

Department of Conservation *Te Papa Atawhai*

The Department recommends that you contact us to discuss the proposed activity prior to completing the application forms:

Permissions Advisor (Support) Phone: +64 3 371 3700 Email: <u>permissionschristchurch@doc.govt.nz</u>

Please provide all information requested in as much detail as possible. Applicants will be advised if further information is required before this application can be processed by the Department.

This form must be completed when applying for permits to hold, take, import, export marine mammals for research purposes ONLY. If you wish to hold, take, import, export marine mammals for reasons other than research please fill in Form 12b, available on the DOC website.

Please note that simple research permit applications should be lodged at least 30 working days prior to a permit being required. Complex applications may require longer.

Once you have filled in your application form, please complete this checklist to ensure that all components of your application are complete. This will help prevent any possible delays in the processing of your application.

- Legal status (company/trust/inc society) registration number (if not an individual)
- □ All appropriate application forms
- □ Written consultations (if applicable)
- Supporting information and detail including maps as required in activity forms
- □ Have you read and accept the section regarding the liability of the applicant for payment of fees.
- □ If Animal Ethics Committee Approval has been obtained, provide details and attach copies.
- □ Have you signed your application?

All efforts in putting together a detailed application are greatly appreciated and will allow the Department to effectively and efficiently process your application.

AgRes	AgResearch Ltd					
N Registered Y Trust N Incorporated Society						N
N/A	N/A					
Please supply the company, trust or incorporated society registration number: 552736						
If an individual please supply your date of birth (this is a unique identifier for you): N/A						
See a	See above					
Private	Private Bag 4749, Christchurch 8140					
1365 Springs Road, Lincoln 7674						
64 3 321 8731 Website https://www.agresearch.co.nz						
Contact Person and role Duane Harl						
+64 3 321 8710		Cell Phone N//		I/A		
duane.harland@agresearch.co.nz						
Melissa	Melissa Bryant – Science Group Administrator					
	Cel	Phone	N/A			
melissa.bryant@agresearch.co.nz						
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B. Title of Research Project

How single seal hairs respond to water can help us better understand our own hair

C. Details of Proposed Activity						
X Take	X Hold	X Import	X Export			
NB please tick all applicable activities						

D. Applicants/Key Researchers

List the names and institutional affiliations of all the key individuals involved with the research. List any convictions or offences, of any of the applicants or key researchers, against the MMPA 1978 or any other Act involving the mistreatment of animals.

Duane Harland, AgResearch Ltd, Lincoln, New Zealand Marina Richena, AgResearch Ltd, Lincoln, New Zealand Yukari Nishita, Kao Ltd, Tokyo, Japan

E. Description of Proposed Research

<u>Abstract</u>

Provide an abstract of the proposed research project, emphasising the research objectives and the manner in which such activity involves the taking, import or export of marine mammals.

Australasian fur seal, or kekeno have guard hairs in their coats that protect the soft under coat. These guard hairs are internally structured in a way that allows them to bend at specific locations when they get wet and return to their original shape when they dry out. Human hair, and the hairs of other terrestrial mammals (e.g., sheep wool) also change shape and properties when they get wet, but not in the predictable and repeatable way we see in kekeno guard hairs. We want to collect some of these hairs from dead washed up individuals or from locations where grooming seals have scratched them off. We will only need to collect a few tufts of hair to get about two hundred guard hairs for our research. Hairs that we don't use (e.g. underhairs) will be disposed of or returned to the shore in New Zealand. We will then use sophisticated imaging techniques to inform us of how regions of guard hairs with predictable water interaction behaviour work. This investigation will include electron microscopy analysis to examine structure at micrometres to nanometres in size. It will also include analysis of changes in keratin protein arrangement within different parts of the hairs using microbeam x-ray diffraction. This technique relies on a synchrotron (electron accelerator) located in Japan that can generate a necessarily precise x-ray beam. Samples that are not destroyed during the measurement process can be, if required, returned (imported) back into New Zealand for disposal/return to the shore. Samples will be held for a period of about 36 months during the work. The work uses the kekeno guard hairs to greatly assist with our understanding of mammalian hair in general and is purely academic research. We intend to publicly release our findings to the scientific community.

Duration of Proposed Research

Provide a detailed description of the overall duration of the proposed research.

Our plan is to collect samples as early as possible in 2021.

In total, 36 months is our estimated duration for the research that includes collection of hair tufts, processing, analysis using scientific instrumentation (electron microscopy and micro-beam x-ray spectroscopy), holding of samples pending any repeat analysis (e.g., at the request of peer reviewer from a scientific journal) and return of remaining samples to the shore (or disposal of samples). The timeframe is based on the expectation that some steps in the process may include a wait time of up to ~6 months (e.g., booking time on synchrotron beam-lines for x-ray analysis) and an expectation to present some results at the International Wool Research Conference in October 2021.

Location of Proposed Research

Provide a detailed description of the overall location of the proposed research. Supply a map detailing the location if appropriate.

Arctocephalus forsteri occur around the entire coast of the South Island. We will only collect hair from naturally deceased individuals, or tufts that have been left on the ground following normal grooming behaviour. Our collection relies heavily on chance, but some locations have a high probability of occurrence of kekeno remains or grooming locations. The following locations have been prospectively identified – Shag Point (Waitaki district), Tauranga Bay (Buller district), and beaches around Okuru, which is adjacent to the Open Bay Islands (Westland district).

To keep to a complex schedule that involves work in NZ and Japan, and presentation of research findings to an international conference (International Wool Research Conference, October 2021), we plan to collect samples as early as possible during 2021.

• Species Name and Status

Provide a list of all the species (common and scientific names) involved in the research activities. Describe the status and factors that affect the species i.e., incidental bycatch, pollution etc.

Collect guard-hair fibres from *Arctocephalus forsteri* (Australasian fur seal, kekeno/NZ fur seal) which is a protected species in New Zealand, Australia and falls under CITES Type II category (along with all fur seal species) internationally.

• Sample Size

Provide sample size for each species, method of sampling and location.

Samples will be taken from one species, *A. forsteri*. We will only collect hairs from naturally deceased individuals, or tufts that have been left on the ground following normal grooming behaviour (see methodology section).

Hair samples from a **minimum of one individual but less than four individuals**. Why do we not need to collect from more individuals? The property under investigation (water interactions with hairs) is a fundamental phenotype common to all individuals within this species. The property relies on microstructures and proteins (keratin intermediate filaments) inside the hair that are conserved across all mammals.

The sample will be **1-5 tufts** (aggregates 1-3 cm across) of hair. This tuft will include both hair types normally occurring within seal coats. That is, fine underhairs mixed with coarser guard hairs. We are only interested in the guard hairs (see Justification section). We need approximately 200 guard hairs in good condition. These will be removed, and the rest disposed of or returned to iwi or to the beach. We are not interested in the fine underhairs, which are linked to the unfortunate history of fur seal exploitation.

Proposed Methodology

Provide a detailed description of the methodology proposed ie aerial/boat/drone surveys, photoidentification, biopsy sampling, etc. Include a brief description of any statistical modelling used to justify sample size. Clearly indicate the actual or estimated age (i.e., neonate, pup/calf, juvenile, adult), size, sex and reproductive condition of the animals at the time of taking.

Sample collection

We plan to collect samples as early as possible in 2021. We require hairs from only 1-4 individual kekeno and samples of 1-5 tufts (1-3 cm across) (see also sample size section). The uncertainty over sample numbers is because we do not know how much hair we will find, as we will **only collect hairs from naturally deceased individuals or tufts that have been left on the ground following normal grooming behaviour** (see figure). Likewise, we do not know the age or the sex of the animal that the fur will come from. However, we consider it most likely that samples will come from sub-adult males.

Tufts from grooming can be removed directly from the ground while maintaining a minimum distance 20 metres from any living kekeno and only if we can do so without getting in between any living seal and the sea (see also risks section). Likewise, with collection from dead seals, except that hair

will be carefully plucked from rotten skin or retrieved from the surrounding stones/ground (under normal circumstances hair and bones are the last remnants of a deceased seal). Precautions to reduce risk of zoonotic infection will be taken and fur will be handled with gloves until sterilised and cleaned (see risks section).



Sampling will occur from resting locations or deceased individuals. **Left**, depressions in grass meadow (black arrow) left by kekeno resting at Shag Point (Waitaki district). Tufts of fur are sometimes found caught in the grass. **Right**, sub-adult kekeno corpse Cooper's Lagoon beach (Selwyn district) in moderate state of decomposition with tufts of fur peeling off skin (white arrow). (Photos courtesy of D. Harland).

Washing

Samples collected with gloves and transported in plastic tubes/zip-lock sample bags will be decontaminated and washed to remove dirt, extraneous biological material and micro-organisms using detergent (nonyl phenyl ethoxylate). This method is a standard procedure used for laboratory cleaning of hair samples for scientific research. The approach simulates (but at higher quality) the processes that normally occur in an industrial wool scour to clean and decontaminate wool.

Separation of guard hairs from fur

We are only interested in the longer and coarser guard hairs from the collected samples (see figure below). Guard hairs will be separated by individually removing them using fine tweezers, possibly under an inspection microscope. Individual hairs will be placed in water, then dried carefully to avoid constraining their shape before being photographed before and after wetting. Individual hairs may then be used for different analyses. The underhairs will be collected for disposal, returned to iwi or returned to the beach.

Storage and transport

Guard hair samples will be held in paper sleeves or zip-lock plastic sample bags until they are prepared for testing. The majority of hairs will be sent for analysis by our project collaborator in Japan. Different techniques require the individual hairs to be prepared in different ways and some of these techniques break down the hairs to a point where they are effectively lost. Any hairs remaining after work is carried out in Japan will be returned to New Zealand (should that be necessary) and then returned to the beach or to iwi. We will record and track samples and record what is used for each technique, and can provide that information on request. Sample preparations for the different types of imaging methods are described below.



The fibres visible on the surface of the seal (A) are guard hairs which protrude above and protect the finer underhairs. This arrangement is common across many mammals. An example is shown (B) of a scab from a domestic cat (a result of social interactions), illustrating the typical arrangement of hairs. The guard hairs differ in their structure along their length as seen using scanning electron microscopy (C). (Sources: A, courtesy of W. Harland, B and C from Plowman, J. E., Harland, D. P., & Deb-Choudhury, S. (Eds.). (2018). The hair fibre: proteins, structure and development)

Macrophotography and image analysis are used to measure the changes in the shape of intact hairs, with a focus on how different parts of the same hair change when they become wet or dry. Individual hairs measured using macrophotography are left undamaged and intact and may be used for other methods. Often using the same hair with a known response for several methods is a powerful way of seeing clearly how single hair responses relate to some other property.

Scanning electron microscopy uses an electron beam to scan the outside of hairs at high magnification to create images of surface structure (some examples of cat hair imaged with this method are in panel C of the figure above). The hairs are stuck to an electrically conductive sample holder and coated in a thin layer (a few nanometres thick) of metal and imaged in a vacuum. The fibres are difficult to retrieve intact and are effectively destroyed.

Transmission electron microscopy is used to observe the internal structure of hairs from thin sections. Features as small as a few nanometres across can be discerned and the structure of hair at this level is important for understanding how it interacts with water. In order to see the structure and create sufficiently thin sections, we need to process the hairs with heavy metals including osmium, embed them in resin and after careful sculpting of the sample, cut 100 nm (0.0001 mm) thick sections using a diamond blade. Although the process preserves the sample, the remains are embedded in plastic resin, infiltrated with heavy metals and cannot be retrieved.

Microbeam x-ray scattering uses a synchrotron electron accelerator to generate a beam of x-rays with a very precise wavelength at a high intensity. A beam of these x-rays about five micrometres across is scanned across the width of one part of a seal hair at various levels of wetting. The scattering pattern of the x-rays informs us of how the keratin and other protein molecules that make up the various intermediate filament structures (see figure in Justification section) change in conformation as they interact with water. The synchrotron required for this work is located in Japan and is a building the size and shape of a sports stadium that accelerates electrons to 99.99% the speed of light and then uses that energy to generate beams of pure electro-magnetic wave energy (including x-rays and light). Depending on the technical requirements of the work, hairs may be intact or cut into parts and may or may not be easily retrieved after the measurements are made.

Analysis and presentation

Raw data from this work will be analysed and we intend to release the findings into the public domain through either a scientific journal publication, a poster or talk at a scientific conference or both. Copies of these can will be provided if requested.

Justification of Proposed Research

Describe why this work is necessary, clarify if it has been done before and if so why it needs to be repeated. It is especially important to identify and justify all procedures, which have the potential to cause pain or distress to the animal(s), and details of the steps to be taken to avoid or minimise the pain or distress.

Mammalian hair interacts with water in ways we don't fully understand

Our hair, and that of all mammals is one of the most complexly organised non-living materials that animals produce. Despite many decades of scientific research, we are still some way from understanding how biochemical organisation (proteins linked together in a network) generates properties that can benefit the fields of medicine, personal care, textiles and materials.

One important property of human hair, and all mammal hairs is how they interact with water, both in liquid form and directly from humidity in the air. Water interactions are only partly understood at a molecular and micro-structural level in mammalian hair. This is where the hairs from pinnipeds (seals and their kin) come in. Kekeno (Australasian fur seal) hairs can tell us something about our own hair that we can't easily learn otherwise. This is because the hair of fur seals appears to change shape in a controlled and predictable way when it becomes wet, and the shape change reverses when the hair dries out (figure below). In our hair such changes with water are less predictable and precise. This makes individual seal hairs an excellent model for investigating the microstructure and protein organisation that might be associated with water interactions. Certain parts of all fur seal guard hairs always bend or straighten the same way each time with wetting and drying. This is three regions: near the base they bend when wet; in the middle they stay straight, wet and dry; near the tip they bend backwards when wet and forward when dry. No other types of hair that we have available have specific regions along the hair that have predictable and repeatable behaviour with water. For us it is an exciting opportunity.



Fur function in wet kekeno (left) differs from that of dry kekeno (right). Centre image shows an intermediate stage. The drying process affects individual guard hairs (outer coat hairs), relying on adaptations built into each guard hair. Photos courtesy of W. Harland.

How we know about the potential of kekeno hairs

We carried out some preliminary work on a small number of fibres from an archival collection of mammal hairs from different sheep breeds and mammalian species that were collected in the 1960s. While these few hairs are now used up in sample processing, we are confident that a more rigorous study of more single hairs will provide some significant breakthroughs in our understanding of how mammalian hair structures interact with water.

The initial results were measured using light microscopy, and electron microscopy. We will need to do more work with these methods, and we would like to investigate the changes in keratin (main protein of hair) organisation using micro-beam x-ray scattering analysis on a synchrotron in Japan. After this study there will be no ongoing large-scale need for kekeno hairs, and all findings of the work are planned to be published in the publicly available scientific literature.

The research is knowledge generating with no direct commercial applications

Our research has no direct application to kekeno other than in a general sense that the more we know about this precious species the better (e.g., it is possible that the information may have some tangential use in development of veterinary procedures associated with rescuing pinnipeds from oil contamination etc.). The main purpose of our research is to look for microstructure and biochemical organisation associated with specific responses to water that can then inform us of the way in which other mammalian hairs react to water. The information is applicable beyond marine mammals because the level of detail that we are interested in is conserved widely across mammals, from platypus to tiger.

Our plan (see methodology) does not involve any direct contact with live animals and has been designed to have a minimal impact on the general foreshore environment. The team working on this research are all passionate about nature, have widely travelled in the wild places of New Zealand and have an affection and respect for kekeno and their environment. At the end of the work any remaining samples will be returned to the shore or disposed of.

Why does AgResearch and Kao Corporation care about what we can learn from seal hair?

To reiterate our points above, we are interested in understanding how the microscopic structures that make up all mammalian hairs interact with water at a scale of nanometres (see figure below). The predictably changing regions of kekeno guard hairs allow us to learn more than we could from other types of hair. However, why are we interested in this topic at all? AgResearch and Kao are both limited liability companies that carry out research on hair. AgResearch (being owned by the NZ government) has a focus on understanding livestock hair in a way that will boost applied research on new and high-value uses of these products (e.g., wool and cattle hair). Kao is a consumer care company that is based in Japan and has a long history of technical products for human hair. These include products that are available (primarily in Asia) in supermarkets and also products and processes which are used in hair salons. Kao's motivation (common in international companies, but uncommon in NZ) is to understand the fundamental mechanisms by which hair works so that it will improve its capability to do applied research and also to improve reputation through excellent science as a company that deeply cares about the scientific underpinnings of any technology they develop.



... and affects higher levels of structure to affect whole-hair behaviour

Our interest in what we can learn from the kekeno guard hairs is to help us better understand how water interacts with keratin filaments (at a scale of ~1s of nanometres) and how the effects scale up to filament bundles (100s of nanometres), across the hair structure (micrometres) to affect performance at the level of millimetres in hair from other species. Sources:

- fibre performance graphic from Lim, Y. S., Harland, D. P., & Dawson Jr, T. L. (2019). Wanted, dead and alive; why a multidisciplinary approach is needed to unlock hair treatment potential. Experimental Dermatology, 28, 517-527. doi:10.1111/exd.13898
- fibre microstructure transmission electron microscopy image from Plowman, J. E., & Harland, D. P. (2018). Fibre ultrastructure. In J. E. Plowman, D. P. Harland, & S. Deb-Choudhury (Eds.), The Hair Fibre: Proteins, Structure and Development (First ed., pp. 3-13). Singapore: Springer Nature.
- Bundles and keratin filament graphic from Harland, D. P., Novotna, V., Richena, M., Velamoor, S., Bostina, M., & McKinnon, A. J. (2019). Helical twist direction in the macrofibrils of keratin fibres is left handed. Journal of Structural Biology, 206(3), 345-348. doi:https://doi.org/10.1016/j.jsb.2019.04.007

<u>Risk Mitigation</u>

Outline what steps you will take to limit or mitigate any potential adverse impacts the proposed research may have. Impacts include any aspect that may affect the health and safety to the animal, or to members of the public; adverse effects on public relations, or any loss or destruction of cultural or historic resources.

Risk. Sample collection team are physically injured during collection of samples.

Mitigations.

- Sample collection team members will only include people with routine previous experience of outdoor experience at moving around a shoreline environment (rocks, cliffs, grass areas, beaches etc).
- Sensible footwear will be worn (walking/tramping shoe/boots).
- Samples will only be collected when safe to do so based on the weather and the environment (e.g., tides, local geography).
- Dangerous locations will be avoided (e.g., close to cliff edges, dangerous rocks, high-sea waves etc).
- Samples will only be taken from dead kekeno or from vacant kekeno resting areas (see methods).
- DOC guidelines for interaction with kekeno will be followed (e.g., maintaining a distance of 20 m, calmly retreating should there be an unexpected encounter).
- The collection team will include at least two members, and both will carry mobile phones.
- The researchers' team leader will be informed of the sampling time and location.

Risk. Sampling of hair either from deceased kekeno or discarded fur following grooming puts those handling the hair at risk from zoonotic infection. Seals, including *A. fosteri*, are known carriers of *Mycoplasma* and *Mycobacterium* bacterial species known to cause harm to human handlers of live or recently deceased animals (e.g., autopsies). Although our activity will be low risk for infection compared to handling live or recently dead animals, we consider it important to mitigate the risk of accidental infection. *Mycoplasma phocicerebrale* is a cause of a skin infection known as "seal finger", and *Mycobacterium tuberculosis* is a cause of tuberculosis.

Mitigations.

- Collection of samples and subsequent handling will be carried out using gloves and samples will be transported and held in sealed plastic bags or in air-tight laboratory vials with appropriate warning labels.
- Samples will be decontaminated with a cleaning procedure routinely used for removal of extraneous biological materials which includes an aqueous (detergent) cleaning step (see methods). Following decontamination samples will still be handled with gloves to maintain laboratory cleanliness.

Risk. Members of the public observing sample collection generate a negative perception of the activity which affects the reputation of DOC or AgResearch. Also, if members of the public observing sample collection challenge researchers or generate a false perception that collection of seal remains is an acceptable activity for any member of the public.

Mitigations.

 Researchers will be clearly identified by wearing AgResearch clothing and having name badges or other accoutrements that indicate officiality.

- Researchers will be prepared to explain and discuss questions from the public.
- Researchers will carry a copy of the permit to back up discussion.
- Researchers will carry a sheet/brochure that summarises the activity and clearly indicates the approved nature of the collection activity for scientific research only. Copies can be made available for members of the public.

F. Other

Is there any further information you wish to supply in support of your application?

We attach a three-page long summary of our research plans for use in discussion with Māori stakeholders.

We attach a one-page summary handout designed to be used when discussing the work with members of the public during collection events.

G. Consultation Undertaken

Some applications require consultation with whānau/hapū/iwi (local Māori), and other interested parties. Please contact the nearest Department of Conservation office to discuss what is required. Written expert views, advice or opinions concerning your proposal may also be attached to support the application. Attach any proof of consultation to the application.

In order to assist consultation please discuss how you believe the research may have an impact on cultural values and measures you will take to mitigate their effects. An example is discussing the research with local Maori.

Kekeno are a species that is widely distributed across New Zealand, and the Southern coasts of Australia (Tasmania and New South Wales). One of our Māori colleagues, Chris Koroheke, confirmed to us that kekeno are a taonga species and are mentioned in songs and proverbs. With that in mind, we consider it appropriate and necessary to consult with iwi who are local to where we will collect kekeno hair. We do not knowingly have the right connections within the relevant parts of Ngāi Tahu and, because this is the first time we have been through this process, we appreciate assistance and guidance from DOC.

- We have attached a short summary of our research project to this application in order to assist with discussion with iwi.
- We appreciate the potential cultural value of repatriating any samples (hairs) that are not used or are still intact to local iwi, or a beach or the beach from which they were collected, and have identified throughout this application details of where this is possible.

H. Fees

This section only applies to applications with a commercial focus – which will include applications from registered companies. The Department does not charge fees for domestic non-commercial Marine Mammals Protection Act permits.

Section 60B of the Conservation Act enables the Department to recover all direct and indirect costs from an Applicant to process an application regardless of whether the application is approved or declined. If at any stage an application is withdrawn the Department will invoice the Applicant for the costs incurred by the Department up to that point. Applicants are required to pay the processing fees within 28 days of receiving an invoice. The Director-General is entitled to recover any unpaid fees as a debt.

The estimated standard application fee is **\$450 +GST.** This covers most applications.

However if your application is likely to have significant effects, is novel, or spans multiple DOC regions, it will require more careful consideration and may take longer to process and cost approximately **\$800 +GST**.

Particularly complex applications may incur further costs – you will be sent an estimate of costs in this situation. We will contact you to advise if the fee is more than the estimated standard cost. Applicants are also entitled to request an estimate of costs at any point, but the Department may impose a charge for preparing such an estimate. Estimates are not binding.

You may also be required to pay a fee to cover the cost of the Department monitoring the effects of your activity. Please contact the Permissions team to discuss whether these fees apply.

Waiving or Reducing Fees:

The Director-General of Conservation has discretion to reduce or waive processing fees.

You may apply for a fee waiver or reduction if you provide information to the permissions team about how your application meets at least one of these criteria:

- The activity will make a direct contribution to management
- The activity will support or contribute to the Department's priority outcomes which are stated in the Department's 2013-2017 Statement of Intent (available on the DOC website)
- There will be other non-commercial public benefits from the permission (if approved)
- Activity covered by the authorisation (other than research, collection or educational activities) will
 make a contribution to the management of, or the public interest in, the lands that are covered by
 the permit

Paying fees:

The Department will ordinarily invoice the applicant for processing fees after a decision has been made on the application, but in some cases interim invoices will be issued.

Please select your method of payment below:

I have attached a cheque

I have direct credited the DOC account (please use Applicant name and MMRP as references) Department of Conservation Westpac Bank

Account number: 03 0049 0002808 00

I have a purchase order/number from an organisation registered with DOC

Order number/purchase number:

I do not intend to pay the fees at the time of applying and/or I require an invoice for payment – I have filled in the Terms and Conditions for an Account with the Department of Conservation (following) with my own information.

Terms and Conditions for an Account with the Department of Conservation:

Have you held an account with the Department before? (Please tick)			Х	No	
If yes, under what name:	AgResearch Ltd				

- 1. I/We agree that the Department of Conservation can provide my details to the Department's Credit Checking Agency to enable it to conduct a full credit check.
- 2. I/We agree that any change which affects the trading address, legal entity, structure of management or control of the applicant's company (as detailed in this application) will be notified in writing to the Department of Conservation within 7 days of that change becoming effective.
- 3. I/We agree to notify the Department of Conservation of any disputed charges within 14 days of the date of the invoice.
- 4. I/We agree to fully pay the Department of Conservation for any invoice received on or before the due date.
- 5. I/We agree to pay all costs incurred (including interest, legal costs and debt recovery fees) to recover any money owing on this account.
- 6. I/We agree that the credit account provided by the Department of Conservation may be withdrawn by the Department of Conservation, if any terms and conditions of the credit account are not met.
- 7. I/We agree that the Department of Conservation can provide my details to the Department's Debt Collection Agency in the event of non-payment of payable fees.

Declaration

I certify that the information provided on this application form and all attached additional forms and information is to the best of my knowledge true and correct.

Note: The Director-General may vary any permit granted if the information given in this application contains inaccuracies.

Signature (Applicant)

Signature (Witness)

Witness Name

Witness Address

Anita	Grosveror

1365 Springs Road, Lincoln 7674

Date 6 October 2020

Date

6/10/2020

This application is made pursuant to the Marine Mammals Protection Act 1978.

Applicants should familiarise themselves with the relevant sections of the Marine Mammals Protection Act 1978.

NOTE: Further information may be sought from you for this assessment if this application is not completed fully as required. The purpose of collecting this information is to enable the Department to

process your application. The Department will not use this information for any reason not related to that purpose.

Applicants should be aware that provisions of the Official Information Act might require that some or all information in this application be publicly released.

For Departmental use only

Credit check undertaken		
Comments :		
Signed	Name	
Approved (tier 4 manager or above)	Name	