

# Māui and Hector's Dolphins –Issues of Urgency



## Recommendations:

- **Protect Māui and Hector's dolphins from set and trawl net bycatch throughout their range – out to 20nm or 100m deep**
- **Continue the roll out and expand onboard camera coverage and monitoring reviews**
- **Support an alternative location for SailGP which is not in Hector's habitat**

## Introduction

New Zealand's endemic dolphins, Hector's and Māui, are found nowhere else in the world. They were once the most abundant species of dolphin around New Zealand shores. Today, Māui are Critically Endangered; and Hector's are Endangered, as classified by the International Union for Conservation (IUCN).

Without doubt, the major cause of decline is bycatch in set and trawl nets. These dolphins are still being caught by the same fishing nets in the same areas, that have already caught thousands of these dolphins in the past.

Māui used to be found all around the North Island. Today their distribution has shrunk, with the last remaining Māui concentrated around Manukau/ Waikato. The latest population estimate indicates Māui have declined to just 48 dolphins (95% CI 40-57<sup>1</sup>).

Hector's dolphins are made up of a series of loosely connected pods, with local areas that average an alongshore range of 50 km. The most populated areas are around the middle of the South Island – around Banks Peninsula on the East Coast, and around Hokitika/ Greymouth along the West Coast.

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<sup>1</sup> Constantine, Rochelle & Steel, Debbie & Carroll, Emma & Hamner, Rebecca & Hansen, Cara & Hickman, Garry & Hillock, Kristina & Ogle, Mike & Tukua, Pearson & Baker, C. (2021). Estimating the abundance and effective population size of Māui dolphins (*Cephalorhynchus hectori maui*) in 2020–2021 using microsatellite genotypes, with retrospective matching to 2001.

There are smaller groups north and south, with many local groups just as endangered as Māui. For example, the East Coast Otago population has only around 40 individuals<sup>2</sup>.

These small groups are facing increased fragmentation and further distances between neighbouring pods. They are in desperate need of comprehensive protection from fishing threats throughout their current and historical range - which is out to the 100m depth contour and includes harbours.

### Current protection levels

Set and trawl nets are banned in only a small portion of Māui and Hector's habitat. More than 70% of Māui habitat remains unprotected from set nets. Only 10% Māui habitat is protected from trawling. Only 20% of Hector's habitat is protected from trawling.

More than 30,000km<sup>2</sup> of Hector's dolphin habitat is still available for set netting. Only 16,525km<sup>2</sup> is closed to set nets. Trawling is still permitted within all 'protected' areas if a low headline net is used — an unproven, unenforceable and voluntary mitigation measure.

The fisheries management decisions announced in 2022 from the Minister of Oceans and Fisheries at the time, David Parker, have resulted in little to no more protection for the species. Instead, proposed bycatch reduction plans allow a 'quota' of dolphins to be caught under Fishing Related Mortality Limits (FRMLs), which is completely unacceptable.

The current Threat Management Plan (TMP) erodes dolphin resilience and endangers subpopulations further. Instead of enabling dolphins to recover and thrive, which is the TMP aim, dolphins continue to die in nets. See the Department of Conservation Incident Report [here](#). Critically endangered pods of Hector's and Māui dolphins have moved closer to extinction under the Labour Government's watch. Your role in this new government can be instrumental in helping these dolphins thrive again.

### SailGP 2024

There were some very near misses between race boats with foils and Hector's dolphins in the SailGP high speed yacht racing event in Lyttelton Harbour in 2023. During the final race, two dolphins crossed the boundary into the race zone as vessels approached the final marker. Advice from independent observers was ignored and dolphins were at risk of death or injury amongst the very fast, quiet and lethal foils. The Marine Mammal Management Plan established by SailGP officials, Department of Conservation (DOC), Ngāti Wheke and Christchurch NZ was not followed.

Having this event around Canterbury is simply unacceptable due to the high density of endangered Hector's dolphins present there.

### Unprecedented dolphin deaths

The roll out of cameras on boats already shows that an unacceptable number of dolphins are being caught in trawl and set nets, and that further set and trawl fisheries exclusion from Hector's habitat, is needed. During the first half of the 2023/2024 fishing year, 17 Hector's dolphin deaths have been added to the incident database, shown in Figure 1. Eleven deaths have been in fishing nets; trawling

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<sup>2</sup> Williams, H. (2022). Abundance and distribution of Hector's dolphins off the coast of Dunedin, New Zealand, and overlap with commercial fishing (Thesis, Master of Science). University of Otago. Retrieved from <http://hdl.handle.net/10523/13624>

is responsible for much more bycatch than set nets. So far nine Hector's have been caught by trawlers, and two in set nets. Over 90% of deaths are in the Canterbury region.

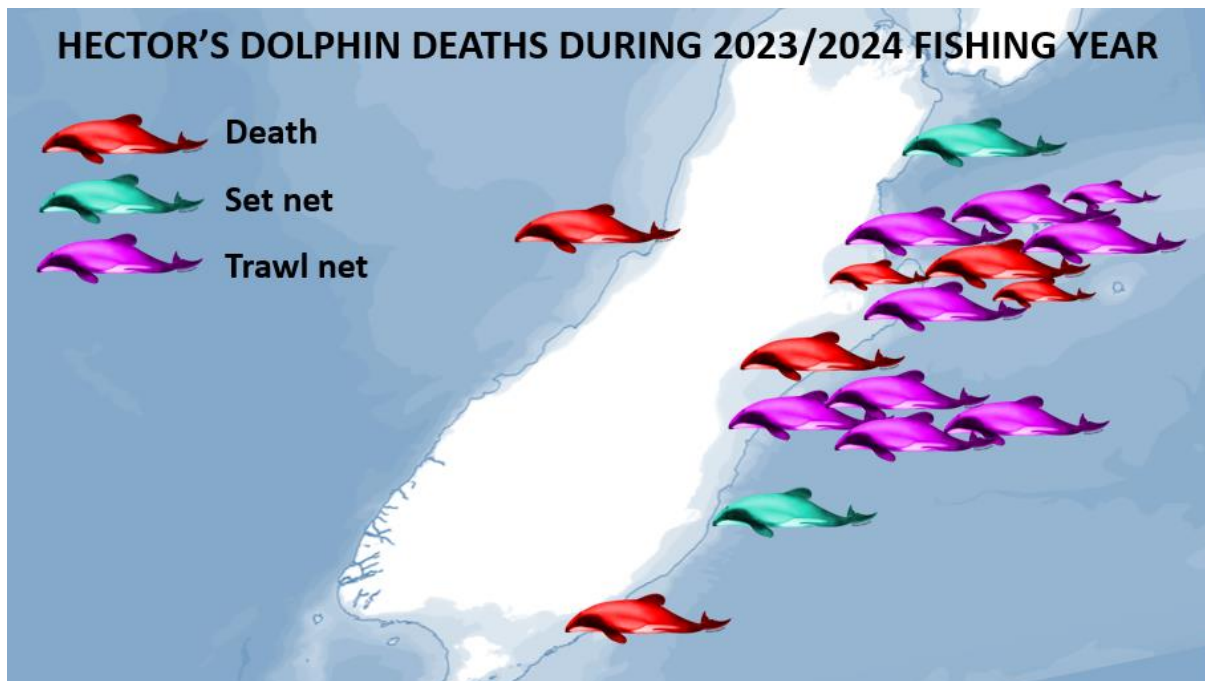


Figure 1: Map showing deaths of Hector's dolphins during the 2023/2024 fishing year (1 August 2023 – 31 July 2024). Known trawl bycatch is shown in purple, set net bycatch is shown in green. Smaller dolphins indicate calves and juveniles. The dolphin deaths depicted in red are unattributed to fisheries; either being too decomposed, having another cause of death or unknown. Last updated 1/03/2024.

Only 30% of the camera footage has been viewed in full, and generally just 5% of each fishing trip is randomly viewed. Many other dolphins have likely gone undetected, so in reality bycatch is probably much higher. During the previous fishing year (2022/2023), 19% (4/21) of deaths were attributed to bycatch. Since cameras are now in place on selected boats operating along the East Coast South Island, so far, halfway through for the current fishing season, 65% (11/17) of deaths are known bycatch.

Since November 2021, there has been a dramatic increase in reported dolphin deaths, compared to previous years. 47 dead Hector's and five dead Māui dolphins have been added to DOC's [Incident Database](#). The large number of deaths, and large number of calves is a clear indication that Hector's and Māui dolphins are facing more pressure than previously admitted.

The map below (Figure 2) shows where Hector's and Māui dolphins have been found dead since the increase of reported deaths from November 2011. The majority were off Banks Peninsula, with others spread all along the East Coast, including Timaru and Kaikōura. At least 13 died along the West Coast South Island, where there is virtually no protection. Dolphins also died around Farewell Spit, Southland and Otago where small populations cannot sustain the current numbers of deaths.

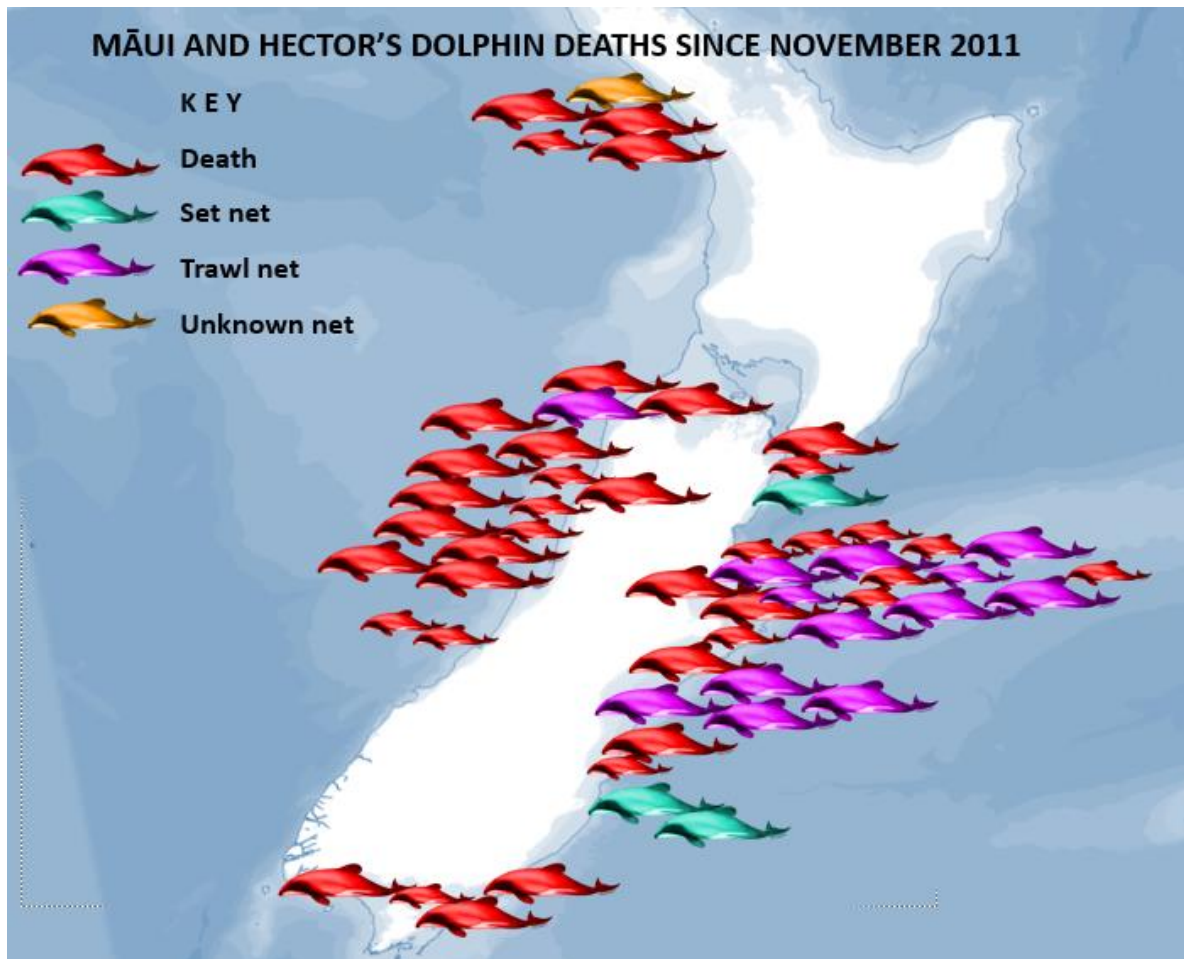


Figure 2: Map showing known deaths of Hector's and Māui dolphins since November 2021. Entanglements in fishing nets have been highlighted in green (set nets) and purple (trawl nets). Smaller dolphins indicate calves and juveniles. Last updated 1/03/2024.

### Recent Otago deaths

The Fisheries Related Mortality Limits (FRML) for Otago state two dolphins can be killed as fisheries bycatch every year. In 2023 there were two dolphin deaths, within seven months off Otago Peninsula (April and November 2023). The deaths are considered to be across separate years because they fall either side of the beginning of the fishing season (1 October), despite the short timeframe of them occurring. It is not enough that voluntary unproven restrictions are all that is in place to protect the vulnerable subpopulation there. Any loss moves these Otago dolphins into a more vulnerable fragmented state, making it harder for them to recover at all. They urgently need protection from fishing threats now.

### The Māui and Hector's Threat Management Plan is Fundamentally Flawed

In 2020, the Labour Government revised the Threat Management Plan (TMP) for Māui and Hector's dolphins. This extended some dolphin protection around Banks Peninsula, but did little for dolphins elsewhere. In fact, the TMP measures displaced fishing pressures onto the small subpopulations further south.

The 2021 further TMP review of fisheries management measures in response to this expected displaced pressure was another expensive and lengthy attempt to address these gaps in protection,

which didn't go far enough. New measures were very minimal, with the only extension of set net protection, an increase of just 1100km<sup>2</sup> around Banks Peninsula. The TMP failed completely to protect the very small and vulnerable populations around Otago, Southland and Tasman Bay.

The 2021 review introduced 'Bycatch Reduction Plans' and Fishing Related Mortality Limits (FRMLs). These limits are informed by Population Sustainability Thresholds (PST) which look at the maximum number of annual human-induced dolphin deaths, while theoretically (and impossibly) still allowing subpopulations to recover and reach recovery objectives.

The management decisions to allow trawling in the dolphins' habitat and allow a certain number of dolphins to be killed, with only voluntary mitigation measures (low headline height and slow tow speed nets) are unproven, non-binding, unenforceable and unregulated. These measures are incompatible with dolphin recovery. Dolphin bycatch is increasing, not moving towards zero as is the Threat Management Plan aim. Current measures are insufficient for helping the dolphins increase or thrive. Only full habitat protection advised by the IUCN<sup>3</sup> and IWC will achieve dolphin recovery.

### Problems with modelling and population estimates

There are multiple problems with the modelling used to calculate fishing risk to dolphin populations in both the 2020 and 2021 proposals that have still not been addressed. Overestimated and inflated population sizes and breeding rates have been directly fed into the modelling. These problems have still not been resolved.

These issues have been thoroughly questioned by several teams of international experts- during the TMP process by the Expert Panel, by the US Court of International Trade, and more recently by the International Whaling Commission (IWC).

### 2023 IWC workshop on Hector's and Māui dolphins

The IWC held a special two-day pre-meeting in April 2023, where five independent experts peer-reviewed different aspects of MPI's management model SEFRA – the Spatially Explicit Fisheries Risk Assessment model. Review topics included Māui and Hector's dolphins' life history parameters; spatial distributions; estimates of bycatch rates and vulnerability; a toxoplasmosis effect on the modelling; and the risk model outputs. Based on their [report](#), the TMP and modelling underpinning it are no longer credible. Multiple issues were highlighted, and recommendations were made. The model requires updating with recently revised data to refine and improve it.

### Toxoplasmosis

Only one recent Māui death has been attributed to toxoplasmosis. Considerable time, resources, and budget have been devoted to this threat, despite scant scientific evidence of the risks it poses. Only Type 2 has been detected so far in Māui, yet this type hasn't even been detected in New Zealand cats. It is common in humans throughout the world, and usually only flares up if there is another disease, or when close to death. We still don't know enough about 'toxoplasmosis' to know how much of a threat it is from such a small sample size. In contrast, set and trawl nets are proven dolphin killers and a threat we can immediately eliminate.

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<sup>3</sup> IUCN 2012. Recommendation WWC 2012 Rec 142. Actions to avert the extinctions of rare dolphins: Māui dolphins, Hector's dolphins, vaquita porpoises and south Asian river and freshwater dependent dolphins and porpoises. [https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC\\_2012\\_REC\\_142\\_EN.pdf](https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2012_REC_142_EN.pdf)

The IWC Scientific Committee also pointed out that the MPI model has not been tested or validated: observer coverage is far too low to produce reliable estimates of bycatch. To solve this, New Zealand needs to reduce the overlap between dolphins and fishing nets that kill dolphins. Then use sufficient observer coverage outside those protected areas to check if protected areas are big enough.

The IWC recommended: “highest priority should be assigned to management actions that immediately eliminate bycatch of Māui dolphins, including closures of any fisheries within the range of Māui dolphins that are known to pose a risk of bycatch to dolphins”.

## East Coast North Island sightings

New Zealand has failed to protect dolphins on the East Coast of the North Island, despite regular sightings of Hector’s / Māui dolphins on that coast.

Dolphins have been sighted in many of their old haunts in recent years: Whangarei, Whangaroa, Mangonui Harbour, Hauraki, Tauranga, Napier, Wellington harbour, Paraparaumu. There have been sightings of dolphins off East Cape, Firth of Thames (October, November 2023) and Foxton Beach (December 2023).

These dolphins are either visiting, exploring or are resident in very low numbers. Regardless of whether they are Hector’s or Māui, this is part of their original habitat, where they were once abundant<sup>4</sup>. However, there is zero protection from commercial set nets all along the East Coast North Island, which has a historically high fishing effort. It is a great hope for the future that these areas will be populated by Māui dolphins again, yet they are at massive risk of bycatch, from trawlers in particular.

## Our ask

Māui and Hector’s dolphins don’t need more research. They need more protection.

We can’t as easily protect dolphins from all the other threats like disease, fragmentation or climate change – but we can protect them from fishing immediately, which is by far still their greatest threat.

This threat can easily be removed with a government funded transition away from wasteful, destructive fishing methods to safer, more selective ones – that don’t hurt dolphins or ecosystems. These methods are still profitable and allow commercial fishing to continue.

If adequate protection is not implemented soon, Hector’s and Māui dolphins will be unable to recover from the fishing impacts of the last 50 years. MPI will not be able to achieve their stated goal of population recovery. Action urgently needs to be taken to safeguard what we have remaining around our coasts.

Expert and urgent recommendations from around the world call for full exclusion of set and trawl nets throughout Hector’s and Māui dolphins’ range, which would achieve population recovery goals and allow dolphins to truly start thriving.

We would like to meet with you at your earliest convenience to discuss the issues raised. We offer our expertise and assistance in addressing the following:

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<sup>4</sup> McGrath, G. (2020). The History of New Zealand/ Aotearoa Dolphins *Cephalorhynchus hectori*: Abundance and Distribution (Thesis, Master of Science Communication). University of Otago. Retrieved from <http://hdl.handle.net/10523/10467>

- Support for developing an alternative SailGP event location
- A response from the new government to the IWC's recommendation to immediately eliminate bycatch of Māui dolphins
- A response to the IWC recommendations for further testing of the Risk Assessment (SEFRA) modelling by MPI

Please get in touch if you have any questions or would like further information. And please provide us with some options for meeting with you to discuss the content of this briefing paper. We look forward to meeting with you, offering our support and expertise, and discussing recommendations.

On behalf of Māui and Hector's Dolphin Defenders NZ Inc

Christine Rose - Chair

Gemma McGrath – Dolphin researcher