



Date: 28 February 2019

To: Lou Sanson, Director-General of Conservation

CC: Bruce Parkes, Deputy Director-General Policy and Visitors
Martin Kessick, Deputy Director-General Biodiversity
Karen Deputy Director-General, People and Engagement

From: Lucy Alcock, Director Government Services

Subject: Question on political orientation in survey

Purpose

1. You have asked for a report responding to a request from the State Services Commission regarding a political orientation question included in a survey designed by DOC and Landcare.

Context

2. The Minister of State Services has asked the Commissioner to examine the circumstances that led to Inland Revenue commissioning a poll of taxpayers, which included a question about political affiliation. DOC subsequently referred a related issue to SSC, concerning a question in a survey designed by DOC and conducted for New Zealand's Bioheritage National Science Challenge.
3. SSC emailed DOC to get an understanding of the specific facts of the issues and advised that DOC can approach the investigation as you see fit.
4. Without limiting the scope of DOC's investigation, SSC expects DOC to look at:
 - a. The details of exactly what has happened, how the questions were asked and how the data was used
 - b. Why and how it occurred
 - c. At what level approvals were given
 - d. Whether these were within delegated levels
 - e. How senior management control was exercised
 - f. The processes for quality assurance (both technical QA and QA of appropriateness of content)
 - g. whether the management controls were consistent with your agency's normal practice.
 - h. Any other matters that come to light that DOC thinks SSC should be aware of
5. The question notified to SSC was question 27 in the 'BioHeritage Challenge' survey undertaken in September 2017, reproduced below.

Q 27. Please indicate where on the political spectrum you perceive yourself to be on a scale ranging from 1 (extremely liberal) to 7 (extremely conservative).

1 - Extremely liberal	2	3	4	5	6	7 - Extremely conservative
1	2	3	4	5	6	7

6. DOC designed the survey which was undertaken by Colmar Brunton, under contract to Landcare. Colmar Brunton tested the design, delivered the survey online in September 2017 and provided the results in agreed format to DOC.

Administrative arrangements relating to the survey

7. There are several agreements relevant to the survey. The dates of these are included in the chronology at Attachment 1.
8. The Government has 12 National Science Challenges¹ (NSCs) established in 2014 to tackle the biggest science-based issues and opportunities facing New Zealand. One of these is the New Zealand's Biological Heritage Challenge (NZBH).
9. The NZBH has 18 Collaboration Parties including universities Crown Research Institutes and two Public Services; one of which is DOC.
10. Landcare is the Lead Collaborator for NZBH. It receives funding from the Ministry of Business, Innovation and Employment to support a programme of work agreed by the Collaboration Parties.
11. Part of this programme is a project on: *Novel technologies, novel pest control perspectives* (project 2.6). Project 2.6 is an ongoing multi-agency effort to address public perceptions of the use of novel technologies for pest control. The aims of project 2.6 required a survey of New Zealanders to understand their opinions towards novel pest-control technologies and the underlying values, beliefs, and attitudes that influence their opinions.
12. On 2 March 2017, Landcare as Lead Collaborator signed a Memorandum of Understanding (MOU) with DOC detailing how the relationship would be conducted to execute project 2.6. The MOU established that DOC will provide the Project Leader and technical expertise for project 2.6. (Attachment 2).
13. On 10 March 2017, Landcare, as the 'Challenge Contractor' for project 2.6 contracted Landcare as the 'Lead Collaborator' to deliver project 2.6. The Lead Collaborator Work Schedule is at Attachment 3. DOC was not a party to that contract, but DOC's Director Planning and Support and the DOC Legal team were involved in determining the wording of the contract.

¹: <https://www.mbie.govt.nz/science-and-technology/science-and-innovation/funding-information-and-opportunities/investment-funds/national-science-challenges/>

14. The survey questionnaire was designed by the project team under DOC leadership. The team included staff from DOC, Landcare and from Otago, Victoria and Auckland Universities. The results are being analysed and reported by the project team under DOC's leadership.
15. On 12 July 2017 Landcare signed a contract with Colmar Brunton to deliver the survey listing a Landcare staff member as the Project Leader for that contract.
16. Colmar Brunton delivered the survey in September 2017. There were no DOC or Landcare identifiers displayed on the survey.

Why did the survey include a political orientation question?

17. Much of the current literature on public communication of science is based on United States research. In order to understand public attitudes to science in New Zealand it is necessary to determine the degree to which US research applies in the New Zealand context.
18. Based on international literature and over 25 years of research on public attitudes towards science, DOC developed a 20-minute on-line survey. The survey instrument/questionnaire covered 20 different 'constructs' one of which was political orientation (Q.27 reproduced above). This measure was one of the 20 chosen because there is significant evidence from the United States that political orientation is associated with opinions of environmental issues and trust in science.
19. The question did not prompt for party political affiliation, party preference or voting history. The question and analysis also do not seek to make any value judgements about any political orientation, but to better understand the underlying values that impact public opinion.

How will the results be used?

20. The overall findings have been shared publicly² and DOC's role in the research has been stated in research reports.
21. The results are still being analysed and will be submitted to international peer reviewed scientific journals. The results will be used to help inform strategies designed to better engage the public about novel technologies and issues surrounding their potential application in New Zealand.
22. As part of the NSC agreement, the survey questionnaire and data and survey are to be made publicly available at the conclusion of the research and following publication of the scientific papers.

At what levels was approval given?

23. There were two key approval points. The first was signing the MOU governing DOC's involvement in project 2.6; the second was finalising the survey.
24. The MOU was signed by the Director Planning and Support (a Tier 3 position) on behalf of the Director-General of Conservation.

² <https://www.youtube.com/watch?v=ARfRP-RIOQ>

25. DOC's Social Science Manager (Tier 4) was specified in the MOU as the Project Leader and had responsibility for finalising the survey design.

Were approvals given within delegations and at appropriate levels?

26. DOC Tier 2, 3 and 4 roles may enter contracts which are within the scope of their area of work responsibility, and in accordance with DOC's financial delegations.
27. The Director Planning and Support involved the DOC legal team in developing the MOU and acted within these delegations when he signed it on behalf of the Director-General of Conservation.
28. The relevant Deputy Director-General confirms that the nature and importance of the research was discussed at senior levels in DOC at the time and the Senior Leadership Team were aware that DOC would be leading the work.
29. Under DOC's operating model staff are required to operate within the boundaries of their professional and technical expertise. The Project Leader acted within her delegations in finalising the survey design as the content of the questionnaire was a technical matter within her professional social science expertise.

How was senior management control exercised?

30. The primary mechanism for management oversight of project 2.6 were one-on-one Monthly Operating Review sessions between the Project Leader and the Director Planning and Support.
31. The Project Leader used the meetings appropriately to update the Director on progress and flag issues. The Director did not recall any discussion of matters relating to question 27. He was clear that he would not have expected the Project Leader to seek his approval for the question or for any other technical matters such as survey design.
32. The Director in turn had the opportunity to discuss any matters of concern with the project in his Monthly Operating Review with his Deputy Director-General.

What quality assurance processes were in place (for technical matters and appropriateness)?

33. As noted above, the project team contained the expertise needed to design the questionnaire. The draft questionnaire was subject to iterative joint reviews by the Project Leader, Landcare social scientists and Colmar Brunton technical experts prior to being finalised and deployed.
34. The survey was not referred to the Landcare Social Ethics Panel. Landcare advises that the panel would have been unlikely to perceive an issue with the political question, because the question was embedded in the research methodology the Project Leader was advocating and so would have appeared as a legitimate question.

Were management controls consistent with DOC's normal practice?

35. Management controls were consistent with normal practice in DOC at the time. As discussed above, the Director held MORs at the appropriate frequency and used these as the mechanism to monitor performance.

Other matters - funding arrangements

36. Project 2.6 was funded from NSC challenge funding administered by Landcare. Attachment 4 is an addendum to the Collaboration Agreement for the Challenge that sets out conditions for DOC and MPI to be able to receive funds for research in relation to the challenge.

Methodology

37. The information for this report has been produced from review of key documents and discussions with key staff. We note that the findings are limited due to the time available and the absence of some key staff members.

Recommendations

1. Forward a copy of this report to SSC
2. Direct that all surveys DOC is involved in that collect psychographic data are approved at DDG level until further notice
3. Direct that DOC develops a policy for the content and approval of surveys that it directly commissions, and that it is associated with, once the SSC investigation has concluded and recommendations are made
4. Develop an approval mechanism for surveys in DOC to ensure that all DOC surveys meet appropriate political neutrality, privacy and ethical standards, for example through establishing an ethics committee

Attachments

1. Chronology
2. Memorandum of Understanding for the execution of the National Science Challenges Project: 2.6 Novel technologies, novel pest control perspectives
3. Lead Collaborator Work Schedule
4. Variation to contract
5. Contract for services between Landcare and Colmar Brunton
6. Addendum to the collaboration agreement for New Zealand's Biological Heritage National Science Challenge

Attachment 1: Chronology

Date	Item	Note
18 Nov 16	Funding for project confirmed	Letter from Landcare to Landcare
2 Mar 17	MOU for the execution of NSC project 2.6 agreed between DG DOC and Landcare	Signed by Jeffrey Cornwell (DOC) and [REDACTED] (Landcare)
10 Mar 17	Lead Collaborator Schedule for project 2.6 signed between Challenge Contractor (Landcare) and Lead Collaborator (also Landcare)	Signed by [REDACTED] (as Contractor) and [REDACTED] (as Lead Collaborator)
3 July 17	Social Science team moved into newly formed Biodiversity Group. Martin Kessick DDG, Jeffrey Cornwell remains as Director Planning and Support (including Social Science team).	Team was in Science and Policy under Bruce Parkes DDG
26 Jun 17	Landcare invoices DOC for additional co-funding for project 2.6	75,000 GST ex
12 July 17	Contract signed between Landcare and Colmar Brunton for delivery of the survey	
Sept 17	Colmar Brunton undertakes the survey	
14 May 18	Sharon Alderson becomes Acting Director of Planning and Support	
1 Aug 18	Landcare signs variation to the contract extending dates due to an increase in scope made possible by additional funding	[REDACTED] for Contractor and [REDACTED] for Lead Collaborator
6 Aug 18	DOC's Manager Social Sciences and project 2.6 lead Edy McDonald moves to the US and continues to work part time for DOC as a senior social scientist	Edy remains the project lead for project 2.6
22 Aug 18	Jeff Dalley becomes Acting Manager Social Science	



LANDCARE RESEARCH
MANAAKI WHENUA

MEMORANDUM OF UNDERSTANDING

For the execution of the National Science Challenges Project: 2.6 Novel technologies, novel pest control perspectives ("the Project")

PARTIES ("the Parties")

1. Director-General of Conservation
2. Landcare Research New Zealand Limited ("Landcare Research")

DATED: 2 March 2017

INTRODUCTION

The role of the Department of Conservation Te Papa Atawhai

The Department of Conservation Te Papa Atawhai is responsible for managing and promoting conservation of the natural and historic heritage of New Zealand on behalf of, and for the benefit of, present and future New Zealanders.

The Department will be working with iwi as its treaty partner, and recognises that it has a particular responsibility under section 4 of the Conservation Act to so interpret and administer the Act so as to give effect to the principles of the Treaty of Waitangi to the extent required under the Conservation Legislation.

The Department of Conservation is a Party to the Collaboration Agreement for the New Zealand's Biological Heritage National Science Challenge.

The role of Landcare Research New Zealand Limited Manaaki Whenua

Landcare Research is a Crown Research Institute. Landcare Research's core purpose is to drive innovation in the management of terrestrial biodiversity and land resources. Landcare Research is responsible for National Outcomes. The relevant National Outcomes are to:

- Improve the measurement, management and protection of New Zealand's terrestrial ecosystems and biodiversity, including those in the conservation estate.
- Achieve the sustainable use of land resources and their ecosystem services across catchments and sectors.
- Increase the ability of New Zealand industries and organisations to develop within environmental limits and meet market and community requirements.

Landcare Research is the "Lead Collaborator" the National Science Challenge Lead Collaborator Work Schedule that sets out the conditions for the funding of this Project through New Zealand's Biological Heritage National Science Challenge.

Relevant documents

Landcare Research has been contracted as the Lead Collaborator to provide the research and related activities for the project described in the Lead Collaborator Work Schedule, in accordance with:

- Lead Collaborator Work Schedule (attached and available at https://docm.doc.govt.nz/wcc/faces/wccdoc?dID=3574096&dDocName=DOC-2938326&_adf.ctrl-state=ajdudg53t_27)
- Subcontract Terms and Conditions (Challenge Contractor- Lead Collaborator) http://www.biologicalheritage.nz/__data/assets/pdf_file/0017/103454/Terms-and-Conditions-Lead-Collaborator.pdf
- Intellectual Property Management Plan (Challenge Contractor - Lead Collaborator) http://www.biologicalheritage.nz/__data/assets/pdf_file/0004/110893/IP-Management-Plan.pdf
- Collaboration Agreement http://www.biologicalheritage.nz/__data/assets/pdf_file/0010/119827/Collaboration-Agreement.pdf
- Addendum A to the Collaboration Agreement http://www.biologicalheritage.nz/__data/assets/pdf_file/0009/119826/Addendum-to-Collaboration-Agreement-without-Signatures.pdf

OPERATIVE PARTS

The Parties agree that the arrangements set out in Schedule 1 of this document are the basis on which they wish to conduct their relationship in the execution of the Project.

This agreement is signed by the following on behalf of their respective organisations.

DEPARTMENT OF CONSERVATION

LANDCARE RESEARCH NEW ZEALAND LIMITED



.....
SIGNED on behalf of the Director-General of
Conservation by Jeffrey Cornwell, Director
Planning and Support, acting under delegated
authority.



SIGNED on behalf of the Landcare Research
New Zealand by [REDACTED] General Manager
Science.

SCHEDULE 1

Purpose and Background

1. This Memorandum of Understanding (Memorandum) records the principles and objectives underpinning the parties' relationship and describes, in general terms, the intent to jointly collaborate to perform the tasks required to complete the Project.
2. The Project will:
 - a) Develop a model that segments the New Zealand population by social acceptance of new technologies for rats and wasps mapped on psychographics and demographics:
 - i) Identify if the barriers and facilitators differ for the two species or are they ubiquitous across the novel technologies
 - b) Based on the segmentation model, explore the complexity of social acceptance by sampling key partners and stakeholder groups and the New Zealand public
 - c) test the level of impact of persuasive communication theory on social acceptance of novel pest-control technologies.
3. The Project is important to the Parties because:
 - a) both Parties have a mandate and jurisdiction to research, facilitate and provide methods to manage pests and safeguard natural heritage; and
 - b) public acceptance of innovative technologies to control pest species at wide scales in New Zealand is unknown at this time but will be important in the future when such technologies are hoped to be environmentally feasible.

Parties' Objectives

4. To enhance and share each party's collective organisational strengths, capability and resources to achieve biodiversity gains and community engagement at a scale that leads to social, environmental and economic transformation for the long-term.
5. To engage and inspire further conservation initiatives and innovations that will significantly protect and sustain New Zealand's natural elements, habitats and species, and to enhance the relationship between peoples and nature.
6. To foster and facilitate innovations in conservation.

Parties' Principles

7. The parties wish to conduct their relationship based on good faith and respect for each other's accountabilities and points of view.
8. Parties take a collaborative approach to decision-making. Decision making and implementation involve integrated approaches to multi-dimensional problems which enable complex social, natural and political processes to be navigated effectively.

9. Structure and processes enable the best use of parties' resources to be made. Roles are clear, mutually supported and accountable. Administration and management processes are agile and proportionate to the value they add.
10. Inspiring, engaging and empowering communities is essential to developing transformative processes and outcomes that endure and that increase value for New Zealanders.
11. Iwi interests will form a critical part of our collective aspiration.
12. We focus on big problems where we can make the greatest impact.
13. Sound financial management and effective monitoring processes allow the vision to be implemented fully, and results in greater trust and more credibility for the partnership itself.

Project Details

14. The Department of Conservation and Landcare Research will work together to deliver the milestones on the New Zealand's Biological Heritage National Science Challenge Project 2.6 (Exploring New Zealand's social licence towards novel pest control technologies – see relevant documents). The project runs until 31 December 2018, with key deliverables including:
 - Literature synthesis on attitudes to pest control methods in NZ
 - Conducting, analysing and reporting on a choice modelling survey
 - Test and report on the effectiveness of 'persuasive communication
15. Department of Conservation personnel Edy MacDonald will fulfil the role of Project Leader, with support from Eric Edwards. They will oversee all aspects of the project and its deliverables, with particular personal input to the delivery of Research Aims 1 and 3 (see relevant documents). To achieve this, MacDonald and Edwards will each contribute 0.3FTE per annum to the Project, with Landcare Research providing all other FTE and operating costs as detailed in the Landcare Research contract with the Biological Heritage National Science Challenge for this Project.
16. We propose to apply social science frameworks to experimentally test the degree (if any) of social acceptance (social license to operate) of novel technologies for wide-scale pest control. Our research focuses on two groups: the general New Zealand public and key stakeholders/partners (e.g. iwi, commercial bee industry, farmers, and local government). Organisations committed to understanding public opinion and acceptance (or lack of) of novel pest control (e.g. Department of Conservation, Ministry for Primary Industries, local councils) can use the segmentation as a starting point for public engagement. Building upon the segmentation model, we will also test the effectiveness of different messages, aligned to different values of the segments, on their acceptance of novel technologies.
17. Overarching governance of the Project will be managed under the Lead Collaborator Work Schedule and related National Science Challenge Agreements.

18. To complement the Project terms set out in the Lead Collaborator Work Schedule, the Parties wish to detail the following understanding:

- a. Project funds are managed by Landcare Research New Zealand. The Director-General of Conservation will invoice Landcare Research quarterly for expenses incurred in that quarter such as travel costs or accommodation.

a. Address for invoices

	Landcare Research address
For the attention of:	[REDACTED]
Physical address:	Gerald Street, Lincoln 7608
Postal address:	PO Box 69040, Lincoln 7640
Email:	[REDACTED]

- b. The Director-General of Conservation will contribute the following "in-kind" resources to support the Project described in the Lead Collaborator Work Schedule:

- a. Project Leader and technical expertise -Edy Macdonald (Social Science Manager) (0.3 FTE)
b. Technical expertise – Eric Edwards (Science Advisor Biodiversity Kai Mātanga Toiwhenua) (0.3 FTE)

Term

2. This Memorandum is effective from 1 February 2017 for a period of 2 years and expires on 31 January 2019 or when this Memorandum is superseded (unless during the review process both parties agree in writing to renew the term of the Memorandum before its expiry).

Relationship Management and Communication

3. The following people are the agreed contacts.

Director-General of Conservation's representative	Landcare Research's representative
Edy Macdonald, Social Science Manager, Ph: [REDACTED] emacdonald@doc.govt.nz	[REDACTED] Portfolio Leader Managing Invasives, Ph: [REDACTED]

4. It is the responsibility of these contact people to:
- a. Communicate on matters of interest to any party
b. To arrange meetings and reviews

c. Oversee milestone or reporting requirements

5. It is the responsibility of the Landcare Research representative to report back to the Challenge Contractor (Landcare Research New Zealand Limited – acting on behalf of New Zealand's Biological Heritage National Science Challenge).
6. The Parties aim to cooperate with each other and with Biological Heritage National Science Challenge when communicating with external entities e.g. the public, industry, media, non-government organisation and Māori, while recognising that each Party will maintain independent relationships with such entities.

Review of the Agreement

7. This agreement may be reviewed if necessary to discuss progress in implementing the objectives of the Memorandum.

Contractual arrangements

8. The relationship of the parties under this Memorandum is not one of legal partnership, joint venture or agency.
9. Should the parties work together on particular projects or outsource work they may enter into other contractual arrangements for each project, subject also to the conditions of the Lead Collaborator Work Schedule and related Agreements.
10. The parties do not intend this Memorandum to be legally binding. However, the parties expect that legally binding agreements negotiated under Clause 9 will be.

Confidentiality

11. None of the parties is to disclose any confidential information received from the other to any third party without written consent, unless required by the Official Information Act 1982 or Local Government Official Information and Meetings Act 1987, in which case the party will inform the other party prior to disclosure.
12. Personal information held or collected for the Project will be dealt with in accordance with the Privacy Act 1993.

Intellectual Property and Data Sharing

13. Unless otherwise provided for below, intellectual property and data will be managed in accordance with the Lead Collaborator Work Schedule and the Intellectual Property Management Plan referred to in the suite of Agreements.
14. The Parties agree Project IP will not have future or actual commercial application. Reviews pursuant to paragraph 9 of the Intellectual Property Management Plan will be made as agreed between the Parties.
15. The Parties agree to arrange consultation with relevant whānau, hapū, and iwi to reach kotahitanga (consensus), in writing, on how mātauranga Māori is to be used in the Project including as part of any potential Project IP or publication.

16. The Department of Conservation and Landcare Research's logos or other corporate identification will be used jointly unless otherwise agreed. Parties will keep each other informed if and when logos or other corporate identification is required.

Dispute resolution

17. Any disputes arising from this Memorandum will be settled by full and frank discussion and negotiation between the parties.

Lead Collaborator Work Schedule

The Ministry of Business Innovation and Employment ("the Ministry") has provided funding for New Zealand's Biological Heritage ("NZBH") National Science Challenge to the Challenge Contractor. The Challenge Contractor has contracted the Lead Collaborator to provide the research and/or related activities for the project described in this Work Schedule ("Research") and the Lead Collaborator agrees to carry out the Research in accordance with:

- this Work Schedule;
 - the Subcontract Terms and Conditions ("T&C") [www.biologicalheritage.nz/documents] and any variations to them which are noted in this Work Schedule;
 - the Collaboration Agreement ("CA") [available from support@biologicalheritage.nz (Challenge Support Unit)]; and
 - any other documents noted in this Work Schedule,
- which will replace all written or oral agreements previously reached between the parties in relation to the Research.

Parties

- 1 Landcare Research New Zealand Limited acting on behalf of New Zealand's Biological Heritage National Science Challenge ("Challenge Contractor")
- 2 Landcare Research New Zealand Limited ("Lead Collaborator")

Project Title:

Project 2.6 Exploring New Zealand's social licence towards novel pest control technologies

Contact Details

	Challenge Contractor Details	Lead Collaborator Details
Postal Address:	c/- Landcare Research PO Box 69040 Lincoln 7640	Landcare Research PO Box 69040 Lincoln 7640
Phone:	(03) 321 9999	(03) 321 9999
Project Leader:	[REDACTED]	Edy MacDonald [REDACTED] emacdonald@doc.govt.nz
Key Personnel:	N/A	Core team: Edy MacDonald & Eric Edwards (Department of Conservation) [REDACTED] Wider team: Taciano Milfont (0.03 FTE) & Wokje Abrahamse (0.05 FTE) (Victoria University of Wellington) Fabien Medveck (0.05 FTE) (University of Otago) James Russell (0.05 FTE) (University of Auckland)

Administrator:		
Contract References:	Contract No. 1617-44-017 A Job No. 944002-0006	Contract No. 1617-28-037 A Job No. 228002-0024

Start Date: 1 January 2017

End Date: 31 December 2018

Project Summary

Public acceptance of innovative technologies to control pest species in New Zealand varies widely and new technologies sometimes meet with strong opposition. We propose to use pest wasps (*Vespula* species German and common wasps) and rats (*Rattus* spp.) as complementary case studies to apply social science frameworks to experimentally test the degree (if any) of social acceptance (social license to operate) of novel technologies for wide-scale pest control. Our research focuses on two groups: the general New Zealand public and key stakeholders/partners (e.g. iwi, commercial bee industry, farmers, and local government). Quantitative and qualitative methods will be used to develop a segmentation model of a representative sample of the New Zealand public based on participants' views of novel technologies as they align to their values, psychographics, and demographics. Organisations committed to understanding public opinion and acceptance (or lack of) of novel pest control (e.g. Department of Conservation, Ministry for Primary Industries, local councils) can use the segmentation as a starting point for public engagement. Building upon the segmentation model, we will also test the effectiveness of different messages, aligned to different values of the segments, on their acceptance of novel technologies.

Description of Services

Contribution to Mission:

Our proposed social science research aligns strongly to Programme 2 of New Zealand's Biological Heritage National Science Challenge: reducing risks and threats. Researching novel methods to reduce pest species in New Zealand underpins many goals of the National Science Challenge. Our social science research will complement the biological and technological research being conducted in laboratories (i.e. social research to support potential acceptance of future technologies used in the elimination of small mammal predators). Our project has close alignment with New Zealand's Biological Heritage National Science Challenge's Intermediate Outcomes 6, 11, 23 and 25.

In addition to Programme 2, there are also future synergies to the Sustainable Seas National Science Challenge, "Frameworks for achieving and maintaining social license", and aligned programmes such as "Urban battlefields" at Scion.

After the first year, we will have segmented the New Zealand population based on their social acceptance of novel technologies to control New Zealand pest species. The segmentation will provide insight into any similarities or differences between acceptance of technologies (e.g. gene silencing, biological control) and the target pest (e.g. wasp vs rat). These results will be useful to the phasing of novel pest control options to the general public (e.g. introduce a novel technology that has greater public acceptance first). Based on the values and perceptions of the different segments, we will develop persuasive communication to experimentally nudge (increase) public acceptance. Results from this phase of our research will be useful when communicating with the general population or key partners and stakeholders, as the framing of the message may prove critical in gaining support for the new technology.

Our social research approach is a foundational piece of work, part of a larger portfolio of social research required to facilitate social acceptance of novel pest controls. Social license to operate is an iterative process and not an end point. Furthermore, public opinion can quickly shift in response to extenuating circumstances. Thus ongoing research (extending beyond the two years of this proposal) to align to social adaptation in the acceptance of new technologies in the broadest sense (e.g. medical techniques involving genetic modification) will be appropriate.

Our approach is based on the assumption that research can uncover the truth and is a function of measurement. Our aim is to explain and generalise our results and this approach has potential to influence a wide body of conservation behaviour research.

Vision Mātauranga ("VM") outcome:

Concepts central to Mātauranga will inform both the quantitative phase (for general population insight into the Māori perspectives) and the qualitative phase (for more depth and insight into the collective level).

Outcomes from the first phase of research (quantitative survey; Research Aim 1):

- examine differences (if any) between Māori and non-Māori respondents' values and beliefs as they relate to acceptance of novel technologies
- explore Māori respondents' perception of "pests" as it relates to tikanga of kaitiakitanga, mauri, and whakapapa.

These outcomes will allow us to explore, at a population level, the beliefs held by Māori toward acceptance of novel pest control methods. Based on this insight, we will explore in hapū/iwi focus groups how to facilitate improved engagement. In out-years and complementary studies, Mātauranga informs the way we understand pests and what is needed to retain indigenous biodiversity and valued environmental resources.

Outcomes from the second phase of research (qualitative stage, Research Aim 2):

- explore the understanding concept of co-management and trust as it relates to pest-control novel technology with hapū/iwi
- investigate if the values identified at the population level (from the quantitative survey) align to values at the hapū/iwi level (i.e. the collective level)
- provide a preliminary indication of the complexities of public acceptance and the nuances of differing world views (note: only preliminary indication due to small sample size).

We will be working in partnership with Ocean Mercier (Victoria University of Wellington), Melanie Mark-Shadbolt and Amanda Black (Lincoln University), and Nick Waipara (Auckland Council) to increase our Mātauranga output. All three groups have a vested interest in Māori views of biosecurity and biodiversity. We will work together to maximise sample size, share resources, and coordinate approaching iwi to avoid focus-group fatigue.

10-year outcome:

- New Zealand public is engaged in the novel-technology advancements
- Conduct a nation-wide survey to assess any shift in public acceptance toward novel technology

5-year outcome:

- Government agencies, local councils, NGOs, and other organisations with a vested interest in predator control and/or novel technologies utilise the segmentation to model to engage with their constituents
- Proactive engagement is initiated with the different segments, utilising the values of the segments to develop a meaningful dialogue about the new technologies
- Insights from the nudge research are incorporated into ex-situ communication campaigns
- Monitor the new-technology conversation in the media; analyse trends of how messages are framed
- Further social science research is funded in the area of social licence

Project aim(s):

Our research project will:

- Develop a model that segments the New Zealand population by social acceptance of new technologies for rats and wasps mapped on psychographics and demographics and identify if the barriers and facilitators differ for the two species or whether they are ubiquitous across the technologies.
- Based on the segmentation model, explore the complexity of social acceptance by sampling key partners and stakeholder groups and the New Zealand public; explore if population level beliefs are similar to collective beliefs; working with stakeholders identify drivers and context which may facilitate or hinder social acceptance.

- Test the level of impact of persuasive communication theory on social acceptance of novel pest-control technologies.

No.	Milestone	Key Personnel (T&C clause 5.1)	Date Due
Project Management			
1	Produce a Data Management Plan (DMP) for this Project		30-Jun-17 then ongoing as required
2	Provide details on interactions with end-users and adoption of research by end-users (refer to Outcome Framework)		Ongoing
Reporting			
3	On a quarterly basis, provide: <ul style="list-style-type: none"> ▪ a report by exception (i.e. if not "on track") on the progress of the Project, including significant risks identified and risk management measures taken ▪ any stories/highlights that have emerged ▪ information on any additional funding, Māori engagement, and stakeholder interest and uptake 		Every 3 months (ongoing – end of September, December, March, June)
4	On an annual basis, provide: <ul style="list-style-type: none"> ▪ metrics and information on the seven Common Performance Areas¹ ▪ statistical information as specified by MBIE ▪ a summary of annual progress (500 words) 		By 30 June each year <i>at the latest</i>
Reviewing			
5	Contribute to annual and other ad hoc plan → monitor → review processes as required		Ongoing
Research Aim 1: Develop a model which segments the New Zealand population to provide social acceptance of new technologies			
1.1	Synthesis of literature on attitudes of pest control methods in New Zealand: search for any international literature looking at new technologies (make summary available online via the Department of Conservation, Landcare Research, or New Zealand's Biological Heritage National Science Challenge website)		1 May 2017
1.2	Convene team to confirm psychographics and discuss possible attributes for choice modelling	Edy MacDonald	1 April 2017
1.3	Run pilot focus groups to test attributes of choice modelling	Edy MacDonald	1 May 2017
1.4	Develop and conduct choice modelling survey	Edy MacDonald	1 July 2017
1.5	Data analysis: identify segments, including differences between Māori and non-Māori respondents identified	Edy MacDonald	15 August 2017

¹ MBIE's seven Common Performance Areas are: (1) Delivery of the Challenge Objective (2) Science Quality (3) Best Research Team Collaboration (4) Stakeholder Engagement (5) Māori Involvement and Mātauranga (6) Effective Governance and Management (7) Public Participation.

1.6	Disseminate segments to key stakeholders: produce report, present findings at a key meeting, prepare peer-reviewed publication and submit	Edy MacDonald	1 September 2017
1.7	Convene core team to review findings to date and confirm next steps	Edy MacDonald [REDACTED]	1 October 2017
1.8	Share insights to date with key partners and stakeholders at annual National Science Challenge meeting and annual regional council environmental managers' meeting	Edy MacDonald [REDACTED]	Dates TBC for 2017
Research Aim 2: Based on the segmentation model, explore the complexity of social acceptance by sampling key partners and stakeholder groups and the New Zealand public			
2.1	Review conceptual diagram document synthesising the current state of social acceptance of pest control methods	[REDACTED]	1 May 2017
2.2	Hold focus groups with key stakeholders (e.g. iwi, farmers, bee keepers)	[REDACTED]	20 December 2017
2.3	Complete analysis completed and draft journal paper	[REDACTED]	1 May 2018
2.4	Submit paper documenting approaches to Predator Control in New Zealand and assessing changes in public responses to these approaches	[REDACTED]	20 December 2018
Research Aim 3: To test the level of impact of persuasive communication theory on social acceptance of novel pest-control technologies			
3.1	Develop and conduct Theory of Planned Behaviour survey	Edy MacDonald	1 March 2018
3.2	Analyse Theory of Planned Behaviour survey and amalgamated with previous results; produce insights report; prepare peer-review publication	Edy MacDonald	1 May 2018
3.3	Convene communication theory specialists to draft persuasive communication for the segments based on results to date	Edy MacDonald	1 June 2018
3.4	Test persuasive communication effectiveness: conduct survey	Edy MacDonald	1 August 2018
3.5	Synthesise results	Edy MacDonald	1 October 2018
3.6	Convene team to share results; discuss future needs/research	Edy MacDonald [REDACTED]	1 December 2018
3.7	Send final report to New Zealand's Biological Heritage National Science Challenge	Edy MacDonald	20 December 2018
3.8	Share insights to date with key partners and stakeholders at annual New Zealand's Biological Heritage National Science Challenge meeting and annual regional council environmental managers meeting	Edy MacDonald [REDACTED]	Dates TBC for 2018

Decision Points

Document milestones that are essential to the achievement of the Project aims and objectives		
Milestone No.	Specification of Achievement	Due Date
1.5	Develop a segmentation model	15 August 2017
2.2	Complete focus groups with key stakeholders and collect data for publication	20 December 2017
3.1	Develop and conduct Theory of Behaviour survey	1 March 2018
Payments may be suspended or terminated if the conditions relating to a Decision Points are not met to the reasonable satisfaction of the Science Leadership Group (SLG).		

Payment Details

Total Value of Work Schedule: **\$450,000 + GST**

Note:

All amounts in New Zealand dollars and exclusive of GST.

Invoices are to be submitted on a **6-monthly basis**, by the dates indicated below.

Invoices are payable upon satisfactory completion of the Services, at the end of the month following receipt of the invoice (T&C clause 3.5).

Invoice	Invoice Date	Invoice Amount
Year 1, January–June	15 June 2017	\$99,000
Year 1, July–December	15 December 2017	\$99,000
Year 2, January–June	15 June 2018	\$126,000
Year 2, July–December	15 December 2018	\$126,000
Total Funding (+ GST)		\$450,000

Please include the applicable **Year** and **Period**, Contract No. **1617-44-017 A**, and Job No. **944002-0006** on all invoices.

Data Management

A Data Management Plan is to be developed and submitted to the Challenge by 30 June 2017.

Variations to the Subcontract Terms and Conditions

The Parties agree that the Project Leader may invoice the Lead Collaborator for expenses such as travel and costs, pursuant to clause 3.3(e) of the T&C.

For the avoidance of doubt, the Department of Conservation is a "Challenge Member" and a "Creating Party" for the purposes of this Project, the associated agreements listed above, and the Intellectual Property Management Plan.

The Parties and the Project Leader agree that the terms of the Intellectual Property Management Plan apply, with the exception of paragraphs 10–19 of the Intellectual Property Management Plan. The Parties and the Project Leader agree Project IP will not have future or actual commercial application. Reviews pursuant to paragraph 9 of the Intellectual Property Management Plan will be made as agreed between the Parties.

The Parties and the Project Leader intend to set out relationship expectations in a Memorandum of Understanding between the Lead Collaborator (Landcare Research) and the Director-General of Conservation. This will include provision for:

- a clear transparent process for the Project Leader to invoice the Lead Collaborator for expenses
- details of the Director-General's "in-kind" contributions to the Project (i.e. the Project Leader's (Edy MacDonald) and Eric Edwards' time)
- any necessary details regarding management of Project IP and mātauranga Māori rights that are not covered in the Intellectual Property Management Plan.

Signed for and on behalf of the **Challenge Contractor**

Signature

Name

Chief Executive Officer

Position

Date

10-3-17

Signed for and on behalf of the **Lead Collaborator**

Name

General Manager – Science

Position

Date

10.3.17

Variation to Contract

Parties

1	Landcare Research New Zealand Limited acting on behalf of New Zealand's Biological Heritage National Science Challenge ("Challenge Contractor")
2	Landcare Research New Zealand Limited ("Lead Collaborator")

Project Title: Project 2.6: Exploring New Zealand's social licence towards novel pest control technologies

Contract Reference: 1617-44-017 A1

Record of variation to contract

Subsequent to the signing of contract **1617-44-017 A** the research team have secured additional external funding to increase the sample size and scope of the work within Research Aim 3. Consequently, data analysis time has increased, and it has become necessary to modify:

- 1) The due dates for milestones 3.4-3.8 inclusive. End date now June 2019.
- 2) The payment details for the Year 2, July-December Invoice

These changes are specified below (original struck out, revision added in *red italics*).

Start Date: 1 January 2017

End Date: ~~31 December 2018~~ *30 June 2019*

No.	Milestone	Key Personnel	Due date
3.4a	Test Persuasive communication effectiveness: conduct survey. <i>First Strand</i>	Edy MacDonald	1-Aug-2018 <i>1 Dec 2018</i>
3.4b	Test Persuasive communication effectiveness: conduct survey. <i>Second Strand</i>	Edy MacDonald	1-Aug-2018 <i>1 March 2019</i>
3.5	Synthesise results	Edy MacDonald	1-Oct-2018 <i>1 April 2019</i>
3.6	Convene team to share results; discuss future needs/research	Edy MacDonald	1-Dec-2018 <i>30 April 2019</i>
3.7	Send final report to New Zealand's Biological heritage National science Challenge	Edy MacDonald	20-Dec-2018 <i>31 May 2019</i>
3.8	Share insights to date with key partners and stakeholders at annual New Zealand's Biological heritage National science Challenge meeting and annual regional council environmental managers meeting	Edy MacDonald	Date TBC for 2018 <i>30 June 2019</i>

Payment Details

Invoice	Invoice Date	Invoice Amount
Year 2, July-December	15 December 2018	\$126,000 <i>\$42,000</i>
Year 3, Jan-June	<i>20 June 2019</i>	<i>\$84,000</i>

Signed for and on behalf of:

Challenge Contractor

Lead Collaborator

Name

Signature

Name

Signature

Chief Executive Officer
Position

1.8.18
Date

General Manager – Science
Position

Date 1.8.18

CONTRACT FOR SERVICES

Parties:

Landcare Research New Zealand Limited a Crown Research Institute established under the Crown Research Institutes Act 1992, of Gerald Street, Lincoln ("Landcare Research")

Colmar Brunton, of Wellington ("Contractor")

Contact Details

	Landcare Research	Contractor
Postal Address:	Private Bag 92170 Auckland Mail Centre Auckland 1142	PO Box 3622 Wellington 6011
Phone:	09 574 4100	04 913 3000
Project Leader:	[REDACTED]	Edward Langley 04 913 3051 Edward.langley@colmarbrunton.co.nz
Contract Administrator:	[REDACTED]	Colmar Brunton 04 913 3051 Edward.langley@colmarbrunton.co.nz

Project Title: Social License Segmentation Study (NSC novel pest- control methods)

Landcare Research requires the Contractor to provide services ("the Work") specified below in Details of the Work. The Contractor is willing to perform the Work according to the terms and conditions contained in this agreement.

Details of the Work	<p>As part of a DOC-Landcare Research project to explore New Zealanders' perceptions and acceptance of novel pest-control technologies, the first phase of the research will be to conduct a national segmentation study to assess what beliefs, values, and knowledge are linked to acceptance/lack of acceptance to novel technologies.</p> <p>Because the Team (Landcare Research, DOC, VUW, Otago and Auckland University) has a strong background in social science and pest-control science, the Team and the selected contractor will work closely throughout the research process. The Team will provide a document with the rationale for the constructs to be included in the survey. The Team will be integral with the development of the survey.</p> <p>Colmar Brunton will recruit a representative sample of NZ for a sample size of 500 respondents per region and 1000 respondents from Auckland (total sample size 8500) as per the Addendum to the RFQ received 10 July 2017.</p> <p>Respondents will be recruited via an online panel.</p> <ol style="list-style-type: none">1. Prior to finalising survey, conduct qualitative research (e.g., 8 interviews) to validate and/or modify the survey questions and constructs2. Recruit respondents from online panel and for regions where the sample size is insufficient, aim for recruitment via face-to-face recruitment
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	<p>3. Conduct an online survey (max. 20 mins plus 5mins additional time for Māori respondents) based on a questionnaire supplied by the Department. Goal of 500 per region and 1000 in AKL, recruitment in underrepresented regions via face to face</p> <p>4. Conduct statistical analysis to develop a segmentation</p> <p>5. Provide a top line report of weighted results including appropriate tests of statistical significance. Include Excel too for Choice Model</p> <p>6. Provide the Department with a full excel dataset with raw data, data dictionary and weighted data on separate tabs but in one file</p> <p>7. Provide the Department with details of methods and statistical analysis written in a format for submission to top-tier peer-review journal</p>		
Reporting Schedule	<p>The survey (data collection) is to be completed by 22 Aug 2017.</p> <p>Initial analysis of segmentations for discussion with the Team the 4 Sept 2017.</p> <p>A draft top line report of weighted results including appropriate tests of statistical significance is to be provided by 18 Sept 2017. This will include detailed methods and analysis written in a format for high-impact peer-review publication. Final technical delivered to Department 2 October.</p> <p>Provide the Department with a full excel dataset</p>		
Starting date:		Finishing date:	2 October 2017
Fees and timing of payments (all amounts in New Zealand dollars)	<p>\$183,981.60 plus GST</p> <p>Payable on invoice at completion of the Services.</p>		

Signed for Landcare Research:

[Redacted Signature]

name and position: **PORTFOLIO LEADER**

date: **12 JULY 2017**

Signed for Contractor:

[Handwritten Signature]

name and position: **Michael Dunne
Executive Director**

date: **11/7/2017**

Conditions of Engagement

1. Contractor's Obligations

In providing the Services the Contractor shall:

- exercise the degree of skill, care and diligence normally exercised in scientific research;
- use its best endeavours to achieve the objectives of the project;
- comply with all relevant ethical and regulatory requirements and statutory obligations;
- provide reports on the project in accordance with the Reporting Schedule, or as reasonably requested by Landcare Research.

2. Landcare Research's Obligations

Landcare Research shall:

- provide the Contractor with all relevant information required to undertake the project;
- pay the Contractor the fees in the manner set out in this contract.

3. Payment of Fees

For all reimbursable costs, and where the Services are carried out on a time charge basis, the Contractor shall maintain up to date records which clearly identify relevant time and expenses incurred in providing the Services.

4. Intellectual Property

Each party shall retain ownership of any existing intellectual property they bring to and use for the project. Unless agreed otherwise and noted as a variation, ownership of intellectual property arising from the Services shall lie with Landcare Research.

5. Confidentiality

Any confidential information disclosed by either party to the other party shall be kept secret and not disclosed to any third party, or used for any purpose other than the project, without the written permission of the disclosing party. This clause shall apply to any employee or contractor of the parties.

6. Variation of Contract

Landcare Research may order variations to the Services in writing or may request the Contractor to submit proposals for variation to the Services. Variations may incur greater or lesser costs than those originally agreed to and fees may need to be renegotiated.

7. Termination of Contract

Landcare Research may suspend all or part of the Services or terminate the contract by notice to the Contractor who shall immediately make arrangements to stop the Services and minimise further expenditure. Suspension or termination shall not prejudice or affect the accrued rights or claims and liabilities of the parties.

8. General

- (a) The Contractor is an independent contractor. Nothing in this contract creates an employment or partnership relationship.
- (b) This contract may not be transferred or assigned without the written consent of Landcare Research.
- (c) Notwithstanding any of the provisions of this contract, neither party shall be liable for any delay or default due to unforeseen causes beyond their control and not due to their fault or neglect.
- (d) Disputes shall first be referred to mediation for settlement.

**ADDENDUM A TO THE COLLABORATION AGREEMENT FOR
NEW ZEALAND'S BIOLOGICAL HERITAGE NATIONAL SCIENCE CHALLENGE
NGĀ KOIORA TUKU IHO**

**Application of Collaboration Agreement to Ministry for Primary Industries (MPI) and
Department of Conservation (DOC)**

- A. The Ministry for Business, Innovation and Employment has provided Funding for New Zealand's Biological Heritage National Science Challenge by entering into the NSC Investment Contract (NSCIC) with the Challenge Contractor. The NSCIC specifies that the Challenge Contractor must:
- (1) agree the terms of a Collaboration Agreement for the operation of the NZBH Challenge; and
 - (2) commit to working together with the Challenge Members (being all Crown Research Institutes and Universities listed in Schedule 1 of the NSCIC) to deliver Challenge Programme Agreements.
- B. The Collaboration Agreement fulfils the dual purpose of documenting:
- (1) How the Challenge Parties will work together to deliver the Mission, objectives and aims of the Challenge; and
 - (2) How the Challenge Contractor and Challenge Members will use Challenge Funding to deliver Research Plans in accordance with the NSCIC and Challenge Programme Agreements.
- C. As government agencies, MPI and DOC are unable to receive Challenge Funding directly therefore the NSCIC does not apply to them. However, the Challenge is of critical strategic importance to both MPI and DOC and all Parties recognise the value MPI and DOC can provide to biodiversity and biosecurity outcomes for New Zealand and the role that they have in supporting the delivery of these outcomes.
- D. Because of the different roles and functions of each of MPI and DOC compared with the research provider agencies, this Addendum A records those provisions and clauses in the Collaboration Agreement that either do not apply or are not legally appropriate to MPI and DOC for the respective roles that they have under the Collaboration Agreement. To avoid doubt, other Parties are not affected by these special conditions.
- E. In acknowledgement that MPI and DOC are not subject to the NSCIC the following clauses of the Collaboration Agreement in relation to MPI and DOC as Parties will be interpreted as described below:
- (1) The definition of "*Collaborating Organisation*" in clause 30.1 will generally be read as excluding MPI and DOC, but each remains within the definition of "Party" under that subclause.
 - (2) Background clauses 1.4(b) and 1.7 do not apply to MPI and DOC.
 - (3) The principle of delivering on the NSCIC in clause 5.1(a) does not apply to MPI and DOC.

- (4) The Collaborating Organisations' obligations concerning the NSCIC in clause 7.1, 7.4 and 7.5 do not apply to MPI and DOC.
- (5) Clause 8.1 is amended in relation to MPI and DOC by replacing that clause with: "DOC and MPI will use all reasonable endeavours to provide access to their equipment and facilities, at reasonable times, on reasonable notice for research staff from Parties working on Challenge funded research."
- (6) Clause 9 (except for clauses 9.1(a), (c) and (d)) does not apply to MPI and DOC.
- (7) Clause 13 applies to DOC and MPI as follows. DOC and MPI will use their best endeavours to align their research (and related activities) to the Challenge programmes; subject to MPI's and DOC's respective obligations to their portfolio Ministers, and to the specific requirements set under appropriations governing a range of MPI's and of DOC's existing research programmes. Where either MPI and/or DOC is unable to align one or more of its/their respective research programmes to the Challenge, it/ they will notify the other Challenge Parties in a timely manner and discuss possible solutions.
- (8) Clauses 14 (project funding), 15 (financial management) and 16 (subcontracting) do not apply to MPI and DOC.
- (9) Clause 20 (audits under NSCIC) does not apply to MPI and DOC.
- (10) Clause 21.2 is amended in relation to MPI and DOC as follows: "The relationship between the Parties is that of a participant in a research challenge with all Parties working to a common purpose (the Mission)."
- (11) Clause 21.3 is amended in relation to MPI and DOC as follows: "The Parties agree to collaborate to implement the Mission".
- (12) Clauses 23.3 and 31.2 concerning variations to the NSCIC and Challenge Programme Agreements do not apply to MPI and DOC.
- (13) Clause 24 (assignment and subcontracting) does not apply to MPI and DOC.
- (14) Clause 26 will apply to MPI and DOC except where exit from the Agreement is required as a result of a Ministerial or political direction or policy decision, or as a result of a restructuring, merger or reorganisation of either MPI or of DOC (or both)
- (15) The NSCIC does not apply to MPI and DOC for the purposes of clause 29(c) (entire agreement), or for any other purpose.
- (16) Clause 31.3 does not apply to DOC and MPI as, if there is any conflict, Addendum A will take precedence over the Collaboration Agreement.

Expectations regarding treatment of Intellectual Property

As a general principle, DOC and MPI wish to see any Intellectual Property arising from the Challenge made publicly available to the greatest extent practicable, consistent with the objectives of the Challenge, and any obligations of confidentiality under the Agreement.