

and Mr John Youngson, the researchers suggest that the present-day geographic distribution of *Galaxias gollumoides* reflects the ancient drainage pattern of the Nevis River.

As a further refinement, they find that, cut off from each other, the fish of the Nevis River and those on the Southland Plain rivers have evolved apart, ever so slightly. By reading the molecular clock in this fish's DNA, Drs Wallis and Waters reckon the two lineages split or evolved apart about a million years ago. In this way, the biologists have given the geologists a date when the Southern Alps were being rapidly pushed upwards.

Drs Wallis and Waters have more galaxiid evidence of river-beheading further north. The Kaituna River in Marlborough used to flow south into the Wairau River. With the Marlborough Sounds tilting and sinking, the Kaituna River began to flow in the opposite direction to the north and into Pelorus Sound. Though long cut off from each other, the Wairau and Marlborough Sounds galaxiids are genetically very close to each other and quite different from lineages further north. There is more evidence that the Buller River captured some Marlborough rivers, along with their galaxiid species, in the region of the Nelson lakes.

These Otago biologists and geologists have found this interdisciplinary work very stimulating. Working together they find that they can better reconstruct the past than either could do in isolation.

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Ongoing effects of Marsden funding: survey results

The Marsden Fund aims to enhance New Zealand's underpinning knowledge-base, contribute to the global advancement of knowledge, broaden and deepen New Zealand's research skill-base and enhance the quality of the research environment. These are long-term effects that we hope will continue beyond the duration of each funded project. With this in mind, in September this year we contacted 341 past and present principal investigators, asking five open-ended questions* about flow-on effects of Marsden-funding. One hundred and seventy investigators replied; this is a 50% response rate which we consider to be excellent, given that no reminders were sent.



*Andrea Knox,
Evaluation Officer*

For each question, we identified emerging themes, then calculated the percentage of responses that identified with each theme. The table shows results of this analysis.

"Funding has had a profound effect on my overall research group. Although direct funding was provided for three people, it dramatically broadened the skill base within my lab group and allowed some of those skills to be transferred to other projects. Through our raised profile we have attracted considerable interest from a range of international researchers and have, to date, formed two international collaborations on projects unrelated to our Marsden project."

Main findings:

- The vast majority of respondents stated that their Marsden-funded research had effects beyond the boundaries of the project funded. These effects included changing the research group's direction (32%), strengthening capabilities for further research (27%), initiation of new research collaborations (17%), and feeding into applied research or commercial ventures (22%).
- 58% of respondents stated that Marsden funding either had caused, or is anticipated to cause, a long-term increase in the research capabilities of their group.
- In addition, 30% felt that the funding had or would result in a long-term increase in the size of their group. However, a smaller but still significant number expressed the view that the funding had or would result in only a temporary increase in the size or capabilities of their group, some explaining that this is because money is not available to sustain gains once the Marsden contract has finished.
- 90% stated that the Marsden funding had a positive impact on their career or the career of others on the project. Examples of positive impacts include: postdocs subsequently securing independent positions leading their own research groups (9%), promotion of a principal or associate investigator (14%), and postdocs, students or research assistants securing or anticipating being able to secure further research employment (22%). Although they were not specifically asked this question, 10% of respondents stated that the Marsden funding was a significant factor in retaining or attracting a trained researcher to New Zealand.
- Marsden funding is identified as having led to funding from other sources in 43% of the replies. Of particular note, are several instances in which it led to funding from overseas agencies, e.g. funding for project expenses and/or equipment (8%), student or postdoctoral stipends (5%), conference and travel expenses (5%).
- Answers to several questions revealed the value placed on the fact that Marsden funding allows opportunities for establishing connections and collaborations with other research groups both in and outside of New Zealand. This was identified by 17% of respondents as a way in which Marsden funding had fed into or changed their research, and by 30% as a factor in increasing the capabilities of the group.
- When asked for "other comments", 77% made positive remarks about outcomes of Marsden-funding, and 21% requested that more money be allocated to the Fund.
- Also in the "other comments" section, 14% suggested changes to the size or duration of Marsden grants. Of these, 3% wanted a larger number of smaller grants to be awarded and 10% wanted an option to be established for either renewing successful grants, or awarding some grants for longer time periods.

"I returned to New Zealand from a position at a prestigious, well endowed overseas university where my research was well funded. I have stayed in New Zealand, despite attractive offers from abroad, due to the Marsden funding I have received."

We would like to thank all who replied; your answers have given us very valuable information. Please be assured that responses have not been and will not be used to assess individual projects. In our report to MoRST (which was forwarded to the Minister) we used the aggregated data to show a range of ongoing effects from Marsden funding. For our own purposes, these data give us a starting point for future more detailed evaluations of the long-term effects of the Marsden Fund.

* A sixth question asked if funding had led to a landmark paper, patent, commercial or other spin-off. The purpose of this question was to gather examples of a few very significant outputs to be presented (anonymously) in our report to MoRST. We have therefore not included its

analysis here. Some respondents were concerned that this question might in part be an attempt to justify the Marsden Fund on commercial grounds. However, commercial outcomes play no part in the assessment of Marsden projects and there is no suggestion that they should in future. The intention of the questionnaire was to evaluate the effect of Marsden funding across the whole spectrum of projects, so we felt it was reasonable to ask about commercial spin-offs among others.

<i>Has the Marsden research fed into or changed your other research? If so, please explain how.</i>	149 responses
· Strengthened capabilities for further research	27%
· Changed research direction or led to a new project in a different area	32%
· Changed how we think	11%
· Led to collaborations with other research groups	17%
· Fed into or helped in obtaining funding for commercial ventures or more applied research	22%
· No/not yet/no other projects/other projects unrelated	21%
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<i>Has Marsden funding had any long-term effects on the size or capabilities of your group?</i>	132 responses
· Increased or is anticipated to increase the group's capabilities long-term	58%
· Increased the group's capabilities but this was or is anticipated to be temporary	5%
· Increased or is anticipated to increase the group's size long-term	30%
· Increased the group's size but this was or is anticipated to be temporary	15%
· Raised the prestige or profile of the group	11%
· Increased communication or collaboration with other researchers	30%
· Reduced the size of the group	1%
· No	9%
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<i>Has Marsden funding influenced your career or the career of others on the project?</i>	146 responses
· Yes, positive impact (some reasons are below)	90%
· Believed to be a significant factor in the promotion a principal or associate investigator on the project	14%
· Trained researchers to the point where they attained independent positions leading their own research groups	9%
· Trained researchers to the point where it is anticipated that they will attain independent positions leading their own research	6%
· Postdocs/students/research assistants trained on the project have taken up or are	22%

· anticipated to get further research positions	
· Significant factor in retaining/attracting researchers to New Zealand	10%
· Significant factor in the decision of a researcher to continue their research career	8%
· Enhanced a researcher's standing in the scientific community and/or consolidated their position within their institute	25%
· Negative impact	2%
· No	7%
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<i>Has Marsden funding led to other funding? Please specify</i>	155 responses
· Yes (some types of funding specified below)	43%
· NERF/Other FRST/HRC	12%
· Internal funds from Institute	9%
· Other New Zealand funding sources	7%
· NZ funding for postdocs/students	8%
· NZ support for conference attendance	1%
· Commercial funding	3%
· Overseas funding for equipment and project expenses	8%
· Overseas funding for postdocs/students	5%
· Overseas funding for conference and travel expenses	5%
· Overseas funding of unspecified type	2%
· No/not yet	57%
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<i>Other comments</i>	103 responses
· Positive comments about outcomes of Marsden funding	77%
· Suggest that the Marsden Fund be allocated more funding	21%

· Express concern about the fairness of the grant selection process	6%
· Express a belief that the selection process is fair	2%
· Suggest changes to size and duration of grants awarded (categories below)	14%
· Suggest that grants may be awarded for longer than 3 years, or that a system to renew successful grants be established	10%
· Suggest a larger number of smaller grants be awarded	3%
· Would like less money to be cut from budgets when grants are selected	2%
· Express concern about the commercial focus of the New Zealand funding system	6%

Points to note when interpreting this table:

- Percentage values indicate the percent of answers in accordance with a particular theme. Some answers were categorised into more than one theme.
- Each question has fewer than 170 responses because some respondents either did not answer the question, or stated that the question was not applicable to them (often they felt that it was too early to be able to answer at this stage).
- The questions we asked were very general, thus details were volunteered by respondents, not specifically asked for. Therefore, when a particular detail is not volunteered, it may be because the respondent did not think to mention that point. Thus, while these answers provide us with excellent qualitative data on a range of issues relating to Marsden-funded research, only limited quantitative conclusions can be drawn

Ideal standards in intimate relationships

Laypeople and scientists alike are fascinated by how and why people choose the mates they do, and why such selections turn out to be inspired or disastrous.

In a Marsden-funded research programme, Professor Garth Fletcher at the University of Canterbury and his colleagues (especially Professor Jeffrey Simpson at Texas A & M University) have been investigating the role played by ideal mate standards in answering such questions. Using a statistical technique called factor analysis, they have established that ideal mate standards in the US and New Zealand come in three basic categories: personality factors related to intimacy, warmth, and commitment; a second set related to passion, attractiveness, excitement, vitality and sex; and a third set related to status and resources such as age, money, job, possessions, and so forth. They have also developed reliable scales to measure these three ideal categories.



Individuals differ substantially in the importance they attach to each kind of ideal standard. Why do people not want it all? Why is Jane's ideal partner not incredibly kind, handsome, remarkably fit, with a wonderful body - and rich? Firstly, such people might be plentiful in TV soap operas, but in real life they are remarkably thin on the ground.