



SUBMISSION

Draft Hector's and Māui's Dolphin Threat Management Plan 2019

SUBMITTER: TE KOROWAI O TE TAI O MAROKURA

19 AUGUST 2019

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Summary

Te Korowai o Te Tai o Marokura (hereafter Te Korowai) is grateful for the opportunity to comment on the proposed dolphin threat management plan for 2019. The Upokohue/ Hector's dolphin (*Cephalorhynchus hectori hectori*) is a highly valued resident of Te Tai o Marokura¹ (coastal waters surrounding the Kaikōura region). It is an important species in a diverse and productive marine ecosystem. Being the smallest dolphin in the world, and one that lives in very close proximity to human coastal influence Upokohue/ Hector's is also one of the most vulnerable. We strongly support the protection of the Upokohue/ Hector's dolphin and the proposed vision of the 2019 TMP to ensure the "Hector's dolphin populations are resilient and thriving throughout their natural range". We have proposed a Kaikōura specific option – Option Kaikōura – which includes minimizing fishing and non-fishing threats, and which we believe also considers the unique bathymetry and ecology of Kaikōura and the impact to the Kaikōura community.

WE WOULD LIKE THE OPPORTUNITY TO PRESENT OUR SUBMISSION

Introduction

Ngāti Kurī, tangata whenua of Kaikōura recognize the status of Upokohue/ Hector's dolphin as taniwha and we respect the mana of the Upokohue/ Hector's dolphin, which is a taonga species for Ngāi Tahu.

Upokohue is one whanau and child of Tangaroa that enjoys Te Tai o Marokura. Their cousins the whales are an ancestor of Ngāi Tahu and all whanau and children of Tangaroa are equally important to tangata whenua (Appendix 1).

"Hectors dolphins at Mikonui were our kaitiaki because they looked after our fishing grounds there." *Late John Solomon, Oaro Fisherman.*

Te Korowai wants to ensure our tamariki inherit a future where the relationship between people and the environment is characterized by respect and reciprocity, as reflected in Te Korowai's vision.

TE KOROWAI O TE TAI O MAROKURA VISION

By perpetuating the mauri and wairua of Te Tai o Marokura our community as kaitiaki of Tangaroa's taonga are sustaining a flourishing rich and healthy environment where opportunities abound to sustain the needs of present and future generations.

Ka ora te mauri me te wairua o "Te Tai o Marokura" i a tātou ngā kaitiaki nō te hapori tonu, ka ora hoki ko ngā wai, ko ngā uri, ko ngā taonga a Tangaroa, hei painga mō tātou, ā, mō ngā uri ā muri ake nei.

The unique bathymetry and ecology of Te Tai o Marokura presents specific challenges in assessing ecosystem health and anthropogenic disturbance. In particular, the submarine canyon system cuts into the continental shelf, thereby reducing the distance from the shore where depths exceed 150 m (average continental edge depth) to just 1 -2 nm in some areas. The canyon increases the productivity of the coastal waters through upwelling of deeper water enriched by river input, a process specific to coastal deep water environments.

Due to the high productivity of this ecosystem, marine mammals and seabirds share coastal space in a way that differs to other locations around New Zealand, thereby elevating the role of competitive interactions for spatial resources.

For these reasons, exceptional and collaborative kaitiakitanga leadership is required to ensure the Mauri of Te Tai o Marokura is upheld. Te Korowai is committed to enabling this process and we present our submission in the spirit of our shared responsibility as kaitiaki of Te Tai o Marokura.

In 2007 Te Korowai submitted on the Draft Māui's and Hector's DTMP, and with further discussion a unique protection plan for the Upokohue/ Hector's of Kaikōura was developed. The result of which included the implementation of a recreational set net ban and a commercial set net prohibition area with an exclusion zone around the head of the Kaikōura Canyon (Appendix 2). Guided by the evidence presented in 2007, we believe the boundary of the current set net ban has ensured protection of the Upokohue/ Hector's dolphins in the Kaikōura region. Anecdotal evidence leads us to believe that the current set net ban has reduced the number of Upokohue/ Hector's dolphin entanglements and DoC reports show fewer 'unknown' beach cast deaths.

Given new information, as well as the estimated location of the dolphins entangled since the implementation of the set net ban, and in consultation with the commercial set net and trawl fishers, Te Korowai proposes a 4th Option specific to Kaikōura – **Option Kaikōura**.

Option Kaikōura:

Is about leadership; Rangatiratanga. Te Korowai is widely represented by many sectors of our community. It is about Kaitiakitanga: communities and people staying strong and keeping the environment healthy. It is about the core values and tikanga that are the foundation of everyday decision making. It is also about relationships between tangata whenua and the environment, and with other groups in the community that have an interest in the protection, enhancement and sustainable use of resources. Kaitiakitanga assists the Kaikōura Rūnanga in fulfilling its kaitiaki responsibilities in the takiwā: maintaining and enhancing the integrity of life and sustaining the resources everyone depends upon to survive.

Option Kaikōura supports the purpose of the Kaikōura (Te Tai o Marokura) Marine Management Act 2014. The purpose of this Act is to recognize the local, national, and international importance of the coast and sea around Kaikōura (Te Tai o Marokura) as a consequence of its unique coastal and marine environment and distinctive biological diversity and cultural heritage.

Option Kaikōura:

To expand the boundary of the exclusion zone for the current Kaikōura set net ban.

To protect the region from displacement of effort if trawling is prohibited within the Pegasus Bay region, and to initiate research on trawler impact.

To ban seabed mining in the Kaikōura Whale Sanctuary (Te Rohe o Te Whānau Puha).

To support the research and initiate discussion on a feral cat policy as proposed by Forest and Bird, and the creation of a cat bylaw for the Kaikōura District.

To expand the boundary of the exclusion zone in the current Kaikōura set net ban. We propose five points of expansion to the current boundary (Appendix 3a & b). Starting south of the Haumuri Bluffs the boundary is moved 0.8 nm east to 190 m depth. At this point the boundary is moved to within 1 nm of the current boundary to the north of Haumuri Bluff, remaining over 100 – 280 m and accommodating the high density dolphin area. The boundary is again expanded 0.2 nm offshore; to remain over the 100 m depth contour and to continue in deeper water to the existing deep point at the head of the canyon (670 m). This zig-zag is essential to stay over the deeper water as the bathymetry in this area curves around the canyon head. This region is a corridor where the dolphins hug the shoreline and where the current boundary accommodates this. From this deep site, the boundary is expanded a further 0.3 nm to the 100 m depth contour in South Bay, continuing east to finish a further 0.5 nm outside of the current Peninsula boundary point at a depth of 100 m. The boundary then rejoins the current boundary to the north (Appendix 3a & b and GPS table). The proposed boundary primarily follows the 100 m contour with the advantage of easy compliance for fishers with straight line boundaries and greater depths in some areas where dolphins require more distance from the shoreline.

The proposed boundary expansions are focused on the Haumuri Bluff and South Bay areas where the Upokohue/ Hector's dolphin are in high density (Appendix 4a & b) and are known to congregate during the summer breeding period. The boundary for Option Kaikōura runs primarily along the 100 m depth contour line with some deeper areas. We believe the current set net ban is working to protect the low-density corridor north and south of this zone.

Given the contradictory nature of past and present population abundance modelling for the Upokohue/ Hector's dolphin, our decision to amend the boundaries of the current set net ban is based on the distribution of dolphins over time, as presented within the TMP supporting information (MacKenzie and Clements 2014, and the SEFRA models), from local research (Weir & Sagnol 2015), and as provided by local tourist operator Dolphin Encounter (private records of 23,000 trips over 11 years; visualized in Appendix 4a & b). These data, empirical and modelled, show a consistent pattern of high density around the Kaikōura Peninsula, along the inshore of South Bay, and at the Haumuri Bluff. The low density distribution of Upokohue/ Hector's dolphins beyond the proposed boundary are consistent with only 58 of 1,600 Hector's sightings occurring outside of this current boundary over an 11 year period (Appendix 4a & b).

The proposed set net boundary also considers the locations of the two Hector's dolphin entanglements reported by fishermen and observers since the implementation of the current set net ban; in particular, the Haumuri Bluff region. We consider this boundary shift will substantially reduce further entanglements by set netters in this region and matches the slight offshore shift in the dolphin distribution over time. We believe the boundary continues to protect the corridor for Upokohue/ Hector's to move among regional subpopulations, thereby maintaining and enhancing the potential for gene flow to the more vulnerable southern groups in this region (Hamner et al. 2016; Pichler et al. 2014; Pichler & Baker 2000).

To protect the Kaikōura region from displacement of effort if trawling is prohibited within the Pegasus Bay region, and to initiate research on trawler impact.

Protecting the resilience of the Upokohue/ Hector's dolphin requires protection for the habitat essential to the long-term resilience of the dolphin's prey populations, including juvenile habitat and reproductive individuals. As the smallest dolphin species, Upokohue/ Hector's have a very high metabolic rate and need to eat frequently, which restricts their home range and makes them more vulnerable to localized depletions of prey species. We recognize that Hector's have been observed to feed on at least 29 fish species (Miller et al. 2013), and the upwelling region around the Kaikōura canyon provides a productive pelagic system within which they can feed. We also recognize the importance of the juveniles and smaller demersal fish species, as well as the nursery habitat for these species. For instance, juvenile tarakihi, stargazer and kahawai have been reported by MPI in the Kaikōura region, whereas the Canterbury Bight and Pegasus Bay are noted as important nursery areas for elephant fish, gurnard, red cod, tarakihi and rig (Morrison et al. 2014. NZ AEER 125).

While the younger fish and nursery habitats are usually in shallower depths of around 40 – 100m (200 m for tarakihi and red cod), biogenic habitats of high productivity occur throughout the depths and are most sensitive to trawling (Thrush et al. 1998). While the current area of exclusion to trawlers with high-headline works to reduce dolphin deaths, it may not go far enough to protect the prey species and their habitat. We also have concerns for technological shifts in trawl gear and boat power. While a low-headline and slow trawl work well to protect the Upokohue/ Hector's dolphins from capture, higher power trawlers, particularly those with newer and very powerful hydraulics, have a much greater risk for dolphin capture and habitat degradation. We recognize that very few trawlers are capable of sustained trawl speeds of more than 4 knots. Where higher speeds are possible is during the net recovery phase. As the trawl doors are winched back towards the vessel and the angle of the doors to the wings of the net reduces, net resistance reduces accordingly. At this point the net can reach very high speeds as it approaches the surface and moves towards the back of the vessel. High speed during this phase presents greater risk of capture for the Upokohue/Hector's.

To trial and implement mitigation tools on both set netters and trawlers, and to research the impact of Option Kaikōura on the Upokohue/ Hector's dolphin.

We propose that research and monitoring, and funding for it, is included in the Cabinet Paper for the TMP. Our suggestions for research and monitoring to complement Option Kaikōura would include:

- New high-tech pingers to be used by set netters and **trawlers if they are shown to have no effect on other marine mammals**. New pingers are showing promise in other fisheries. However, we request further research to understand if the frequency and tone of this technology will cause disturbance to the resident dusky dolphins and sperm whales, as well as other marine mammals within Te Rohe o Te Whānau Pūa.
- An improved observer programme using on-boat cameras or staff. We request the formulation of the plan and funding allocation be given urgency. We also request that video viewing software is developed to ensure all video footage is scanned for dolphins.
- A second full aerial survey within 10 years to better understand the population dynamics of the Upokohue/ Hector's dolphin throughout New Zealand.
- A benthic assessment to inform the impact and recovery trajectories of inshore trawling in the Kaikōura Marine Management Area, and to investigate the need for amended trawl restrictions.

To ban seabed mining in the Kaikōura Whale Sanctuary (Te Rohe o Te Whānau Puha). Currently the sanctuary protects cetaceans only from seismic activity. Te Korowai proposes that the mining of the seabed is also banned within the sanctuary to further protect the habitat of all cetaceans and their prey into the future.

To support research and initiate discussion on a cat policy, and the creation of a cat bylaw for the Kaikōura District.

Toxoplasmosis is possibly a major threat to the Upokohue/ Hector's dolphin and we therefore support a precautionary approach to reduce their exposure to cat faeces. We strongly support ongoing research to clarify this threat and identify hotspots of toxoplasmosis carriers, but also support a parallel process that works toward managing the feral and domestic cat population throughout New Zealand.

While we realise there is much more to know about toxoplasmosis impacts on Hector's dolphins locally, there is already a need for better cat management for the known impacts on local ground nesting bird populations and high numbers of stray cats caught through trapping locally.

We support the views expressed by Forest and Bird in their draft cat management policy, that "Councils adopt meaningful cat management policies and regulations to support responsible domestic cat ownership, and to remove feral and stray cats from all areas of high biodiversity value."

Te Tai o Marokura is recognised globally as a biodiversity hotspot. We support growing the awareness of the kaitiakitanga (guardianship) role that we all have in respect of the natural world. We encourage the development of effective practices to eradicate the feral cat population and a bylaw to encourage responsible domestic cat ownership. Tools proposed by Forest and Bird present a good start to this discussion.

TMP fishing-specific options

We request that Option Kaikōura be considered for implementation in place of the three fishery-specific options presented. **Te Korowai does not support the three options proposed for the Kaikōura Marine Management Area.**

Options 1, 2 and 3 are not fit for purpose. Given the comprehensive observation data for Upokohue/ Hector's that we have for the Kaikōura area Option 1 can be improved, but options 2 and 3 do not consider the unique bathymetry and ecology of Te Tai o Marokura.

Option 1. While we believe the current set net prohibition area has reduced the number of Upokohue/ Hector's deaths, new information suggests we can do more to protect high density dolphin areas and to ensure corridors are maintained among smaller and potentially vulnerable subgroups; thereby maintaining population growth, spatial expansion, and gene flow among east coast groups. In addition, it is not acceptable to implement management tools without a detailed plan that includes allocated funding for research specifically focused to understand the successes and failures of the implementation. The *status quo* does not provide a **detailed plan** for this research and we do not support another 10 year gap in this vital information.

Option 2. While providing full protection for the Upokohue/ Hector's dolphin, this option does not recognise the unique bathymetry and ecology of Kaikōura or make practical provision for those in terms that will work for us locally. Appendix 5 displays the depths to which 4 nm would push the set net fishers. We understand that this option may be perceived as a way to 'fix' the exclusion zone. However, the exclusion zone is currently at 1 nm from the coast and in some areas is over 600 m depth. Option Kaikōura incorporates the high density areas of the Upokohue/ Hector's dolphin population, while making practical consideration of the unique bathymetry of the region.

Option 3. There is no recognition in Option 3 of the unique bathymetry and ecology of Kaikōura with respect to the distribution of the Upokohue/ Hector's dolphin and does not make practical provision for those in terms that will work for us locally. Appendix 6 displays the depths to which 7 nm would push the set net fishers. When viewed on a contoured bathymetric map, it is clear that 7 nm does not add the perceived benefit to the Upokohue/ Hector's dolphin. Option Kaikōura incorporates the high density areas of the Hector's dolphin population, while making practical consideration of the unique bathymetry of the region.

Kaikōura’s Economy and impact of the TMP and Option Kaikōura:

Kaikōura is a known biodiversity hotspot and the community relies on the health of Te Tai o Marokura for its own well-being and economic health. We recognize the Upokohue/ Hector’s as an important part of this integrated system. We are also mindful of the economic and social costs created by sudden change to Kaikōura as businesses continue to transition from the 2016 earthquake. To this end, a local economic impact assessment was conducted and we consider Option Kaikōura to be a more integrated approach to the protection of Upokohue/ Hector’s dolphin than Options 2 or 3 proposed in the TMP (Appendix 7).

Where Options 2 & 3 will make inshore set net fishing in Kaikōura non-viable, completely excluding the fishermen from the industry, Option Kaikōura expands current protection for the dolphins and supports greater resilience in Kaikōura’s economy by maintaining diversification of industries. We also acknowledge that 15 – 20% loss of turnover resulting from Option Kaikōura does still impact strongly on the fishermen and the wider Kaikōura community (Appendix 7).

Summary of impacts

	Status Quo	4nm and beyond (Options 2 & 3)	Option Kaikōura
Set-net GDP	Up to \$2.4m	70-96% GDP however a loss of this amount likely to deem operations unviable.	Up to \$1.9m
Percentage of change to overall GDP	0% change	Up to 100% decrease	0.3% decrease in GDP
Turnover	0% change	Up to 100% decrease	Loss of up to 15-20% turnover
Costs	Remain same	Reduce to zero if industry not operating	Costs remain the same as status quo or may increase.
Impact on cash flow	No change	Businesses likely deemed non-viable	Up to 50% decrease in profit and hence likely to impact cash flow.
Employment impacts	18 employees	18 employees impacted up to and including loss of employment. Approximately 2 employees from supply service companies may also have their employment impacted.	18 employees likely to retain current employment but will depend on individual operations.
Contribution to local business	Up to \$820,000 per annum	Loss of revenue for local businesses up to \$820,000	Up to \$820,000 per annum.
Psychosocial impacts	Low	High	Medium
Future Industry Development	Possible	Limited	Possible

Note: pre-quake data of 2016 used for these summaries

Other Consultation Questions addressed:

- We agree with the new vision statement for the TMP as the Upokohue/ Hector's dolphin is a highly valued resident of Te Tai o Marokura.
- We agree with the long-term goal and the four medium-term goals. Option Kaikōura aims to manage human-caused threats within levels that allow subpopulations to thrive. We have worked to engage the broader community in the conservation of the dolphins and we have identified new research and monitoring to understand the impact of Option Kaikōura.
- The desired population outcome states that human impacts are managed to allow the population to increase to a level at or above 90 percent of the maximum number of dolphins the environment can support. Unfortunately, the lack of clarity around the historical and current population estimates for the Upokohue/ Hector's dolphins gives us no confidence in the population outcomes as presented. However, we believe that Option Kaikōura is comparable to the most precautionary of approaches.
- For the Fisheries management objectives to be specific, measurable and time-bound requires specific measures of impact. We don't believe the information used in the risk and effort components of the SEFRA model are specific to Kaikōura, nor are the various measures of dolphin abundance clear. Therefore, we have used the density distribution of the Upokohue/ Hector's dolphins in the Kaikōura region as observed over 23, 000 Dolphin Encounter trips to assess the overlap with current set net effort to achieve maximum protection for the Upokohue/ Hector's dolphins in the Kaikōura region. Option Kaikōura ensures localized depletion does not occur and enhances existing corridors for dispersal and connectivity among subpopulations and groups.
- Toxoplasmosis management objectives are clear. There is a lack of information and we support the objectives to improve knowledge and the ability to take actions to reduce the threat. We would also support the development of a feral cat control strategy and bylaw.
- Non-fishing management objectives. Option Kaikōura supports the protection of habitat for important prey species for the Upokohue/ Hector's dolphin.
- Legislative Engagement objectives were not met in the Kaikōura region. We would like to see more specific engagement on such issues in the future through the statutory body (The Kaikōura Marine Guardians) implemented under the Kaikōura Management Act 2014. We support the enhanced engagement objectives presented in the TMP.
- We support the Monitoring of fishing threats **and would like to engage** in the development of the 5-year plan outlining priority areas for monitoring, coverage levels, monitoring tools and strategies. The current set net ban in Kaikōura was implemented 11 years ago and we strongly support focused monitoring of the effectiveness of Option Kaikōura into the future.
- We support the establishment of a toxoplasmosis action plan, as well as the objectives and associated performance plans. In addition, we suggest action plans and engagement regarding the health of coastal waters. Healthy dolphins are less likely to be impacted by disease and parasites (including the recently discovered TB in dolphins), and therefore river pollution should be a high priority association to the toxoplasmosis plan.

Rachel Vaughan

Chair

TE KOROWAI O TE TAI O MAROKURA