



SAVING **HECTOR'S** **AND MĀUI** DOLPHINS

PREVENTING A NEW ZEALAND
MAMMAL EXTINCTION

WHALE AND
DOLPHIN
CONSERVATION

WDC

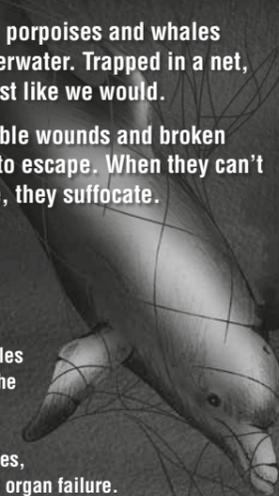
Entanglement in fishing gear is horrific

Like us, dolphins, porpoises and whales can't breathe underwater. Trapped in a net, they will panic, just like we would.

Many endure terrible wounds and broken bones as they try to escape. When they can't struggle any more, they suffocate.

MINUTES

As the dolphin struggles to break free, she or he can suffer lacerated flesh, broken limbs and teeth, torn muscles, internal bleeding and organ failure.



Some of the smallest dolphins in the world are in big trouble – they are hurtling towards extinction. It's not too late to save them if there is the political will, but we need to act fast. The only place on Earth these charismatic little dolphins can be found is around Aotearoa, New Zealand's coast. Why are we letting them face extinction when we know what we need to do to save them?

A KIWI ICON

The endangered Hector's dolphins live mostly around the South Island while the critically endangered Māui dolphin subspecies lives off the west coast of the North Island. Collectively known as 'New Zealand dolphins', Hector's and Māui are endemic. They only reside in our coastal waters – from the surf zone out to 100 metres deep. They are our taonga, treasured species, and were once the most common dolphin species seen around Aotearoa¹.

WHAT'S THE PROBLEM?

Dolphin numbers began plummeting in the 1970s, as plastic nylon set netting rapidly expanded around New Zealand. Thousands were caught in set and trawl nets. Unless we remove set nets and trawls from their home, further decline is inevitable.



There are fewer than
60
Māui left

Hector's dolphin numbers have declined rapidly from around 50,000² individuals in 1970 to less than 25% of their former abundance. Māui dolphins are teetering on the brink of extinction. Scientists estimate there has been a greater than 80% decline in Māui dolphins since the 1970s³.

This decline is mostly due to accidental entanglement (known as bycatch) in set net and trawl fisheries.

The latest population estimate for Māui dolphins indicates there are fewer than 60 left, with possibly as few as 44 remaining⁴. The latest population model generated by the Threat Management Plan (TMP) process estimates that Māui are declining at around 3–4% per year and are likely not to recover, unless human-caused deaths are reduced by 75% as soon as possible. Last year, at least three Māui dolphins died⁵. These deaths put Māui dolphins closer to extinction. The situation has never been more critical.

If current inadequate protection levels persist, Māui dolphins could face extinction in fewer than 15 years^{4,6}.

Whilst there is some protection in place, Hector's and Māui dolphins are protected from set nets in only around 30% of their range, and from trawling in less than 10% of their habitat^{7,8}. The latest multi-threat risk assessment showed that Māui dolphins are still exposed to fishing nets in large areas of their habitat. Bycatch rates of Hector's

dolphins are likely to cause fragmentation and decline of local populations around more than half of the South Island. Toxoplasmosis is a disease that comes from cat faeces washed into the marine environment, and has been suggested as a serious threat by the risk assessment. As cats are a non-native species introduced by people, this disease is considered a human-caused threat to the dolphins. The disease toxoplasmosis is likely to be difficult to tackle, and it is not yet clear how many dolphins are dying from toxoplasma⁹. Removing fisheries threats however, is something we can take immediate action on.

WHAT'S THE SOLUTION?

New Zealand needs to **ban destructive fishing methods** (recreational and commercial set nets and trawls) out to the 100-metre depth contour, so the dolphins will begin to recover. This is the approach that expert scientists at the International Whaling Commission have recommended since 2013¹⁰. This is also the approach that the parties comprising the present government promised during the last election. Bycatch could be stopped very quickly by **making the transition to dolphin-safe fishing methods** such as fish traps, longlining and other hook and line methods.



Māui may only have
15
years left

Like us, dolphins breathe air. A dolphin trapped in a net, unable to get to the surface to take a breath, will suffocate slowly and panic – a horrific way to die.

¹ McGrath, G., 2019, 'The story of Aotearoa/ New Zealand dolphins *Cephalorhynchus hectori*: Historical abundance and distribution', unpublished Master's thesis, University of Otago.

² Slooten, E. & Dawson, S.M. (2016). Updated population viability analysis, population trends and PBRs for Hector's and Māui dolphin. Report to NOAA, USA <https://www.regulations.gov/document?D=NOAA-NMFS-2016-0118-0076>

³ Scott Baker, C., Steel, D., Hamner, R. M., Hickman, G., Boren, L., Arlidge, W., & Constantine, R. (2016). Estimating the abundance and effective population size of Māui dolphins using microsatellite genotypes in 2015–16, with retrospective matching to 2001–16. Retrieved from <https://www.doc.govt.nz/contentassets/a89a71564d524dd4b7ba69830cdad7d2/maui-dolphin-abundance-2016.pdf>

⁴ Cooke, J.G., Steel, D., Hamner, R., Constantine, R. & Baker C.S. (2018). Population estimates and projections of Māui dolphin (*Cephalorhynchus hectori mau*) based on genotype capture-recapture, with implications for management of mortality risk. Paper SC/67b/ASI/05 presented to IWC Scientific Committee June 2018.

⁵ Department of Conservation. (2019). Hector's and Māui dolphin database. Retrieved from <https://www.doc.govt.nz/our-work/hectors-and-maui-dolphin-incident-database/>

⁶ Maas, B. (2016). Estimated population size and decline of Māui's dolphins. *International Whaling Commission*, SC/66a/SM/.

⁷ Leathers and Leslie. (2017). Gear switching to remove threats to Māui dolphin and address the socio-economic barriers to effective conservation. *International Whaling Commission*, SC/67A/HIM/12.

⁸ Abraham, E.R., Berkenbusch, K., Neubauer, P.; Richard, Y. (2017) *The Marine mammal risk assessment*. AEBR-189.

⁹ Report from International Expert Panel: Taylor, B., Lonergan, M. & Reeves, R. (2018) Panel comments and recommendations. Report to New Zealand Ministry for Primary Industries and Department of Conservation. <https://www.doc.govt.nz/globalassets/documents/conservation/native-animals/marine-mammals/maui-tmp/hectors-risk-assessment-workshop-panel-recommendations-appendix-1.pdf>

¹⁰ International Whaling Commission (IWC) (2014). Report of the Scientific Committee, held in Bled, Slovenia, 12–24 May 2014. *Journal of Cetacean Research and Management* 15:1–75.

THE IMPORTANCE OF DOLPHIN HAPŪ

Critically endangered Māui dolphins need urgent action, and so do hapū (subpopulations) of Hector's dolphins around the South Island. Porpoise Bay and Otago hapū are very small and vulnerable populations.

The risk for dolphins in Kaikoura is five times higher than the local subpopulation can sustain. If large numbers of dolphins continue to be removed, the Kaikoura Hector's dolphins will decline and disappear. This would leave another 'hole' in the distribution of the species, further fragmenting the South Island east coast population, making species recovery much harder.

To prevent the disappearance of local populations and to maintain the genetic and geographic diversity and resilience of the species, dolphins need to be better protected everywhere around the South Island.

A consistent approach to protection, using a consistent water depth or distance from shore throughout the range of Hector's and Māui dolphins, is critical to prevent further population fragmentation.

DEATH TOLL

In 2018/19 summer alone, several small groups of up to three Hector's dolphins were killed in trawl nets¹² off the east coast of the South Island. In February 2018, five Hector's dolphins were killed in one commercial set net off Banks Peninsula¹³.

THE PROBLEM WITH NETS

Set net and trawl fishing catch anything and everything in their paths and pose the greatest threats to Māui and Hector's dolphins. Besides the intended catch (and unintended fish) these methods kill many other taonga species including: common, dusky and bottlenose dolphins; orcas; large whales; sea lions, leopard and fur seals; yellow-eyed and blue penguins; albatrosses, petrels and shearwaters; turtles and more¹¹.

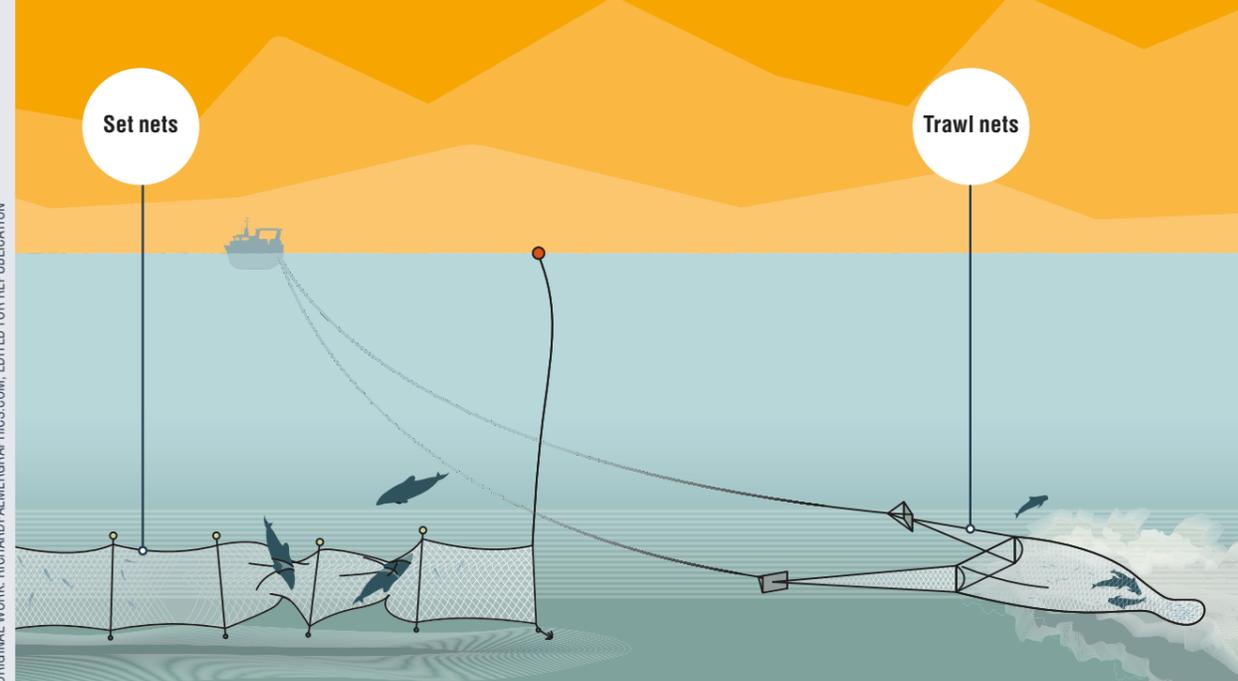


FOUR HECTOR'S DOLPHINS (TWO MALE AND TWO FEMALE) CAUGHT IN A RECREATIONAL SET NET WASHED UP ON THE SHORE AT NELL'S BEACH NEAR JACKSON'S BAY, SOUTH WESTLAND, OCTOBER 2005. IMAGE COURTESY OF DOC



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BY GOVERNMENT ESTIMATES, 110 TO 150 DOLPHINS WILL DIE IN SET NETS AROUND NEW ZEALAND EVERY YEAR¹⁴ AND A SIMILAR NUMBER IN TRAWLS^{15,16}



ORIGINAL WORK: RICHARD PALMER GRAPHICS.COM, EDITED FOR REPLICATION

WHICH FISHERIES?

The fisheries that impact the dolphins include those targeting trevally, snapper, flounder, sole and, in some areas, grey mullet, yellow-eyed mullet, blue moki, butterfish, rig, school shark, spiny dogfish, john dory, terakihi, red cod, stargazer, red gurnard, barracouta, elephantfish, blue warehou and jack mackerel. Most of these are used domestically for fish and chips, some is exported.

Fish that are exported to the United States, that are caught within Māui dolphin habitat by trawling and/or set netting are snapper, terakihi, spotted dogfish, trevally, warehou, hoki, barracouta, flounder and mullet¹⁷. There is currently a petition from Sea Shepherd before the US government because of the impacts on the Māui dolphin.

UNDER THE RECENT CHANGES TO THE US MARINE MAMMAL PROTECTION ACT, NEW ZEALAND RISKS NOT BEING ABLE TO EXPORT THESE FISH SPECIES TO THE US, AN IMPORTANT MARKET.

11 Abraham, E. R., Richard, Y., Berkenbusch, K. & Thompson, F. (2016). Summary of the capture of seabirds, marine mammals, and turtles in New Zealand commercial fisheries, 2002–03 to 2012–13. New Zealand Aquatic Environment and Biodiversity Report No. 169. 205 pages. Download from Ministry for Primary Industries.

12 Ministry of Primary Industries. (2019a). Hector's dolphin captures reported by commercial fishers this summer. Media release, 11 Feb 2019. <https://www.fisheries.govt.nz/news-and-resources/media-releases/hectors-dolphin-captures-reported-by-commercial-fishers-this-summer/>; Ministry of Primary Industries. (2019b). Hector's dolphin capture. Media release, 21 February 2019. <https://www.mpi.govt.nz/news-and-resources/media-releases/hectors-dolphin-capture/>

13 Ministry of Primary Industries. (2018a). MPI looking into accidental capture of Hector's dolphins, media release, 20 Mar 2018. <https://www.mpi.govt.nz/news-and-resources/media-releases/mpl-looking-into-accidental-capture-of-hectors-dolphins/>

14 Davies et al. (2008): Davies NM, Bian R, Starr P, Lallemand P, Gilbert D, McKenzie J. 2008. Risk analysis for Hector's dolphin and Maui's dolphin subpopulations to commercial set net fishing using a temporal-spatial age-structured model. Wellington, Ministry of Fisheries. www.fish.govt.nz/NR-rdonlyres-B034115D-247A-42E5-B08FF5D267046C59-0-HectorNIWA-riskanalysis.pdf

15 Baird, S.J. and Bradford, E. 2000. Estimation of Hector's dolphin bycatch from inshore fisheries, 1997/98 fishing year. Published client report on contract 3024, funded by Conservation Services Levy. Department of Conservation, Wellington. 28 p.

16 Slooten, E. 2013. Effectiveness of area-based management in reducing bycatch of the New Zealand dolphin. *Endangered Species Research* 20: 121-130.

17 Sea Shepherd. (2019). Petition To Ban Imports Of Fish And Fish Products From New Zealand That Result In The Incidental Kill Or Serious Injury Of Māui Dolphins In Excess Of United States Standards Pursuant To Marine Mammal Protection Act Section 101: Before The Department Of Homeland Security, The Department Of The Treasury, And The Department Of Commerce, February 6, 2019.



‘NEW ZEALAND HAS AN IMPORTANT INTERNATIONAL REPUTATION ON CONSERVATION ISSUES BUT IS UTTERLY FAILING THESE LITTLE DOLPHINS WHO ARE FOUND NOWHERE ELSE ON EARTH. IF THE GOVERNMENT DOESN’T TAKE DECISIVE ACTION NOW, THEY WILL BE RESPONSIBLE FOR A MAMMAL EXTINCTION.’

MIKE BOSSLEY, WDC RESEARCH FELLOW



NEW ZEALAND’S GREEN BRAND AT RISK

Extinction is looming, and it is forever – once these dolphins are gone, we won’t have a second chance. They will join the moa and other terrestrial species remembered only in stories and museums. We’ll be the country that called ourselves environmentally-friendly while we watched a dolphin species go extinct. Our global reputation as a clean, green destination for tourists depends on us turning this around.

WHAT DO NEW ZEALANDERS WANT?

In 2014, WDC and Economists at Large conducted a survey of 1,000 New Zealanders which revealed they placed a high value on Hector’s and Māui dolphins. 80% of New Zealand residents favour strong measures to protect the dolphins. 63% would even be willing to pay more for their fish to reduce the number of dolphins killed by fishing activities¹⁸.

75% of New Zealanders think the government should spend money to assist commercial fishers in transitioning to safer fishing methods¹⁹. NZ\$24.5 million is the estimated economic impact generated by nature tourism in Akaroa alone every year, with 476 jobs associated with Hector’s dolphins in New Zealand²⁰. In 2017 WWF commissioned a report that showed it would only cost 0.03% of the government’s budget to save Māui dolphins and support fishing communities to transition to safer, more selective fishing methods²¹.

THE WORLD EXPECTS US TO ACT

WDC is running an international campaign for these dolphins at whales.org/savenzdolphins. Local and international NGOs, scientists, New Zealanders and the international community all urge the government to keep its election promises and protect the dolphins. The world is watching and wondering why we are allowing a native dolphin to face extinction.

The WDC international petition called on the NZ government to protect Hector’s and Māui dolphins throughout their range, including the top of the South, Cook Strait and Taranaki Bight. These areas are important for the recovery of the species, not only because Hector’s dolphins at the top of the South link the west and east coasts, they also have the potential to enhance genetic diversity and may be crucial for the future of Māui dolphins²².

Cook Strait is home to many other whale and dolphin species and the Taranaki Bight area is home to Aotearoa’s blue whale breeding ground. It’s an area well worth protecting from human impacts.

¹⁸ Hoyt, E., McGrath, G., Bossley, M. & Knowles, T. (2014). Assessing New Zealanders’ Willingness-to-pay to Protect the Endangered New Zealand Dolphin (*Cephalorhynchus hectori*): A benefit-cost analysis comparing three scenarios, Economists at Large, Melbourne, Australia and Critical Habitat Marine Protected Areas Programme, Whale and Dolphin Conservation, Chippenham, UK.

¹⁹ Colmar Brunton. (2017). Attitudes towards Government assistance for commercial fishers to transition to safer methods of fishing. For WWF-NZ. Retrieved from http://awsassets.wwfnz.panda.org/downloads/report_attitudes_towards_government_assistance_for_transitioning_to_safe_commercial_fi.pdf

²⁰ Yeoman, R., Rodriguez, A., & Fairgray, D. (2018). Hector’s Dolphin Eco-Tourism Hector’s Dolphin Eco-Tourism Economic Impact Assessment.

²¹ Stokes, F., Dixon, H., & Nana, D. G. (2017). Transitioning to alternative fishing methods off New Zealand’s West Coast North Island A response to the threat to Māui dolphin. Report commissioned by WWF-NZ. Retrieved from www.berl.co.nz

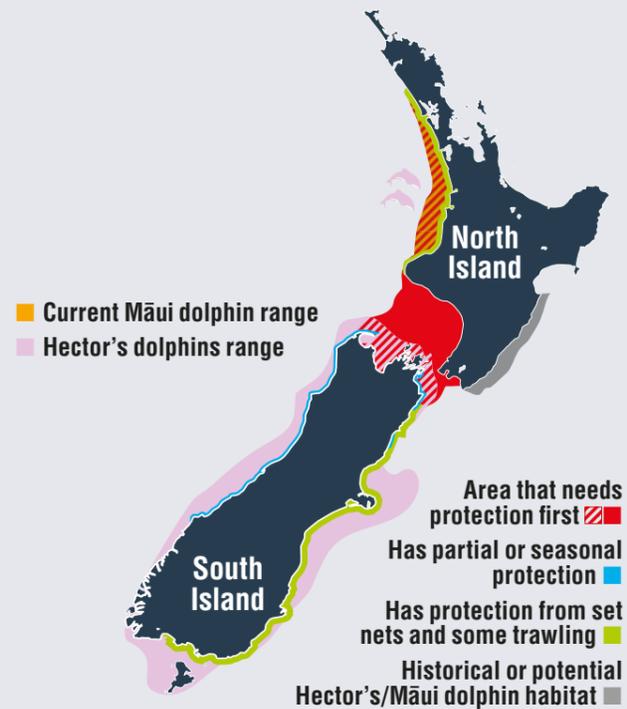
²² Hamner, R. M., Constantine, R., Oremus, M., Stanley, M., Brown, P. & Scott Baker, C. (2014). Longrange movement by Hector’s dolphins provides potential genetic enhancement for critically endangered Māui’s dolphin. *Marine Mammal Science*, 30(1), 139–153. <https://doi.org/10.1111/mms.12026>

POLITICAL PROMISES

Currently there is no protection from commercial and recreational set nets or trawling around the top of the South Island, nor any protection from fishing nets to allow dolphins safe passage across the Cook Strait and northwards into the Māui dolphin area, where we know several Hector's dolphins are living.

The Department of Conservation (DOC) and the Ministry for Primary Industries (MPI) received a record-breaking number of public submissions supporting protection during the review of the Threat Management Plan for Māui dolphins in 2012.

According to 2018 election manifesto policies and promises, Labour, Green and New Zealand First were all in position to protect Māui and Hector's dolphins and transition to more sustainable and selective fishing methods, overhauling current fisheries management.



SOLUTIONS FOR DOLPHINS AND INSHORE ECOSYSTEMS

	Ban nets	Taranaki–Cook Strait Connection	Transition Fishers	Review Quota Management System	Ban mining
Labour	●	●	●	●	●
Green	●	●	●	●	●
Maori	●	●	●	●	●
Top	●	●	●	●	●
NZ First	●	●	●	●	●
National	●	●	●	●	●

- Publicly released policy
- Partial protection/consultation dependent
- Commitments clarified in correspondence/public statements
- No policy or won't implement science-based protection
- Weaker policy implying protection

THE LABOUR PARTY MUST KEEP ITS MANIFESTO PROMISES TO:



'PROMOTE THE RECOVERY OF MAUI AND HECTOR'S DOLPHIN POPULATIONS BY ENSURING THAT ONLY DOLPHIN-SAFE FISHING METHODS ARE USED THROUGHOUT THE NATURAL RANGE OF THESE DOLPHINS IN ALL AREAS LESS THAN 100 METRES DEEP.'

'SUPPORT THE DEVELOPMENT OF FURTHER PROTECTIVE MEASURES OR SANCTUARIES IN ORDER TO ENSURE THE RECOVERY OF OUR ENDEMIC MARINE MAMMAL POPULATIONS' AND 'MONITOR THE EFFECTIVENESS OF EXISTING MARINE MAMMAL SANCTUARIES.'

'IMPLEMENT A PHASE-OUT OF DESTRUCTIVE AND UNSUSTAINABLE FISHING METHODS (SUCH AS BOTTOM TRAWLING, DREDGING AND SET NETTING) THAT HARM VULNERABLE MARINE HABITATS' AND 'SUPPORT THE FISHING INDUSTRY IN TRANSITIONING TO SAFE FISHING METHODS THAT DO NOT CAUSE MORTALITY OF MARINE MAMMAL AND SEABIRD SPECIES.'



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A NEW ABUNDANCE OF SIGHTINGS DATA

Woefully inadequate protected areas for the dolphins were designated in 2008 but did not include the highly important Cook Strait and Taranaki Bight areas.

Lack of data was cited as the reason for not protecting this key area back in 2008. In 2016, WDC implemented the citizen science Hector's Dolphin Sightings App, in partnership with the Department of Conservation. We increased the number of Hector's dolphin sightings in the national database from the area around the top of the South more than fivefold, strongly indicating that the top of the South is an important habitat for Hector's dolphins and should be protected from set nets and trawling.

This increase in data gives the government a fresh incentive to fulfil their election promise to increase protection and make the transition to selective fishing methods that are better for the entire inshore ecosystem.

23 <https://eia-international.org/tag/international-committee-for-the-recovery-of-the-vaquita/>

MEXICO EXAMPLE – VAQUITA

The Mexican government has banned the nets that have pushed the vaquita porpoise to the brink of extinction and they have begun to police their waters. They've also spent millions of dollars to compensate displaced fishers. But they left it too late as there are now only around 10 vaquitas left²³.

Here in New Zealand, where we are famous for our pristine environment, we've dragged our feet on this issue for decades. Let's learn from Mexico and stop stalling before it's too late and Hector's and Māui go the same way as the vaquita.

'The vaquita is the perfect example of what happens when you wait too long. If the killing doesn't stop, the same thing is going to happen here.'

New Zealand dolphin scientist Professor Elisabeth Slooten





‘THE RECOVERY AND RESILIENCE OF HECTOR’S DOLPHINS REQUIRES ENSURING WE DO NOT LET LOCAL, GENETICALLY DISTINCT POPULATIONS DISAPPEAR. WDC’S EXCELLENT WORK GATHERING LOCAL KNOWLEDGE AND BUILDING UNDERSTANDING OF LOCAL DOLPHIN HAPŪ AROUND NEW ZEALAND, SHOWS THAT PROTECTING THESE DOLPHINS IS NOT ONLY IMPORTANT FOR THE SURVIVAL OF THE SPECIES, BUT FOR THE WELLBEING OF THE PEOPLE THAT LOVE THEM.’

AMANDA LEATHERS, SENIOR RESEARCH AND POLICY MANAGER, WWF-NEW ZEALAND



WHAT NEEDS TO HAPPEN NOW

The International Whaling Commission’s (IWC) Scientific Committee has called for set nets and trawling to be prohibited throughout Māui dolphin habitat since 2012²⁴. The International Union for Conservation of Nature (IUCN)²⁵ and Society for Marine Mammalogy called for the same throughout Hector’s dolphin habitat, as other subpopulations are also critically endangered²⁶. These recommendations are based on expert advice from several decades of data gathering and scientific discussion.



IF WE ARE SERIOUS ABOUT STOPPING AN EXTINCTION, WE NEED:

- 1** Recreational and commercial set nets and trawling prohibited in waters out to 100m deep around New Zealand, covering all historical habitats of Hector’s and Māui dolphins, as soon as possible, and certainly within five years.
- 2** Electronic monitoring for protected species from cameras on all set net and trawl vessels.
- 3** A protected passage between the North Island and South Island so the severely depleted Māui population can be bolstered by dolphins from the south, and so that Hector’s in the area are safe.

Additional threats must be properly monitored and managed, and removed where appropriate. We must actively reduce the threats that we can, including fisheries bycatch, marine mining and exploration, boat strike, and habitat degradation as soon as possible while we learn more about climate change and disease.

In the lead up to the Threat Management Process decision, we have tremendous opportunities to introduce policies that offer New Zealand a truly bright and sustainable future. New Zealand fisheries and dolphins are important taonga treasures to be celebrated; it’s time they started thriving again.

In January 2019, at the World Economic Forum in Davos, speaking on the urgent issue of climate change, Jacinda Ardern warned that world leaders need be ‘on the right side of history’. Hector’s and Māui dolphins, with their iconic national status, present another crucial ‘right side of history’ moment for Aotearoa, with an important opportunity to demonstrate real kaitiakitanga, guardianship and conservation.

24 International Whaling Commission, 2018. Report of the Scientific Committee, IWC/67/Rep01.

25 IUCN (2012) Recommendation 142, from the World Conservation Congress 2012. Actions to avert the extinctions of rare dolphins: Māui’s dolphins, Hector’s dolphins, Vaquita porpoises and South Asian river and freshwater dependent dolphins and porpoises. WCC-2012-Rec-142-EN. <https://portals.iucn.org/library/node/45836>

26 Society for Marine Mammalogy. (2013). Letter to New Zealand Prime Minister regarding Māui’s dolphin – Society for Marine Mammalogy. Retrieved from <https://www.marinemammalscience.org/letters/letter-to-new-zealand-prime-minister-regarding-Māuis-dolphin/>



**'WHAT YOU DO MAKES
A DIFFERENCE AND YOU HAVE
TO DECIDE WHAT KIND OF
DIFFERENCE YOU WANT TO MAKE'**

JANE GOODALL



**WHALE AND
DOLPHIN
CONSERVATION**



WDC PO Box 17711, Sumner, Christchurch, 80081 New Zealand • maui@whales.org

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