolink. For example, in a situation where a project could add significant extra value with a little extra funding this is only available under certain conditions, and respondents call for the scope to be widened.

## Envirolink appears to achieve its intended aims

165. Our effectiveness evaluation (based on answering KEQ 1 and 2) found that Envirolink science advice is an important enabler for regional councils to build science capacity. Envirolink also helps councils form collaborative relationships, share knowledge and find practical solutions to local problems based on working on science advice together. As a result, councils can make evidence-based decisions from Envirolink-enabled knowledge.
166. The effectiveness evaluation demonstrates that Envirolink is meeting its value for money proposition by achieving its intended aims. This is necessary, but it is not sufficient to show that Envirolink provides value for money.



## Evidence suggests Envirolink makes a positive contribution that would not happen without the fund

167. We also evaluated the 'additionality' of outcomes. We define 'additionality' as "where additional research, progress, and impact can be generated by collaborative research" (MBIE, 2013, p.1). as this is the definition also used for the National Science Challenges. In evaluating the 'additionality' of outcomes, we also considered to what extent the outcomes might have happened without Envirolink. The vignettes provided potent examples of decisions made as a direct result of projects enabled by Envirolink. Nevertheless, it is worth considering:
- *Deadweight*: To what extent would the same outcomes have been achieved without Envirolink? Some stakeholders within MBIE wondered if councils were using Envirolink to fund activities councils would have funded anyway. Respondent feedback suggested that without Envirolink, selected regional councils would be more restricted in what they could do. Respondent feedback suggested councils would struggle to meet the demands of the community and to respond to the range of environmental issues that they regularly face without Envirolink. Less support would compromise managing and monitoring environments and some in regional councils said they would not be able to fulfil their duties properly. Inconsistencies in monitoring across regional councils could also have a negative impact on the state of the New Zealand environment.
  - *Shared effects*: To what extent did other initiatives contribute to the outcomes? Should Envirolink share the credit with other enablers? Or is it the only enabler in this space? Respondents are clear that Envirolink is the most useful knowledge transfer fund available to some select regional councils. The multiple relationships and collaborations made through Envirolink between select regional councils and research providers helps leverage the outcomes from the continuing support and advice in topic areas. As it is a regional council-driven scheme, councils have a particular interest in its success. Feedback from respondents suggests other funds mentioned did not enable regional councils to access much-needed advice, particularly in relatively short timeframes. Respondents also thought a centralised fund supports improved knowledge sharing.
  - *Gains through positive externalities or spillovers*: Has Envirolink catalysed regional councils or others to take actions beyond the funded projects that would not otherwise have occurred, and which benefit third parties? Where possible regional councils extend invitations to other councils to attend workshops and presentations. Conferences are a good way to share Envirolink projects, and there are examples of all councils taking action based on completed advice grants. *Vignette 5 – Influence and impact* is a good example of regional councils acting beyond the Envirolink project and participating in a development that may not have happened due to the cost. Having an environmental focus, all projects stand to benefit local and regional communities.
  - *Losses through negative externalities/spillovers*: Has Envirolink diverted regional council resources away from more productive uses or caused unintended harms, or costs to third parties? In general, Envirolink directs council resources *toward* productive uses through access to sound science. Envirolink projects can have unintended impacts or outcomes. *Vignette 4 – Usability of research* illustrates how research into a topic (in this case, sedimentation) provides good solid information for decision making. The research also informs future developments in industries such as aquaculture. However, the research resulted in wider implications for the forestry industry. Further, initial advice received by the regional councils may require additional costly and complex procedures to resolve issues, such as in the willows example described on page 31.
  - *Sustainability*: To what extent are the impacts achieved through Envirolink to date likely to have enduring impacts on the ways in which councils use environmental science knowledge in decision making? Regional councils are applying the science advice directly into planning and policy which has a long-term impact on what and how the council will monitor and manage their local environments. Respondents say that Envirolink has been key to getting



the councillors to understand the need to invest in areas of which they have little knowledge and understanding. Through Envirolink councillors can see the long-term impacts of their decisions.

168. Overall, our evidence suggests that Envirolink makes a significant positive contribution that would not happen without Envirolink. Respondents were clear about this in their responses to our question, “If Envirolink did not exist how would regional councils address their information needs? And what would we lose if Envirolink did not exist?” Many respondents suggested Envirolink helps councils be more intentional. One respondent reflected that although the fund is “not big money, ... it makes a lot of difference”.

### There appear to be ‘enough’ outcomes achieved to justify the costs

169. Ideally, economic evaluation (such as a cost-benefit analysis or break-even analysis) would inform an assessment of whether the end-impacts (environmental, economic, social and cultural) are likely to exceed the opportunity cost of the resources used. However, the use of these methods is beyond the scope of this evaluation.
170. Instead, the evaluators need to judge whether the nature and extent of Envirolink’s outcomes (over and above outcomes that would likely be achieved without Envirolink) are sufficient to justify Envirolink. Our evaluation shows strong performance across all criteria, with a rating of **very good** overall. Evidence suggests that without such a dedicated fund, significant and widespread benefits would not be achieved. The vignettes provide specific examples to illustrate the ways that Envirolink adds value. Other evidence across advice grants, feedback from respondents and the Envirolink database indicates similar effects across multiple projects at every regional council.
171. Our impression, and many stakeholders’ impression, is that Envirolink probably returns value well over its direct funding, through the decisions made. However, without economic evaluation it is not possible to definitively judge the exact relationship of benefits to costs, nor the threshold of benefits that would represent “good enough” value for money.
172. A further aspect of value for money not demonstrated in traditional measures of efficiency, is equity (King, 2017). To what extent does Envirolink act as an enabler of more equitable outcomes? Envirolink does give the smaller regional councils a voice and a place at the table to share in discussion with larger councils. However, there is still a need to engage with and develop partnerships with Māori. Respondents recognised the opportunity to address the lack of information and involvement in mātauranga Māori that is still present in regional councils’ decision making.

### Conclusion

173. The economic efficiency of the Envirolink Scheme is not evaluated. However, resources of \$1.6 million per annum were appropriated for Envirolink on a set of expectations that our evaluation finds were well met. We conclude that Envirolink delivers on its value-for-money proposition and is likely to provide good value for money.

## Opportunities for the future

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174. The evaluators identified several opportunities for the future related to; improving the administrative efficiency of the fund, increasing the overall funding, raising the grant levels and continuing to fund select research agencies rather than opening the fund up to independent consultants. As well, respondents suggested ways to extend the scope of the fund.

### Opportunities for the future

175. **Improve the administrative efficiency:** the evaluation findings suggest taking a deeper look to identify ways to streamline administrative processes as much as possible to reflect the modest value of the grants. As already noted, the overhead costs of the application and approval processes are likely to be relatively high compared to the value of the smaller grants. Possible approaches could include redesigning the application forms and reducing the number of levels of approval for some advice grants.
176. **Increase the overall funding:** The evaluators suggest considering increasing the overall funding of Envirolink for four reasons. First, the cost of advice from the providers has increased and therefore we suggest the funding needs to at least match the inflation index. Second, some of the large science funds run by MBIE and MPI are likely to drive an increase in the volume of data and information delivered. Therefore, the pool of science knowledge available for transfer has increased. Third, the respondents and providers told us of the increasing complexity of issues the councils are facing, and small grants do not go as far as they could. Fourth, Central government's expectations of local government in general have also increased.
177. **Raise the advice grant levels:** To continue to provide a similar impact and value across all grants, respondents suggested raising the advice grant levels to reflect the market increases in contracting research providers to complete the projects. Respondents suggested increasing funding levels as follows:
- small advice grants of up to \$5,000 to \$10,000
  - medium advice grants of up to \$20,000 to \$40,000
  - large advice grants of up to \$40,000 to \$80,000.
178. Furthermore, additional support may be required by the regional councils to respond to the considerable pressure they report being under to incorporate new environmental legislation and regulatory requirements.
179. **Continue to fund select research agencies rather than opening the fund up to independent consultants:** Government advice grants do not subsidise work that independent consultants should do. Currently the research agencies providing tools and advice do at times subcontract independent consultants to undertake some of the work. This occurs because there are few people available with the technical skills for some projects contracted this way. The current system means independent consultants cannot access funding other than through approved providers. While subcontracting is more expensive, it restricts the pool of providers offering services through the fund to the Crown Research Institutes and Universities. This ensures the science advice provided to select regional councils aligns with the ongoing work of the Crown Research Institutes and Universities.

### Opportunities to extend Envirolink's influence

180. There are several ways the Envirolink could extend its influence. Some are areas of untapped opportunity; others would mean broadening the scope of Envirolink.
- **An untapped opportunity is for Envirolink to support knowledge transfer of environmental mātauranga Māori:** In general, respondents recognised a need for mātauranga Māori to become more integrated into regional council planning and policy development, and the

evaluators received feedback about this. Envirolink can already actively support knowledge transfer of environmental mātauranga Māori. The evaluators found untapped potential for select regional councils to draw on environmental mātauranga Māori advice. Some respondents identified that use of environmental mātauranga Māori advice may help them to further develop partnerships and relationships with Māori/hapū/iwi. Currently there are few Māori researchers to provide environmental mātauranga Māori advice within the current provider pool. One possible solution may be to extend the panel of providers to include leading Wānanga to meet this unmet need.

- **Allow advice grant funding to test the advice received:** At times respondents from select regional councils said they need to test if the advice they have received works in practice (which they called “ground-truthing”). This involves taking advice and applying an aspect of it (such as a set of monitoring indicators) and calibrating data. At times respondents said they need to collect small amounts of new data to run these tests. Currently new data collection is of scope for Envirolink, but respondents called for extending the scope to allow for testing of advice. This is not a request to subsidise RMA research but for regional councils to check the advice developed from existing science fits their circumstances.
- **There is an unmet need to provide science advice to respond to hazards:** Some respondents thought there is a gap regarding where the selected regional councils can source science knowledge and advice about natural hazards. Some respondents wondered if that information might be sourced via Envirolink. This observation may warrant further investigation as a broader policy issue to determine if there is an area of market failure in the funding of natural hazards knowledge and advice.

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## Appendix: Method details

### Data sources used for the evaluation

181. The following table details the sources of data for this evaluation.

Table 4: Summary of data sources for this evaluation

Data sources	Number of people
Scoping discussions with MBIE, and the Envirolink Co-ordinator	4
Interviews of between one and one and a half hours with scientists from <ul style="list-style-type: none"> <li>• Councils</li> <li>• Research providers</li> <li>• Governance/Special Interest Group</li> </ul>	9 12 3
Workshop with MBIE and MoE staff: comparing the Envirolink fund with other funds to identify its unique value over one-and-a-half-hours	5
Sense-making session with team members from MBIE, MoE and with the Envirolink Co-ordinator; over two hours.	8
Additional data sources	
<ul style="list-style-type: none"> <li>• Review of the Envirolink database</li> </ul>	
<ul style="list-style-type: none"> <li>• Review of project completion self-completion surveys over last 5 years (n=141 responses)</li> </ul>	
<ul style="list-style-type: none"> <li>• Review of key documents provided by MBIE, the Envirolink Co-ordinator and various regional councils</li> </ul>	
<ul style="list-style-type: none"> <li>• Review on online information providing context to Envirolink, and information about the other funds described in this report</li> </ul>	

### Response rates

The evaluation achieved a 100% response rate for interviews with scientists. All regional councils approached made a key person within their team available to take part in the evaluation, as did the research providers. There were three people contacted who suggested a replacement person for interview, who they thought would provide better information. In the case of the providers, in one instance three people participated in an interview to offer a broader perspective.

### Involvement from Envirolink Co-ordinator and MBIE

The Envirolink Co-ordinator was available for discussions at the scoping stage, in helping access those with a range of experience of Envirolink, provided detail on administrative processes, provided a well-kept administrative database, up-to-date contact list with current phone numbers and email addresses. The Envirolink Co-ordinator had all the documentation required by the evaluators, including the original documentation establishing the fund. The Envirolink Co-ordinator; stores the administrative information in the cloud, makes most of the reporting available on the website – and has a risk management process that allows for regional councils to retrieve the files if he were to become unavailable for any reason.

The MBIE team also made themselves available throughout the evaluation. We met those responsible for administering the fund from within MBIE as well as those with a policy perspective.

## Appendix 2: List of all tool projects contracted to date

Provider	Project name
U of C	Stream habitat assessment
LCR	Threatened environment
NIWA	River management
NIWA	Extending clues
NIWA	Stream restoration
AgRes	LUC handbook
Massey	Fish monitoring protocol
LCR	Land and soil monitoring - SINDI
LCR	Pest management prioritisation VPDS
LVL	Aquifer monitoring framework
NIWA	Coastal hazard assessment
LCR	SINDI extension
ESR	Virus tool for groundwater protection
Cawthron	Sedimentation and instream values
LU	Uses and values of water bodies
NIWA	Incentives for air quality
NIWA	Guidelines for artificial lakes
NIWA	Coastal habitat
LCR	S-map - Soil data tool to underpin dairy farm management
LCR	NZ land use database and classification
Cawthron	Microbial source tracking for faecal contamination of coastal catchments.
AgRes	Characterising dairy sludges and slurries
NIWA	Update in-stream plant and nutrient guidelines
LCR	Pest management outcomes
GNS	Capture zone guidelines for hydrological features

AgRes	Soil quality indicators: the next generation
GNS	Risk-based planning
LCR	Monitoring terrestrial biodiversity
Massey	Web-based tool for managing all relevant spatial tools
NIWA	National environmental monitoring standards
NIWA	Maximising the effectiveness of farm plans
LCR	Guidelines for monitoring land fragmentation
NIWA	Regional flood estimation in New Zealand
LCR	Interoperable S-map
NIWA	Review of the New Zealand instream plant and nutrient guidelines and development of an extended decision making framework: Phase 3
NIWA	Estuarine Trophic Index
NIWA	Estuarine trophic index
NIWA	Background concentrations and soil guideline values for the protection of ecological receptors
LCR	Background concentrations and soil guideline values for the protection of ecological receptors
NIWA	NEMS water quality standard
NIWA	Upgrade NZ high intensity rainfall design system (HIRDS)
NIWA	Aquatic weed management best practice guide
NIWA	A review of the marine contact recreation water and shellfish gathering guidelines.
NIWA	Development of a national fish passage assessment protocol and data management tools
LCR	Protocol and methodology standards for farm scale soil mapping
NIWA	Cost effective tools for monitoring urban waters
Scion	Mobile technology to enhance public participation in weed surveillance
LCR	Improving Uptake of Decision Support System (DSS) Tools
LCR	Wetland Delineation: Soil Tool Development
Cawthron	Molecular tool for detecting fish species in freshwater



NIWA	Satellite MODUS-Aqua Coastal Water Quality Tool
NIWA	Measurement of total flow in weedy lowland streams