7.7. Regulatory Impact Statement

A Regulatory Impact Statement (RIS) is a Cabinet Office requirement for any policy which requires regulatory intervention. The RIS will accompany any future Cabinet paper required by the Minister of Fisheries if he decides, in consultation with the Minister of Conservation that measures are necessary to avoid, remedy or mitigate the effects of fishing related mortality on Hector's dolphins.

The Regulatory Impact Statement seeks to clearly identify rationale for management action and costs and benefits of measures proposed. As such it forms a useful more detailed executive summary of measures proposed under the Fisheries Act. Your comments are sought on the arguments and analysis of costs and benefits outlined in the Regulatory Impact Statement.

7.7.1. Executive summary

Public and Government concern over the effect of human induced mortality on Hector's and Maui's dolphins led to an initiative by DOC and MFish to develop a TMP for Hector's and Maui's dolphins. The TMP seeks to describe the nature and extent of threats to Hector's & Maui's dolphins and implement strategies to reduce human induced mortality from those threats down to levels acceptable to Government.

The draft TMP builds on material released in a discussion document in May 2007 and incorporates feedback from discussion on that document, and regional forums that were held with stakeholders. The draft TMP is comprised of three separate sections. Part I provides a broad context of the situation, and outlines a summary of draft options to treat fishing and non-fishing related threats. Section two outlines draft measures to treat fishing related threats. Section three outlines draft options to treat non-fishing related threats and includes detail on proposed marine mammal sanctuaries.

This Regulatory Impact Statement relates to measures proposed to treat fishing related threats outlined in Part II of the draft TMP.

The TMP contains a variety of options for reducing the risk of fishing related mortality. The information on the nature and extent of threats is highly uncertain. The Minister of Fisheries in consultation with the Minister of Conservation will make a final decision on whether additional measures are necessary and what measures may be required based on the level of risk of fishing related mortality the Minister considers acceptable (balance between sustainability and use) for the species as a whole and consequently for each population. MFish does not have a preferred option(s) at this stage. We are seeking information from stakeholders to help inform the Minister's determination of appropriate balance.

7.7.2. Status quo and problem

Hector's dolphins are endemic to New Zealand, meaning they are only found in New Zealand's waters. The species is divided into two subspecies (based on genetic differences), one of which occurs principally in South Island waters (Hector's dolphin), and the other in the waters of the north-west coast of the North Island (Maui dolphin).

Hector's and Maui's dolphins are inshore coastal species with a limited home range. They are most often seen in murky waters close to shore and generally live in small groups – usually three to five individuals but larger groups (up to 30-40 individuals) are sometimes seen.

Both species are short lived (about 20 years), have a low reproduction rate (calving every 2-3 years) and have late onset of sexual maturity (7-9 years). These biological factors result in a low overall maximum population growth rate, meaning that Hector's and Maui's dolphin can be threatened by even low levels of human-induced mortality.

Hector's dolphin is considered to be one of the world's rarest dolphin species. Following their decline in numbers, the Minister of Conservation declared Hector's dolphins as a "threatened species" in 1999 and further classified the species as "nationally endangered" in 2003. The South Island Hector's dolphin is ranked as nationally endangered by DOC and endangered by the World Conservation Union (IUCN), and is estimated to number around 7270 individuals. The North Island Maui's dolphin, with an estimated population size of about 111 individuals, is ranked as nationally critical by DOC and critically endangered by the IUCN.

There is uncertainty over trends in population size. South Island and West Coast North Island populations indicate local group differences or loss of genetic diversity due to local group decline.

Government have a general policy position that threatened species numbers should be increased to reach non-threatened status. However in the absence of a Population Management Plan issued under the Marine Mammal Protection Act there is no legislative obligation in other legislation, including the Fisheries Act to require such a rebuild to occur.

There has been general public concern regarding the impact of human induced mortality on the Hector's and Maui's dolphins. This has been evidenced by petitions to Parliament and proposed management strategies from Non-Governmental Organisations and significant amounts of correspondence to Ministers regarding the impact of human induced mortality on the Hector's and Maui's dolphins.

There are a number of actual and potential threats facing the dolphins, including fishing related mortality (for example, through net entanglement), boat strike, pollution, disease, mining and tourism impacts. Some of these threats are a direct cause of dolphin mortality, whereas others may impact on the population through sub-lethal impacts (for example, reducing reproductive success).

Hector's and Maui's dolphins have a close inshore distribution, which results in an overlap with commercial and amateur set net fisheries, as well as inshore trawl fisheries. Review of reported mortalities of Hector's and Maui's dolphins indicates that entanglement in set nets poses the greatest risk of human induced mortality to the dolphins. Trawl fishing also poses a risk to dolphins but review of reported mortality information indicates the risk posed to dolphins is significantly less than that posed by set netting. Overall, the nature and extent of fishing related impacts is highly uncertain due to poor information on level of mortalities which is linked to low observer coverage of fishing and poor incentives to voluntarily report incidents.

A mix of spatial and temporal controls are in place to mitigate the impacts of fishing on specific populations of Hector's and Maui's dolphins. The effectiveness of current management controls is difficult to quantify because of the lack of monitoring and suspected low levels of voluntary reporting.

No confirmed incidents of fishing related mortality of Maui's dolphins have been recorded since measures were introduced in 2003. However, the population of Maui's is small (about 111). Scientific information suggests the population cannot sustain one human induced mortality and rebuild. Set net poses a known risk to dolphins. Trawling also poses a lesser but known risk. Use of set nets was banned from the West Coast North Island in 2003 (from an Area just North of the Kaipara Harbour through to an area just North of New Plymouth. Harbours (with the exception of the entrance to the Manakau Harbour) within this area were not included in the set net prohibition. It is uncertain the extent to which dolphins use the harbours within the closed area. The question for the Minister is whether the risk of set net use in Harbours and South of the existing closed area is sufficient to warrant further management measures on this method and whether the risk of trawling within the dolphins habitat is sufficient to warrant measures impacting on this method.

There have been 36 confirmed incidents of fishing related mortality of Hector's dolphins from the East Coast South Island population since the marine mammal sanctuary was introduced in 1988. No mitigation measures are in place for the West Coast population.

The effect on fishing related mortality on the South Island Hector's populations is uncertain because the nature and extent of fishing related mortality is poorly estimated as is trend in the populations and species numbers overall. As noted, there is some evidence of overall population decline at a species level as well as within individual populations. The extent of this decline and how much of the decline, if any, can be attributed to the effects of fishing is unknown. However, the effects of fishing are the greatest cause of human induced mortality to the dolphins overall.

In general terms the effect of fishing varies between populations due to levels of fishing effort and mortality and population size. The effect of fishing related mortality is likely to be greatest on populations that are small because the level of mortality they can sustain will be less. However, again, the extent of this risk depends on the true level of mortality and the size of the population. For the South Island populations the smallest population is the South Coast South Island Hector's (population size uncertain but several hundred animals at the most) followed by the East Coast and West Coast population.

Desire to consider whether the status quo level of risk of fishing related mortality is appropriate stems from:

- ⇒Biological characteristics, population status and trends of Maui's and Hector's dolphins
- ⇒Increased public awareness and general societal trends toward being more risk averse in relation to human impacts on vulnerable species
- ⇒Government concern over the status and trends of Hector's and Maui's dolphins including overall desire to rebuild threatened species
- ⇒Information (scientific and anecdotal) indicating that fishing is the biggest known cause of human induced mortality of Hector's and Maui's dolphins.

Risk, or residual risk (after implementation of specific measures to mitigate fishing related mortality) of fishing related mortality exists for each of the Hector's populations. Whether it is necessary to take further measures to avoid, remedy or mitigate the impacts of fishing related mortality on Hector's dolphins is uncertain. The nature and extent of fishing related impacts on the population is uncertain and risk from fishing varies depending on the size of the population and extent of fishing activity. MFish does not consider the Minister is obliged to take any action. However, he has the discretion to take action if he considers it necessary to do so, on the basis that the risk of fishing related mortality is considered unacceptable either in relation to a specific population (i.e Maui's) because the population size is small and consequence of impact is high or to the species as a whole.

7.7.3. Objectives

The objectives of the process are to:

- ⇒Ensure the long term viability of Hector's and Maui's dolphins is not threatened by human activities; and

- ⇒To further reduce impacts of human activities as far as possible, taking into account advances in technology and knowledge, and financial, social and cultural implications.

In considering the degree to which fishing related mortality is reduced Minister will need to determine an acceptable level of residual risk (if any) of fishing related mortality to the Hector's dolphins.

7.7.4. Management options

MFish has developed a range of options to avoid, remedy or mitigate the effects of fishing-related mortality on Hector's and Maui's dolphins for inclusion in the draft TMP. These options are outlined in Table 1.

Options have been developed for each of the four populations of Maui's and Hector's dolphins because the nature and extent of fishing related mortality varies between populations. However, the Minister will also be making a decision at a species level in considering impacts of measures across populations.

Options have been developed to address each threat (fishing method) which has been identified as creating a risk of fishing related mortality. There are three broad mitigation options for each threat. Only two options are provided for drift netting because risk of this option is considered less than for other methods and the range of options is less given the specific nature of problem (very localised use). The options are categorised by their ability to reduce risk of fishing related mortality caused by each threat and cost to fishers. The nature and extent of each threat varies between method and between populations. The range of options form a matrix. The Minister is able to choose different options for each threat and for each population. The Minister could also choose to transition the implementation of various options which would impact on the risk of fishing related mortality over time. The Minister's decision will be based on the level of risk of fishing related mortality (balance between sustainability and use) the Minister considers appropriate for the species as a whole and for each individual population.

Status quo will not reduce the risk of fishing related mortality from the threat. This option would be chosen by the Minister if he considers the existing level of fishing related mortality based on best available information was acceptable, and/or the risk of fishing related mortality from that threat was acceptable.

The discussion below elaborates on the matrix of options for trawl and set net mitigation which create the highest risk of fishing related mortality to dolphins.

Option 1

Option 1 (lower cost measures) will not reduce the risk of fishing related mortality from the threat significantly. The measures proposed under Option 1 will allow the method creating a risk of fishing related mortality to continue to be used subject to a set of restrictions which vary between populations. This option will result in the greatest residual risk of fishing related mortality of dolphins (risk after application of additional measures). The actual level of residual risk is unknown. Whether the level of risk/mortality is acceptable will be based on a determination of acceptable risk by the Minister. Views on the level of acceptable risk are being sought from stakeholders as part of the consultation process.

Over 150 trawl and set net vessels operate within the areas covered by the TMP. The range of measures proposed under Option 1 will impose lower cost on fishers relative to other mitigation measures proposed under options 2 and 3. The actual cost of measures will vary based on measures proposed for each population and threat. Option 1 (in most areas) includes additional commercial fishery monitoring to gather information on the nature and extent of interactions between fishing and dolphins. Option 1 also places limitations on how amateur fishers can fish (eg, prohibited overnight fishing, mandatory net attendance). Whilst not as onerous as prohibiting fishing, monitoring is costly (eg, fisheries observers cost $800 to $1000 per day). With over fifteen thousand vessel days last year in the trawl and set net fisheries encompassed by the TMP, potential costs are high (costs will depend on the level of monitoring the Minister deems necessary). Amateur fishers can still utilise fisheries resources under Option 1 albeit the flexibility to do so, the experience gained, and total recreational catch, will probably decrease. Option 1 on WCNI is slightly different than other areas in that it involves set net prohibitions in two harbour entrances and at Port Waikato that will limit access to important WCNI fisheries including rig, grey mullet, and kahawai. MFish is seeking additional information from stakeholders as part of consultation to aid in a better determination of cost implications of this and other options.

The Minister would choose the measures under this option if he considered the degree of risk/residual risk of fishing related mortality did not require significant reduction from the status quo but that some additional measures were necessary. If this option was chosen the Minister is implicitly willing to accept

a degree of residual risk slightly reduced from the status quo from a fishing method to a population and the species as whole.

Option 2

Option 2 (medium cost-medium risk reduction measures) will reduce the risk of fishing related mortality for the threat to a greater degree than those measures proposed under Option 1 based on a range of spatial and temporal measures designed to restrict fishing effort by methods which pose a risk to Hector's dolphins. The amount that risk of fishing related mortality is reduced will depend on the measures chosen.

All the measures outlined under Option 2 continue to provide for use of the fishing method that poses a risk of Hector's dolphin fishing related mortality. There is therefore a residual risk of mortality remaining under Option 2 measures. The degree of risk is unknown but will be less than for measures proposed under Option 1.

The cost of measures under Option 2 is greater than those measures outlined under Option 1 because they impose greater restriction on use of methods. Under Option 2, set netting and trawling is prohibited within 2nm or 4nm of most of the South Island coast. Option 2 enables the Minister to relax the trawl prohibition for vessels targeting flatfish, and relax the set net prohibition at certain times of the year for certain species in designated areas. The WCNI is broadly subject to the same trawl prohibition as the South Island but commercial and amateur set netters (set netting is already prohibited along much of the WCNI coast) are instead subject to restrictions on how they can fish (eg, prohibited overnight fishing, mandatory net attendance). The threat management options are cumulative so the Minister can also impose monitoring and other costs as per Option 1.

Option 2 will limit access to New Zealand's main commercial inshore target fisheries including flatfish, butterfish, moki, red gurnard, tarakihi, trevally, leatherjacket, elephant fish, kahawai, snapper, red cod, and some shark species (particularly rig and school shark). MFish cannot determine with accuracy the number of vessels, fishers, and catch that might be impacted if the Minister chose Option 2 because fisher reporting requirements are not aligned with the threat management options. Fishers predominantly report catch based on Quota Management Area (QMA). Measures proposed under this option cover a smaller spatial scale than the QMA. However, over 150 trawl and set net vessels operate over the area covered by the TMP, most of which target the main inshore target species. Some vessels may be able to fish further offshore from the Option 2 prohibitions (eg, vessels targeting sharks and deeper water species) but MFish expects some inshore fisheries may become less viable using methods covered by the prohibition.

Option 2 will limit access to inshore set fisheries for most recreational fishers because they do not typically have the capability (vessels and gear) to fish in deeper water. MFish cannot quantify the impact but considers most recreational set netting will be precluded except where provided for by the Minister (ie, Option 2 includes the potential for to relax the prohibition in certain places at certain times of year). MFish considers WCNI fishers will be most affected because the harbour fisheries support large and important recreational fisheries.

The actual cost of the measures proposed is uncertain and MFish is seeking more information from stakeholders on the impact of measures under this option.

The Minister would choose the measures outlined under Option 2 if he considered risk of fishing related mortality should be reduced by more than those measures proposed under Option 1, but did not think that a total ban on use of methods which pose a risk of fishing related mortality was warranted.

Option 3

Option 3 (high cost-high risk reduction measures) contains measures which will reduce risk of fishing related mortality from each threat the most from the status quo. These measures impose spatial prohibitions on the use of methods which create risk of fishing related mortality of Hector's dolphins. Restrictions on the use of set nets cover the range of each dolphin population under this option. Restrictions on trawl fishing cover the inshore areas where risk of interaction between trawling and dolphins is greatest. There will be some residual risk of fishing related mortality remaining from trawl fishing. The degree of residual risk cannot be quantified but MFish considers it to be small. MFish considers residual risk of fishing related mortality from set net fishing is removed.

The cost of measures proposed under Option 3 will be highest because fishing using methods which pose a threat of fishing related mortality will be reduced by the greatest amount. Option 3 prohibits trawling inside 2nm on the ECSI, SCSI and WCSI, and inside 4nm on the WCNI. Set netting is prohibited inside 12nm in all areas considered by the TMP. The largest set net fisheries in the areas considered in the TMP – rig, school shark, mullet, butterfish, and flatfish – will only remain viable along the coast outside prohibited areas (areas offshore from the prohibition are unlikely to support large set net fisheries for these species). MFish expects a large proportion of the value will be removed from these fisheries.

The WCSI has approximately 12 set net fishers catching around 140 tonne of fish, the SCSI 11 set netters catching over 550 tonnes of fish, the WCNI 119 set netters catching over 1000 tonnes of fish, and the ECSI 62 set netters also catching over 1100 tonnes of fish. Port pricing information and catch estimation indicates the set net fishery considered in the TMP returned $5.85 million in the last fishing year (over 40% of the return came from the WCSI and most of that from WCSI harbour fisheries). MFish cannot quantify what proportion of that return would be captured by Option 3 but considers it would be more than would be captured by Option 2 or Option 1. In some areas ability to harvest certain species (especially butterfish) will may be significantly affected. There are no known alternative methods to harvest this species in commercial quantities.

Potential costs to the trawl fishery are more difficult to estimate because most of the trawl vessels that are encompassed by the TMP could target fish outside 2nm around the South Island and 4nm on the WCNI. However, MFish acknowledges that fishers will need to shift effort to recover a large proportion of the trawl catch no longer catchable inside the prohibition. The target flatfish fishery is probably not viable much further offshore than 2nm while other key target fisheries (eg, snapper, elephant fish, and tarakihi) will be more difficult to catch.

Actual costs are uncertain and will vary between each population. MFish is seeking more information for stakeholders on the costs of this option.

There are two drift net threat management options in the TMP. The second option closes a larger proportion of Port Waikato to drift netters than the first option. MFish cannot quantify the relative cost between the two options apart from to note that Option 1 provides for some residual drift net fishing. There is a maximum of four drift netters operating in Port Waikato catching a maximum between 30-50 tonnes of mullet (although some of this catch may come from areas outside Port Waikato) that would be affected by the TMP drift net options.

The Minister would choose the measures outlined under Option 3 if he wished to reduce residual risk of the threat down to low levels either for a particular population or the species as a whole.

Costs noted above are worst case scenarios assuming prohibitions on both trawl and set nets are implemented. Actual costs will vary depending on options chosen and ability of fishers to shift effort and change methods. MFish also notes that the value estimation technique relied on port price and estimated catch data that is often considered unreliable. Socio economic research currently underway will give a better estimation of costs associated with each TMP option.

7.7.5. Implementation and review

Government has indicated a desire to have any measures necessary to reduce risk of fishing related mortality in place before the end of 2007. In order to meet this timetable the intention is to implement any measures considered necessary first by Gazette Notice under section 11 of FA96. It is intended that such measures would be replaced by regulations as soon as possible in 2008.

MFish and DOC are developing a communications plan which involves decisions being publicized via a letter from the Minister to any affected fishers and interested stakeholder groups, magazines and news paper articles along with development of posters for use in areas covered by any amended regulations.

Depending on the options agreed to by Ministers, increased levels of monitoring (via observer coverage and electronic monitoring) and research are proposed to enable ongoing analysis of effectiveness of measures. The actual costs of monitoring will be determined following decisions by Ministers and analysis of residual risk to fishing related mortality following implementation. Further analysis will also be needed on the level of monitoring required to ensure effective coverage of fishing using methods which risk dolphin mortality. MFish note in general terms, given the infrequent interaction between fishers and dolphins, high levels of coverage may be required to ensure statistical robustness of monitoring information at a fishery level.