Hector’s and Māui Dolphin Research

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Current projects

PMM2020-07. Novel technologies to monitor Maui and Hector's dolphin abundance, spatial distribution, behaviour, and/or reproductive success. Cawthron Institute.

PMM2020-08. Novel technologies to mitigate the risk of dolphin capture in inshore trawl fisheries. Jasco Applied Sciences (Australia) Pty Ltd.

PMM2020-09 Local-scale spatial distribution modelling of Hector's dolphins in key areas, to improve risk management – Jim Roberts – Completed July 22.

PRO2019-11 Historical reconstruction and characterisation of spatially explicit historical set-net fishing – Abacus Bio - Completed June 22

Maui63 – Support development of the Marine Mammal Sightings App.

PMM2020-07. Novel technologies to monitor Maui and Hector's dolphin abundance, spatial distribution, behaviour, and/or reproductive success

- Test and demonstrate the utility of novel detection technologies and novel analytical tools to monitor important aspects of Maui and Hector’s dolphin biology or behaviour in key locations.
- Cawthron Institute, in conjunction with the experts from the Aarhus Institute (Denmark) and University of Auckland, will trial attaching non-invasive DTAGs (digital acoustic recording tags,) using suction cups to South Island Hector’s dolphins.
- Record how Hector’s dolphin respond to the attachment and the tag itself during a three-week field trial within Cloudy Bay in the Marlborough Sounds region during the summer / autumn months of 2022

PMM2020-08. Novel technologies to mitigate the risk of dolphin capture in inshore trawl fisheries. Jasco Applied Sciences (Australia) Pty Ltd.

- Monitoring work on the F/V Latham Bay out of Timaru
- First day on water 18 Sept, last day 29th Oct.
- Notable events:
  - Successful installation of specialised equipment
  - Great support from vessel master and MPI observer
  - Weather windows tough but manageable
  - Many dusky and Hectors present
  - Expecting great data
  - Currently testing pinger – alternating morning/afternoon on one of the 2 trawls per day

Potential projects 2023/24

RIS2023-02	Hector's Māui update	Aquatic Environment	To underpin the review and update of the Māui's and Hector's dolphin Threat Management Plan this project will build upon the recent spatial modelling and assess impacts of recent fisheries measures put in place to reduce risk to dolphins. This review and update is a reporting requirement under the US Marine Mammal Protection Act, without which access to US markets for NZ fish exports may be restricted. This update is due to be submitted by November 2025, this project is to ensure delivery against this.
RIS2023-05	Scenario and sensitivity testing in Hector's Māui Risk Assessment	Aquatic Environment	This project seeks to run scenario and sensitivity testing of fishing mortality limits based on a several refinements to input data within the Hectors Māui risk assessment model. These refinements include incorporation of recent estimates showing a larger population for the Otago Coast, historical setnet work, a dynamic population model that assess population recovery time and the effect of cryptic multiplier (unobserved mortality) assumptions.
PRO2023-07	Addition of potting effort to marine mammal risk assessment	Aquatic Environment	With the outputs of a fitted spatially explicit risk model for dolphins (produced under a previous project), it is now possible to estimate impacts for dolphins, including at a local and subpopulation scale for any period in which we have spatially resolved estimates of fishing effort. After that it will be possible for the first time to estimate historical impact, population trend, and thus current status. Adding potting effort data into this process will allow this risk to also be considered in this process.