

7 December 2006

Minister of Fisheries

INTERIM MEASURES FOR HECTOR'S DOLPHINS: FINAL ADVICE PAPER

Purpose

1 The purpose of this document is to provide you with final advice and recommendations on proposed interim measures to mitigate the impacts of fishing on Hector's dolphins (including Maui's dolphins).

Executive Summary

2 On 19 October 2006, the Ministry of Fisheries (MFish) released an Initial Position Paper (IPP) on proposed interim measures for Hector's dolphins for consultation. A range of measures were proposed, from voluntary initiatives in some areas to mandatory closures to set nets in areas where immediate risk to dolphins was considered to be high.

3 Over 140 submissions were received. In general, environmental organisations, academics and many public submissions advocate extensive controls on fishing to minimise the risk of Hector's dolphin mortality.

4 On the whole, industry supports maintenance of *status quo* with strengthening of voluntary initiatives in areas where measures are proposed. Views of recreational fishers on the proposals were generally divided, with some expressing support for *status quo* and some supporting a requirement for fishers to remain with their nets when set. The views of community groups were also polarised, with some supporting implementation of further measures and others expressing support for *status quo*.

5 Submissions have not caused MFish to change its recommendations on the need for interim measures to mitigate the effects of fishing on Hector's dolphins, while the Hector's dolphin Threat Management Plan is under development. In general, there is a lack of information on the impacts and costs of measures proposed. You should consider this uncertainty when making your final decisions on whether interim measures are necessary to avoid, remedy or mitigate the impacts of fishing on Hector's dolphins. If you consider interim measures are necessary; you need to

determine what management measures should be used to best mitigate the risks to sustainability while providing for utilisation. The greater the degree of utilisation impact from a measure, the more certain you should be that the effects of fishing are unacceptable.

Te Waewae Bay

6 Te Waewae Bay has the smallest South Island Hector's dolphin population. The most recent published and peer reviewed population estimate for Te Waewae Bay is 89 (95% confidence interval = 36-218) individuals. Preliminary results from a more recent study indicate that the population estimate for Te Waewae Bay will likely fall between 330 and 650 animals. The findings from this latter study are yet to be peer reviewed. The discrepancy between the results from the two studies highlights uncertainty around the abundance of dolphins that use Te Waewae Bay.

7 Set net fishing is a known threat to Hector's dolphins. Both commercial and non-commercial set netting is practiced in Te Waewae Bay. Although information on the actual level of dolphin deaths attributable to commercial and amateur set netting is uncertain, the use of this method is a risk to the Te Waewae Bay population. This is supported by the fact that in 2004 there was a confirmed dolphin death resulting from set net entanglement. While the degree of this risk cannot be quantified at this time, MFish considers there is sufficient rationale for contemplating the need for interim measures to avoid, remedy or mitigate the adverse effects of fishing on this small population.

Interim measures to manage non-commercial set netting in Te Waewae Bay

8 Non-commercial set netting in the bay mainly takes place over summer and is primarily confined to a limited number of local people who fish on the weekends. There is a campground in the vicinity, which leads to increased fishing effort over the Christmas/New Year holiday season.

9 MFish considers a risk to the Te Waewae Bay Hector's dolphin population exists from non-commercial set netting. There are no mitigation measures in place for non-commercial set netters other than Government promotion of a recreational set net Code of Practice (CoP). MFish therefore considers there may be benefit in implementing measures to mitigate the impacts of non-commercial set netting.

10 Submissions did not provide any information about the impact of proposed measures on non-commercial fishers in Te Waewae Bay. Consequently, there is uncertainty around the extent to which the measures, if implemented, would affect non-commercial fishers.

11 A full range of options are open to you, from *status quo* to closing the whole of Te Waewae Bay to non-commercial set netting throughout the year. In light of current uncertainty around the population size in the bay, as well as impacts of measures on non-commercial fishers; MFish considers that a year round requirement for non-commercial fishers to stay with their net will best serve to reduce risk to dolphins and provide for non-commercial utilisation over the period while the Threat Management Plan is being developed. MFish considers that any measures implemented for non-commercial fishers in Te Waewae Bay should be on a mandatory basis because non-commercial fishers do not have the governance arrangements in place to ensure effective implementation of voluntary measures. In addition, non-commercial fishers coming into the region on holiday are unlikely to be aware of, or support, voluntary measures.

12 In summary, MFish's preferred interim measure is:

- ◆ A mandatory requirement for non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set.

13 Should you decide to proceed with this option, MFish will also actively promote the recreational set net CoP and the need for appropriate set net practice.

Interim measures to manage commercial set netting in Te Waewae Bay

14 Industry submissions suggest that at least 4-5 commercial set net fishers use Te Waewae Bay to varying extent as part of their respective fishing operations. A least one commercial fisher regularly fishes in Te Waewae Bay to catch predominantly elephantfish and rig.

15 Similarly to non-commercial set netting, MFish considers a risk to Hector's dolphins exists from commercial set netting in Te Waewae Bay. The commercial set netters operate under a voluntary CoP, and there are governance arrangements in place that increase the likelihood that voluntary measures will be effective. MFish does not know the extent to which commercial fishers abide by the measures set out in the CoP.

16 Submissions indicate that full or partial closures within Te Waewae Bay would have a significant impact on the individual fishers and the Riverton community. In addition, industry noted that commercial fishers would find it difficult to stay with their nets because they usually set more than one net at a time, and having to set only one net and stay by it all of the time would result in significant economic impacts for fishers.

17 In light of current uncertainty around the population size in the bay and the potential economic impacts of all proposed measures on commercial set netters, MFish considers that there is merit in working with industry to strengthen the current voluntary arrangements, including monitoring and reporting frameworks, over the upcoming summer and while the Threat Management Plan is being developed. This will provide for commercial utilisation and will also increase certainty that the threat of commercial set netting is being mitigated over the interim period.

18 However, MFish notes that should you wish to place more emphasis on sustainability rather than utilisation opportunities; then the range of options presented in the IPP (from requiring fishers to stay with their nets through to a full closure of Te Waewae Bay to commercial set netting throughout the year) are open to you, and your choice of these will again depend on what you consider is the appropriate weighting to give available information on risk to both sustainability and utilisation. MFish will investigate application of additional measures as part of developing the Threat Management Plan, having regard to industry response to discussion of voluntary initiatives.

19 In summary, MFish's preferred interim measure is:

- ◆ *Status quo* – MFish will work with industry to strengthen the current voluntary arrangements

20 MFish will also discuss with industry the possibility for including measures in the CoP to mitigate potential dolphin bycatch by trawlers.

East coast South Island

21 The east coast South Island Hector's dolphin population has an estimated size of about 1790 (CV = 0.14¹) individuals. A number of management measures are already in place to mitigate the adverse effects of fishing on this population.

22 Recent levels of mortality have highlighted the possible need for further measures to mitigate the impacts of fishing on this population. Over the past three years, 10 of the 24 known dolphin deaths have been definitely attributed to fishing-related mortality on the east coast South Island. Most of these mortalities occurred over the past year, when there were 3 deaths consistent with set net entanglement and 3 deaths from one trawl incident. This past year's known mortality exceeds the indicative limit of 4 dolphin deaths per year for this population.

Interim measures to manage non-commercial and commercial set netting on the east coast South Island

23 The three set net entanglements over the past year were the result of interaction with commercial fishing nets in the vicinity of the East Otago Taiāpure. In August this year you agreed to consult on a proposal that fishers (commercial and recreational) be required to remain within 50m of their nets when fishing within the Taiāpure. Final advice on this proposal is included in this document. This advice is that you agree to approve this measure.

24 There have been two confirmed entanglements north of the Canterbury amateur set net closed area since the restriction was implemented in 2002. It is unknown whether these were the result of commercial or non-commercial set netting. Because the Kaikoura area is known to be popular for amateur set netting and summer is when this activity is at its peak, MFish considers there is merit in affording greater protection to Hector's dolphins north of the current seasonal closure.

25 The full range of options consulted on in the IPP is open to you, from *status quo* to prohibiting non-commercial set netting from the Waiau River to the Clarence River outlet and out to 4 nm from 1 October to 31 March. Acknowledging the efforts made by non-commercial fishers in the area to develop and implement a CoP, and current measures in place on the east coast South Island; MFish considers that an outright seasonal ban may not be necessary for the Kaikoura area as an urgent measure. MFish considers that introducing a mandatory requirement for fishers to stay with their nets would provide for non-commercial use and would reduce risk to Hector's dolphins over the summer months, while the Threat Management Plan is under development.

26 Similarly to Te Waewae Bay, MFish considers that any measures you consider necessary to avoid, remedy or mitigate the adverse effects of non-commercial fishing on Hector's dolphins be implemented on a mandatory basis.

27 In summary, MFish's preferred interim measure is:

- ◆ A mandatory requirement for non-commercial fishers setting a net to remain in attendance with the net while the net is set, when fishing between the Waiau River and the Clarence River and out to 4 nm from 1 October to 31 March.

¹ The CV is a measure of variation around the population estimate. The abundance estimate for the east coast South Island population combined with the Te Waewae Bay estimate of 89 individuals, is 1880 (CV = 0.16, 95% CI = 1384 – 2554).

28 In addition, MFish will actively promote the recreational set net CoP and the need for appropriate set net practice.

29 MFish will also discuss the industry's set net CoP with relevant commercial stakeholder organisations to encourage them to raise their fisher's awareness of the code to ensure they comply with its various components, as well as the possibility for including further measures to mitigate dolphin bycatch by trawlers². MFish will also work with industry to ensure effective monitoring and reporting frameworks are in place.

Maui's dolphin

30 Maui's dolphin has a small estimated population size of 111 animals (CV = 0.44; 95% CI = 48 - 252). The main threat to Maui's dolphins has been mitigated through commercial and amateur set net area closure on the west coast North Island. Other potential threats to Maui's dolphins have been identified that MFish considers may require mitigation. The extent to which these threats represent a risk to Maui's dolphins is uncertain and MFish therefore proposes to hold discussions with the relevant stakeholders to determine whether measures are required and, if so, what kind of measures would most effectively mitigate threats until the Threat Management Plan is completed.

West coast South Island

31 The largest population of Hector's dolphins is present off the South Island's west coast, with an estimated population size of around 5390 individuals (CV = 0.21; 95% CI = 3613 - 8034).

32 MFish does not see a need to urgently progress management measures for the west coast South Island at this time. This position is based on the size of the west coast Hector's dolphin population and the extent of known mortalities caused by fishing interactions.

33 Although MFish considers urgent measures are unnecessary on the west coast South Island, MFish recommends that a number of actions are undertaken to reduce the risk of fishing interactions with Hector's dolphins over the upcoming summer, such as increasing awareness of both the industry and recreational set net CoPs. Longer-term measures to address fishing related threats will be examined as part of the Threat Management Plan.

Document structure

34 This paper is structured as follows:

- ◆ Introduction – outlining background information relevant to your decisions on interim measures for Hector's dolphins, including legislative obligations
- ◆ Matters you should take into account when making your final decisions
- ◆ Final advice on IPP proposals, by population:
 - Te Waewae Bay (south coast South Island)
 - East coast South Island
 - West coast North Island (Maui's dolphins)
 - West coast South Island

² As part of its submission, Challenger Finfisheries Management Company Limited has stated that it will develop a CoP for trawling in respect of marine mammal capture for FMAs 7 and 8.

- ◆ Proposed process for implementation of any interim measures
- ◆ Appendices, including summary of submissions and national issues

Introduction

35 On 19 October 2006, MFish released an IPP on proposed interim measures for Hector's dolphins. The IPP was released to consult with stakeholders on your behalf, as required by section 12(1) of the Fisheries Act 1996 (the Act). The IPP contains background information relevant to your decision and is provided in Appendix 1.

36 The following measures were proposed in the IPP:

Population	Proposed interim measure	Proposed interim implementation framework
Te Waewae Bay (south coast South Island)	<p>Either: Commercial fishers setting a net within Te Waewae Bay³ must remain in attendance with the net while the net is set throughout the year</p> <p>Or: Commercial set netting is prohibited within 1 nautical mile (nm) of the shore of Te Waewae Bay throughout the year; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Commercial set netting is prohibited within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Commercial set netting is prohibited within Te Waewae Bay throughout the year.</p>	Mandatory or voluntary
	<p>Either: Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set throughout the year</p> <p>Or: Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay throughout the year; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Recreational set netting is prohibited within 1 nm of</p>	Mandatory

³ Te Waewae Bay is defined as shorewards to the mean high water mark (excluding rivers, estuaries and lagoons) from a straight line between the southern most point of Sand Hill Point and the western most point of Pahia Point (see Figure 2 in IPP).

	<p>the shore of Te Waewae Bay from 1 October to 31 March; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Recreational set netting is prohibited within Te Waewae Bay throughout the year</p>	
	<p>MFish will discuss the industry's set net Code of Practice (CoP) with South East Finfish Management Ltd. to encourage them to raise fisher's awareness of the CoP to ensure they comply with it, as well as discuss the possibility for including measures to mitigate potential dolphin bycatch by trawlers</p>	Voluntary
East coast South Island	<p>Either: Extend the boundary of the Canterbury recreational set net seasonal (1 October to 31 March) closure northwards to prohibit recreational set netting from the Waiau River to the Clarence River outlet (FMA3/FMA4 boundary, 42°10.0'S and 173°56.0'E) and out to 4 nm</p> <p>Or: Recreational fishers setting a net must remain in attendance with the net while the net is set, when fishing between the Waiau River and the Clarence River and out to 4 nm from 1 October to 31 March</p>	Mandatory
	<p>MFish will discuss the industry's set net CoP with South East Finfish Management Limited and Challenger Finfisheries Management Company Limited to encourage them to raise fisher's awareness of the CoP to ensure they comply with its various components, as well as discuss the possibility for including further measures to mitigate dolphin bycatch by trawlers</p>	Voluntary
Maui's dolphin (west coast North Island)	<p>MFish will initiate discussions with Port Waikato drift net and set net fishers to determine whether set net and drift net fishing represents a threat to dolphins in that area and, if so, whether measures such as voluntary limits, regulated closures or a combination of these should be applied to eliminate any threats, with an aim to have measures in place as soon as practicable</p>	Voluntary or mandatory
	<p>MFish will initiate discussions with commercial and recreational Taranaki set netters to assess the extent to which their fishing might represent a threat to dolphins and, if so, what measures can be applied to eliminate any threats</p>	Voluntary
	<p>MFish will discuss possible trawl mitigation measures with operators to avoid trawling close inshore, especially in winter when dolphins are within the trawl area</p>	Voluntary
West coast South Island	<p>MFish will discuss the industry's set net CoP with Challenger Finfisheries Management Company Limited to encourage them to raise their fisher's</p>	Voluntary

	awareness of the code to ensure they comply with its various components	
Relevant to all populations	Monitoring and enforcement of existing mandatory measures in place	Ongoing
	MFish will actively promote the recreational set net CoP and the need for appropriate set net practice. For example, through targeted newspaper articles and public notices, as well as developing a poster for placement in clubs, fishing shops, etc. Increase awareness through routine presence of Fishery Officers and Honorary Fishery Officers in key recreational areas over summer months.	Voluntary

37 Stakeholder consultation on these proposals ended on 23 November. This document sets out stakeholder views on the proposals, and final advice to you on interim measures for Hector’s dolphins.

Legislative Obligations

38 As the Minister of Fisheries, you have obligations under the Act to manage the impacts of fishing on protected species such as Hector’s dolphins.

39 The purpose (section 8) of the Act is to provide for the utilisation of fisheries resources while ensuring sustainability. ‘Ensuring sustainability’ is defined in the Act as “maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations” and “avoiding, remedying or mitigating any adverse effect of fishing on the aquatic environment”. ‘Utilisation’ means “conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural wellbeing”.

40 Section 9 of the Act contains three environmental principles that you must take into account when considering the effects of fishing on Hector’s dolphins. These principles are:

- ◆ Associated or dependent species should be maintained above a level that ensures their long-term viability;
- ◆ Biological diversity of the aquatic environment should be maintained.
- ◆ Habitat of particular significance for fisheries management should be protected.

41 Biological diversity is defined in the Act as meaning the variability among living organisms, including diversity within species. As mentioned above, four genetically distinct Hector’s dolphin populations have been identified that are connected by little or no gene flow. In particular, in relation to any decision to avoid, remedy or mitigate the effects of fishing on Hector’s dolphins, MFish considers you should take account of maintaining:

- ◆ The Hector’s dolphin species above a level that ensures long-term viability; and
- ◆ The genetic diversity within the species, including the viability of the four populations, in the aquatic environment.

42 Under section 10 of the Act, decision makers are required to take into account four information principles. You should take into account the best available information; consider any uncertainty in the information available; be cautious when information is uncertain, unreliable, or

inadequate; and not use the absence of, or uncertainty in, any information as a reason for postponing or failing to take any measure to achieve the purpose of the Act.

43 Mandatory interim measures can be introduced by way of Regulation under section 15 of the Act or by Gazette notice under section 11 of the Act (as outlined in more detail below). The prohibition or restriction on the use of a fishing method within a particular area and fishing season falls within the scope of both sections. Section 11 provides an appropriate means of implementing management measures by Gazette notice (if necessary) to maintain biological diversity and to avoid, remedy, or mitigate the adverse effects of fishing on the aquatic environment.

44 The management of fishing-related mortality of marine mammals is guided by a number of legislative provisions. In particular, you are required to consider section 15 of the Act.

45 Section 15 is closely linked to the Marine Mammals Protection Act 1978, which provides for the establishment of population management plans (PMPs) for protected species.

46 There is no PMP in place for Hector's dolphin. In the absence of a PMP, Section 15(2)⁴ applies.

47 Section 15(2) allows you, in the absence of a PMP and after consultation with the Minister of Conservation, to take measures that you consider to be necessary to avoid, remedy, or mitigate the effect of fishing-related mortality on any protected species. Such measures may include, but are not limited to, setting a limit on fishing-related mortality.

48 The Court of Appeal has commented that in considering whether to take any measure under section 15(2), the Minister is required to form a view as to the extent which (or perhaps the point at which) utilisation of the fish resource threatens the sustainability of the protected species. (*Squid Fishery Management Company v Minister of Fisheries* (Unreported, Court of Appeal, 13 July 2004) Hammond, William Young, O'Regan JJ). The Court's comments relate to the setting of an FRML under section 15(2), but are relevant to other section 15(2) measures.

49 Section 15(4) allows you to recommend the making of such regulations under s 298 of the Act as are considered necessary or expedient for the purpose of implementing any measures referred to in s 15(2). Where a limit on fishing-related mortality has been set, you are also able to prohibit all or any fishing or fishing methods in an area by Gazette notice under s 15(5)(b) to ensure this limit is not exceeded.

50 Section 11 provides for you to set sustainability measures, including measures relating to areas and fishing methods, by notice in the Gazette. Such sustainability measures may only be imposed after having taken into account the various statutory considerations set out in section 11. These considerations are set out and discussed in Appendix 1 of the IPP. MFish believes the proposals raise no concerns in relation to New Zealand's international obligations and the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (section 5).

51 MFish also acknowledges the consultation requirements set out in section 12 of the Act, before any sustainability measure can be set or varied. The 5 week consultation period for this IPP is shorter than MFish would usually allow. However, MFish considers that 5 weeks consultation

⁴ Section 15(2) of the Act states that "In the absence of a population management plan, the Minister [of Fisheries] may, after consultation with the Minister of Conservation, 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."

was necessary given the potential need in certain areas for measures to prevent further fishing-related deaths of Hector's dolphins over the upcoming summer.

Decision-making process

52 When making your final decisions, the matters you should take into account are:

- ◆ Your statutory obligations, as outlined above
- ◆ The information presented in the IPP and its Appendices
- ◆ Submissions from stakeholders on the IPP
- ◆ Views of the Minister of Conservation on the IPP (you have not received any views from the Minister of Conservation. However, the Department of Conservation (DOC) position on the proposals has been received and is set out in Appendix 2)
- ◆ Other issues raised in the Final Advice Paper (FAP)

53 As the Minister of Fisheries, you have an obligation under the Act to avoid, remedy or mitigate any adverse effects of fishing on the aquatic environment. In making a decision on the need for interim measures for Hector's dolphins, you need to determine the following:

- At what point you consider the impact on the population becomes unacceptable;
- Whether you consider past, present, or future effects on the population from fishing have been, or will be, unacceptable; and
- Whether you consider the degree of past, present, or future effect on the population is sufficient to warrant immediate action, or whether action can be deferred until the Threat Management Plan is complete.

54 In determining whether an impact is unacceptable you can take into account the following factors:

- Biological information on the species and/or the ecosystem; and
- Societal values associated with the species being impacted

55 To determine whether immediate action is necessary you can take into account:

- Information on population size;
- Information on the impact of fishing historically, currently and in the future (from now until the Threat Management Plan is implemented); and
- The cost of measures to fishers

56 If you consider the degree of past, present or future effect on the population is sufficient to warrant immediate action, you need to determine what management measures should be used to best mitigate the risks to sustainability while providing for utilisation.

Submissions received

57 Refer to Appendix 2 for a list of the submissions received on the IPP. DOC has provided MFish with its position on the proposed interim measures and this is also outlined in Appendix 2.

National issues

58 A number of issues were raised in submissions that are not directly relevant to your decisions on proposals contained in the IPP, but are relevant to the broader context of managing fishing interactions with Hector's dolphins (including issues relevant to development of the Threat Management Plan). These issues are set out and discussed in Appendix 3.

Te Waewae Bay (south coast South Island)

Management Issue Identified

59 Te Waewae Bay is the main habitat of the south coast South Island Hector's dolphin population. This population is the smallest of the three South Island Hector's dolphin populations. Dolphin concentrations appear to be greatest within 1 km of the coast, along the extent of Te Waewae Bay.

60 There are two sources of information on the size of the Te Waewae Bay population. The first source is a peer-reviewed study conducted in 1998-99 that estimates population size to be about 89⁵ individuals (CV = 0.32; 95% confidence interval = 36-218). Based on this estimate, initial PBR analysis⁶ suggests the annual mortality of dolphins within the bay caused by human activities should not exceed zero. The second source is a more recent study conducted in 2004 and 2005 that suggests a larger population size of about 330 to 650 individuals. While, the findings from the second study have yet to be peer reviewed, preliminary results suggest the number of dolphins that use Te Waewae Bay may substantially larger than the 1998-99 estimate.

61 Both commercial and non-commercial fishers set nets within Te Waewae Bay. Most non-commercial set netting occurs during the summer months and generally occurs within 500 m of shore to target mainly various reef species and small sharks. Non-commercial set nets are also set by visitors to the bay, particularly over the Christmas/New Year holiday. At least one commercial set net fisher regularly fishes within Te Waewae Bay to target elephantfish and shark species.

62 It is generally recognised that set netting is the fishing method that poses the most risk to Hector's dolphins. Although information on the actual level of dolphin deaths attributable to commercial and non-commercial set netting is uncertain, the use of this method poses a risk to the Te Waewae Bay Hector' dolphin population. While the degree of this risk cannot be quantified at this time, MFish considers management action may be required to mitigate the adverse effects of set netting on this small population.

Summary of Options

63 The IPP presented the following management options:

Commercial set netting	Option 1:	Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set throughout the year; or
	Option 2:	Commercial set netting is prohibited within 1 nm of the shore of Te Waewae Bay throughout the year; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the

⁵ This population estimate does not include the group of dolphins resident in Porpoise Bay. As shown in Figure 1 of the IPP, Hector's dolphins also utilise the south coast of the South Island to the east of Te Waewae Bay. Further work will be undertaken to identify whether the Porpoise Bay dolphins should be linked with the Te Waewae Bay population or the east coast South Island population.

⁶ PBR analysis using the recovery-rate goal estimates the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while ensuring the time to recovery is not delayed by more than 10% with a 95% probability. All references to PBR in the main text of this document relate to analysis based on the recovery rate goal, and numbers of dolphins have been rounded down to the nearest integer. See Appendix 5 in the IPP for a further description of the PBR analysis for Hector's dolphins

		net is set (throughout the year); or
	Option 3:	Commercial set netting is prohibited within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year);or
	Option 4:	Commercial set netting is prohibited within Te Waewae Bay throughout the year.
Non-commercial set netting	Option 1:	Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set throughout the year; or
	Option 2:	Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay throughout the year; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year); or
	Option 3:	Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year); or
	Option 4:	Recreational set netting is prohibited within Te Waewae Bay throughout the year

Assessment of Management Options

Introduction

64 With regard to managing the impacts of fishing on Hector's dolphins in Te Waewae Bay, factors relevant to your decision-making are:

- Population size;
- Impacts of fishing; and
- Costs of measures to fishers.

Population size

65 Population size is a relevant factor when considering risk to the population from fishing and the need for immediate action. The smaller the population, the greater the sustainability risk from adverse impacts, including fishing.

66 As noted in the IPP, a boat based survey carried out in 1998-99 estimated the population size to be 89 dolphins (CV = 0.32; 95% confidence interval = 36-218). A more comprehensive survey was carried out by DOC during 2004-05. The findings of this survey have yet to be peer reviewed but suggest the number of dolphins may considerably exceed the previous estimate of 89

individuals. Based on preliminary analysis, DOC believes that the population estimate will likely fall between 330 and 650 animals.

67 The discrepancy between the results of the two studies highlights uncertainty around the abundance of dolphins that use Te Waewae Bay.

68 DOC notes that the new population estimates for Te Waewae Bay are not conclusive and that the lower confidence level (330) should be used when considering any proposed measures. MFish notes that even if the population estimate is confirmed to be at the upper end of the range suggested by DOC (i.e. 650), then a revised PBR analysis would likely indicate that fewer than two dolphins can be removed from the population each year. This indicates that the level of mortality that can occur for this population, while still allowing it to increase in size, probably remains low.

69 There is no information to indicate whether the current state of the Te Waewae Bay population is declining, stable or increasing. SeaFIC have suggested that the data indicating that more dolphins are present in Te Waewae Bay than indicated by the 1998-99 data is reason to defer any mandatory measures in the area pending development of the Threat Management Plan. On the other hand, XX notes that the previous population estimate cannot be compared to the recent DOC estimate because the methods used measure different things – the previous estimate quantified the number of dolphins present in the study area on the day(s) of the survey, whereas the DOC method used quantifies the number of dolphins that use the area over an extended period (i.e. the estimate may include dolphins that only occasionally use Te Waewae Bay).

70 MFish notes that best available information continues to suggest that the Te Waewae population is the smallest of the South Island Hector's dolphin populations. In addition, the general status of the South Island Hector's dolphin subspecies is such that it is considered nationally vulnerable by DOC and endangered by the World Conservation Union (IUCN). Hector's dolphins are threatened by even low levels of mortality due to slow reproduction rates resulting in low potential for population growth.

71 Combined with the biological characteristics of the dolphins, the size of the dolphin population means that there is a risk to the population from adverse impacts, including fishing.

Commercial set netting

72 A number of the factors discussed are relevant to your consideration of the need for measures to mitigate the impacts of fishing on Te Waewae Bay Hector's dolphins at this time. These are namely; biology of the dolphins, population size, social values, risks associated with non-commercial fishing, and cost of any measures employed.

Impacts of commercial set netting

73 Commercial set netting activity in Te Waewae Bay overlaps with Hector's dolphin distribution. The nature of the reporting framework means that it is difficult to estimate the exact level of commercial fishing that occurs in Te Waewae Bay. Catch data cannot readily be interrogated below the level of statistical area within each Quota Management Area. MFish noted in the IPP that at least one commercial set net fisher was known to regularly fish within Te Waewae Bay to catch predominately elephantfish and some shark species. Submissions now suggest that at least 4-5 set net fishers actively use the bay to varying extent as part of their respective fishing operations. This information would indicate that the level of commercial activity is higher than MFish outlined in the IPP.

74 The level of commercial effort still seems relatively low, based on information that suggests one commercial fisher may operate in the area full time, with a number of other fishers operating in the area at some point during the fishing year.

75 DOC records suggest that one dolphin died as a result of getting entangled in a set net within the last three years. Anecdotal information suggests that several other dolphins may also have been killed and not reported. However, there is no formal evidence to support these claims. The actual number of dolphin deaths caused by commercial set netting in Te Waewae Bay cannot be ascertained with any certainty because the level of fisher self-reporting is unknown.

76 Relevant to consideration of risk posed by commercial fishing in the area is application of existing mitigation measures. South East Finfish Management Limited (South East FinFish) has developed a CoP that applies to set net fishers in the southern and eastern parts of the South Island. In some areas, particularly around Banks Peninsula the governance arrangements for commercial fishers appear strong and, accordingly, application and the benefits of the CoP are considered good. In the Te Waewae Bay area, use and application of the CoP is unknown, although South East FinFish notes that commercial set net fishers in the bay use pingers. A submission from the fisher who fishes most in the area makes reference to the code and suggests that it could be improved.

77 Set net fishing is a known threat to Hector's dolphins. Commercial set netting is practiced in Te Waewae Bay. Although information on the actual level of dolphin deaths attributable to commercial set netting is uncertain, the use of this method is a risk to the Te Waewae Bay population. This is supported by the fact that in 2004 there was a confirmed dolphin death resulting from set net entanglement. While the degree of this risk cannot be quantified at this time, MFish considers there is sufficient rationale for contemplating the need for interim measures to avoid, remedy or mitigate the adverse effects of commercial set netting on this small population.

Measures proposed

78 Under Option 1, fishers must stay with their net at all times when set within Te Waewae Bay. The benefits of this option would be:

- ◆ This requirement would enable a fisher to immediately remove their net from the water if a dolphin is sighted within the vicinity of the fishing area, thereby preventing entanglement;
- ◆ Reduced soak times of individual nets within the water;
- ◆ Decrease the number of nets deployed; and
- ◆ Reduce the amount of overnight setting

79 These outcomes will reduce the likelihood of dolphin entanglements with set nets.

80 Under Options 2 and 3, all commercial set nets would be prohibited within 1 nm of the shore, as well as the requirement for fishers to remain within nets when fishing within the remaining areas of Te Waewae Bay. One option would impose an all-year round prohibition, while the other is effective over the summer months. Closing this area would provide a buffer zone to the east and west of where the dolphins appear to be most concentrated (refer IPP). Some set netting could still continue in the winter months under Option 3, thereby providing for greater use than a year round restriction under Option 2.

81 Under Option 4, commercial set netting would be prohibited within the extent of Te

Waewae Bay throughout the year. This option would most effectively mitigate the threat of commercial set netting and consequently provides the greatest level of certainty that no incidental mortality of Hector's dolphins from commercial set netting will occur in Te Waewae Bay.

82 Several submissions were received on the IPP proposals. Some submissions support a complete annual prohibition on commercial set netting throughout the bay (Option 4).

83 DOC supports a prohibition on commercial set netting within 1 nm of the shore of Te Waewae Bay throughout the year and a mandatory requirement for commercial set netters to remain in attendance with their net while it is set throughout the year (Option 2).

84 Industry submissions generally accept the need to manage the risk of dolphin entanglement with commercial set nets, but highlight that any interim risk is being managed under existing voluntary measures. For example, industry notes that the low level of commercial set net activity within the bay, together with their code of practice mitigates the need for urgent steps in advance of the development of the Threat Management Plan. Industry highlight that retaining the current approach remains appropriate, given the uncertainty around the extent of the size of Te Waewae Hector's dolphin population.

Cost/Impact of measures

85 Linked to poor information on the level of commercial effort in the area, information is also poor on likely cost and impact of measures proposed on users of the resource. As noted in the IPP, because set net effort is reported by statistical area, it is difficult to use catch effort and landing data to assess the value of the set net fishery within Te Waewae Bay, which makes up part of statistical area 30. Noting the limitations of the data, MFish has calculated the average estimated catch by set netting for the top 6 species caught in statistical area 30 over 5 complete fishing years, from 1 October 1999 to 30 September 2005⁷ (see IPP Appendix 6). Average estimated catch for these 6 species is 280,430 kg, with an estimated value of \$481,584 (based on estimated catch by port price). While this information does not provide the level of detail necessary to estimate the value of the Te Waewae Bay commercial set net fishery or the impact of the proposals on affected commercial set netters, it does provide some context for considering the economic implications of any measures proposed.

86 Submissions state fishers that use Te Waewae Bay are based within the Riverton area and the closure of Te Waewae Bay to commercial set netting would have a significant economic impact on individual fishers and the small Riverton community. One submission notes that 40 tonnes of rig (SPO 3) and elephantfish (ELE 5) is caught annually in Te Waewae Bay, and that 80% of this catch is taken within 1 nm of the shore. Although it is unclear from the submission what proportion of catch is SPO 3 and ELE 5, MFish notes that the port price value of 40 tonnes of SPO 3 is \$107,600 and 40 tonnes of ELE 5 is \$52,400, and therefore the port price received by this fisher for his Te Waewae Bay set net catch will fall within this range.

87 Te Waewae Bay is apparently a spawning area for rig. If the bay was fully or partially closed, fishers may not be able to fish in alternate areas and obtain the same catch rates as they

⁷ Complete data for the 2005/06 fishing year is not yet available, as there may still be some outstanding forms yet to be returned. This analysis is based on reporting from the catch/effort (estimated greenweight catch) section of the Ministry of Fisheries Commercial Catch Effort and Landing Returns forms, rather than landings data. This is because landings are reported on a trip basis, and therefore the data could include landings from statistical area 30 using set nets as well as landings from different statistical areas or landings taken using a different gear type (and hence may be misrepresentative of the amount of fish taken by set netting in statistical area 30).

would during spawning season in the bay (summer months).

88 South East Finfish also submit that commercial set net fishers would find it hard to stay with their nets because they usually fish more than one net at a time (around three). South East Finfish notes that having to set only one net and stay close by it all of the time would result in significant economic impacts for fishers as it reduces their ability to locate good catches of fish.

89 MFish acknowledges concerns raised in submissions that it may be impractical for affected fishers to remain with nets as they use multiple nets at any one time, as well as using different fishing methods. MFish accepts the requirement to stay with any one single net would have economic implications, although the extent of these impacts cannot be quantified with available information.

90 In general, MFish consider that neither submissions nor subsequent analysis by MFish provide detailed economic information on potentially affected fishers to enable MFish to assess the impact of a full or partial closure of the bay to commercial set netting, or a requirement for fishers to stay with their net. Nevertheless, based on the information provided in submissions, any set net closure (year round or seasonal; all or part of Te Waewae Bay) is likely to have a significant short-term impact on at least one commercial set netter. These impacts may have potential downstream effects within the Riverton community.

91 You should consider the uncertainty in information on costs and impacts of measures when determining the weight you give this information in your decision. The weight that you give this information will depend on the balance you consider exists between risk of impact on the population of dolphins (having regard to information on biology, social values and information on past, present future likely effects of fishing) and utilisation, given best available information.

Summary Analysis

92 Based on available information, the degree of interaction between the fishers and dolphins appears to be low. There are few official reports of dolphin mortalities associated with fishing, although it is an isolated part of the country and therefore there is uncertainty over the accuracy of records. Nonetheless, there is a real risk to dolphins where set net activity and dolphin habitat overlap. As a general strategy within the Threat Management Plan, you could look to reduce risks associated with fishing to dolphin populations in areas of high abundance like Te Waewae Bay. This strategy will be explored more fully as part of development of the Threat Management Plan during 2007 and it may be presumptuous to implement such a strategy at this stage, when there may not be an urgent need for management action.

93 Having regard to risks to Hector's dolphins and impacts of implementation of measures to mitigate risks, *status quo* is a valid option for you to consider. In light of current uncertainty around the population size in the bay, the absence of any dolphin mortalities directly attributable to commercial set netting in recent years, and the potential economic impacts of all proposed measures on commercial set netters, MFish considers that there is merit in working with industry to strengthen the current voluntary arrangements, including monitoring and reporting frameworks, over the upcoming summer and while the Threat Management Plan is being developed. This will provide for commercial utilisation and will also increase certainty that the threat of commercial set netting is being mitigated over the interim period.

94 However, MFish notes that should you wish to place more emphasis on sustainability at greater risk to utilisation opportunities; then the range of options presented in the IPP (from

requiring fishers to stay with their nets through to a full closure of Te Waewae Bay to commercial set netting throughout the year) are open to you, and your choice of these will again depend on what you consider is the appropriate weighting to give available information on risk to both sustainability and utilisation.

95 In summary, MFish's preferred interim measure is:

- ◆ *Status quo* – MFish will work with industry to strengthen the current voluntary arrangements

96 MFish will also discuss with industry the possibility for including measures in the CoP to mitigate potential dolphin bycatch by trawlers.

97 If you proceed with the *status quo*, MFish will contact South East Finfish to ensure that relevant fishers fully comply with industry's set net CoP over the coming summer. MFish wishes to signal to industry that the use of more extensive measures such as set net area closures or staying with nets, and their associated impacts, will be more fully explored during the on-going development of the Threat Management Plan.

Non-commercial set netting

98 A number of the factors discussed in the section on commercial measures are also of relevance to your consideration of the need for non-commercial measures to be implemented at this time. Namely; biology of the dolphins, population size, social values, risks associated with non-commercial fishing, and cost of any measures employed.

Impacts of non-commercial set netting

99 Non-commercial set netting activity in Te Waewae Bay overlaps with Hector's dolphin distribution. The IPP noted that the use of recreational set nets was confined to within 500m of the shore and takes place mainly in the summer. Local fishers are the main set net users, although there is a campground in the area and consequently there is an increase in set net usage during the holiday season.

100 The level of non-commercial effort seems relatively low, although information is uncertain. Submissions have provided no information on extent of non-commercial fishing effort in Te Waewae Bay.

101 There is uncertainty around the actual number of dolphin deaths caused by non-commercial set netting in Te Waewae Bay because the level of fisher self-reporting is unknown. General information on mortality caused by set nets in the area is outlined in the commercial fishing section.

102 Relevant to consideration of risk posed by non-commercial fishing in the area is application of existing mitigation measures. MFish produces a CoP for non-commercial set netters which, when applied, would reduce the likelihood of interaction with dolphins. Details of the CoP are contained in the IPP. MFish is uncertain whether the CoP is followed by fishers in this area.

103 The key difference between the recreational and commercial sector is the difficulty for the recreational sector to manage voluntary arrangements, i.e., in the absence of governance structures for recreational fishers, they lack the ability to robustly implement voluntary measures. In situations where the impact from fishing results in high risk of adverse effect to protected species (such as Hector's dolphins), mandatory measures are preferred.

104 Other than the MFish CoP, there are no measures in place to manage non-commercial set net fishing in Te Waewae Bay and MFish considers there is a risk that non-commercial set nets will result in dolphin mortality. However, given poor information on the amount of non-commercial set net fishing in the area, the actual level of risk from this activity is unknown.

Measures proposed

105 Under Option 1, fishers must stay with their net at all times when set within Te Waewae Bay. The benefits of this option would be:

- ◆ This requirement would enable a fisher to immediately remove their net from the water if a dolphin is sighted within the vicinity of the fishing area, thereby preventing entanglement;
- ◆ Reduced soak times of individual nets within the water;
- ◆ Decrease the number of nets deployed; and
- ◆ Reduce the amount of overnight setting

106 These outcomes will reduce the likelihood of dolphin entanglements with set nets.

107 Under Options 2 and 3, all non-commercial set nets would be prohibited within 1 nm of the shore, as well as the requirement for fishers to remain within nets when fishing within the remaining areas of Te Waewae Bay. One option would impose an all-year round prohibition, while the other is effective over the summer months.

108 Some set netting could still continue in the winter months under Option 3 for species such as flounder within the lagoon of the Waiau River (that flows into Te Waewae Bay). It is likely that some fishing will still continue but be restricted to fishers that have a suitable boat capable of travelling to fishing area further offshore. Under both options, affected fishers could continue to use alternative methods such as handlining and drag netting to catch fish.

109 Under Option 4, non-commercial set netting would be prohibited within the extent of Te Waewae Bay throughout the year, thereby preventing non-commercial set netters moving further offshore to set their nets and providing the greatest level of certainty that no incidental mortality of Hector's dolphins from non-commercial set netting will occur in Te Waewae Bay.

110 Few submissions were received on the proposals to restrict or prohibit recreational set netting in all or part of Te Waewae Bay.

111 Of the submissions received, most support a full prohibition on non-commercial set netting within the bay to remove any likelihood of dolphins within the bay becoming entangled with a set net (Option 4). The submissions believed the current voluntary CoP for non-commercial set netting does not provide sufficient protection to the dolphin population, as fishers are generally not aware of the code or do not deploy nets in accordance with the code's recommended set netting practices. One submission supported the proposal for fishers to remain with their set net (Option 1).

112 DOC supports a prohibition on non-commercial set netting within 1 nm of the shore of Te Waewae Bay throughout the year and a mandatory requirement for non-commercial set netters to remain in attendance with their net while it is set throughout the year (Option 2).

Cost/Impact of measures

113 MFish has no information on the likely impact of measures proposed for non-commercial fishers. Submissions did not outline any cost issues with the proposal. However, we note that we did not receive any submissions from recreational fishers in the immediate area of Te Waewae Bay.

114 As noted in the IPP, the proposed closed area out to 1 nm would probably stop all recreational set netting in Te Waewae Bay, as all set net activity occurs close to shore. Consequently, both a full or partial set net closure in Te Waewae Bay would effectively prevent recreational set netting in the local vicinity. There are few alternative sites suitable for recreational set netting outside Te Waewae Bay because of the rough and exposed conditions on the open coastline.

115 The requirement to stay with nets will invariably lead to reduced soak times of individual nets within the water. In addition, it would likely decrease the number of fishers deploying nets given the need to remain with their nets.

Summary Analysis

116 Given the lack of voluntary options for recreational fishers, MFish contends there is a need to provide greater interim protection to the Te Waewae Bay Hector's dolphin population from non-commercial set nets over the coming summer months.

117 A full range of options are open to you, from *status quo* to closing the whole of Te Waewae Bay to non-commercial set netting throughout the year. In light of current uncertainty around the population size in the bay, as well as impacts of measures on non-commercial fishers; MFish considers that a year round requirement for non-commercial fishers to stay with their net will best serve to reduce risk to dolphins and provide for non-commercial utilisation over the period while the Threat Management Plan is being developed. MFish considers that any measures implemented for non-commercial fishers in Te Waewae Bay should be on a mandatory basis because non-commercial fishers do not have the governance arrangements in place to ensure effective implementation of voluntary measures. In addition, non-commercial fishers coming into the region on holiday are unlikely to be aware of, or support, voluntary measures.

118 In summary, MFish's preferred interim measure is:

- ◆ A mandatory requirement for non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set (Option 1).

119 Should you decide to proceed with this option, MFish will take steps over the coming summer to actively promote the recreational set net CoP. MFish is currently developing educational material promoting the use of wise set net practices and these will be distributed widely in Te Waewae Bay and throughout Southland.

Other issues raised in submissions

120 One submitter does not agree with the statement that "flounder set nets.... are considered of less risk to the dolphins", and notes that flounder nets are set in shallow water near the seabed, and dolphins are also found in shallow water and feed on fish found on or near the seabed. This submitter further notes that Hector's dolphins are known to have been caught in set nets in flounder areas at Petit Carenage Bay, Port Levy and Pigeon Bay (Banks Peninsula).

121 Although MFish acknowledges that flounder nets do present a risk to Hector’s dolphins, there are no known incidents of Hector’s dolphin interactions with flounder nets in Te Waewae Bay. MFish therefore does not consider there is an immediate and urgent need to implement measures to mitigate this threat in advance of the Threat Management Plan.

122 XX considers it unreasonable to regard trawling in Te Waewae Bay as risk free due to known entanglements in other areas, and one individual submitter does not consider the proposed voluntary measures for trawl vessels are acceptable.

123 As noted in the IPP, MFish does not consider trawling to be “risk free” in Te Waewae Bay. The IPP states that while there is no reported information confirming that trawlers have caught dolphins off the south coast, trawl vessels in Te Waewae Bay are a potential threat to the population. MFish remains of the view that this threat will be best addressed through the Threat Management Plan.

Recommendations

124 MFish recommends that you **agree** to:

Either:

a) **Maintain** the *status quo* for commercial fishers in Te Waewae Bay (MFish preferred option)

Or

b) **Require** commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

c) **Prohibit** commercial set netting within 1 nm of the shore of Te Waewae Bay throughout the year

and

Require commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

d) **Prohibit** commercial set netting within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March

and

Require commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

e) **Prohibit** commercial set netting within Te Waewae Bay throughout the year.

And agree to either:

f) **Maintain** the *status quo* for non-commercial fishers in Te Waewae Bay

Or

g) **Require** non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set (MFish preferred option)

Or

h) **Prohibit** non-commercial set netting within 1 nm of the shore of Te Waewae Bay throughout the year;

and

Require non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

i) **Prohibit** non-commercial set netting within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March

and

Require non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

j) **Prohibit** non-commercial set netting within Te Waewae Bay throughout the year

And

k) **Note** MFish will actively promote the recreational set net CoP and the need for appropriate set net practice on the south coast South Island

And

l) **Note** MFish will discuss the industry's set net CoP with South East Finfish to encourage them to raise fisher's awareness of the CoP to ensure they comply with it, as well as discuss the possibility for including further measures to mitigate potential dolphin bycatch by trawlers

East Coast South Island

Management Issue Identified

125 The east coast South Island Hector's dolphin population has an estimated size of about 1790⁸ (CV = 0.14) individuals. Initial PBR analysis to guide the setting of a human-induced mortality limit for this population indicates that 4 dolphins can be removed from the population each year.

126 A number of management measures are already in place to mitigate the adverse effects of fishing on the east coast South Island population (refer IPP). One such measure is the Canterbury set net area amateur closed area introduced in 2002. This closure prohibits all amateur set netting between Waiau River to Waitaki River out to 4 nm from 1 October to 31 March, with a shorter ban in specified areas in some areas of Banks Peninsula and Timaru.

127 Recent levels of mortality have highlighted the possible need for further measures to mitigate the impacts of fishing on this population. Over the past three years, 10⁹ of the 24¹⁰ known dolphin deaths have been definitely attributed to fishing-related mortality on the east coast South Island. Most of these mortalities occurred over the past year, when there were 3 deaths consistent with set net entanglement and 3 deaths from one trawl incident. This past year's known mortality exceeds the indicative limit of 4 dolphin deaths per year for this population.

128 The area to the north of the current Canterbury amateur set net closed area is known to be popular for non-commercial set netters. Two confirmed entanglements of Hector's dolphins in set nets have occurred north of the closed area since 2002. While it is unknown as to whether these entanglements were the result of commercial or amateur set netting, it has identified a need to consider extending the closed area to the Clarence River, north of Kaikoura to provide additional protection to the east coast South Island Hector's dolphin population.

Summary of Options

129 The IPP presented the following interim management options for non-commercial set netting on the east coast South Island:

Option 1:	Extend the boundary of the Canterbury recreational set net seasonal closure northwards to prohibit recreational set netting from the Waiau River to the Clarence River outlet (FMA3/FMA4 boundary, 42°10.0'S and 173°56.0'E) and out to 4 nm (see Figure 3 in IPP); or
Option 2:	Recreational fishers setting a net must remain in attendance with the net while the net is set, when fishing between the Waiau River and the Clarence River and out to 4 nm from 1 October to 31 March.

⁸ This population estimate includes the extent of coastline that incorporates Porpoise Bay. Further work will be undertaken to identify whether dolphins in Porpoise Bay should be linked with the Te Waewae Bay population or the east coast South Island population.

⁹ 6 set net; 3 trawl; 1 craypot line

¹⁰ 10 fishing related; 2 natural; remainder unknown

130 MFish also proposed to actively promote the recreational set net CoP and discuss the industry's CoP with South East Finfish Management Ltd. and Challenger Finfisheries Management Company Ltd. to encourage them to raise their fisher's awareness of the code to ensure they comply with its various components, as well as the possibility for including further measures to mitigate dolphin bycatch by trawlers.

Assessment of Management Options – non-commercial fishing

131 A number of factors that were identified to be of relevance to your decisions on proposals in Te Waewae Bay are also relevant to your consideration of the need for non-commercial measures to be implemented on the east coast South Island. Namely; biology of the dolphins, population size, social values, risks associated with non-commercial set netting, and impact of any measures employed.

Measures proposed

132 A significant number of submissions were received on the two options to introduce management measures for the east coast South Island Hector's dolphin population. There is some support (from environmental organisations, individuals and DOC) to extend the northern boundary of the amateur set net closed area (Option 1) to confer greater protection of dolphins within the Kaikoura region. A Canterbury fishing club expresses the view (with certain provisos) that there would be benefit with having consistent measures for non-commercial fishers along the east coast South Island.

133 A number of submissions, including from non-commercial fishers, do not support an extension of the closed area, but rather prefer a requirement for non-commercial fishers to remain with their nets all times (Option 2).

134 Several submissions, including from non-commercial fishers, have stated a strong preference to retain the *status quo*, with some submissions raising concerns that the proposed options may compromise the development of an overarching management plan for fisheries resources that is currently being developed for the Kaikoura region. This plan is being prepared by the Te Korowai o Te Tai o Marokura (Kaikoura Coastal Guardians) (Te Korowai), which represent a wide range of fisheries interests including tangata whenua, and local commercial, environmental and recreational interests. The plan is likely to include a range of management initiatives including measures to mitigate the effects of fishing on Hector's dolphins.

Cost of measures

135 MFish has limited information on the likely impacts of measures proposed for non-commercial fishers.

136 Submissions did not provide any information on the number of fishers that would be affected by the proposals. However, an attachment to the Kaikoura Boating Club submission notes that 200 nets are set each day at the peak times – suggesting the Kaikoura area is a popular and valued region for amateur set netting activity.

137 An area closure (Option 1) clearly has greater utilisation impact than a requirement for non-commercial fishers to stay with their nets. Nevertheless, a requirement for amateur fishers to stay with their nets at all times will invariably lead to reduced soak times of individual nets within the

water. In addition, it would decrease the number of fishers deploying nets given the need to remain with them.

Analysis

138 As mentioned above, there is a level of support for extending the northern boundary of the current Canterbury amateur set net closed area to provide Hector's dolphins in the Kaikoura region with greater protection. Information in the Canterbury/West Coast Forest & Bird submission suggests there is a localised sub-population of dolphins (about 60 animals) between the Clarence River and Haumuri Bluffs that are presently vulnerable to set netting. This submission notes that because there may be no or limited mixing between this population and the Banks Peninsula Hector's dolphin population, removals from the Kaikoura population as a result of fishing cannot be replenished. The likelihood of dolphin entanglements in set nets within the Kaikoura region is increasing as the area becomes increasingly popular with amateur fishers. Akaroa Harbour Recreational Fishing Club and South-east Fishery Advisory Committee are of the view that it is important to ensure satisfactory measures are in place for the Kaikoura region, as other fishers on the east coast of the South Island will be penalised unfairly, should entanglements in excess of an "acceptable" level occur in Kaikoura.

139 A requirement for amateur fishers to stay with their nets at all times would enable fishers to promptly remove their net from the water if a dolphin is sighted within the immediately vicinity of the fishing area, or if a dolphin actually becomes entangled within the net. The reduced soak times and reduced numbers of fishers likely to be associated with this option will accordingly lessen the likelihood of dolphin entanglements with set nets.

140 MFish accepts concerns about the potential of introducing urgent management measures for the Kaikoura region to compromise Te Korowai's ability to develop a management plan. MFish fully supports the initiatives undertaken by the Te Korowai. However, you are obliged under the Act to take such steps that are necessary to avoid, remedy or mitigate the impacts of fishing on protected species such as Hector's dolphins. In situations such as this, time constraints due to the potential need for urgent measures preclude consideration of such measures through a community based process. Any resulting conflict with other marine initiatives is undesirable, but necessary to ensure you are fulfilling your legislative obligations. MFish encourages Te Korowai to progress the plan so that it can be considered within the context of the Threat Management Plan in 2007.

141 As previously mentioned, relevant to consideration of risk posed by fishing is application of existing mitigation measures. In addition to the MFish recreational set net CoP, the Kaikoura area is subject to a voluntary CoP that prevents amateur fishers from setting nets near open beaches. There have been no confirmed non-commercial set net related mortalities of Hector's dolphins since the code has been in place. MFish notes that buy-in to any mandatory measures implemented may be compromised because of the general view amongst local fishers that the voluntary CoP is working. However, MFish notes that non-commercial set netting over the summer period will be by transitory fishers (for example, holiday makers) as well as local fishers, and therefore awareness of voluntary measures in a given area may not be prevalent.

142 Because the level of fisher self-reporting is unknown, there is uncertainty around the actual number of fishing-related mortalities caused by non-commercial set nets in the Kaikoura area and, consequently, the nature and extent of the risk to the east coast South Island population from non-commercial set netting. The number of amateur fishers affected is unknown, and therefore there is also uncertainty around the extent to which the proposed measures will impact on utilisation.

143 The full range of options consulted on in the IPP is open to you, from *status quo* to prohibiting non-commercial set netting from the Waiau River to the Clarence River outlet and out to 4 nm from 1 October to 31 March. MFish considers that because the Kaikoura area is known to be popular for recreational set netters and summer is when amateur set netting effort is at its peak, there is merit in affording greater protection to Hector's dolphins on the east coast South Island north of the current Canterbury amateur set net seasonal closure over the upcoming summer.

144 However, when making your final decisions on the proposed measures you need to consider whether the risk to sustainability of the east coast South Island population is such that urgent measures to avoid, remedy or mitigate the adverse effects of fishing are necessary in the Kaikoura area.

145 MFish notes that closing the area from the Waiau River to the Clarence River and out to 4 nm (Option 1) to amateur set net fishing will provide a consistent measure along a large extent of the South Island's eastern coastline and will provide more effective mitigation than a requirement for non-commercial fishers to stay with their nets. However, acknowledging the efforts made by non-commercial fishers in the area to develop and implement a CoP, and current measures in place on the east coast South Island; MFish considers that an outright seasonal ban may not be necessary for the Kaikoura area as an urgent measure. Introducing a requirement for fishers to stay with their nets (Option 2) would best provide for non-commercial use and would reduce risk (albeit to an unquantified degree) to Hector's dolphins over the summer months.

146 Similarly to Te Waewae Bay, MFish considers that any measures you consider necessary to avoid, remedy or mitigate the adverse effects of non-commercial fishing on Hector's dolphins be implemented on a mandatory basis.

147 In summary, MFish's preferred interim measure is:

- ◆ A mandatory requirement for non-commercial fishers setting a net to remain in attendance with the net while the net is set, when fishing between the Waiau River and the Clarence River and out to 4 nm from 1 October to 31 March (Option 2).

148 Under all options, MFish will work with non-commercial fishers to publicise and raise awareness of the voluntary CoPs in Kaikoura, and along the extent of the east coast South Island.

149 MFish notes that should you proceed with Option 1, customary fishing regulations enable Tangata Tiaki to issue authorisations under the Fisheries (South Island Customary Fishing) Regulations 1999 in contradiction to the closure (similarly to the current Canterbury amateur set net seasonal closure, see later Customary Fishing section).

Proposed measures for commercial fishing

150 Industry supports the proposed interim measures for commercial fishing, and notes that South East Finfish has already taken a number of steps to ensure that fishers are aware of the CoP and to improve monitoring of compliance with the CoP.

151 Several submissions consider the proposal to raise commercial fishers' awareness of the CoP is inadequate given previous known dolphin mortalities and evidence to suggest there is under-reporting (and late reporting) of dolphin bycatch.

152 MFish acknowledges that low levels of observer coverage make it difficult to determine the success of industry's initiatives to mitigate Hector's dolphin mortalities in the Canterbury area.

While there have been no Hector's dolphin mortalities reported by commercial set netters in the Canterbury area over the last 3 years, in the last week there has been one observed commercial set net related mortality off Kaikoura. There have also been three recent entanglements (2 separate incidents) in commercial set nets off Otago, in the vicinity of the East-Otago Taiāpure. MFish notes that in August this year you agreed to consult on a recommendation from the East-Otago Taiāpure - Local Fishery Committee that fishers be required to remain within 50m of their set-nets when fishing the East-Otago Taiāpure-Local Fishery. Consultation on this measure has been completed, and final advice on the proposal is included in this document in the section entitled "East-Otago taiapure-local fishery set-net recommendation". MFish considers that this measure, if approved, will mitigate risk to Hector's dolphins within the taiāpure. Final advice on this proposal is set out below.

153 As noted in the IPP, MFish considers that the steps taken by industry to implement measures on a voluntary basis means further measures to mitigate risk to dolphins off the east coast South Island are not necessary at this time. However, MFish will work with industry to ensure effective monitoring and reporting frameworks are in place, and will discuss the possibility for including further measures to mitigate dolphin bycatch by trawlers. MFish recognises that Challenger Finfisheries Management Company Ltd. (Challenger FinFish) submitted that whilst incidental capture of Hector's dolphins by trawling is very small, they do observe there is a risk and will develop a CoP for trawling in respect of marine mammal capture in respect of FMAs 7 and 8. MFish supports and acknowledges this move by Challenger FinFish to mitigate the threat of trawling to Hector's dolphins.

154 MFish considers that efforts by the South East Finfish and Challenger Finfish have shown that the fishing industry in FMA 3 and FMA 7 is able to organise itself collectively. Given the recent dolphin mortalities, MFish considers it pertinent to reiterate the importance of the CoP and its effectiveness to the management companies in the area. MFish proposes that you send a letter to these commercial stakeholder organisations expressing concern over recent mortalities involving commercial fishers and requesting that these companies discuss what measures could be implemented in advance of the Threat Management Plan to reduce risks to dolphins. Should commercial fishing-related entanglements continue, mandatory measures will need to be considered.

155 The threat of commercial set netting and trawling to Hector's dolphins along the extent of the east coast South Island will be comprehensively addressed through the Threat Management Plan.

Proposal to fix technical error

156 MFish identified a technical error in the Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002 (No. F208). To satisfy the original intent of the notice, MFish proposed to amend notice F208 to ban the use of set nets from the mean high water mark (proceeding straight across rivers, estuaries or lagoons) out to 4 nm between the Waiau and Waitaki Rivers from 1 October to 31 March, with the same shorter ban as previously in flounder areas and exception of certain reefs in the Timaru reef area.

157 One submission was received on this proposal (SeaFIC), which expressed support for fixing the technical error. SeaFIC also noted that referring to the area closed by the (Canterbury Set Net Area Amateur Prohibition) Notice 2002 as a "recreational set net closure" in the IPP is misleading since the Notice applies to any person who is not a commercial fisher. SeaFIC recommend that the area should be referred to as the "Canterbury amateur set net seasonal closure" and its proposed

extension northwards should also be described as applying to all fishers who do not have a commercial fishing permit (while acknowledging the ability of tangata tiaki/kaitiaki to issue authorisations that override the closure).

158 MFish acknowledges SeaFIC's points and has taken on board the suggested alterations to wording when referring to the Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002. MFish will proceed to amend Notice F208 to satisfy its original intent.

East-Otago taiapure-local fishery set-net recommendation

159 In August this year you agreed to consult on a recommendation from the East-Otago Taiapure-Local Fishery Committee that recreational and commercial fishers be required to remain with their set-nets when fishing the East-Otago Taiapure-Local Fishery (refer Appendix 4).

160 Consultation¹¹ on this recommendation has been completed.

161 No written submissions were received; however, discussions with stakeholders at relevant forums have been supportive of the proposal.

162 On this basis MFish's recommends that you approve the committee's proposal as it is consistent with your statutory obligations¹² and there is evidence of community and fishery stakeholder buy-in. Given it's compatibility with the Hector's dolphin's proposals, MFish proposes the committee's recommendation be implemented as part of the package of interim measures for Hector's dolphins.

Other issues raised in submissions

Requirement for additional management measures to those proposed and alterations to current measures

163 A number of submitters considered that all set netting (recreational and commercial) should be banned year round between the Waitaki and Clarence Rivers, and out to the 100 m depth contour.

164 MFish considers that current measures in place and implementation of any additional proposed measures, should you deem them necessary, will adequately mitigate set netting risk to dolphins over the period the Threat Management Plan is being developed. MFish notes that the need for these more extensive measures on the east coast South Island will be considered as part of the Threat Management Plan's development.

165 Canterbury/West Coast Forest & Bird consider that in Kaikoura, regulations are also needed to prevent entanglements in cray pot lines and fishers' awareness should be raised on the risk of cray lines to whales and dolphins. XX similarly believes that if a set net ban is being proposed, then cray pots should also be banned as the number of whales being caught in craypots is ongoing.

166 MFish acknowledges these requests and agrees that there would be benefit in raising

¹¹ The recommendation was notified in the Otago Daily Times, sent to interested parties and posted on notice boards. MFish and the committee have also discussed the recommendation at relevant forums.

¹² As set out in this paper (to avoid, remedy or mitigate any adverse effects of fishing on the aquatic environment), and in the August paper (better provision for the recognition of rangatiratanga, and of the right secured in relation to fisheries by Article II of the Treaty of Waitangi).

awareness of this issue. MFish will look to incorporate this in the education and awareness package that is being developed for the upcoming summer. MFish notes that the threat of cray pot entanglement can be further addressed through the Threat Management Plan.

167 AHRFC and SEFAC request that alterations are made to certain aspects (timing and flounder netting restrictions) of the current Canterbury amateur set net seasonal closure, and the extension north to the Clarence River if approved. In addition, AHRFC and SEFAC propose sectoral allocation of the Canterbury Hector's dolphin mortality limit, as well as a limit on the number of nets permitted per vessel and a requirement for two or more people to be on board a vessel while the nets are set (for safety reasons).

168 MFish acknowledges the points raised by AHRFC and SEFAC but notes that such measures are unable to be considered by you at this time because their proposals have not been subject to public consultation. MFish considers that measures such as these will be contemplated through the Threat Management Plan process, where regional stakeholders will be provided the opportunity to put forward their ideas on how best to manage threats to Hector's dolphins. MFish encourages AHRFC and SEFAC to actively participate in the Threat Management Plan's development.

169 Guardians of the Sounds submit that the two main threats are bottom dredging (because of habitat destruction) and gill netting, and both of these methods should be banned. Guardians of the Sounds submit that some commercial gill netters do not abide by the memorandum of understanding that they have with the Commercial Fishermen's Association, who have agreed not to use gill nets in the Queen Charlotte Sounds.

170 MFish notes that the threat of dredging to Hector's dolphins can be considered as part of the Threat Management Plan's development. The level of compliance with voluntary agreements in areas such as the Queen Charlotte Sounds will be one of a range of issues taken into account when developing measures as part of the Threat Management Plan.

Banks Peninsula Marine Mammal Sanctuary

171 Several submissions note that the Banks Peninsula Marine Mammal Sanctuary is too small and measures should be in place year round to ensure bycatch is reduced to sustainable levels. Some support was expressed for more comprehensive restrictions applying to flounder areas.

172 One submission notes that there is firm evidence that the measures operative under the Banks Peninsula Marine Mammal Sanctuary of 1988 were effective in reducing the amateur set netting mortality rate to a level that would sustain the east coast South Island Hector's dolphin population.

173 MFish notes that alterations to current measures in place to mitigate the impacts of fishing on Hector's dolphins around Banks Peninsula will be considered as part of the Threat Management Plan.

Measures applying equally to recreational and commercial fishers

174 KM&CPS is concerned that the proposed interim legal measures are specifically related to recreational fishers only whereas the measures for commercial operators are largely restricted to voluntary CoPs. KM&CPS note that although there has been some observer coverage, an agreed set net mortality limit by the Minister of Fisheries in the Canterbury area (2002) and some voluntary measures/CoPs, there is some concern that recreational fishers only are being targeted in this

interim measure and that it needs to be made very clear as part of this process exactly what restrictions/limitations will apply to commercial operations.

175 XX submits that commercial operators work thousands of yards of nets, and is sure the risk from commercial set netting is greater than amateur set netting with 60 yards of net. XX believes there should be no discrimination between amateur and commercial fishers with a decision.

176 MFish acknowledges the concerns raised by KM&CPS and XX. As previously noted, MFish agrees there is merit in managing commercial and non-commercial fishing interactions with Hector's dolphins equitably where appropriate. However, there is often uncertainty around the extent to which recreational fishers will comply with voluntary arrangements due to a lack of formal governance structure and the transitory nature of some recreational fishing effort. Consequently, MFish considers that statutory measures are the most effective means to managing recreational set netting interactions with Hector's dolphins.

Status of the population/population trends

177 Some of the submissions received highlight the degree of uncertainty around the status of Hector's dolphin sub-populations on the east coast South Island, with several suggesting dolphin numbers are declining at a local level and one claiming that estimates may be too low. Another two submitters believe that the Hector's dolphin population is increasing, with one noting that sightings are now very common, whereas they weren't previously.

178 MFish acknowledges there is considerable uncertainty around the abundance of Hector's dolphins, both at a local and population scale. The process to develop the Threat Management Plan will pull together scientific information and local knowledge about dolphin abundance to assist with determining appropriate long-term measures for mitigating the range of threats to the dolphins.

Potential Biological Removal

179 XX considers that the PBR estimate is incorrectly calculated - MALFIRMS (Maximum Allowable Fishing Related Mortality) cannot legitimately be calculated over such a large area (there should be individual management units within the area) and the dolphins in the marine mammal sanctuary should not be included in the calculation. XX notes that by including the number of dolphins in the sanctuary in the calculation, this effectively abolishes the sanctuary because it would result in animals outside the sanctuary being taken at much higher levels than is sustainable.

180 MFish acknowledges the points made by XX are technically correct. However, the PBR calculations as given are intended to provide an indication only of the numbers that may be removed from a subpopulation or stock while allowing that subpopulation or stock to recover. The numbers provided are not and can not be interpreted as MALFiRMS. The actual limits to incidental mortality, if imposed, will be a product of the Threat management Plan, which will take into account stock/sub-population structure.

Level of bycatch

East Coast South Island

181 A couple of submitters note that entanglements in Canterbury remain high, and that there were 44 known Hector's dolphin entanglements in Canterbury between 1995 and 2005 (38 in gillnets and 6 in trawl nets), and that between 1995 and 2005, eight Hector's dolphins were caught

inside the Banks Peninsula marine mammal sanctuary.

182 MFish notes that DOC has recently updated their incident database, so that the cause of death for Hector's dolphins is now only identified where it can be confirmed with certainty (e.g. through autopsy findings or fisher reporting). MFish notes that the level of confirmed fishing-related mortality for Canterbury in the most up-to-date DOC database is much lower than the 44 entanglements noted in the above submissions. For the whole of the east coast South Island, there were 6 trawl-related and 23 set net-related entanglements from 1995 to present, with 17 of these in the Canterbury area.

183 AHRFC note that from February 2002 to the present (following implementation of Canterbury Set Net Area Amateur Prohibition Notice 2002), there has only been one Hector's dolphin incident involving an amateur net within the set net restricted area since 2002 and there was one likely amateur entanglement north of the restricted area at Kaikoura. AHRFC also refer to incident data that shows since February 2002, there have been four (3 set net; 1 trawl) incidents involving eight dolphins in total (two released alive) definitely attributable to commercial fishing.

184 MFish acknowledges that there have been more Hector's dolphin entanglements recorded as a result of commercial fishing than amateur fishing over recent years. However, of the six mortalities that resulted from commercial interactions, three of these were the result of one trawl incident. Because trawling interactions with Hector's dolphins on the east coast South Island appear to be a relatively rare event (6 reported mortalities since 1989), MFish considers that the threat of trawling will be best addressed through the Threat Management Plan process. The remaining three mortalities occurred off the Otago Coast where, as discussed above, there is a process underway to introduce a requirement for fishers to stay with their nets when set.

Kaikoura area

185 A number of submissions were received providing different levels of dolphin mortality for the Kaikoura region, with Te Korowai and KM&CPS stating that to their knowledge, there have been no reported fatalities caused by recreational fishers in the last two years within the Kaikoura area.

186 MFish notes that the most up-to-date DOC records show that since 2001, there have been six Hector's dolphin mortalities in the Kaikoura area. Two of these incidents have been attributed to set net entanglement, with one the result of entanglement in a cray pot line. MFish notes that due to fisher under-reporting and difficulties attributing cause of death to decomposed carcasses, the DOC records represent the minimum number of fishing-related dolphin deaths.

Recommendations for east coast South Island

187 MFish recommends that you **agree** to either:

- a) **Maintain** the *status quo* for non-commercial fishers between the Waiau River to the Clarence River outlet and out to 4 nm

Or

- b) **Extend** the boundary of the Canterbury amateur set net seasonal (1 October to 31 March) closure northwards to prohibit non-commercial set netting from the Waiau River to the Clarence River outlet and out to 4 nm

Or

- c) **Require** non-commercial fishers setting a net to remain in attendance with the net while the net is set, when fishing between the Waiau River and the Clarence River and out to 4 nm from 1 October to 31 March (MFish preferred option)

And agree to:

- d) **Require** fishers to remain within 50m of their set-nets when fishing the East-Otago Taiapure-Local Fishery

And

- e) **Note** MFish will amend the Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002 (No. F208) to satisfy its original intent

And

- f) **Note** MFish will actively promote the recreational set net CoP and the need for appropriate set net practice on the east coast South Island

And

- g) **Note** MFish will discuss the industry's set net CoP with South East Finfish and Challenger Finfish to encourage them to raise fisher's awareness of the CoP to ensure they comply with its various components, as well as discuss the possibility for including further measures to mitigate dolphin bycatch by trawlers

And

- h) **Note** MFish proposes that you send a letter to South East Finfish and Challenger Finfish expressing concern over recent mortalities involving commercial fishers and requesting that these companies discuss what measures could be implemented in advance of the Threat Management Plan to reduce risks to dolphins. A draft of this letter will be provided to you shortly.

Maui's dolphin (west coast North Island)

188 Maui's dolphin has a small estimated population size of 111 animals (CV = 0.44; 95% CI = 48 - 252). The main threat to Maui's dolphins has been mitigated through the commercial and amateur set net area closure on the west coast North Island (refer IPP). Other potential threats to Maui's dolphins have been identified that MFish considers may require mitigation.

189 The IPP proposed the following interim measures for Hector's dolphins:

MFish will initiate discussions with Port Waikato drift net and set net fishers to determine whether set net and drift net fishing represents a threat to dolphins in that area and, if so, whether measures such as voluntary limits, regulated closures or a combination of these should be applied to eliminate any threats – aiming to have any such measures in place as soon as practicable.
MFish will initiate discussions with commercial and recreational Taranaki set netters to assess the extent to which their fishing might represent a threat to dolphins and, if so, what measures can be applied to eliminate any threats – aiming to have such measures in place by Christmas if there is clearly a need to do so within this timeframe.
MFish will discuss possible trawl voluntary measures with operators to avoid trawling close inshore, especially in winter when dolphins are within the trawl area.
MFish will continue monitoring of compliance with the west coast/Manukau entrance closed areas, particularly during the summer months.
MFish will publicise west coast/Manukau entrance closed areas.
MFish will maintain awareness of any new information on dolphin movement in harbours.

190 Issues raised in submissions on proposed measures for Maui's dolphins and MFish discussion of these are below.

Port Waikato

191 DOC strongly recommends that drift netting be banned from the mouth of the Waikato River or any area where Maui's dolphins congregate. DOC considers that the loss of nets within these areas presents a high risk of entanglement to Maui's dolphins, as well as other marine life such as seabirds and turtles.

192 XX questions whether discussions with fishers can be relied upon, both to obtain reports of accidental capture of dolphins and to work out agreements on measures to protect them. He thinks that a requirement that fishers are in attendance of their nets should apply at Port Waikato and the Manukau harbour.

193 XX also supports a requirement for attendance of nets, while questioning the likelihood that they continue fishing if lost. XX believes there is urgency to ensure protection and that there is enough information already on the extent of threat from drift nets to confirm that protection is required.

194 The reason for the proposal to have discussions with Port Waikato drift and set net fishers was that in 2002 a dead Maui's dolphin was found on Kariotahi beach – on the coast near the river entrance. The dolphin had part of a net attached to it that fishers who saw it thought was from a drift net like those used in the Port Waikato area to catch mullet. This is mainly a summer fishery for both commercial and non-commercial fishers, coinciding with the time Maui's dolphin come

close inshore.

195 While the dolphins do not actually come into the Waikato River, the coast here is within the area that sightings indicate is a “core area”¹³ for them. Consequently the apparent loss of the net here pointed to a potential threat that needed to be investigated.

196 MFish has had initial discussions with commercial and non-commercial fishers who fish at Port Waikato, and with Compliance staff who are familiar with the area. The purpose of these discussions was to gain a good understanding of the various kinds of fishing practices at Port Waikato. This in turn allows decisions to be made about the relative threat associated with fishing activities there.

197 The people spoken to said that there has been a change in fishing in the area since 2002, with fewer fishers coming there compared to when the dead dolphin was found. There has also been a change in fishing methods used, with set nets tending to be used in preference to drift nets. The combination of fewer (commercial) fishers and fewer drift nets results in a reduced risk, that nets may be lost and drift out to the coast amongst the dolphins.

198 Recreational netting may be more of a problem. This is because people often spend time in the area over summer, camping and fishing. Often the practices used to set nets are illegal or otherwise contrary to the Ministry’s set net code of practice and some nets are lost.

199 MFish believes the potential threat of nets at Port Waikato can be dealt with firstly by continuing discussions with the commercial fishers who fish there, so that they are aware of the need to ensure there is no chance of losing a net. Some fishers have suggested there could be a no netting area at the Mouth of the river as an added precaution to prevent nets drifting into the sea.

200 Second, in relation to non-commercial nets, Compliance staff believe frequent patrolling in the area has brought about an improvement in the way people are using their nets. Continuation of this patrolling frequently over the summer is probably the most effective way to maintain this trend. Another factor that may have lessened risks associated with non-commercial set netting is that access to the beach has become more difficult recently because barriers now obstruct the usual access to the northern shore at Port Waikato. This means that, like commercial fishers, there are now fewer non-commercial fishers setting nets at Port Waikato and consequently a lower risk associated with non-commercial nets.

201 Local iwi are also interested in having MFish attend a hui to talk about the dolphins’ situation and about precautions people can take while fishing with nets to ensure they are not lost.

202 Information that MFish is producing on the dolphins and “dolphin-safe” fishing practices will be useful at Port Waikato. If these efforts do not appear to be dealing with potential threats, the option of requiring fishers to remain with their nets could be applied.

203 Because of this combination of factors, MFish does not assess fishing at Port Waikato as an immediate threat that needs to be dealt with urgently. MFish will continue working with Port Waikato fishers and monitoring this fishery.

¹³ “Core” area because there has been a concentration of sightings in recent years between Port Waikato and the Manukau Harbour. The full extent of the dolphins’ range extends further north and south of this area, but with fewer sightings.

Taranaki Region

204 Egmont Seafoods considers that the existing controls on both trawling and set netting give adequate protection and that the information on Maui's dolphin in the Taranaki region is uncertain and unreliable. The company's fishermen spend more time on the water north of New Plymouth than any other user group and it questions how DOC could have compiled a record of sightings when the company's fishers have seen no dolphins in the area.

205 An appreciable number of submissions, including those that identified "critical areas", all wanted the current 4 nm prohibition on set netting that currently ends at Pariokariwa Point to be extended further south to New Plymouth. Most did so in the belief that there is now research information that confirms the presence of Maui's dolphins in the region.

206 XX considers the proposed measure to initiate discussion with fishers is unacceptable. She considers that there is a degree of urgency to ensure protection of Maui's dolphin and that MFish needs to take the lead. XX notes that information on the extent of the threat to the dolphins from Taranaki set net fishing surely is readily available, and that MFish needs to be determining the level of protection required, not the level of threat.

207 XX recommends that the existing closed area should be extended to New Plymouth. However, he also notes that the number and distribution of Maui's in this region remains poorly known (despite past systematic sighting surveys). He recommends that there are further vessel-based surveys and collection of biopsy samples both to improve understanding and to avoid unnecessary regulation of fishing.

208 MFish notes that sightings and stranding reports from the 1970s and 1980s indicate at that time North Island west coast Maui's dolphin were probably more prevalent in the Taranaki region than further north where the population is concentrated today. Since the 1980s, both strandings and sightings in Taranaki have become less frequent. When MFish introduced the set net closed area on the west coast, it ended at Pariokariwa Point because there were no reliable recent sightings reports south of there.

209 However, there have been sightings south of Pariokariwa Point after the extent of the area closed to set netting had been determined. The sightings south of Pariokariwa Point have not been assessed using the protocol used to assess the reliability of earlier sightings records. The sightings that were used to determine the extent of the initial set net closed area were assessed using a formal protocol that was applied to establish the reliability of sightings – ranging from a category 1 – good photographic record with recognisable landmark plus accurate description of Maui's, being most reliable, to a mid range (category 4) – no photo, accurate description, but in an unusual place for Maui's, to 5, 6 and 7 that for various reasons cannot be Maui's. While these Taranaki sightings have not been subject to the same tests, they do appear plausible and worth consideration.

210 Having found out a little more about the sightings database, MFish does not consider that it would be a basis for urgent action to apply controls on fishing in the region at this stage. The sightings have been somewhat sporadic – several in 2004 and one a year since then. Aerial surveys of the region have not made any sightings. Based on the boat-based reports it does not seem that the dolphins are present in any great numbers, nor are they in the region for long. Rather it may be a pattern of dolphins occasionally coming down to "explore" the region for a while.

211 In their submission, Egmont Seafoods say that none of their fishers have seen dolphins in the region. MFish has not yet had discussions with fishing interests as proposed in the IPP. The

sightings information suggests that present fishing activities in the region are unlikely to be an immediate threat. However, the possibility that the dolphins may be making a gradual return to the area means that such discussions should occur, to cover things like reporting sightings and how to manage fishing activities if sightings increase.

212 Although XX believes that there is already sufficient information to justify management action, MFish considers further work is required to confirm the presence of dolphins in the Taranaki region, and to assess the potential threat posed by local fishing activities. This information is now being obtained and it should be possible through the Threat Management Plan process to determine whether the controls sought by some submitters and objected to by others, are needed.

213 The current situation in the Taranaki region provides a good example of why a national sightings record with consistent, rigorous protocols to establish the reliability of sightings, is needed.

Trawling

214 The Northern Fisheries Management Stakeholder Company Limited requests that the statement in the IPP about Maui's dolphins' movements offshore are either given scientific references, or removed. It says that its trawlers have been operating for many years on this coast with no encounters or interactions with Maui's dolphin. It considers that the existing closures applying to trawlers (no trawling within 1 nm of shore) and set netting (prohibited out to 4 nm) give sufficient protection.

215 A number of submissions seek a ban on set netting out to the 100 m contour (as one of the "critical areas", see summary of submissions), while trawlers fishing in closer than this should carry observers. This is because they say that the dolphins are found out as far as this contour. Other submitters think trawling should be prohibited inshore from the 100 m contour. DOC strongly recommends that MFish investigate and implement mandatory measures to mitigate any possible fishing related threat to Maui's dolphins out to the 100m contour in summer and winter when dolphins are within the trawl areas.

216 Trawling is prohibited within 1 nm of the coast within the current range of the west coast Maui's dolphin. Trawl tow position information shows that trawlers do operate in as far as this line. Aerial surveys have made sightings of Maui's dolphin out beyond 3nm, meaning that dolphins are at times (especially in winter) out where trawling is occurring.

217 However, while trawlers operating elsewhere have caught Hector's dolphin, there is no record of this having happened to west coast Maui's dolphin. It is not ideal to have trawlers and Maui's close together, but with no information about accidental captures there is no basis for requiring trawlers to operate further offshore. There may be enough sightings/trawl tow information for trawl operators to agree to stay further out, especially in winter. There is certainly not enough information to confirm that trawlers represent an immediate threat to the dolphins and require urgent measures to control where they can fish.

218 It is likely that there will be some observer coverage of west coast trawlers this year. This coverage is unlikely to observe accidental capture of dolphins, but may provide further information on the dolphins' presence within trawled areas. Although, as XX has pointed out, with such a small population, the probability of dolphins being sighted must be fairly low. He has suggested an alternative of tagging a Maui's dolphin, as was done with a Hector's dolphin to gain much useful movement information. While not favoured by some, MFish would support carefully managed

tagging for such purposes, as the information obtained would help answer key questions such as how far offshore the dolphins go and whether they enter harbours.

Compliance and Publicity

219 XX supports the proposed measures in the IPP for publication of the set net closed areas and monitoring of compliance in these areas.

220 The proposed actions essentially continue work that MFish has been doing for some time now. They are primarily intended to ensure that people are aware of existing regulations and do not set nets in the set net closed areas along the coast and at the Manukau entrance. The need for such work has lessened a little now that fishers have become aware of the restrictions and their purpose. However, providing ongoing “reminders” ensures that no-one is tempted to have a “trial” with nets in closed areas where there may be dolphins.

221 As well as this compliance effort, as mentioned in relation to Port Waikato, MFish is also producing information to inform fishers about the need to protect the dolphins and about ways to fish that ensure the risk to the dolphins is minimal.

Harbours

222 Many of the submissions seeking a “standard” set of measures referred to the need to prohibit set netting in “critical areas” that include harbours.

223 XX provides a contrary view, pointing out that he has never seen a dolphin in the Manukau, nor heard of others in his local community who have. He is concerned that the suggestions that set netting be banned to protect dolphins will remove an important component of his low-income lifestyle.

224 XX acknowledges the current lack of information on dolphins in harbours and suggests that fishers be required to be in attendance of nets as a precautionary measure.

225 MFish indicated it would monitor information on dolphin movement in harbours because there was no information that conclusively demonstrated that harbours are part of Maui’s dolphin range. Sightings have been reported over the years, but infrequently and with no apparent check on reliability.

226 University researchers have placed acoustic detection devices in both the Kaipara and Manukau Harbours. They report that the devices have recorded movement of Maui’s dolphin. In her submission, XX notes these records are supported by visual sightings by MFish and DOC staff and researchers. A request has been made for information on these sightings but anything that could verify the sightings has yet to be provided.

227 There are a number of submissions that seek a prohibition on set netting in west coast harbours. Commercial, recreational and customary fishers extensively fish all of these harbours. They are set net fishing primarily for species such as flounder and mullet that are difficult to catch any other way. If dolphins are coming into the harbours often, then they are likely to be at risk of capture because of the level of netting that is happening. If they are not, there would be significant economic, social and cultural losses if netting stopped unnecessarily.

228 There needs to be very reliable information for whatever action is taken. So far, while submitters have referred to information that they say confirms the presence of dolphins in harbours,

none of these data have been made available to MFish. The Threat Management Plan process should provide the means to assess current information on dolphin movement in harbours and any potential threat associated with set net fishing there. However, at present there is insufficient information to confirm any need for urgent measures to be applied in harbour set net fisheries.

Recommendations for Maui's dolphins

229 MFish recommends that you **agree** to:

- a) **Note** MFish will hold discussions with Port Waikato drift net and set net fishers to determine whether set net and drift net fishing represents a threat to dolphins in that area and, if so, whether measures should be applied to eliminate any threats

And

- b) **Note** MFish will initiate discussions with commercial and recreational Taranaki set netters to assess the extent to which their fishing might represent a threat to dolphins and, if so, what measures can be applied to eliminate any threats

And

- c) **Note** MFish will discuss possible trawl voluntary measures with operators to avoid trawling close inshore, especially in winter when dolphins are within the trawl area

And

- d) **Note** MFish will continue monitoring of compliance with the west coast/Manukau entrance closed areas, particularly during the summer months and will publicise west coast/Manukau entrance closed areas

And

- e) **Note** MFish will maintain awareness of any new information on dolphin movement in harbours

West coast South Island

230 The largest population of Hector's dolphins is present off the South Island's west coast, with an estimated population size of around 5390 individuals (CV = 0.21; 95% CI = 3613 - 8034).

231 MFish proposed the following interim measures for the west coast South Island:

MFish will actively promote the recreational set net CoP. For example, through targeted newspaper articles and public notices, as well as developing a poster for placement in clubs, fishing shops, etc.

MFish will discuss the industry's CoP with the Challenger Finfisheries Management Company to encourage them to raise their fishers' awareness of the code to ensure they comply with its various components.
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232 The MFish position outlined in the IPP was developed based on a perceived lack of need for urgent measures to be taken on the west coast given:

- The size of west coast Hector's population;
- The extent of mortalities caused by fishing interaction (8 in the last three years); and
- Information from the initial analysis to guide the setting of an annual human induced mortality limit (i.e. 11 animals).

233 Submissions were mixed on the proposals outlined in the IPP for the west coast Hector's dolphin population. Submissions from the fishing industry supported application of the CoP and continued use of voluntary measures. Submissions from individuals, environmental organisations and academics supported action being taken to mitigate the risk of dolphin mortalities from fishing. DOC supports increased compliance of the CoP and increased observer coverage on inshore set netting and trawl vessels. DOC also supports encouraging recreational fishers to stay with their nets and no over night netting.

234 Submissions from two individuals and Canterbury/West Coast Forest & Bird suggested that the risk to dolphins on the west coast was greater than outlined in the IPP. One individual and Canterbury/West Coast Forest & Bird noted that there were over 40 known entanglements on the west coast between 1995 and 2005, with another stating that in 1990, 22 dolphin deaths occurred as a result of entanglement in recreational set nets. However, MFish notes that analysis of the most up-to-date DOC Hector's dolphin incident database indicates that there have been 18 confirmed fishing related mortalities since 1995 (all set net entanglement).

235 The data available does not generally allow differentiation to be drawn between recreational and commercial use of set nets in the main. On some occasions it is clear when the net is found that it was a recreational or commercial net based on size of the net and/or markings on the buoys. This information indicates that one dolphin died as a result of entanglement in a recreational set net in 1990, with 6 mortalities confirmed to be the result of recreational set netting in subsequent years. There have been no confirmed deaths resulting from use of a commercial set net on the west coast since 1990. However, in a large number of cases there is no data available on whether the net was commercial or recreational.

236 A number of individual submitters, environmental organisations and academics have proposed implementation of a ban on recreational and commercial set netting on the west coast South Island (as one of the identified “critical areas”).

237 MFish did not consult on any mandatory interim measures for the west coast in the IPP. However, MFish acknowledges the risk to the west coast Hector’s dolphin population from set netting. MFish’s analysis was not that no action should be taken to manage dolphin/fishing interaction on the west coast, but rather that no urgent action was required given best available information, and that measures could be considered as part of the Threat Management Plan to developed during 2007.

238 On balance, MFish believe that while there is a risk to the west coast dolphin population from set netting, the rationale for not proposing mandatory interim measures in the IPP remains valid. MFish will promote the voluntary CoP to both recreational and commercial fishers operating in this area over the coming year while longer term measures are developed at part of the Threat Management Plan.

239 MFish recognises that Challenger Finfish submitted that whilst incidental capture of Hector’s dolphins by trawling is very small, they do observe there is a risk and will develop a CoP for trawling in respect of marine mammal capture in respect of FMAs 7 and 8. MFish supports and acknowledges this move by Challenger Finfish to mitigate the threat of trawling to Hector’s dolphins.

240 MFish agrees with submissions from industry that development of measures, particularly if such measures involve spatial controls, should be considered alongside the MPA implementation process on the West Coast to avoid duplication of measures. MFish will continue to discuss this issue with DOC.

Recommendations for west coast South Island

241 MFish recommends that you **agree** to:

- a) **Note** MFish will actively promote the recreational set net CoP and the need for appropriate set net practice on the west coast South Island

And

- b) **Note** MFish will discuss the industry’s CoP with the Challenger Finfish to encourage them to raise their fishers’ awareness of the code to ensure they comply with its various components

Customary Fishing

242 Set netting by all sectors is a threat to Hector’s dolphins. As set out in the IPP, MFish does not consider interim measures are necessary to avoid, remedy or mitigate the impacts of customary set net fishing on Hector’s dolphins. However, information about the known extent of customary set netting for each of the four populations is a relevant consideration when managing fishing interactions with Hector’s dolphins, and a description of known customary activity is below. Further work will be undertaken to better understand the nature and extent of customary set netting overlap with Hector’s dolphin distribution, and this information will be considered as part of the Threat Management Plan.

Te Waewae Bay

243 MFish is not aware of any customary set net effort in Te Waewae Bay.

East coast South Island

244 With regard to the east coast South Island, Tangata Tiaki can issue authorizations under the Fisheries (South Island Customary Fishing) Regulations 1999 in contradiction to the Canterbury area amateur set net notice. However, it is MFish's understanding that Tangata Tiaki generally comply with the Canterbury amateur set net notice, and we are not aware of any customary fishing mortalities for Hector's dolphins on the east coast South Island.

Maui's dolphin

245 Customary set net fishing occurs in the Kawhia, Aotea and Raglan Harbours under the Kaimoana Customary Fishing Regulations 1998. All of the west coast North Island harbours are important set net fishing areas for iwi. To date, rohe moana have been established in the three aforementioned harbours only and, as a consequence, much of this practice is carried out as recreational fishing.

West coast South Island

246 MFish understands that customary fishers historically caught a range of shark species such as rig, school shark and spiny dogfish on the west coast South Island. It is possible that set nets were used to catch these species. It is also possible that customary fishing for flatfish also occurred within estuaries and river mouths. The current level of customary set netting activity is unknown.

Process for implementation of interim measures

247 It is possible in some instances that voluntary measures will adequately mitigate fishing threats until the Threat Management Plan is completed. In this case, officials will work with fishers to implement such measures as soon as possible.

248 MFish proposes that any mandatory interim measures for commercial or non-commercial fishers should be implemented by way of Regulation or Gazette notice under section 15 or section 11 of the Act, with appropriate offences and penalties where none are already in place.

249 Because the summer is when dolphins are at most risk of entanglement, there is benefit in implementing any measures before Christmas. Should you decide that mandatory measures are necessary, the time required to introduce a regulatory amendment means that it will be necessary to implement measures by Gazette notice to ensure they are in place by Christmas. If measures are introduced by Gazette notice, MFish plans to run a subsequent process to introduce Regulations (which would replace the Gazette notice) as soon as possible in early 2007 and, if necessary, before implementation of measures identified in the Threat Management Plan. The reason for running the subsequent regulatory process is that a Gazette notice, issued pursuant to section 11, is not considered to be as robust a tool as Regulations under section 15; Gazette notices are not subject to the same Parliamentary process as Regulations.

250 A proposed indicative timetable for introduction of measures before Christmas by Gazette notice (if necessary) is below:

12 December Decisions made on need for mandatory interim measures

21 December Gazette notice published (for enactment following day)

Recommendations

251 MFish recommends that you **agree** to:

- a) **Note** issues raised by submitters;

And

- b) **Note** MFish proposes to address the national issues raised by submitters as part of the Threat Management Plan's development process.

Te Waewae Bay

252 MFish recommends that you **agree** to:

Either:

- a) **Maintain** the *status quo* for commercial fishers in Te Waewae Bay (MFish preferred option)

Or

- b) **Require** commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

- c) **Prohibit** commercial set netting within 1 nm of the shore of Te Waewae Bay throughout the year

and

Require commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

- d) **Prohibit** commercial set netting within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March

and

Require commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

- e) **Prohibit** commercial set netting within Te Waewae Bay throughout the year.

And agree to either:

f) **Maintain** the *status quo* for non-commercial fishers in Te Waewae Bay

Or

g) **Require** non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set (MFish preferred option)

Or

h) **Prohibit** non-commercial set netting within 1 nm of the shore of Te Waewae Bay throughout the year

and

Require non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

i) **Prohibit** non-commercial set netting within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March

and

Require non-commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set

Or

j) **Prohibit** non-commercial set netting within Te Waewae Bay throughout the year

And

k) **Note** MFish will actively promote the recreational set net CoP and the need for appropriate set net practice on the south coast South Island

And

l) **Note** MFish will discuss the industry's set net CoP with South East Finfish to encourage them to raise fisher's awareness of the CoP to ensure they comply with it, as well as discuss the possibility for including further measures to mitigate potential dolphin bycatch by trawlers

East coast South Island

253 MFish recommends that you **agree** to:

a) **Maintain** the *status quo* for non-commercial fishers between the Waiau River to the Clarence River outlet and out to 4 nm

Or

b) **Extend** the boundary of the Canterbury amateur set net seasonal (1 October to 31

March) closure northwards to prohibit non-commercial set netting from the Waiiau River to the Clarence River outlet and out to 4 nm

Or

- c) **Require** non-commercial fishers setting a net to remain in attendance with the net while the net is set, when fishing between the Waiiau River and the Clarence River and out to 4 nm from 1 October to 31 March (MFish preferred option)

And agree to:

- d) **Require** fishers to remain within 50m of their set-nets when fishing the East-Otago Taiapure-Local Fishery

And

- e) **Note** MFish will amend the Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002 (No. F208) to satisfy its original intent

And

- f) **Note** MFish will actively promote the recreational set net CoP and the need for appropriate set net practice on the east coast South Island

And

- g) **Note** MFish will discuss the industry's set net CoP with South East Finfish and Challenger Finfish to encourage them to raise fisher's awareness of the CoP to ensure they comply with its various components, as well as discuss the possibility for including further measures to mitigate dolphin bycatch by trawlers.

And

- h) **Note** MFish proposes that you send a letter to South East Finfish and Challenger Finfish expressing concern over recent mortalities involving commercial fishers and requesting that these companies discuss what measures could be implemented in advance of the Threat Management Plan to reduce risks to dolphins. A draft of this letter will be provided to you shortly.

West coast North Island (Maui's dolphin)

254 MFish recommends that you **agree** to:

- a) **Note** MFish will hold discussions with Port Waikato drift net and set net fishers to determine whether set net and drift net fishing represents a threat to dolphins in that area and, if so, whether measures should be applied to eliminate any threats

And

- b) **Note** MFish will initiate discussions with commercial and recreational Taranaki set netters to assess the extent to which their fishing might represent a threat to dolphins and, if so, what measures can be applied to eliminate any threats

And

- c) **Note** MFish will discuss possible trawl voluntary measures with operators to avoid trawling close inshore, especially in winter when dolphins are within the trawl area

And

- d) **Note** MFish will continue monitoring of compliance with the west coast/Manukau entrance closed areas, particularly during the summer months and will publicise west coast/Manukau entrance closed areas

And

- e) **Note** MFish will maintain awareness of any new information on dolphin movement in harbours

West coast South Island

255 MFish recommends that you **agree** to:

- a) **Note** MFish will actively promote the recreational set net CoP and the need for appropriate set net practice on the west coast South Island

And

- b) **Note** MFish will discuss the industry's CoP with the Challenger Finfish to encourage them to raise their fishers' awareness of the code to ensure they comply with its various components

Steve Halley
for Chief Executive
Ministry of Fisheries

APPROVED / NOT APPROVED / AS AMENDED

Hon Jim Anderton
Minister of Fisheries

/ /2006

Appendix 1: Initial Position Paper – Proposed Interim Measures for Hector’s Dolphins

Purpose

256 The purpose of this Initial Position Paper (IPP) is to start consultation¹⁴ on proposals to introduce interim measures to mitigate the impacts of fishing on Hector’s dolphins (including Maui’s dolphins).

Submissions

257 The Ministry of Fisheries (MFish) requests that you provide written comments on the proposals contained in this paper by 23 November 2006.

258 These comments should be sent to Steve Halley, Manager, Environmental Standards, Ministry of Fisheries, ASB House, 101-103 The Terrace, Wellington, or faxed to 04 819 4669, or e-mailed to halleys@fish.govt.nz.

259 If you have any questions about this paper, please contact Elizabeth Raeburn or Steve Halley on 04 470 2600, or e-mail raeburne@fish.govt.nz.

Executive summary

260 MFish and the Department of Conservation (DOC) have been jointly working on a process to develop a Threat Management Plan for Hector’s dolphins. Hector’s dolphins are vulnerable to a range of threats, including some kinds of fishing activities, boat strike and boat noise, marine farming, and various kinds of pollution. The Threat Management Plan will contain strategies to deal with these threats.

261 The development of the draft Threat Management Plan is progressing but has proven more complex than initially envisaged, resulting in delays to the timeline for its implementation. The time required to develop and consult on a draft Threat Management Plan means that measures identified in the completed Plan are likely to be implemented around the middle of next year.

262 The summer period is when dolphins tend to be closer inshore, and is therefore the time of year when Hector’s dolphins are at most risk of net entanglement. The Minister of Fisheries is concerned about this risk to the dolphins and wants make sure that fishing threats are being adequately mitigated over the summer and while the Threat Management Plan is being developed (please refer to the Minister’s covering letter). Therefore, the Minister has asked the Ministry of Fisheries to consult on his behalf on proposals for a number of interim measures to be implemented ahead of the Threat Management Plan. As noted in the Minister’s letter, any interim measures introduced will be regarded as short-term measures that can be replaced by longer-term solutions identified in the Threat Management Plan.

263 This document focuses on interim measures for fishing-related threats only. The main fishing related threat to Hector’s dolphins is entanglement with commercial and recreational set net fisheries, and to a lesser extent inshore trawl fisheries. Hector’s dolphins have a close inshore distribution that overlaps with these fishing activities.

264 There are a number of measures already in place to mitigate fishing threats to Hector’s

¹⁴ In accordance with section 12(1) of the Fisheries Act 1996.

dolphins around New Zealand. MFish has undertaken an assessment of the need for interim measures to be implemented ahead of the Threat Management Plan currently under development. This assessment suggests that there are some threats to the dolphins that may require further mitigation over this interim period. To address these threats, the following measures are proposed:

Population	Proposed interim measure	Proposed interim implementation framework
Te Waewae Bay (south coast South Island)	<p>Either: Commercial fishers setting a net within Te Waewae Bay¹⁵ must remain in attendance with the net while the net is set throughout the year</p> <p>Or: Commercial set netting is prohibited within 1 nautical mile (nm) of the shore of Te Waewae Bay throughout the year; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Commercial set netting is prohibited within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Commercial set netting is prohibited within Te Waewae Bay throughout the year.</p>	Mandatory or voluntary
	<p>Either: Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set throughout the year</p> <p>Or: Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay throughout the year; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)</p> <p>Or: Recreational set netting is prohibited within Te Waewae Bay throughout the year</p>	Mandatory
	MFish will discuss the industry's set net Code of	Voluntary

¹⁵ Te Waewae Bay is defined as shorewards to the mean high water mark (excluding rivers, estuaries and lagoons) from a straight line between the southern most point of Sand Hill Point and the western most point of Pahia Point.

	Practice (CoP) with South East Finfish Management Ltd. to encourage them to raise fisher's awareness of the CoP to ensure they comply with it, as well as discuss the possibility for including measures to mitigate potential dolphin bycatch by trawlers	
East coast South Island	Either: Extend the boundary of the Canterbury recreational set net seasonal (1 October to 31 March) closure northwards to prohibit recreational set netting from the Waiau River to the Clarence River outlet (FMA3/FMA4 boundary, 42°10.0'S and 173°56.0'E) and out to 4 nm Or: Recreational fishers setting a net must remain in attendance with the net while the net is set, when fishing between the Waiau River and the Clarence River and out to 4 nm from 1 October to 31 March	Mandatory
	MFish will discuss the industry's set net CoP with South East Finfish Management Limited and Challenger Finfisheries Management Company Limited to encourage them to raise fisher's awareness of the CoP to ensure they comply with its various components, as well as discuss the possibility for including further measures to mitigate dolphin bycatch by trawlers	Voluntary
Maui's dolphin (west coast North Island)	MFish will initiate discussions with Port Waikato drift net and set net fishers to determine whether set net and drift net fishing represents a threat to dolphins in that area and, if so, whether measures such as voluntary limits, regulated closures or a combination of these should be applied to eliminate any threats, with an aim to have measures in place as soon as practicable	Voluntary or mandatory
	MFish will initiate discussions with commercial and recreational Taranaki set netters to assess the extent to which their fishing might represent a threat to dolphins and, if so, what measures can be applied to eliminate any threats	Voluntary
	MFish will discuss possible trawl mitigation measures with operators to avoid trawling close inshore, especially in winter when dolphins are within the trawl area	Voluntary
West coast South Island	MFish will discuss the industry's set net CoP with Challenger Finfisheries Management Company Limited to encourage them to raise their fisher's awareness of the code to ensure they comply with its various components	Voluntary
Relevant to all populations	Monitoring and enforcement of existing mandatory measures in place	Ongoing
	MFish will actively promote the recreational set net CoP and the need for appropriate set net practice. For example, through targeted newspaper articles and public notices, as well as developing a poster for placement in clubs, fishing shops, etc. Increase	Voluntary

	awareness through routine presence of Fishery Officers and Honorary Fishery Officers in key recreational areas over summer months.	
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265 It is possible in some instances that voluntary measures will adequately mitigate fishing threats until the Threat Management Plan is completed. In this case, officials will work with fishers to implement such measures as soon as possible. If the Minister of Fisheries considers mandatory interim measures are required to effectively mitigate fishing threats, these are intended to be implemented by Christmas 2006.

266 MFish also proposes to fix a technical error in the existing Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002 that currently bans the use of recreational set nets from the Territorial Sea Baseline (low tide mark) out to 4 nm between the Waiau and Waitaki Rivers from 1 October to 31 March. MFish proposes to amend the notice to ban the use of recreational set nets from the mean high water mark out to 4 nm between the Waiau and Waitaki Rivers from 1 October to 31 March.

Document structure

267 This paper is structured as follows:

- ◆ The introduction outlines:
 - The threat of fishing to dolphins;
 - The Minister of Fisheries' legislative obligations under the Act; and
 - Provides background information on the Hector's dolphin Threat Management Plan currently under development and proposed interim measures
- ◆ The main body of the paper sets out, by population:
 - Proposed interim measures
 - Population status
 - Current management measures
 - Analysis of proposed interim measures
- ◆ The final section outlines the proposed process for implementation of any interim measures

Introduction

Problem definition – threat of fishing to Hector's dolphins

268 Hector's dolphin is New Zealand's only endemic cetacean and is one of the world's rarest dolphin species. The species is divided into two subspecies, one of which occurs in South Island waters, and the other in the waters off the west coast of the North Island (Maui's dolphin).

269 The South Island Hector's dolphin is ranked as nationally vulnerable by DOC and endangered by the World Conservation Union (IUCN), and is estimated to number around 7,270 individuals. The North Island Maui's dolphin, with an estimated population size of 111 individuals, is ranked as nationally critical by DOC and critically endangered by the IUCN.

270 Four genetically distinct regional Hector's dolphin populations have been identified that are

connected by little or no gene flow. These are found on the west coast of the North Island, the west coast of the South Island, the east coast of the South Island, and south coast of the South Island (see Figure 1). Te Waewae Bay is considered to be the core area of abundance for Hector’s dolphins on the south coast South Island and is therefore the focus of proposed interim measures for the south coast population.

Figure 1: Map of Hector’s dolphin distribution (indicative only)



271 The estimated sizes of each population are¹⁶:

- ◆ Maui’s dolphin – 111
- ◆ East coast South Island – 1791
- ◆ West coast South Island – 5388
- ◆ Te Waewae Bay – 89

272 Hector’s dolphins are threatened by even low levels of mortality due to slow reproduction rates resulting in low potential for population growth. There are a number of actual and potential

¹⁶ These population estimates are based on the most recent information published in scientific journals. Note there is uncertainty around the precise abundance estimate for the Te Waewae Bay population. This is discussed later in the paper.

threats facing the dolphins, including fishing-related mortality, boat strike, pollution, disease, mining and tourism impacts.

Fishing interactions with Hector's dolphins

273 Hector's dolphins are vulnerable to a range of threats, including net entanglement. The dolphins have a close inshore distribution, which overlaps with commercial and recreational set net fisheries, as well as inshore trawl fisheries. Fishing-related mortality through net entanglement is recognised as a significant threat to Hector's dolphins (see Appendix 2 for further information on fishing threats). Summer is when dolphins tend to be closer inshore, and is therefore the time when Hector's dolphins are at most risk of net entanglement. This summer inshore movement coincides with a peak in recreational and commercial set netting effort over the summer season.

274 From 1997/98, DOC has kept detailed records of all reported incidents of dead Hector's dolphins¹⁷. Beach-cast reports are usually not able to determine whether the deaths associated with set netting were commercial or recreational, and it is generally only through fisher self-reporting that this can be specified. The level of threat to the dolphins from fishing is difficult to quantify due to very limited observer coverage and limited self-reporting by fishers. Consequently, the figures reported throughout this paper represent the minimum number of dolphin deaths for each population.

275 Over the past three years (since the start of October 2003) there have been 50 known Hector's dolphin deaths. Nineteen of these deaths have been attributed to fishing, with 15 of these caused by set net entanglement, 3 caused by trawling and 1 caused by entanglement in a craypot line. Three deaths were linked to natural causes. The cause of the remainder of known deaths could not be identified with certainty¹⁸.

276 There have been 19 Hector's dolphin deaths over the past year. Seven¹⁹ of these deaths have been attributed to set net entanglement and 3 deaths were the result of one trawling incident²⁰ (see Appendix 4 for further details on mortalities over the past year). The cause of death for the remainder is unknown.

Legislative obligations

277 The Minister of Fisheries has obligations under the Fisheries Act 1996 (the Act) to manage the impacts of fishing on protected species such as Hector's dolphins.

278 The purpose (section 8) of the Act is to provide for the utilisation of fisheries resources while ensuring sustainability. 'Ensuring sustainability' is defined in the Act as "maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations" and "avoiding, remedying or mitigating any adverse effect of fishing on the aquatic environment". 'Utilisation' means "conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural wellbeing".

¹⁷ Information about dolphin mortalities in this document has been obtained from the DOC records. For incidents that are not self-reported by fishers and necropsy reports identify the cause of death to be consistent with entanglement, set netting entanglement is assumed. As a result, it is possible that some trawling incidents have been incorrectly attributed to set netting.

¹⁸ Cause of death often cannot be determined due to the decomposed state of carcasses

¹⁹ 3 off the east coast South Island; 4 off the west coast South Island

²⁰ Off the east coast South Island

279 Section 9 of the Act contains three environmental principles that the Minister of Fisheries must take into account when considering the effects of fishing on Hector's dolphins. These principles are:

- ◆ Associated or dependent species should be maintained above a level that ensures their long-term viability;
- ◆ Biological diversity of the aquatic environment should be maintained.
- ◆ Habitat of particular significance for fisheries management should be protected.

280 Biological diversity is defined in the Act as meaning the variability among living organisms, including diversity within species. As mentioned above, four genetically distinct Hector's dolphin populations have been identified that are connected by little or no gene flow. In particular, in relation to any decision to avoid, remedy or mitigate the effects of fishing on Hector's dolphins, MFish considers the Minister should take account of maintaining:

- ◆ The Hector's dolphin species above a level that ensures long-term viability; and
- ◆ The genetic diversity within the species, including the viability of the four populations, in the aquatic environment.

281 Under section 10 of the Act, decision makers are required to take into account four information principles. Decision makers should take into account the best available information; consider any uncertainty in the information available; be cautious when information is uncertain, unreliable, or inadequate; and not use the absence of, or uncertainty in, any information as a reason for postponing or failing to take any measure to achieve the purpose of the Act.

282 Mandatory interim measures can be introduced by way of Regulation under section 15 of the Act or by Gazette notice under section 11 of the Act (as outlined in more detail below). The prohibition or restriction on the use of a fishing method within a particular area and fishing season falls within the scope of both sections. Section 11 provides an appropriate means of implementing management measures by Gazette notice (if necessary) to maintain biological diversity and to avoid, remedy, or mitigate the adverse effects of fishing on the aquatic environment.

283 The management of fishing-related mortality of marine mammals is guided by a number of legislative provisions, in particular section 15 of the Act. Section 15 is closely linked to the Marine Mammals Protection Act 1978. The Marine Mammals Protection Act 1978 provides for the establishment of population management plans (PMPs) for protected species.

284 Section 15(2)²¹ applies because a PMP is not in place for Hector's dolphin. That section allows the Minister of Fisheries, in the absence of a PMP and after consultation with the Minister of Conservation, to take measures considered necessary to avoid, remedy, or mitigate the effect of fishing-related mortality on any protected species. All marine mammals are "protected species" under the Act. Such measures may include setting a limit on fishing-related mortality and closing areas to fishing for all or part of the year. Section 15(4) allows the Minister of Fisheries to recommend the making of such regulations under s 298 of the Act as are considered necessary or expedient for the purpose of implementing any measures referred to in s 15(2). Where a limit on fishing-related mortality has been set, the Minister is also able to prohibit all or any fishing or

²¹ Section 15(2) of the Act states that "In the absence of a population management plan, the Minister [of Fisheries] may, after consultation with the Minister of Conservation, 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."

fishing methods in an area by Gazette notice under s 15(5)(b) to ensure this limit is not exceeded.

285 Section 11 also provides for the Minister to set sustainability measures, including measures relating to areas and fishing methods, by notice in the Gazette. Such sustainability measures may only be imposed after having taken into account the various statutory considerations set out in section 11. These considerations are set out and discussed in Appendix 1. MFish believes the proposals raise no concerns in relation to New Zealand's international obligations and the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (section 5).

286 MFish also acknowledges the consultation requirements set out in section 12 of the Act, before any sustainability measure can be set or varied. The 5 week consultation period for this IPP is shorter than MFish would usually allow. However, MFish considers that 5 weeks consultation is necessary given the need in certain areas for measures to prevent further fishing-related deaths of Hector's dolphins over the upcoming summer.

Hector's dolphin Threat Management Plan

287 MFish and DOC have been jointly working on a process to develop a Threat Management Plan²² for Hector's dolphins. The Threat Management Plan is intended to identify all threats to Hector's dolphin populations and outline strategies to mitigate those threats. A collaborative process has been undertaken to develop a draft Threat Management Plan for consultation that involves stakeholders from all interest groups.

288 The goals of the Threat Management Plan are:

1. To ensure that the long-term viability of Hector's dolphins is not threatened by human activities.
2. To further reduce impacts of human activities²³ as far as possible, taking into account advances in technology and knowledge, and financial, social and cultural implications.

289 Appendix 3 outlines progress to date with developing the draft Threat Management Plan. The next stage in that process is to seek input from local stakeholders in regional threat mitigation workshops to identify longer-term solutions to mitigate threats to Hector's dolphins.

290 As noted earlier, the development of the draft Threat Management Plan is progressing but has proven more complex than initially envisaged, resulting in delays to the timeline for its implementation. The time required to develop and consult on a draft Threat Management Plan means that measures identified in the completed Plan are likely to be implemented around the middle of next year.

Interim measures for Hector's dolphins

291 There are a number of measures already in place to mitigate fishing threats to Hector's dolphins around New Zealand. For each of the four Hector's dolphin populations, MFish has undertaken an assessment of the need for interim measures until the Threat Management Plan is completed. Proposals for these interim measures are set out in the following sections.

292 Any measures implemented will be recognised as interim or short-term. Measures

²² The Threat Management Plan is different to a PMP and is not in statute.

²³ The Ministry of Fisheries mandate is restricted to managing the effects of fishing on the dolphins.

eventually implemented through the Threat Management Plan will replace or amend any interim measures introduced, as necessary. The Threat Management Plan process has been developed to comprehensively address all threats, both fishing and non-fishing. Any interim measures introduced to address fishing threats will not pre-determine a desired course of action or preclude an assessment of alternative mitigation measures arising from the Threat Management Plan.

Te Waewae Bay (south coast South Island)

Proposals for interim measures

293 MFish proposes the following interim measures for the Te Waewae Bay²⁴ population:

<p>Either: Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set throughout the year;</p> <p>Or: Commercial set netting is prohibited within 1 nm of the shore of Te Waewae Bay throughout the year; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year);</p> <p>Or: Commercial set netting is prohibited within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March²⁵; and Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year);</p> <p>Or: Commercial set netting is prohibited within Te Waewae Bay throughout the year.</p>
<p>Either: Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set throughout the year;</p> <p>Or: Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay throughout the year; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year);</p> <p>Or: Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay from 1 October to 31 March; and Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year);</p> <p>Or: Recreational set netting is prohibited within Te Waewae Bay throughout the year.</p>
<p>MFish will discuss the industry's CoP with South East Finfish Management Ltd. to encourage them to raise their fisher's awareness of the code to ensure they comply with its various components when setting nets, as well as discuss the possibility for including further measures to mitigate dolphin bycatch by trawlers. MFish will also work with industry to ensure effective monitoring and reporting frameworks are in place.</p>
<p>MFish will actively promote the recreational set net CoP and the need for appropriate set net practice. For example, through targeted newspaper articles and public notices, as well as developing a poster for placement in clubs, fishing shops, etc.</p>

²⁴ Te Waewae Bay is defined as shorewards to the mean high water mark (excluding rivers, estuaries and lagoons) from a straight line between the southern most point of Sand Hill Point and the western most point of Pahia Point, see Figure 2.

²⁵ The dates selected for this seasonal closure are for consistency with an existing seasonal set net restriction for Hector's dolphins in Canterbury (see later in paper) and because the timing for implementation of longer-term measures under the Threat Management Plan has yet to be determined with certainty.

294 Appropriate offences and penalties may also need to be established for any new regulatory requirements introduced.

Population status

295 Te Waewae Bay has the smallest South Island Hector's dolphin population. The most recent published and peer reviewed population estimate for Te Waewae Bay is 89²⁶ (95% confidence interval = 36-218) individuals. Based on this population estimate, initial PBR analysis²⁷ to guide the setting of a human-induced mortality limit for the south coast South Island population indicates annual mortality caused by human activities should be zero.

296 The population estimate of 89 dolphins was based on analysis from a boat-based survey undertaken in 1998-99. DOC has since carried out some intensive research on the Te Waewae Bay Hector's dolphin population. This research involved boat-based surveys of the population from April-June 2004 and from December 2004-February 2005. The findings from this study have yet to be peer reviewed, but preliminary results suggest the number of dolphins that use Te Waewae Bay may substantially exceed the previous estimate of 89 individuals. The draft report indicates that there is a photographic catalogue of 330 distinctively marked dolphins that use Te Waewae Bay and DOC believe (based on preliminary analysis) that the population estimate will likely fall between 330 and 650 animals.

297 MFish therefore notes there is uncertainty about the precise abundance of dolphins that use the bay. In accordance with the information principles in the Act, this uncertainty should be taken into account when considering the need for interim measures to avoid, remedy or mitigate the impacts of fishing on Hector's dolphins in Te Waewae Bay.

298 The boat-based surveys carried out by DOC between April 2004 and February 2005 also found that Hector's dolphins were concentrated within 1 km of the coast, along the extent of Te Waewae Bay, with somewhat lower densities along the eastern and western edges of the bay.

Fishing threats to the population

Set netting

299 Commercial and recreational set netting is practiced in Te Waewae Bay. There is no known customary set netting effort in the bay.

300 Recreational set netting in the bay is confined to within 500 m off the shore for small sharks (such as elephant fish and rig) during summer and reef fish (such as butterfly and trumpeter). Fishing mainly takes place over summer and is primarily confined to a limited number of local people who fish on the weekends. There is a campground at Monkey Island, which is located on the eastern side of Te Waewae Bay. Visitors from outside the local area stay at the campground, particularly over the Christmas/New Year holiday, which leads to increased fishing effort (including set netting).

²⁶ This population estimate does not include the group of dolphins resident in Porpoise Bay. As shown in Figure 1, Hector's dolphins also utilise the south coast of the South Island to the east of Te Waewae Bay. Further work will be undertaken to identify whether the Porpoise Bay dolphins should be linked with the Te Waewae Bay population or the east coast South Island population.

²⁷ PBR analysis using the recovery-rate goal estimates the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while ensuring the time to recovery is not delayed by more than 10% with a 95% probability. All references to PBR in the main text of this document relate to analysis based on the recovery rate goal, and numbers of dolphins have been rounded down to the nearest integer. See Appendix 5 for a further description of the PBR analysis for Hector's dolphins

301 At the eastern end from Monkey Island to Pahia Point the rocky area is fished for reef fish. At the western end near the Waikoau River mouth and back along the beach to the eastern end set netters target small sharks. Some recreational fishers set their nets at low tide and retrieve them 13 hours later at low tide again. There is a considerable amount of recreational set netting/dragnetting for flounder in the lagoon of the Waiau River that flows into Te Waewae Bay (note this area is not included in proposals). Flounder set nets are set in shallow water near the sea floor and are considered of less risk to dolphins than nets set to target other fish species.

302 One commercial set netter regularly fishes in Te Waewae Bay. This fisher catches elephant fish within the bay, along with some rig. Another set netter occasionally fishes in the bay as part of fishing all over Foveaux Strait.

303 Information is uncertain around the actual number of dolphin deaths caused by set net fishing in Te Waewae Bay. Of the known deaths on the south coast South Island over the past three years, necropsy results have attributed one dolphin death to set net entanglement. This dolphin was recovered on Orepuke Beach, on the eastern side of Te Waewae Bay (see Figure 2). However, MFish notes that because this area is isolated other deaths may have been missed.

Trawling

304 There is some trawling (around 10-15 vessels) for flatfish in Te Waewae Bay by off season oyster boats and Bluff and Riverton based trawlers. There have been no known Hector's dolphin mortalities caused by trawling off the south coast of the South Island.

Current management measures

305 No mandatory measures are in place to mitigate dolphin bycatch on the south coast South Island.

306 Commercial set netters fishing in Fisheries Management Area (FMA) 5, which encompasses Te Waewae Bay, operate under the South East Finfish Management Ltd voluntary CoP. Under this CoP, fishers are required to adopt a number of fishing practices that reduce the likelihood of dolphin incidental bycatch, including:

- avoiding setting nets where water is shallow, murky or discoloured
- avoiding fishing in areas where Hector's dolphin are known to frequent
- keep set duration as short as possible
- set nets as tight as possible
- maintain an active and alert lookout to spot Hector's dolphins active near the vessel during fishing operations
- not setting nets when Hector's dolphins are active around the fishing vessel
- deployment of pingers (acoustic devices that scare dolphins away from the nets)

307 MFish actively promotes a voluntary set net code of practice for non-commercial fishers and seeks to maximize compliance with the amateur set net fishing regulations. This code applies throughout New Zealand, and encourages wise set netting practices, including:

- using a net designed for the fish species being targeted
- deploying a net with anchors that are suitable for sea conditions to prevent losing nets
- setting a net that can be easily retrieved
- staying with and regularly checking the net

- avoiding setting nets when Hector's dolphins are present
- deploying a net for the shortest soak time possible
- avoiding setting nets overnight

308 MFish has developed a *Set Net Code of Practice* pamphlet for recreational fishers to inform them of the best practices for using set nets, as well as incorporating this information in the recent *Recreational Fisher's Handbook*. The Set Net Code of Practice can be found on the MFish website www.fish.govt.nz and published versions are also available from Ministry of Fisheries offices.

Analysis of proposed interim measures

Set netting

309 Initial PBR analysis based on the published estimate of population size indicates annual mortality caused by human activities should be zero for the Te Waewae Bay population. However, as mentioned above, preliminary findings from a recent DOC study suggest there are higher numbers of dolphins in the bay than were previously estimated. This recent research highlights uncertainty around the status of the Te Waewae Bay population.

310 Notwithstanding this new preliminary information, MFish considers a risk to the population exists from commercial and recreational set netting within the dolphins' range. Te Waewae Bay has the smallest South Island Hector's dolphin population. Set net fishing is a known threat to the dolphins. This is supported by the fact that in 2004 there was a confirmed dolphin death resulting from set net entanglement. There is a voluntary industry CoP in place to mitigate the impacts of commercial set netting on Hector's dolphins but the effectiveness of this voluntary initiative is uncertain. Recreational set net effort is highest over the summer months. There are no mitigation measures in place for recreational set netters, other than Government promotion of a recreational set net CoP. MFish therefore considers that interim measures to mitigate commercial and recreational set netting risk are necessary in Te Waewae Bay to avoid, remedy or mitigate the adverse effects of fishing on the dolphins.

Commercial set netting

311 To address the threat of commercial set netting in the bay, MFish proposes the following options:

- ◆ *Option 1* - Introduce a year round requirement for commercial fishers setting a net within Te Waewae to remain in attendance with their net while the net is set.
- ◆ *Option 2* - Introduce an area closure that prohibits commercial set netting throughout the year within 1 nm of the shore of Te Waewae Bay (see Figure 2) and require commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set.
- ◆ *Option 3* - Introduce a seasonal area closure (1 October to 31 March inclusive) that prohibits commercial set netting within 1 nm of the shore of Te Waewae Bay to Pahia Point and a requirement for commercial fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set.
- ◆ *Option 4* – Introduce an area closure that prohibits commercial set netting within Te Waewae Bay throughout the year.

312 MFish considers that requiring set netters to stay in attendance with their net will enable a prompt response to dolphin presence near nets and consequently reduce the risk of entanglement. This proposal applies to the whole area within Te Waewae Bay, and for all months of the year. The commercial set net voluntary CoP states that fishers are to maintain an active and alert lookout to spot Hector's dolphins active near the vessel during fishing operations and states that set nets must not be deployed when Hector's dolphins are active around the vessel.

313 MFish notes that by allowing commercial set netters to continue to operate where dolphin densities appear to be highest in Te Waewae Bay (Option 1), there remains a greater, though unquantified, risk to the dolphin population than if set netting was prohibited in the core area where dolphins are present.

314 MFish's alternative proposals (Options 2, 3 and 4) are therefore to introduce an area closure that prohibits commercial set netting in some or all of Te Waewae Bay. Options 2 and 3 are to prohibit commercial set netting within 1 nm of the shore of Te Waewae Bay, and require commercial set netters to stay with their net when fishing in Te Waewae Bay outside the closed area. Closing this area would provide a buffer zone around the distance from shore that best available information shows dolphins are most commonly sighted, as well as a buffer zone to the east and west of the area where the dolphins appear to be most concentrated. This area closure could be in place year round (Option 2), or could be a seasonal closure from 1 October to 31 March (Option 3), which is the time of year when set net entanglements are most likely to occur. A seasonal closure would provide opportunity for commercial set netters to use the whole of Te Waewae Bay during the winter months, but would present greater risk to dolphins than a year round area closure.

315 Although Hector's dolphin sightings are concentrated close to the coast (even when standardised by survey effort), dolphins are also sighted in locations throughout the bay. MFish therefore proposes a fourth option, which is to close the whole of Te Waewae Bay to commercial set netting throughout the year. While this proposal reduces commercial set netting risk to dolphins to the greatest extent, it accordingly has the greatest impact on utilisation. A decision to implement Option 4 will mean that the one main Te Waewae Bay commercial set netter will no longer be able to fish using the set net method at any location within the bay, and it will also impact on the other commercial set netter who occasionally fishes in Te Waewae Bay.

316 MFish notes that there is uncertainty about extent of overlap between the dolphins and commercial set net fishing in the bay. In accordance with the information principles in the Act, the Minister must take this uncertainty into account when making decisions on interim measures to mitigate the impacts of commercial set netting in Te Waewae Bay.

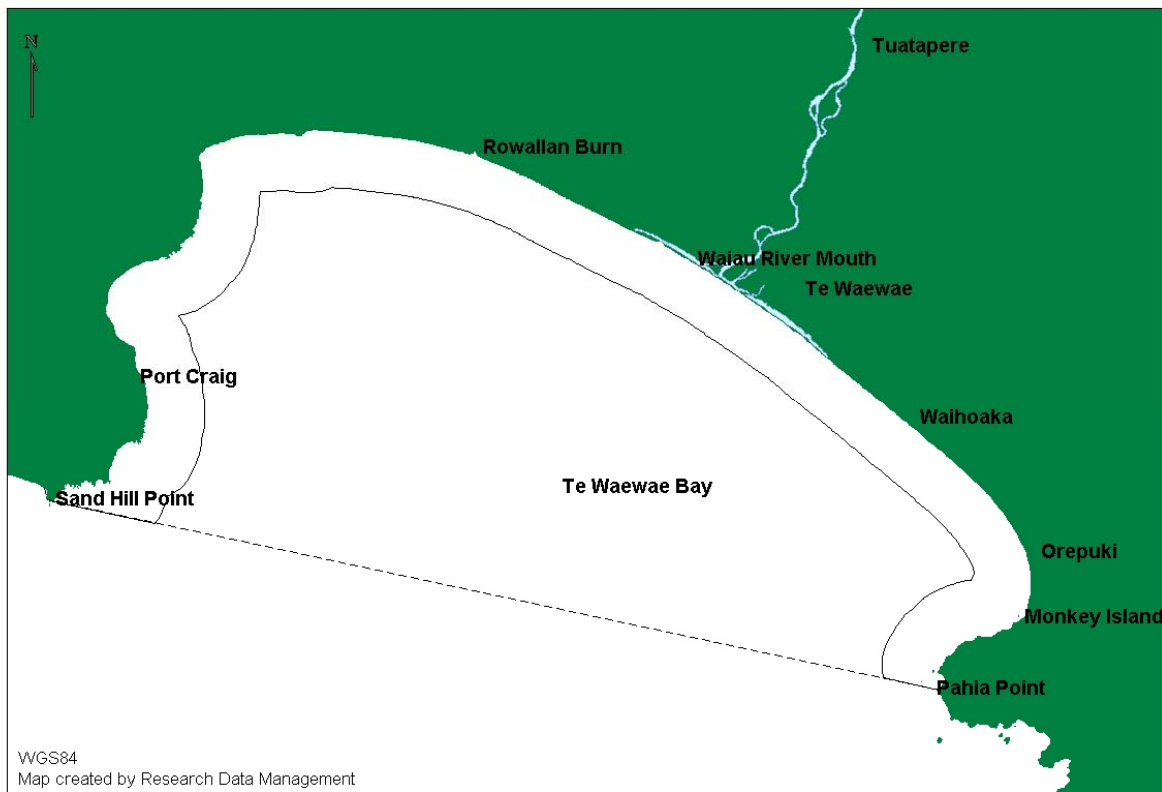
317 Because set net effort is reported by statistical area, it is difficult to use catch effort and landing data to assess the value of the set net fishery within Te Waewae Bay, which makes up part of statistical area 30. Noting the limitations of the data, MFish has calculated the average estimated catch by set netting for the top 6 species caught in statistical area 30 over 5 complete fishing years, from 1 October 1999 to 30 September 2005²⁸ (see Appendix 6). Average estimated catch for these 6 species is 280, 430 kg, with an estimated value of \$481, 584 (based on estimated catch by port

²⁸ Complete data for the 2005/06 fishing year is not yet available, as there may still be some outstanding forms yet to be returned. This analysis is based on reporting from the catch/effort (estimated greenweight catch) section of the Ministry of Fisheries Commercial Catch Effort and Landing Returns forms, rather than landings data. This is because landings are reported on a trip basis, and therefore the data could include landings from statistical area 30 using set nets as well as landings from different statistical areas or landings taken using a different gear type (and hence may be misrepresentative of the amount of fish taken by set netting in statistical area 30).

price). While this information does not provide the level of detail necessary to estimate the value of the Te Waewae Bay commercial set net fishery or the impact of the proposals on affected commercial set netters, it does provide some context for considering the economic implications of any measures proposed.

318 MFish welcomes any additional information from stakeholders on the economic impact of these proposals for commercial set netters in Te Waewae Bay.

Figure 2: Indicative boundary of proposed 1nm closed area in Te Waewae Bay (solid line) and of proposed measures that apply to the whole bay (dotted line)



Implementation

319 Commercial set net controls in Te Waewae Bay could be mandatory or voluntary. MFish notes that commercial set netters in Te Waewae Bay fall under the jurisdiction of South East Finfish Management Ltd.; hence there are governance arrangements in place that would increase the likelihood that voluntary measures will be effective. That there is only one commercial fisher (occasionally two) in the bay also increases the likelihood of compliance with voluntary measures. Nevertheless, voluntary measures cannot be enforced by MFish in the same way that regulatory-type measures can.

320 Alternatively, introducing mitigation measures using legislative mechanisms available in the Act gives MFish the ability to enforce non-compliance and increase the certainty of implementation. Therefore, MFish's preference is for any proposed commercial set netting closure or net attendance requirement (if approved) to be made mandatory.

Recreational set netting

321 Recreational set netting in Te Waewae Bay is generally restricted to locals who fish on the weekend. Similarly to commercial set netting, MFish proposes three alternative options for mitigating the impacts of recreational set netting on Hector's dolphins in the bay:

- ◆ *Option 1* - Introduce a year round requirement for recreational fishers setting a net within Te Waewae Bay to remain in attendance with their net while the net is set.
- ◆ *Option 2* - Introduce a year round area closure that prohibits recreational fishing throughout the year within 1 nm of the shore of Te Waewae Bay (see Figure 2) and require recreational fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set.
- ◆ *Option 3* - Introduce a seasonal area closure (1 October to 31 March inclusive) that prohibits recreational fishing within 1 nm of the shore of Te Waewae Bay and a requirement for recreational fishers setting a net within Te Waewae Bay to remain in attendance with the net while the net is set.
- ◆ *Option 4* – Introduce an area closure that prohibits recreational set netting within Te Waewae Bay throughout the year.

322 MFish believes that introducing a requirement for recreational fishers to stay in attendance with their net when it is set within Te Waewae Bay would reduce soak times and enable prompt response to dolphin presence in the vicinity of the nets, thereby substantially reducing the risk to dolphins. Option 1 would provide for greater recreational use within the bay than prohibiting set netting within some or all of Te Waewae Bay (Options 2, 3 and 4). However, similarly to the proposed commercial controls, MFish notes that allowing recreational set netting to continue where dolphin densities appear to be highest constitutes a greater, though unquantified, risk to the dolphins than excluding set netting from the core dolphin area within Te Waewae Bay. Under this option, MFish will work to raise local fishers' awareness of good set netting practice, including retrieval of their nets when dolphins are near the fishing gear.

323 Two alternative proposals are to prohibit (year round or seasonally) recreational set netting out to 1 nm from shore in Te Waewae Bay and require recreational fishers to remain in attendance with their net when set netting in the bay outside the closed area/seasonal restriction.

324 MFish notes that the proposed closed area out to 1 nm would probably stop all recreational set net fishing in Te Waewae Bay as all set net activity occurs near to shore. There are few alternative sites suitable for recreational set netting because of the rough and exposed conditions on the open coastline. Recreational set netting and dragnetting that currently occurs in the lagoon of the Waiau River (that flows into Te Waewae Bay) would still be permitted because this area is outside the boundary of the proposed closure. Summer is when recreational set netting effort is at its peak, with comparatively little set netting effort occurring over the winter.

325 The proposed area closure could be in place year round (Option 2), or could be a seasonal closure from 1 October to 31 March (Option 3). A seasonal closure would allow recreational set netting over winter, which generally occurs in reef areas close inshore for butterfish and moki.

326 Although it is likely that 1 nm year round closure would essentially prevent all recreational set netting; there is a possibility that recreational set netters would move further offshore to set their nets. Because dolphins are sighted in locations throughout the bay, MFish proposes a fourth

option, which is to close the whole of Te Waewae Bay to recreational set netting throughout the year. This proposal provides greater certainty that recreational set netting does not overlap with the dolphins' range in Te Waewae Bay and will likely have a similarly significant impact on recreational set net use as Option 2.

327 When making final decisions on these proposals for set netting measures in Te Waewae Bay, the Minister will need to weigh up the utilisation impact of prohibiting set net fishing in Te Waewae Bay against the benefits of more effective mitigation of set netting risk to dolphins. Stakeholder submissions on the extent of fishing activity in Te Waewae Bay, and the impacts and benefits of these proposals are welcomed.

Implementation

328 Proposals for recreational set netting restrictions are mandatory only. This is because recreational fishers do not have governance arrangements in place to ensure effective implementation of voluntary measures. In addition, recreational fishers coming in to the region on holiday are unlikely to be aware of, or support, voluntary measures. Because it is difficult to ensure recreational fishers will comply with voluntary measures, MFish considers that statutory measures are the most effective means to manage recreational set netting interactions with Hector's dolphins.

Trawling

329 While there is no reported information confirming that trawlers have caught dolphins off the south coast, trawl vessels operating in Te Waewae Bay are a potential threat to the population. MFish considers that this threat will best be addressed through the Threat Management Plan process but will engage with industry in the interim to discuss the possibility for incorporating trawl mitigation measures into the South East Finfish Management Ltd. CoP.

Summary of rationale for interim measures proposed

330 Te Waewae Bay has the smallest South Island Hector's dolphin population (even in light of new information on the population's status). MFish considers that commercial and recreational set netting presents a risk to the Te Waewae Bay Hector's dolphin population. There is uncertainty around the extent to which current voluntary initiatives mitigate this risk. MFish is therefore proposing either an area closure (seasonal or year round) or a requirement for fishers to stay near their nets when set netting in Te Waewae Bay.

331 The governance arrangements in place for commercial fishers in Te Waewae Bay mean there is an increased likelihood that these measures can be implemented effectively on a voluntary basis. However, because there is a significant sustainability concern for the Te Waewae Bay population, MFish's preference is for the proposed measures, if approved, to be implemented by regulatory amendment or Gazette notice as this will provide greater certainty to the Minister that his obligations under the Act are being met. Similarly, should any measures be introduced to mitigate the threat of recreational set netting to Hector's dolphins in Te Waewae Bay, it is MFish's preference that these are implemented on a mandatory basis.

332 MFish considers that the proposed mandatory measures to mitigate the impacts of set netting on dolphins in Te Waewae Bay, combined with voluntary initiatives to address remaining fishing activities in the bay (such as trawling), will adequately mitigate fishing threats until the Threat Management Plan is completed.

East coast South Island

Proposals for interim measures

333 Proposals for managing the impacts of fishing on the east coast South Island Hector's dolphin population are:

Either:

Extend the boundary of the Canterbury recreational set net seasonal closure northwards to prohibit recreational set netting from the Waiau River to the Clarence River outlet (FMA3/FMA4 boundary, 42°10.0'S and 173°56.0'E) and out to 4 nm;

Or:

Recreational fishers setting a net must remain in attendance with the net while the net is set, when fishing between the Waiau River and the Clarence River and out to 4 nm from 1 October to 31 March.

MFish will discuss the industry's CoP with South East Finfish Management Ltd. and Challenger Finfisheries Management Company Ltd. to encourage them to raise their fisher's awareness of the code to ensure they comply with its various components, as well as the possibility for including further measures to mitigate dolphin bycatch by trawlers. MFish will also work with industry to ensure effective monitoring and reporting frameworks are in place

MFish will actively promote the recreational set net CoP and the need for appropriate set net practice (to apply outside closed areas). For example, through targeted newspaper articles and public notices, as well as developing a poster for placement in clubs, fishing shops, etc.

334 Appropriate offences and penalties may also need to be established for any new regulatory requirements introduced.

Proposal to fix technical error

335 MFish has identified a technical error in the Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002 (No. F208) that was introduced following an MFish review to assess whether further mitigation measures were needed for South Island Hector's dolphins. The intent of this notice is to ban the use of recreational set nets in the Canterbury set net area (Waiau River to the Waitaki River and out to 4 nm) from 1 October to 31 March, with a shorter ban in flounder areas in Banks Peninsula and exception of certain reefs in the Timaru reef area²⁹. The shore boundary of this closure is currently the Territorial Sea Baseline.

336 The Territorial Sea baseline is defined as the low tide mark. Therefore, the current notice does not apply to the area of coastline between the low tide mark and the mean high water mark. To satisfy the original intent of the notice, MFish proposes to amend notice F208 to ban the use of recreational set nets from the mean high water mark (proceeding straight across rivers, estuaries or lagoons) out to 4 nm between the Waiau and Waitaki Rivers from 1 October to 31 March, with the same shorter ban as previously in flounder areas and exception of certain reefs in the Timaru reef area.

²⁹ See Appendix 7 for a map of the recreational set net closed areas.

Population status

337 The east coast South Island population has an estimated size of around 1790³⁰ individuals. High densities of Hector's dolphins off the east coast are:

- in Akaroa Harbour;
- between Banks Peninsula and Rakaia River;
- on the east coast of Banks Peninsula;
- in Cloudy and Clifford Bays;
- in Queen Charlotte Sound; and
- between Cape Campbell and Motunau.

338 Studies around Banks Peninsula have shown that in summer Hector's dolphins are mostly found close to shore in water less than 20 m deep and in winter the dolphins move out to deeper waters (20-100 m). Hector's dolphins have been encountered during offshore aerial surveys at distances of 16.3 nm offshore in summer and 18.2 nm offshore in winter.

339 Initial PRR analysis to guide the setting of a human-induced mortality limit for the east coast South Island population indicates that 4 dolphins can be removed from the population each year.

Fishing threats to the population

Set netting

340 Commercial, customary and recreational set net fishing occurs on the east coast of the South Island. Set netters generally target elephant fish, rig and school shark.

341 An observer programme designed to assess the incidental catch of Hector's dolphins in commercial set net shark fisheries operating in Pegasus Bay-Canterbury Bight set net fishery (Statistical Areas 020 and 022) was carried out during the 1997-98 fishing year. During the survey a total of seven Hector's dolphins were observed caught in set nets, of which one was released alive. All events involving Hector's dolphins occurred near shore in shallow depths of less than 30 m. Using these observer data, a total bycatch of 18 Hector's dolphin interactions was estimated for 1997-98 set net fisheries in Statistical areas 020 and 022. Measures have been put in place to mitigate dolphin bycatch off the east coast South Island since this observer programme was undertaken. These are outlined in the following section.

342 Over the past three years, six Hector's dolphin deaths have been attributed to set net bycatch (3 resulting from commercial set netting³¹, 3 unknown³²).

Trawling

343 Red cod and flatfish are mainly targeted by inshore trawlers off the east coast of the South Island.

³⁰ This population estimate includes the extent of coastline that incorporates Porpoise Bay. Further work will be undertaken to identify whether dolphins in Porpoise Bay should be linked with the Te Waewae Bay population or the east coast South Island population.

³¹ 2 separate incidents in Otago, both during December 2005

³² 2 Separate incidents in Canterbury, one in February 2005 and the other in September 2005

344 There was also some observer coverage of the inshore trawl fishery in the Pegasus Bay-Canterbury Bight area in 1997-98 to determine whether Hector's dolphins were being captured in that fishery. One Hector's dolphin was observed caught. Before the observer programme, 5 dolphins were known to have been caught by trawlers off the east coast South Island. Three of these incidents occurred in Pegasus Bay.

345 Since the observer programme, there have been 4 known dolphin mortalities caused by trawling. Three of these were the result of one trawling incident in April this year. This incident was reported by the fisher involved and occurred off Wairau Bar in Cloudy Bay, Marlborough.

Current management measures

346 The Banks Peninsula Marine Mammal Sanctuary³³ (1140 km²) was created in 1988. The Sanctuary allows limited recreational set netting between 1 March and 31 October. Recreational set netting is otherwise prohibited, and there is no commercial set netting allowed within the Sanctuary.

347 As mentioned above, a seasonal closure has been in place since 2002 that bans the use of recreational set nets out to 4 nm between the Waiiau and Waitaki Rivers from 1 October to 31 March.

348 In addition to introducing the Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002, the then Minister of Fisheries (Hon Pete Hodgson) agreed to a set net mortality limit of 3 dolphins per year in the Canterbury set net area (Waiiau River to the Waitaki River and out to 4 nm) from 1 October to 30 September. If the limit is reached³⁴, the Minister is able to close the commercial set net fishery under s 15(5) for the remainder of the fishing year. The limit was put in place as an interim measure pending a Population Management Plan for Hector's dolphins that was under development by DOC at the time. This Population Management Plan was not implemented.

349 There are a number of voluntary measures in place to reduce the impacts of fishing. Similarly to FMA5, commercial set netters fishing in FMA3 (which encompasses most of the east coast South Island) operate under the South East Finfish Management Ltd voluntary CoP. As part of this CoP, commercial fishers in the Canterbury area have changed the pattern of their fishing operations and now spend more time fishing outside the immediate coastal waters where Hector's dolphins are usually found. Commercial set netters do not fish within 4 nm of the Canterbury Bight coast from October to January. The South East Finfish CoP also requires commercial trawlers and set netters to stay outside 1 nm between the southern boundary of the Banks Peninsula Marine Mammal Sanctuary and the Waitaki River throughout the fishing year.

350 The northern part of the east coast falls within FMA7, which is under the jurisdiction of Challenger Finfisheries Management Company Limited. Commercial set netters in FMA7 operate under the Challenger Finfisheries CoP, which, similarly to the South East Finfish CoP, encourages set net fishers to implement a variety of practices to minimise interactions with Hector's dolphins³⁵.

351 At Kaikoura, local recreational fishers have agreed to not use set nets near open beaches. There is a long-standing agreement amongst local fishers to not use set nets in the vicinity of Porpoise Bay. This restriction appears to be effectively enforced by the local community and

³³ A map of the Banks Peninsula Marine Mammal Sanctuary is provided in Appendix 7

³⁴ This limit has not been reached since it was set.

³⁵ Examples of measures set out in the Challenger CoP are given in the west coast South island section of the document.

commercial fishers. There have been no known set net entanglements in Porpoise Bay.

Analysis of proposed interim measures

Set netting

Recreational set netting

352 The area to the north of the current Canterbury recreational set net closure is a popular area for recreational set netting and is therefore an area of risk to Hector's dolphins. To address this threat, MFish proposes the following options:

- ◆ *Option 1* - Extend the boundary of the Canterbury recreational set net seasonal closure northwards to prohibit recreational set netting from the Waiau River to the Clarence River outlet (FMA3/FMA4 boundary, 42°10.0'S and 173°56.0'E) and out to 4 nm.
- ◆ *Option 2* - Introduce a seasonal (1 October to 31 March inclusive) requirement for recreational fishers setting a net between the Waiau River and the Clarence River and out to 4nm to remain in attendance with the net while the net is set.

353 Since the Canterbury set net notice has been in place, there have been two confirmed entanglements north of the seasonal closure area during the summer months. It is unknown whether these entanglements were the result of commercial or recreational set netting. MFish considers there may be benefit in extending the current northern boundary of the recreational closure to the Clarence River outlet in Kaikoura (see Figure 3) as an interim measure to reduce the likelihood of dolphin deaths over the peak summer season. This measure would apply over the same timeframe as the current Canterbury set net regulations, thereby prohibiting recreational set netting from 1 October to 31 March. Alternatively, introducing a mandatory requirement for recreational fishers to stay with their nets when fishing in this area from 1 October to 31 March would provide for recreational use and would reduce risk to dolphins, albeit less so than a complete exclusion of recreational set netting activity.

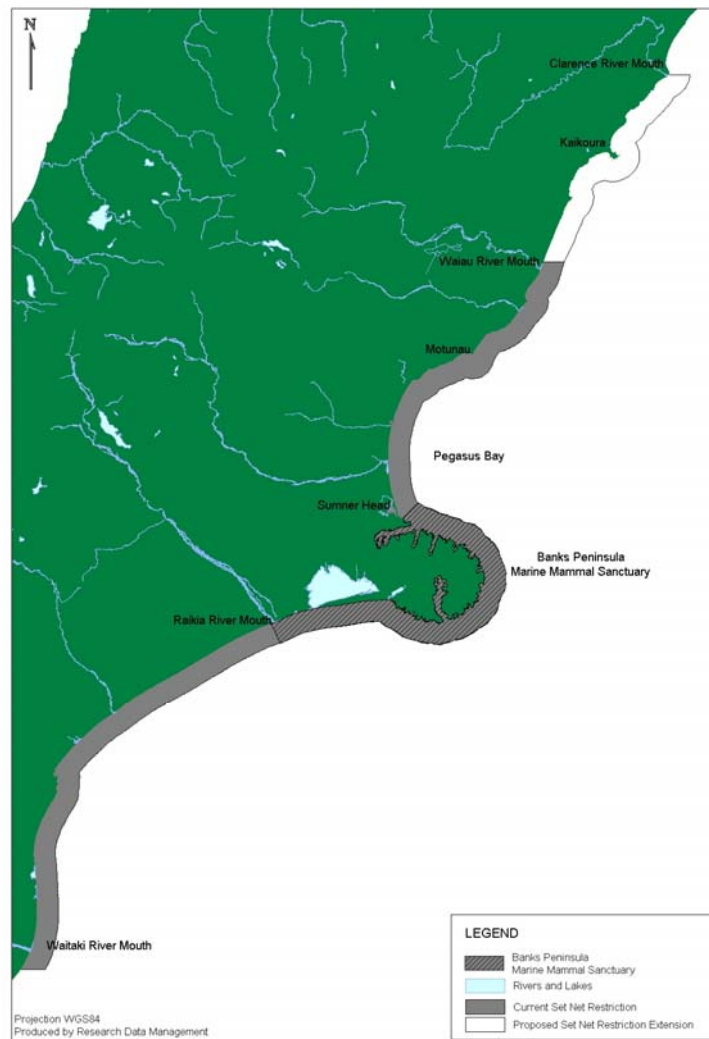
354 When making final decisions on these proposals, the Minister will need to weigh up the utilisation impact of extending the current boundary of the seasonal Canterbury recreational set net closure against the benefits of more effective mitigation of set netting risk to dolphins. Stakeholder submissions on the extent of recreational fishing activity in this area, and the impacts and benefits of these proposals are welcomed.

Commercial set netting

355 Low levels of observer coverage³⁶ of the commercial fishery make it difficult to determine the success of industry's initiatives to mitigate Hector's dolphin mortalities in the Canterbury area. There have been no dolphin mortalities reported by commercial set netters within the Canterbury area in the last 3 years. There have been three recent entanglements (2 separate incidents) in commercial set nets off Otago. There is a process currently underway to establish regulations in the East Otago Taiapure that will require commercial and recreational set netters to stay with their nets when they are set. Consultation on this measure is due to begin in the near future. This Taiapure covers the coastline in the region where the three dolphins were caught but the offshore boundary does not encompass the specific location where one of the incidents occurred.

³⁶ Due to practicality problems associated with placing observers on board small vessels

Figure 3: Indicative boundary of proposed extension to seasonal recreational set net restriction



356 A recent study found that in summer, the proportion of sightings inside the 4 nm offshore boundary of the Banks Peninsula Marine Mammal Sanctuary was 79% but this dropped to just over 35% in winter. The results of the study suggest that at certain times of the year, a high proportion of the dolphins around Banks Peninsula may move offshore into areas where they are at risk from commercial set nets. This new information highlights a potential risk to dolphins from commercial set netting offshore from the sanctuary. MFish considers the need for further measures around Banks Peninsula would be most appropriately investigated as part of the Threat Management Plan.

357 MFish considers that efforts by the South East Finfish Management Ltd. and Challenger Finfisheries Management Company have shown that the fishing industry in FMA3 and FMA7 is able to organise itself collectively. MFish acknowledges the steps industry has taken with implementing measures and does not believe that further measures are necessary to mitigate risk to dolphins from commercial set netting off the east coast of the South Island at this time. To increase certainty that voluntary measures are being implemented, MFish will work with industry to ensure effective monitoring and reporting frameworks are in place. The threat of commercial set netting along the extent of the east coast South Island will be addressed through the Threat Management Plan.

Customary set netting

358 Following the aforementioned MFish review to assess whether further mitigation measures were needed for South Island Hector's dolphins, the then Minister (Hon Pete Hodgson) accepted MFish advice that customary set netting would take into account the need to avoid, remedy or mitigate the effect of set net fishing-related mortalities. Noting this, MFish considers that interim measures are not needed to manage customary set netting interactions with Hector's dolphins, with this threat best addressed through the Threat Management Plan process.

Trawling

359 MFish does not consider interim measures are required to mitigate the impacts of trawling on Hector's dolphins on the east coast South Island. Since October 1989 there have been 6 reported dolphin deaths by trawlers. Three of these deaths were the result of a single incident in April of this year in FMA7 near Blenheim. This suggests that trawling interactions with the dolphins are a relatively rare event. However, MFish acknowledges that low levels of observer coverage mean it is difficult to ascertain the actual level of risk to the dolphins from trawling. MFish considers that the threat of trawling will be best addressed through the Threat Management Plan process. Officials will engage with industry in the interim to discuss incorporating trawl mitigation measures into the Challenger Finfisheries CoP and further measures in to the South East Finfish CoP.

Summary of rationale for interim measures proposed

360 The interim measures proposed for the east coast South Island population are based on:

- ◆ The estimated size of the east coast Hector's dolphin population (about 1790 animals);
- ◆ Initial PBR analysis to guide the setting of a human-induced mortality limit for the east coast South Island population indicates that 4 dolphins can be removed from the population each year;
- ◆ The number of known fishing related mortalities over recent years. Over the past three years, 10³⁷ of the 24³⁸ known dolphin deaths have been definitely attributed to fishing-related mortality on the east coast South Island. Most of these mortalities occurred over the past year, when there were 3 deaths consistent with set net entanglement and 3 deaths from one trawl incident. This past year's known mortality exceeds the indicative limit of 4 dolphin deaths per year for this population;
- ◆ For dolphin incidents where cause of death has been identified, set net entanglement is the most commonly attributed cause;
- ◆ Industry has governance arrangements in place and commercial set netters are required to implement a number of mitigation measures through voluntary CoPs.
- ◆ The summer is when recreational set netting effort is at its peak;
- ◆ The area to the north of the current Canterbury recreational set net closure is known to be popular for recreational set netters and is therefore an area of risk to Hector's dolphins;
- ◆ There are difficulties ensuring recreational fishers comply with voluntary measures.

³⁷ 6 set net; 3 trawl; 1 craypot line

³⁸ 10 fishing related; 2 natural; remainder unknown

Maui's dolphin (west coast North Island)

Proposals for interim measures

361 MFish proposes the following interim measures for the Maui's dolphin population:

MFish will initiate discussions with Port Waikato drift net and set net fishers to determine whether set net and drift net fishing represents a threat to dolphins in that area and, if so, whether measures such as voluntary limits, regulated closures or a combination of these should be applied to eliminate any threats – aiming to have any such measures in place as soon as practicable.
MFish will initiate discussions with commercial and recreational Taranaki set netters to assess the extent to which their fishing might represent a threat to dolphins and, if so, what measures can be applied to eliminate any threats – aiming to have such measures in place by Christmas if there is clearly a need to do so within this timeframe.
MFish will discuss possible trawl voluntary measures with operators to avoid trawling close inshore, especially in winter when dolphins are within the trawl area.
MFish will continue monitoring of compliance with the west coast/Manukau entrance closed areas, particularly during the summer months.
MFish will publicise west coast/Manukau entrance closed areas.
MFish will maintain awareness of any new information on dolphin movement in harbours.

Population status

362 The most recent estimate of the size of the Maui's dolphin population was obtained from an aerial line-transect survey in 2004. The estimate of 111 animals suggests that Maui's dolphin may be the rarest marine mammal in the world.

363 Initial PBR analysis to guide the setting of a human-induced mortality limit for the Maui's population indicates annual mortality caused by human activities should be zero.

364 In the past Maui's dolphin range extended on the North Island west coast from the Taranaki region, north to Glinkes Gully (near Dargaville). However, verified sightings information seemed to indicate that in recent years the dolphin's historic range has contracted to a "core area" between the Manukau Harbour entrance and Port Waikato/Raglan Harbour. Outside this core area there have been occasional sightings northward to the Kaipara Harbour and south as far as Mokau, and recently possibly further.

365 In summer, Maui's dolphins show a strong preference to be in the stirred up water of the surf zone and mostly within 1 nm of shoreline. In the winter this preference is not so strong and some dolphins have been seen as far out as 3 to 4 nm – the apparent offshore limit of their range.

366 The extent to which west coast harbours may be part of the dolphins range is unclear at present. Dolphins have been seen at the entrance to the Manukau Harbour in an area now closed to set netting. There have been reports of sightings in other harbours, but these have been infrequent and of uncertain reliability. There is an ongoing study in the Manukau and Kaipara Harbours that involves the use of acoustic detection PODs (porpoise detection devices) to detect dolphin movement. There are reports that these PODs have detected dolphins. However, while the PODs have recorded what may be dolphins, there have been very few actual sightings in the relatively shallow harbour waters where (compared to the coast) there is frequent boat traffic.

Fishing threats to the population

367 Set netting was identified as the main threat to Maui's dolphin. In response both commercial and amateur set netting has been prohibited within 4 nm of the coast from Mananui Bluff to Pariokariwa Point and in the entrance to the Manukau Harbour³⁹. There has only been one reported death (not set net related) since the current set net closed area came into effect. However, there are other potential threats that need to be assessed if no deaths per year are to be achieved every year. They are: trawling, drift netting, harbour fisheries, and set netting south of the closed area.

Trawling

368 There is a sizable trawl fishery on the North Island west coast for species such as snapper and trevally. Trawling is prohibited within 1 nm of the shore, with extensions out to 2 nm at harbour entrances. There is also a Voluntary Trawl Agreement in place that requires vessels to not trawl within 2 nm from shore between Awakino River mouth and Port Taranaki⁴⁰. This means that in summer, when Maui's dolphins appear to spend most of their time close to shore inside the prohibited area, trawling should not be a significant threat. At other times of the year, sightings information indicates that the dolphins are further out, where trawl tow position data show that the trawlers operate.

Drift netting

369 Drift nets are used to catch mullet at the Waikato Heads. A dead Maui's dolphin was found wrapped in a section of what other fishers were sure was a drift net of the kind used in this fishery. Recreational fishers also use drift nets at Port Waikato, which are sometimes not securely anchored so that they are easily lost. All the fishing occurs within the river, but it is a short distance from the river out to sea, so lost nets can float out with the current. Port Waikato is within the dolphins' "core area". Consequently, lost nets are a potential threat here.

Harbour set netting

370 There are reasonably intensive commercial, recreational and customary set net fisheries in all west coast harbours. As indicated above, it is not possible at present to confirm whether harbours are part of the dolphins' range. There have been occasional sightings over the years and reports that the acoustic PODs have detected dolphin movement, but with the exception of the Manukau Heads area, nothing conclusive enough to confirm that there is a threat.

Taranaki

371 The coastal closed area finishes at Pariokariwa Point just north of the Taranaki Bight. It is to the south of the southernmost reliable sighting at the time, making an allowance for the extra distance (around 20km) a dolphin could cover in its home range. It was apparent that Maui's dolphin had once been common in Taranaki, but indications were that their range had both contracted and moved north. However, DOC has recorded several recent sightings further south than the existing closed area. Consequently, this may be the same situation that previously led to the closed area to the north, with dolphins occurring within a set net fishing area.

³⁹ See Appendix 7 for map of the closed area

⁴⁰ Although it is outside the known range of Maui's dolphin, at South Taranaki between Cape Egmont and the Rangitikei River outlet there is a Voluntary Trawl Agreement that does not allow single trawling within 2 nm and does not allow pair trawling within 4nm. These measures were put in place to improve recreational fishing access.

Current management measures

372 On the basis of stranding reports and necropsies it became apparent that set nets posed the greatest risk to Maui's dolphin. Because of this, beginning in 2002 MFish has progressively closed all of the confirmed (on the basis of reliable sightings) Maui's habitat (Manganui Bluff to Pariokariwa Point) to both commercial and non-commercial set netting. Following reliable reports of dolphin sightings in the entrance to the Manukau, this area was also closed to set netting. The current area closures have been in place since October 2003.

373 There have been no reports of beach cast dolphins with signs of death caused by set nets since the current area closures have been applied. MFish has directed considerable compliance effort into patrolling these closed areas to ensure they are observed. This has resulted in a significant reduction of the threat of set netting to Maui's dolphins.

Analysis of proposed interim measures

Port Waikato

374 The commercial mullet fishery at Port Waikato is very much a summer fishery, as is recreational netting. This is also the time when the dolphins are close inshore. MFish has compiled information on both the fisheries and dolphins as a basis for discussion with fishers and the community on possible measures to reduce risks to the dolphins. It is not possible at present to determine the risks associated with the fishing there and as a consequence whether there is a need for controls of some kind. However, there is certainly a potential risk associated with lost nets drifting out to sea. MFish intends to initiate discussions with Port Waikato fishers to identify what kinds of measures would most effectively mitigate any threats until the Threat Management Plan is completed. The Threat Management Plan will provide an opportunity to determine whether any interim measures are sufficient, or whether a more comprehensive regulatory/voluntary regime is needed.

Taranaki

375 Sightings information in Taranaki indicates there may be dolphins where set netting occurs. The set netting is mainly commercial. MFish proposes working with fishers in Taranaki to establish whether their fishing may represent a threat to the dolphins and, if so, what measures (voluntary/regulatory) would be most effective in eliminating the threat. If it is evident that measures are needed urgently, the intention would be to implement voluntary measures by Christmas, with consideration of possible longer-term mandatory measures as part of the Threat Management Plan process.

Trawling

376 MFish considers that trawling is not an especially urgent issue over summer when the dolphins are close to shore. However, at some stage it will be useful for officials to meet with the trawl operators to discuss issues such as the presence of dolphins where trawlers are known to tow and the possibilities of observer coverage. Over the upcoming 2006-07 summer, there are 100 planned observer days (10% of effort) on inshore trawlers on the west coast North Island. MFish proposes to discuss possible interim trawl voluntary measures with operators to avoid trawling close inshore, especially in winter when dolphins are within the trawl area.

377 While there is no information confirming that trawlers have caught Maui's dolphins, these vessels are at least a potential threat, with longer-term mitigation measures most appropriately pursued as a component of the Threat Management Plan.

Harbours

378 MFish does not consider interim measures are required in the west coast North Island harbours, given that at this stage it is not possible to confirm whether harbours are part of the dolphins' range. MFish will maintain contact with the researchers using the acoustic PODs. If it appears that the PODs are picking up regular, conclusive dolphin movement, it would be useful to determine if a sightings survey could be run in parallel as a way of verifying the acoustic information. This will be investigated further as part of the Threat Management Plan.

379 Fishery Officers can continue to monitor and ensure compliance with the set net closed area and, whenever possible, ensure awareness of the legislative requirements for the area.

Summary of rationale for proposed interim measures

380 Maui's dolphin has a small estimated population size of 111 animals, and initial PBR analysis to guide the setting of a human-induced mortality limit for the Maui's population indicates annual mortality caused by human activities should be zero.

381 The main threat to Maui's dolphins has been mitigated through the commercial and amateur set net area closure on the west coast North Island. Other potential threats to Maui's dolphins have been identified that MFish considers may require mitigation. The extent to which these threats represent a risk to Maui's dolphins is uncertain, and MFish therefore proposes to initiate discussions with the relevant stakeholders to determine whether measures are required and, if so, what kind of measures would most effectively mitigate threats until the Threat Management Plan is completed.

West Coast South Island

Proposals for interim measures

382 MFish proposes the following interim measures for the west coast South Island:

MFish will actively promote the recreational set net CoP. For example, through targeted newspaper articles and public notices, as well as developing a poster for placement in clubs, fishing shops, etc.

MFish will discuss the industry's CoP with the Challenger Finfisheries Management Company to encourage them to raise their fishers' awareness of the code to ensure they comply with its various components.
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Population status

383 The largest population of Hector's dolphins is present off the South Island's west coast, with an estimated population size of around 5390 individuals. Figure 1 illustrates the main areas of high abundance. Surveys carried out on the west coast of the South Island suggest that the dolphins mostly reside within 5 nm from the shore, with no dolphins sighted outside 6 nm.

384 Initial PBR analysis to guide the setting of a human-induced mortality limit for the west coast South Island population indicates that 11 dolphins can be removed from the population each year.

Threats to the population

Set netting

385 Commercial set netting generally occurs throughout the west coast South Island with most fishing effort concentrated from Westport to Hokitika. Most set netting targets school shark and rig, and can occur relatively close to shore dependent on water depth.

386 Most recreational set netting occurs around towns and settlements. The main species targeted are flatfish, various shark species, and elephant fish. There is anecdotal information to suggest that in some areas fishers are staking nets above low tide mark and setting nets 90° to the shore.

387 Information from DOC suggests that about 5-6 Hector's dolphins (minimum) are found dead each year. Most recorded deaths are found in Buller Bay and around Hokitika. Over the past three years, there have been 8 known fishing-related mortalities. These have all been attributed to net entanglement, with four deaths the result of one recreational set netting incident. It is not known if the other four entanglements were caused by recreational or commercial set nets.

Trawling

388 Commercial trawling generally occurs throughout the west coast South Island with most fishing effort concentrated from Westport to Hokitika. The majority of trawlers use bottom trawl gear to target a wide range of species including red cod, hoki, tarakihi, elephant fish, stargazer, and ling. Trawling can occur relatively close to shore dependent on species targeted and water depth relative to shore. There are two known separate trawling incidents that resulted in dolphin mortalities off the west coast South Island. These incidents both occurred in 1988 and each resulted

in two dolphin deaths.

Current management measures

389 There are no legislative or regulatory management measures in place along the west coast South Island to address fishing interactions with Hector's dolphins. However, there are two voluntary set netting CoPs in place, as outlined below.

Commercial set netting

390 A voluntary CoP applies throughout FMA7, which covers the west coast South Island where Hector's dolphins are present. This Code is implemented by the Challenger Finfisheries Management Company Limited and applies to all commercial set net fishers operating under the Company's jurisdiction. The purpose of the Code is to avoid and mitigate the incidental capture of Hector's dolphins in commercial set nets throughout FMA7.

391 The Code encourages set net fishers to implement a variety of practices to minimise interactions with Hector's dolphins including:

- avoid setting nets in shallow estuaries, harbours and river mouths when water is cloudy or discoloured
- avoid setting nets when Hector's dolphins are around and maintaining a lookout when gear is deployed
- encourage the use of acoustic pingers on nets
- keep set net duration to a minimum
- set nets as tight as possible
- recover nets as quickly as possible.

Non-commercial set netting

392 Similarly to elsewhere in New Zealand, MFish actively promotes a voluntary set net code of practice for non-commercial fishers on the west coast South Island.

Trawling

393 No voluntary measures apply to trawling activities along the west coast South Island.

Analysis of proposed interim measures

394 MFish does not see a need to urgently progress management measures for the west coast South Island at this time. Rather, an evaluation of the need for longer-term management measures to address fishing interactions will be progressed through the Threat Management Plan process. This position is based on:

- the size of the west coast Hector's dolphin population (i.e., about 5400 animals);
- the extent of mortalities caused by fishing interactions (i.e., 8 known over past 3 years); and
- information from initial PBR analysis to guide the setting of a human-induced mortality limit (i.e. 11 animals).

395 Although MFish considers urgent measures are unnecessary on the west coast South Island, there are a number of actions that can be undertaken to reduce the risk of fishing interactions with

Hector's dolphins over the upcoming summer, such as increasing awareness of both the industry and recreational set net CoPs. Longer-term measures to address fishing related threats will be examined as part of the Threat Management Plan.

Interaction of Threat Management Plan with the west coast Marine Protected Area (MPA) process

396 The MPA Policy is being implemented on the west coast and officials involved in this process have identified a conflict with running a parallel process to develop the Hector's dolphin Threat Management Plan. To resolve this conflict, work on the development of proposals to manage threats to dolphins on the west coast South Island (as part of the Threat Management Plan) is proposed to be delayed until at least July 2007, when the MPA strategy is expected to be completed for this region.

Process for implementation of interim measures

397 It is possible in some instances that voluntary initiatives will adequately mitigate fishing threats until the Threat Management Plan is completed. In this case, officials will work with fishers to implement such measures as soon as possible.

398 If the Minister believes mandatory interim measures (i.e. regulations or Gazette notice) are required to effectively mitigate threats, MFish considers there is benefit in implementing any such measures as soon as possible because the summer is when dolphins are at most risk of entanglement.

399 As noted earlier, MFish acknowledges the 5 week consultation period for this IPP is shorter than MFish would usually allow. However, MFish considers that 5 weeks is necessary in the circumstances given the urgent need in certain areas for the implementation of measures to prevent further fishing-related deaths of Hector's dolphins. The 5 week consultation will enable mandatory interim measures, if appropriate, to be implemented as soon as possible and in any case before the Christmas/New Year holiday season when the threat of recreational set netting to the dolphins is likely to be at its peak.

IPP Appendix 1: Section 11 Statutory considerations

400 In forming the management options, MFish has also considered the statutory obligations described in section 11 of the Act. These are summarised below.

- a) **Section 11(1)(a):** Hector's dolphins have a close inshore distribution that results in an overlap with commercial and recreational set net fisheries, as well as inshore trawl fisheries. In considering whether to set or vary the sustainability measures proposed, the Minister must take into account any effects of fishing on the aquatic environment, in particular the presence of Hector's dolphins in these areas. These effects are outlined in detail for each Hector's dolphin population in the main body of this IPP.
- b) **Section 11(1)(b):** There are a range of existing measures that apply to areas in order to mitigate the impacts of fishing on Hector's dolphins, such as the west coast North Island closure to commercial and amateur fishing and the Canterbury recreational set net seasonal closure. These measures are outlined in more detail in the main body of this IPP. Existing controls have been considered when making recommendations for setting or varying any sustainability measure for areas where Hector's dolphins are present. Total Allowable Catches may also restrict fishing effort for fish stocks where there is potential for interactions with Hector's dolphins.
- c) **Section 11(1)(c):** MFish has no information to suggest that Hector's dolphins are prone to significant fluctuations in abundance. Hector's dolphins have low reproduction rates resulting in low potential for population growth.
- d) **Section 11(2)(a), (b) and (c):** There are no known statements in any regional policy statement, regional plan, or proposed regional plan under the Resource Management Act 1991 that are relevant to the setting or varying of any sustainability measure for areas where Hector's dolphins are present. There are objectives and implementation activities in the conservation management strategies made under the Conservation Act 1987 that generally support the protection and conservation of marine mammals, including Hector's dolphins. None of the proposals apply to areas within the Hauraki Gulf, and therefore sections 7 and 8 of the Hauraki Gulf Marine Park Act 2000 are not relevant here.
- e) **Section 11(2A)(a and c):** Relevant conservation services are planned observer coverage on inshore trawlers in FMAs 1, 9, 8 and 7 (258 days, 10% of effort), and planned observer coverage for set net vessels in FMAs 3, 5 and 7 over the 2006-07 fishing year (165 days, 3% of effort). Information from observer programmes could support decisions relating to commercial trawl and set net fisheries in the future.
- f) **Section 11(2A)(b):** The Minister approved a fisheries plan for SPO 7 under s 11A(1) of the Act on 4 May 2006. The Challenger Finfisheries Management Company is the owner of the plan and is responsible for administering the major components of the plan including the commercial fishing area closure, catch limits, supporting research, ongoing education, and the set net CoP.

IPP Appendix 2: Overview of fishing threats to Hector's dolphins

401 The entanglement and drowning of cetaceans in fisheries is of worldwide concern. The first indication of this problem in Hector's dolphins was in 1973. Reports of incidental capture of Hector's dolphin by fishing activities show that the dolphins are most vulnerable to the set net fishing method. Further information about fishing methods known to be of risk to dolphins is below.

Fishing threats to Hector's dolphins

Set net fisheries

The vulnerability of Hector's dolphin to entanglement, particularly in inshore set nets, has been well established through a combination of interviews with fishers, observer programmes and necropsies of bycaught and beach-cast animals. Hector's dolphins have a close inshore distribution that results in an overlap with commercial and recreational set net fisheries, and Hector's dolphins are known to have been entangled in set nets throughout their range.

Trawl fisheries

402 Hector's dolphins have also been known to become caught by inshore trawl vessels where nets are towed along the sea floor or in midwater. Interactions with Hector's dolphins appear to be limited to inshore trawl operations operating in waters of less than 100 m depth, and this may be due to their observed habitat preference for these shallower, inshore waters. Total reported instances of Hector's dolphins caught in trawl nets are low compared to set nets. However, the focus of observer programmes and interview programmes to assess dolphin bycatch has tended to be on set net fishers. The catch rate (per day fishing) appears to be lower for trawl than set net fisheries.

Drift net fishery

403 There is a commercial and recreational drift net fishery in the mouth of the Waikato River targeting mullet. There has been one report of a dolphin becoming entangled in a lost net. This threat relates specifically to the Maui's dolphin population.

Craypotting

404 There have been three known incidents⁴¹ of Hector's dolphins becoming entangled in a craypot line. All of these incidents have occurred in the Nelson/Marlborough region. An Expert Panel⁴² workshop was held in April 2006 to assess the threats to Hector's dolphins. An outcome of this workshop was that craypot entanglement was categorised as being of lower significance than other threats (including non-fishing threats such as pollution, vessel traffic and coastal development) facing the dolphins. MFish therefore considers craypotting is unlikely to cause a risk to the dolphins that requires urgent mitigation. This threat is not examined further in the document.

⁴¹ One incident in: 1989; 1997; and in 2004. All three resulted in death of the dolphin involved.

⁴² The Expert Panel consists of experts on Hector's dolphins and/or the threats that they face.

IPP Appendix 3: Hector's dolphin Threat Management Plan

405 Our work to date has focused on developing the draft Plan. MFish and DOC have:

- Compiled reference material
 - i) Prepared an information brief that summarises much of what we know about the dolphins, their biology, the threats they face, and the measures that have been adopted to reduce those threats;
 - ii) Developed and trialled a threat management methodology based on the Australia/New Zealand risk management standard;
 - iii) Prepared a draft Communications Plan.
- Developed a set of draft management objectives
- Convened a multi-stakeholder Advisory Group⁴³ and an Expert Panel
- Identified and analysed the threats facing the dolphins

⁴³ The Advisory Group was established in 2005 and provides non-government input into the Threat Management Plan. Members are viewed as stakeholders who provide information, rather than representatives in a steering or consultative role. The role of the Advisory Group is to provide advice on development of the Plan to Officials.

IPP Appendix 4: Hector's dolphin mortalities since October 2005

	Reporting Date	Specific Species	Call From	DoC Conservancy	Specific Location	Likely Cause	Additional Comments
1	2/11/2005	Hector's Dolphin	Public	West Coast	Neils Beach, Jacksons Bay	Entanglement	One of 4 Hector's dolphins that had been entangled in same net (recreational) at Neil's Beach.
2	2/11/2005	Hector's Dolphin	Public	West Coast	Neils Beach, Jacksons Bay	Entanglement	One of 4 Hector's dolphins that had been entangled in same net (recreational) at Neil's Beach.
3	2/11/2005	Hector's Dolphin	Public	West Coast	Neils Beach, Jacksons Bay	Entanglement	One of 4 Hector's dolphins that had been entangled in same net (recreational) at Neil's Beach.
4	2/11/2005	Hector's Dolphin	Public	West Coast	Neils Beach, Jacksons Bay	Entanglement	One of 4 Hector's dolphins that had been entangled in same net (recreational) at Neil's Beach.
5	23/11/2005	Hector's Dolphin	Public	Nelson/Marlborough	Fossil Point at the base of Farewell Spit	Unknown	Newborn (likely to be less than 3 weeks old) as postnatal hairs still on upper mandible
6	4/12/2005	Hector's Dolphin	Public	Southland	Orepuki Beach	Unknown	Newborn washed up on beach.
7	4/12/2005	Hector's Dolphin	Public	Wellington	Pekapeka Beach	Euthanased	Newborn found alive on beach. Odds of survival deemed nil.
8	6/12/2005	Hector's Dolphin	Public	West Coast	1 km South of Karamea	Unknown	Very decomposed carcass at least 1 wk old.
9	11/12/2005	Hector's Dolphin	Public	West Coast	Okarito Beach	Unknown	Found on beach by local.
10	15/12/2005	Hector's Dolphin	Public	Southland	Te Wae Wae Bay	Unknown	This animal had been beachcast for approx one week.
11	17/12/2005	Hector's Dolphin	Public	Otago	Off Warrington Beach	Entanglement	This is one dolphin of two involved in this single incident - reported caught by commercial fisher in set net
12	17/12/2005	Hector's Dolphin	Public	Otago	Off Warrington Beach	Entanglement	This is one dolphin of two involved in this single incident - reported caught by commercial fisher in set net
13	9/01/2006	Hector's Dolphin	Public	Otago	15.2 nm East of Seacliffs	Entanglement	Recovered from commercial set net by fisher. Had set 3 nets (mesh size 7 inches) at about 15 metres depth overnight, targetting rig and school shark.
14	1/02/2006	Hector's Dolphin	Public	Canterbury	South of Patiti Point, Timaru	Unknown	Carcass not recovered
15	4/04/2006	Hector's Dolphin	Fisher	Nelson/Marlborough	0.5nm off Wairau Bar, Marlborough	Trawler caught	This is one dolphin of three involved in this single commercial trawl fishery incident, carcass not recovered
16	4/04/2006	Hector's Dolphin	Fisher	Nelson/Marlborough	0.5nm off Wairau Bar, Marlborough	Trawler caught	This is one dolphin of three involved in this single commercial trawl fishery incident, carcass not recovered
17	4/04/2006	Hector's Dolphin	Fisher	Nelson/Marlborough	0.5nm off Wairau Bar, Marlborough	Trawler caught	This is one dolphin of three involved in this single commercial trawl fishery incident, carcass not recovered
18	21/04/2006	Hector's Dolphin	Public	West Coast	Seaview (north of Hokitika)	Unknown	Skeletal remains only - head missing. Sp ID to be confirmed by pathologist and DNA
19	4/09/2006	Hector's dolphin	Public	West Coast	Twin Beach, Heaphy Track, Caldervale, Buller	Unknown	First seen on beach - spring tides and some rough seas both before and after. No obvious unnatural injuries.

IPP Appendix 5: Potential Biological Removal

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

$$\text{PBR} = N_{\text{MIN}}^{1/2} R_{\text{MAX}} F_R$$

Where:

N_{MIN} = the minimum population estimate of the stock;

$1/2 R_{\text{MAX}}$ = one-half the maximum theoretical or estimated net productivity rate of the stock at a small population size; and

F_R = a recovery factor between 0.1 and 1.0⁴⁴

407 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.⁴⁵

408 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.⁴⁶

409 The 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.

410 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.³ A recovery factor of 0.5 has been suggested for stocks of indeterminate status.

411 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.

412 For Hector's dolphin, it is recommended that the Recovery-Rate goal is applied. This goal will allow a population known to be at a low level relative to its pre-exploitation level to recover at

⁴⁴ Wade, P.R. 1998. Calculating limits to the allowable human-caused mortality of cetaceans and pinnipeds. *Marine Mammal Science* 14(1): 1-37.

⁴⁵ Taylor, B.L. and D.P. DeMaster. 1993. Implications of non-linear density dependence. *Marine Mammal Science* 9: 360-371.

⁴⁶ Barlow, J., S.L. Swartz, T.C. Eagle and P. Wade. 1995. U.S. marine mammal stock assessments: Guidelines for preparation, background, and a summary of the 1995 assessments. NOAA Technical Memorandum NMFS-OPR-95-6. September 1995.

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.

413 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).⁴⁷

414 Therefore, an estimated maximum net productivity level of 3.4% and a Recovery Rate of 0.15 are appropriate for Hector's dolphin when the PBR Recovery-Rate goal is applied.

⁴⁷ Davies, N.M. and D.J. Gilbert. 2003. A risk analysis of an endangered dolphin subspecies using a temporal-spatial age-structured model. Final report for MFish Research Project MOF2002/03D, Objectives 1, 2, & 3 (revised). November 2003.

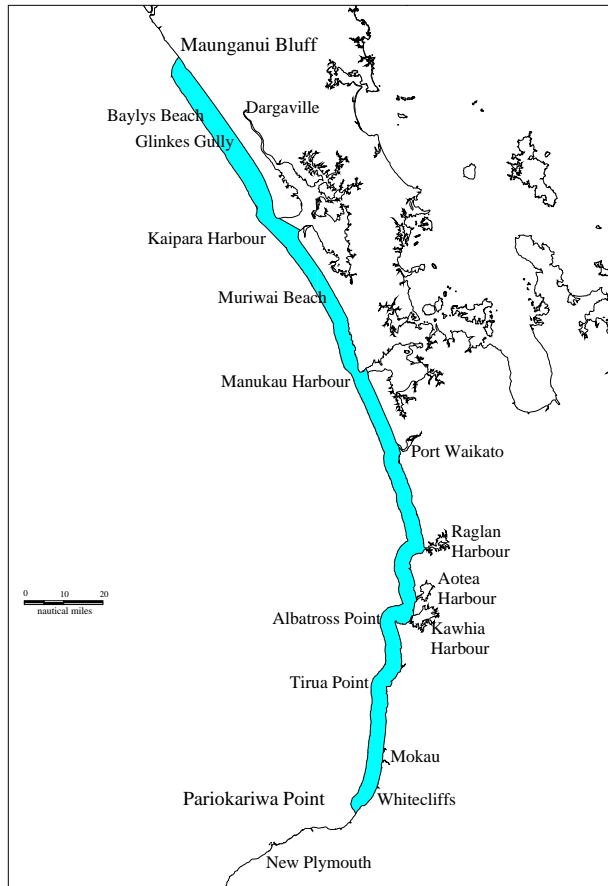
IPP Appendix 6: Average estimated catch (by set net method) in statistical area 30 by volume and value

Key species	Average Volume landed (kg)*	Average Value landed (\$)*
School shark	192,373	338,225
Rig	38,062	105,517
Spiny dogfish	38,933	15,111
Elephant fish	6,453	11,684
Butterfish	3,273	9,260
Stargazer	1,337	1,787
Total	280,430	481,584

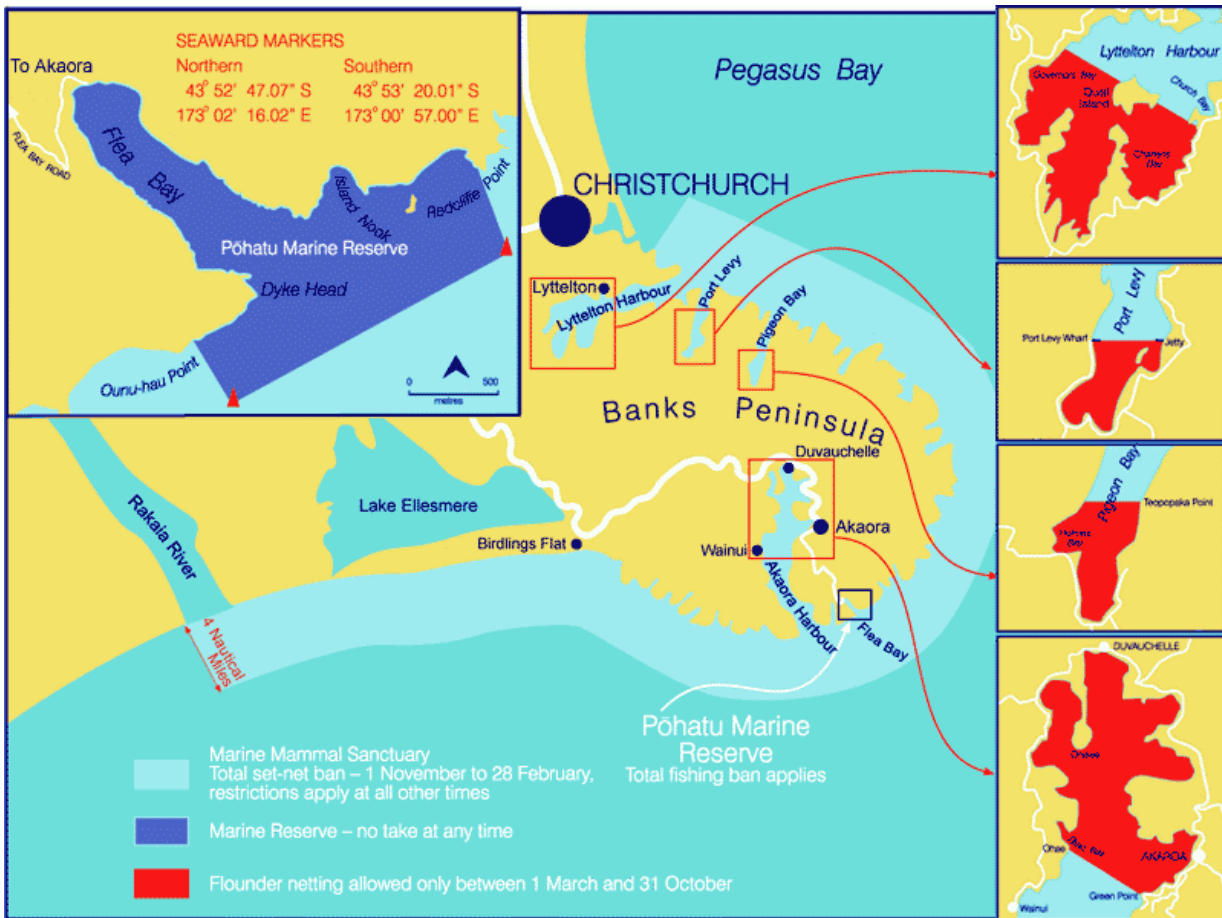
* Average figures provided for the period 1 October 1999 to 30 September 2005

IPP Appendix 7: Current mandatory area closures

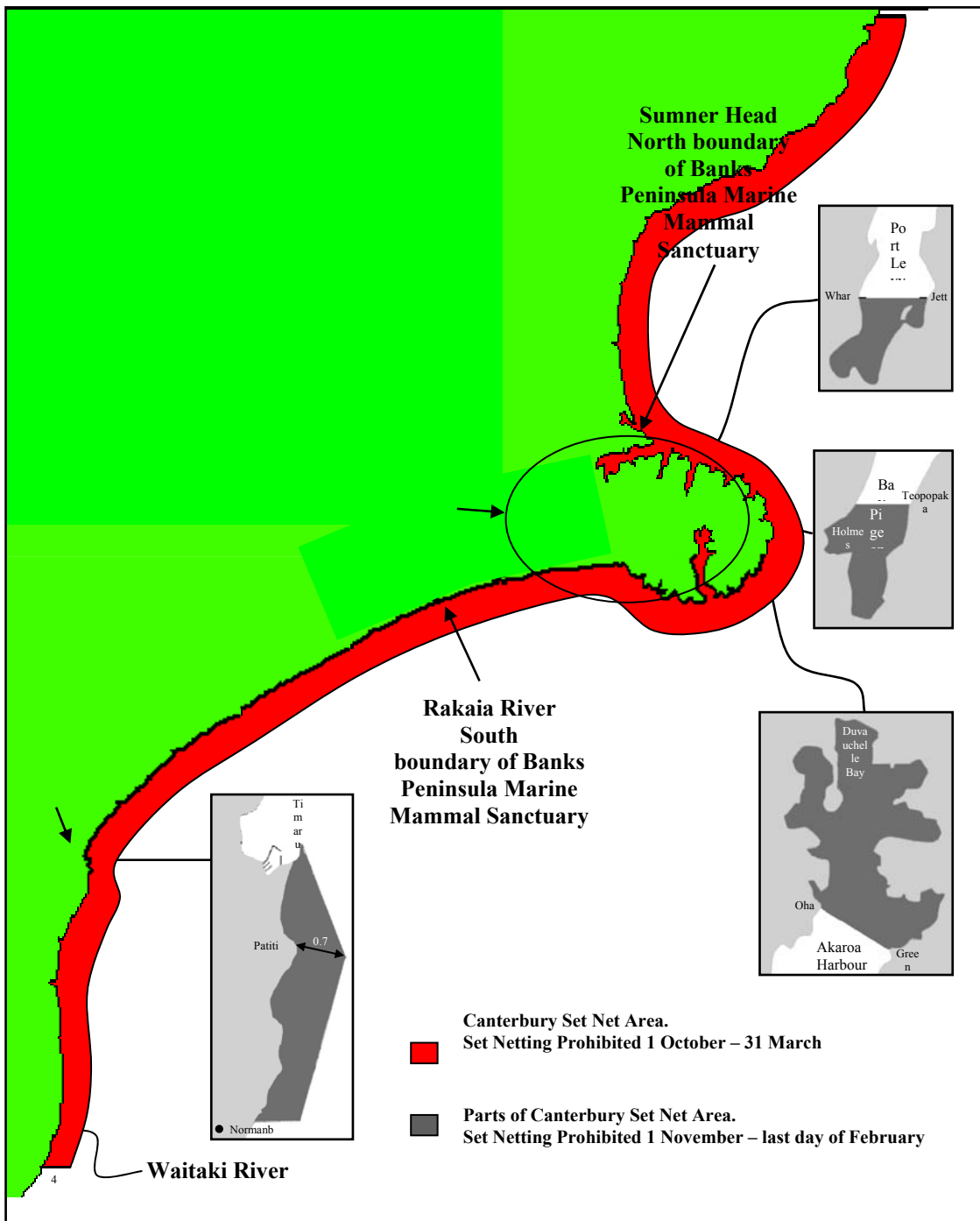
Area closed to amateur and commercial set netting (four nautical miles) on west coast North Island



Banks Peninsula Marine Mammal Sanctuary (east coast South Island)



Canterbury seasonal closure to recreational/amateur set netting from 1 October to 31 March (east coast South Island)



Appendix 2: Proposals on interim measures for Hector's dolphins IPP: summary of submissions and DOC position

Submissions received⁴⁸

95 submissions were received from individual submitters.

Environmentalists

- 415 Kaikoura Branch, Forest and Bird Protection Society (**Kaikoura Forest & Bird**)
- 416 Central Office, Royal Forest & Bird Protection Society (**NZ Forest & Bird**)
- 417 Nelson/Tasman Branch, Royal Forest and Bird Protection Society (**Nelson/Tasman Forest & Bird**)
- 418 Kaipara Branch, Royal Forest and Bird Protection Society (**Kaipara Forest & Bird**)
- 419 Waikato Branch, Royal Forest and Bird Protection Society (**Waikato Forest & Bird**)
- 420 Mid North Branch, Royal Forest & Bird Protection Society (**Mid North Forest & Bird**)
- 421 North Canterbury Branch, Forest & Bird Protection Society (**North Canterbury Forest & Bird**)
- 422 Waitakere Branch, Royal Forest & Bird Protection Society, (**Waitakere Forest & Bird**)
- 423 Ashburton Branch, Royal Forest & Bird Protection Society (**Ashburton Forest & Bird**)
- 424 Hastings & Havelock North Branch, Royal Forest and Bird Protection Society (**Hastings & Havelock North Forest & Bird**)
- 425 Tauranga Branch, Royal Forest and Bird Protection Society (**Tauranga Forest & Bird**)
- 426 Canterbury/West Coast Regional Office, Royal Forest & Bird Protection Society (**Canterbury/West Coast Forest & Bird**)
- 427 WWF-New Zealand (**WWF**)
- 428 TerraNature
- 429 Whale and Dolphin Conservation Society (**WDCS**)
- 430 XX, Coordinator, Far North Environment Centre (**FNEC**)
- 431 Animal Welfare Institute, Washington DC, USA (**AWI**)
- 432 Australian Dolphin Research Foundation (**ADRF**)

⁴⁸ MFish notes that submitters have been grouped based on information provided in submissions, and that some submitters may be more appropriately affiliated with another stakeholder group.

Academics

- 433 XX, Member IUCN Cetacean Specialist Group, Professor, Molecular Ecology and Evolution, Auckland University (**XX**)
- 434 XX, University of Otago (**XX**)
- 435 XX, University of Otago (**XX**)
- 436 Emeritus Professor XX, University of Otago
- 437 Emeritus Professor XX, University of Otago
- 438 XX, University of Otago (**XX**)

Industry

- 439 The Northern Inshore Fisheries Management Stakeholder Company Limited (**TNFMSCL**)
- 440 Egmont Seafoods Ltd. (**ESL**) (on behalf of fishermen landing fish into ESL, including Kayla Fishing Ltd, Lady Marcella Fishing Ltd, Bas Fishing, Stella Fishing Ltd & Brown & Hayman Fisheries Ltd.)
- 441 New Zealand Seafood Industry Council (**SeaFIC**) (endorsed by TNFMSCL)
- 442 New Zealand Marine Sciences Society Council (**NZMSS**)
- 443 Challenger Finfisheries Management Company Limited (**Challenger Finfish**)
- 444 South East Finfish Management Limited (**South East Finfish**)
- 445 XX, commercial fisher, Riverton

Non-Commercial fishing

- 446 XX, Member South Recreational Fishers Advisory Committee, (**XX**)
- 447 XX, Member North Island South-west Recreational Forum (**XX**)
- 448 XX, Member West Coast North Island Fishing Forum, Mokau
- 449 XX, Secretary Wellington Recreational Marine Fishers Association, Secretary Wellington Surfcasting and Angling Club, Honorary Vice President New Zealand Angling and Casting Association (**XX**)
- 450 XX, recreational *and* commercial fisher, Kaikoura
- 451 XX, recreational fisher, Awhitu, Auckland
- 452 XX, recreational fisher, Kaikoura
- 453 XX, recreational fisher (previously commercial fisher), Kaikoura

- 454 XX, recreational fisher, east coast South Island
- 455 Akaroa Harbour Recreational Fishing Club (Inc) (**AHRFC**)
- 456 South-east Fishery Advisory Committee (**SEFAC**)

Community Groups

- 457 Friends of Nelson Haven and Tasman Bay Inc (**FONH&TB**)
- 458 Kaikoura Boating Club Committee (**Kaikoura Boating Club**)
- 459 Guardians of the Sounds, Marlborough Sounds (**Guardians of the Sounds**)
- 460 Te Korowai o Te Tai o Marokura (Kaikoura Coastal Marine Guardians) (**Te Korowai**)
- 461 Kaikoura Marine & Coastal Protection Society (**KM&CPS**)

Local Government

- 462 Auckland Regional Council (**ARC**)

Marine Mammal Tourism

- 463 XX, Akaroa Dolphins, Member Hector's dolphin Advisory Group
- 464 Encounter Kaikoura (**Encounter Kaikoura**)

Department of Conservation's position on proposed interim measures for Hector's dolphins

465 The Department of Conservation has provided Mfish with its position on the IPP proposals, as follows:

The Department of Conservation supports the efforts by the Ministry of Fisheries to implement measures to mitigate the effect of fishing related threats to Hector's Dolphins before the 2006/2007 summer holiday period.

DoC is of the view that the interim measures are a first step to developing long-term solutions for the recovery of the Hector's dolphins. The TMP currently being progressed by DoC and Mfish is a high priority for the department. DoC is committed to working with Mfish to find solutions to effectively manage a wide range of fishing related and non-fishing related threats. DoC believes that the key to long-term population management of the Hector's Dolphin is the TMP and that the interim measures should not be seen to override the TMP process or predetermine any possible outcomes of the TMP. The department's position is that the TMP outcomes will replace, or if deemed by the TMP to be the best option, include any mandatory or voluntary measures initiated as part of the interim measures.

The department considers that a precautionary approach be taken when considering any measures relating to Hector's Dolphins and does not accept that a lack of absolute knowledge is a sound reason for a do nothing approach. Whilst the level of information regarding population ranges and fishing interactions is not absolute there is enough data and observations to suggest populations of Hector's and especially the Maui Dolphin within and outside core areas are at significant risk from fishing related activity.

A high priority for DoC is to see increased observer coverage within at least the core areas to better assess the interaction and reporting of incidences of Hector's and Maui dolphins with the inshore commercial set netting and trawl fisheries.

There seems to be confusion relating to the PBR numbers that have been included within the interim measures, DoC would like to stress that PBR numbers have not been through a robust review process and should not be used as an acceptable level of human related mortality but to only indicate the highest level of mortality that a population can absorb and show some recovery.

The Department of Conservation Position Per Core Area

Te Waewae Bay

The Department supports the following options:

Mandatory

- Commercial set netting is prohibited within 1 nautical mile (nm) of the shore of Te Waewae Bay throughout the year; and
- Commercial fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year).

- Increased compliance of the COP and increased observer coverage on inshore set netting and trawl fishing vessels.
- Note- the Porpoise Bay Hector's Dolphin Population is a core population within the Southland Coastline and may in light of new research be a smaller population than Te Waewae bay.
- Note- The new population estimates for Te Wae Wae Bay are at this stage not conclusive and that the lower confidence level should be used when considering any proposed measures.
- Investigate set net closures out to 4nm or the 100m contour to ensure consistency between regions and insure offshore movements of the dolphins are taken into consideration.
- No over night netting

Mandatory

- Recreational set netting is prohibited within 1 nm of the shore of Te Waewae Bay throughout the year; and
- Recreational fishers setting a net within Te Waewae Bay must remain in attendance with the net while the net is set (throughout the year)
- Increased level on compliance.
- Investigate set net closures out to 4nm or the 100m contour to ensure consistency between regions and insure offshore movements of the dolphins are taken into consideration.
- No over night netting

East Coast South Island

Mandatory

- Extend the boundary of the Canterbury recreational set net seasonal (1 October to 31 March) closure northwards to prohibit recreational set netting from the Waiau River to the Clarence River outlet (FMA3/FMA4 boundary, 42°10.0'S and 173°56.0'E) and out to 4 nm
- Increased compliance of the COP and increased observer coverage on inshore set netting and trawl fishing vessels.
- No over night netting

Maui Dolphin (West Coast North Island)

Mandatory

- The Department strongly recommends that drift netting be banned from the mouth of the Waikato River or any area that Maui Dolphins congregate. Drift netting is a practice that has a high risk of net loss by uses. The loss of nets within these areas presents a high risk of entanglement to Maui Dolphins. The loss of drift nets also provides a significant entanglement risk to other marine mammals, seabirds, turtles and general marine life. The impacts of ghost nets are widely documented.

- The department strongly recommends Mfish investigate and implement mandatory measures to mitigate any possible fishing related threat to Maui dolphins out to the 100m contour in summer and winter when the dolphins are within trawl areas.
- The Department recommends that the Ministry and Auckland Conservancy work to determine the full range of the Maui Dolphin population with the core and fringe areas.
- No over night netting

West Coast South Island

Mandatory

- Increased compliance of the COP and increased observer coverage on inshore set netting and trawl fishing vessels.
- Encourage recreational fishers to stay with there nets and no over night netting.

Summary of stakeholder views

466 MFish received a number of individual submissions (around 65) with similar content that expressed some or all of the following points:

- a) Five critical areas (hereafter called “**critical areas**”), including harbours and bays, where protection is required were identified:
 - i) West coast North Island (Maunganui Bluffs - New Plymouth)
 - ii) West coast South Island (Kahurangi Point - Jackson Bay)
 - iii) East coast South Island (Clarence River - Waitaki River)
 - iv) Te Waewae Bay (Sand Hill Point - Pahia Point)
 - v) Porpoise Bay (Fortrose - Tautuku Peninsula)
- b) The dolphin protection needed in these “critical areas” is:
 - ◆ Prohibit gillnetting (set netting) in all waters less than 100 m deep
 - ◆ Require all trawl vessels in waters less than 100 m deep to carry independent observers to determine how many dolphins are caught
 - ◆ Year round protection
 - ◆ Protection should be regulation rather than voluntary

467 Some of the submissions received from individuals, academics and environmentalists expressed support for the move to increase protection for Hector’s dolphins. SeaFIC supports the principle of introducing interim management measures where necessary to ensure that fishing threats are mitigated.

468 In general, environmental organisations, academics and many public submissions advocate extensive controls on fishing (such as nationwide set net bans or those outlined above for the “critical areas”) to minimise the risk of Hector’s dolphin mortality.

469 On the whole, Industry supports maintenance of *status quo* with strengthening of voluntary initiatives in areas where measures are proposed. Views of recreational fishers on the proposals were generally divided, with some expressing support for *status quo* and some supporting a requirement for fishers to remain with their nets when set.

470 The view of community groups were also polarised, with some advocating extensive controls and others expressing support for *status quo*.

Areas to which measures apply

471 A number of individual submitters, FNEC, AWI, NZ Forest & Bird, Nelson/Tasman Forest & Bird, Kaipara Forest & Bird, Hastings & Havelock North Forest & Bird, Tauranga Forest & Bird, Waitakere Forest & Bird, Waikato Forest & Bird, Mid North Forest & Bird, WDCS, ADRF, XX, XX, NZMSS and WWF consider that gill netting should be banned in all of the “critical areas”. Most of these submitters note that this ban should extend out to the 100 m depth

contour (including harbours). The primary reason given for this boundary is because dolphins are found in waters up to 100 m deep. A number of these submitters noted that it is best to “keep it simple” and have the same mitigation measures apply to the “critical areas”, rather than different combinations of measures around the country. **One individual submitter** believes that the 100 m depth contour is a clearer and more relevant guide for fishers than distance offshore, and others believe that restrictions should be based on depth rather than nm from the coast. WWF recommends that recreational and commercial gill nets be banned throughout the year to 5 nautical miles, or the 100 m depth contour, whichever is the greater distance from shore.

472 **XX** notes that the “critical areas” are based on natural breaks in dolphin distribution.

473 **WWF** notes that although the main population areas are acceptable for the purposes of interim measures, there are risks associated implementing management measures to these broad areas, because of fragmentation of the populations. WWF considers that the eleven areas identified in the “Hector’s Challenge” delivered to Government by environmental NGOs in November 2004 would form a better basis for management measures.

474 **One individual submitter** considers that set nets/gill nets and trawling be banned out to 20 km offshore from Kapiti Island to Baylys Beach in the North Island, and north from Haast and south around the coast to Te Waewae Bay in the South Island.

475 **One individual submitter** believes that protection for the dolphins should be offshore as well as inshore, and not just in the main areas of the existing populations, but also in areas that have been “fished out”. **Another individual submitter** suggests that work continues on more marine reserves in appropriate parts of New Zealand’s coastline.

476 **Several individual submitters** support a ban on gill netting in all areas where Hector’s dolphins live, with **some individuals** submitting that all fishing activities known to harm dolphins or reduce their food should be banned throughout the dolphins’ range.

477 **Ashburton Forest & Bird** asks for action to protect Hector’s dolphin habitat and food supply by establishing reserves in the “critical areas”.

478 **A number of individual submitters, NZ Forest & Bird, Nelson/Tasman Forest & Bird, Kaipara Forest & Bird, Hastings & Havelock North Forest & Bird, Tauranga Forest & Bird, Ashburton Forest & Bird, Mid North Forest & Bird, ARC, TerraNature, WDCS, XX, XX, NZMSS and WWF** consider that the Porpoise Bay/Catlins area should be added to the list of key population areas detailed in the IPP, and that a set net ban/protection for the dolphins should apply there. Some of these submitters note that Porpoise Bay is used by several gill net fisheries. Although the wording is unclear, **XX** appears to support a full ban on both commercial and recreational set netting throughout the year in Porpoise Bay.

National measures

479 **A number of individual submitters, ARC, NZ Forest & Bird, Kaipara Forest & Bird, Hastings & Havelock North Forest & Bird, Tauranga Forest & Bird, Waitakere Forest & Bird, Ashburton Forest & Bird, Mid North Forest & Bird, Canterbury/West Coast Forest & Bird, TerraNature** believe that the use of gill nets should be banned nationally. The reasons given for this were primarily because of their threat to Hector’s dolphins, other marine mammals, seabirds and other non-target species. **One individual submitter, NZ Forest & Bird, Nelson/Tasman Forest & Bird, Hastings & Havelock North Forest & Bird, Tauranga Forest &**

Bird, Waitakere Forest & Bird, Mid North Forest & Bird, Canterbury/West Coast Forest & Bird, believe that New Zealand should follow overseas examples where set netting has been banned or heavily restricted (e.g. Australia, the United Kingdom and the USA).

480 **Some individual submitters** and **ARC**, consider that if gill netting cannot be banned nationally, then it should be prohibited in waters less than 100 m deep. ARC also submits that gill netting should be prohibited in areas dolphins frequent beyond this depth.

481 **A number of individual submitters** and **North Canterbury Forest & Bird** agree that gill netting in all waters less than 100 m deep should be prohibited nationwide.

482 **FONH&TB** submit that there needs to be a complete mandatory ban on set netting or a ban if not adjacent to/watching the net, and that this approach would be appropriate over vast areas of New Zealand's coastline.

483 **Forest & Bird's** position is that long-term protection of Hector's and Maui's dolphins would require Marine Mammal Sanctuaries in each of the critical areas plus a permanent set net ban applied nationally.

484 **One individual submitter** believed that there should be a protected marine park off New Zealand's coast out to a distance of 200 km, within which commercial fishing is banned. Another individual submitter stated they would like to see all commercial fishing banned in dolphin feeding, recreation and breeding areas, and particularly the "critical areas".

485 As an alternative to set netting around the coast, **several individual submitters** believe other methods such as spear or line fishing can be used, with minimal impact.

486 **One recreational forum member** considers that due to the indiscriminate way that set nets kill, all set nets must be attended by the fisher while set, no matter where in New Zealand or what time of year.

Time of year when measures apply

487 **A number of individual submitters, FNEC, ARC, AWI, NZ Forest & Bird, Kaipara Forest & Bird, Nelson/Tasman Forest & Bird, Hastings & Havelock North Forest & Bird, Tauranga Forest & Bird, TerraNature, Waitakere Forest & Bird, Waikato Forest & Bird, Ashburton Forest & Bird, North Canterbury Forest & Bird, Mid North Forest & Bird, WDCS, ADRF, XX, XX, NZMSS and WWF** consider that measures to protect the dolphins should be in place year round. Some of these submissions noted that this year round protection is required to protect Hector's and Maui's dolphin populations from the impacts of both commercial and recreational fishing. The main reasons provided for support of year round measures is that Hector's dolphins are present in coastal waters throughout the year and are vulnerable to being caught in fisheries throughout the year, and therefore seasonal closures/restrictions are not a viable option.

Nationwide measures to address impacts of trawling

488 **SeaFIC** supports the approach adopted in the IPP regarding potential risks to Hector's dolphin populations from trawling. SeaFIC agrees that it is appropriate to consider these risks, together with other risks to Hector's dolphin populations, in the development of the Threat Management Plan. SeaFIC notes that in the meantime, commercial stakeholder organisations could consider the possibility of including trawl mitigation measures in industry Codes of Practice, and

that there should be a high priority on gathering information on interactions between Hector's dolphins and trawl fisheries.

489 **Some individual submissions** and **Ashburton Forest & Bird** supported restricting trawl fishing to depths greater than 100 m, with several individual submitters expressing support for a complete trawling ban to protect Hector's dolphins. **One individual submitter** questioned why trawling was allowed in harbours.

490 **A number of individual submissions, NZ Forest & Bird FNEC, Kaipara Forest & Bird, Hastings & Havelock North Forest & Bird, Waitakere Forest & Bird and Mid North Forest & Bird** believe that much tighter regulations need to be implemented on inshore trawl fisheries.

491 **North Canterbury Forest & Bird** supports inclusion of further measures to mitigate dolphin bycatch by trawlers.

492 **Nelson/Tasman Forest & Bird** consider trawling should always be suspended in any area where dolphins are present or where they have been recently encountered. **WWF** and **one individual** also submit that trawlers should cease activity if dolphins are sighted.

Implementation framework (voluntary/mandatory)

493 **A number of individual submitters, NZ Forest & Bird, Kaipara Forest & Bird, Tauranga Forest & Bird, Waitakere Forest & Bird, Mid North Forest & Bird, Canterbury/West Coast Forest & Bird, FONH&TB, TerraNature, WDCS, XX, XX and KM&CPS** note in their submissions that past experience shows voluntary agreements don't work. **XX** submits that there is no evidence that pinger use or the commercial CoP has reduced the entanglement rate. **XX** further notes that an observer programme in Canterbury in 1999/2000 showed that only 28% of sets complied with CoP instructions for pinger deployment.

494 **Canterbury/West Coast Forest & Bird** submits that the reliance on voluntary measures in the IPP provides no certainty that unacceptable fisheries bycatch will be avoided.

495 **A number of individual submitters, FNEC, Kaipara Forest & Bird, TerraNature, XX and XX** submit that regulatory measures should be used to protect the "critical areas".

496 **A number of individual submissions, Nelson/Tasman Forest & Bird and North Canterbury Forest & Bird** also consider that measures to protect the dolphins should be mandatory. **Nelson/Tasman Forest & Bird** submit that given the PBR evidence presented in the IPP and known Hector's dolphin deaths, they do not consider that voluntary measures are adequate and believe that mandatory measures are essential.

497 **SeaFIC** emphasises in its submission that, as a general principle, regulation should be used only where absolutely necessary and where stakeholder solutions cannot be implemented effectively.

498 **Challenger Finfish** respect the effect that set net fishing may have on certain populations of Hector's dolphin. However, they would suggest that not all mitigation measures are appropriate for all regions where CoPs are operating effectively and fishing practices and fishers' skills are obviously playing a major part in reducing incidental mortalities.

Measures applying equally to recreational and commercial fishers

499 As a general principle, **SeaFIC** considers that commercial and non-commercial set netters should be subject to similar management measures in relation to Hector's dolphin populations – for example, an area closed to commercial set netting should also be closed to recreational and customary set netting. **SeaFIC** believes this ensures a comprehensive and equitable approach to managing any risks to Hector's dolphin populations arising from set netting activities. However, **SeaFIC** notes that in the absence of suitable governance structures for ensuring voluntary compliance, interim (and long term) measures for managing interactions between recreational fishing and Hector's dolphins must be mandatory (i.e., regulated).

500 **Challenger Finfish** request that should any measure be imposed on the commercial industry that as a matter of general principle, non-commercial and customary set netters are also required to observe the same level of commitment to that measure.

501 **Nelson/Tasman Forest & Bird** see no reason to distinguish between the impacts of commercial and recreational fishing as proposed by the discussion document. **NZ Forest & Bird, Hastings & Havelock North Forest & Bird, Tauranga Forest & Bird, Waitakere Forest & Bird, Ashburton Forest & Bird** and **Mid North Forest & Bird** agree that the threat to dolphins is from both recreational and commercial fishing and the interim measures should apply to both.

502 **XX** expresses disappointment that recreational fishers are being targeted through the proposed measures outlined in the paper, and does not consider that raising awareness of CoPs amongst commercial fishers is addressing any of the issues outlined. **XX** feels strongly that these closures should be extended to commercial fishing practices, including inshore trawling, and notes that this view is shared by many other recreational fishers.

503 **XX** also considers that the mind set that recreational fishers are the primary cause of dolphins disappearing is a major concern.

504 **SEFAC** submit that it is regrettable that the IPP states that there are difficulties ensuring recreational fishers comply with voluntary measures. **SEFAC** considers that recreational fishers will comply with both voluntary and mandatory provisions if they are seen to be fairly imposed with good reason.

Monitoring and reporting

505 **A number of individual submitters** support increased independent observer coverage (on trawl and/or set net vessels) to determine how many dolphins are currently being caught.

506 **A number of individual submissions, FNEC, ARC, NZ Forest & Bird, Kaipara Forest & Bird, Hastings & Havelock North Forest & Bird, Waitakere Forest & Bird, Waikato Forest & Bird, Ashburton Forest & Bird, Mid North Forest & Bird, TerraNature, WDCS, WDCS, ADRF, XX and XX** consider that all trawl fisheries in waters less than 100 m deep/inshore waters should be required to carry independent observers to determine the number of dolphins caught. Of these submissions, a number noted that this requirement should apply to the "critical areas".

507 **Some individual submissions** noted that all trawl fisheries should carry independent observers.

508 **Nelson/Tasman Forest & Bird, Tauranga Forest & Bird, NZMSS and WWF** agree that

observers or electronic monitoring should be required on all trawlers fishing in areas frequented by Hector's dolphins (waters < 100 m in depth).

509 **XX** notes that documented captures by trawlers indicate that trawling poses a clear risk for Hector's dolphins. **XX** considers that while entanglement rates are probably low, the high number of trawl shots means there could be a significant number of entanglements, and for this reason comprehensive observer coverage is required to estimate entanglement rate.

510 **Several individual submitters** note that self-reporting by fishers of dolphin mortality is low. **NZ Forest & Bird, Waitakere Forest & Bird** and **Mid North Forest & Bird** agree with this and considers that bycatch reporting is only reliable when delivered through observer programmes. **ADRF** also notes that it is very difficult to obtain accurate bycatch data unless vessels carry independent observers.

511 **Kaikoura Forest & Bird** considers that the recorded Hector's dolphin deaths are a small fraction of the total due to fishers' reluctance to report Hector's dolphin deaths. **Tauranga Forest & Bird** agrees that bycatch is likely to be significantly higher than reported, and even if it were not, there is too much.

512 **XX** submits that national and international experience shows clearly that in order to estimate the number of dolphins killed in a fishery you need to use independent observers. **XX** considers the only potential replacement for human observers may be video camera systems, and that simply waiting for fishers to voluntarily report dolphins that they catch, or collecting dead dolphins from beaches and determining whether they have been caught in fishing gear, is not a credible method for estimating the number of dolphins caught in New Zealand fisheries.

513 **XX** also notes that the observer programme, and subsequent video camera trials clearly demonstrate that bycatch in the Banks Peninsula area continues at an unsustainable level. She considers that more camera trials would be needed to provide enough data for a statistical comparison with the observer data, but notes that the catch rate during the camera trials was higher than that of the observer programme and therefore there is no indication that the level of bycatch has come down.

514 **NZMSS** considers that for both regulatory and voluntary measures, well designed monitoring programmes (potentially utilising on-board video) be conducted by MFish to evaluate their effectiveness. **NZMSS** notes that this data is urgently needed to provide an objective assessment of CoPs in New Zealand fisheries

515 **SeaFIC** considers that the information on interactions between fishing and Hector's dolphin remains poor, and notes that although it is a mandatory requirement to report fishing related deaths of, or injuries to, dolphins under the Marine Mammals Protection Act, the level of compliance with this requirement is not known. **SeaFIC** submits that information concerning beachcast carcasses is often anecdotal, unable to be verified, and not useful in terms of assessing potential threats from fishing and other activities. Similarly, **SeaFIC** notes that sightings information is often not easily available to the industry or reviewed and validated through any credible process. **SeaFIC** considers that the limited information that is currently available within the DOC is often not useful for research or management purposes because databases are not well maintained or accessible.

516 **SeaFIC** recommends as part of the package of interim measures, that priority should be given to improving both the collection of information on fishing interactions with Hector's dolphin (for all fishing sectors) and the management of information on interactions and sightings that is

collected. SeaFIC suggests that, in relation to commercial interactions, better use could be made of existing allocations of observer funding to improve information on both the level of interaction and compliance with CoPs. SeaFIC considers that more attention needs to be focused on ensuring that industry initiatives such as CoPs include effective monitoring and reporting arrangements and SeaFIC welcomes MFish's support in working through these issues.

Enforcement

517 **One individual** expressed support for community based monitoring of the protected areas, and considers this to be a vital part of the research into the species recovery.

518 **Several individuals** submit that an adequate level of policing/monitoring is required to ensure compliance, with suitable penalties for breaching regulations. A couple of individual submitters noted there should be heavy penalties for any breaches. One individual considers Fisheries Officers should have access to a vessel as well as a vehicle, and have authority to pull out nets if they are set illegally.

519 **WDCS** notes that a strict enforcement regime would be required to enforce protection of the "critical areas". **NZMSS** agree that monitoring and enforcement of measures is required, as are appropriate offences and penalties.

520 The cost/resource requirement of monitoring compliance was raised by **Kaikoura Boating Club** and **Encounter Kaikoura**.

Economic impacts

521 **XX** considers that the information provided in the discussion paper about the potential profit loss for fishers caused by implementing protection measures is misleading. She believes the question is not "how much money are these people currently making?", but "how much less profit would they make if they used fishing methods that do not catch dolphins or fished in areas where the dolphins are not found?"

Threat Management Plan

522 **SeaFIC** are supportive of the development of a comprehensive approach to managing all risks to Hector's dolphin populations and are disappointed that the Threat Management Plan process has been delayed. SeaFIC notes that any measures relating to fishing activities that are approved as a result of the current IPP should be seen as interim only, and should not constrain the development of alternative management approaches in the Threat Management Plan. In view of delays to the Threat Management Plan, SeaFIC supports the principle of introducing interim management measures where necessary to ensure that fishing threats are mitigated, but suggest that the proposed timescale for the interim measures should be more tightly defined, in particular whether these would be introduced with a specified, limited lifetime or a required review date.

523 **Challenger Finfish** agree with the development of the Threat Management Plan on the provision that recommendations or imposed measures within the plan are by a regional approach rather than a "one-size fits all" on a national level.

524 **KM&CPS** consider that in any further assessment undertaken to develop a Threat Management Plan, that MFish consult with people with considerable local knowledge of Hector's dolphins and/or fisheries in the Kaikoura area, and that any information gaps should ideally be finalised as part of formulation of the Threat Management Plan.

525 **TNFMSCCL** are aware that the Threat Management Plan for Hector's dolphins is being drafted, and will result in a comprehensive management plan for long-term dolphin management. TNFMSCCL are disappointed to see that this IPP has undermined this process, proposing interim measures, and stalling the development of the threat plan where many of the IPP topics could be considered.

526 **Canterbury/West Coast Forest & Bird** consider that the failure to progress the Threat Management Plan, and the lack of a Population Management Plan despite more than a decade of trying, mean permanent rather than interim measures are required.

527 **WWF** notes that 18 months has passed since the Minister of Conservation made a commitment to an action plan for the species and 9 months has passed since the last meeting of the Advisory Group for the Threat Management Plan.

528 **One individual submitter** noted that a species recovery programme would be important now, and that this should include a ban on invasive research techniques.

Consultation

529 **Kaikoura Boating Club** is concerned at the time available for consultation. They consider the consultation period is far too short to allow meaningful discussion with members.

530 **One fisher** submitted that not enough time has been given to put pen to paper.

531 **ARC** is concerned that the IPP appears to be poorly advertised and subsequently public awareness of the proposals is not high.

532 **Te Korowai** considers that a reasoned response to MFish's call for submissions cannot be undertaken in one month. The consultation deadline is two weeks prior to the next Te Korowai hui, which precludes the group from taking part in discussions about an issue that is integral to the interests of Te Korowai.

533 Te Korowai notes that the recreational fishing and boating representatives have discussed the issue with the Boat Club Committee and that consultation with the wider membership, including the set netters is not possible in the timeframe. Te Korowai believes this has placed the representatives in a very difficult situation of having to speak on behalf of others with whom they have had no contact.

534 Te Korowai anticipates significant loss of good will because of the unsatisfactory consultation and involvement of the set netters in this process given the timeframe imposed.

535 **SeaFIC** submits that due to the short timeframe allowed for consultation on the IPP, it has not been able to gather additional information on the fishing patterns at Te Waewae Bay.

536 **Canterbury/West Coast Forest & Bird** supports the need to get measures in place urgently for the summer fishing season, and accordingly have no objection to the short consultation timeframe.

Interaction with community initiatives

537 **Te Korowai** believes that the IPP national public consultation process cuts across the process Te Korowai is following. Recreational fishers are represented on Te Korowai and set

netting has been identified by the group as one of a number of important issues that will be part of an Integrated Kaikoura Coastal Marine Strategy. Te Korowai considers that the top down imposition of policy negates the basic rationale of the community group, and that buy-in from set netters will be significantly compromised after the interim decision is made.

Population trends, uncertainty in population size and Potential Biological Removal

538 **SeaFIC** notes that the major variability between the latest population estimate and previous population estimate for Te Waewae Bay serves to illustrate how unreliable current population estimates for Hector's dolphins are. In these circumstances SeaFIC considers that it is highly misleading to provide point estimates of population sizes in the IPP, and that ranges should always be given.

539 SeaFIC agrees that calculation of the annual PBR can, together with information on known levels of human induced mortality, provide a useful guide to the need for management measures. However, SeaFIC does not agree with the indiscriminate use of the recovery-rate goal, and associated recovery factor (F_R) of 0.15, in the PBR calculations. SeaFIC notes that the recovery rate goal was intended to "*allow a population **known** to be at a low level relative to its pre-exploitation level [to] recover at a rate close to its maximum possible*" (SeaFIC emphasis). SeaFIC suggests that current population status relative to historical levels is generally not known for the four sub-populations of Hector's dolphins considered in the IPP. SeaFIC notes that population trends for Hector's dolphin sub-populations are highly uncertain and historical abundance estimates are largely unavailable. SeaFIC also submits that genetic analyses indicate that both the North Island (Maui's) and East Coast South Island populations have undergone declines in abundance, but no evidence of a decline was detected in the West Coast South Island population.

540 **XX** notes that population modelling has indicated widespread population declines, which suggest large closures are necessary.

541 **XX** also notes that there are issues with the use of a recovery factor of 0.15, and that he understands the Technical Working Group that met in August 2006 did not agree to an R_{max} of 3.4%.

Level of bycatch

542 **XX** considers there are a number of misleading statements in the discussion document, and provides an example of points 86 and 87 in the IPP on the number of dolphins caught in the observer programme and the number of dolphin deaths that have been attributed to gillnet bycatch over the past three years. **XX** notes that the problem is that there has been no effort to estimate the number of dolphin deaths in the last three years.

543 **XX** considers that for slow reproducing species like Hector's dolphin, every effort should be made to reduce bycatch to zero.

544 **XX** considers that documented deaths due to gill netting have been a major contributor to mortality rates above those at which the populations can replace themselves.

545 **ARC** submit that current populations are too small to withstand human-induced mortality, and that contemplating any deaths, even on the west coast South Island where there are relatively more dolphins, is unreasonable. **XX** also considers is not acceptable that any level of bycatch of protected species is permitted.

Education and awareness

546 **XX** believes that an education programme is required promoting environmentally safe farming practices and responsible industrial production, as dolphins suffer from pollution.

547 **Some individual submitters** acknowledged the importance of communication/raising awareness of consequences of breaching regulations, and of promoting set net CoPs and the need for appropriate set net practices outside the “critical areas”.

548 **Canterbury/West Coast Forest & Bird** submits that fishers’ awareness should be raised on the risk of cray lines to whales and dolphins.

549 In addition to protection of the “critical areas”, **NZMSS** supports MFish promotion of recreational set net CoPs and the need for appropriate set net practice outside the designated set net closed areas. NZMSS also supports the proposal for MFish to actively promote and ensure commercial fisher’s are aware of relevant CoPs and ensure they comply with the various components as well as discuss the possibility for including further measures to mitigate dolphin bycatch by trawlers outside the designated set net closed areas.

Research

550 **XX** submits that MFish and DOC should initiate additional research using satellite tagging to better understand the offshore movement of Hector’s dolphins, particularly along the west coast of the South Island. He states that an initial trial of this method was extremely successful, providing important new information on use of offshore habitat and baseline information on the dolphins’ health. **XX** considers that an incremental program of further live capture and satellite tagging along the west coast of the South Island (e.g., Jackson Bay) would contribute to our understanding of potential risk or conflict with both trawl fisheries and aquaculture. **XX** further submits that assuming the completion of additional successful trials of satellite tagging on Hector’s dolphins, MFish and DOC should consider the risks and benefits of applying this technology to the Maui’s dolphins, and that given the very low density of Maui’s dolphins, it seems that offshore aerial or vessel surveys are unlikely to provide the information needed to assess the threat of trawl fisheries to this population.

Precautionary approach

551 **Nelson/Tasman Forest & Bird** considers that MFish needs to err on the side of protection when formulating these interim measures because the long-term recovery of all remaining Hector’s dolphin populations is a matter of great urgency.

552 **ARC** and **XX** submit that given the endangered state of Hector’s dolphins, the precautionary principle should be applied.

Customary fishing

553 **SeaFIC** considers that the IPP does not provide sufficient information on any threats to Hector’s dolphin arising from customary fishing activity, and submit that while the IPP notes that there is no known customary set netting effort in Te Waewae Bay, it makes no mention at all of customary set netting activities on the west coast of the North Island or the west coast of the South Island. In relation to proposed measures on the east coast of the South Island, SeaFIC notes the IPP simply states that no interim measures for customary fishing are necessary because a previous Minister “*accepted MFish advice that customary set netting would take into account the need to*

avoid, remedy or mitigate the effect of set net fishing-related mortalities". No information is provided in the IPP to justify how any risks from customary set netting have been avoided, remedied or mitigated.

554 In spite of the lack of information on interactions between customary fishing and Hector's dolphins, SeaFIC agrees that there is no need to address customary fishing interactions by way of interim measures.

555 However, SeaFIC and **Canterbury/West Coast Forest & Bird** note that if regulatory constraints to protect Hector's dolphins are focused solely on recreational fishing rather than all non-commercial fishing, then more recreational fishers may choose instead to seek to fish under a customary authorisation.

556 SeaFIC suggests that areas which do not currently experience customary set netting may see an increase in this activity and tangata tiaki/kaitiaki may need to give more active consideration to conditions under which customary set netting can safely occur. SeaFIC considers that this potential transfer of threat from recreational fishing to customary fishing should be examined in the development of the Threat Management Plan and further consideration should be given to the use of regulations that apply equally to all non-commercial fishing (noting however that under the customary fishing regulations tangata tiaki/kaitiaki retain the ability to issue authorisations that override any other regulations).

Permitting of commercial boat operators

557 **XX** considers that all commercial boat operators, both tourism and fishing, should be permitted by DOC in high or fragile populated areas. **XX** notes that Te Waewae Bay and Banks Peninsula would make a good trial area for this approach. **XX** also submits that DOC can currently control existing permit holders but cannot control un-permitted commercial operators (both tourism and fishing), and that control over populated Hector's dolphin areas will benefit both commercial operators and the dolphins.

Other issues raised

558 **Kaikoura Boating Club** note that all buoys need to be clearly marked as to their use, i.e. net buoys as distinct from pot buoys or line buoys, as enforcement is impractical without this distinction.

559 **TerraNature** submitted that anthropogenic ocean noise needs to be added to the list of threats facing the dolphins identified in the IPP, including seismic noise from oil and gas exploration, seismic noise from the use of air guns for ocean floor mapping and other survey activities, as well as oil and gas drilling.

560 A number of submissions noted that it is important to protect Hector's dolphins for the following reasons:

- ◆ They are taonga
- ◆ Their importance to New Zealand and New Zealanders
- ◆ Their importance for tourism/sightseers
- ◆ So that they can be around for future generations to enjoy

- ◆ To enhance/prove New Zealand's international reputation as world leader in conservation/sustainability

561 **A number of individual and environmentalist submissions** noted concern about the indiscriminate nature of set net fishing and the threat it poses to Hector's dolphins, as well as other marine mammals, seabirds and other bycatch species.

562 **WWF** recommends that, given the decline in Hector's dolphin from around 30,000 in 1970 to around 7,000 in 2005, the strongest possible measures be taken to prevent avoidable deaths caused by fishing.

Hector's dolphin food supply

563 **XX** submits that the IPP makes no mention of what Hector's dolphins' food source is or why they venture into the shallows. **XX** considers that the proposed set net ban will be a waste of time and will do nothing to correct the real cause of the dolphins disappearing. **XX** notes that the dolphins' main food source is yellow-eyed mullet, and that the loss of our land through erosion to the sea is impacting on the dolphins' food source.

564 **XX** considers that beach cast seaweed is of value to Hector's and Maui's dolphins.

Area specific comments

Te Waewae Bay

Proposed interim measures

Recreational set netting

565 **XX, XX** and **XX** support the prohibition of recreational gill netting within Te Waewae Bay throughout the year. Although the wording is unclear, **XX** also appears to support a full ban on recreational set netting throughout the year in Te Waewae Bay.

566 **XX** supports a requirement for recreational fishers setting a net within Te Waewae Bay to remain in attendance with their net while the net is set.

Commercial fishing

567 While **SeaFIC** agrees that there is a risk to the Hector's dolphin population from set netting in Te Waewae Bay, **SeaFIC** considers that the presence of a risk does not necessarily mean that interim measures are necessary for commercial fishing. **SeaFIC** notes that factors such as the low level of commercial fishing activity, the use of an industry CoP, and the possibility of a significantly higher population estimate than was originally believed to be the case, all weaken the need for urgent interim measures for commercial fishing in advance of the completion of the Threat Management Plan.

568 **SeaFIC** suggests that as an alternative, **MFish** could work with Southeast Finfish Management Ltd to improve the monitoring and reporting frameworks for the CoP, thereby increasing certainty around the effectiveness of the CoP. **SeaFIC** would support such an initiative because it: reinforces the concept of industry responsibility for managing the effects of fishing; helps improve information on compliance and the effectiveness of voluntary measures; could serve as a model for other industry CoPs; and avoids the need for costly and inflexible regulations.

569 **XX** does not see a need to close any of Te Waewae Bay, as the population of Hector's dolphins seems to be stable or increasing (as per population counts) with the presence of fishing in the area. **XX** thinks there should be some work done to further reduce chances of catching Hector's dolphins, i.e., developing practical CoPs, and devices to deter dolphins from nets. **XX** also questions what population of Hector's dolphins the bay can sustain with the effect of reduced flows of water from the Waiau River.

570 **XX, XX** and **XX** support the prohibition of commercial gill netting within Te Waewae Bay throughout the year. Although the wording is unclear, **XX** also appears to support a full ban on commercial set netting throughout the year in Te Waewae Bay.

571 **XX** considers it unreasonable to regard trawling in Te Waewae Bay as risk free due to known entanglements in other areas. **XX** does not consider the proposed voluntary measures for trawl vessels are acceptable.

Economic impact of proposed measures

572 **SeaFIC** understands that there are more commercial fishers operating in Te Waewae Bay, both permanently and on an occasional basis, than is acknowledged in the IPP. **SeaFIC** submits that some of these fishermen are multi-method fishers, and a requirement to remain with their nets would have a significant impact on their operations.

573 **South East Finfish** note that there are four or five active set net fishers in Te Waewae Bay. **South East Finfish** submit that these fishers are mainly from Riverton and any closures in Te Waewae Bay would have a significant impact on the individual fishers and the small Riverton Community.

574 **South East Finfish** also submit that commercial set net fishers would find it hard to stay with their nets because they usually fish more than one net at a time (around three), and having to set only one net and stay close by it all of the time result in significant economic impacts for fishers as it reduces their ability to locate good catches of fish.

575 **XX** submits that 40 tonnes of SPO 3 and ELE 5 are caught annually in Te Waewae Bay, and that 80% of this catch is caught within 1 mile of the beach.

Implementation

576 **SeaFIC** does not consider **MFish's** "*preference for any proposed commercial set netting closure or net attendance to be made mandatory*" in Te Waewae Bay to be justified. **SeaFIC** recommends that any interim measures agreed for commercial fishing in Te Waewae Bay should be implemented by way of voluntary arrangements, for the following reasons:

- i) There are governance arrangements in place through **South East Finfish Management Ltd** that would increase the likelihood of voluntary measures being effective. These same governance arrangements are elsewhere in the IPP considered sufficiently effective for no regulatory interim measures to be proposed for the East Coast of the South Island.
- ii) There is only a small number of commercial fishers involved, reducing both the likelihood of non-compliance and the consequences for the Hector's dolphin population of any non-compliance.

- iii) Te Waewae Bay is a remote location and Ministry Compliance personnel cannot be present at all times. This means that both implementation approaches (regulatory and voluntary) will require a high level of voluntary compliance in order to be effective. SeaFIC considers that voluntary interim measures developed through discussion with South East Finfish Management Ltd and the affected fishers (building on the existing CoP) are likely to attract a higher level of voluntary compliance than regulatory measures imposed on fishers without their support. SeaFIC note that in these circumstances the IPP statement that regulatory measures will provide greater certainty to you that your obligations under the Act are being met, is not necessarily true.

577 SeaFIC notes that adopting a voluntary approach for interim measures does not prevent the subsequent adoption of regulatory measures, if justified, following the development of the Threat Management Plan.

578 XX does not consider commercial fisheries have the governance arrangements in place to ensure the effective implementation of voluntary measures.

Te Waewae Bay population size

579 XX considers it inappropriate to use the DOC estimate for the number of dolphins in Te Waewae Bay because: the calculations, methodology and data are un-reviewed; the mark-recapture estimates may be biased; and because the previous population estimate cannot be compared to the recent DOC estimate because the methods used measure different things – the previous estimate quantified the number of dolphins present in the study area on the day(s) of the survey, whereas the DOC method used quantifies the number of dolphins that use the area over an extended period (i.e. may include dolphins that only occasionally use Te Waewae Bay).

Other issues raised

580 XX does not agree with the statement that “flounder set nets.... are considered of less risk to the dolphins”. XX submits that flounder nets are set in shallow water near the seabed, and dolphins are also found in shallow water and feed on fish found on or near the seabed. XX notes that Hector’s dolphins are known to have been caught in set nets in flounder areas at Petit Carenage Bay, Port Levy and Pigeon Bay (Banks Peninsula).

581 **South East Finfish** submits that set net fishers in Te Waewae Bay use pingers.

East Coast South Island

Proposed recreational set net controls from the Waiau River to the Clarence River

582 **Kaikoura Forest & Bird, Canterbury/West Coast Forest⁴⁹ & Bird** and XX support the proposal for extending the boundary of the Canterbury recreational set net seasonal closure northwards to prohibit recreational set netting from the Waiau River to the Clarence River outlet and out to 4 nm on a mandatory basis. Kaikoura Forest & Bird believe that this measure provides the best protection for the species, is the simplest solution in terms of management, and is a first step in helping the species to recover.

⁴⁹ If a national ban out to 100 m deep is not implemented.

583 **Canterbury/West Coast Forest & Bird** support the boundary extension because they believe this would help the Kaikoura local population, which are most often found in the vicinity of the Clarence River and Haumuri Bluffs; because the reported set net mortality rate (8 reported gill net mortalities since 1995) is high given the small local population of around 60 animals; and because research indicates there is no mixing between Kaikoura and Banks Peninsula populations, meaning that Kaikoura cannot be replenished by Banks Peninsula dolphins.

584 **Canterbury/West Coast Forest & Bird** oppose the option to require fishers to remain with their nets as being ineffective, particularly given current compliance staff numbers. Canterbury/West Coast Forest & Bird consider this measure has no certainty.

585 **Kaikoura Forest & Bird** also does not believe that the option to require fishers to stay with their nets is as effective. This is because they consider it is more difficult to police, set netting involves the detrimental effects of bycatch, and it could be dangerous for fishers in situations where the weather turns bad. Kaikoura Forest & Bird submit that a significant number of drownings on the Kaikoura Coast are the result of fishers handling nets at sea.

586 **XX** thinks that an extension of the Canterbury set net seasonal closure north to the Clarence River should be undertaken at the very least, and she would also hope for the Canterbury set net closure area to be extended to a year round ban. XX notes that regulations that require recreational fishers to remain in attendance with their net do not work, and that recreational fishers are supposed to stay with their nets in the Banks Peninsula Marine Mammal Sanctuary but this does not happen.

587 **XX** submits that the proposed measures are unacceptable, and notes that last year recreational set nets were responsible for killing a number of Hector's dolphins. XX considers that mandatory measures need to be in place by December 2006 that ban all recreational and commercial set net practices, and restrict trawling to outside the dolphins' range (<100m from the shoreline).

588 **Encounter Kaikoura** believes a seasonal closure is not in the best interest of Hector's dolphins as dolphins are inshore all year round between the Waitaki and Clarence Rivers, and therefore consider that the ban on recreational set netting should be year round. Encounter Kaikoura submit that while remaining in attendance with the net would be more acceptable than leaving the net unattended, they are not convinced that this measure would be adequately adhered to.

589 **Te Korowai** note that voluntary set net measures have been in place since 2002. Set netting is not to take place within 400m of open beaches along the Kaikoura coast from the Waiau to the Clarence Rivers year round. Rocky reef formations and beaches less than 200m long were excluded from the voluntary ban. Te Korowai submits that these measures were negotiated with MFish, endorsed by DOC and actively promoted by the boat club and fishers. It is noted that a discussion within Te Korowai included comments that set nets were seen at times in the voluntary closed areas.

590 **XX** notes that set nets are still used on rocky reefs and that this poses a substantial risk – set nets are being used in the same area where dolphins are encountered.

591 **XX** is concerned about the proposed set net ban. He has been involved with commercial and recreational set netting for over 35 years in the Kaikoura area, and hasn't ever caught a Hector's dolphin in that time. He sets his nets in places where Hector's dolphins are not present, and never have been present.

592 **XX** also submits that in 25 years of commercial fishing, and now as a recreational fisher, he has never caught a dolphin in a bottom net. **XX** does not support a set net ban.

593 **Kaikoura Boating Club** are concerned that the interim measures process is overriding the Te Korowai o Te Tai o Marokura (Kaikoura Coastal Guardians) process that has been started and actively pursued for the last 15 months in Kaikoura. Kaikoura Boating Club see the interim measures process as being counter productive to the larger issue of gaining majority community buy in to a coherent management process.

594 Kaikoura Boating Club support that the status quo is maintained in the Kaikoura area until the Te Korowai process is completed. The club submits that there is already a voluntary CoP in place and that if it is considered that further measures are required urgently, then their preference is for the voluntary CoP to become mandatory, and for enforcement effort to be targeted to the area. Of the options presented in the IPP, the Kaikoura Boating Club committee's preference is the requirement for fishers to stay with their nets. However, due to the lack of consultation, there is likely to be very poor acceptance from club members. An attachment to the Kaikoura Boating Club submission notes that 200 nets are set each day at the peak times.

595 **XX** also supports that the status quo is maintained. He does not support extending the northern boundary of the current closure to the Clarence River outlet and believes there is not reason to do this. **XX** also does not consider it is appropriate to expect fishers to stay with their net in that area. He believes the CoP is working and requests that responsible fishers are not punished. **XX** supports "education not regulation", and suggests more advertisement of the CoP.

596 **XX** notes that of the two options offered, he would have to support the option of allowing fishers to use nets over the closure period providing they remain with them.

597 **XX** and **XX** also support the proposal on the east coast South Island that recreational fishers setting a net must remain in attendance with the net while the net is set. **XX** adds that MFish needs to actively promote the recreational set net CoP with all the tools on disposal.

598 **KM&CPS** consider that rather than an outright ban, at this stage the proposal that recreational fishers setting a net must remain in attendance with the net while the net is set should be applied as an interim measure. **KM&CPS** note that this will require significant compliance measures to be put in place by MFish, but enables fishers to undertake this activity in a controlled way until further assessment is undertaken in finalising a Threat Management Plan

599 **AHRFC** support the active promotion of an amateur set CoP for both inside and outside the closed areas, and are willing to continue to actively participate in this.

600 **AHRFC** note that while the IPP contains two separate proposals for amateur fishers, their combined effect in reality is that they import the existing restrictions applicable to the current Canterbury seasonal closure further north to the Clarence River. **AHRFC** are of the opinion that although the proposals affect areas outside their immediate concern, entanglements in excess of an "acceptable" level occur in Kaikoura, their fishery and fishers will be penalised by more extreme measures. **SEFAC** agrees that unworkable or unsatisfactory voluntary provisions (while they suffer mandatory ones in the Canterbury area) between the Waiau and Clarence Rivers will mean that any dolphin deaths occurring there will result in further penalizing those fishers who have been affected for 17 years now.

601 **AHRFC** recommend that all of the provisions in the current Waitaki River to Waiau River

area extensions be included in the proposed Waiau River to Clarence River area extension with the proviso that their recommendations as to the period of the restrictions to the whole area (Waitaki River to Clarence River) be taken into account. These period recommendations are also put forward by SEFAC and are as follows:

- a) That the restriction on the amateur flounder fishing in approved areas as imposed by the 2002 alteration be amended and increased to take in the month of March (currently 1 November to last day of February)
- b) That the existing prohibition on amateur non-flounder fishing nets be reverted back to the original Banks Peninsula Marine Mammal Sanctuary exclusion of 1 December to the last day of February (currently 1 October to 31 March). AHRFC and SEFAC submit that this proposal should be subject to the provisos that there shall be no overnight setting and that person/s setting the net shall remain within a specified distance (100 m) of that net at all times while it is set (AHRFC notes that 100 m gives wider scope for seeing dolphins approaching and more opportunity to remove a net from the water than a 50 m requirement)

602 The reason AHRFC and SEFAC give for their recommended flounder fishing amendment is that Hector's dolphins appear to spend a longer time inshore in summer (lingering in approved flounder areas into early/mid-March) than used to be the case, particularly in Akaroa Harbour. AHRFC and SEFAC note that flounder nets are set over night and are unattended and so present more risk if dolphins are present as they cannot be removed. AHRFC acknowledges that this proposal may not be acceptable to some flounder setters, but consider there remains an acceptable period to set flounder nets.

603 The reason SEFAC gives for their recommended shorter restriction between the Waitaki and Waiau Rivers is that there have been no amateur set netting incidents involving Hector's dolphins in attended nets, and they consider that reverting back to a 1 December to 28/29 February restriction under the proposed interim measures will give opportunity to see whether or not incidents do occur. SEFAC contend that by proposing a restriction on flounder netting, they are taking additional factors into account and suggesting further restrictions as a result, and so they should have their recommended shorter restriction period between the Waitaki and Waiau Rivers seen as a reasonable suggestion.

604 AHRFC and SEFAC also recommend that only two nets per vessel be permitted provided there are two or more people on board the vessel at all times the nets are set. AHRFC and SEFAC consider this a safety issue, and AHRFC notes that risk to life ensues if a lone fisher falls overboard or has trouble recovering a net.

605 AHRFC and SEFAC further consider that instead of having the current limit of 4 dolphin mortalities per year that would result in a complete ban of set netting, whether it be commercial or amateur responsible for the casualties, a maximum mortality rate of 2 dolphin deaths per year in amateur set nets should apply which, if reached, would trigger a closure of the area to further amateur set netting for the year; and the same should apply to all commercial netting (whether set net or trawler related). AHRFC believe this would be fairer as it will make each sector directly responsible for the loss of fishing rights.

606 AHRFC comment that instituting their proposals in an interim basis would: give a clear indication of whether or not inclusion in the eventual Population Plan would be warranted; make amateur provisions uniform over the whole of the east coast South Island and thereby reduce the

existing confusion between the two areas; make the commercial and amateur sectors act in a responsible manner; and would restore some fishers attitudes towards complying with restrictions.

Proposed measures for commercial fishing

607 **SeaFIC** supports the proposed interim measures for commercial fishing. SeaFIC notes that South East Finfish Management Ltd has already taken a number of steps to ensure that fishers are aware of the CoP and to improve monitoring of compliance with the CoP.

608 **XX** also supports encouragement of compliance with the Industry's set net CoP on the east coast South Island, as well as discussion of methods to mitigate trawl bycatch.

609 **Canterbury/West Coast Forest & Bird** consider the proposal to raise on commercial fishers' awareness of the CoP is inadequate given previous dolphin mortality. Canterbury/West Coast Forest & Bird submit that given the large number of vessels (16) using set nets and the small dolphin population, there is a risk of further commercial bycatch, and given that none are listed as relying on set netting exclusively, the commercial impacts of a ban can be accommodated.

610 **XX** considers that it is naive in the extreme to consider that industry has shown it can organise itself collectively, and notes that every time observers or cameras are used to observe whether dolphins are caught, they are found to be caught, yet at other times the industry reports no entanglements. XX believes that no voluntary agreement in this fishery can be trusted.

611 **XX** submits that commercial operators work thousands of yards of nets, and is sure the risk from commercial set netting is greater than amateur set netting with 60 yards of net. XX believes there should be no discrimination between amateur and commercial fishers with a decision.

612 **AHRFC** is concerned that virtually no additional measures of a precautionary nature are to be imposed on the commercial sector, and refer to incident data that shows since February 2002, there have been four incidents definitely attributable to commercial fishing involving eight dolphins in total (two released alive) (see "Level of Bycatch" section below). AHRFC submit that the provisions for the commercial sector outlined in a 2002 letter from the Minister of Fisheries have not been as effective as desired. AHRFC also note that there have been instances of late reporting or commercial instances, which they consider is undesirable practice.

613 **AHRFC** and **SEFAC** recommend that in addition to the voluntary measures proposed in the IPP, commercial fishers, both set netters and trawlers, have a mandatory requirement to have cameras fitted to their vessels to clearly record what is being brought on board vessels at the time of recovery of nets. AHRFC also recommend that commercial fishers be encouraged to promptly report all netting incidents that could endanger Hector's/Maui's dolphins, not just actual deaths.

Existing Canterbury Set Net Area Prohibition

614 **SeaFIC** supports the proposal to fix a technical error in the Fisheries (Canterbury Set Net Area Amateur Prohibition) Notice 2002.

615 **SeaFIC** considers that it is misleading to refer to the area closed by the (Canterbury Set Net Area Amateur Prohibition) Notice 2002 as a "recreational set net closure" since the Notice applies to any person who is not a commercial fisher. SeaFIC note that even though the customary fishing regulations enable tangata tiaki/kaitiaki to issue authorisations in contradiction of other fishing regulations, including the 2002 Notice, the wording of the 2002 Notice suggests a clear intent to guide the behaviour of both recreational fishers and tangata tiaki/kaitiaki. SeaFIC recommend that

the area should be referred to as the “Canterbury amateur set net seasonal closure” and its proposed extension northwards should also be described as applying to all fishers who do not have a commercial fishing permit (while acknowledging the ability of tangata tiaki/kaitiaki to issue authorisations that override the closure).

Banks Peninsula Marine Mammal Sanctuary

616 **XX** consider that the seasonal ban on set nets in the Banks Peninsula Marine Mammal Sanctuary should be extended to a year round ban.

617 **XX** submits that summer and winter aerial surveys at Banks Peninsula show that a greater proportion of the dolphin population is outside the sanctuary in winter, highlighting the need for year round protection.

618 **Canterbury/West Coast Forest & Bird** oppose delaying consideration of the need for further measures around Banks Peninsula until the Threat Management Plan because of the impact of ongoing bycatch mortality on the Banks Peninsula population and individual dolphins. Canterbury/West Coast Forest & Bird do not believe the sanctuary has reduced bycatch to sustainable levels.

619 Canterbury/West Coast Forest & Bird believe that the sanctuary is too small, and within the sanctuary, dolphins are vulnerable to bycatch mortality when recreational set netting and flounder netting are permitted. Canterbury/West Coast Forest & Bird consider that if set netting is not prohibited nationwide in waters less than 100 m deep, and until the sanctuary is extended, Fisheries Act Regulations should: extend the closed season for flounder to match the times used for other amateur setnetting; simplify the current fishing regulations to remove exceptions to the bans of certain types of gear (to enforcement and make the authorised methods obvious to fishers); ban both recreational and commercial set netting out to 15 nm and from Blackbirch Creek to Wainono Lagoon.

620 **AHRFC** submit that a document prepared in 2002 entitled “Analysis of Reported Incidents in Canterbury Involving Hector’s dolphins” (attached as Appendix A to AHRFC’s submission) is a firm indicator that the measures operative under the Banks Peninsula Marine Mammal Sanctuary legislation of 1988 were effective in reducing the amateur set netting mortality rate to a level that would sustain the ECSI population.

Customary fishing

621 That there are no interim measures proposed to manage the customary set netting is opposed by **Canterbury/West Coast Forest & Bird**, as they consider this creates an unjustified difference between recreational and customary set netting. Canterbury/West Coast Forest & Bird note that with the proposed Canterbury summertime recreational set net seasonal closure applying to an extended area, the customary fishing effort may increase significantly as displaced recreational fishers seek to claim and exercise customary fishing rights.

Measures applying equally to recreational and commercial fishers

622 **KM&CPS** is concerned that the proposed interim legal measures are specifically related to recreational fishers only whereas the measures for commercial operators are largely restricted to voluntary CoPs. KM&CPS note that although there has been some observer coverage, an agreed set net mortality limit by the Minister of Fisheries in the Canterbury area (2002); and some voluntary

measures/CoPs, there is some concern that recreational fishers only are being targeted in this interim measure and that it needs to be made very clear as part of this process exactly what restrictions/limitations will apply to commercial operations.

623 **XX** submits that commercial operators work thousands of yards of nets, and is sure the risk from commercial set netting is greater than amateur set netting with 60 yards of net. **XX** believes there should be no discrimination between amateur and commercial fishers with a decision.

Status of the population/population trends

624 **Te Korowai** note that the number of dolphins in the Kaikoura sub population suffer from a high degree of uncertainty. Accordingly, the status of the sub population and whether it is changing cannot be evaluated with confidence. Several Te Korowai participants who are regularly on the water consider the estimates are too low.

625 **XX** submits that the Hector's dolphin population is obviously on the increase, as when he started fishing in 1975 he had never sighted one; whereas now sightings are very common.

626 **XX** agrees that Hector's dolphins on the east coast South Island appear to be increasing in numbers, especially around Timaru.

627 **Guardians of the Sounds** state that Hector's dolphins in the Marlborough Sounds are in a state of decline – 10 years ago there was a permanent population of at least 30 dolphins and now there are rarely more than 5 or 6 seen at a time.

628 **XX** noted that it is difficult to find dolphins off the Otago coast, and although they may once have been common in shallow coastal waters, they are not any longer.

629 **Canterbury/West Coast Forest & Bird** consider the IPP proposals fail to recognise the vulnerability of the local Hector's dolphin population in Kaikoura.

630 **XX** submits that the inadequacy of the current boundaries of the Banks Peninsula Marine Mammal Sanctuary is shown clearly by very extensive studies of survival rate and by population viability analyses. **XX** states that these studies show that the Banks Peninsula population is declining because adult survival rates are too low.

Potential Biological Removal

631 **XX** considers that the PBR estimate is incorrectly calculated - MALFIRMS cannot legitimately be calculated over such a large area (there should be individual management units within the area) and the dolphins in the marine mammal sanctuary should not be included in the calculation. **XX** notes that by including the number of dolphins in the sanctuary in the calculation, this effectively abolishes the sanctuary because it would result in animals outside the sanctuary being taken at much higher levels than is sustainable.

Level of bycatch

632 **Kaikoura Forest & Bird** submit that no mention of Hector's dolphin deaths off the Kaikoura Coast is made in the IPP and that DOC records show that 8 Hector's dolphins have been recorded by staff over the past 5 or 6 years, and that the Forest & Bird Society can validate at least another two washed up on the coast. Although a number of these were in a decomposed state, at least three of the DOC records show death caused by set netting. Kaikoura Forest & Bird also state

that there is strong local evidence that close inshore set netting by commercial and recreational fishers is responsible for at the deaths of at least 18 Hector's dolphins over the past 5 years, most of these off the Hapuku River mouth.

633 **XX** submits that some Kaikoura fishers are getting frustrated and angry about a claim that 13 dolphins have been caught in Kaikoura since 2003 and that, as far as can be ascertained, there is no truth in this claim at all.

634 **Te Korowai** community members have heard nothing of dolphins being entangled in recreational set nets recently. Te Korowai reports the DOC list of six Hector's dolphin deaths and one that was entangled in a net but released alive between 2000 and 2004. Te Korowai submits that this information and Te Korowai observations indicate there have been no entanglements of Hector's dolphins associated with recreational set netting since 2004. **KM&CPS** also state that to their knowledge, there have been no reported fatalities caused by recreational fishers in the last two years within the Kaikoura area.

635 **XX** submits that the current rate of entanglement in Canterbury is still very high (based on information from the DOC strandings database and the draft Hector's dolphin population management plan). **XX** notes that there were 44 known Hector's dolphin entanglements in Canterbury between 1995 and 2005 (38 in gillnets and 6 in trawl nets), and that between 1995 and 2005 eight Hector's dolphins were caught inside the Banks Peninsula marine mammal sanctuary. **XX** also states that the actual figures must be far higher because it is known that bycatch is significantly under-reported. **Canterbury/West Coast Forest & Bird** also recognise these bycatch figures and note that there have been nine known mortalities (8 gill nets, 1 craypot) reported between 1995 and 2005 in Kaikoura.

636 **AHRFC** note that for the period February 2002 to the present (following implementation of Canterbury Set Net Area Amateur Prohibition Notice 2002), there has only been one Hector's dolphin incident involving an amateur net within the restricted area since 2002 and there was one likely amateur entanglement north of the restricted area at Kaikoura. **AHRFC** also refer to incident data that shows since February 2002, there have been four (3 set net; 1 trawl) incidents involving eight dolphins in total (two released alive) definitely attributable to commercial fishing.

Other issues raised

637 **XX** expressed the view that set netting should be banned around the Otago Coast and especially in the harbour to help dolphins, penguins and fish stocks.

638 **XX** considers trawl fisheries should be regulated in the Canterbury area.

639 **Guardians of the Sounds** submit that the two main threats are bottom dredging (because of habitat destruction) and gill netting, and both of these methods should be banned. Guardians of the Sounds submit that some commercial gill netters do not abide by the memorandum of understanding that they have with the Commercial Fishermen's Association, who have agreed not to use gill nets in the Queen Charlotte Sounds.

640 **FONH&TB** are concerned that the Hector's population north of Clarence (and especially Cape Cambell north) has not been given a higher level of recognition or suggested protection. **FONH&TB** note that evidence presented at the Clifford Bay Marine Farms Environment Court case showed DNA evidence of the difference in populations to the north and south of Cape Cambell. **FONH&TB** also submit that there is anecdotal information of dolphin deaths at Cape Cambell, and

express concern about the 3 reported dolphin deaths from trawling in April 2006.

641 **Canterbury/West Coast Forest & Bird** consider that in Kaikoura, regulations are also needed to prevent entanglements in cray pot lines and fishers' awareness should be raised on the risk of cray lines to whales and dolphins. **XX** similarly believes that if a set net ban is being proposed, then cray pots should also be banned as the number of whales being caught in craypots is ongoing.

West coast North Island

642 Given the current management controls in place, **TNFMSCL, ESL and SeaFIC** do not believe that there are any identified risks which require urgent attention for the Maui's dolphin population that need to be addressed in advance of the Threat Management Plan.

643 **XX** believes the proposed measures for Maui's dolphins, relying on discussion with commercial and recreational fishers and voluntary measures are inadequate. To his knowledge, none of the deaths of Maui's dolphin attributed to net entanglement were reported by the fishers involved, as required by law under the Marine Mammal Act. This absence of self-reporting undermines the credibility of discussions and voluntary measures as primary enforcement tools.

644 **XX** suggests there some measures that can help Maui's dolphins without a big impact on commercial or recreational fishing practices. These are: ban all gill netting within 4 nm of the west coast, including an area into the immediate harbour or river entrance; no surface longlining within the 4 nm area; build in steel swivels at 8 m distances to all craypot recovery lines so that dolphins can echolocate the lines; no purse-seining within the 4 nm area; halt the protection of sharks, as sharks take young and old dolphins; and all trawling within 4 nm be stopped until there is more information on mortality rates.

645 **Waitakere Forest & Bird** consider that with births only four or five a year and in years past up to six deaths in one year from set netting, births are not replacing the stock of Maui's dolphins. Waitakere Forest & Bird note that given the delay of the Threat Management Plan, you need to act urgently to save Maui's dolphins from further decline and potential extinction. Waitakere Forest & Bird consider that immediate action is required to establish a marine mammal sanctuary over the full range of Maui's dolphin.

646 **Waikato Forest & Bird** are deeply concerned that Maui's dolphins are disappearing in the branch area (including Kawhia, Aotea and Raglan Harbours, and west coast North Island to Port Waikato).

647 **XX** supports Forest & Bird's call for set net bans to be extended across Maui's dolphins' full range.

648 **Canterbury/West Coast Forest & Bird** submit that the proposals fail to recognise the high gill net mortality from recreational fishing in Buller and South Westland and the need to control this, or the vulnerability of local Hector's dolphin populations in South Westland.

Harbours

649 **XX** notes that according to the Waikato Times, at least three Raglan commercial fishermen have admitted catching Maui's dolphins in set nets.

650 **XX, XX, XX, XX, Kaipara Forest & Bird** and **WWF** note that recent research has shown

that the protected area for Maui's dolphins needs to be extended into the harbours.

651 **XX** notes that detailed research inside the harbours began in 2005 and has confirmed that Maui's dolphins use harbours as well as open coast habitat. She notes that Maui's dolphins range into both of the harbours studied so far (Kaipara and Manukau) and acoustic detections have been matched with visual sightings by university researchers and staff from DOC and MFish. **XX** further states that two years of data from the Manukau Harbour show that Maui's dolphins consistently range much further into the harbour than the protected area boundary at Puponga Peninsula. ARC agrees that on the basis of hydrophone tracking in the Manukau and Kaipara Harbours, Maui's dolphins venture into areas that are currently unprotected.

652 **XX** states that Maui's dolphins are known to use the west coast harbours and this overlaps with set net and driftnet fisheries. **XX** considers set netting and drift netting needs to be banned in all of these harbours (including the Kaipara, Manukau, Port Waikato, Raglan, Aotea, and Kawhia) without question for this sub-species to have some chance of survival.

653 **Waitakere Forest & Bird** notes that sightings have been reported well into the Manukau and Kaipara Harbours, and that these areas need protecting.

654 **Waikato Forest & Bird** note that several of their members have seen Maui's dolphins in Raglan harbour.

655 **XX** stated that in 20 years of residence at the mouth of the Kauritutahi Stream (northern end of the Auckland Regional Council's Awhitu Regional Park), he has not seen a Hector's dolphin nor had them reported by other members of the community overlooking the harbour. **XX** also stressed that traditional food gathering through set netting in the Manukau harbour is an important component of his low-income lifestyle.

656 **XX** submits that for set net fishing in the Manukau Harbour, the MFish should consider the feasibility of requiring fishers to be in attendance of the nets at all times to prevent loss of nets. Although **XX** admits he is not yet convinced that set netting within the harbour is a threat to the dolphins, he has personally witnessed (and reported) recreational set nets drifting loose in on the outgoing tide into the harbour entrances and nearshore waters occupied by the Maui's dolphins.

Port Waikato

657 **XX** supports an assessment of the Port Waikato drift net fishery.

658 **XX** submits that for set net fishing in Port Waikato, MFish should consider the feasibility of requiring fishers to be in attendance of the nets at all times to prevent loss of nets.

659 While **XX** supports the concept of no unattended nets, he believes that nets, once adrift, do not keep catching fish – rather, they collect seaweed and roll together.

660 **XX** considers the proposed measure to initiate discussion with fishers is unacceptable; and submits that there is a degree of urgency to ensure protection of Maui's dolphin and MFish needs to take the lead. **XX** notes that information on the extent of the threat to Hector's dolphins from Port Waikato drift net and set net fishing surely is readily available, and that MFish needs to be determining the level of protection required not the level of threat.

New Plymouth/Taranaki

661 The west coast North Island “critical area” identified in a number of submissions consisted of a southern boundary at New Plymouth (i.e. south of the current set net closed area boundary).

662 **XX, XX, XX, Kaipara Forest & Bird** and **XX** note that recent research has shown that the protected area for Maui’s dolphins needs to be extended into south to New Plymouth.

663 **NZ Forest & Bird, Hastings & Havelock North Forest & Bird, Waitakere Forest & Bird** and **Mid North Forest & Bird** propose extending the current protected area south to New Plymouth on the basis of recent research, and **Nelson/Tasman Forest & Bird** consider that the southern extension to New Plymouth is essential to provide the best chance of survival for Maui’s dolphin. **Tauranga Forest & Bird, TerraNature** and **WWF** support inclusion of the New Plymouth area.

664 **XX** considers that given the recent confirmation of Maui’s dolphin sightings along the Taranaki coast, set-net closures similar to those in force for the core area to the north are required to provide the full level of protection to this population. However, he understands that the number and distribution of Maui’s in this region remains poorly known (despite past systematic sighting surveys).

665 **XX** considers the proposed measure to initiate discussion with fishers is unacceptable; and submits that there is a degree of urgency to ensure protection of Maui’s dolphin and MFish needs to take the lead. **XX** notes that information on the extent of the threat to Hector’s dolphins from Taranaki set net fishing surely is readily available, and that MFish needs to be determining the level of protection required not the level of threat.

666 **ESL** notes that the comments made in the IPP that ‘there have been occasional sightings northward to the Kaipara Harbour and south as far as Mokau, and recently possibly further’ and ‘DOC has recorded several recent sightings further south than the existing closed area’ are vague and unsubstantiated and to suggest interim measures either north or south of the existing closed areas on a possible sighting is unrealistic and not necessary.

667 **ESL** notes that all of its fisherman spend the majority of their fishing time north of New Plymouth to the Tirau Point, and none have ever sighted any Hector’s or Maui’s dolphins in the main area of their fishing activity. **ESL** questions the validity of the sightings recorded by **DOC**.

Trawling

668 **TNFMSCCL** submits that it has had at least twelve trawl vessel skippers operating on the West Coast of the North Island for the last four and a half decades, and during these operations they have reported no encounters or interactions with the Maui dolphin.

669 **TNFMSCCL** notes that there is no evidence of Maui dolphin presence in the areas that our trawl vessels are operating, either during summer or winter. **TNFMSCCL** strongly believes this is because of the geographic location differences where our vessels operate and the prime habitat location in which the Maui dolphin exist. **TNFMSCCL** submits that there is no scientific reference in the IPP to support the statement that dolphins are in the trawl area during some periods of the year, and request that these comments either be removed, or a reference to scientific papers be given.

670 **TNFMSCCL** considers that the 100 observer days undertaken in the 2006/07 fishing year will verify the view that trawl vessels are not interacting with Maui’s dolphins, and that findings to date

confirm that no interactions between Maui's dolphin and the trawl vessels occur.

671 **XX** considers that proposal to discuss possible trawl voluntary measures is not acceptable. She submits that voluntary measures do not work, dolphins are still being killed and therefore consistent mandatory measures need to be in place by December 2006 that ban all recreational set net practices and commercial set netting and restrict and monitor all trawling to outside the dolphins range (<100m of the shoreline) year round, including harbour areas.

Use of anecdotal information for determining Maui's dolphin distribution

672 **SeaFIC** notes that the proposed measures for Maui's dolphins appear to be based on new information about their distribution. **SeaFIC** considers this sightings information to be anecdotal and unconfirmed as it has not been made available to the industry or reviewed in any way. **SeaFIC** notes that anecdotal information can be an input to decision making, but it should not be accorded the weight of formally reviewed information. **SeaFIC** further notes that anecdotal information should also be viewed in light of other available anecdotal information. **SeaFIC** is aware that commercial fishers outside the closed area report that they have not sighted Maui's dolphins in their areas of fishing activity.

673 **SeaFIC** considers that this reinforces the need to review all sources of anecdotal information through an appropriate process. Until all the relevant information is made available to the industry and reviewed, **SeaFIC** believes the value of this information for management decisions will not be known and industry groups will not be in a position to discuss whether additional measures are necessary or not.

Public awareness and compliance monitoring

674 **XX** supports the proposed measures in the IPP for publication of the set net closed areas and monitoring of compliance in these areas.

Research

675 **XX** submits that given the number and distribution of Maui's in the Taranaki region remains poorly known, further vessel-based surveys and the collection of biopsy samples are needed to improve this understanding and avoid unnecessary regulation of fisheries.

West coast South Island

676 **SeaFIC** and **Challenger Finfish** agree that there is no need to implement interim management measures on the west coast of the South Island. Threats to the west coast Hector's dolphin population can be adequately addressed through the development of the Threat Management Plan.

677 **Challenger Finfish** submit that they will continue to work with **MFish** to continue to promote the set net CoP and offer advice on set net mitigation and improvements to gear performance to the commercial industry, and recreational sector if requested.

678 **Challenger Finfish** note that whilst incidental capture of Hector's dolphin by trawling is very small, they do observe there is a risk and **Challenger Finfish** will develop a CoP for trawling in respect of marine mammal capture for FMA7&8.

679 **XX** supports encouragement of compliance with Industry's set net CoP on the west coast

South Island.

680 **XX** supports a year round set net ban for both the recreational and commercial fisheries which encompasses the majority of the dolphin population i.e. out to 100m between Cape Farewell and north of Fiordland.

681 **Canterbury/West Coast Forest & Bird** consider that the region should extend from Kahurangi Point to at least Jackson Bay and potentially Awarua Point, Martins Bay (convenient administrative boundary).

682 Canterbury/West Coast Forest & Bird submit that the IPP has ignored the presence and significance of the South Westland population of Hector's dolphins, and notes the importance of Jackson Bay for Hector's dolphins due to the frequent occurrence of large group sizes and because the bay is one of only two known areas in South Westland regularly used by dolphin females and their calves.

683 Canterbury/West Coast Forest & Bird strongly oppose the proposal to rely on voluntary measures and promote the recreational set net Code of Practice (CoP) and encourage Challenger to raise commercial fishers' awareness of the industry's CoP. This is because Canterbury/West Coast Forest & Bird believe it provides no certainty that current bycatch levels will be reduced, ignores research establishing the significance of Jackson Bay to Hector's dolphin and its vulnerability to decline given its small size and restricted distribution.

684 Canterbury/West Coast Forest & Bird support prohibiting recreational set netting and commercial set netting on the west coast from Kahurangi Point to Awarua Point out to 5 nautical miles or depths of 100 m, whichever is greater. Canterbury/West Coast Forest & Bird submits that given the range of species fished and other methods available, a commercial and recreational set net ban is likely to affect only four fishers seriously.

685 **XX** submits that the proposed measures are unacceptable, and notes that last year recreational set nets were responsible for killing a number of Hector's dolphins. **XX** considers that mandatory measures need to be in place by December 2006 that ban all recreational and commercial set net practices, and restrict trawling to outside the dolphins' range (<100m from the shoreline).

Interaction of Threat Management Plan with west coast MPA process

686 **SeaFIC** agrees that it is desirable to align the processes for managing threats to Hector's dolphin and planning MPAs for the west coast. However, SeaFIC does not believe that it makes sense to delay the development of Hector's dolphin management proposals until after the completion of the MPA planning process because: the MPA process may be delayed beyond mid 2007 due to controversial/incomplete components of the MPA Policy; MPAs will not necessarily be useful in managing risks to Hector's dolphins; if any closures are put in place to manage risks to Hector's dolphins, these could contribute to the MPA network if they meet the required standard of protection.

687 **Challenger Finfish** agree that the MPA planning process focuses on protecting areas of representative biodiversity, not on managing risks to particular populations, and that it therefore cannot be expected that MPAs will necessarily be useful in managing risks to Hector's dolphins.

Distribution

688 **Canterbury/West Coast Forest & Bird** consider that a figure in the IPP showing Hector's distribution on the west coast South Island is misleading, and does not take into account unpublished research that found in summer sightings were concentrated around Hector, the Paparoa Coast, Greymouth and between Hokitika and Ross, and in winter, the majority of sightings were made between Hector and Westport and around Punakaiki and Greymouth.

Potential Biological Removal

689 **Challenger Finfish** do not believe that MFish or DOC have adequate observed information or necropsy data on the cause of incidental mortalities of Hector's dolphin on the west coast South Island to calculate a figure for PBR for the commercial sector.

Level of bycatch

690 **Canterbury/West Coast Forest & Bird** submits that the IPP does not reference the initial PBR analysis which calculates a human induced mortality for the West Coast South Island of 11 dolphins. Canterbury/West Coast Forest & Bird notes that researchers have previously calculated that the west coast population of Hector's dolphin as a whole could sustain fewer than 8 deaths per year due to additional human impacts, while the small South Westland local population could sustain less than 1 death every 5 years, yet four Hector's dolphin were killed in a single set net incident in Neils Beach, Jackson Bay in November 2005.

691 Canterbury/West Coast Forest & Bird submit that bycatch in recreational fisheries appears to be the biggest threat to Hector's dolphins on the West Coast and it needs to be avoided to protect the species' major stronghold. Canterbury/West Coast Forest & Bird state that while the commercial setnetting fleet may be small, in areas such as Buller, particularly between Westport and Granity, there are significant numbers of recreational gillnetters with high numbers of gillnet caused mortalities.

692 **XX** submits that there were 43 known entanglements on the West Coast between 1995 and 2005, and considers that the actual number of entanglements will be very much higher due to lack of reporting and animals not being found due to the isolated nature of the coastline. XX believes that because the west coast is where the majority of Hector's dolphins live and overlap with fisheries is a problem here, something should be done fairly urgently to protect them. Canterbury/West Coast Forest & Bird note similar numbers of dolphin mortalities (41) between 1995 and 2005.

693 **XX** submits that in 1990, 22 dolphin deaths occurred as a result of entanglement in recreational gill nets within a 30 kilometer stretch of coastline (Westport to Mokihinui). He states that to his knowledge, all dolphin deaths over the past 16 years have been the result of recreational gill net fishing.

Appendix 3: National Issues identified in submissions

Areas to which measures apply

694 As outlined in the IPP, four genetically distinct regional Hector's dolphin populations have been identified that are connected by little or no gene flow. These are found on the west coast of the North Island, the west coast of the South Island, the east coast of the South Island, and south coast of the South Island (see Figure 1 in IPP). MFish noted in the IPP that Te Waewae Bay is considered to be the core area of abundance for Hector's dolphins on the south coast of the South Island. Consequently, this area was the focus of proposed interim measures for the south coast population.

695 A high proportion of the submissions received (from individual, environmental and academic submitters) identified five "critical areas"⁵⁰, including harbours and bays, for dolphin protection – noting that the Porpoise Bay/Catlins area in the South Island should be added to the list of four key areas set out in the IPP. DOC also notes that the Porpoise Bay Hector's dolphin population is a core population within the Southland Coastline and may in light on new research be a smaller population than Te Waewae Bay.

696 MFish notes that Porpoise Bay (estimated to have around 50 resident dolphins) was included as part of the east coast South Island population in the IPP. The reason for this grouping is because previous studies of abundance have incorporated the area of Porpoise Bay with regions on the east coast South Island. MFish noted in the IPP that further work would be undertaken to identify whether dolphins in Porpoise Bay should be linked with the Te Waewae Bay population or the east coast South Island population. This will be explored as part of the Threat Management Plan development process. There is a long-standing agreement amongst local fishers to not use nets in the vicinity of Porpoise Bay, and MFish understands that this restriction is actively enforced by the local community and commercial fishers. Some submitters (individual, environmental and academic) stated that Porpoise Bay is used by several set net fisheries, which raises issues of non-compliance with the voluntary agreement. MFish will also explore this issue further as part of the Threat Management Plan's development.

697 While WWF consider that the main population areas are acceptable for the purposes of interim measures, they note there are risks with implementing management measures to broad areas because of fragmentation of the populations, and suggest eleven areas (previously identified in the "Hector's Challenge" delivered to Government⁵¹) would form a better basis for management measures.

698 MFish acknowledges the need to ensure human activities do not lead to further fragmentation of Hector's dolphin populations or subpopulations, and notes that the need to manage the impacts of fishing (and other threats) on Hector's dolphins at a finer spatial scale will be addressed through the Threat Management Plan.

699 A number of submitters noted that it is best to "keep it simple" and have the same

⁵⁰ West coast North Island (Maunganui Bluffs - New Plymouth); West coast South Island (Kahurangi Point - Jackson Bay); East coast South Island (Clarence River - Waitaki River); Te Waewae Bay (Sand Hill Point - Pahia Point); Porpoise Bay (Fortrose - Tautuku Peninsula)

⁵¹In November 2004, a collective of environmental groups and researchers presented the New Zealand Government with a "challenge" to address the threats to Hector's dolphins. The challenge proposed the recovery of population numbers to 1970s levels, increased population range, reduced population fragmentation and reduction in pressures impacting upon the populations.

mitigation measures apply to the “critical areas”, rather than different combinations of measures around the country.

700 MFish agrees there is merit in applying consistent measures to the key dolphin areas. Where measures are considered to be effective in mitigating risk to dolphins, there is benefit in implementing these throughout areas where risk exists. MFish will develop proposals for wider application of measures, such as the requirement for non-commercial fishers to stay with their net, as part of the Threat Management Plan.

Nationwide measures to address impacts of set netting

701 Many submitters (individual, local Government, environmental and academic) either expressed the view that set netting should be banned out to the 100 m depth contour in all of the “critical areas”, or that there should be a nationwide ban on set netting (all New Zealand waters or out to a depth of 100 m). DOC supports a ban on over night netting for all populations except west coast South Island, and also notes that set net closures out to 4 nm or the 100 m contour should be investigated to ensure consistency between regions and ensure offshore movements of the dolphins are taken into consideration.

702 MFish acknowledges that research has shown Hector’s dolphins in the South Island are found in waters up to 100 m deep⁵². However, there would be significant social, cultural and economic implications associated with any proposals for set netting restrictions that apply out to the 100 m contour in all of the critical areas. An extensive exercise of information gathering and social, cultural and economic analysis would be required to implement such measures. Widespread consultation would also be necessary.

703 MFish notes that the proposals currently being consulted on are short-term interim measures, and considers that the extensive process that would be required to contemplate set netting prohibitions out to 100 m deep in all of the “critical areas” precludes consideration of such measures ahead of the Threat Management Plan. MFish considers that the need for any current or future fishing restrictions to apply out to the 100 m depth contour should be considered on a regional basis, and will therefore be best addressed through the Threat Management Plan process. One reason for this is that sightings information indicates that the distance that Hector’s dolphins range offshore varies from region to region – for Maui’s dolphins the 100 m contour is considerably further offshore than dolphins have been seen. MFish notes that over night set net bans can also be considered as part of the Threat Management Plan’s development.

704 With regard to a nationwide ban on set netting, MFish acknowledges there are many issues associated with set netting that warrant consideration – in addition to the threat posed to Hector’s dolphins. Concerns expressed in submissions include the indiscriminate nature of the method, as well as the threat to marine mammals, seabirds and other non-target species. Set netting is a fishing practice that is widely used by commercial, recreational and customary fishers. MFish notes that you have previously expressed the view that a broader review needs to be undertaken to better understand the use of set nets and their potential environmental impact beyond Hector’s dolphins. MFish is currently considering the scope and timing of this review.

705 One recreational forum member expressed the view that due to the indiscriminate nature of

⁵² Maui’s dolphins have been seen just over 3 nm from shore – well short of the 100 m depth contour. The prohibition on set netting applies out to 4 nm (see Maui’s section in IPP) – extending it further to waters 100 m deep is not necessary because there have been no sightings out that far.

set netting, there should be a nationwide requirement for all fishers to remain in attendance with their nets while they are set. MFish notes that stakeholder ideas and solutions such as this will be considered as part of the Threat Management Plan.

Time of year when measures apply

706 Hector's dolphins have a close inshore distribution, which overlaps with commercial and recreational set net fisheries, as well as inshore trawl fisheries.

707 A high proportion of submitters (individual, local Government, environmental and academic) consider that measures to protect the dolphins should be in place year round, i.e. not on a seasonal basis. Submitters note this is because Hector's dolphins are present in coastal waters throughout the year and are therefore vulnerable to being caught in fisheries throughout the year.

708 MFish agrees that where Hector's dolphin distribution overlaps with set net and trawl activity throughout the year, the dolphins will be vulnerable to entanglement year round. However, summer is when Hector's dolphins are at most risk of net entanglement. Dolphins tend to be closer inshore over the summer months, and this inshore movement coincides with a peak in recreational and commercial set netting effort. Seasonal measures serve to mitigate fishing threats at a higher risk time of year but also allow some utilisation.

709 MFish considers that the need for year round or seasonal measures should be considered on a case by case basis, dependent on the nature of the threat and the risk to Hector's dolphins. This issue will be considered further as part of the Threat Management Plan.

Nationwide measures to address the impact of trawling

710 A number of individual and environmental stakeholders believe that much tighter regulations need to be implemented in inshore trawl fisheries. Some individual submissions and Ashburton Forest & Bird supported restricting trawl fishing to depths greater than 100 m, with several individual submitters expressing support for a complete trawling ban to protect Hector's dolphins.

711 As an interim measure, MFish proposes to work with industry to identify possible trawl mitigation measures to be implemented on a voluntary basis. MFish does not consider there is an urgent need to implement any short-term mandatory restrictions on trawling, as there are relatively few dolphins caught in trawl nets. MFish notes that longer term solutions to address the trawling threat to Hector's dolphins will be identified as part of the Threat Management Plan process, in discussion with stakeholders.

Implementation framework (voluntary/mandatory)

712 A number of submitters (individual, environmental and academic) consider that measures to protect Hector's dolphins should be mandatory, and that past experience shows voluntary agreements don't work. XX submits that there is no evidence that pinger⁵³ use or the commercial set net Code of Practice (CoP) has reduced the entanglement rate, and notes that an observer programme in Canterbury in 1999/2000 showed that only 28% of sets complied with CoP instructions for pinger deployment.

⁵³ Pingers are acoustic devices that are designed to scare dolphins away from the nets

713 SeaFIC emphasises in its submission that, as a general principle, regulation should be used only where absolutely necessary and where stakeholder solutions cannot be implemented effectively. In accordance with this, Challenger Finfish note that not all mitigation measures are appropriate for all regions where CoPs are operating effectively and fishing practices and fishers' skills are obviously playing a major part in reducing incidental mortalities.

714 MFish has a general policy of encouraging stakeholders to take greater responsibility for managing their fishing practices. Where possible, MFish encourages stakeholders to develop non-regulated CoPs, specifying how management measures should be applied. This is because voluntary measures can be more effective as there can be a greater level of "buy-in" from fishers. This is particularly important in remote areas where there can be issues with ensuring compliance. Voluntary measures can also be tailored better to individual circumstances, compared to a regulation that applies to all fishers. However, MFish considers that there needs to be a high level of confidence that voluntary measures will be used properly in situations where there is a significant sustainability risk to the dolphins.

715 MFish considers that the framework by which measures are implemented needs to be considered on a case by case basis, and that regulations should be used if there is uncertainty about the efficacy of voluntary agreements and the risk to dolphins is such that mandatory measures are appropriate. Regulations help to ensure fishers, including those that may not be party to a voluntary agreement, know that they must use the regulated measures, or risk prosecution and the penalties that can be imposed.

Measures applying equally to recreational and commercial fishers

716 SeaFIC, Challenger Finfish and Forest & Bird consider that commercial and non-commercial fishers should be subject to similar management measures. SeaFIC believes that this ensures a comprehensive and equitable approach to managing any risks to Hector's dolphin populations arising from set netting activities. However, SeaFIC notes that in the absence of suitable governance structures for ensuring voluntary compliance, interim (and long term) measures for managing interactions between recreational fishing and Hector's dolphins must be mandatory.

717 One recreational fisher expresses disappointment that recreational fishers are being targeted through the proposed measures outlined in the paper. This fisher does not consider that raising awareness of CoPs amongst commercial fishers is addressing any of the issues outlined. Consequently, the fisher feels strongly that these closures should be extended to commercial fishing practices, including inshore trawling, and notes that this view is shared by many other recreational fishers. Some of the other recreational fishing submissions generally agree with these sentiments. SEFAC submit that it is regrettable that the IPP states that there are difficulties ensuring recreational fishers comply with voluntary measures. SEFAC considers that recreational fishers will comply with both voluntary and mandatory provisions if they are seen to be fairly imposed with good reason.

718 MFish agrees that there is merit in managing commercial and non-commercial fishing interactions with Hector's dolphins equitably where appropriate. However, MFish notes that where governance arrangements are in place for commercial fishers, there is an increased likelihood that voluntary measures will be effective, and there will be a more extensive and stringent monitoring, surveillance, offence and penalty regime. The situation with recreational fishers is different. At present there is no organisational structure that could implement a voluntary CoP, and that could ensure the CoP is working. Information programmes are also more difficult to target to ensure recreational fishers understand the rationale and importance of compliance with a CoP, and

effective monitoring is more difficult. Consequently, MFish considers that in order to effectively manage dolphin interactions in non-commercial fisheries, it is appropriate in some instances to propose measures that do not apply similarly to commercial and non-commercial fishers.

Monitoring and reporting

719 A number of submissions from individuals, environmental organisations and academics noted that self-reporting of dolphin mortality by fishers is low, that recorded Hector's dolphin deaths are only a small fraction of the total, and that the only way to estimate the level of bycatch is through independent observer programmes or electronic monitoring. SeaFIC similarly acknowledges that although it is a mandatory requirement to report fishing related deaths of, or injuries to, dolphins under the Marine Mammals Protection Act, the level of compliance with the requirement is not known.

720 A number of submissions (individual, local Government, environmental and academic) expressed the view that there should be independent observer coverage (or electronic monitoring) on all inshore trawl fisheries in "critical areas" to determine the numbers of dolphins caught.

721 DOC supports increased compliance with CoPs and increased observer coverage on inshore set net and trawl vessels.

722 SeaFIC recommends as part of the package of interim measures, that priority should be given to improving both the collection of information on fishing interactions with Hector's dolphin (for all fishing sectors) and the management of information on interactions and sightings that is collected. SeaFIC suggests that, in relation to commercial interactions, better use could be made of existing allocations of observer funding to improve information on both the level of interaction and compliance with CoPs. SeaFIC considers that more attention needs to be focused on ensuring that industry initiatives such as CoPs include effective monitoring and reporting arrangements and SeaFIC welcomes MFish's support in working through these issues. NZMSS also notes that observers can improve information on compliance with CoPs, as well as CoP effectiveness.

723 XX points out that the small size of populations could mean that observers on trawlers may sight few (if any) dolphins active in trawl areas. He suggests that tagging should be considered as an alternative way to determine where dolphins go, including whether they may sometimes be in areas where trawlers operate.

724 MFish agrees that there is a need to gather further information on interactions between Hector's dolphins and inshore trawl fisheries, as there is currently limited information available on the nature and extent of these interactions. MFish considers this to be primarily a research matter, and information gaps such as this will be dealt with in the Threat Management Plan. The Plan will identify where further information is needed and will outline a structured research programme involving observers through either the Conservation Services Programme (CSP) or Fisheries Services Levy (FSL) process. Over the period in which the Threat Management Plan is under development, MFish will investigate whether there is opportunity to better use the current allocation of observer coverage to improve information on trawling interactions with Hector's dolphins.

725 MFish also agrees that there is a need to improve the sightings database for Hector's dolphins, and will work with the Department of Conservation to develop a good national sightings record with consistent, rigorous protocols to establish the reliability of sightings.

726 MFish acknowledges there are issues with under-reporting of dolphin mortalities, and agrees that whatever management measures are adopted over the short-term and in the longer term, a process to monitor and regularly review the effectiveness of, and compliance with, management controls will be essential. The feasibility of electronic monitoring trials/programmes will be explored in discussion with stakeholders, as part of the Threat Management Plan's development. The completed Plan will outline a structured monitoring programme to improve information on fishing interactions with Hector's dolphins and maximise compliance with management measures (including reporting requirements).

727 While the Threat Management Plan is under development, MFish will work with industry to ensure effective monitoring and reporting arrangements are in place, and will work to raise recreational fishers' awareness of reporting requirements. MFish will also investigate whether there is opportunity to better use the current allocation of observer coverage to improve information on fishing interactions with Hector's dolphins.

728 MFish notes that the new Netting Catch Effort Landing Return form (introduced 1 October 2006) will provide more detailed spatial information on set net effort than has been collected in the past, which will serve to improve available information on the level of overlap between set net fisheries and Hector's dolphin distribution.

Ensuring compliance

729 Several individuals, WDCS and NZMSS note that enforcement of measures is needed, as are appropriate offences and penalties. A couple of individual submissions call for heavy penalties for any breaches.

730 The cost/resource requirement of monitoring compliance was raised by Kaikoura Boating Club and Encounter Kaikoura, and one individual believes that Fisheries Officers should have access to a vessel as well as a vehicle.

731 The interim measures, as well as the Threat Management Plan, will need to be supported by regional monitoring, surveillance and enforcement programmes that are available. Programmes for this purpose are focused largely on Fishery Officer and Honorary Fishery Officers presence to monitor fishing in the area and to promote compliance.

732 The areas where Hector's dolphins are present (west coast North Island, west coast South Island, east coast South Island, south coast South Island) are identified within the tasks for aerial and/or surface patrols, for both the interim and in the longer term. However, this depends on the availability of defence or MFish assets and the range of priorities for their use across all areas in the busy summer months. At sea patrolling complements reporting and observer programmes that are designed to monitor dolphin captures at sea. Land based ramps and port inspections support monitoring and enforcement for circumstances where captures occur close enough inshore to be detected or are advised to officers. MFish notes that such programmes support both reporting of captures to improve the accuracy of estimates, as well to effectively monitor compliance with legislative restrictions by both commercial and non-commercial fishers.

733 The programmes are essential to supporting appropriately targeted penalties to act as an effective deterrent. Almost no inshore commercial fisheries are subject to any form of vessel monitoring system to assist with monitoring area or area/season based restrictions in commercial fisheries, which places added reliance on officer presence. Summer months are a key time for some commercial fisheries, and for non-commercial fisheries, which necessitates an effective level

of monitoring activity, which would incorporate the relevant area restrictions if implemented.

734 Where existing legislative measures are in place, there will be existing offences and penalties (for example, the Canterbury amateur set net closed area restrictions). The penalties set for some of these offences under fisheries regulations are within the existing policy for both commercial and recreational offences. This policy provides a framework that allows for consistency of penalties that reflect, appropriately, the seriousness of breaches of legislative measures.

735 A key consideration for MFish relating to enforcing any interim measures implemented will be the short time available to release information about the new measures and the consequences of failing to comply with them. It will be important to ensure a significant level of effort is put into releasing information to commercial and non-commercial fishers about the vulnerability of the dolphin populations and hence the reason for urgent action to introduce any new interim measures. MFish will work to publicise any new measures implemented (through publication in fishing magazines, local newspapers, etc.) and thereby enhance fisher awareness of these measures.

Economic Impacts

736 XX considers that the information provided in the IPP about the potential loss of profit for fishers caused by implementing protection measures is misleading. She believes the question is not "how much money are these people currently making?", but "how much less profit would they make if they used fishing methods that do not catch dolphins or fished in areas where the dolphins are not found?"

737 MFish agrees that, where possible, an assessment of alternative fishing opportunities should be taken into consideration in your decision making. However, in this instance it is unclear what, if any, alternative fishing opportunities are available to commercial fishers affected by these management proposals. Even in situations where there are a range of viable alternatives, information on the costs and earnings associated with these fishing opportunities is not easily accessible making it difficult to assess the changes in profit associated with these alternatives. The consultation process does provide an opportunity for submitters to provide information on the costs and benefits and economic impact of the various management measures proposed. However, little information on this issue was received during this consultation process.

738 Therefore, MFish relies on generic high-level information to assess the possible loss in value from closing a particular area to commercial fishing. The information used in this case is historic catch effort data and the port price for the stock. The port price provides an indication of the first sale price, from a fisher to a Licensed Fish Receiver, of fish from that stock. While this information provides a useful proxy for the lost value that could arise from the proposed management measures it is not a full quantitative analysis and is not capable of determining changes in profit.

739 MFish concludes that it is unclear if there are any viable alternative fishing opportunities available to commercial fishers affected by these measures. MFish acknowledges the points raised by XX but for the reasons outlined above, even if alternative fishing opportunities were identified it is still not possible to determine the changes in costs and earnings and ultimately profit associated with these fishing opportunities.

740 Therefore there is uncertainty about the economic implications of these proposed measures. Under section 10 of the Act you are required to consider the uncertainty in the information available and to adopt a cautious approach when this information is uncertain, unreliable or

inadequate.

Threat Management Plan

741 TNFMSCL believe that the interim measures IPP has undermined the Threat Management Plan process, and that many of the issues raised in the IPP could have been considered through the Threat Management Plan.

742 SeaFIC expresses disappointment that the Threat Management Plan process has been delayed, but supports the principle of introducing interim measures where necessary to ensure that fishing threats are mitigated. SeaFIC suggests the proposed timescale for interim measures should be more tightly defined, in particular whether these would be introduced with a specified, limited timeframe or a required review date. WWF also notes delays with the Threat Management Plan, submitting that 18 months has passed since the Minister of Conservation made a commitment to an action plan for Hector's dolphins, and that 9 months has passed since the Threat Management Plan's Advisory Group met.

743 Canterbury/West Coast Forest & Bird consider that the failure to progress the Threat Management Plan, and the lack of a Population Management Plan despite more than a decade of trying, mean permanent rather than interim measures are required.

744 Challenger Finfish and KM&CPS express support for a regional approach that seeks local input when developing the Threat Management Plan.

745 MFish does not consider that consulting on interim measures has undermined the Threat Management Plan process. Any interim measures implemented will be necessary to ensure fishing threats are adequately mitigated while the plan is under development and will not pre-determine a desired course of action in the Threat Management Plan. Any interim measures implemented will be reviewed as part of the Threat Management Plan's development. Longer-term solutions identified in the Threat Management Plan will be developed in discussion with stakeholders.

746 Development of the Threat Management Plan is a priority for MFish. While delays to the Threat Management Plan's development are undesirable, MFish considers that the collaborative development process involving stakeholders from all interest groups will help to ensure practical, cost-effective solutions are identified, and will improve understanding and potential buy-in to any management measures implemented.

Interaction with community initiatives

747 Te Korowai (Kaikoura Coastal Marine Guardians) believes that the IPP national public consultation process cuts across the process Te Korowai is following. Recreational fishers are represented on Te Korowai and set netting has been identified by the group as one of a number of important issues that will be part of an Integrated Kaikoura Coastal Marine Strategy. Te Korowai considers that the top down imposition of policy negates the basic rationale of the community group, and that buy-in from set netters will be significantly compromised after the interim decision is made.

748 MFish acknowledges the importance and value of community initiatives in managing marine resources, as well as the importance of fisher buy-in. However, you are obliged under the Act to take such steps that are necessary to avoid, remedy or mitigate the impacts of fishing on protected species such as Hector's dolphins. In situations such as this, time constraints due to the

potential need for urgent measures preclude consideration of such measures through a community based process. Any resulting conflict with other marine initiatives is undesirable, but necessary to ensure you are fulfilling your legislative obligations.

749 MFish notes that input from groups such as Te Korowai will be invaluable to development of the Threat Management Plan. MFish will work to enable as much integration as possible between the Te Korowai and Threat Management Plan processes.

Consultation

750 Kaikoura Boating Club is concerned at the time available for consultation. They consider the consultation period is far too short to allow meaningful discussion with members. Te Korowai notes that the recreational fishing and boating representatives have discussed the issue with the Boat Club Committee and, because consultation with the wider membership is not possible in the timeframe, this has placed the representatives in a very difficult situation of having to speak on behalf of others with whom they have had no contact.

751 Te Korowai also considers that a reasoned response cannot be provided in one month. The consultation deadline is two weeks prior to the next Te Korowai hui, which precludes the group from taking part in discussions about an issue that is integral to the interests of Te Korowai. Te Korowai anticipates significant loss of good will because of the unsatisfactory consultation and involvement of the set netters in this process given the timeframe imposed.

752 SeaFIC submits that due to the short timeframe allowed for consultation on the IPP, it has not been able to gather additional information on the fishing patterns at Te Waewae Bay. One fisher submitted that not enough time has been given to put pen to paper.

753 ARC is concerned that the IPP appears to be poorly advertised and subsequently public awareness of the proposals is not high.

754 Canterbury/West Coast Forest & Bird support the need to get measures in place urgently for the summer fishing season, and accordingly have no objection to the short consultation timeframe.

755 MFish acknowledges the concerns of submitters relating to the 5 week consultation period. Following MFish advice to you on the Threat Management Plan's development process, you directed officials to investigate the need for interim measures to ensure fishing threats were adequately mitigated while the plan is being developed. MFish considers that in the circumstances the 5 week consultation was necessary to enable mandatory measures, should you consider them necessary, to be implemented before the Christmas/New Year holiday season. The holiday season is when the threat of recreational set netting to the dolphins is likely to be at its peak. At the outset of consultation, MFish invited stakeholders to contact relevant MFish staff if they wished to discuss any of the proposals, or would like to meet with anyone to discuss the proposals.

Population trends, uncertainty in population size and Potential Biological Removal

756 SeaFIC notes that the major variability between the latest population estimate and previous population estimate for Te Waewae Bay serves to illustrate how unreliable current population estimates for Hector's dolphins are. In these circumstances SeaFIC considers that it is highly misleading to provide point estimates of population sizes in the IPP, and that ranges should always be given.

757 MFish acknowledges SeaFIC's point about variability in population estimates and the need

to provide some measure of the range about the point estimates. The estimated sizes of each population and their associated co-efficients of variation (CV)⁵⁴ are provided in this final advice paper.

758 SeaFIC agrees that calculation of the annual PBR can, together with information on known levels of human induced mortality, provide a useful guide to the need for management measures. However, SeaFIC does not agree with the indiscriminate use of the recovery-rate goal, and associated recovery factor of 0.15, in the PBR calculations. XX also notes that there are issues with the use of a recovery factor of 0.15. SeaFIC notes that the recovery rate goal was intended to “allow a population **known** to be at a low level relative to its pre-exploitation level [to] recover at a rate close to its maximum possible” (SeaFIC emphasis). SeaFIC suggests that current population status relative to historical levels is generally not known for the four sub-populations of Hector’s dolphins considered in the IPP. SeaFIC notes that population trends for Hector’s dolphin sub-populations are highly uncertain and historical abundance estimates are largely unavailable. SeaFIC also submits that genetic analyses indicate that both the North Island (Maui’s) and East Coast South Island populations have undergone declines in abundance, but no evidence of a decline was detected in the West Coast South Island population. On the other hand, XX notes that population modelling has indicated widespread population declines, which suggest large closures are necessary. XX also submits that he understands the Technical Working Group that met in August 2006 did not agree to an R_{MAX} of 3.4%.

759 A PBR estimate based on the recovery-rate goal is a possible tool for use when a population is known to be at a low level relative to its pre-exploitation level. There are published scientific papers that suggest there has been a decline in the size of some populations. MFish acknowledges that if it can be shown that the populations under consideration are not at a low level relative to their pre-exploitation level, then the use of the PBR based on a recovery-rate goal may not be appropriate. However, the recovery-rate goal was considered an appropriate approach to use in the absence of information and with the understanding that the values produced are intended to act as indications only of the number of Hector’s dolphins that may be removed from the various subpopulations while allowing the subpopulations to increase in size

760 A recovery factor of 0.15 is one of a range of options available. MFish considers that a recovery factor of 0.15 is appropriate for Hector’s dolphins when the PBR recovery-rate goal is applied. Using the recovery-rate goal, a recovery factor of 0.15 will ensure growth of a population to its Maximum Net Productivity Level will not be delayed by more than 10% with 95% probability. MFish further notes that minutes of the 31 August 2006 meeting indicate that the working group did agree on using a R_{MAX} of 3.4%.

761 MFish wishes to emphasise that PBR analyses are intended to provide an **indication only** of number of individuals that may be removed from the populations, and that more comprehensive modelling is being undertaken by NIWA to provide further information on Hector’s dolphin population viability under alternative management strategies. This information will be used as part of the Threat Management Plan development process to assess the effectiveness of the various strategies proposed.

⁵⁴ These population estimates are based on the most recent information published in scientific journals and as provided by the Department of Conservation. Note there is uncertainty around the precise abundance estimate for the Te Waewae Bay population. This is discussed later in the paper.

Level of bycatch

762 XX considers there are a number of misleading statements in the discussion document, and provides an example of points 86 and 87 in the IPP on the number of dolphins caught in the observer programme and the number of dolphin deaths that have been attributed to gillnet bycatch over the past three years. XX suggests that the problem is that there has been no effort to estimate the number of dolphin deaths in the last three years.

763 MFish acknowledges that limited observer coverage over recent years means that actual levels of fishing-related dolphin mortalities are unable to be estimated with any certainty. As previously noted, a structured monitoring programme to improve information on fishing interactions with Hector's dolphins will form a component of the completed Threat Management Plan.

764 Several individual submissions express the view that for slow reproducing species or protected species like Hector's dolphin, every effort should be made to reduce bycatch to zero. ARC also submit that current populations are too small to withstand human-induced mortality, and that contemplating any deaths, even on the west coast South Island where there are relatively more dolphins, is unreasonable.

765 The Act requires you to provide for utilisation while ensuring sustainability. Therefore, once you have taken such steps that you consider necessary to avoid, remedy or mitigate the effects of fishing on a protected species, imposing additional restrictions that impact on the use of fisheries resources to further reduce Hector's dolphin bycatch would not meet your obligations to provide for utilisation. MFish notes that the opportunities to provide for utilisation while ensuring sustainability should be considered.

Education and awareness

766 In general, submissions supported the concept of education and awareness programmes to raise fishers' awareness of responsible fishing practices. Canterbury/West Coast Forest & Bird submit that there is a need to raise fishers' awareness on the risk of cray lines to whales and dolphins.

767 As indicated in the IPP, MFish considers there is benefit in promoting the recreational set net CoP and the need for appropriate set net practice, as well as encouraging industry commercial stakeholder organisations to raise their fishers' awareness of their CoPs to ensure they comply with the various components.

768 MFish has already begun work on material (posters, pamphlets, etc.) for a Hector's dolphin education and awareness programme for the upcoming summer and, should you agree, this programme will be instigated before the Christmas period.

Research

769 XX submits that MFish and DOC should initiate additional research using satellite tagging to better understand the offshore movement of Hector's dolphins, particularly along the west coast of the South Island, and notes the success of an initial trial of this method. XX considers that an incremental program of further live capture and satellite tagging along the west coast of the South Island (e.g., Jackson Bay) would contribute to our understanding of potential risk or conflict with both trawl fisheries and aquaculture. XX further submits that assuming the completion of additional

successful trials of satellite tagging on Hector's dolphins, MFish and DOC should consider the risks and benefits of applying this technology to the Maui's dolphins, and that given the very low density of Maui's dolphins, it seems that offshore aerial or vessel surveys are unlikely to provide the information needed to assess the threat of trawl fisheries to this population.

770 MFish agrees there is a need to better understand the offshore movement of Hector's dolphins around New Zealand. The Threat Management Plan will identify gaps in our knowledge such as this, and will outline research priorities for Hector's dolphins.

Precautionary approach

771 Nelson/Tasman Forest & Bird consider that MFish needs to err on the side of protection when formulating interim measures because the long-term recovery of all remaining Hector's dolphin populations is a matter of great urgency. Similarly, ARC and one individual submitter believe that given the endangered state of Hector's dolphins, the precautionary principle should be applied.

772 The purpose of the Act is to provide for the utilisation of fisheries resources while ensuring sustainability. MFish notes that the approach required under the Information Principles is that decision makers should be cautious in relation to both the utilisation of fisheries resources as well as sustainability when information is uncertain, unreliable, or inadequate.

Customary fishing

773 SeaFIC considers that the IPP does not provide sufficient information on any threats to Hector's dolphin arising from customary fishing activity, and submit that while the IPP notes that there is no known customary set netting effort in Te Waewae Bay, it makes no mention at all of customary set netting activities on the west coast of the North Island or the west coast of the South Island. In spite of the lack of information on interactions between customary fishing and Hector's dolphins, SeaFIC agrees that there is no need to address customary fishing interactions by way of interim measures.

774 However, SeaFIC and Canterbury/West Coast Forest & Bird note that if regulatory constraints to protect Hector's dolphins are focused solely on recreational fishing rather than all non-commercial fishing, then more recreational fishers may choose instead to seek to fish under a customary authorisation. SeaFIC suggests that areas which do not currently experience customary set netting may see an increase in this activity and tangata tiaki/kaitiaki may need to give more active consideration to conditions under which customary set netting can safely occur. SeaFIC considers that this potential transfer of threat from recreational fishing to customary fishing should be examined in the development of the Threat Management Plan and further consideration should be given to the use of regulations that apply equally to all non-commercial fishing (noting however that under the customary fishing regulations tangata tiaki/kaitiaki retain the ability to issue authorisations that override any other regulations).

775 MFish notes that customary fishing activity in each of the four key population areas is discussed in this document. MFish acknowledges that increased restrictions on recreational fishers may lead to increased requests for customary authorizations, and agrees with the SeaFIC view that this potential transfer of set net effort from the recreational fishing sector to the customary fishing sector will be best dealt with in the Threat Management Plan. However, over the period when the Plan is under development, MFish will liaise with Tangata Tiaki/Kaitiaki in areas where this is seen as a potential issue to raise awareness of set netting risk to Hector's dolphins.

Permitting of commercial boat operators

776 XX considers that all commercial boat operators, both tourism and fishing, should be permitted by DOC in high or fragile populated areas. XX notes that Te Waewae Bay and Banks Peninsula would make a good trial area for this approach. XX also submits that DOC can currently control existing permit holders but cannot control un-permitted commercial operators (both tourism and fishing), and that control over populated Hector's dolphin areas will benefit both commercial operators and the dolphins.

777 MFish acknowledges the points raised by XX, and notes that permitting of commercial boating activity for protection of Hector's dolphins can be considered as part of the Threat Management Plan's development.

Other issues raised

Social and cultural factors

778 A number of submissions noted that it is important to protect Hector's dolphins for the following reasons:

- ◆ They are taonga
- ◆ Their importance to New Zealand and New Zealanders
- ◆ Their importance for tourism/sightseers
- ◆ So that they can be around for future generations to enjoy
- ◆ To enhance/prove New Zealand's international reputation as world leader in conservation/sustainability

779 MFish agrees that there are wider social and cultural issues to consider. It is clear there is a widespread interest throughout New Zealand and internationally in maintaining marine mammal populations in good health. MFish does not, however, agree that these are over-riding considerations in relation to managing the effects of fishing. Social, cultural and economic considerations in the Act relate more to the benefits of utilising fisheries resources. An overall strategy for the management and protection of Hector's dolphins, and specific means to implement these, is provided for in marine mammal legislation. In this context, the Act provides only for measures to avoid, remedy or mitigate the adverse effects of fishing on the dolphins.

Buoy marking

780 Kaikoura Boating Club note that all buoys need to be clearly marked as to their use, i.e. net buoys as distinct from pot buoys or line buoys, as enforcement is impractical without this distinction.

781 MFish intends to investigate this matter further to see if there are enforcement benefits.

Ocean noise

782 TerraNature submitted that anthropogenic ocean noise needs to be added to the list of threats facing the dolphins identified in the IPP, including seismic noise from oil and gas exploration, seismic noise from the use of air guns for ocean floor mapping and other survey activities, as well as oil and gas drilling.

783 MFish notes that threats such as anthropogenic ocean noise will be considered as part of the Threat Management Plan process.

Hector's dolphin food supply

784 XX submits that the IPP makes no mention of what Hector's dolphins' food source is or why they venture into the shallows. XX considers that the proposed set net ban will be a waste of time and will do nothing to correct the real cause of the dolphins disappearing. XX notes that the dolphins' main food source is yellow-eyed mullet, and that the loss of our land through erosion to the sea is impacting on the dolphins' food source. XX also considers that beach cast seaweed is of value to Hector's and Maui's dolphins.

785 MFish acknowledges trophic interactions are of importance to the functioning of marine ecosystems. However, MFish is not aware of any research to date quantifying what effect these interactions have on Hector's dolphin population viability. The need for such research will be considered as part of the Threat Management Plan.

Appendix 4: East-Otago Taiapure proposal

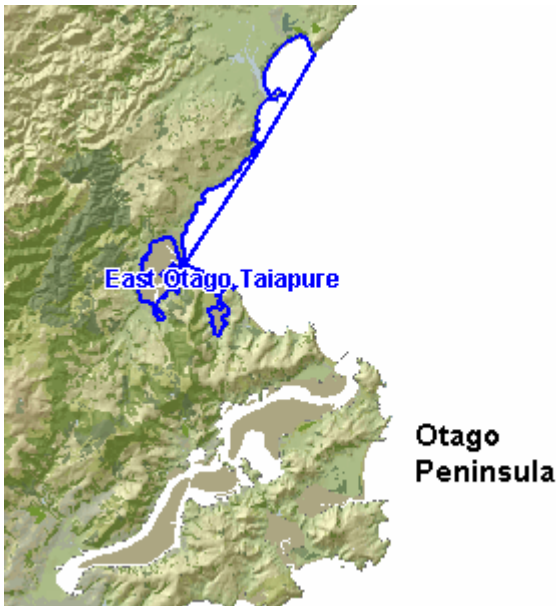


Figure 1: Map showing the East Otago Taiāpure-Local Fishery. The area covered by the East Otago Taiāpure-Local Fishery extends from Cornish Head near Waikouaiti, southward to Doctors Point, and then east to Potato Point, near Purakanui.

Executive Summary

- 1 The Fisheries Act 1996 (the Act) contains provisions allowing a taiāpure-local fishery management committee to recommend to the Minister of Fisheries the making of regulations for the conservation and management of fish, aquatic life, or seaweed in the taiapure-local fishery.
- 2 The East Otago Taiāpure-Local Fishery Management Committee proposes to recommend to the Minister of Fisheries that commercial and recreational fishers be required to stay in attendance with their set nets when fishing within the East Otago Taiāpure-Local Fishery area. The proposal is aimed at reducing the incidence of un-retrieved set nets within the taiāpure-local fishery. Such nets unselectively ‘ghost fish’ an area and can entangle seabirds (including penguins) and marine mammals.
- 3 The fisheries groups represented on the management committee endorse the proposal with the exception of some recreational fishing clubs that support excluding estuaries within the taiapure-local fishery from the requirement.
- 4 Submissions are sought on the proposal.

Proposal

- 5 The East Otago Taiāpure-Local Fishery Management Committee proposes to recommend to the Minister of Fisheries that commercial and non-commercial be required fishers to stay in attendance with their set nets when fishing within the East Otago Taiāpure-Local Fishery area.
- 6 The recommendation would be made under sections 185 and 297(1)(a) of the Act.

The East Otago Taiāpure-Local Fishery

- 7 The Act contains provisions allowing for the establishment of a taiāpure-local fishery and a committee of management (sections 174 to 184). The object of this part of the Act (Part IX) is to: “...make...better provision for the recognition of rangatiratanga and of the right secured in relation to fisheries by Article II of the Treaty of Waitangi.” The Kāti Huirapa Rūnanga ki Puketeraki application for a taiāpure-local fishery was gazetted as the East Otago Taiāpure-Local fishery in 1996 and the management committee appointed in 2001.
- 8 The area (refer Figure 1) contains a diverse range of species and habitats and has long been of interest to Māori and non-Māori fishers. It is extensively fished for reef and flat fish, rock lobster, cockles and paua by recreational and customary fishers and by a small number of commercial operators.
- 9 General objectives for the taiāpure-local fishery are the protection of fisheries, fish and habitat, the protection of sites customarily important to local runanga, and to integrate and involve local resource users in the management of their resources.
- 10 The management committee is made up of representatives from the following local groups: the East Otago Boating Club, Kāti Huirapa Rūnanga ki Puketeraki, Karitane Commercial Fisherman’s Cooperative, Otago Marine Recreational Fishers Association and the University of Otago.
- 11 Under section 185 of the Act, a taiāpure-local fishery management committee may recommend to the Minister of Fisheries the making of regulations for the conservation and management of fish, aquatic life, or seaweed within the taiāpure-local fishery.

Rationale for Proposal

- 12 Having observed set net fishing practices since the establishment of the taiāpure-local fishery, the management committee is concerned at the occurrence of un-retrieved set nets. Such nets unselectively ‘ghost fish’ an area, depleting reef and other fish and potentially entangling seabirds (including penguins) and marine mammals.
- 13 Such practices have been observed to occur predominantly during the holiday period. Inexperienced set netters using small craft are unable to retrieve nets they have set, due to changed weather conditions. In these circumstances, nets are often left for several days till the weather improves, or are lost when strong tides and the exposed aspect of the taiāpure-local fishery result in nets drifting.

- 14 Committee members have also observed that leaving set nets for an extended period of time usually results in sea-lice and other damage rendering fish inedible.
- 15 The committee wishes to address these issues and proposes regulations requiring commercial and non-commercial fishers to stay with their set nets when fishing within the East Otago Taiāpure-Local Fishery.

Preliminary Consultation

- 16 Management committee members have taken the proposal back to the groups they represent for endorsement. The proposal has been endorsed by all groups represented on the committee with the exception of recreational fishing clubs represented by the Otago Recreational Fishers Association. While supporting the intent of the proposal, these clubs consider there should be an exemption for the estuaries within the taiāpure area. They argue that set netting in these areas does not pose the same level of risk as the other parts of the taiāpure-local fishery and the requirement will unnecessarily restrict set netting for flounder.
- 17 The management committee has considered this argument but concludes that the proposal should cover the entire taiāpure-local fishery. Risks remain in terms of unattended set netting in the estuaries, particularly within strong tidal channels at the mouth of the estuaries. Furthermore, exempting the estuaries from the requirement will create confusion and complexity, reducing the effectiveness of the prohibition.
- 18 Estuaries cover a large part (approximately one-third) of the taiāpure-local fishery, however, the committee believes recreational fishing opportunities will not be significantly affected by the requirement to stay in attendance with the set net. Drag netting and spearing, common methods for flounder fishing in the estuaries, are unaffected by the proposal.

Alternative Options

- 19 Other options considered by the management committee include:
 - 1 A voluntary approach to reduce unattended set netting
 - 2 A regulatory prohibition on overnight set-netting
 - 3 A regulatory prohibition covering the entire taiāpure-local fishery
 - 4 A regulatory prohibition on overnight set-netting (as in 2) but excluding the estuaries.
- 20 The management committee is interested in views on these options.
- 21 The committee considers a voluntary approach could be effective at reducing unattended set netting if all fishers involved were resident within the taiāpure-local fishery area. However, most fishers are holidaymakers or inexperienced fishers travelling for a day's fishing from Dunedin. Therefore, a wider programme of education and information and enforcement under a regulatory prohibition is required.
- 22 The committee considers an overnight prohibition on set-netting (option 2) is a feasible alternative. However, it is potentially a more restrictive approach, and one that may be more difficult to enforce.

- 23 As discussed in the previous section, the management committee has concluded that exempting the estuaries within the taiāpure-local fishery will reduce the effectiveness of the measure.

Benefits and Costs of the Proposal

Benefits

- 24 By reducing the incidence of un-retrieved set nets within the taiāpure-local fishery, the proposal will avoid entanglement of seabirds (including penguins) and marine mammals and reduce wasteful fishing practices.
- 25 The taiāpure-local fishery is a resource of significant importance for Māori. Its establishment in 1996, after a lengthy process, demonstrates this significance and meets the object of Part IX of the Act (s174). The proposal furthers the object of this part of the Act by providing for the recognition of rangatiratanga within the East Otago Taiapure-Local Fishery. It also encourages local management initiatives and enables tangata whenua and other local user groups to participate effectively in fisheries management.

Costs

- 26 There will be some lost recreational fishing opportunities within the taiapure-local fishery as a result of this requirement. Recreational fishing clubs represented by the Otago Marine Recreational Fishers Association consider this cost could be reduced by exempting estuaries from the proposal. The management committee believes the benefits of including the estuaries outweigh the costs. Submissions are sought on this issue.
- 27 As there is believed to be little commercial set netting within the taiāpure-local fishery, it is unlikely that commercial fishers will be significantly affected by the proposal.

Administrative and Compliance Implications

- 28 The proposal would require regulatory amendment.
- 29 Publicity and updating of fishery information signs within the taiāpure-local fishery will be necessary to ensure that fishers are aware of the requirement.
- 30 Ensuring compliance with the requirement to stay with set nets will require that operators and stakeholders are aware of, and preferably support, the restriction. Compliance will be more effective if the area where the requirement is in place is clearly identifiable.

Conclusion

- 31 The East Otago Taiāpure-Local Fishery Management Committee proposes to recommend regulations requiring commercial and non-commercial fishers stay in attendance with their set nets while fishing in the East Otago Taiāpure-Local Fishery area.

- 32 By reducing the incidence of un-retrieved set nets within the taiāpure-local fishery, the proposal will reduce wasteful fishing practices and avoid entangling seabirds (including penguins) and marine mammals.
- 33 Local fisheries groups represented on the management committee endorse the proposal, with the exception of some recreational fishing clubs that are concerned the proposal will unnecessarily restrict flounder fishing in the estuaries. They support the estuaries within the taiāpure-local fishery being exempt from the requirement to stay with the set net. The management committee has concluded recreational fishing opportunities in the estuaries will not be significantly affected by the proposal and sees benefit in the requirement applying across the taiāpure-local fishery.
- 34 Submissions are sought on this issue and the proposed recommendation.