



Ministry of
Fisheries
Te Tautiaki i nga tini a Tangaroa

FINAL ADVICE PAPER – August 2011

Reconsideration of Amateur Set Net Regulations to Manage Fishing-Related Threats to Hector's Dolphins within the Defined Area of the ECSI



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Reconsideration of amateur set net regulations to manage fishing-related threats to Hector's dolphins within the defined area of the ECSI

Executive Summary

1 The Ministry of Fisheries (the Ministry) considers that there is sufficient risk to Hector's dolphins from amateur set nets within the defined area to warrant management action. However, there is uncertainty whether the risk is sufficient enough to warrant a complete ban or implementation of management measures to mitigate the risk of mortality.

2 Although you did not impose measures on commercial fishers we consider the likelihood of mortality from amateur set netting in the defined area is greater and sufficient to justify application of different measures between sectors.

3 The paper outlines three options for your consideration (summarised in the table below). If you support the need for management action you would choose either option one or option three. The Ministry has a preference for option three, which we consider best mitigates the likelihood and consequence of mortality of dolphins while providing for the utilisation of fisheries resources using set nets in the defined area. Option three proposes removing the set net ban and introducing the additional measure of requiring the fisher to stay with their net while it is set. You can however, introduce any additional measures you consider necessary.

Option	Description
Option one	Do not provide for exemption – Status quo
Option two	Remove amateur set net ban in the defined area
Option three	Remove ban and require fishers to stay with their net

4 Submissions received during consultation showed contrasting perspectives on the proposed options. Amateur fishers and their representative clubs and organisations supported options that allow set net fishing in the defined area (options 2 and 3). Non-government organisations and industry submissions support option one, retain the set net ban.

Purpose and Scope

5 The purpose of this paper is to provide you with final advice to aid your reconsideration of whether or not measures are necessary to avoid, remedy or mitigate the effect of fishing-related mortality on Hector's dolphins from amateur fishing using set nets in the defined area of the ECSI.

6 You asked the Ministry to undertake a review of the whether or not to allow amateur set net fishing for butterfish in the defined area. You decided to undertake this review in response to your recent decision to allow commercial set net fishing for butterfish in the defined area of the ECSI.

7 However, based on submitter comments, the scope of this paper has been expanded to reconsider the amateur regulations that ban set net fishing in the defined area, more generally than just for butterfish. This is because set nets are a non-selective method of fishing. For this reason restricting amateur set net fishing to a target species, such as butterfish, would be impractical and difficult to enforce.

8 This differs from the options proposed in the Initial Position Paper (IPP) as they were limited to amateur set net fishing that targets butterfish.

9 A wider review of other measures linked to the 2008 Hector's and Maui's Dolphins Threat Management Plan (TMP) will be undertaken in 2013 if warranted by available information.

Area under consideration

10 The defined area under consideration is the same area that you recently opened to commercial butterfish fishing using set nets. This defined area extends 200m from shore in the following areas:

- a. Needles Point to Cape Campbell;
- b. Rarangi to Oyster Bay;
- c. Deep Bay to Cooper Point on Arapawa Island;
- d. Little Waikawa Bay to Cape Jackson; and
- e. All of Motuara Island, the Twin Islands, Motungarara Island, the Brothers Islands and White Rocks.

11 The map below (Figure 1) illustrates the current area closed to amateur set net fishing and the defined area under consideration. The area shaded in red shows the existing set net closure which extends out to 4 nautical miles. The defined area of coastline under consideration is highlighted in purple. This area would extend seaward out to 200m.

12 There is an overlap between a section of the defined area and the Clifford/Cloudy Bay Marine Mammal Sanctuary (Figure 1). The sanctuary was established in 2008 by the then Minister of Conservation to enable improved management of the Hector's dolphins that range within the area.

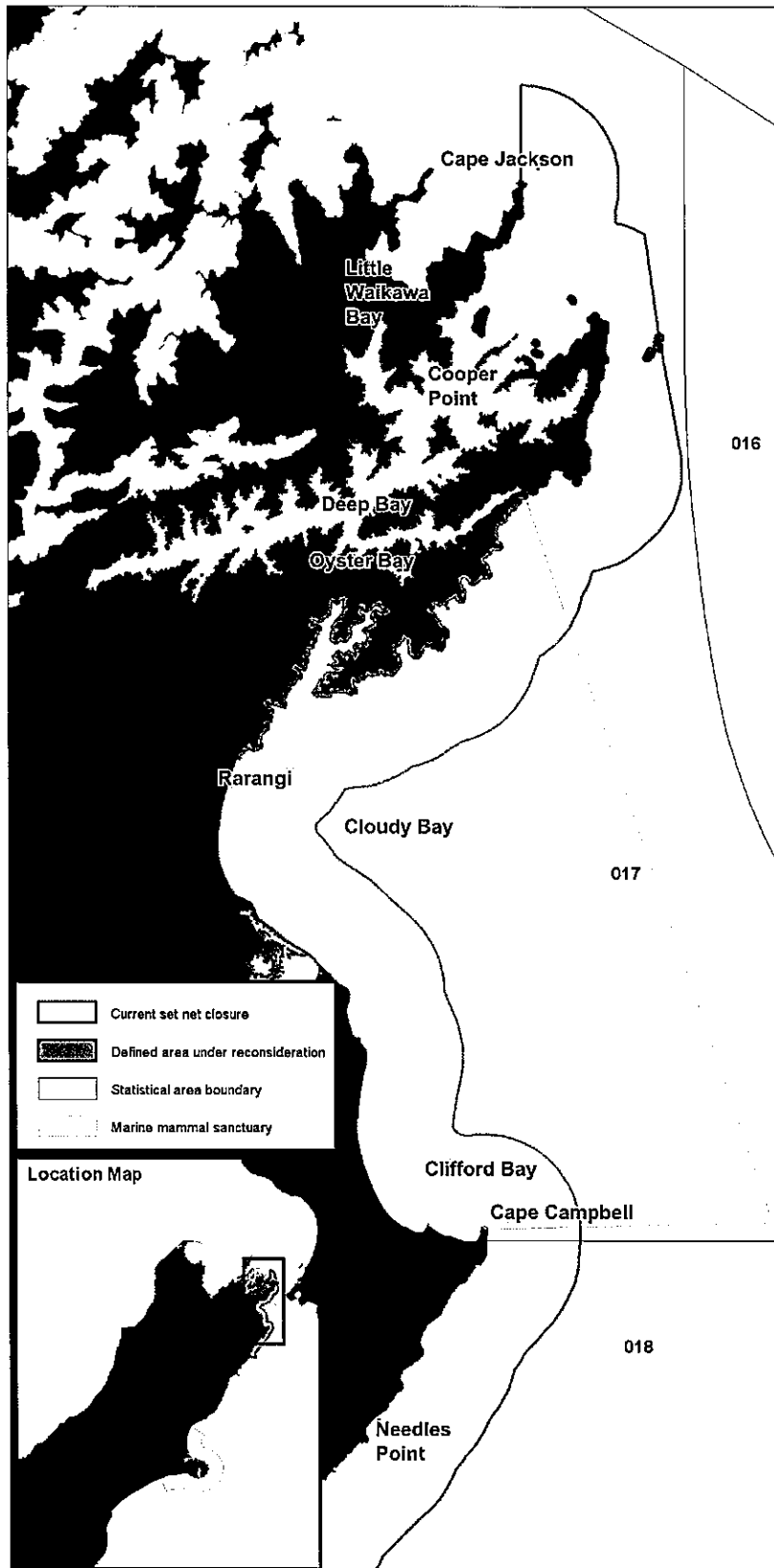


Figure 1: Map showing defined area under reconsideration

Summary of Options

13 On 6 July 2011 the Ministry consulted stakeholders on initial options as outlined below. As stated in paragraphs 7 and 8 the scope of these options has been expanded to include amateur set net fishing in general, not simply targeted amateur set net fishing for butterfish.

Option	Description
Option one	Do not provide for exemption – Status quo
Option two	Remove amateur set net ban in the defined area
Option three	Remove ban with additional measures to mitigate effects on Hector's dolphins

14 In response to calls for submissions on these management options, the Ministry received:

- a. Nine submissions in support of option one
- b. Twenty submissions in support of option two
- c. Eleven submissions in support of option three
- d. The Ministry also received thirteen submissions in support of lifting the amateur set net ban however, no specific option was supported. Six of these submissions suggest or support a variety of additional measures being adopted to mitigate the risk posed to Hector's dolphins from amateur set net fishing.

15 A copy of submissions received is attached.

16 In addition to these submissions the Ministry also discussed this paper with the Department of Conservation (DOC). DOC strongly support option one due to the endangered status of Hector's dolphin and the known risks that amateur set nets pose to them. A summary of DOCs view is provided in the option analysis section and in Appendix five.

17 Before making a decision on these options you should consult with the Minister of Conservation. She has received a copy of this paper.

Statutory obligations

18 The main legislative provision on which your decision is based is section 15(2) of the Fisheries Act 1996 (the Act). Under section 15(2) of the Act you can, after consultation with the Minister of Conservation, impose such measures you consider necessary to avoid, remedy or mitigate the effect of fishing-related mortality on protected species.

19 Whether or not it is necessary for you to take action depends on a variety of factors. Section 15 of the Act provides you with considerable discretion about what measures you may take to limit the effects of fishing on Hector's dolphins. However, you should only take measures you consider necessary in light of the purpose and principles of the Act.

20 Where information is unknown or uncertain you can take a precautionary approach.

21 You are not required to weigh up the utilisation and sustainability factors for protected species in the same manner as you do for harvested species. Your major concern is to ensure that the impacts on protected species are managed and that your decision is consistent with the environmental principles in the Act. You are however, not constrained by

the environmental principles and you may consider that additional steps are necessary over and above those decisions that are consistent these principles.

22 When making any decision under part 3 of the Act, you must act in a manner consistent with New Zealand's international obligations to fishing and the provisions outlined in section 11 of the Act (including fisheries plans, conservation services and regional plans and policy statements). The Ministry has undertaken an analysis of such obligations where relevant to managing threats on protected species. The options presented are consistent with these obligations taking into account information uncertainty and the risk assessment provided in this paper. See appendix 7 for an analysis of these considerations.

Assessment of the effect

23 The following sections assess the potential effect of fishing-related mortality from amateur set net fishing in the defined area of the ECSI. The assessment of the effect of fishing-related mortality is based on the following factors:

- a. Biology of Hector's dolphins, including:
 - i. Abundance and trends
 - ii. Distribution
 - iii. Vulnerability of the population to human-induced impacts
 - iv. Known susceptibility of the population to fishing
- b. Assessment of the effect of set net fishing, including:
 - v. Characterisation of the fishery
 - vi. Risks posed by amateur set net fishing
 - vii. Overall assessment of need for restrictions on amateur set netting in the defined area

(i) **Abundance and trends**

Key points from the IPP:

- There are four genetically distinct populations of Hector's dolphins of which the ECSI population is the second largest.
- There is information to suggest that population size has declined from higher levels of abundance, although there is uncertainty about the extent, rate and timing of this decline.
- Historical stranding and sighting information shows the dolphins once had a more continuous distribution around the New Zealand coast.
- Best available information on abundance suggests that the ECSI population is made up of 1,791 individuals (95% confidence interval 1363 to 2353).¹
- The population estimate does not correspond to the sub-population that may frequent the defined area. Rather, it applies to the whole ECSI population. It provides an insight into the abundance and distribution of the Hector's dolphin population that may interact within the defined area.

Submitter comments

24 SeaFIC argues that research undertaken by Du Fresne and Mattlin in 2009 may indicate a significantly higher population of Hector's dolphins on the ECSI than previously estimated. SeaFIC suggests that until an updated estimate is provided based on an aerial survey, the population estimate of 1,791 for the ECSI Hector's population should be regarded as significantly low and unreliable.

The Ministry's response

25 The Ministry acknowledges that there is uncertainty surrounding the abundance estimate for the ECSI Hector's dolphin population. New information from Du Fresne and Mattlin (2009) could imply a greater abundance of Hector's dolphins along the ECSI than previously estimated, which would have implications on an assessment of the vulnerability of a population to the effects of fishing-related, and other human-induced mortality. However given the recent lack of surveys across the ECSI, it is difficult to conclude that there are more dolphins overall than previously estimated or that there has been some movement within the sub-population in the upper portion of the ECSI.

26 The Ministry intends to commission an aerial survey of the ECSI Hector's dolphin population shortly. This will provide better information on total ECSI Hector's dolphin population numbers and will inform any review of the TMP in 2013.

¹ This estimate comes from an the original ECSI and South Coast of the South Island (SCSI) survey (Dawson et al. 2004), but excludes the portion of the survey in Te Waewae Bay. It is not possible to exclude other portions of the SCSI population from the estimate, which means it may overestimate abundance for the ECSI.

(ii) **Information on distribution of dolphins in the defined area**

Key points from the IPP:

- No detailed information is available on the distribution of dolphins in the defined area.
- Approximately 90 hours of at-sea observer coverage of commercial set net fisheries has been achieved in the defined area since October 2008. No sightings of Hector's dolphins occurred during this coverage. This coverage represents approximately 3.6 percent of the total number of fishing days in the defined area in 2008/09.
- Such a short period of observation is insufficient to assess the extent to which Hector's dolphins use the defined area.
- Hector's dolphins are known to have a widespread distribution in Clifford and Cloudy Bays, which separate two portions of the defined area (Du Fresne and Mattlin, 2009).
- Smaller numbers of Hector's dolphins are present in Queen Charlotte Sound (north) and Porpoise Bay (south). Hector's dolphins that have been sighted in Queen Charlotte Sound may travel through the defined area.
- Photographic evidence of at least two Hector's dolphins in the Banks Peninsula area suggests that dolphins use at least some areas close to rocky coasts where seaweed is present. Similar habitat exists in parts of the defined area.

Submitter comments

27 Nine submitters, many who were active amateur set net fishers prior to the set net closure, argue that they have never seen a Hector's dolphin in the defined area. Some also note that they have never caught a Hector's dolphin in their set net, nor have they heard of a Hector's dolphin being caught in the defined area. These submitters did not provide detailed information on where in the defined area they were fishing, however many were from Port Underwood (north of Rarangi).

28 Two submitters argue that the absence of observer sightings of Hector's dolphins coupled with no recorded mortalities in the defined area supports the notion that there are no Hector's dolphins present in the defined area.

29 Six submitters from Port Underwood note sightings of Hector's dolphins in the defined area between 50m and 100m from shore. The Port Underwood Association reports its recordings of Hector's dolphin sightings by its members. Since 2006, the Port Underwood Association has recorded 8 sightings of individual or groups of Hector's dolphins in the defined area.

30 A Port Underwood marine farmer submits that there are no resident pods of Hector's dolphins in the defined area. He does note however, that Hector's dolphins are seen occasionally transiting the coastline between Cloudy and Clifford Bays and Queen Charlotte Sound. Last summer, the submitter reports sighting two Hector's dolphins, on one occasion, but this was 300m from the shore and thus outside of the defined area.

31 Seven submitters, note that rock and kelp areas, where fishers set net for butterfish and moki, are not considered to be habitats for Hector's dolphins. SeaFIC suggests that the photograph used in the IPP is misleading as it is not representative of habitat in the defined area associated with butterfish set net fishing. SeaFIC argues that this is further supported by affidavits from fishermen to the 2009 court proceedings.

32 Slooten and Dawson, submit that Hector's dolphins are frequently observed within the kelp zone. Slooten and Dawson also note that there have been reported mortalities from nets set in the kelp zone to catch butterflyfish.

The Ministry's response

33 There is no scientific information available on the distribution of Hector's dolphins in the defined area.

34 The Ministry considers that, given the low levels of observer coverage in the commercial set net fishery and lack of research surveys, there is no information to definitively assess the extent to which Hector's dolphins use the defined area. There are known Hector's dolphin populations to the north and south and between two portions of the defined area. There have been anecdotal and unverified sightings in the defined area. It is therefore plausible to suggest that Hector's dolphins at least transit through the defined area, which may expose them to the risk of mortality from set nets.

35 The Ministry acknowledges submissions that attest to both sighting and not sighting Hector's dolphins in the defined area. You should note that this information is anecdotal and unverified and therefore a low level of reliability should be attributed to it. You should treat uncertain information with caution as part of your decision making process.

36 The Ministry acknowledges that the sightings of dolphins in the rocky coast off the Banks Peninsula depict an area with differences to the defined area. The photographs show that Hector's dolphins can visit and transit through areas close to rocky outcrops with seaweed present. Similar outcrops can be found in the defined area.

(iii) Vulnerability of Hector's dolphins to human-induced impacts

Key points from the IPP:

- Potential Biological Removal (PBR) analysis is intended to provide an indication of the vulnerability of Hector's dolphins to human-induced impacts. Mortalities higher than the PBR may or may not prevent the population from increasing.
- PBR analysis² suggests that the ECSI population can sustain between 2-4³ human-induced deaths per year and rebuild to optimal sustainable population (OSP). PBR analysis using input values for non-threatened populations⁴ suggests that the population can sustain around 13 human-induced mortalities annually.
- OSP is recognised as a good target population size because it results in the maximum productivity of a population.
- OSP is not a legislated target and you are not required to rebuild a population to OSP.

Submitter comments

37 Slooten and Dawson, WWF and the Nature and Biodiversity Conservation Union (NABU) all submit that the Ministry's PBR calculation for Hector's dolphins is incorrect and

² This analysis assesses the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock while allowing the stock to reach or maintain optimum sustainable population. Information on the PBR analysis is provided in appendix 4.

³ Using a recovery factor 0.1 and 0.2 respectively.

⁴ Using a recovery factor of 0.5, this is suggested for stocks of indeterminate status.

overestimates the level of human-induced mortality that the population can sustain annually. They suggest a more accurate estimate is 2 (Slooten and Dawson 2008).

The Ministry's response

38 Potential Biological Removal (PBR) modelling offers some guidance to you on the effect that human-induced mortality may have on the ability of a population to rebuild and maintain OSP. PBR analysis shows that rebuild of the ECSI Hector's dolphin population may be threatened by relatively low levels of human-induced mortality (anywhere between 2 and 13 individuals per year).

39 The Ministry acknowledges that there is uncertainty around the inputs used to calculate the PBR for Hector's dolphins including, population size, productivity and recovery rate. Figures at the lower end of the PBR estimate (2-4 individuals) are based on recovery factor values that are typically used for endangered marine mammals. The figure at the higher end of the PBR estimate (13 individuals) is based on a recovery factor typically used for non-threatened populations. The Ministry views a PBR of 2-4 individuals as more appropriate, given the endangered status of Hector's dolphins.

40 PBR analysis provides an indication of the vulnerability of a population to the effects of all human-induced mortality, of which fishing-related mortality is one component. This analysis assesses the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock while allowing the stock to reach OSP.

41 You should also note that the PBR is only one of a number of factors in determining appropriate management action. The nature of PBR analysis, or any modelling exercise relying on estimated biological and variable inputs, does not necessarily lend itself to decision making with certainty. Rather, it provides a general indication of the vulnerability of the population to mortalities

42 The Ministry notes also that PBR analysis assumes a population target size of OSP. While OSP is recognised as a good target population size because it results in the maximum productivity of a population, OSP is not a legislated target. Instead, the Act states generally that, in relation to utilisation of fisheries resources or ensuring sustainability, you should take into account that "associated and dependent species should be maintained above a level that ensures their long-term viability" (section 9(a)). More specifically, the Act states that the you may take such measures as he or she considers are necessary to avoid, remedy, or mitigate the effect of fishing-related mortality on any protected species, and such measures may include setting a limit on fishing-related mortality (section 15(2)).

(iv) Susceptibility of the population to fishing-related mortality

Key points from the IPP:

- Dolphins are known to be susceptible to fishing-related mortality caused by entanglement in set nets because:
 - dolphin distribution overlaps with set net fisheries
 - dolphins are not always able to identify and avoid monofilament nets
 - dolphins need to surface to breathe so they are susceptible to drowning if caught in set nets.
- There are 89 known fishing-related mortalities out of a total of 275 reported mortalities recorded in the DOC incident database from 1948 to 2010 across the ECSI Hector's dolphin population.
- Of these known fishing-related mortalities, 12 have been attributed to amateur set nets (see appendix 2).
- A further 45 mortalities indicate possible or probable entanglement in fishing nets (commercial or non-commercial) as the cause of death.
- Reported mortalities probably only provide an indication of the nature of the threats to the dolphins, not the extent, as the cause of death is only established for less than half of the reported mortalities.
- Between May 2009 and January 2010 three fishing-related mortalities have been documented by Ministry observers on commercial fishing vessels operating on the ECSI. The overall level of observer coverage was low.⁵ These mortalities occurred outside the areas closed to commercial set net fishing, offshore of Kaikoura and Timaru.
- This mortality exceeds the lower bound of the PBR and the actual level of mortalities on the ECSI Hector's dolphin population is probably greater.

Submitter comments

43 NABU and ECO submit that reporting of protected species bycatch by fishermen has historically been low due to poor incentives to voluntarily report.

44 Slooten and Dawson, WWF and NABU submit that, notwithstanding the inaccuracies of the PBR estimate, given the low levels of observer coverage it is highly likely that mortalities from fishing exceeds the upper bound of the Ministry's PBR.

The Ministry's response

45 The Ministry considers that reported mortalities only provide an indication of the nature of the threats to dolphins, not the extent. This is due to:

- a. low observer coverage of inshore commercial fisheries
- b. no formal monitoring of amateur activity
- c. poor incentives to voluntarily report incidents
- d. cause of death is only established for 111 out of the known 275 reported mortalities in the DOC incident database for the ECSI
- e. anecdotal information that indicates actual fishing-related mortalities are higher than reported (Cawthorn 1998, Dawson 1991, Russell 1991).

⁵ Approximately 15.8% of total commercial set net effort in the ECSI area in the 2009 calendar year based on number of fishing days

46 The Ministry agrees that the three known fishing-related mortalities in 2009/10 exceeds the lower bound of the PBR for the ECSI Hector's dolphin population. As the observer coverage only monitors commercial set net fishing activity and the level of observer coverage in ECSI commercial set net fisheries was low during the 2009 calendar year (approximately 15.8%), the actual level of mortalities on the ECSI Hector's dolphin population may have been greater.

47 The current set net measures for the ECSI have not been in place long enough to indicate whether the three observed mortalities are likely to be ongoing or represent an unusual event.

(v) Characterization of the amateur set net fishery

Key points from the IPP:

- The amount of amateur set net activity in the defined area is unknown because amateur fishing effort is not monitored by the Ministry.
- Amateur set net fishing usually targets:
 - Butterfish over kelp/reef areas close inshore;
 - Flatfish in inner harbours and bays;
 - Herring and cod in inner harbour areas;
 - Small sharks on open beach areas in summer; and
 - Moki on open mud and sandy substrates adjacent to submerged rocks and cliff faces.
- A range of other fish species and protected species can be taken as bycatch from set nets.
- Gear usage is constrained by the amateur fishing regulations. The following rules apply for amateur set net fishing
 - Set nets must not exceed 60m in length
 - Nets must not be set within 60m of another net
 - The use of stakes to secure nets is prohibited
 - A minimum mesh size of 100mm is required when taking butterfish
 - Each set net must have a surface buoy permanently and legibly marked with the fisher's initials and surname.
 - Nets must not be set in a way that causes fish to be stranded by the

Submitter comments

48 The Port Underwood Association noted that, whilst no reporting of amateur fishing effort is required, amateur set net activity prior to the ban was very popular during the summer months and undertaken by residents, bach owners and visitors with varying degrees of experience.

49 Ten Submitters also raised concerns that the Initial Position Paper was focused on providing for amateur set net fishing for butterfish only. They argued that this was impractical and potentially wasteful given that bycatch of other finfish species is largely unavoidable when using set nets.

50 Six submitters noted that set net fishing is the only fishing method, other than spear fishing, for targeting butterfish and moki. Four of these submitters, also argued that spear fishing is not seen as a fishing method that they could readily adopt.

The Ministry's response

51 The potential amount of amateur set net activity that might occur in the defined area of the ECSI is unknown because amateur fishing effort is not monitored nor reported. However, the number of amateur fishers who submitted on the IPP indicates some interest in fishing using set nets in the defined area.

52 The Ministry agrees that set nets are a non-selective method of fishing. This means that it is difficult to target a single species using a set net and therefore a range of marine species are caught in set nets. Restricting amateur set net fishing to a target species, such as butterfish, would be impractical and difficult to enforce.

(vi) Risks posed by amateur set netting

Key points from the IPP:

- The summer inshore movement of Hector's dolphins coincides with a typical peak in amateur set net effort. Therefore summer is likely to be the time of year where the likelihood of mortality from amateur set net fishing is greatest.
- Amateur set nets are known to pose a risk to Hector's dolphins as indicated by recorded mortalities in DOC's incident database and from the six mortalities recorded in Banks peninsula between 1984 and 1988 (DOC and MAF 1994).⁶
- The risk posed to Hector's dolphins from amateur set nets is exacerbated when:
 - nets are poorly constructed
 - nets are poorly set
 - nets are set for lengthy periods of time, especially when nets are left out overnight due to weather conditions
 - nets are set in open areas that Hector's dolphins are more likely to frequent
- Non-local or visiting amateur fishers are considered to pose an increased risk to Hector's dolphins because they do not necessarily have the knowledge of areas used by Hector's dolphins to avoid interactions.

Submitter comments

53 A number of submitters, including the Marlborough Angling and Surfcasting Club Inc. suggest that information on reported mortalities from the DOC incident database illustrate that, unlike other factors, amateur set nets do not pose a significant threat to Hector's dolphins.

54 J. Fielding suggests that, based on the PBR range of 2-13 human-induced mortalities annually and reported mortalities from the DOC incident database, commercial and amateur fishing indicates no significant risk to the population.

55 Soundfish and the Port Underwood Association agree amateur set net activity, prior to the ban, was most popular over the summer months.

56 Seven submitters noted that nets can be left set overnight. This is often due to poor weather conditions.

57 Two submitters argue that use of information from dolphin mortalities on the Banks Peninsula is inappropriate given that this is not in the defined area and because there is a

⁶ It is not known whether these mortalities represent six of the 12 mortalities reported in the DOC incident database since 1948.

known Hector's dolphin population around Banks Peninsula and hence interactions with set nets are more likely to occur.

58 Two submitters noted that nets that have been poorly set and become detached from their anchors pose an increased risk to Hector's dolphins. These nets continue to drift in open waters and collect bycatch of marine species. This is often referred to as "ghost fishing". These submitters argue that ghost fishing is often the result of inexperienced fishers and poorly set nets.

59 Five of the submitters who support option 1 argue that set netting in general poses a greater risk to Hector's dolphins than other fishing methods. They argue that set nets are indiscriminate and non-selective in what they catch. The Nelson Underwater Club (NUC) does not consider set netting to be an amateur fishing method because it is a form of bulk harvesting that is "non-participatory, non-selective and destructive to habitats." Other submitters note that set net fishing not only represents a risk to Hector's dolphins but also to other marine species, such as penguins and other finfish.

The Ministry's response

60 Reported mortalities in the DOC incident database only provide an indication of the nature of the threat posed by amateur set nets, not the extent. This is because cause of death is only established for less than half of the reported mortalities and there are poor incentives for fishers to report incidents.

61 The setting of nets for lengthy periods of time increases the risk of Hector's dolphin entanglement. There are no restrictions on the length of time an amateur set net can be set. Nets can be left unattended for lengthy periods of time, sometimes due to poor weather conditions preventing the fisher from retrieving their net.

62 The Ministry acknowledges that Banks Peninsula is not in the defined area. The reported mortalities in Banks Peninsula (DOC and MAF 1994) provide an indication of the nature of the threat to the ECSI Hector's dolphin population from interactions with amateur set nets. In four of the six cases from the Banks Peninsula either the gear used for set netting was poorly constructed or the net was set incorrectly. Poorly set nets and gear can increase the risk to of dolphin mortality.

63 DOC notes, that an incident in their database documents a Hector's dolphin being entangled and released alive in an amateur set net at Cape Campbell (see appendix 5). While it is unknown whether the incident occurred inside or just outside of the defined area, this incident was very close to Cape Campbell and indicates that there is a risk to Hector's dolphins from amateur set nets in the defined area.

64 The risk posed to Hector's dolphins from amateur set nets is increased depending on the skill of the fisher, weather conditions, the way the net is constructed and set and how long the net is set for. Set nets that become detached from their anchors pose an increased risk to Hector's dolphins and are often the result of poor set net practices by amateur, commercial and customary fishers.

(vii) Overall assessment of need for restrictions on amateur set netting in the defined area

Key points from the IPP:

- Definitive information on the likelihood of mortality from amateur set net fishing in the defined area is lacking. The Ministry assesses the risk level generally to be low-medium because:
 - The defined area is a small proportion of the ECSI
 - Survey and observation data are insufficient to assess the extent to which Hector's dolphins use the defined area.
 - There have been no verified sightings of Hector's dolphins in the defined area however there have been some unverified sightings recorded.
 - The amount of amateur set net effort, type of gear used and set net practices are unknown and likely to be highly variable depending on the experience of the fisher, weather conditions and season.
 - Amateur set netting is known to be responsible for 12 mortalities on the ECSI population between 1948 and 2010. However, none of these recorded mortalities occurred in the defined area.
 - MAF interviews with amateur fishers in Banks Peninsula found set netting for moki and butterfish were responsible for 6 Hector's dolphin mortalities between 1984 and 1988
 - Incorrectly set and poorly constructed nets can increase the risk of mortality. Some of the mortalities from the Banks Peninsula interviews were the result of poorly set or constructed nets.
 - Amateur set nets can be left unattended for lengthy periods of time (sometimes due to weather), which increases the risk of mortality.
- Definitive information on the consequence of fishing mortality on the population from amateur set net fishing is highly uncertain. The Ministry assesses the risk level as at least medium because:
 - The ECSI population is vulnerable to low levels human-induced mortality as indicated by the PBR estimate.
 - In 2009-10 fishing year the lower limits of the PBR estimate range was exceeded, based on three observed commercial mortalities (with low levels of coverage).
 - The consequence of additional mortalities to the ECSI population from fishing may mean the population does not reach OSP (note that you have discretion around target population size) or takes longer to reach that level.
 - The added, albeit small, increase in risk to the population from reopening the defined area to commercial set net fishing targeting butterfish
- Overall, there is considerable uncertainty on whether the level of risk (likelihood and consequence of mortality to the ECSI Hector's dolphin population) from amateur set net fishing in the defined area is sufficient to warrant management action.

Submitter comments

65 A significant number of submitters note that the IPP states that there have been no recorded Hector's dolphin mortalities attributed to amateur set net fishing within the defined area. They argue that this is the primary reason why set net fishing should be allowed within the defined area and why the risk to Hector's dolphins is small.

66 The Port Underwood Association and Soundfish argue that given the following information the Ministry may wish to reassess their risk rating:

- their members have seen dolphins within the defined area
- amateur set net practices are not always consistent with best practice

- set nets can be set for lengthy periods of time
- peak recreational effort coincides with the summer inshore movement of Hector's dolphins.

67 The Port Underwood Association and Soundfish support the removal of the amateur set net ban but support additional measures being put in place, given the above risks, to mitigate the risk of Hector's dolphin entanglement in amateur set nets.

68 WWF argues that the Ministry's has no basis for making its assessment of a low-medium likelihood of mortality given the highly uncertain information. WWF suggests that given the profound uncertainty in assessing the likelihood of mortality the Minister should take a precautionary approach when making his decision.

69 Slooten and Dawson, WWF and NABU submit that, notwithstanding the inaccuracies of the PBR estimate, estimated annual Hector's dolphin mortalities from fishing exceeds the upper bound of the Ministry's PBR based on the observed 2009/10 mortalities. They submit that given the risk already posed to the ECSI Hector's dolphin population, from other fishing activity in other areas of the ECSI, the amateur set net ban in the defined area should be retained.

The Ministry's response

70 The Ministry, acknowledging uncertainties, considers the likelihood of mortalities from amateur set nets to be low-medium (for reasons noted in the table above). The Ministry considers the consequence of fishing mortality on the population from amateur set net fishing to be highly uncertain but likely to be medium (for reasons noted in the table above). Submissions have not raised any definitive information to support a different risk analysis.

71 Given this assessment we consider there is uncertainty about whether management action is necessary to reduce the risk of mortality occurring and consequent impacts on the ECSI population. As noted by WWF, you are entitled to take a cautious approach towards the management of impacts on protected species. On balance, having regard to uncertainty in information and the ability to take a precautionary approach in this circumstance, the Ministry considers that there is a risk to the ECSI Hector's dolphin population that should be managed.

72 The Ministry note that you did not consider it necessary to manage the risk of commercial mortalities. However, we consider the likelihood of mortalities in the defined area as a result of the use of amateur set nets to be greater (based on the rationale outlined in the table above) than for the use of commercial set nets targeting butterfish and therefore there is justification for taking a different approach to the amateur sector in the defined area in this instance.

Analysis of the options

73 The Ministry consulted on the following management options for your consideration. The scope of these options has been expanded in this advice to consider amateur set net fishing the defined area in general rather than just for butterfish. The option you choose will depend on whether you consider measures are necessary to manage the effects of fishing-related mortality caused by amateur fishing using set nets in the defined area.

Option	Description
Option one	Do not provide for exemption – Status quo
Option two	Remove amateur set net ban in the defined area
Option three	Remove ban and require fishers to stay with their net

Submitter comments

74 Submitters in support of option one generally argued that the risk to Hector's dolphins from set net fishing was either too uncertain or too great given their endangered status. These submissions supported a precautionary approach to managing risks and suggested that any risk to Hector's dolphins should be eliminated by excluding set net fishing in the defined area. They noted that set net fishing is an indiscriminate, non-selective method of fishing that not only leads to unwanted bycatch of protected species but also of non-target finfish species.

75 SeaFIC supports option one and notes that, unlike commercial fishers, amateur fishers are unable to effectively target a single finfish species, like butterfish. This would mean that if the area was to be reopened, it would have to be opened to all amateur set net fishing and not just targeted set net fishing for butterfish, as is the case for commercial fishers. SeaFIC suggests this would create an unacceptable risk to Hector's dolphins because amateur fishers would be allowed to set net in open bays, a typical habitat for Hector's dolphins.

76 The majority of submissions in support of option two came from amateur fishers or their representative organisations who fished using set nets prior to the set net ban. These submitters view the current closure to be unwarranted because there is little to no information to suggest there are Hector's dolphins in the defined area and there have been no reported Hector's dolphin mortalities in the defined area attributed to amateur set nets. They also perceive the current closure to be unfair and discriminatory given that commercial and customary fishers are currently allowed to set net in the defined area.

77 Many of the submitters in support of option three were also amateur fishers or their representative organisations. In general, support of this option was due to the fact that it allowed fishers to set net whilst managing the threat of human-induced mortality on Hector's dolphins. Five of these submitters also reported sightings of Hector's dolphins within the defined area.

78 A large number of supporters of options two and three suggested a variety of additional measures that could be put in place. These suggested measures both included and excluded the additional measures proposed by the Ministry in option three of the IPP.

79 The following measures were proposed by the Ministry:

- a. Fishers required to stay in close proximity of the net. This measure was supported by fourteen submitters.
- b. Set net ban over summer months. Seven submitters supported this as an additional measure. Those in support argued that the butterfish fishery is largely a winter fishery and therefore would not affect their ability to fish. Those who opposed this measure argued that this would be unfair for holiday makers in the area and that any ban over summer should apply to customary and commercial fishers also.

80 The following measures were suggested by submitters:

- a. Ban on overnight set net fishing. Nets should only be set half an hour after sunrise and hauled in half an hour prior to sunset. Fifteen submitters suggested this as an additional measure.
- b. Introduce a soak time restriction. A range of soak times were suggested by submitters ranging from one and half hours to three hours. Seven submitters suggested this as an additional measure.
- c. Restrictions on net length and/or mesh size. This measure was suggested by twelve submitters.
- d. No set net fishing in open bays or mid bays where Hector's are more likely to frequent. This measure was suggested four submitters.

81 A number of submitters supported the introduction of a Code of Practice rather than additional regulations on set net fishing in the defined area. The New Zealand Recreational Fishing Council, the Marlborough Recreational Fishing Association, the Tasman and Sounds Recreational Fisheries Association (TASFISH) and the Marlborough Angling and Surf Casting Club, among others, submitted that if you consider the risk to dolphins too great to consider option two, they would support the introduction of a Code of Practice. They also submit that the introduction of any Code of Practice should be done in full consultation with local fishers, clubs and organisations.

The Ministry's response

82 There is no quantitative information on the effectiveness of the additional measures. In determining which option to implement you should consider the effectiveness of the measure in reducing the likelihood, and therefore consequence of mortality, if you consider this is necessary. You should also consider the impact of the option on utilisation (people's ability to obtain social, cultural and economic wellbeing from fisheries resources).

83 The Ministry considers that some form of management action is warranted. If you agree with this assessment you should choose option one or three. Your choice between those two options will depend on your view of the likelihood and consequence of fishing-related mortality from amateur fishing using set nets. The Ministry suggests that you should first consider whether application of mitigation measures would reduce the likelihood and consequence of the effects of fishing to levels you consider acceptable.

84 Option three proposes that amateur fishers be allowed to use set nets in the defined area but that they are required to stay with their nets. If operated effectively, this measure will significantly reduce the likelihood of mortality occurring because fishers will be able to remove nets when dolphins are present or, in the worst case scenario, may be able to release any dolphins entangled in set nets while they are still alive. However, there are some costs associated with this option including reliance on fishers seeing the dolphins and being able to release them without damage once entangled. This option also introduces an increased safety risk for fishers should weather conditions deteriorate during a trip etc. This option would not reduce the likelihood of impacts occurring to zero (but this may not be required).

85 If you did not consider mitigation measures sufficient, because you considered the level of residual risk unacceptable or the information on effectiveness of the proposed measure uncertain, the Ministry suggests that you take a precautionary approach and retain the amateur set net ban in the defined area. As noted, this would prevent amateur fishers from using set nets in the defined area which would have an impact on overall non-commercial benefit. More analysis of each option is outlined below.

Option 1: Do not provide exemption – Status quo

86 Option one maintains the status quo and takes a precautionary approach to managing the effect of fishing on the ECSI Hector's dolphin population. This option recognises that amateur set nets pose an increased risk to Hector's dolphins.

Benefit

87 Option one provides the greatest level of protection to Hector's dolphins in the defined area. This option recognises the increased risk posed by amateur set net activity and the inability of the Ministry to monitor and therefore respond to interactions with Hector's dolphins.

Cost

88 Option one imposes no additional cost compared to the current situation given that amateur fishing using a set net is currently prohibited. However retaining the ban will prevent amateur fishers from utilising fisheries resources in the area using set nets. For species like butterfish and moki this will reduce recreational catch by some degree. However these species can be taken by other methods, most effectively diving in the case of butterfish.

Option 2: Remove amateur set net ban in the defined area

89 Option two would allow amateur fishing with set nets within the defined area. Current amateur set net rules under the amateur fishing regulations would remain. You would choose this option only if you considered that the risk posed to the ECSI Hector's dolphin population from amateur set net fishing in the defined area was not significant enough to warrant management action.

Benefits

90 The primary benefit of option two is that it would allow amateur fishers to set net in the defined area. This benefit is unquantifiable and uncertain because the level of interest in set netting in that area is unknown. However, Ministry correspondence with amateur fishers regarding the current set net ban and our proposal to review it indicates some level of interest.

Costs

91 The cost of allowing amateur set net fishing is an increased likelihood of dolphin mortality. The extent of the increase in likelihood of mortality is discussed in the previous section.

92 The consequence of any Hector's dolphin mortalities in the defined area as a result of amateur set netting is dependent on the number of mortalities occurring elsewhere in the ECSI. This could be significant given that in at least one year reported dolphin mortalities exceeded the lower bound of the PBR.

Option 3: Remove ban and require fishers required to stay with their nets.

93 Option three provides for amateur fishing using set nets in the defined area but implements an additional measure to manage the effects of fishing-related mortality on Hector's dolphins.

94 Option three recognises that amateur set net activity poses some risk to the ECSI Hector's dolphin population, however the level of this risk is unclear because:

- a. The defined area is a small part of the ECSI
- b. Information is insufficient to assess the extent to which Hector's dolphins use the defined area but it is plausible to assume that they transit through the area.

95 Given these uncertainties you may consider that it is unclear whether the risk to ECSI Hector's dolphin population is sufficient to warrant a full ban on the use of amateur set nets. As an alternative you could allow set net fishing in the defined area but mitigate risk of mortality of Hector's dolphins by introducing additional measures.

96 There are a range of measures that you could choose to impose if you consider the risk associated with amateur fishing with set nets significant enough to warrant additional measures. The additional measures that the Ministry suggested in the IPP were:

- a. Fishers required to stay with their nets;
- b. Amateur set net ban over summer months.

97 If you were to choose option three the Ministry has a preference for the additional requirement for fishers to stay within close proximity to their nets. The Ministry considers this measure to be simple to enforce and the most effective measure for mitigating the risk to Hector's dolphins from amateur set nets. The benefit of this measure would be that the fisher would be present to pull in their net before a dolphin could become entangled.

98 The Ministry considers that a ban on set net activity over summer months may significantly impact on amateur fishers given that the ban would coincide with the traditional holiday period when recreational effort is traditionally at its highest. Support of this measure from submitters was divided. Overall, the Ministry does not recommend this as an additional measure.

Benefits

99 The key benefit of option three is that it provides for use of set nets by amateur fishers in the defined area. This option is also likely to minimise the risk posed to Hector's dolphins from amateur set nets by requiring these fishers to stay with their nets.

Costs

100 The following costs are associated with option three:

- a. It will require additional enforcement effort to ensure compliance with measure, which may lead to a shift in how existing resources are deployed.
- b. Mortality of Hector's dolphins may still occur. The extent to which this may occur is uncertain and relies on fishers keeping an eye on their net and the surrounding area and removing their nets when dolphins are sighted in the area.
- c. Requiring fishers to stay with their net may result in added safety risks to the fisher.
- d. The additional measure imposes a small added restriction on fishers and the utilisation of set nets.

Department of Conservation's Preferred Option

101 DOC supports option one, retain the set net ban (see appendix 6 for full comments from DOC). In DOC's view the highly threatened status of the Hector's dolphins, the potential risk to Hector's dolphins from amateur set nets and the high levels of information uncertainty in key areas all provide strong arguments for adopting a cautious approach.

102 DOC considers it important that the threat mitigation measures implemented for Hector's dolphins continue to reflect those outlined in the TMP. Diverting from the measures outlined in the TMP should be undertaken when justified by relevant information. In light of this DOC suggest that you should consider retaining the set net ban until the review of the TMP is undertaken in 2013.

103 DOC highlights that it is likely that the potential fishing-related effects on Hector's dolphins from amateur set nets might differ across the defined area because habitat, fishing effort and dolphin distribution are not uniform across the defined area. Whilst expressing a strong preference for option one, DOC proposes a further option to assess the necessity for management measures at a finer scale within the defined area.

104 DOC submit that they see little justification for proceeding with options two or three given the threatened status of the Hector's dolphins and the absence of robust information on the potential risk to the dolphins from amateur set nets.

105 DOC notes considerable concern regarding option three and the effectiveness of the requirement for fishers to stay with their net. DOC states that the efficacy of this measure is unknown because it relies on several factors such as, weather, fisher alertness and experience of the fisher and also if bycaught, the survival of a Hector's dolphin post-release is an unknown. DOC consider that this additional measure will, at best, reduce the risk to Hector's dolphins to "some undefined extent" and that the measure is likely to reduce soak times and effectively discourage overnight set netting.

106 DOC notes concern around allowing amateur set net fishing in a marine mammal sanctuary. DOC states that, allowing amateur set net fishing (even with the suggested stay with your net measure) within a marine mammal sanctuary is at odds with the values of the sanctuary. The very presence of the marine mammal sanctuary should add a greater layer of caution to any management decision regarding fishing within the sanctuary.

The Ministry's response

107 You have considerable discretion deciding when to review the current measures implemented by the TMP. You are not required to wait for a review of the TMP prior to making a decision. Any consideration to defer your decision to a later date should only be made if there is likely to be new information available that would significantly influence your decision. Option one provides you with the choice to retain the set net ban in the defined area of the ECSI until the review of the TMP is undertaken. However, the information principles of the Act state that any uncertainty or absence in any information should not be used as a reason for postponing or failing to take measures to achieve the purpose of the Act.

108 The Ministry continues to monitor commercial set net activity on the ECSI and is intending to commission an aerial survey on ECSI Hector's dolphin abundance and distribution. The survey is likely to provide more accurate estimates on abundance and distribution of the ECSI Hector's dolphin population as a whole. It is however, unknown

whether the survey will provide any new information on abundance and distribution in the defined area.

109 The Ministry agrees that there is a likely variation in risk across the defined area. However, the Ministry considers there is insufficient information to assess the risk and cost and benefits of whether or not to allow amateur set net fishing at smaller spatial scales than the defined area.

110 The Ministry agrees that the additional measure of requiring the fisher to stay with their net may still result in Hector's dolphin mortalities as it relies on the fisher removing their net when Hector's dolphins are sighted in the area. However, this measure is considered by the Ministry to be the most effective measure for mitigating the risk posed to Hector's dolphins while providing for utilisation of fisheries resources using set nets in the defined area.

111 Fishing is not prohibited in marine mammal sanctuaries. There is no statutory requirement for you to consider the risks differently when a marine mammal sanctuary is in place. Your decision to allow amateur set net fishing in a marine mammal sanctuary should be based on whether or not you consider management action necessary to mitigate the risk to Hector's dolphins consistent with your obligations under the Act.

Conclusion

112 The Ministry considers that there is sufficient risk to Hector's dolphins from amateur set nets within the defined area to warrant management action. This is because:

- a. amateur set net fishing poses a greater risk to Hector's dolphins than targeted commercial set net fishing for butterfish
- b. there are uncertainties relating to the presence of Hector's dolphins in the defined area.
- c. the consequence of any mortality on the ECSI Hector's dolphin population

113 There is however, uncertainty whether this risk is sufficient enough to warrant a complete ban or implementation of management measures to mitigate the risk to Hector's dolphins.

114 The Ministry has a preference for option three, which we consider best mitigates the likelihood and consequence of mortality of dolphins while allowing utilisation fisheries resources using set nets in the defined area. Option three proposes removing the set net ban and introducing the additional measure of requiring the fisher to stay with their net while it is set. You can however, introduce any additional measures you consider necessary.

Summary of Recommendations

115 The Ministry recommends that you:

- i. **Note** that you should consult with the Minister of Conservation before making a decision on this matter
- ii. **Agree to not** provide an exemption to amateur fishers to use ~~Yes~~ No set nets in the defined area of the ECSI
- iii. **Agree** to an exemption to the set net prohibition to allow Yes / ~~No~~ amateur set net fishing in the defined area of the ECSI
- iv. **Agree** to an exemption to the set net prohibition to allow Yes / ~~No~~ amateur set net fishing in the defined area of the ECSI **AND** introduce an additional measure – Fishers required to stay with their nets. (The Ministry of Fisheries preferred option)


Steve Halley
for Chief Executive

AGREED / AGREED AS AMENDED / NOT AGREED


Hon Phil Heatley
Minister of Fisheries and Aquaculture

03/10/2011

Appendices

Appendix 1: DOC incident database mortality records for Hector's and Maui's dolphin mortalities reported between 1921 and 2010⁷.

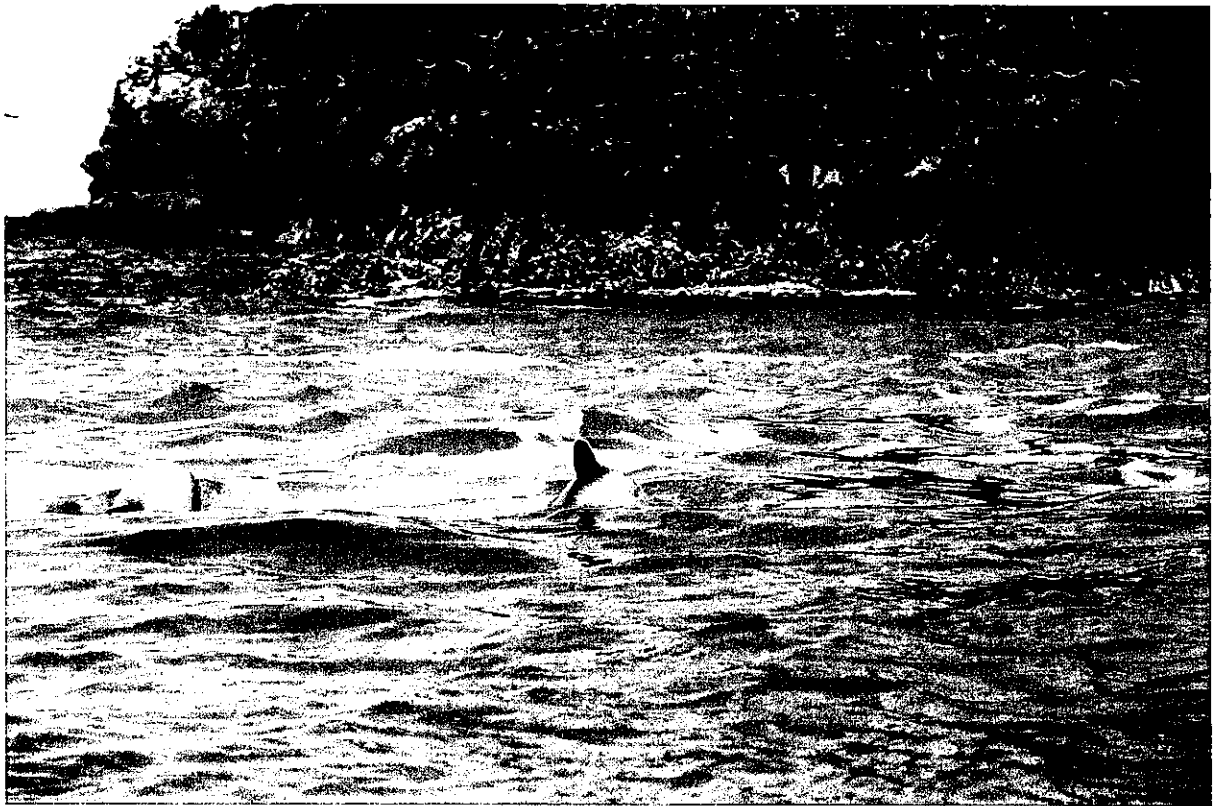
Description of incident	Incidents	Specifics
Known entanglement - animal was known (from incident report) to have been entangled and died.	115	Commercial set net 45 Recreational set net 21 Unknown 24 Trawl 19 Cray 3 Known set net bycatch 3
Not assessed - carcass was not necropsied or recovered, or the cause of death was not assessed (typical of historical mortalities)	91	
Not determinable - carcass too decomposed for necropsy	85	
Possible entanglement - net marks on the body and a mention of the net marks in the incident report; or the pathology report lists probable entanglement as cause of death	54	
Unknown - cause of death unexplained or not definitive (eg, "open" diagnosis in pathology report)	40	
Natural - cause of death deemed to be from natural causes	27	
Probable entanglement - net marks on the body and one other definite indication of capture such as mutilation; or the pathology report lists probable entanglement as cause of death	21	
Not available - necropsy or incident report not available	19	
Possible human interaction - no signs of net entanglement but indications of other types of human interaction such as marks that resemble knife wounds	10	
Trauma - unknown cause	11	
Human interaction - no sign of net entanglement but definite signs of other types of human interaction such as high degree of mutilation	9	
Harpooned	4	
To be confirmed	3	
Boat strike	1	
Possible maternal separation	1	
Probable septicaemia	1	
Reported by-catch but necropsy records saltwater drowning	1	
Euthanased	1	
No details available	1	
Sum	495	

⁷ This summary does not include 9 reported incidents of entanglement but where the dolphin was released and 2 releases following strandings as survival after these incidents is unknown. 4 recent additional incidents have been recorded that do not appear in the table above.

Appendix 2: Reported ECSI Hector's dolphin mortalities between 1948 and 2010. Source is the DOC incident database.

Description of Incident	Mortalities	Specifics	
Known entanglement - animal was known (from incident report) to have been entangled and died.	89	Commercial set net 44 Recreational set net 12 Trawl 15 Cray pot 3 Unknown set net 15	
Not assessed - carcass was not necropsied or recovered, or the cause of death was not assessed (typical of historical mortalities).	39		
Possible entanglement - net marks on the body and a mention of the net marks in the incident report; or the pathology report lists probable entanglement as cause of death.	34		
Not determinable - carcass too decomposed for necropsy.	37		
Unknown - cause of death unexplained or not definitive (e.g., "open" diagnosis in pathology report).	20		
Natural - cause of death deemed to be from natural causes.	12		
Probable entanglement - net marks on the body and one other definite indication of capture such as mutilation; or the pathology report lists probable entanglement as cause of death.	11		
Human interaction - no sign of net entanglement but definite signs of other types of human interaction such as high degree of mutilation.	8		
Not available - necropsy or incident report not available.	7		
Possible human interaction - no signs of net entanglement but indications of other types of human interaction such as marks that resemble knife wounds.	6		
Trauma unknown cause - as read from pathology report - trauma, with an unknown cause (ie, could be natural or human induced).	6		
Boat strike	1		
Harpooned	1		
Possible maternal separation	1		
Probable septicaemia	1		
To be confirmed - incident or necropsy report pending.	2		
Total	275		

Appendix 3: Hector's dolphins near rocky coast of Banks Peninsula. Photo supplied by Dr. L Sooten



Appendix 4: Potential Biological Removal (PBR)

1. The Potential Biological Removal (PBR) level is the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (Wade 1998). The PBR is calculated by the following formula:

$$PBR = N_{MIN} \frac{1}{2} R_{MAX} F_R$$

- Where:
- i. N_{MIN} = the minimum population estimate of the stock;
 - ii. $\frac{1}{2} R_{MAX}$ = one-half the maximum theoretical or estimated net productivity rate of the stock at a small population size; and
 - iii. F_R = a recovery factor between 0.1 and 1.0

2. The term Optimum Sustainable Population means, with respect to any population stock, the number of animals that will result in the maximum productivity (Maximum Net Productivity Level – MNPL) of the species, population, subpopulation or stock in question, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent part. For marine mammals, this level is thought to be between 50% and 85% of carrying capacity (K) and is more likely to be at the lower end of that range (Taylor & DeMaster 1993).
3. The minimum population estimate of the stock (N_{MIN}) is defined as the 20th percentile of a log-normal distribution based on an estimate of the number of animals in the stock. This is equivalent to the lower limit of a 60% 2-tailed confidence interval (Barlow *et al.* 1995).
4. The default maximum theoretical productivity rate is 0.04 for cetaceans. This value is used as a default in the absence of species specific information. When data are available on the productivity rate, they should be used.
5. The recovery factor is intended to compensate for uncertainty and possible unknown estimation errors. A recovery factor of 0.1 often is the default used for endangered stocks of marine mammals. A recovery factor of 0.5 has been suggested for stocks of indeterminate status (Wade & Angliss 1997).
6. The MNPL goal of the PBR approach was developed to achieve the goals given in the US Marine Mammal Protection Act, i.e., to maintain the population above its maximum net productivity level. This level will be at 50% – 85% of carrying capacity.
7. The Recovery-Rate goal allows a population known to be at a low level relative to its pre-exploitation level to recover at a rate close to its maximum as possible. In this case, a recovery factor (F_R) of 0.15 will achieve the goal of not delaying the time to recovery by more than 10% with 95% probability.
8. Earlier studies suggested an R_{MAX} of about 1.8. The Hector's dolphin Technical Working Group meeting of 31 August 2006 suggested that an R_{MAX} of 3.4% is appropriate based on the modelling work of Davies and Gilbert (2003).

9. As applied here, values calculated by the PBR approach should be seen as indicative only and should not be taken as absolute values of maximum allowable Hector's dolphin human caused mortality.

Appendix 5: Comments from DOC on the Final Advice Paper



Department of Conservation
Te Papa Atawhai

8 August 2011

Steve Halley
Manager Inshore Fisheries
Ministry of Fisheries
PO Box 1020
Wellington

Dear Steve

2011 Hector's Dolphins Draft Final Advice Paper: Review of Amateur Set Net Restrictions within Defined Areas of the East Coast South Island

1. Thank you for the opportunity to comment on the Ministry's (MFish) draft Final Advice paper (FAP) concerning amateur set net restrictions for Hector's dolphins within defined areas of the East Coast South Island (ECSI).
2. On several occasions in the past, Department of Conservation's (DOC) interest in the review of the amateur set net restrictions has been expressed to the Ministry. So I am very disappointed that the views of DOC officials have been sought so late into the process.
3. The conservation of Hector's dolphins by DOC is a statutory requirement, set out under the Marine Mammals Protection Act 1978. DOC has developed considerable expertise on the conservation of the dolphins and has remained ever willing to make this expertise and data records available to assist the Ministry in its work. Consulting with DOC so late into the process runs the risk of relevant information being missed and makes only limited use of available government expertise. I would encourage earlier engagement with DOC officials on high-profile and priority issues such as this in future as their input can only but strengthen the process.

4. I would be grateful for early confirmation as to whether the Ministry is to recommend or state a preference for one of the three options outlined in the draft FAP.

DOC's Preferred Option - Option One

5. **DOC is strongly supportive of Option One (Do not provide for exemption – retain status quo). In DOC's view the highly threatened status of the Hector's dolphins, the potential risk from set netting to the dolphins and the high levels of information uncertainty in key areas all provide strong arguments for adopting a cautionary approach.**

DOC Concerns

6. I would like to bring to your attention some concerns that DOC has over the proposals contained within the draft FAP. In recognition of the tight timing for a response I have limited comments in this letter to the higher-level, significant concerns held by DOC. More detailed comments are contained in the attachment sent with this letter.
7. As acknowledged in the draft FAP, set netting is a known, recorded cause of mortality to Hector's dolphins. The practice is non-selective and one in which the risk of by-capture of Hector's dolphins, and potentially other protected species, can be dramatically increased by various factors (netting area, differences in netting technique and practices, weather conditions, enforceability).
8. The potential risk posed by set netting to the Hector's dolphins along the ECSI was robustly examined and consulted upon under the Hector's and Maui's Dolphins Threat Management Plan (TMP). The measures implemented thereafter resulted from this robust process and provided a planned, co-ordinated mitigation framework against a number of human-induced threats to the dolphins.
9. The Minister of Fisheries originally instructed the Ministry to investigate an exemption for amateur set netting for butterfish within the defined area. It is notable that the draft FAP examines set net regulations at a much broader scale. Whilst appreciative of the practical reasons for adopting this approach, it sets a worrying precedent. Earlier this year DOC highlighted this concern when consulted over the exemption for commercial set netting for butterfish in the defined area. It is vital that ministers are provided with early advice on the practical implications of any fishery restriction exemption. Early provision of such advice will greatly aid ministers in their decision-making.
10. DOC has previously stated concerns over these precedents as they can lead to applications for similar exemptions in other areas in which the Hector's dolphins range. As a result DOC considers it important that the threat mitigation measures implemented for Hector's dolphins continue to reflect those outlined within the TMP. Diverting from the measures outlined under the TMP should be undertaken when justified by relevant information. In this instance, DOC officials remain unaware of any new relevant information that has come to light that would warrant a review of the current amateur set net restrictions within the defined areas.
11. It is of considerable concern to DOC that consideration is being given to allowing set netting to proceed within the Clifford Cloudy Bay Marine Mammal Sanctuary. The sanctuary was established in 2008, under the TMP process, as Hector's dolphins are known to frequent the area in high numbers. It is notable from the draft FAP that no robust quantification of the risk posed to the Hector's dolphins by amateur set netting in the defined area is possible. To increase the risk to the dolphins within the sanctuary

boundaries, through amateur set netting, would appear counter-intuitive to the reasons for establishing the sanctuary and implementing the current set net restrictions, not least when no new significant information has come to light to suggest there has been a reduction in risk from set netting within the defined areas.

12. Although the draft FAP makes reference to the threat to the dolphins from cumulative impacts, it is unclear to DOC where the threshold at which this cumulative risk to the dolphins in the region becomes unacceptable. This lack of clarity is very likely to create uncertainty and an avenue through which to pursue arguments for considering other exemptions in other areas.
13. DOC recommends better highlighting that values calculated by the PBR approach should be seen as indicative only and should not be taken as absolute values of maximum allowable Hector's dolphins human caused mortality. Including an appendix to further explain the PBR approach, including assumptions and constraints, would likely benefit the Minister in his decision-making.

International and local Policies

14. DOC considers it important that the Minister is made aware that there are a number of international commitments and government policy statements that should be considered in relation to his decision-making. Internationally this will include commitments under the Convention on Biological Diversity, to which NZ is a party, including the recently agreed strategic goals (Strategic Goal C, Targets 12 and 13⁸). Domestically, the NZ Biodiversity Strategy (Theme Three⁹) and the NZ Coastal Policy Statement (Policy 6 and 11¹⁰) are relevant.
15. The Minister should also be made aware that DOC conservancies are currently in the process of reviewing their respective conservation management strategies (CMS), a statutory requirement under the Conservation Act 1987. It is very likely that Hector's dolphins, and potentially their habitats, will be highlighted in these strategies and that the need for the future management of the species will be reflected in the second generation CMS developed by some conservancies. In some instances, based on concerns for the Hector's dolphins, it may be decided that more stringent threat mitigation measures are considered warranted, and effort may be focussed on implementing such measures. Exempting set netting in the defined areas could run the risk of introducing contradictory messages on the management of the dolphins.

The Options

16. DOC agrees with the advice in the draft FAP that, based on available information, retaining the current status quo (Option One) is justified. This option recognises that amateur set netting poses an unquantifiable, but certainly increased, risk to Hector's dolphins and that this risk can be increased by several factors. The option takes a precautionary approach to managing the effect of fishing on the ECSI Hector's dolphin population, so reflecting the highly threatened status of the species.
17. Option Two causes DOC significant concern. The justification for proceeding on the basis the option (Remove amateur set net ban in the defined area) is not obvious to

⁸ <http://www.cbd.int/sp/sp2010p/aichi-targets/#GoalC>

⁹ <https://www.biodiversity.govt.nz/picture/doing/nzbs/part-three/theme-three.html>

¹⁰ <http://www.doc.govt.nz/publications/conservation/marine-and-coastal/new-zealand-coastal-policy-statement/new-zealand-coastal-policy-statement-2010/>

DOC, not least given the costs highlighted within the draft FAP. DOC also has significant concerns over Option Three (Remove ban with additional measure – fishers required to stay with their nets). Whilst the option outlines potential mitigation methods, it is obvious from the draft FAP that their contribution, or not, to reducing this (unquantified) risk to the dolphins is unknown. Moreover, DOC notes, again with concern, that the effectiveness of the mitigation proposals may be reduced or constrained through several factors, such as inclement weather or enforcement difficulties.

18. DOC can see little justification for proceeding on the basis of Option Two or Three. Given the threatened status of the Hector's dolphin and the absence of robust information on the potential risk to the dolphins from amateur set netting, enabling the activity, even with additional mitigation, would appear contrary to the principles and overall objective of the TMP.
19. Moreover, DOC believes it would be very premature to amend the current set net restrictions in the defined area before the aerial survey (mentioned in the draft FAP) is complete and has been robustly assessed and communicated. The survey may provide is highly relevant information, including dolphin distribution and geographical data.
20. I trust the points raised are useful and informative. Once again, thank you for enabling DOC to comment on this draft FAP.
21. Please do not hesitate to contact me, or Ian Angus (Senior Technical Support Officer; 04 471 3081, IAngus@doc.govt.nz), if you require further clarification on any of the points raised

Yours sincerely

Sean Cooper

Manager Marine Conservation

Aquatic and Threats Unit

Department of Conservation

Attachment:

DOC comments on MFish Draft FAP

Appendix 6: DOC incident number 338



Department of Conservation
Te Papa Atawhai

Internal Correspondence

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To: Andrew Baxter
From: Area Manager South Marlborough

Subject: Hectors Dolphin - Net Catch

22 March 2002

Location. Cape Campbell Marlborough

Date. 10th March 2002

Organisation. Recreational diving group.

Situation.

A party of seven divers and five others with two boats, one aluminium 16' and one "rubber ducky" set two gill nets for butterfish and moki. The outshore net was of nine mesh depth set in open water of 15'. The inshore net was larger but set in kelp.

Both nets were set with the intention of netting fish rather than diving for them because of cloudy water conditions. The divers of the party were then intending to go for a dive anyway.

Before the boat [2 on board] setting the nets had returned to shore they were alerted by other members of their party to the presence of Hectors Dolphins and returned to the open water net immediately and raised it. It would have been set for about 10 minutes.

A mature Hectors Dolphin was caught in the net, taken on board the boat and carefully released. It was then returned alive to the water, apparently unharmed.

Another party of people were staying in the nearby old lighthouse keepers cottages. After these people left, the diving group of people visited the house and only then saw the notices inside advising of the presence of Hectors Dolphin in the area.

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Appendix 7: International and Section 11 considerations

- 1 In making your decision you must take into account any conservation services or fisheries services, any relevant fisheries plan approved under s11A of the Act, and any decisions not to require conservation services or fisheries services.
- 2 There is no approved fisheries plan in place for inshore fisheries at this time. The National Inshore Finfish Plan has been released as a draft and will be trialled over the next year and the environment objectives in this plan are consistent with section 15 of the Act.
- 3 You must have regard to any provisions of the following that you consider to be relevant: (a) any regional policy statement, regional plan, or proposed regional plan under the Resource Management Act 1991; and (b) any management strategy or management plan under the Conservation Act 1987.
- 4 Regional policy plans and statements from the Marlborough District Council are consistent with the proposals outlined in this paper. Objectives outlined in the New Zealand Coastal Policy Statement seek to protect indigenous biological diversity in the coastal environment by avoiding adverse effects on indigenous species that are listed at risk or threatened.
- 5 You should note that one of the desired outcomes in the New Zealand Biodiversity Strategy, of which the Ministry is a party to, states that rare or threatened marine species are adequately protected from harvesting and other human threats, enabling them to recover. Objective 3.7 also states that agencies should protect and enhance populations of marine and coastal species threatened with extinction.
- 6 New Zealand is party to a number of international conventions, including the Convention on Biological Diversity. These conventions generally require measures to be taken to mitigate fishing-related mortalities of endangered species, to ensure that their conservation status is improved or sustained and that the genetic diversity of species is maintained.
- 7 The options presented in this paper are consistent with the above considerations. This however depends on whether you consider amateur set net fishing in the defined area to pose a sufficient threat to Hector's dolphins to warrant management action.

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