



1 November 2009

Ministry of Fisheries
P O Box 1020
Wellington

Submission: 2009-2010 SQU6T Operational Plan Initial Position Paper

The Environmental Defence Society appreciates the opportunity to comment on the initial position paper.

Our submission begins with a summary of our position on the IPP, followed by a more detailed commentary.

Summary

1. The fishing related mortality limit (FRML) for the 2009-2010 fishing year should be closer to zero than previous years, to take into account the decline in population numbers during the last decade.
2. The Marine Mammals Protection Act 1978 requires that, in determining the maximum allowable level of fishing-related mortality for threatened species such as New Zealand sea lions, the level should allow the species to achieve non-threatened status as soon as reasonably practicable, and in any event within a period not exceeding 20 years. The proposed management measures for New Zealand sea lions are very unlikely to achieve this.
3. The position paper should emphasise the uncertainties surrounding the reasons for the decline in population numbers, and direct that for these reasons a precautionary approach to identification of a FRML should be taken.
4. The Minister should be advised that the model does not take into account the high incidence of female sea lion mortality and this is particularly significant

because the death of a female potentially also results in the death of her unborn pup and her dependent pup on land.

5. There should be no discount system for using sea lion exclusion devices (SLEDs), as it has not yet been proven that they allow sea lions that enter trawl nets to survive.
6. The setting of a strike rate of 5.65 per 100 tows may be an underestimate – a strike rate of 11.65 should be applied instead, as it is the only one derived from mortalities counted during 100% observer coverage.
7. A FRML should be applied to all fisheries which impact on the New Zealand sea lion population
8. Other pressures on sea lion populations such as the high risk of mortalities due to bacterial infections and the pressure caused by food competition from the squid fishery should be taken into account to ascertain the management measures required to return New Zealand sea lions to non-threatened levels.
9. In addition to the FRML, the management measures should be supported by:
 - a. Extension of the no-trawl marine mammal sanctuary around the Auckland Islands to the continental shelf edge
 - b. Promotion and trialling of squid jigging around the Auckland islands.
10. The Minister should request that the Minister of Conservation prepare a Population Management Plan for the New Zealand sea lions under the Marine Mammal Protection Act.
11. More research is required to better understand the decline in the New Zealand sea lion population so that better management decisions can be made in the future.

The Environmental Defence Society ('EDS')

EDS is a public interest environmental law group, formed in 1971. It is Auckland-based and has a membership that consists largely of resource management professionals. It operates by litigating on environmentally important matters and as a think tank.

EDS has had a long interest in marine management. In 2005 EDS published a report on oceans governance titled *Looking out to sea: New Zealand as a model for ocean governance*. In 2007 EDS published a report investigating integrated coastal management titled *Beyond the tide: Integrating the management of New Zealand's coasts*. The report was reprinted in 2009 with support from the Hauraki Gulf Forum.

Earlier this year, EDS also released a policy paper on the established of an Environmental Protection Authority (EPA) titled *Improving environmental governance: the role of an Environmental Protection Authority*. This paper canvassed gaps in current marine management (amongst other things) and proposed a role for the EPA which would include oversight of coastal and marine management. EDS is currently preparing a Guide to *Managing the Marine Environment* which will be released during November 2009. This Guide has been co-funded by the Ministry of Fisheries, Department of Conservation and Ministry for the Environment.

EDS convenes an annual national conference on environmental management. In 2005 EDS's *Seachange 05* conference focused on managing New Zealand's coastal waters and oceans. EDS's 2009 *Reform in Paradise* conference included a presentation on marine mammal protection.

Status of the New Zealand sea lion

The New Zealand sea lion is one of the world's rarest pinnipeds. At present the species numbers less than 12,000 individuals. Since the species was classified as threatened by the Department of Conservation in 1997 there has been a marked decline in population numbers. Last year pup production was almost 31% lower than the year before.¹ The

¹ Chilvers, NZ Sealion Research Trip Auckland Islands, December 2 2008 – February 16th 2009 Department of Conservation

precarious state of the New Zealand sea lion population is highlighted by the International Union for Conservation of Nature's (IUCN) recent reclassification of the species – whilst still listed as vulnerable they are now listed under subsection A3b to recognise the recent significant decline in pup production, and that the population is expected or projected to decline further.

Although the exact reasons for the decline are unknown, the IUCN suggests that a combination of fisheries bycatch of adult females and a series of bacterial disease outbreaks are to blame. In addition, research has suggested that the New Zealand sea lion population may be less able to cope with continued pressures than previously thought. Female sea lion foraging behaviour indicates that they are often forced to operate at their physiological limit and although the reasons for this are unknown, “the fact that lactating females do operate at this physiological level, and have been for at least a decade, makes them highly susceptible to external impacts such as direct and indirect fisheries impacts and other local environmental changes.”

Population decline

As indicated above, there are gaps in our understanding of the population behaviour of New Zealand sea lions, although we do know that they face a number of significant pressures that are likely to have contributed to population decline. What is clear is that the steady decline of the population over the last ten years shows that, to date, management measures have not been adequate. As set out below, the Minister has a responsibility to make decisions on management measures that balance sustainability (including “*avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment*”) with utilisation of the resource, and the Fisheries Act 1996 requires that the management measures take into account that:

- a) *Associated or dependent species should be maintained above a level that ensures their long term viability*
- b) *Biological diversity of the aquatic environment should be maintained (s15)*

In addition, under the Marine Mammals Protection Act 1978 and in accordance with the threat classification system, New Zealand sea lions must be managed to a level of human

induced mortality which will allow the species to achieve non threatened status as soon as reasonably practicable, and in any event within 20 years.

We submit that choosing an FRML that is very close to or the same as last years, given the recent decline in population numbers, will not meet the decision making requirements set out in the Fisheries Act, nor the obligations under the Marine Mammals Protection Act to return the species to sustainable levels.

Gaps in Information

There are a number of gaps in the information available to inform the setting of the FRML, most importantly the exact reasons for the population decline. The Minister should be made aware of the many assumptions that the model makes, set out below, and should approach decision making in an appropriately cautious manner, as required by s10 Fisheries Act:

- a) Decisions should be based on the best available information*
- b) Decision makers should consider any uncertainty in the information available in any case*
- c) Decision makers should be cautious where information is uncertain, unreliable or inadequate*
- d) The absence of, or uncertainty in any information should not be used as a reason for postponing or failing to take any measure*

The following matters should be given particular attention when considering where to set the FRML.

Female mortality

In recent years, the male-female ratio of sea lions caught by squid fishers has changed from being roughly equal, to being strongly biased against females, so that last year 82% of those captured were female. Although the exact reasons for this are unclear, it is very likely that it has a significant effect on the health of the population: the squid fishing season corresponds with the time in the sea lion breeding cycle when females have given birth and return to sea to forage, in order to feed their pup onshore. They have also mated and become pregnant again. Thus these 82% of fatalities could actually

result in three sea lion deaths, as the death of the adult female also takes the life of the unborn pup and the pup onshore which is relying on its mother for food.

Sea lion Exclusion Devices (SLEDs)

The discount of 35% for using SLEDs does not give effect to the precautionary approach required to reflect the likelihood that sea lion survival rates might be lower than expected. Investigations by veterinary pathologists have indicated that 55% of sea lions that escaped from SLEDs had head and internal injuries that would seriously jeopardise their chances of survival.² However there has been subsequent uncertainty about whether these injuries were in fact caused by the SLED or by the freezing process after the death of the animals. Nevertheless, the statement in the initial position paper that the absence of new concrete evidence either way means the discount should remain the same, is contested. This is particularly the case when no evidence has been provided to support the use of the 35% discount rate. A precautionary approach would require that the potential for sea lions to escape from SLEDs and subsequently die be recognised, so that a discount is applied only if and when it is proved that SLEDs improve sea lion survival rates.

Strike rate assessment

Assessment of the strike rate at 5.65% is based on a modelled assessment of the mean strike rate for the seasons 2004-2006. However, the one year when the squid fishery adopted 100% observer coverage, meaning that the strike rate was calculated on the basis of actual sea lion mortalities witnessed, the figure was 11.65%. This is significantly higher than 5.65%, and we submit that although the strike rate is likely to change each year, it is unlikely that it will change by this percentage. Accordingly, a strike rate of 11.65% should be used. Alternatively, the minister should be advised of the likelihood that 5.65% is too low, so that an FRML at the lower end of the options be chosen to provide a buffer in case the strike rate is actually much higher.

Other factors

In addition there are a number of factors that the model does not take into account because there is no obligation to do so when identifying an FRML. Nevertheless, these

² Wilkinson et al

factors are likely to have an impact on the future health of the sea lion population. The assessment of an appropriate FRML should be cautious in order to take into account the importance of these other factors.

The model does not take into account sea lion mortalities in other fisheries, including SQUIT and other deep sea fisheries in the southern ocean such as southern blue whiting and scampi. Ideally the FRML should cover these other fisheries as well. Neither does the model take into account the indirect pressure placed on the sea lion population by food competition caused by the squid fishery. Lastly, there is the susceptibility of New Zealand sea lions to bacterial infections, which have affected population numbers in recent years.

Additional measures

The Minister's obligations under the Fisheries Act to consider the gaps in available information and to take measures which provide for the sustainability of the New Zealand sea lion, together with his obligations under the Marine Mammals Protection Act to enable the New Zealand sea lion population to recover, will not be met unless the FRML adopted is significantly lower than previous years.

In addition to the imposition of an FRML, other measures need to be considered to reverse the decline in the sea lion population. Accordingly, the FRML should be accompanied by:

- a) Extension of the no-trawl marine mammal sanctuary around the Auckland Islands to the continental shelf edge.
- b) Promotion and trialling of squid jigging around the Auckland islands, a method which does not risk the entrapment of sea lions.

The desirability of a Population Management Plan

EDS believes that the development of a population management plan approved by the Minister of Conservation under the Marine Mammals Protection Act would be a more effective way of addressing the current decline in sea lion numbers and provide more certainty. Amongst other things, the existence of a population management plan would

reduce the number of mid season legal challenges from the fishing industry, following which the bycatch limit is changed part way through the season. At present, these changes undermine the management measures and distort the data as the following year's model does not take them into account. Fewer mid season changes would thus allow better modelling and greater certainty regarding the effects of fishing on sea lions.

EDS would urge the Minister of Fisheries to formally request the Minister of Conservation to prepare a population management plan for the New Zealand sea lions.

Should you require any further information, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Raewyn Peart', written in a cursive style.

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