Department of Conservation
Te Papa Atawbai

Applicant Information Form 12b
Holding, taking, importing, exporting marine mammals

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: permissionschristchurch@doc.govt.nz

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

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.

Please note that the application process involves notification in the *Gazette* for 28 days (see s.5.5 of the Act), allow sufficient time when submitting the application for this to be undertaken.

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)
- ☐ Written consultations (if applicable)
- ☐ Have you read and accept the section regarding the liability of the applicant for payment of fees
- ☐ **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.

A. Details of Proposed Activity

☐ Take ✓Hold ✓ Import ✓ Export

NB please tick all applicable activities

B. Applicants/Key Researchers

List the names and institutional affiliations of all the key individuals involved with the research.

- Travis Horton; Associate Professor, University of Canterbury
- Nan Hauser; Center for Cetacean Research and Conservation, USA and Cook Is

C. Purpose of Proposed Activity

- Research Title / Abstract:

Southwest Pacific Cetacean Ecology

The southwest Pacific hosts a number of endangered and/or under-studied cetacean populations. This project is designed to rapidly improve our knowledge and understanding of these populations through collection of basic ecological data and the creation of sophisticated tools that will enable more efficient and comprehensive monitoring of cetacean populations from the tropics to sub-polar waters. We use a variety of established ecological tools to better protect southwest Pacific cetaceans, including: observational location and time records, voice logs of cetacean behaviour, acoustics, photo-identification, genetics, stable isotopes, satellite tracking and thermographic imaging. We use these data to develop models of when and where cetaceans are located, dramatically improving the information we can provide to fishermen, marine developers, governmental agencies, non-profit organisations, local communities and the wider public.

We also use these data to inform the development and design of automated cetacean detection systems based on acoustic, thermal and multispectral data streams. These important new tools dramatically improve our ability to help protect southwest Pacific cetaceans and their marine environments. Our sophisticated models of cetacean movement allow us to recommend spatially and temporally distinct cetacean protection zones to marine developers and governmental agencies, something we are actively doing in association with the construction of a fibre-line communications cable that will connect multiple remote islands in the tropical southwest Pacific. When combined with our automated detection systems, these models further allow us to provide real-time data to ship captains alerting them to the presence of cetaceans in the immediate vicinity of their vessels. Our research works to ensure that cetaceans have safe passage through intensely utilised swaths of the southwest Pacific Ocean.

In order to achieve these research goals we need to analyse non-invasively collected cetacean tissue samples for a variety of determinands. Highest on this list are the bulk and compound specific stable isotopes of carbon and nitrogen. By analysing C and N isotopic compositions we are able to interpret both cetacean diet and where these food items were consumed due to the temperature dependent exchange of CO_2 between the atmosphere and euphotic zone dissolved inorganic carbon (DIC) reservoirs. The information gained from these stable isotopic analyses informs our models of cetacean movement and habitat utilisation.

- Description of activity

Import samples to NZ

Hold samples for research purposes

Conservation biology research on tissues collected from stranded mammals or tissues previously separated from living mammals (e.g. sloughed skin samples).

- Species of marine mammal;

Megaptera novaeangliae (Humpback whale) – skin pieces, blubber, baleen, bone, sperm, faeces, tubercles, hairs, muscle, liver, internal organs
Stenella longirostris (Spinner dolphin) – skin pieces, teeth, bone, liver, stomach, stomach contents, internal organs, muscle
Lagenodelphis hosei (Fraser's dolphin) – skin pieces, teeth, bone, liver, stomach, stomach contents, internal organs, muscle
Physeter macrocephalus (Sperm whale) – skin pieces, teeth, bone, liver, stomach, stomach contents, internal organs, muscle
Balaenoptera borealis (Sei whale) – skin pieces
Pseudorca crassidens (False killer whale) – skin pieces, teeth, bone
Orcinus orca (Killer whale) – skin, blubber, teeth, bone, liver, heart, stomach, stomach contents, muscle, internal organs
Ziphius cavirostris (Cuvier's beaked whale) - skin, blubber, teeth, bone, liver, heart, stomach, stomach contents, muscle, internal organs
Arctocephalus forsteri (New Zealand fur seal) – hair, skin, blubber, teeth, bone, liver, heart, stomach, stomach contents, muscle, internal organs
Leptonychotes weddellii (Weddell seal) – hair, skin, blubber, teeth, bone, liver, heart, stomach, stomach contents, muscle, internal organs
Mirounga leonine (Southern elephant seal) - hair, skin, blubber, teeth, bone, liver, heart, stomach, stomach contents, muscle, internal organs

- Type of marine mammal item/part:

Sloughed skin pieces, teeth, baleen, bone, liver, stomach, stomach contents, internal organs, muscle

- Number of marine mammal items/parts:

N/A

- How was the marine mammal item/part obtained:

Sloughed skin was collected from oceanic surface waters using nets following mammal surfacing behaviour. Blubber connected to skin were collected by biopsy dart. Bone, organs, teeth, stomach, stomach contents, etc. were collected from dead stranded individuals or museum/private collections.

- Term:

10 years

D. Other

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

All samples were collected under a scientific research permit granted by the Cook Islands government to the Center for Cetacean Research and Conservation. Extensive informal discussions with Ngai Tahu, Cook Islands Māori, U.S. Department of State officers, non-governmental organisations (e.g. Marae Moana; Conservation International, etc.) have taken place over a period of years and all parties are supportive of this research.