



Fisheries New Zealand

Tini a Tangaroa

SPECIAL PERMIT

(711)

The Director-General of the Ministry for Primary Industries (MPI) acting through his or her delegated officer (**Director-General**) and pursuant to section 97(1) of the *Fisheries Act 1996* (**the Act**), hereby issues a special permit to:

**Victoria University of Wellington
School of Biological Sciences
PO Box 600
WELLINGTON 6140**

Client Number: 8730069

and agents, representatives and employees of Victoria University of Wellington, School of Biological Sciences (**the permit holder**), as part of their association with Victoria University of Wellington, School of Biological Sciences, subject to the conditions specified below.

Purposes

1. This special permit is issued for the following purposes specified in section 97(1)(a) of the Act:
 - a) education (section 97(1)(a)(i));
 - b) investigative research (section 97(1)(a)(ii)).
2. The permit holder is permitted to take and possess fish, aquatic life, or seaweed, for the above purposes.

Period of Issue

3. This special permit revokes and replaces special permit 563 issued on 19 November 2013 and amendments issued on 17 April 2014, 11 May 2018, 5 October 2018, and extension of term issued 16 April 2019.
4. This special permit is valid from the date of signature until 30 November 2024, unless sooner varied or revoked.

Permitted Activities

5. The permit holder may only “take” (as defined in section 2 of the Act) fish, aquatic life, or seaweed for projects carried out by the permit holder for the above purposes:
 - a) as specified in Schedule One attached to this special permit, as may be amended during the term of this special permit;

- b) for other tertiary institution studies requiring the collection of biological material, providing the quantity of aquatic life collected on a daily basis is less than 10 kilograms (greenweight) of all species combined for that project;
- c) for any other project where the project is accepted as being of a public good nature (e.g. taxonomic study, environmental study, ecological monitoring, resource inventory (e.g. proposed marine reserve surveys) and where the quantity of aquatic life collected on a daily basis is less than 10 kilograms (greenweight) of all species combined for that project.

6. Notwithstanding conditions 5 b) and 5 c) above, any project that involves:

- taking protected or restricted species (e.g. toheroa, black coral etc);
- taking species of special importance to tangata whenua, as listed in Schedule Two attached to this special permit, and including glass eels in any area;
- fishing in areas subject to specific fisheries restrictions (e.g. regulation or rahui);
- fishing in the areas that are listed in Schedule Three;
- fishing in the Kaikōura Marine Area (described in Schedule Four);

must be authorised and included in Schedule One as specified in condition 5 a) of this special permit. An application for inclusion of new or amended projects must be lodged with the Manager Customary Fisheries & Spatial Allocations (see Schedule 5 for contact details).

7. This special permit does not authorise the taking of fish, aquatic life and seaweed for the following purposes:

- a) in connection with biomass surveys that are funded by private companies or individuals;
- b) to provide broodstock or spat for commercial broodstock and spat production.

8. New or amended projects that relate to condition 5 above may only be carried out under the authority of this special permit through an amendment to Schedule One of this special permit. An application for inclusion of new or amended projects must be lodged with the Manager Customary & Spatial Allocations, (see Schedule Five for contact details).

Definition of Area

9. Fishing under the authority of this special permit may be undertaken in the areas as defined in the Schedule One projects.

10. The permit holder is required to:

- a) obtain specific written permission from the Director-General of the Department of Conservation prior to the taking of any fish, aquatic life, or seaweed from within a marine reserve or marine mammal sanctuary; and
- b) obtain written approval from the taiapure management committee or Tangata Kaitiaki/Tiaki (North Island) or Tangata Tiaki/Kaitiaki (South Island) prior to fishing in any taiapure–local fisheries or mātaihai area. The permit holder should

contact the relevant Fisheries Compliance Group Team Manager (contact details attached as Appendix Four) for current details of taiapure-local fisheries or mātaihai reserves in the area where collection is proposed.

Conditions of Collection

11. Fish, aquatic life or seaweed taken pursuant to this special permit must not be used for personal usage, collection or consumption, bait or for sale.
12. The permit holder shall employ the methods and means as specified in accordance with any projects approved in Schedule One, if methods and means are stated. If the methods and means are not stated, the permit holder must employ methods and means that are appropriate to the project objectives, provided that they represent best practice in pursuing such objectives, and are sensitive to the various components of the aquatic environment (e.g. avoiding localised depletion of sample species).
13. The permit holder may use underwater breathing apparatus (UBA) to collect fish, aquatic life, or seaweed.
14. When a fishing vessel registered under section 103(1)(a) of the Act is used in association with this special permit, the use of UBA to collect fish, aquatic life, or seaweed is strictly prohibited unless written approval is given from a Fisheries Compliance Group Team Manager before commencing the collection of aquatic material.
15. Explosive or toxic gas, or toxic, poisonous, or narcotic substances must not be used to collect fish, aquatic life, or seaweed under the authority of this special permit, with the exception that:
 - a) Clove oil may be used where appropriate;
 - b) Rotenone may be used providing prior written approval is obtained from the Manager Customary Fisheries & Spatial Allocations.
16. Where set nets are used, the permit holder shall observe the following fishing constraints:
 - a) The permit holder shall not use set nets within any area where set netting is banned for either recreational or commercial fishing, unless prior written approval is obtained from Fisheries New Zealand. Requests for approval should be lodged with the Manager Customary Fisheries & Spatial Allocations. Requests for approval will be assessed on a case-by-case basis. Fisheries New Zealand cannot guarantee written approval will be given. If Fisheries New Zealand gives written approval, it may impose conditions on the use of the set nets.
 - b) When using a set net the permit holder must comply with the set net code of practice (<http://www.fish.govt.nz/en-nz/Recreational/Set+nets/default.htm>), and lift each net from the water after a maximum interval of 12 hours.
17. The use of electric fishing equipment is permitted provided the permit holder holds the written authorities required under regulation 51 of the *Freshwater Fisheries Regulations 1983*.

18. Any unattended equipment being used for the collection of fish, aquatic life, or seaweed should be labelled with the owner's name and "Fisheries Special Permit No. 711" at all times.
19. Prior to undertaking any fishing pursuant to this special permit, the permit holder must advise the relevant Fisheries Compliance Group Team Manager (nearest to where the activity is proposed to take place) at least 24 hours prior to any collection activities. This notification shall include:
 - a. the permit holders name,
 - b. special permit number,
 - c. intended date(s),
 - d. time(s),
 - e. location(s),
 - f. expected species,
 - g. the vessel(s) (including vessel registration number if applicable),
 - h. method(s) to be used,
 - i. name(s) of the person(s) responsible for the collection.
20. The permit holder may use any vessel to take fish, aquatic life, or seaweed under the authority of this special permit.
21. Any vessel(s) nominated to fish, and while fishing, under the authority of this special permit must not engage in commercial fishing for any species under the authority of a fishing permit issued under section 91 of the Act, unless prior written approval is obtained from the relevant Fisheries Compliance Group Team Manager (see contact details in Appendix Five).
22. Fish, aquatic life, or seaweed must not be taken in connection with investigative research involving the use of structures that require a consent under the authority of the *Resource Management Act 1991 (RMA)*, unless a resource consent is obtained under the RMA.

Biosecurity Conditions

23. The permit holder must not knowingly transfer any notifiable, unwanted or pest organism.
24. Any transfer and/or release of any fish, aquatic life, or seaweed taken under the authority of this special permit shall be done in accordance with any relevant legislation (e.g. *Conservation Act 1987* or *Biosecurity Act 1993*) that relates to the transfer and/or release of such organisms.

25. During the collection of fish, aquatic life, or seaweed the permit holder shall ensure that no aquatic plant, noxious fish, unwanted or pest organism, including eggs and larvae of noxious fish or unwanted and pest organisms, is introduced into any other waterway, either from the water holding the collected fish, aquatic life, or seaweed, or enmeshed in fishing gear.
26. To prevent the spread of unwanted aquatic plants and animals, all equipment and vessels used in the collection and removal of fish, aquatic life, or seaweed must be thoroughly checked, cleaned and dried before and after being used for fishing under this special permit.

Freshwater

27. To prevent the spread of unwanted aquatic plants and animals, all equipment used in the collection and removal of fish, aquatic life or seaweed must be thoroughly checked, cleaned and dried as detailed below, before and after being used for fishing under this special permit:
 - a) all equipment used in the transport, holding and release of aquatic life should be treated, as outlined below, before being used again:
 - i. all non-fibrous (metal and plastic) smooth surfaced equipment is to be thoroughly cleaned using freshwater (chlorinated town supply water, bore water or collected rain water); and
 - ii. any non-fibrous smooth surfaced equipment that can retain water such as under seals and hollows within handles etc. must be dismantled in such a way that all surfaces can be thoroughly cleaned using freshwater (chlorinated town supply water, bore water or collected rain water); and
 - b) all other equipment must be:
 - i. immersed for a minimum of 30 seconds, in a water bath heated to at least 50°C; or
 - ii. immersed in water, for a minimum of five minutes containing at least 35g of sodium chloride per litre.

Conditions of Disposal

28. All live fish, aquatic life, or seaweed collected under the authority of this special permit must be returned alive immediately at point of capture, with the exception of organisms where retention is a component of the research or education project, or taken for reference use and appropriately stored.
29. All fish, aquatic life, or seaweed that are not required for research or education purposes and cannot be returned alive immediately at point of capture, (including all dead, diseased or noxious fish, and unwanted or pest organisms) must be disposed of in a biosecure manner.
30. All fish, aquatic life, or seaweed not released immediately at point of capture (e.g. retained for research or display) including progeny must be either:
 - a) euthanised and disposed of in a biosecure manner, once no longer required for research or display; or

- b) by any other method approved in writing by the Manager Customary Fisheries & Spatial Allocations, or relevant Fisheries Compliance Group Team Manager.

Reporting Requirements

- 31. The permit holder must maintain an up-to-date register of fish, aquatic life, or seaweed collected under this special permit. The register must include:
 - a) the number (or weight if appropriate) of species collected;
 - b) the location, date and method of collection;
 - c) the name of vessel used (if appropriate);
 - d) the method of disposal (including whether a specific disposal authorisation was granted by Fisheries New Zealand under condition **Error! Reference source not found.**; if so details must include species, quantities, and dates).
- 32. This register must be shown on request to a Fishery Officer or any other Fisheries New Zealand official.
- 33. A brief annual report shall be sent to Fisheries New Zealand, at specialpermits@mpi.govt.nz providing:
 - a) permit holder details (including name and special permit number),
 - b) the projects undertaken,
 - c) the number or type of each species or species groups collected,
 - d) method of collection,
 - e) the general area where fishing occurred,
 - f) the fate of all organisms taken.

The first report shall be tendered no later than 12 months from the date of signature of this special permit and subsequent reports every 12 months thereafter.

- 34. For the purpose of fishing under the authority of this special permit, the permit holder is exempt from the requirements of the *Fisheries (Reporting) Regulations 2017* and *Fisheries (Recordkeeping) Regulations 1990*.

General Conditions

- 35. Except as otherwise expressly provided, the provisions of the Act or any regulation, notice, direction, restriction, requirement, or condition under the Act shall apply to any fishing, or any person engaged in fishing, under this special permit.
- 36. This special permit must be held at the permit holder's premises. Each individual, or group of the permit holder's employees or agents working in physically different locations from each other, must have a copy of this special permit in their possession while collecting fish, aquatic life, or seaweed under the authority of this special permit.

37. A copy of this special permit must be produced for sighting on request by a Fishery Officer or any other MPI official.
38. The permit holder must ensure that all personnel, including the Master of any vessel used in conjunction with this special permit, read, understand and are fully conversant with the conditions of the special permit before the taking of fish, aquatic life, or seaweed commences under this special permit.
39. The Director-General may amend, add or revoke any conditions to this special permit, or revoke this special permit by notice in writing to the permit holder.
40. This special permit does not preclude the permit holder from complying with any other statutory requirement from any other governing agency.
41. No fishing undertaken, or catch taken or otherwise possessed under this special permit shall give rise to any right, privilege, or expectation or preference in regard to the granting of any future permit, license, authorisation, quota, catch history, individual catch entitlement or other right whatsoever under the Act.
42. Failure to comply with the conditions of this special permit can, at the discretion of the delegated officer, result in the revocation of the permit. Every person commits an offence who contravenes any term or condition placed on this special permit and is liable to a fine not exceeding \$100,000.

DATED at Nelson on this 27th day of September 2019.



David Scranney

Manager Customary Fisheries & Spatial Allocations

Acting pursuant to a delegation issued under Section 41 of the *State Sector Act 1988*.

Schedule ONE
Projects authorised under Special Permit 711

EDUCATIONAL REQUIREMENTS

Overview - The School of Biological Sciences routinely makes use of marine and aquatic plants, algae, and animals (fishes and invertebrates) for educational purposes (e.g., laboratory demonstrations, field studies, ecological, physiological, and taxonomic studies).

Species targeted in support of Teaching Activities (note that species listings are indicative only, and these may be substituted with closely related taxa, dependent upon availability). Anticipated quantities are given in brackets; collections made for purposes of teaching will not exceed 10kg green weight per day, across all species.

Porifera (assorted samples, up to 10kg per year comprising a range)
Shallow water sponges (1kg/yr)

Cnidaria

Planktonic hydroid jellyfish (1kg/yr)

Anthopleura aureoradiata (1kg/yr)

Assorted anemones – e.g. *Actinia tenebrosa*, *Anthothoe* spp., *Corynactis australis*, *Epiactis thompsoni*, *Isactinia olivacea*, *Oulactis muscosa*, *Phlytenactis tuberculosa* (50/yr)

Mollusca

Assorted nudibranchs – e.g. *Plerobranchaea maculate*, *Aplysia* spp., *Doris Wellingtonensis*, (10/yr): Assorted chitons (100/yr)

Haliotis iris (50/yr)

H. australis (50/yr)

Whelks--*Cominella maculosa*, *virgata* and *adspersa*. (500/yr per species)

Siphonaria sp. limpets (300/yr)

Haminoea zelandiae bubblesnails (300/yr)

Assorted limpets, mainly *Cellana* sp. (100/yr)

Periwinkles (100/yr)

Turbo smaragdus (100/yr)

Amphibola crenata (100/yr)

Paphies ventricosum (30/yr)

Tellina liliana (20/yr)

Paphies spp. (30/yr)

Spisula aequilatera (30/yr)

Mactra sp. (10/yr)

Austrovenus stutchburyi (20/yr)

Pecten novaezelandiae (20/yr)

Perna canaliculus (500/yr)

Mytilus galloprovincialis (500/yr)

Aulacomya maoriana (500/yr)

Crustacea

Planktonic copepods (1kg)

Rock barnacles (1kg/yr)

Mantis shrimps – Squilla (20/yr)

Mysid shrimps (1kg/yr)

Amphipods (1kg/yr)

Jasus edwardsii (30 juveniles/yr)

Ovalipes catharus (40/yr)

Pagurus spp (20/yr)

Petrolisthes sp (100/yr)

Notomithrax ursus (10/yr)

Palaemon affinis (50/yr)

Ovalipes catharus (5/yr)

Echinodermata

Ophionereis sp. (100/yr)

Ophiopsammus maculate (10/yr)

Patiriella regularis (30/yr)

Pectinura sp. (20/yr)

Evechinus chloroticus (100/yr)

Echinocardium caudatum (10/yr)

Stichopus sp (30/yr) (also known as *Australostichopus mollis*)

Assorted other invertebrates

Assorted aquatic insects (200/yr)

Assorted Annelid worms (1kg/yr)

Ascidians, various species (5 kg/yr)

Bryozoans, various species (5 kg/yr)

Fishes

Notolabrus celidotus (10/yr)

Tripterygiidae (triplefins, 100/yr)

Clinidae (weedfishes, 10/yr)

Galaxidae (galaxies, 30/yr)

Family Salmonidae (trouts, salmons, chars, 10/yr)

Perca fluviatilis (20/yr)

Marine/Salt marsh Plants and Algae-assorted samples, up to 10kg per day comprising a range of species.

Vessels used and Methods of Capture

We expect to use a combination of the following listed vessels to facilitate these collections: Raukawa Challenger (MNZ No122256), Pipi, (MNZ No131132), Tuatua, (MNZ No131949) Tipa (MNZ No 134586). Methods of collection include coarse mesh plankton tow, water bottle sampling, vanVeen grab sampling, SCUBA diving, snorkelling, and hand collection as appropriate. In most cases surviving specimens will be returned alive to site of collection. Collections will be made as needed throughout the year; most marine collections will be made from Wellington Harbour and along the Wellington South Coast, however, collections may be undertaken throughout New Zealand when appropriate (e.g., during field courses, etc.).

Personnel Involved

Prof Jeff Shima
Prof Simon Davy
Dr Nicole Phillips
Prof Jonathan Gardner
A/Prof James Bell
A/Prof Joe Zuccarello
A/Prof Ken Ryan
Prof Phil Lester
A/Prof Peter Ritchie
Prof Ashley Rowden
Dr Alice Rogers
Dr Chris Cornwall
A/Prof Kevin Burns
Mr Stephen Meyer
Mr John van der Sman
Mr Daniel McNaughtan
Ms Jennifer Howe
Ms Mel Dohner
Ms Angela Fleming
Ms Kayla Griffin
Ms Stacey Parbhu
Ms Pisana Rawson
Mr Neville Higginson
Ms Sue Keall
Ms Sushila Pillai
Ms Chris Thorn

(up to 100 undergraduate students and 15 graduate student Teaching Assistants, under supervision)

RESEARCH REQUIREMENTS

Overview:

The School of Biological Sciences supports a wide range of research programmes undertaken by both graduate students and academic staff. Research questions and objectives likely to fall under the jurisdiction of this permit cover a range of topics (mainly focusing on

ecology, taxonomy, physiology, and evolutionary biology of marine and aquatic life). Specific project objectives and personnel change from year-to-year depending upon funding environments and postgraduate student turnover.

We detail 7 programmes that may very rarely exceed 10 kg greenweight per day. For these programmes (which may comprise multiple projects), we provide details outlined in the MPI document “Research Proposal Requirements”. All of our other collecting activities (combined across all other research projects) will not exceed 10 kg green weight per day. Consequently, for these we append a generic research proposal (“Programme 6”) for a “blanket” permit that encompasses all of these separate activities, with the understanding that (1) we will provide MPI with more detailed and specific information should this be required, and (2) we will submit amendments to this proposal to cover any new projects in the event that these may result in daily collections in excess of 10 kg greenweight.

Programme 1:

Title: Sampling pelagic larval assemblages.

Intentions/Purpose: Several research projects undertaken by academic staff and postgraduate students seek to evaluate patterns of abundance, dispersal, phenotypes, and genotypes of marine larvae that are supplied to coastal habitats (across a wide range of taxa; see the list given above, under ‘Educational Requirements’). Successful recruitment by pelagic larvae is essential for the replenishment of most coastal marine populations, and these projects examine patterns and sources of variation in the composition, abundance, and condition of larval assemblages.

Geographic Areas Investigated: Wellington harbour, Cook Strait, Kapiti, Marlborough Sounds, with occasional sampling further afield.

Programme of Sampling, Analyses, and Time-Frame: These projects make use of a range of sampling approaches, including: (1) deployments and recoveries of artificial substrates (e.g., simulated algal canopies, settlement plates, kitchen scrub pads) which passively collect larvae and/or settlementstage organisms, and light traps (which attract the larval stages of certain species of fishes and invertebrates); (2) sampling with plankton nets; (3) sampling by hand. Collections are generally made on weekly or fortnightly schedules, and may occur year-round but are typically concentrated between November and April of each year (i.e., the period of peak larval recruitment for many coastal marine species in our area). Collected specimens may be counted, measured, and sampled for, e.g., stable isotopes, otolith microchemistry, body condition, genetic fingerprinting, etc. Projects that fall under this programme are ongoing. Samples collected under this programme will generally not exceed 10 kg green weight per day across all individual projects (and rare exceptions are generally attributable to occasional influxes of non-targeted pelagic swarming species, e.g., euphausiids, which may be captured in light traps).

Background and Ethical Considerations: This programme encompasses a range of projects that seek to evaluate processes that contribute to population dynamics and/or evolution of marine species.

These projects are minimally invasive (collecting only a minute fraction of larvae that are

available in the pelagic environment), and they pose minimal risk to targeted and non-targeted species. Moreover, these projects aim to increase our understanding of recruitment variability and patterns of connectivity within marine metapopulations. Both aspects have important implications for sustainable management of marine resources. All projects undertaken by the University are required to abide by strict Animal Ethics regulations, and Health and Safety policies.

Key Personnel:

Prof Jeff Shima
Prof Simon Davy
Dr Nicole Phillips
Prof Jonathan Gardner
A/Prof James Bell
A/Prof Joe Zuccarello
A/Prof Ken Ryan
A/Prof Peter Ritchie
Prof Ashley Rowden
Dr Alice Rogers
Dr Chris Cornwall
Mr John van der Sman
Mr Daniel McNaughtan
(up to 20 postgraduate students and/or research assistants)

Vessels used, Methods of Capture and Disposal:

We expect to use a combination of the following listed vessels to facilitate these collections: Raukawa Challenger (MNZ No122256), Pipi, (MNZ No131132), Tuatua, (MNZ No131949) Tipa (MNZ No 134586). These projects make use of a range of sampling approaches, including: (1) deployments and recoveries of artificial substrates (e.g., simulated algal canopies, settlement plates, kitchen scrub pads) which passively collect larvae and/or settlement-stage organisms, and light traps (which attract the larval stages of certain species of fishes and invertebrates); (2) sampling with plankton nets; (3) sampling by hand (possibly with the aid of SCUBA). Collections will be made as needed throughout the year; most marine collections will be made from Wellington Harbour and along the Wellington South Coast, however, collections may be undertaken throughout New Zealand when appropriate (e.g., during field courses, etc.). Much of the collected material is to be preserved (by freezing, freeze-drying, or in ethanol. All other material will be disposed of as biological waste according to University Policy.

Programme 2:

Title: *The biodiversity, distribution and ecology of the New Zealand sponge fauna*

Intentions/Purpose: The primary aim of this research programme is to: 1) determine the distribution, abundance and biodiversity of the NZ shallow (<30 m) and deeper water (<150 m) sponge fauna, 2) identify the important functional roles that sponges play in NZ marine ecosystems (including primary production, secondary production, spatial competition and interactions with the water column), 3) quantify the responses of sponges to anthropogenic stress, and 4) conduct experimental studies to explain/examine aims 1) and 2).

Sampling locations: This project will predominately focus on the Wellington South coast region and Wellington harbour, but will also include sampling trips to other locations throughout NZ including Fiordland, the Taranaki Coast and the Poor Knights Marine Reserve.

Programme of sampling, analyses and time frame: This research involves surveys of sponge assemblage abundance using SCUBA and a small Remotely Operated Vehicle. Positive identification of sponge species during these surveys requires small samples to be taken (<1cm²). These are then dissolved in acid to remove the organic material and only the skeleton remains, which is used to identify the sponge. Since only small samples are needed for spicule (sponge skeletal material) analysis we only anticipate taking approximately 10 kg of material in any 12 month period. We are also examining how sponges interact with the water column so we will be collecting water samples on a 3 monthly basis (possibly shorter depending on preliminary data) to examine nutrient availability, and utilisation by sponges. We also anticipate conducting laboratory experiments with sponges in the next 12 months, which will require the collection of whole specimens, which may exceed 10 kg in total in any one day (but no more than 20 kg). When short term sampling expeditions are made to other locations we also anticipate collecting more than 10 kg of sponge in one day (but no more than 20 kg).

Vessels used, method of capture and disposal: Depending on the sampling location we may collect sponges by shore diving/snorkelling or using the VUW vessels; *Raukawa Challenger* (MNZ No122256), *Pipi*, (MNZ No131132), *Tuatua*, (MNZ No131949) *Tipa* (MNZ No 134586). Sponge specimens are usually removed from hard substratum environments using a knife or scalpel. These samples will be persevered in ethanol for spicule analysis or maintained in the laboratory for experiments. All other non-preserved material will be disposed of as biological waste according to the Universities policy.

Background and ethical considerations: Since in the majority of cases only small pieces of a sponge are taken (i.e. not the whole specimen), the impact of our sampling will be minimal as sponges are very good regenerators. Where sponges are to be removed for experiments, only the most abundant sponge species will be used (yet to be determined, but work is ongoing), therefore we perceive little environmental impact. We will abide by all VUW ethical guidelines.

Key Personnel

Dr James J. Bell

Mr Ben Harris

Mr Daniel McNaughtan

Mr John van der Sman

(up to 10 postgraduate students and/or research assistants)

Programme 3

Title: *The potential impacts of rising CO₂ levels on temperate calcifying sponges*

Intentions/Purpose: The primary aim of this research programme is: 1) Identify and describe common species of calcifying sponges found on New Zealand rocky reefs, 2) To create a DNA barcoding database to support future studies, 3) Characterize the associated microbial communities and compare assemblages between genetically similar sponge species 4) Describe spicule mineralogy to determine vulnerability to lowered pH, 5) Quantify the biological responses of sponge hosts to the effects of ocean acidification and warming.

Sampling locations: This project will predominately focus on the Wellington South coast region including sites in and out of the Taputeranga Marine Reserve with an authorisation permit granted from D.O.C. (authorisation number 62358-MAR).

Programme of sampling, analyses and time frame: We will be assessing the potential impacts of anthropogenic driven climate change on temperate rocky reefs, using calcareous sponges as indicator species. Initially we will assess diversity through genetic sampling, creating a DNA barcoding database of calcareous sponges found on the Wellington South Coast. After species have been identified, live specimens of 4 species (48 specimens per species) will be collected for a lab based experiment in which temperature and pH levels will be manipulated. When possible partial samples will be collected instead of whole sponges, as they are capable of rapid regeneration. Four treatment combinations will be conducted and physiological responses to each monitored using visual assessment, respiration, and growth as indication of sponge health. Changes to the microbial communities hosted by the sponges will also be assessed using presence-absence analysis of microbial populations through PCR amplification. Furthermore, we will examine skeletal vulnerability of species to dissolution using scanning electron microscopy and mass spectrometry. We will be leaving no permanent structures the reserve. We anticipate conducting laboratory experiments with four species of sponge, one species from each of the following genera; *Clathrina*, *Leucetta*, *Sycon* and *Leucosolenia*. Due to the smaller size of our target sponges (<10cm) we will require the collection of whole specimens, 48 specimens of each species will be collected for a total of 196 specimens for over the course of a year and will not exceed more than 10kg a day.

Vessels used, method of capture and disposal: Depending on the sampling location we may collect sponges by shore diving/snorkelling or using the VUW vessels; *Pipi*, (MNZ No131132), *Tuatua*, (MNZ No131949) *Tipa* (MNZ No 134586). Sponge specimens are usually removed from hard substratum environments using a knife or scalpel. These samples will be maintained in ambient seawater and transported to the laboratory for experiments. All other non-preserved material will be disposed of as biological waste according to the Universities policy.

Background and ethical considerations: We expect there will be a minimum level of impact as the result of our research because the collection numbers are low compared to their relative abundances and collections will not occur during critical life stages or reproductive periods. Calcareous sponges are thought to be short-lived (less than one year in some cases) in comparison with Demosponge. Additionally, although very little study has been done on the reproduction of our sponges many calcareous sponges have been shown to be reproductively active throughout the whole year so larval recruitments will occur regularly. These characteristics in combination with relatively small collections within and outside Taputeranga Marine Reserve will have an acceptable level of impact. The species with which we will have to take the most caution is *Leucetta*, due to its lower average abundance, but it is

still found in abundance and is a larger species that we will likely be able to take partial samples from instead of whole specimen. We will abide by all VUW ethical guidelines.

Key Personnel

Dr James J. Bell

Mr Daniel McNaughtan

Mr John van der Sman

(up to 10 postgraduate students and/or research assistants)

Programme 4 Effects of sediment and nutrients enrichment on response of temperate shallow water temperate sponges

Intentions/Purpose: The primary aim of this research programme is: 1) Assess acute and sub-lethal effects of elevated sediment concentrations (SSCs) on New Zealand shallow water sponges, 2) Investigate cumulative effects of suspended sediment and nutrient enrichment on the physiology of New Zealand shallow water sponges, 3) Assess histological and energetic mechanisms utilized by temperate shallow water sponges exposed to suspended sediment.

Sampling locations: This project will predominately focus on the Wellington South coast region.

Programme of sampling, analyses and time frame: We will be assessing the potential impacts of sediment and nutrient enrichment on the physiology and histology of common New Zealand shallow water sponges. Live specimens of 2 species (80 specimens per species) will be collected for laboratory-based experiments where sediment and nutrients levels will be manipulated. Four treatment combinations and a control will be conducted and physiological responses to each monitored using visual assessment, respiration, growth and feeding efficiency as indicators of sponge health. Furthermore, we will examine histology of sponges exposed to suspended sediments using scanning electron microscopy. We will use two sponge species: *Crella incrustans* and *Tethya bergquistae*. We will require the collection of whole specimens. 80 specimens per species will be collected for a total of 160 specimens.

Vessels used, method of capture and disposal: Specimens will be collected by SCUBA/snorkelling. Sponge specimens are usually removed from hard substratum environments using a knife or a scalpel. Samples will be maintained in ambient seawater and transported to the laboratory for experiments.

Background and ethical considerations: We expect there will be a minimum level of impact as the result of our research because the collection numbers are low compared to their relative abundances and collections will not occur during critical life stages or reproductive periods.

Key Personnel

Dr James J. Bell

Mr Daniel McNaughtan

Mr John van der Sman

(up to 10 postgraduate students and/or research assistants)

Programme 5: Trophic linkages between benthic and pelagic organisms of the Fiordland marine ecosystem

Intentions/Purpose: The overall aim of this research programme is to quantify the interactions between benthic and pelagic organisms in the New Zealand Fiordland ecosystem, and specifically; 1) to fully characterize benthic and pelagic sessile and mobile fauna of the Fiordlands, 2) to quantify trophic links between organisms using stable isotope analysis, and 3) to use results from 1) and 2) to create detailed food webs, and later predictive models to assess the impacts of climate change on the productivity, stability and resilience of the Fiordland marine ecosystem.

Sampling locations: This project will predominately focus on the Fiordland national park

Programme of sampling, analyses and time frame: The initiation of this research project will involve fieldwork in Fiordland where SCUBA and video surveys will be undertaken to characterize benthic and pelagic organisms and fishing and hand collection will be used to collect specimens and tissue samples for stable isotope analysis. Water samples and detrital samples will also be taken to quantify primary productivity for later use in models. Although only small amounts of tissue are needed for stable isotope analysis, the procedure to obtain this tissue will require specimens to be sacrificed in many cases. Although only small numbers of each species will be required for our analyses, the total weight of sampling across all species may exceed 10 kg in any one day.

Vessels used, method of capture and disposal: Research will be conducted from the DOC vessel “Southern Winds” in collaboration with a DOC team. Fish samples will be collected using fishing techniques best suited for target species. Samples of benthic organisms such as sponges and corals will either be taken by hand, or with the use of a remotely operated vehicle, depending on substrate depth. Samples will be preserved in ethanol and all non-preserved material will be disposed of as biological waste according to the Universities policy.

Background and ethical considerations: Although a relatively large total number of samples will be needed to determine trophic linkages (up to 800), the impact on any one individual species will be minimal, and unlikely to exceed mortality experienced by organisms naturally, or from recreational fishing. Rare or sensitive organisms such as deepwater corals will be sampled non-lethally and the minimum amount of tissue required will be taken. We will abide by all VUW ethical guidelines.

Key Personnel

Dr Alice Rogers

Dr James J. Bell

(up to 10 postgraduate students and/or research assistants)

Programme 6: Response of New Zealand seaweed to climate change

Intentions/ Purpose: This is a Royal Society funded research programme that will last for 5 years (2018-2022). The aim of this research is to assess the responses of New Zealand seaweed, particularly coralline algae, to the impacts of climate change. This work involves

quantifying the physical and chemical environment within and outside of kelp/fucoid beds, and also involves ecological, physiological, and geochemical assessments of New Zealand seaweed responses to different climate change stressors. This work requires collections of seaweed throughout the 5 year period. The research programme will encompass three different PhD projects, two involving unnamed students and one involving Erik Krieger.

Geographic Areas Investigated: Wellington South Coast, Kāpiti, East Otago, White Island

Programme of Sampling, Analyses and Time- Frame:

The first phase of this programme involves collecting numerous coralline algal species to grow in the laboratory between 2018 and 2020. Surveys of seaweed abundance will also take place over the 5 year period, with collections for $\delta^{13}\text{C}$, $\delta^{11}\text{B}$ and species identification occurring throughout the 5 year period.

Background and ethical considerations:

Ocean acidification (hereafter “OA”) is caused by increasing absorption of atmospheric CO_2 , and it is a major threat to marine taxa globally. OA changes reduce calcification rates, alters primary productivity, and perturbs the internal pH homeostasis of marine organisms. These changes are predicted to alter the structure and functioning of both benthic reef ecosystems and pelagic food chains. Coralline algae play an essential role in the creation and binding together of reefs in photic zones ranging from the equator to the poles. They also act as settlement substrates for invertebrates such as corals, abalone and sea urchins. Both coral reefs and temperate rocky reefs as we know them today would not exist without coralline algae, and their disappearance would have severe impacts for global fisheries and tourism industries due to ecosystem change and loss of biodiversity. Because of their highly soluble high magnesium calcite skeletons, coralline algae are predicted to be among the taxa most at risk from OA, which causes reduced calcification and recruitment rates, and increased bleaching.

This work will assess their responses to different climate change stressors, including OA. It will also involve determining how their responses interact with variability in the chemical and physical environment (i.e. light, temperature, pH, O_2). This work will also involve baseline assessments of the abundance and physiology of seaweeds on Wellington’s iconic south coast and the Kāpiti region, in order to greater understand their responses to future climate change. Some of this work will involve assessing *Undaria pinnatifida* physiology using destructive techniques. These collections will be rare, but all equipment used to collect *Undaria* will be thoroughly cleaned and dried before subsequent use in the water.

Key Personnel

Dr Christopher Cornwall

Erik Krieger (PhD candidate)

Two unnamed PhD students

Mr Daniel McNaughtan (Technician)

Mr John van der Sman (Technician)

Up to 4 graduate and undergraduate students or volunteers

Vessels used, Methods of Capture and Disposal: We expect to use a combination of Victoria University of Wellington owned vessels [e.g., Raukawa Challenger (MNZ No122256), Pipi, (MNZ No131132), Tuatua, (MNZ No131949) Tipa (MNZ No 134586)] and undefined commercial vessels and vessels operated by Otago University. Methods of collection include SCUBA, snorkelling, collection via hand collection. Cleaning and drying

of all equipment will occur after collections within areas known to contain *Undaria pinnatifida*.

Programme 7: Title: Blanket Permit for Victoria University Research Programmes on the Ecology, Taxonomy, Physiology, and Evolutionary Biology of Marine and Aquatic Life

Intentions/Purpose: The remainder of our active and anticipated research programs do not require collections of biological material that exceed 10 kg per day (all species and projects combined). We therefore request a blanket permit to cover these activities as per 97(a)(ii). All projects are entirely academic and are not commercial enterprises (e.g., no collected material is to be sold, etc.). The environmental impacts of all projects are considered NIL. Additional information or details about any of our projects may be requested at any time.

Species and Quantities Likely to be Collected in Support of Research Activities– (only a subset of these species will likely be collected in any given year, and our activities may occasionally target other species in small quantities. In many cases, only a small quantity of tissue may be collected (e.g., a finclip, for genetic analysis, with immediate return of captured specimens alive at the point of capture).

Species listings are indicative only, and these may be substituted with closely related taxa, dependent upon specific projects and/or availability. Anticipated quantities are given in brackets; collections made under this category will not exceed 10 kg green weight per day, across all species.

Anticipated Non-targeted Collections (i.e., Community sampling):

Hard-shore encrusting invertebrate communities on settlement plates (10 kg greenweight per year)

Larval reef fishes in light traps plankton tows, or artificial collectors (mainly Tripterygiidae, Galaxiidae, and Labridae, 20 kg greenweight per year)

Larval invertebrates on settling plates, tube traps, plankton tows, or artificial collectors (mainly mussels and barnacles, 2 kg greenweight per year)

Phytoplankton/Zooplankton in bottle samples and tube traps (2 kg greenweight per year)

Freshwater cyanobacteria/algae (multiple species) (10 kg greenweight per year)

Anticipated Targeted Collections:

Assorted chitons (100/yr)

Haliotis iris (50/yr)

H. australis (50/yr)

Whelks--*Cominella maculosa*, *virgata* and *adspersa*. (500/yr per species)

Siphonaria sp. limpets (300/yr)

Haminoea zelandiae bubblesnails (300/yr)

Assorted limpets, mainly *Cellana* sp. (300/yr)

Periwinkles (200/yr)
Turbo smaragdus (200/yr)
Amphibola crenata (200/yr)
Paphies ventricosum (300/yr)
Panopea zelandica (10/yr)
Tellina liliana (10/yr)
Paphies spp. (300/yr)
Spisula aequilatera (10/yr)
Mactra sp. (10/yr)
Austrovenus stutchburyi (500/yr)
Pecten novaezelandiae (100/yr)
Perna canaliculus (3000/yr)
Mytilus galloprovincialis (500/yr)
Aulacomya maoriana (500/yr)
Anthopleura aureoradiata (1kg/yr)
Cricophorus nutrix (1kg/yr)
Ostrea chilensis (800/year)
Haustrum scobina (500/yr)
Haustrum haustorium (500/yr)

Crustacea

Planktonic copepods (3 kg/yr)
Rock barnacles (3 kg/yr)
Mantis shrimps – Squilla (30/yr)
Mysid shrimps (3 kg/yr)
Amphipods (3 kg/yr)
Jasus edwardsii (50 juveniles/yr)
Ovalipes catharus (40/yr)
Pagurus spp (20/yr)
Petrolisthes sp (300/yr)

Echinodermata

Patiriella regularis (100/yr)
Pectinura sp. (10/yr)
Evechinus chloroticus (100/yr)
Fellaster zelandica (10/yr)
Echinocardium caudatum (20/yr)
Stichopus sp (30/yr)

Assorted other invertebrates

Ascidians, various species (5 kg/yr)
Bryozoans, various species (5 kg/yr)
Assorted aquatic insects (200/yr)

Fishes

Notolabrus celidotus (10/yr)

Tripterygiidae (triplefins, 500/yr)
Clinidae (weedfishes, 100/yr)
Galaxiidae (whitebait species, 5kg/yr)
Cheimarrichthys fosteri (200/yr)
Retropinna retropinna (200/yr)
Stokellia anisodon (200/yr)
 Family *Salmonidae* (trouts, salmon, chars, 50/yr)
Perca fluviatilis (50/yr)
Parapercis colias (500/yr)
Chrysophrys auratus (300/yr)
Polyprion oxygeneios (300/yr)
Polyprion americanus (300/yr)
Seriola grandis (300/yr)
Sprattus antipodum (300/yr)
Sprattus muelleri (300/yr)
Hyporhamphus ihi (300/yr)
Arripis trutta (300/yr)
Rhombosolea plebeia (300/yr)
Rhombosolea leporina (300/yr)
Rhombosolea retiaria (300/yr)
Rhombosolea tapirina (300/yr)
Mustelus lenticulatus (300/yr)
Aldrichetta forsteri (300/yr)
Dipturus nasutus (300/yr)
Dipturus innominata (300/yr)
Ovalipes catharus (300/yr)
Pseudocaranx dentex (Trevally) - (300/yr)
Nemadactylus macropterus (Tarakihi) - (300/yr)

Marine/Salt marsh Plants and Algae-assorted samples, up to 10 kg per day comprising a range of species.

Vessels used and Methods of Capture

We expect to use a combination of the following listed vessels to facilitate these collections: Raukawa Challenger (MNZ No122256), Pipi, (MNZ No131132), Tuatua, (MNZ No131949) Tipa (MNZ No 134586). Methods of collection include coarse mesh plankton tow, water bottle sampling, vanVeen grab sampling, SCUBA diving, snorkelling, and hand collection as appropriate. In most cases surviving specimens will be returned alive to site of collection. Collections will be made as needed throughout the year; most marine collections will be made from Wellington Harbour and along the Wellington South Coast, however, collections may be undertaken throughout New Zealand when appropriate (e.g., during field courses, etc.).

Personnel Involved

Prof Jeff Shima
 Prof Simon Davy
 Dr Nicole Phillips
 Prof Jonathan Gardner

A/Prof James Bell
A/Prof Joe Zuccarello
A/Prof Ken Ryan
A/Prof Peter Ritchie
Prof Ashley Rowden
Dr Alice Rogers
Dr Chris Cornwall
A/Prof Kevin Burns
Mr John van der Sman
Mr Daniel McNaughtan
(up to 5 postdoctoral researchers, 50 postgraduate students and/or research assistants)

Schedule Two Species of Importance to tangata whenua

Name in English	Scientific Name	Name in Māori	General Area
-	<i>Longimactra elongata</i>	Poua	Te Roroa (south of Hokianga Harbour)
Agar	Class <i>rhodophaycea</i>		Te Roroa (south of Hokianga Harbour)
Black flounder	<i>Rhombosolea retiara</i>	Patiki mohoao	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Black mussel	<i>Xenostrobus pulex</i>	Kutae	Te Uri O Hau (north Kaipara)
Blue moki	<i>Latridopus ciliaris</i>	Moki	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Blue mussel	<i>Mytilus galloprovincialis/Mytilus edulis</i>	Kuku/Kutae	Ngāti Ruanui (south Taranaki) Ngāti Ruanui (south Taranaki)
Bull kelp	<i>Durvillea</i> spp.	Rimurapa	Ngāi Tahu claim area Te Roroa (south of Hokianga Harbour)
Butterfish	<i>Odax pullus</i>	Marari	Te Roroa (south of Hokianga Harbour) Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Canterbury mudfish	<i>Neochanna burrowsius</i>	Kawaro	Ngāi Tahu claim area
Cats eye	<i>Turbo smaragdus</i>	Korama, Pupu	Ngāti Ruanui (south Taranaki) Ngāti Tama (north Taranaki) Ngāti Rauru (south Taranaki) Ngāti Mutunga (Taranaki, north of New Plymouth) Te Roroa (south of Hokianga Harbour)
Cockle	<i>Austrovenus stutchburyi</i>	Tuangi	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Common shrimp	<i>Palaemon affinis</i>	Koeke	Ngāi Tahu claim area Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Common smelt	<i>Retropinna retropinna</i>	Paraki, Ngaiore	Ngāi Tahu claim area Ngāti Ruanui (south Taranaki)
Conger eel	<i>Conger verreauxi</i>	Koiro, ngoiro, totoke, hao, ngoio, ngoingoi, putu	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Cooks turban	<i>Cookia sulcata</i>	Karekawa	Te Roroa (south of Hokianga Harbour)
Crayfish	<i>Jasus edwardsii</i>	Koura	Te Uri O Hau (north Kaipara)
Eel – longfin and shortfin	<i>Anguilla australis</i> <i>Anguilla dieffenbachii</i>	Tuna heke	Te Uri O Hau (north Kaipara) Ngāti Awa (Bay of Plenty, Whakatane area) Ngāti Tuwharetoa (Bay of Plenty, Matata area) Ngāti Mutunga (Taranaki, north of New Plymouth) Ngāti Rauru (south Taranaki) Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour) Waikato-Tainui
Elephant fish	<i>Callorhynchus millii</i>	Reperepe	Ngāti Ruanui (south Taranaki)
Flounder	<i>Rhombosolea</i> spp	Patiki	Te Roroa (south of Hokianga Harbour)
Freshwater crayfish	<i>Paranephrops</i> spp.	Waikoura, Kewai	Ngāi Tahu claim area Ngāti Ruanui (south Taranaki) Ngāti Tama (north Taranaki) Ngāti Rauru (south Taranaki)

			Ngāti Mutunga (Taranaki, north of New Plymouth) Te Roroa (south of Hokianga Harbour)
Freshwater mussel	<i>Unio menziesi</i>	Kakahi, Koaru	Ngāi Tahu claim area Ngāti Tama (north Taranaki) Ngāti Rauru (south Taranaki) Ngāti Mutunga (Taranaki, north of New Plymouth)
Frostfish	<i>Lepidopus caudatus</i>	Para	Ngāti Ruanui (south Taranaki)
Giant bully	<i>Gobiomorphus gobioides</i>	Kokopu, Hawai	Ngāi Tahu claim area
Giant kokopu	<i>Galaxias argenteus</i>	Taiwharu	Ngāi Tahu claim area
Green lipped mussel	<i>Perna canaliculus</i> / <i>Mytilus edulis</i>	Kutae, Kuku, Kutai	Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour) Te Uri O Hau (north Kaipara)
Grey mullet	<i>Mugil cephalus</i>	Kanae	Te Roroa (south of Hokianga Harbour)
Groper	<i>Polypion oxygenios</i>	Hapuka	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Gurnard	<i>Chelidonichthys kumu</i>	Kumukumu	Te Uri O Hau (north Kaipara)
Hermit crab	<i>Pagurus novaezeelandiae</i>	Kaunga	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Horse mussel	<i>Atrina zelandica</i>	Waharaoa	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Kahawai	<i>Arripis trutta</i>	Kahawai	Te Roroa (south of Hokianga Harbour)
Karengo / Nori	<i>Porphyra columbina</i>	Karengo	Ngāi Tahu claim area Te Roroa (south of Hokianga Harbour)
Kelp fish	<i>Chironemus marmoratus</i>	Ngakoikoi	Te Roroa (south of Hokianga Harbour)
Kina	<i>Evechinus chloroticus</i>	Kina	Ngāti Ruanui (south Taranaki) Ngāti Tama (north Taranaki) Te Uri O Hau (north Kaipara)
King fish	<i>Seriola grandis</i>	Haku	Te Roroa (south of Hokianga Harbour) Te Uri O Hau (north Kaipara)
Lamprey	<i>Geotria australis</i>	Pihirau	
Lamprey / Southern lamprey	<i>Geotria australis</i>	Kanakana, Ute Piharau	Ngāi Tahu claim area Ngāti Ruanui (south Taranaki) Ngāti Mutunga (Taranaki, north of New Plymouth) Te Roroa (south of Hokianga Harbour)
Lemon sole	<i>Pelotretus flavilatus</i>	Patiki tore	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Limpet	Families <i>Patellidae</i> , <i>Acmaeidae</i> and <i>Lepetidae</i>	Ngakahi	Te Roroa (south of Hokianga Harbour)
Ling	<i>Genypterus blacodes</i>	Hokorari	Te Roroa (south of Hokianga Harbour)
Moki	<i>Latridopsis ciliaris</i>	Moki	Te Roroa (south of Hokianga Harbour)
Mud crab	<i>Helice</i> sp.	Papaka parupatu	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Mud snail	<i>Amphibola crenata</i> / <i>Turbo smaragdus</i> / <i>Zedilom</i> spp.	Waikaka	Ngāti Ruanui (south Taranaki) Te Uri O Hau (north Kaipara)
Mullet	<i>Mugil cephalus</i>	Kanae	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Nerita	<i>Nerita atramentosa melanotragus</i>	Makerekere	Te Roroa (south of Hokianga Harbour)
New Zealand sole	<i>Peltorhamphus novaezeelandiae</i>	Patiki rore	Ngāti Ruanui (south Taranaki) Te Uri O Hau (north Kaipara)
Octopus	<i>Octopus maorum</i>	Wheke	Te Uri O Hau (north Kaipara)

			Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Paddle crab	<i>Ovalipes catharus</i>	Papaka	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Parore	<i>Girella tricuspidata</i>	Parore	Te Roroa (south of Hokianga Harbour)
Paua	<i>Haliotis iris</i> , <i>Haliotis australis</i>		Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Pilchard	<i>Sardinops neopilchardus</i>	Mohimohi	Te Roroa (south of Hokianga Harbour)
Pipi	<i>Paphies australis</i>	Pipi	Ngāti Ruanui (south Taranaki)
Pipi	<i>Paphies australis</i>	Pipi	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Pupu	<i>Turbo smaragdus</i>	Pupu	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Red shore crab	<i>Plagusia chabrus</i>	Papaka	Te Roroa (south of Hokianga Harbour)
Rock cod	<i>Lotella rhacinus</i> <i>Parapercis colias</i>	Patukituki	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Rock lobster	<i>Jasus edwardsii</i> , <i>Jasus verreauxi</i>	Koura	Te Uri O Hau (north Kaipara) Te Roroa (south of Hokianga Harbour) Ngāti Ruanui (south Taranaki)
Rock oyster	<i>Crassostrea glomerata</i>	Karauria	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Sand flounder	<i>Rhombosolea plebeia</i>	Patiki	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Scallop	<i>Pecten novaezelandiae</i>	Kuakua, pure, tipa, tipai, kopa	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
School shark	<i>Galeorhinus galeus</i>	Pioke	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Sea anemone	<i>Actinia</i> spp. Cnidaria group <i>Actinia tenebrosa</i>	Kotoretore, Kotore moana, Kotore, humenga	Ngāti Tama (north Taranaki) Ngāti Rauru (south Taranaki) Ngāti Mutunga (Taranaki, north of New Plymouth) Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Sea cucumber	<i>Stichopus mollis</i> <i>Class holothuroidea</i>	Rori, Rore	Ngāti Rauru (south Taranaki) Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Sea lettuce	<i>Ulva</i> spp.	Karengo	Ngāi Tahu claim area Ngāti Tama (north Taranaki) Ngāti Mutunga (Taranaki, north of New Plymouth)
Sea trout	<i>Arripus trutta</i>	Kahawai	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Sea tulip	<i>Pyura pachydermatum</i>	Kaeo	Ngāi Tahu claim area Ngāti Ruanui (south Taranaki)
Sea urchin	<i>Evechinus</i> spp.	Kina	Te Roroa (south of Hokianga Harbour) Ngāti Ruanui (south Taranaki)
Sea snail	<i>Scutus breviculus</i>	Rori	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)
Shark	<i>Order ellasmobranchus</i>	Mango	Te Roroa (south of Hokianga Harbour)
Shark (all species) includes, Great white, bronze whaler,	<i>Elasmobranchii</i> spp.	Pioke	Te Uri O Hau (north Kaipara)

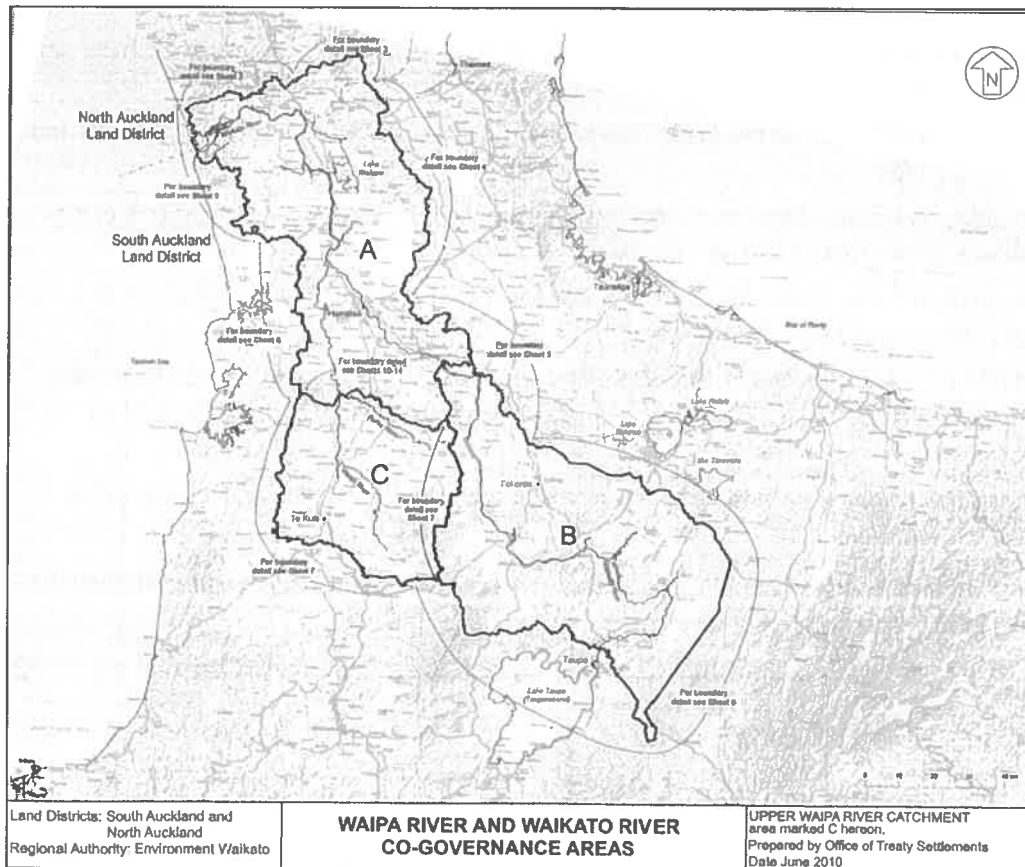
Hammerhead etc			
Smelt	<i>Retropinna retropinna</i>	Ngaiore, Karawaka	Te Roroa (south of Hokianga Harbour)
Snapper	<i>Pagrus auratus</i>	Tamure	Te Uri O Hau (north Kaipara) Te Roroa (south of Hokianga Harbour)
Sole	<i>Peltorhampus novaezeelandiae</i>	Patiki rori	Te Roroa (south of Hokianga Harbour)
Sprat	<i>Sprattus antipodum</i>	Kupae	Te Roroa (south of Hokianga Harbour)
Starfish	<i>Echinoderms</i>	Patangatanga, patangaroa, pekapeka	Ngāti Ruanui (south Taranaki) Te Uri O Hau (north Kaipara)
Stingray	<i>Dasyatis rhinobatis</i> spp <i>Dasyatis brevicaudatus</i>	Whai	Te Uri O Hau (north Kaipara) Te Roroa (south of Hokianga Harbour)
Surf clam	<i>Dosinia anus</i> , <i>Paphies donacina</i> , <i>Mactra discor</i> , <i>Mactra murchsoni</i> , <i>Spisula aequilateralis</i> , <i>Basina yatei</i> , or <i>Dosinia subrosa</i> , <i>maetra species</i>	Purimu	Ngāti Ruanui (south Taranaki) Te Uri O Hau (north Kaipara)
Toheroa	<i>Paphies ventricosa</i>	Toheroa, Tupehokura	Ngāi Tahu claim area Te Uri O Hau (north Kaipara) Te Roroa (south of Hokianga Harbour)
Torrent fish	<i>Cheimarrichthys fosteri</i>	Piripiripohatu	Ngāi Tahu claim area
Trevally	<i>Caranx geogianus</i>	Araara	Te Roroa (south of Hokianga Harbour) Te Uri O Hau (north Kaipara)
Tuatua	<i>Paphies subtriangulata</i> <i>Paphies donacina</i>	Tuatua	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki) Te Roroa (south of Hokianga Harbour)
Yellowbelly flounder	<i>Rhombosolea leporina</i>	Patiki totara	Te Uri O Hau (north Kaipara) Ngāti Ruanui (south Taranaki)

Schedule Three

Areas that may only be fished by an amendment to the Schedule One approved projects

Area	Iwi
<p>Te Arawa Lakes, Rotorua, Bay of Plenty:</p> <p>Lakes Rotorua, Rotoiti, Rotoehu, Rotoma, Ōkātina, Tikitapu, Ōkareka, Tarawera, Rotomahana, Rerewhakaaitu, Ōkaro (also known as Ngākaro), Ngāhewa, Ngāpouri (also known as Ōpouri) and Tutaeinanga.</p>	<p>Affiliate Te Arawa iwi/Hapu (Ngati Tahu, Ngati Whaoa, Ngati Kearoa, Ngati Tuara and Tuhourangi, Ngati Wahiao, Raukawa)</p>
<p>Waikato (see map below)</p>	<p>Area A - Waikato-Tainui</p> <p>Area B - Raukawa, Te Arawa, Tuwharetoa</p> <p>Area C - Maniapoto</p>
<p>Rotoma Forest Conservation Area, Lake Rotoma Scenic Reserve, Lake Tamurenui Wildlife Management Reserve, parts of the Tarawera and Rangitaiki Rivers.</p>	<p>Ngāti Tūwharetoa</p>
<p>Lake Taupo</p>	<p>Ngāti Tūwharetoa</p>
<p>Lake Kohangatera and Lake Kohangapiripiri (the Parangarahu, commonly referred to as the Pencarrow Lakes)</p>	<p>Taranaki Whānui ki Te Upoko o Te Ika</p>

Waikato Areas



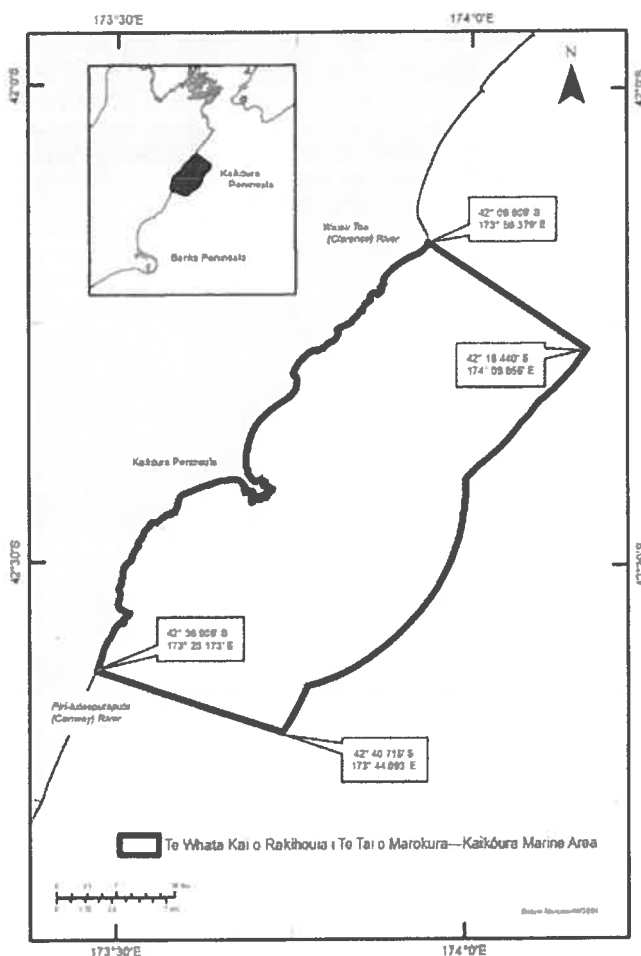
Schedule Four

Te Whata Kai o Rakihouia i Te Tai o Marokura (Kaikōura Marine Area)

Te Whata Kai o Rakihouia i Te Tai o Marokura—Kaikōura Marine Area comprises all those waters enclosed by a line—

- (a) commencing at a point on the mean high-water mark at Clarence Point (at 42°09.809'S and 173°56.379'E); then
- (b) proceeding in a straight line in a south-easterly direction to a point on the outer limit of the territorial sea (at 42°16.440' S and 174°09.855' E); then
- (c) proceeding in a south-westerly direction following the outer limit of the territorial sea to a point at 42°40.715' S and 173°44.093' E; then
- (d) proceeding in a straight line in a north-westerly direction to a point on the mean high-water mark approximately 300 m north of the mouth of the Conway River (at 42°36.909' S and 173°28.173' E); then
- (e) proceeding in a generally north-easterly direction along the mean high-water mark to the point of commencement.

The following map is indicative only, and if there is any inconsistency between the map and the description the description prevails.



Schedule Five

List of Contact Details

MPI Fisheries Compliance Group Team Managers can be contacted on the following:

Upper North Island	Stephen Rudsdale Tel (09) 470 0580 Email Stephen.Rudsdale@mpi.govt.nz cc. Charlene.Sutton@mpi.govt.nz
Western North Island	Andre Espinoza Tel (09) 820 7742 Email Andre.Espinoza@mpi.govt.nz cc. Louise.Kay@mpi.govt.nz
Mid-Central North Island	Adam Plumstead Tel (06) 869 0870 Email Adam.Plumstead@mpi.govt.nz cc. Heather.Williams@mpi.govt.nz
Eastern & Lower North Island	Mike Green Tel (04) 576 8040 Email Mike.Green@mpi.govt.nz cc. Linda.Berry@mpi.govt.nz
Upper South Island	Howard Reid Tel (03) 339 3676 Email Howard.Reid@mpi.govt.nz cc. Susan.Gruschow@mpi.govt.nz
Lower South Island	Garreth Jay Tel (03) 466 3624 Email Garreth.Jay@mpi.govt.nz cc. Catherine.Cunninghame@mpi.govt.nz

MPI Manager Customary Fisheries & Spatial Allocations (Nelson) can be contacted on the following:

Nelson	David Scranney Tel (03) 548 1069 Email David.Scranney@mpi.govt.nz cc. Christine.Bowden@mpi.govt.nz cc. Specialpermits@mpi.govt.nz
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Fisheries New Zealand

Tini a Tangaroa

SPECIAL PERMIT AMENDMENT (711-2)

The Director-General of the Ministry for Primary Industries acting through his delegated officer (**Director-General**) and pursuant to section 97(5) of the *Fisheries Act 1996* (**the Act**), hereby amends a special permit issued to:

**Victoria University of Wellington
School of Biological Sciences
PO Box 600
WELLINGTON 6140**

Client Number: 8730069

and agents, representatives and employees of Victoria University of Wellington, School of Biological Sciences (**the permit holder**), as part of their association with the permit holder are hereby notified that in respect of permit 711 issued to the above on 27 September 2019, the following amendments to the special permit are made:

Condition 30 is hereby revoked and replaced with the following:

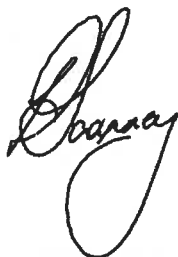
30. All fish, aquatic life, or seaweed not released immediately at point of capture (e.g. retained for research or display) including progeny must be either:
- a) returned back to point of capture, if native species, as long as the animals are in good health. If the animals present any signs of disease or illness, the species should be placed in isolation and the water contained. If such an event should occur, MPI is to be notified on the emergency hotline (0800 809966); or
 - b) euthanised and disposed of on land in an appropriate manner consistent with public health standards, once it is no longer required for research or display; or
 - c) by any other method approved in writing by the Manager Customary Fisheries & Spatial Allocations, or relevant Fisheries Compliance Group Team Manager.

Condition 31 is hereby revoked and replaced with the following:

31. The permit holder must maintain an up-to-date register of fish, aquatic life, or seaweed collected under this special permit. The register must include:

- a) the number (or weight if appropriate) of species collected;
- b) the location, date and method of collection;
- c) the name of vessel used (if appropriate); and
- d) the method of disposal—including details of species, quantities, location, and dates if a specific disposal authorisation was granted by Fisheries New Zealand under condition 30 c) or if species are returned back to point of capture in accordance with condition 30 a).

All other conditions of the special permit remain unchanged.

A handwritten signature in black ink, appearing to read 'D. Scranney', with a large, stylized loop at the bottom.

David Scranney

Manager Customary Fisheries & Spatial Allocations

DATED at Nelson this 10th day of January 2020.

Acting pursuant to a delegation issued under section 41 of the *State Sector Act 1988*