Protecting South Island Hector's dolphins

Further consultation on fisheries measures
October 2021
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Significant Hector’s dolphin mortalities
- Large increase in inshore fishing effort and use of monofilament nets
- No dolphin protection

**Actions taken**
- Marine Mammal Sanctuaries
- 2008 Threat Management Plan (TMP)
- Increased fishing restrictions
- Increased monitoring
- 2020 Revised TMP

**Present**
- 16,525 km² closed to set net fishing and 6,988 km² of trawl restrictions
- TMP fisheries objectives met for most Hector’s dolphin populations
- Levels of fishing-related deaths remain uncertain
- Reactive response to capture events

**What next?**
- Supporting fishers to improve fishing practices to avoid dolphins
- Better use of technology to proactively monitor and respond to risk
- Continued reduction in Hector’s dolphin bycatch
- Regular public reporting on performance

**Future**
- Hector’s dolphins are thriving throughout their range
- Public confidence in management approach
- Certainty and support for fishers
- Market premium for sustainable fishing practices
Fisheries New Zealand welcomes your input on the proposals to avoid, remedy or mitigate the effects of fishing on South Island Hector’s dolphins.

Official Information Act

All submissions are subject to the Official Information Act 1982 and can be released (along with the personal details of the submitter) under the Act. If you have specific reasons for wanting to have your submission or personal details withheld, please set out your reasons in the submission. Fisheries New Zealand will consider those reasons when making any assessment for the release of submissions if requested under the Official Information Act.

Timeframe

The consultation will be open for eight weeks.

How to respond

You can give your feedback on this consultation by:

- Emailing: dolphintmp@mpi.govt.nz
- Writing to:

  **Dolphin TMP**
  Ministry for Primary Industries
  Charles Ferguson Building
  34-38 Bowen St
  Pipitea
  Wellington 6011

- Completing an online survey.

Please be sure to include the following information in any written submission:

- Your name and contact details (e.g. phone number, address and email).
- Your organisation’s name (if you are submitting on behalf of an organisation).

If you want to know more about...

- The information that supports our analysis - see Supporting Information www.mpi.govt.nz/tmp-consultation
- The Overview of legislative requirements and other considerations - see www.mpi.govt.nz/tmp-consultation
- Spatial risk assessment of threats to Hector’s/ Mãui dolphins - A spatial risk assessment of threats was undertaken in 2019 for Hector’s and Mãui dolphin, to inform the revised Threat Management Plan (TMP) for the species.
Executive Summary
Executive Summary

New Zealand’s Hector’s dolphins are an endemic, protected species and a taonga for tāngata whenua. The South Island Hector’s dolphin population, which is estimated to be around 15,000 individuals, is currently listed as Nationally Vulnerable under the New Zealand Threat Classification Status. There are about 5,500 Hector’s dolphins on the west coast, 330 on the south coast and 9,100 on the east coast of the South Island. The number of Hector’s dolphins on the north coast is unknown.


For South Island Hector’s dolphins, the Government extended the bans on the commercial and recreational use of set nets. The options for trawl closures in the South Island were not decided on. The Government determined that further consultation should occur on other approaches to manage the remaining fisheries risk in the South Island.

Under the current measures, we are not meeting the TMP fisheries objectives for Hector’s dolphins around the north and south coasts of the South Island and Kaikōura with enough certainty.

More generally, we consider there is an opportunity to leverage off new technology to manage the impacts of fishing on the dolphins more effectively while also retaining our important inshore fisheries.

This consultation document outlines (in addition to the status quo) three options not previously consulted on to manage the impact of fishing (see Table 1 on the following page):

- a ‘bycatch reduction plan’ to work with fishers to avoid all dolphin mortality while allowing fishing to continue where possible and/or,
- an expansion of trawl gear restrictions (low headline height trawl net or slow tow speed or both), and/or
- a further area closure to commercial and recreational set net fishing around Banks Peninsula.

Human-induced threats pose a risk to these dolphins. The approach to managing the impacts of these threats is set out in the Hector’s and Māui Dolphin Threat Management Plan (TMP). The plan sets out a range of goals and outcomes that the management of these threats is designed to achieve. Fisheries New Zealand has responsibility for managing the effects of fishing-related mortality to levels specified in the plan.

Under the TMP, Fisheries New Zealand has (since 2008) put in place extensive measures to reduce the effects of fishing-related mortality on the dolphins. The TMP was last reviewed in 2019 and new population goals and objectives were set to guide how we manage fishing-related impacts. The review considered a range of measures to manage those impacts; new fishing restrictions to protect Hector’s and Māui dolphins took effect on 1 October 2020.

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- an expansion of trawl gear restrictions (low headline height trawl net or slow tow speed or both), and/or
- a further area closure to commercial and recreational set net fishing around Banks Peninsula.
Each of the options have different costs and benefits in managing fisheries risk to the dolphins and providing for the use of fisheries resources. The options may be considered separately, or packaged together, in any of the areas.

Table 1: Consultation options, in addition to Option 1 - the status quo. Options may be considered separately or in combination with one another in each area.

<table>
<thead>
<tr>
<th>Area</th>
<th>Option 2 – Bycatch reduction plan (Fisheries New Zealand preferred)</th>
<th>Option 3 – Trawl gear restrictions</th>
<th>Option 4 – Set net closure (Banks Peninsula) (Fisheries New Zealand preferred)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North coast</td>
<td>Apply the plan to the north coast subpopulation, but without a fishing-related mortality limit.</td>
<td>The use of trawl gear from Farewell Spit to Cape Soucis within 2 nm of shore (see Figure 6, page 41) is prohibited unless a commercial fisher is using a low headline height trawl net, or low tow speed, or both.</td>
<td>N/A</td>
</tr>
<tr>
<td>East coast</td>
<td>Apply the plan to the east coast subpopulation with a regulated fishing-related mortality limit defined in each local population area.</td>
<td>The use of trawl gear in the areas around Pegasus Bay, and south Canterbury Bight to Timaru (see Figure 6) is prohibited unless a commercial fisher is using a low headline height trawl net, or low tow speed, or both.</td>
<td>Extend the commercial and recreational set net closures from the existing 4 nm offshore boundary at Goat Point east to 12 nm offshore and around Banks Peninsula to the existing 4nm offshore boundary at Snuffle Nose (see Figure 7, page 44).</td>
</tr>
<tr>
<td>South coast</td>
<td>Apply the plan to the south coast subpopulation with a regulated fishing-related mortality limit.</td>
<td>The use of trawl gear in the entirety of Te Waewae Bay, and offshore to 4nm between Sand Hill Point and Wakaputa Point (see Figure 6), is prohibited unless a commercial fisher is using a low headline height trawl net, or low tow speed, or both.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Bycatch reduction plan

The bycatch reduction plan is a new approach designed to protect the Hector’s dolphin populations from impacts of fishing. The plan involves working with commercial fishers to avoid all fishing-related deaths over time, by continually improving practices. Commercial fishing will be monitored by on-board cameras, with clearly defined interventions if captures occur. The plan would initially be applied to the north, south and east coasts of the South Island.

The plan includes a range of voluntary components to encourage the development and uptake of new mitigation methods by fishers and their responsiveness to new information on the nature and extent of risks from fishing. The plan is underpinned by a number of targeted actions for Fisheries New Zealand, the Department of Conservation and fishers, including compulsory reporting of all captures, verification of fisher reporting with regulated on-board cameras, and regulated fishing-related mortality limits (outlined on page 35) that would trigger a formal government response on further measures.

If captures approach 75% of a fishing-related mortality limit, Fisheries New Zealand would provide advice to the Minister for Oceans and Fisheries on possible measures. These could include, but would not be limited to, area or method-based closures to ensure a fishing-related mortality limit is not exceeded. Fishing-related mortality limits would apply to commercial and recreational fishers.

To support verification of fisher reporting, on-board cameras are proposed to be implemented as a priority on all commercial set net (>8m in overall length) and trawl vessels (<32 m in overall length) operating in the north, east and south coasts of the South Island. See our webpage for information on the consultation for the wider rollout of on-board cameras, see www.mpi.govt.nz/camera-consultation.

Gear Restrictions

Anecdotal and some observational information suggests that using a low headline height trawl net (where the vertical height of the net opening is no more than 1 metre) and slow tow speed reduces the chance of dolphins being captured in a trawl net. A low headline height trawl net restriction already applies along the east and south coasts of the South Island out to two nautical miles offshore.

An option to further reduce likelihood of fisheries bycatch is to increase the areas where low headline height trawl nets are required or put in place a trawl speed restriction (less than or equal to 2.5 knots) or both. The areas under consideration are described in Table 1 and discussed on pages 40-41 (see Figure 6).

Area Closures

Area closures have traditionally been the main tool for managing the effects of fishing-related mortality on Hector’s dolphins, as shown by the recent commercial and recreational set net closures that took effect in 2020.

In response to public feedback, we are consulting on extending the commercial and recreational set net closure around Banks Peninsula between Goat Point and Snuffle Nose from four to 12 nautical miles offshore (see Figure 7, page 44). This closure is designed to address the potential risk of set net effort displacement (and the consequent risk of dolphin bycatch) from the recent set net closures to the north and south of this area. Since October 2020, there has been a relatively small increase in set net effort into this area. While set net effort displacement to this area at this time has been nominal, this may not hold true in future.

The options for trawl closures in the South Island consulted on in 2019 were not decided on and therefore remain as options available to the Minister.

Preferred options

Our preferred options are Option 2 (the bycatch reduction plan) and Option 4 (extending the set net closure around Banks Peninsula).

We consider Option 2 (the bycatch reduction plan) as the most effective and flexible approach to manage the remaining fisheries risk while allowing our important inshore fisheries to continue.

Option 4 (set net extension) will address the potential displacement of set net effort around Banks Peninsula to ensure the expected reductions in set net risk from the 2020 measures are maintained.

We do not consider it necessary to expand trawl gear restrictions or trawl area closures to address the remaining low levels of fishing-related mortality risk from trawl, given the cost of those measures to fishers in comparison to Option 2, which we consider will achieve the desired outcome.

We seek your feedback on the options and our preferred options. This document contains a set of questions that are designed to help with the content of your submission.
Looking at past to present progress
What is the problem?

Best available information suggests that current fishing-related measures may be insufficient to help achieve the desired population outcome for South Island Hector’s dolphins and may not meet the fisheries objectives as set out under the TMP.

This information includes:

- an understanding of the distribution and behaviour of the dolphins and how we manage threats to the dolphins,
- the objectives that have been set to
  - support the dolphins to achieve levels of abundance close to what they would be without human-induced impacts, and
  - ensure these impacts do not inhibit the movement of dolphins between areas,
- our estimates of the remaining fishing-related deaths or risk versus the levels needed to meet our objectives, and
- the Government’s long-term goal to reduce the mortality of non-target species from marine fisheries to zero.

In addition, current approaches to management (particularly area closures) can come at a high cost to fishers and may not be the most effective at managing risk throughout the areas where the dolphins are commonly found.

For example, method-based area closures are only effective for the method and area where they apply. They do not encourage or support wider change in fishing practices to avoid dolphin bycatch more generally. In some cases, this may lead to a shift in fisheries risk rather than a reduction. New technology allows us to consider new, potentially less costly but more effective, measures to reduce fisheries risk across entire dolphin populations.

Managing human threats to the dolphins

Two subspecies of Hector’s dolphins exist: the South Island Hector’s dolphin, which is found around the South Island of New Zealand, and the Māui dolphin, which is found off the west coast of the North Island.

Hector’s and Māui dolphins face a range of human-induced threats, both fishing-related and non-fishing related. Some of these are a direct cause of dolphin deaths, such as set net and trawl fishing, and the parasitic disease toxoplasmosis. Other human-induced threats include seismic surveying, seabed mining, dolphin watching and marine vessel traffic.

Since 2008, human-induced threats to the dolphins have been addressed via the Hector’s and Māui Dolphin Threat Management Plan (TMP). The TMP is a joint initiative between the Department of Conservation and Fisheries New Zealand. It provides an overarching framework that identifies human-induced threats to the dolphins, and strategies to mitigate those threats to ensure the dolphins can thrive. Threats from commercial and recreational set netting, trawling, toxoplasmosis, seismic surveying and seabed mining are actively managed under the TMP. Fisheries New Zealand is responsible for managing the impacts from fishing.
In 2019 the TMP was reviewed. Decisions on a revised plan were announced in June 2020, including a new set of goals, population outcomes and objectives. Further measures were introduced as part of that review, most significantly for Māui dolphins, to ensure fisheries risk was managed in line with the objectives specified in the TMP. Off the west coast North Island, set net closure areas increased from 6,850 km² to 15,025 km², and trawl closure areas (including harbours) increased from approximately 4,409 km² to 5,837 km². This consultation focuses solely on the remaining fisheries risk to Hector’s dolphin in the South Island.

The TMP recognises that the South Island Hector’s dolphin population is made up of four subpopulations - north, south, east and west coasts (see Figure 1). Evidence is inconclusive as to whether the north coast subpopulation is genetically distinct, but as a precaution it is treated as such. The TMP also defines five local populations within the east coast South Island subpopulation (Cloudy Clifford, Kaikōura, Banks Peninsula, Timaru and Otago). Hector’s dolphins have relatively small home ranges (approximately 30-50 km alongshore), with potentially little movement between areas. These characteristics increase the risk of localised depletion and associated impacts on local area ecosystem function. Further fragmentation of the subpopulation can occur if the distance between local populations increases to the extent that the opportunity to intermix is significantly reduced or lost. By managing threats at the scale of local populations, we can help ensure that this does not occur.

**Subpopulation:** A subset of the larger overall population. For Hector’s dolphins this is defined based on geographic and genetic evidence.
Figure 1: Locations of the South Island Hector’s dolphin subpopulations and defined local population areas within the east coast.
Non-fishing measures:
The Department of Conservation has launched a Toxoplasmosis Action Plan to investigate and trial solutions to reduce or eliminate the transfer of the parasite to the marine environment.

In addition, the total area protected by five Marine Mammal Sanctuaries (where restrictions on seismic surveying and seabed mining apply) was doubled. New permits in the expanded marine mammal protection areas are prohibited.

TMP Fisheries Objectives
Under the revised TMP, a population outcome for Hector’s dolphins has been set to help ensure that the impacts from all human-induced threats are managed within levels to allow the subpopulations to thrive and recover.

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.

The following fisheries management objectives have also been set to manage the impacts from fishing:
- Ensure that dolphin deaths arising from fisheries threats do not:
  - exceed the population sustainability threshold (PST) to achieve the applicable population outcome with 95 percent certainty
  - cause localised depletion
  - create substantial barriers to dispersal or connectivity between subpopulations.

Population sustainability threshold (PST):
The maximum number of human-induced deaths that could occur while achieving the associated population outcome.

For South Island Hector’s dolphins this means that, with 95 percent confidence, each subpopulation is able to recover to, and/or maintain a level that is no more than 10 percent lower than what it would be without any impacts from fishing.

For localised populations of dolphins, another objective has been set:
- To allow local Hector’s dolphin populations to recover to, and/or remain at or above 80 percent of unimpacted status with 95 percent certainty.

What have we done so far for South Island Hector’s Dolphins?
The 2019 TMP review assessed the estimates of fishing-related deaths or risk against these new objectives, and how we were placed to achieve them.

At that time the estimated mortality from set net fisheries posed the greatest risk that the objectives for South Island Hector’s dolphins would not be met.

The new fisheries measures that took effect on 1 October 2020 resulted in a large increase in areas closed to commercial and recreational set net fisheries around the South Island. The set net closure areas in the South Island have increased from about 10,345 km² to 16,525 km². Trawl measures (which include closures and gear restrictions) cover 6,988 km² (see Figures 2a and 2b).

In the South Island, the commercial and recreational set net measures have been effective in significantly reducing fisheries threats to Hector’s dolphins. There are very few areas left in the dolphins’ habitat where recreational set net activity can occur. We estimate that commercial fisheries risk around much of the South Island has been reduced (by about 60%) to a level that will enable most of the TMP fisheries objectives to be met.
Figure 2a: Current set net restrictions and closed areas around the South Island.
Figure 2b: Current trawl restrictions and closed areas around the South Island.
Need for further measures

Despite the effectiveness of the new fisheries measures, there is still some risk of Hector's dolphin bycatch. We are confident that current measures will allow us to meet the fisheries objectives for the west and east coast subpopulations, and most of the local population objectives along the east coast. But for the north and south coast subpopulations of the South Island, and for the local population around Kaikōura, we may not be meeting our objectives with enough certainty (see Table 2).

The table below shows the upper estimates (i.e. 95% confidence interval) of fishing-related dolphin deaths by population, or in the case of the north coast, an estimate of the risk in the absence of information on dolphin abundance there. The two columns on the right show the level of risk (north coast) or annual number of deaths that must not be exceeded to meet the objectives for the area with sufficient certainty. Estimates of death or risks in bold in the table mean that the fisheries objective is not yet met. Uncertainty in our estimates of risks is discussed in the Supporting Information www.mpi.govt.nz/tmp-consultation.

Table 2: Upper estimate of the fishing-related deaths or risk from commercial fisheries (set net and trawl combined) in comparison to the population sustainability threshold. Estimates of death or risks in bold mean that the fisheries objective is not yet met.

<table>
<thead>
<tr>
<th>Sub and local populations</th>
<th>Upper estimate of deaths or risk score (rounded) (95% confidence interval)</th>
<th>Population Sustainability Threshold to achieve:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>For subpopulations: 90% un-impacted status</td>
</tr>
<tr>
<td>North coast (risk score)¹</td>
<td>1.5</td>
<td>1.00</td>
</tr>
<tr>
<td>East coast</td>
<td>33.7 dolphins a year</td>
<td>46</td>
</tr>
<tr>
<td>Cloudy Clifford</td>
<td>0.9 dolphins a year</td>
<td>N/A</td>
</tr>
<tr>
<td>Kaikōura</td>
<td>12.7 dolphins a year</td>
<td>N/A</td>
</tr>
<tr>
<td>Banks Peninsula</td>
<td>4.7 dolphins a year</td>
<td>N/A</td>
</tr>
<tr>
<td>Timaru</td>
<td>11.2 dolphins a year</td>
<td>N/A</td>
</tr>
<tr>
<td>Otago</td>
<td>4.2 dolphins a year</td>
<td>N/A</td>
</tr>
<tr>
<td>South coast</td>
<td>1.8 dolphins a year</td>
<td>1.57</td>
</tr>
<tr>
<td>West coast</td>
<td>10.8 dolphins a year</td>
<td>25.9</td>
</tr>
</tbody>
</table>

¹ When there is insufficient information on dolphin population size a risk score can be calculated. A risk score is the probability of death per year per individual animal (or alternately, the proportion of animals dying per year), scaled with reference to a population objective. A risk score <1.00 means a population objective will be achieved.
Present

**Key**
- Red: Will not meet TMP objectives
- Orange: May not meet TMP objectives
- Green: Meets TMP objectives
- Blue: Measures in place

**Fisheries measures in place**
- **SET NET CLOSURE**: 16,525 km²
- **TRAWL MEASURES**: 6,988 km²

**Desired future**

- Meet TMP objectives for all subpopulations and local area populations
- Reduce the number of dolphins being caught toward zero
- Better support and encourage fishers to reduce captures
- Make best use of new technology

**TMP Fisheries Objectives**

**Subpopulations**
- North coast South Island
- West coast South Island
- South coast South Island
- East coast South Island

**Local area populations**
- Cloudy Clifford
- Kaikōura
- Banks Peninsula
- Timaru
- Otago

- Cloudy Clifford
- Kaikōura
- Banks Peninsula
- Timaru
- Otago

- North coast South Island
- West coast South Island
- South coast South Island
- East coast South Island
This document outlines additional options to address the remaining fisheries risk to South Island Hector's dolphins to ensure the TMP fisheries objectives are met.

There is also benefit in considering how we can identify and respond to changes in fisheries risk to the dolphins over time, and the Government's desire to avoid all protected species bycatch more generally over the long term. The Government's recent Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020 includes:

- 2025 goal that the number of fishing-related deaths of protected marine species is decreasing towards zero for all species, and
- 2050 goal that the mortality of non-target species from marine fisheries has been reduced to zero\(^2\).

The 2019 consultation on fisheries measures focused on set net and trawl closures as the means to manage the effects of fishing-related mortality. Fisheries New Zealand received a range of submissions on alternative approaches to manage the remaining fisheries risk to Hector's dolphins in the South Island, using measures other than closures.

The purpose of this consultation is to seek tangata whenua and stakeholder views on alternative options to manage the remaining level of fisheries impact to ensure the TMP fisheries objectives are met.

**Question 1**

Do you agree there is a need for further fishing-related measures to protect South Island Hector's dolphins?

The Fisheries Act 1996 provides the legal basis for managing fisheries in New Zealand, including the Minister for Oceans and Fisheries’ responsibilities for managing the effects of fishing on protected species.

The Minister for Oceans and Fisheries has discretion in determining what measures are necessary to avoid, remedy or mitigate the effect of fishing-related mortality on any protected species. See the separate document Overview of legislative requirements and other considerations for more information.
Māori have interests in the protection of Hector’s and Māui dolphins and the management of, and involvement in, actions and decisions taken regarding the use of fisheries resources. Ensuring partnership and delivery of the commitments and acting in a manner consistent with the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 is important.

Fisheries New Zealand has commitments in individual Treaty Settlements through protocols and relationship agreements. Some of these agreements recognise the cultural significance of marine mammals, including Hector’s and Māui dolphins. The agreements generally require decision makers to engage with affected iwi in accordance with the Principles of the Treaty, meaning:

- early engagement on matters for consultation,
- ensuring sufficient information and time is provided to enable effective participation,
- engaging with an open mind and reporting back on the outcome.

In March 2021, Fisheries New Zealand provided Te Waka a Māui members with material on the proposals in this consultation document for discussion at a hui held on 19 March 2021. Members of the Forum also asked us to discuss the proposals with Ngāi Tahu Seafoods, which was done (see below).

Te Waka a Māui acknowledged the need to protect dolphin populations in their area and considered that it was their responsibility as kaitiaki to ensure that measures were in place that would ensure the long-term viability of the dolphin populations.

Te Waka a Māui advocates a risk assessment approach based on real risk, where Hector’s dolphins and Hector’s dolphin catches are monitored and the actual, rather than modelled, risk assessed. At this time they do not support further measures that restrict fishing.

In March 2021, Fisheries New Zealand provided Te Waka a Māui members with material on the proposals in this consultation document for discussion at a hui held on 19 March 2021. Members of the Forum also asked us to discuss the proposals with Ngāi Tahu Seafoods, which was done (see below).

Te Waka a Māui acknowledged the need to protect dolphin populations in their area and considered that it was their responsibility as kaitiaki to ensure that measures were in place that would ensure the long-term viability of the dolphin populations.

Te Waka a Māui advocates a risk assessment approach based on real risk, where Hector’s dolphins and Hector’s dolphin catches are monitored and the actual, rather than modelled, risk assessed. At this time they do not support further measures that restrict fishing.
Kaitiakitanga

Tangata whenua exercise kaitiakitanga through information provided by the Forums and iwi views on the management of fisheries resources and fish stocks, and as set out in Iwi Fisheries Plans. In Te Waipounamu Iwi Forum Fisheries Plan, Te Waka a Māui consider Hector’s dolphin taonga.

With respect to protected species more generally, the Forum Fisheries Plan has objectives to support and provide for the interests of the South Island iwi, including the following:

- **Management objective 5**: to restore, maintain and enhance the mauri and wairua of fisheries throughout the South Island.

  - South Island iwi and Fisheries New Zealand are working collaboratively with the fishing industry to remedy or mitigate the environmental effects of fishing on the marine environment (e.g. avoiding the mortality of seabirds and marine mammals).

We welcome further input from tangata whenua and Te Waka a Māui and Te Tau Ihu forums on the options presented in this document and any other alternative options.
Considering future options
The purpose of these discussions was to canvas initial stakeholder views on the need for action and seek their input on possible tools to address the remaining fisheries risk. We have included a summary of what we heard.

In general, Forest & Bird and WWF-New Zealand indicated support for further measures to reduce the likelihood of fishing-related deaths of the dolphins. They were generally supportive of working with fishers proactively to reduce dolphin interactions, but wanted to see:

- an underlying principle and long-term plan to drive dolphin deaths from fishing to zero;
- transparency and accountability in our response to dolphin bycatch, and
- certainty that action is taken when dolphin deaths occur.

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- an underlying principle and long-term plan to drive dolphin deaths from fishing to zero;
- transparency and accountability in our response to dolphin bycatch, and
- certainty that action is taken when dolphin deaths occur.

Ngāi Tahu Seafoods indicated they:

- supported the importance of proactively addressing fishing-related dolphin deaths,
- wanted workable proposals that support fishers to avoid dolphin bycatch while working with fishers to adjust and continue their operations.

Ngāi Tahu Seafoods opposed any proposals that would close areas to fishing and noted there have been no Hector’s dolphin bycatch incidents since the recent measures took effect. They also considered that non-fishing threats (e.g. disease, potential boat strike and vessel speeds) deserve much greater attention.

Kaikōura Marine Guardians did not provide a view on the proposals.

These views are preliminary and we seek further feedback as part of the formal consultation process.
What options are we consulting on?

We are consulting on four options to manage the effects of fishing-related mortality on South Island Hector’s dolphins. The options may be considered separately, or packaged together, in any subpopulation or local population area.

Options

1. **Status quo**
   - No further impact on fishers in the short term
   - No further measures to reduce fisheries risk
   - More information to support future decision-making
   - Continued reactive response to captures

2. **Bycatch Reduction Plan**
   - Defined and proactive response to captures (vessel and area-based).
   - Camera verification of fisher reporting.
   - Regulated area-based fishing-related mortality limits.

3. **How you fish**
   - Extend the areas where low headline height trawl nets (<1m) are required, or introduce low trawl speed (≤2.5 knots), or both.

4. **Where you fish**
   - Extend commercial and recreational set net closures around Banks Peninsula.

Considerations

1. **Status quo**
   - Research to better define fisheries risk.
   - Camera verification of fisher reporting.
   - Risk management plans on-board each commercial set net and trawel vessel.

2. **Bycatch Reduction Plan**
   - Government and industry working with fishers to significantly reduce bycatch
   - Risk of bycatch managed by fishers within regulated limits
   - Risk of bycatch managed proactively in the sub and local populations

3. **How you fish**
   - Uncertain whether the option will reduce fisheries risk
   - No further reduction in fisheries risk outside the areas where measures are applied
   - Fishers able to adapt their gear can continue to fish

4. **Where you fish**
   - Removes risk of set net bycatch in the area
   - No further reduction in fisheries risk outside the areas where measures are applied
   - Fishing effort and risk of bycatch may be displaced to other areas.

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3 The options for trawl closures in the South Island consulted on previously remain open to the Minister.
What criteria are used to assess the options under consideration?

The following assessment criteria are used to compare the relative merits of each option to the status quo (Table 3).

Table 3: Criteria used to assess the relative costs and benefits of each option.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion 1: Does the option effectively reduce the fisheries risk to a level that enables the subpopulation to recover to a size that is no more than 10 percent lower than what it would be if there was no fisheries impact?</td>
<td>Effective risk reduction at the subpopulation level</td>
</tr>
<tr>
<td>Criterion 2: Does the option prevent or avoid localised depletion?</td>
<td>Effective risk reduction for local populations</td>
</tr>
<tr>
<td>Criterion 3: Is the option responsive to changes in fisheries risk (spatial and temporal)?</td>
<td>Responsive to changes in fisheries risk (spatial and temporal)</td>
</tr>
<tr>
<td>Criterion 4: Does the option encourage industry to shift to better fishing practices to avoid dolphin captures?</td>
<td>Encourage shifts to better fishing practices</td>
</tr>
<tr>
<td>Criterion 5: Does the option allow fishers to choose the most effective mitigation measure(s) for their operation?</td>
<td>Flexibility for fishers</td>
</tr>
<tr>
<td>Criterion 6: Does the option minimise the impact (including cost) on fishers to the extent possible?</td>
<td>Minimise impact (including cost) on fishers</td>
</tr>
</tbody>
</table>
However, there are uncertainties in our assessment of that risk, and work is in progress that will help to reduce these uncertainties. For example, we have a project to improve our estimates of dolphin distribution in the north and south coasts and Kaikōura. This information is important to help identify how much risk remains and risk areas. The wider rollout of on-board cameras will provide independent information on bycatch. Experiences both in New Zealand and abroad have shown that the use of on-board cameras results in more accurate reporting by fishers. Accurate information is important to understand the remaining risk to the dolphins and our confidence in whether the fisheries objectives are being met or not. As a result, any changes or further measures to manage the fisheries risk to the dolphins may be better targeted.

**Option 1: Status Quo**

Under option 1 there would be no new regulatory measures to manage the remaining fisheries risk to South Island Hector’s dolphins. In the absence of further measures, we estimate that the current estimates of fishing-related death or risk exceed the acceptable levels specified in the north and south subpopulation objectives, and local population objective for Kaikōura.

Consultation on the wider rollout of on-board cameras is underway, see [www.mpi.govt.nz/camera-consultation](http://www.mpi.govt.nz/camera-consultation)
Option 2: Bycatch reduction plan (Fisheries New Zealand preferred option)

The proposed bycatch reduction plan is a new approach underpinned by a number of targeted actions for Fisheries New Zealand, Department of Conservation and the industry, to support commercial fishers to work towards avoiding all Hector’s dolphin bycatch, including developing and adopting new mitigation methods. The plan is underpinned by compulsory reporting of all captures, verification of fisher reporting by Fisheries New Zealand on-board cameras, and regulated fishing-related mortality limits that would trigger a formal government response on further measures.

The goal of the bycatch reduction plan is to support fishers to continually improve practices and avoid all Hector’s dolphin captures over time. The bycatch reduction plan leverages off new technology (on-board cameras and electronic catch and position reporting) to manage the impacts of fishing more effectively while allowing fishers to continue fishing.

It consists of the following components (illustrated in Figure 3 and discussed further below):

- Protected species risk management plans on every commercial set net and trawl vessel. These plans will set out the mitigation measures each vessel will use.
- More detailed reporting of circumstances surrounding captures to help us identify common factors.
- Escalating vessel-based capture responses by agencies and industry to reduce likelihood of further captures by that vessel.
- Further safeguarding dolphin populations from impacts of fishing by regulating fishing-related mortality limits.
- Escalating fleet-based responses (at or above 25 percent, 50 percent and 75 percent of the limits) by agencies and industry to ensure area limits are not exceeded.
- Supporting dedicated research to develop new innovative mitigation approaches.

- Public quarterly reporting on the performance of the bycatch reduction plan (captures and responses) reviewed annually by a stakeholder forum.

The following sections outline each of the components of the bycatch reduction plan in more detail.

Implementation and performance:

The bycatch reduction plan would be underpinned by compulsory bycatch reporting requirements, verification of commercial fisher reporting via the regulation of on-board cameras, and regulated fishing-related mortality limits. Fisheries New Zealand proposes to implement the other components as voluntary. Our rationale for this approach is discussed on pages 38-39.

Auditing of adherence to the voluntary components and annual reporting on delivery of the plan overall would support ongoing assessment of its effectiveness. If this option was progressed, Fisheries New Zealand would monitor its performance and review and amend, as required, components of the plan to improve its effectiveness, or as new information became available.

Where would the bycatch reduction plan apply?

We propose that this bycatch reduction plan apply to the South Island, except the west coast. It would be applied based on dolphin subpopulations along the north coast South Island and south coast South Island, and in each of the five local population areas defined within the east coast South Island subpopulation (see Figure 1, page 13).

We consider this approach is consistent with the TMP objectives to manage impacts of fishing at both the subpopulation and local population levels to maintain biodiversity and ecosystem function, and prevent population fragmentation (that is, ensure there are no barriers to dispersal or connectivity within or between subpopulations).

We are not proposing this bycatch reduction plan to be applied to the west coast South Island subpopulation at this time. Best available information indicates that the impacts of fishing in this area do not prevent the subpopulation from achieving the TMP fisheries objectives and there is negligible commercial set net activity, which poses the greatest fisheries risk to the dolphins. We consider that the bycatch reduction plan could be extended to this area after it has been embedded in the other higher priority subpopulations. We would consult on any future proposals for expansion at that time.
Figure 3: Bycatch reduction plan – working together on more protection for Hector’s dolphins with less impact on fishers.
Working with fishers to avoid dolphin bycatch

The primary focus of the bycatch reduction plan is to work with commercial fishers (particularly vessel operators) towards avoiding all Hector’s dolphin bycatch. We consider the most effective way to achieve this will be to collaboratively develop mitigation plans and mitigation equipment, and improve existing fishing practices, supported by regulated independent monitoring.

Protected species risk management plans

In line with the current industry practice, we propose that each set net or trawl vessel operator will follow a voluntary Protected Species Risk Management Plan4, kept on-board. These plans outline the approaches a vessel operator will take to avoid or mitigate risk of fishing-related interactions with protected species.

Liaison Officers from the Department of Conservation (DOC) Protected Species Liaison Programme support the development of individual vessel-specific Protected Species Risk Management Plans. They also play an important role in supporting vessel operators to identify and implement best practice and mitigation measures to avoid protected species interactions.

Fisheries New Zealand would work with the DOC Liaison Programme and industry to ensure the plans include the following for Hector’s dolphins:

- Measures the vessel should follow to avoid or mitigate any bycatch, including:
  - Not deploying or hauling the net when dolphins are seen,
  - Move-on rules when dolphin pods are encountered, and
  - Areas or times when fishing should be avoided due to high risk of bycatch.

- Immediate notification of a capture to a Liaison Officer, and
- Prompts for vessel operators to voluntarily document additional details of the circumstances around a bycatch event to share with their Liaison Officer. This additional information could include environmental conditions, the presence of dolphin prey species in the net, other fishing or human activity near the incident.

Mitigation tools and techniques will be built on over time to form a toolbox of measures that fishers can choose from. To maximise their effectiveness, vessel operators can tailor these measures to their individual vessel (and within each subpopulation and local population area they operate in) to ensure they reflect differences in fishing activity and dolphin behaviour. The vessel operator would be expected to include the measures in their individual plan and add or modify measures over time as new approaches develop.

Protected Species Risk Management Plans and adherence to them are currently voluntary. However, Fisheries New Zealand undertakes non-regulatory compliance checks and audits. It is proposed that levels of overall adherence to the plans will also be publicly reported as part of overall performance monitoring of the bycatch reduction plan (discussed in more detail under Transparency and Accountability page 37). The audit and reporting process along with risk of regulatory intervention if performance is poor provides good incentives for vessel operators to follow the plans.

Vessel-based escalating response

The key part of the bycatch reduction plan is the focus on a fisher/vessel-based response to every bycatch incident. Specifically, we propose to work with the Department of Conservation, the Liaison Officers and the fishing industry alongside vessel operators to investigate the reasons for every incident and develop, where required, additional mitigation approaches.

The intention is to work on comprehensive information gathering from the fishers about the reasons for each capture to improve the methods and approaches each vessel operator can employ to avoid all dolphin captures. The type of response and level of support will escalate if a single vessel is responsible for more than one capture event in a rolling 12-month period (see Figure 4).

---

Figure 4: Summary of the standard and escalating responses (in a rolling 12-month period) that would apply to a vessel operator in the event of a Hector’s dolphin bycatch.

<table>
<thead>
<tr>
<th>Vessel-based escalating response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tools</strong></td>
</tr>
<tr>
<td>Individual Protected Species Risk Management Plan implemented on all set net and trawl vessels.</td>
</tr>
<tr>
<td>Plans should be reviewed by the Liaison Officer.</td>
</tr>
<tr>
<td>On-board camera monitoring on set net and trawl vessels.</td>
</tr>
<tr>
<td>Operators are authorised to retain dolphin carcasses without an observer on board, to enable necropsy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Each capture event</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Live captures are released ASAP.</td>
</tr>
<tr>
<td>Dead dolphins are retained (when authorised or fisheries observer onboard) to enable necropsy.</td>
</tr>
<tr>
<td>Fisher immediately notifies the Liaison Officer (and their industry representative if applicable) to report the incident.</td>
</tr>
<tr>
<td>Liaison officer and fisher discuss incident to identify possible reasons the interaction occurred. Individual vessel risk management plans may be amended.</td>
</tr>
<tr>
<td>Fisher submits electronic report at the end of the day the fish catch report is due.</td>
</tr>
<tr>
<td>FNZ receives automated daily notifications of bycatch reports.</td>
</tr>
<tr>
<td>Where an operator has agreed to share their bycatch information with the industry, industry representatives provide support to the operator and identify any further mitigation options for inclusion in their risk management plans.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>2nd capture event</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Where authorised, industry liaises with the operator and the wider fleet on details of the incident.</td>
</tr>
<tr>
<td>FNZ and Liaison Officer work to identify any commonalities in bycatch events. Individual vessel risk management plans may be amended.</td>
</tr>
<tr>
<td>Monitoring focus: To ensure operators are using best practice, FNZ may</td>
</tr>
<tr>
<td>• increase audit-review of on-board camera footage, and/or</td>
</tr>
<tr>
<td>• deploy an independent observer on-board the vessel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>3rd+ capture event</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate voluntary action to reduce the risk of another capture through increased mitigation (e.g. changes to gear, areas of operation and/or time of fishing).</td>
</tr>
<tr>
<td>Monitoring focus:</td>
</tr>
<tr>
<td>To ensure operators are using best practice, FNZ may</td>
</tr>
<tr>
<td>• increase audit-review of on-board camera footage, and/or</td>
</tr>
<tr>
<td>• deploy an independent observer on-board the vessel.</td>
</tr>
</tbody>
</table>
Regulating fishing-related mortality limits enables Government to respond quickly with regulatory measures and enforcement, if necessary, and provides more certainty that a rule will be effective.

For South Island Hector’s dolphins, we propose to set a fishing-related mortality limit where we have:

- a Hector’s dolphin abundance estimate, and
- a population sustainability threshold (PST) that can be expressed as an annual maximum number of deaths that can be sustained while still achieving the relevant subpopulation or local population fisheries objective.

For the east coast South Island subpopulation, we propose that:

- the combined limits across all local populations must ensure the subpopulation fisheries objective is met, and
- each local population limit may be no greater than the PST needed to meet the local population objective.

The proposed limits are outlined in Table 4 on the following page.
Table 4: Proposed fishing-related mortality limit (FRML) for each subpopulation and local population.

<table>
<thead>
<tr>
<th>Subpopulation or local population</th>
<th>Mean population size</th>
<th>Proposed FRML</th>
</tr>
</thead>
<tbody>
<tr>
<td>South coast South Island</td>
<td>313</td>
<td>3 every two years</td>
</tr>
<tr>
<td>East coast South Island</td>
<td>9198</td>
<td>N/A</td>
</tr>
<tr>
<td>Cloudy Clifford</td>
<td>522</td>
<td>5 per year</td>
</tr>
<tr>
<td>Kaikōura</td>
<td>761</td>
<td>7 per year</td>
</tr>
<tr>
<td>Banks Peninsula</td>
<td>4506</td>
<td>18 per year</td>
</tr>
<tr>
<td>Timaru</td>
<td>2726</td>
<td>10 per year</td>
</tr>
<tr>
<td>Otago</td>
<td>638</td>
<td>6 per year</td>
</tr>
</tbody>
</table>

We are not proposing to set a limit for the north coast subpopulation at this time. There is insufficient information on population size in this area to meaningfully estimate an annual maximum level of dolphin deaths. This would be revisited in future when information becomes available.

We propose that the fishing-related mortality limits apply to both recreational and commercial fishing and cover all methods of fishing. If a response under the limit is triggered, consideration will be given to the cause of the bycatch (sector and/or method) when choosing the most effective response.

The fishing-related mortality limit would not apply to customary fishing. Customary fishing rights are part of the settlement of Māori claims to fisheries resources. These rights provide for tangata whenua to autonomously manage their customary non-commercial fishing activities within their customary fishing area (rohe moana), and to enable customary fishing and management traditions to continue. Fisheries New Zealand will work with tangata whenua to manage any dolphin deaths from customary fishing as necessary.

We propose that the limits apply annually (over the period of a fishing year), except for the south coast South Island population where we propose a fishing-related mortality limit of three be applied over two years. The annual PST for this area is between 1.5 and 2.

We consider that this approach allows for use of the fishery to be provided for, while still safeguarding the dolphin population.

Accumulation of limits would not apply. For example, if an area had an annual limit of six and fishers caught two dolphins in one year, the limit the following year remains at six. However, consideration of management action (including the nature and extent of any further measures and how long they would apply) would include assessment of the consequence of the death(s) on the population at the time it occurred. Information used in this assessment would include timing of the death(s) within a fishing year, the impact of that on the population and previous years’ performance.

Area-based escalating response

As a second layer of protection to the populations (alongside individual vessel responses) we propose to respond across fisheries/fleets at an area-based level if cumulative impacts exceed defined thresholds (see Figure 5).

At every level, the associated response or advice will consider the collective information available on captures to date such as:

- the methods involved in the incident(s)
- whether the incident(s) was a result of commercial, recreational or illegal fishing activity
- point in time of the fishing year
- the relative distribution and nature of captures
- any previous actions that have been taken.

We recognise that there are many variables relating to capture events that will influence any response. The bycatch reduction plan allows the Minister for Fisheries and Oceans, Fisheries New Zealand, the industry and fishers to consider these variables to tailor a response to best meet the overarching objectives.
Figure 5: Summary of the escalating response that would apply within a subpopulation or local population area when captures of a Hector’s dolphin in a 12-month period approach a fishing-related mortality limit (FRML).

**Area-based escalating response**

- **<25% of FRML**
  - Focus is on the individual vessel operator response. FNZ will work with them to understand the circumstances of the incident and further mitigation measures that could be adopted.

- **25-50% of FRML**
  - FNZ will convene a regional meeting with commercial fishers to share information on capture(s) to date, discuss potential risks of the FRML being exceeded, and options to mitigate.

- **50-75% of FRML**
  - FNZ will hold discussions with industry and fishers on mitigation measures that could be employed collectively or individually, including but not limited to changes in gear, and spatial and temporal changes to their fishing activity.

- **>75% of FRML**
  - FNZ will advise fishers and industry to take immediate and strong collective action to reduce the prospect of further captures.

In the event of recreational bycatch event(s) within this range, FNZ will brief the Minister on whether regulatory measures may be needed to ensure a FRML is not exceeded. This is due to the limitations in collective action that can be taken (and monitored) within the recreational sector.
Leveraging off new technology

A range of monitoring tools are available to support the bycatch reduction plan. We consider its success will rely heavily on the benefits of new technology to operate effectively. On-board cameras will enable verification of fisher reporting and provide assurance that information on commercial bycatch is accurate. Electronic reporting and geospatial position reporting provide real time information on vessel location, and near real time catch reporting, to help ensure any spatial approaches to management are effective.

In combination, this new technology provides greater opportunity to use alternative tools to reduce bycatch of the dolphins while allowing fishing to continue.

Use of observers (with respect to Hector’s dolphin interactions) is proposed only in specific circumstances to support real time assessment of activity and mitigation. We do not consider the wider use of observers a viable option to achieve the monitoring levels required under this bycatch reduction plan. Logistical barriers, capacity, and cost constraints limit our ability to significantly extend the current level of observer coverage in inshore fisheries.

Footage review

The on-board camera consultation document (www.mpi.govt.nz/camera-consultation) sets out the general considerations that inform footage review levels.

It notes that levels of footage review can differ between fisheries and their associated monitoring objectives. In some cases, monitoring objectives could be specified with a requirement that there is a high level of certainty around the information being provided. Higher levels of footage review will be required to meet the level of certainty required.

We propose to optimise the levels of footage review to detect Hector’s interactions by taking a risk-based approach that considers:

- the likelihood and severity of consequence of bycatch on the sub or local population,
- vessel specific factors, such as non-compliance or previous dolphin interactions,
- area specific factors, such as previous Hector’s dolphin interactions in the local area.

Consultation on specific review levels for monitoring objectives, including those for Hectors dolphins, will occur separately as part of the implementation of on-board cameras.

Transparency and accountability

For there to be public confidence in the bycatch reduction plan there is a need for greater transparency around how the government manages Hector’s dolphin bycatch. This would require regular reporting on area-based performance in avoiding dolphin captures and making information readily available to everyone with an interest.

To improve access to this information, we propose quarterly public reporting of any Hector’s dolphin bycatch and responses to those events on our website. This frequency allows time for agencies and industry to work with fishers to develop and implement responses to any incident and fully describe the response actioned.

In addition, we propose an annual publicly available performance report on overall operation of the bycatch reduction plan. Measurement against TMP objectives and trends in the number of captures and deaths (with respect to fishing-related mortality limits) are obvious baseline measures of performance. However, Fisheries New Zealand would also develop additional measures of performance such as mitigation research undertaken, response times to incidents, or number of vessels with multiple incidents.

Linking to information from other sources (such as the fisheries observer audits within the Liaison Programme Annual Report5) and providing information to DOC to update the Hector’s and Māui dolphin incident database are equally important.

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(Selected access July 2021)
The overall cost-effectiveness of the bycatch reduction plan will be influenced by its various components (e.g., how fishers adjust their practices, the liaison programme, monitoring, and research) and vary within each area. Decisions made on the wider rollout of on-board cameras (costs associated with footage review, and who pays for those costs) will also impact this. The proposed bycatch reduction plan may result in higher costs than alternative options discussed in this document in areas where the fishing-related mortality limit is small and higher levels of footage review are required.

Regulatory versus voluntary

We propose that the bycatch reduction plan would use a mix of voluntary and regulatory measures as outlined in Table 5. The bycatch reduction plan could be given effect to via either a more regulatory or a more voluntary model. Irrespective, the intent of the bycatch reduction plan is to support fishers to avoid all Hector’s dolphin bycatch. We consider the successful delivery of that outcome needs a collaborative approach across Fisheries New Zealand, DOC, tangata whenua, the fishing industry and other stakeholders. This approach requires working with the industry to maintain a viable fishery while providing safeguards to ensure that the dolphin populations are not adversely impacted if any voluntary measures are found ineffective.

Costs

We expect the operation of this bycatch reduction plan may be more resource intensive to government and some stakeholders (groups that are not funded to attend regular meetings or participate in more frequent processes) than other options.

However, we consider that there is an opportunity for clear performance measures and triggers for Government action to focus on proactive rather than reactive management. Overall, we consider the costs of the bycatch reduction plan will be balanced by more effective management of dolphin interactions, greater certainty around when and how Government will intervene, and improved transparency and accountability of overall performance of responsible agencies and fishers.

Generic cost factors are outlined below.

Avoiding dolphin bycatch: Industry may incur costs if they change their gear, buy and use mitigation tools, invest in research, or shift to fish in areas where the risk of interaction with Hector’s dolphins is lower. Such costs are difficult to estimate and depend on an individual vessel’s operation and their risk of bycatch.

Monitoring: There will be costs associated with the use of on-board cameras. The proposals on which costs may be recovered and from whom costs should be recovered can be found here www.mpi.govt.nz/camera-consultation.

Liaison Programme: Currently the Protected Species Liaison project is cost-recovered from the fishing industry. That programme covers a range of fleets nationally and applies to a range of protected species. Its expansion may need further funding through cost recovery.

Question 2

Do you support the proposed bycatch reduction plan (Option 2)?

Question 3

What are your views on the various components of the bycatch reduction plan?
Table 5: Proposed regulatory and voluntary measures within the bycatch reduction plan.

<table>
<thead>
<tr>
<th>Components of the bycatch reduction plan</th>
<th>Regulated</th>
<th>Voluntary</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected species risk management plans</td>
<td></td>
<td>✓</td>
<td>These plans will specify any regulatory and voluntary measures a vessel will undertake to avoid interactions with protected species. We support keeping these plans voluntary to provide greatest flexibility for fishers to amend their plans as needed to define best practice for their operations. Given the diversity within and across different fishing fleets, there is a risk that overly prescriptive measures may not be practical to implement for all vessels in a fleet.</td>
</tr>
<tr>
<td>Immediate bycatch notification</td>
<td></td>
<td>✓</td>
<td>Reporting obligations are set out in regulations. An immediate voluntary notification of a Hector’s dolphin bycatch to the Liaison Officer supports additional voluntary steps to be taken quickly for the remainder of the vessel operator’s trip to avoid further bycatch.</td>
</tr>
<tr>
<td>Additional bycatch information</td>
<td></td>
<td></td>
<td>The most effective means of gaining additional bycatch information is through discussions between the fisher and the Liaison Officer following a capture. These discussions occur voluntarily, and it would be difficult to specify the exact information that might be useful in each case to support a regulatory approach.</td>
</tr>
<tr>
<td>Vessel-based escalating responses</td>
<td></td>
<td>✓</td>
<td>Given the potential complexity and variation of responses, informed by the fishing-related mortality limits and whether a response should apply to set net or trawl activity (for example), a voluntary model will provide greatest flexibility to tailor and adapt each response as needed.</td>
</tr>
<tr>
<td>Area-based escalating responses</td>
<td></td>
<td>✓</td>
<td>Fishing-related mortality limits set under section 15 of the Fisheries Act 1996 give the Minister for Oceans and Fisheries the power to prohibit all or any fishing or fishing methods in an area for the purpose of ensuring that any limit on fishing-related mortality is not exceeded. Fishing-related mortality limits would apply to commercial and recreational fishers.</td>
</tr>
<tr>
<td>Fishing-related mortality limits</td>
<td>✓</td>
<td></td>
<td>Fishing-related mortality limits set under section 15 of the Fisheries Act 1996 give the Minister for Oceans and Fisheries the power to prohibit all or any fishing or fishing methods in an area for the purpose of ensuring that any limit on fishing-related mortality is not exceeded. Fishing-related mortality limits would apply to commercial and recreational fishers.</td>
</tr>
<tr>
<td>Monitoring</td>
<td></td>
<td>✓</td>
<td>See consultation on the wider rollout of on-board cameras.</td>
</tr>
</tbody>
</table>

An effective voluntary model requires a high level of support amongst fishers and provides transparency, auditability and quick adoption and implementation of responses by fishers following bycatch events.

Industry representatives have indicated a strong desire to voluntarily manage the impacts of fishing on these important dolphin populations beyond what they consider are the legislative obligations in the Fisheries Act 1996. Although we consider that further regulatory action is within the scope of the Act, we support working with the industry to take a more voluntary and proactive approach in reducing dolphin bycatch.

Any voluntary model could be further regulated should it not perform as expected.
Option 3: Trawl gear restrictions

Anecdotal and observational information suggests that using a low headline height trawl net (<1 m) and low tow speed (<2.5 knots) reduces the chance of dolphins being captured in a trawl net (see Supporting Information www.mpi.govt.nz/tmp-consultation for further detail).

Currently, a low headline height trawl net restriction applies along the east and south coasts of the South Island out to two nautical miles (nm) offshore. During the 2019 review, several submissions proposed expanding the areas where low headline height trawl nets are required as an alternative to area closures to reduce the likelihood of trawl-related deaths of Hector’s dolphins.

Option 3 proposes the extension of trawl gear restrictions (i.e. low headline height trawl net, or low tow speed, or both) in:

• the east coast South Island (Pegasus Bay and South Canterbury Bight to Timaru),
• south coast South Island (entirety of Te Waewae Bay and from Sand Hill Point to Wakaputa Point and 4 nm offshore), and
• north coast South Island (between Farewell Spit and Cape Soucis to 2 nm offshore) (Figure 6).

While there is support from some fishers on the use of low headline height to avoid Hector’s dolphin bycatch:

• There is currently no scientific evidence of its effectiveness.
• Effort controls like these can be difficult to enforce and may incentivise fishers to innovate to avoid the rule, rather than innovate to address the management problem (in this case, avoiding dolphin bycatch).
• The impact of trawl gear restrictions is difficult to estimate as the effectiveness and efficiency of the trawl gear will vary across the fish species targeted or caught.
• It may have an allocative effect in terms of the size of vessels that operate within areas where it is applied (i.e. it may benefit smaller, lower powered vessel owners over larger ones).
Figure 6: Proposed areas where trawl gear restrictions could be expanded in the north, east and south coasts of the South Island.
Alternatively, there have been suggestions that low tow speed could replace the use of low headline height trawl net restrictions. Two Hector’s dolphins have been reported as captured by vessels trawling at 2.5 knots, with a headline height of 1.8m. This suggests that low trawl speed alone may not reduce risk sufficiently and that headline height restrictions may also be required. If the use of low tow speed alone is supported, we seek stakeholder views on the replacement of the current trawl gear restrictions (low headline height) with this measure.

The rollout of on-board cameras is likely to improve our understanding of the likelihood of dolphins getting caught by different types of trawl gear. This may inform whether they are an effective mitigation measure that could and should be applied more widely.

Costs

The costs of changing trawl gear and of operating at a reduced trawl tow speed will vary for each operation. Some fishers operating larger vessels may be significantly affected, particularly if gear modification reduces their ability to catch certain target species.

Moving to fish further offshore can also result in increased fuel and operation costs and may in some cases be a health and safety risk for vessels and crew. It may also need further investment to upskill due to qualification requirements to fish further offshore. In other cases, it may not be practical for fishers because of vessel and economic considerations. In this situation they may try other fishing methods or leave the fishery altogether.

The potential costs within each subpopulation area of these measures is discussed in the Supporting Information www.mpi.govt.nz/tmp-consultation.

Question 4

Do you support the expansion of trawl gear restrictions (Option 3) through low headline trawl net height, or low trawl speed, or both?

If so, in which area(s) do you think they are best applied?
**Option 4: Set net closure (Fisheries New Zealand preferred option)**

Option 4 would extend the recent commercial and recreational set net closures around the Banks Peninsula area (between Goat Point and Snuffle Nose out to 12 nm offshore) (Figure 7). This follows concerns raised by some stakeholders in submissions, and following decisions, that the set net measures implemented in Pegasus Bay and South Canterbury Bight off Timaru would result in displacement of set net effort into this area and negate any risk reduction. See Supporting Information www.mpi.govt.nz/tmp-consultation for further analysis.

At the local population level, our estimate of fishing-related deaths in Banks Peninsula is within the level needed to meet the local population fisheries objective. With approximately 11 months of data available since the new measures took effect it is too early to conclude the extent and effect of any set net effort displacement into the proposed closure area (see Supporting Information www.mpi.govt.nz/tmp-consultation). The set net effort has increased but remains low compared to previous set net effort in the areas closed since October 2020, suggesting any displacement to this area has been nominal.

**Costs**

Closures can have significant economic impacts on fishers, particularly when permanent. They also create little incentive to avoid captures and can result in shift of fishing effort, potentially moving the fisheries risk rather than removing it. Temporary or voluntary closures are often more accepted by fishers and can have smaller socioeconomic impacts. Costs of closures can also be overestimated because they assume that the impacted catch is lost and not taken up, either in other areas that remain open or by other methods.

The cost of the proposed closure is estimated to be low given the low level of historical set net effort in the area.

**Other area closures:**

Fisheries New Zealand consulted on broad set net and trawl closures in 2019 across the North and South Islands to manage the fisheries risk to Hector’s and Māui dolphins (refer to 2019 consultation and decision material here). The options relating to trawl closures in the South Island as outlined during that consultation remain open to the Minister.

**Question 5**

Do you support the introduction of a further commercial and recreational set net closure in the Banks Peninsula area specified (Option 4)?
Figure 7: Proposed commercial and recreational set net closure around Banks Peninsula.
Looking to the future
Preferred options

The range of options presented in this consultation document, and the trawl closures consulted on previously, are available to manage the remaining fisheries risk to meet the TMP objectives. Different options may be considered within each subpopulation and local population. Options may be considered in combination or independently of one another.

Fisheries New Zealand’s preferred options are Option 2, the bycatch reduction plan, and Option 4, extending the set net closure around Banks Peninsula.

Option 2, the bycatch reduction plan, applied to the north, south and east coast subpopulations and local populations, provides a flexible and effective approach to managing the remaining fisheries risk within defined limits while allowing fishing to continue. It provides a means for greater transparency and clear steps to continuously improve on the water performance in avoiding all Hector’s dolphin bycatch.

Option 4, the further commercial and recreational set net fisheries closures around Banks Peninsula, will prevent any potential displacement of set net effort around Banks Peninsula to ensure the expected reductions in set net related deaths from the 2020 measures are maintained.

We do not consider the status quo (Option 1) and trawl gear restrictions (Option 3) provide the best approach to manage the low levels of remaining fisheries risk. This is due to their inability to be responsive to any changes in risk, their failure to encourage better fishing practices, the potential socioeconomic impacts of Option 3 and the failure to address remaining risks through Option 1.

We consider that further trawl gear restrictions (Option 3) could be adopted voluntarily within the bycatch reduction plan, or it could be regulated in the future if there was a risk that a fishing-related mortality limit could be exceeded (or was exceeded). In that scenario these measures could be better targeted to the specific area(s) where risk was identified at that time.

Table 6 shows how the different tools generally compare across the criteria. We have also assessed the options against these criteria within each Hector’s dolphin subpopulation and local population (see Supporting Information www.mpi.govt.nz/tmp-consultation).

Question 6
Do you agree with Fisheries New Zealand’s preferred options?
Table 6: General comparison of assessment criteria of each option against the status quo.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Bycatch reduction plan</th>
<th>Gear restrictions</th>
<th>Method area closures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective risk reduction at the subpopulation level</td>
<td>✓</td>
<td>Uncertain</td>
<td>✓*</td>
</tr>
<tr>
<td>Effective risk reduction for local populations</td>
<td>✓</td>
<td>Uncertain</td>
<td>✓*</td>
</tr>
<tr>
<td>Responsive to changes in fisheries risk (spatial and temporal)</td>
<td>✓</td>
<td>Uncertain</td>
<td>×</td>
</tr>
<tr>
<td>Encourage shifts to better fishing practices</td>
<td>✓</td>
<td>Uncertain</td>
<td>×</td>
</tr>
<tr>
<td>Flexibility for fishers</td>
<td>✓</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Minimised impact on fishers (including cost) to the greatest extent possible</td>
<td>Uncertain</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>

*Dependent on the scale that they are applied.
Implementation, assessment, and review

Implementation

We propose that any changes to regulations would take effect on 1 October 2022, dependent on the Minister for Oceans and Fisheries’ decisions.

If the bycatch reduction plan is supported, implementation dates may be reconsidered to align with decisions on the proposed rollout of on-board cameras to ensure the monitoring tools are in place for the bycatch reduction plan.

We note that non-regulatory (voluntary) components of the bycatch reduction plan may be able to start earlier than regulatory changes.

Assessment

New measures would be monitored for both effectiveness and compliance via:

• electronic and geospatial position reporting (to assess compliance with area closures) and verification through the proposed rollout of on-board cameras (to assess compliance with all other measures),
• research (e.g. updated information on abundance and distribution, updated risk assessments) by both Fisheries New Zealand and DOC, and
• the necropsy programme managed by DOC to determine cause of death when dolphin carcasses can be recovered.

Review

Reviews of the fishing-related measures may be proposed if new information on the Hector’s dolphins changes our assessment of the fisheries risk, or shows the management measures (regulatory or voluntary) are not working as intended to manage the effects of fishing-related mortality to meet the TMP fisheries objectives.

Evidence supporting a review may include new information on the:

• abundance and distribution of the dolphin populations,
• distribution and intensity of fishing-related threats, and/or
• vulnerability or susceptibility (or both) of the dolphins to different fishing-related threats.

All these factors can affect our estimates of fisheries risk.

Alternatively, despite new measures and improved monitoring, the observed and reported numbers of fishing-related deaths may exceed the levels needed to meet the fisheries objectives.

The South Island Hector’s dolphin forum will provide an opportunity to discuss the effectiveness of any measures in place.

Question 7

What are your views on the proposed implementation, assessment and review processes, following any decisions on this consultation?
Transition support was made available to permit holders significantly impacted by the measures that came into effect on 1 October 2020. The impact was calculated from area closures. The need for transition support in relation to the current proposals will be considered once the Minister has made his decisions, based on their likely impact.
How to give your feedback and next steps

Fisheries New Zealand welcomes your input on these proposals and any other ideas on other measures that may aid in avoiding, remedying or mitigating the effects of fishing on South Island Hector's dolphins.

You are invited to make a submission on these proposals. Consultation closes at 5 pm on 6 December 2021.

An online survey can be accessed at https://mpi.surveymonkey.com/r/2S0737Z

Written submissions can be emailed to dolphintmp@mpi.govt.nz or posted to
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Charles Fergusson Building
34-38 Bowen St
Pipitea
Wellington 6011
New Zealand

In your submission please include your name and contact details (e.g. phone number, address and email) and your organisation’s name (if you are submitting on behalf of an organisation).