



New Zealand Wildlife Health Centre

To: Ministry of Fisheries
PO Box 1020
Wellington

From: Wendi Roe and Brett Gartrell
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Date: 28 September 2007

Re: 2007-08 SQU6T Operational Plan: Initial Position Paper

We would like to make several comments on the IPP on behalf of the New Zealand Wildlife Health Centre.

In general, we agree that there appears to be an overall decrease in severity of trauma present in returned NZ sea lions, which may justify a change in discount factor. However, our biggest concern is that this conclusion is based on a very small number of animals, and any adjustment made based on this information cannot be assumed to automatically apply to subsequent years. Because of this, we strongly believe that continued necropsy monitoring of bycaught sea lions is vital.

Specifically, we would like to emphasise that:

- The data set on which the proposal to increase the SLED discount rate is based is very small, comprising only 18 animals returned in the past two years. While it is indeed possible that the noted decrease in trauma severity reflects a trend, it is also possible that this is a statistical 'blip' resulting from the small sample size.
- The finding of brain contusions in 2 of 8 animals returned in the 2006-07 season is of concern. The presence of these contusions is an indication of significant blunt trauma to the head and is likely to impair survival. As this was the first season in which brains were removed and examined it is impossible to determine what the true incidence of severe head trauma is.
- The statement that severe head trauma has been noted previously in animals returned by vessels without SLEDs is erroneous. The pattern of trauma referred to in the necropsy report as being present in both groups of animals was soft tissue bruising of the body wall and head, rather than brain contusions. It is therefore

possible (or even likely) that brain contusions are indeed caused by interaction with the grid bars of the SLED.

- We agree with the statement that animals returned for necropsy may not fully represent sea lions that escape, but believe that they are currently the best available means of assessing the severity and form of trauma that may be encountered by animals that ultimately escape the net system.
- Assessment of prognosis is inherently subjective, and is particularly difficult to determine in the group of animals found to have moderate levels of trauma. In 2006-07 this group accounted for just over 1/3 of the animals returned. In the necropsy report these animals were judged to have a 'reasonable' prognosis. This vague term reflects the difficulty in accurately determining chances of survival in this group – while it is likely that most will survive, there is still a significant possibility that some may not.
- Preliminary work carried out this year indicates that some of the necropsy findings previously believed to reflect significant trauma (and therefore to imply a poor prognosis) are actually likely to be artefacts of freezing of the bodies. This work is in its early stages however, and requires confirmation by larger studies. This has important implications particularly for the 'moderate' trauma group.

On balance, we would support a moderate increase in discount rate, preferably option 2 (30%). We believe that the uncertainty inherent in the data set used to support the proposal to increase the discount rate, particularly the small sample size, does not currently warrant a higher value. Furthermore, we emphasise the need to continue necropsy work in ensuing seasons, as this work is vital in order to confirm the suspected decrease in trauma severity, and to more closely define the percentage of animals likely to be sustaining head injuries.

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