

2006-07 SQU6T SEA LION OPERATIONAL PLAN IPP: SUMMARY OF SUBMISSIONS

Submissions received

- 1 Deepwater Group Limited (DWG)
- 2 Environment and Conservation Organisations of NZ Inc. (ECO)
- 3 Audrey Eagle, Macandrew Bay, Dunedin (Audrey Eagle)
- 4 Royal New Zealand Forest & Bird Protection Society (Forest & Bird)
- 5 New Zealand Seafood Industry Council Ltd (Technical submission provided in association with DWG by the SeaFIC science group) (SeaFIC)
- 6 Associate Professor Liz Slooten, Department of Zoology, University of Otago (Liz Slooten)

Summary of position

7 The DWG does not consider a fisheries related mortality limit (FRML) is necessary but concludes that if the Minister feels justified in setting an FRML, it should be at least 250. The predetermined strike rate should remain at 5.3% and the sea lion exclusion device (SLED) discount rate should be set at 50%.

8 Forest & Bird considers the most precautionary approach would be to permit zero bycatch of sea lions in the squid fishery. It believes this could be achieved without closure of the fishery by requiring vessels to jig rather than trawl. However, Forest & Bird submits that if a FRML is to be set in the fishery, it should be based on a potential biological removal (PBR) approach and be supported by a predetermined strike rate of 5.81%. Forest & Bird do not support the use of a SLED discount factor.

9 Audrey Eagle does not support an increase in the number of sea lions that can be killed by the squid fishing industry and requests the Minister sets a lower fisheries related mortality limit for the 2006-07 fishing season.

10 ECO does not support the approach taken in the 2006-07 SQU6T IPP nor does it agree that the Breen-Kim model is the best available information. ECO considers that the 30% decline in pup numbers since 1998 means the Minister should be considering a reduction in the 'bykill' limits. ECO submit that a PBR approach should be used in place of the Breen-Kim model. ECO recommends a MALFiRM (i.e. FRML) of 35 or 26 sea lions should be set for the 2006-07 fishing year. ECO also recommends a strike rate of 5.8% should be applied across the fishery and request 100% observer coverage to monitor the use of SLEDs.

11 SeaFIC has provided a technical submission as part of the DWG submission. This submission focuses on the scientific and technical aspects of the IPP, in which SeaFIC considers some of the issues have not been fully communicated and clarified

and some aspects of the science have been misunderstood and therefore misinterpreted.

12 Liz Slooten submits that the decline in the sea lion population means a precautionary approach is required including a precautionary judgement on strike rate and discount rate issues.

Best available information

13 DWG is concerned that the advice given to the Minister is not fulfilling the requirements under section 10 of the Fisheries Act 1996 (the Act). In particular it believes the Minister has not been made aware of the following conclusions of the Breen and Kim model from 2003:

- a) The sea lion population is probably near its carrying capacity (K).
- b) The squid fishery and any fishing-related sea lion bycatch has a small effect on the sea lion population based on current levels of fishing effort.
- c) Management procedures to mitigate the effects of bycatch do not have much effect to mitigate.
- d) The NZPBR rule (Rule 310) is unnecessarily restrictive, imposing a high cost on the industry for a small benefit to the sea lion population.

14 DWG believes these conclusions indicate that the squid fishery is not having a detrimental effect on the sea lion population and this information is relevant to the Minister's decision.

15 ECO considers the IPP does not use the best available information, or adequately addresses the flaws in the Breen-Kim model.

Legislative obligations

16 Forest & Bird does not consider the proposal set out in the IPP is meeting the requirements set out in section 8 2(b) of the Act – *to avoid, remedy or mitigate the adverse effects of fishing on the aquatic environment*. ECO and Forest & Bird note that the Minister has a range of international obligations that he must consider when managing New Zealand sea lions because the Auckland Islands and the surrounding 12 nautical miles is a designated World Heritage Area.

17 Forest & Bird submits that the IPP only focuses on the sea lion population around the Auckland Islands and therefore does not consider all sea lion fishing-related mortalities. The IPP therefore makes the assumption that the loss of sea lions around the Auckland Islands is having no effect on other populations. This is a view shared by Liz Slooten. Forest & Bird believes that by not integrating the effects of all fisheries on sea lion populations, section 3 G 1 (b) of the Marine Mammals Act (1983) is being breached.

18 Forest & Bird believes that both the Marine Mammals Act 1978 and the Fisheries Act adequately set out what the management objectives for the squid sea lion operational plan should be. The current management objective is based on the Breen and Kim model criteria. Forest & Bird does not support this objective as it

considers it is not based on the best available information and does not meet the legislative requirements of the Act.

19 ECO also refers to the Court of Appeal decision in 2004 which they assert requires the Minister to adopt a precautionary approach.¹

20 DWG does not support the inclusion of Rule 310 in the recommendations made in the IPP because the Court of Appeal found that when the Minister set the FRML based on this rule in the past he was not acting on best available information.

Fluctuations in the sea lion population

21 DWG submits that while the IPP refers to a decrease in the Auckland Islands pup production of 30% since 1998 it fails to acknowledge that the pup counts have fluctuated significantly over time and the 1998 high point was not stable. DWG considers this decrease is a natural fluctuation which is to be expected in a population near to carrying capacity.

22 SeaFIC submits that the IPP fails to discuss the extent to which the recent decline in pup counts at the Auckland Islands could be considered part of the natural fluctuations to be expected in a population near carrying capacity. SeaFIC also questions the statement made in the IPP on behalf of DOC that the pup decline could be treated as another qualifier for the sea lion to be listed as a threatened species. SeaFIC is unclear as to the source of this statement and whether it is an official DOC position or not. SeaFIC submits that DOC are likely to have processes in place to update species threat assessments as required and MFish should manage on the basis of the actual threat assessment rather than speculation about future status. SeaFIC also believes that until it is possible to distinguish between long-term trends and short-term fluctuations it will be difficult to be confident that the sea lion population is in gradual decline.

23 ECO and Audrey Eagle submit that the 30% decline in pup numbers over the last 8 years should be acted on given the sea lion's vulnerable, threatened species status. ECO agrees with the DOC assessment discussed in the IPP that, given two major disease events since 1998, the population is likely to continue to decline over the next 10 years.

FRML

24 DWG does not consider an FRML is necessary in the SQU6T fishery because fishing-related mortality is not having a detrimental effect on the sea lion population. DWG also notes that if there were any adverse effects then they would be mitigated by the use of SLEDs.

25 However, the DWG does accept that the Minister may be of the view that a FRML is necessary but the determination of the FRML should be based on the Cusp Rule in the first instance. A FRML just beyond the Cusp Rule is the point at which utilisation becomes a threat to the sea lion population. If the Minister wishes to adopt a precautionary and conservative approach, the FRML should be set at 250 which is

¹ Squid Fishery Management Company Ltd. v Minister of Fisheries; Court of Appeal 2004 (CA39/04)

50% of the Cusp Rule. DWG submits there are a range of adaptive rules which could be used which would retain the responsive/adaptive characteristics of Rule 4.

26 DWG does not support the inclusion of Rule 310 in the range of options to the Minister. It also submits that when the PBR approach has been used in the past it has been applied incorrectly and a considerable part of the DWG submission discusses this issue. Therefore DWG does not support the inclusion of Rule 310 in the range of harvest control rules which could be used to set the FRML for the 2006-07 fishing season. DWG asserts that the Cusp Rule is the best option to meet the conservative management criteria while optimising utilisation of the squid resource.

27 DWG submits that there is little difference in performance against the management criteria between the bycatch control rules which allow greater utilisation (Rules 330, 340, 350 Cusp Rule) and those which significantly constrain the squid fishery (Rules 4 and 320). DWG argues that the differences in terms of the sustainability of the sea lion population are not detectable, yet the difference in potential utilisation is significant.

28 DWG does not agree with the suggestion in paragraph 85 of the IPP which states that when considering the results for a certain rule the Minister should apply caution due to uncertainties associated with strike rate, SLED efficacy and monitoring. DWG disagrees with this assessment and believes these factors should be considered separately by the Minister once the Rule and FRML have been agreed.

29 DWG does not support the MFish recommended range of 55 to 218 for the FRML (based on Rule 310 to Rule 340). DWG asserts that setting the FRML within this range is contrary to the Court of Appeal judgement with regards to Rule 310, fails to recognise the potential utilisation benefits of harvest control rules which produce higher FRMLs, and fails to recognise that rules which produce higher FRMLs provide little risk to the sea lion population.

30 DWG also does not agree with the MFish assertion in paragraph 89 that harvest control rules greater than Rule 340 are inconsistent with s 15 (2) of the Act. DWG considers that any rule which meets the management criteria would still meet the purpose of the Act. DWG believes adopting rule 346 and setting the FRML at 250 is the best way to ensure a precautionary approach while allowing the opportunity for greater utilisation.

31 Forest & Bird considers the limited information on estimates of sea lion mortality, due to incomplete observer coverage and the use of SLEDs, makes it difficult to set an appropriate FRML.

32 ECO believes a MALFiRM should be selected to ensure the species moves to a non-threatened state in the quickest time possible. ECO does not support the claim in the IPP that FRMLs up to 218 sea lions will meet the Minister's statutory obligation. ECO believes that given the uncertainty associated with the Breen-Kim model, any FRML over 100 is difficult to sustain.

33 ECO concludes that the FRML should be calculated based on the PBR approach and should be set around 36 sea lions in the 2006-07 fishing season.

34 Liz Slooten does not support setting the FRML in accordance with the Cusp Rule. She submits that the FRML associated with the lower harvest control rules provide for a long-term sustainable level of bycatch while the figure associated with the Cusp Rule could only be taken in a small number of years over a 100 year period.

Utilisation

35 DWG submits that the economic impact of a FRML on the squid trawl industry depends on the level of the FRML, the strike rate, the SLED discount rate and squid abundance. DWG recognises that there is considerable variability in squid abundance from season to season so it is difficult to predict how the FRML will limit the fishery. This also makes calculating the adverse effects of FRMLs on utilisation problematic. DWG believes the IPP undervalues the lost utilisation opportunity caused by restrictive rules such as Rule 4. DWG also notes that squid from SQU6T are generally larger and in better condition and command a higher price than squid from SQU1T. The port price information used in the IPP is believed to be too low and DWG estimates the lost opportunity is likely to be some 200 – 300% higher.

36 ECO does not support the extent of industries claim for lost utilisation arising from an inappropriately set FRML since the squid fishery is highly variable. ECO believe industries claims are highly speculative because they ignore the following facts:

- a) The squid fishery is highly variable and there is no guarantee of catches over 950 tonnes.
- b) Vessels employed in the squid fishery are mainly foreign charter vessels and therefore the value to New Zealand in terms of employment and economic return is lower than in fisheries with a 100% domestic component.
- c) Industry has been aware of the conflict with sea lions since commencing fishing for squid around the Auckland Islands and has factored this risk into their decision making.
- d) The concept of lost values only focuses on economic value and does not consider value derived from a non-extractive use.
- e) There are alternative fishing methods available such as jigging.

Strike Rate

37 Forest & Bird considers the methodology used to set the current strike rate of 5.3% does not adequately take into account current fishing management practices such as tow duration and the use of SLEDs. Forest & Bird supports the development of the alternative methodology being produced by M. Smith and S. Baird.² Trials from this new methodology recommend a strike rate of 5.81% which is within the historic observed range of 1.3 – 11%. Forest & Bird considers 5.81% is a more suitable strike rate and that failure to adopt this for the 2006-07 fishing year would contravene section 10 of the Act.

² ENV2004-02. Estimation of New Zealand sea lion incidental captures in New Zealand Fisheries.

38 DWG submits that the IPP incorrectly summarises the strike rate information presented at the AEWG in September 2006. DWG accepts that the pre-determined strike rate is an arbitrary figure but claim that an assessment of average strike rates would suggest that the rate of 5.3% may be too high. The IPP claims the analysis by Smith and Baird recommends that there may be a basis for increasing the strike rate to 5.8%. DWG does not agree that such a recommendation was made in either the Smith or Baird progress report or the final report presented to the AEWG in September 2006. The analysis in the Smith and Baird report indicates that the estimated mean strike rate for the 2000-2004 seasons was 5.81% but the actual average, since the 1992 season, is 4.57%.

39 DWG also notes that the Breen-Kim model does not make any recommendation as to an appropriate predetermined strike rate. DWG submits that the only consensus reached at the AEWG on the issue of strike rates was that the use of an average strike rate is more appropriate than an estimated strike rate for a single year.

40 DWG submits that given the levels of uncertainty surrounding an appropriate strike rate the only sensible option is to retain the existing strike rate of 5.3%

41 ECO submits that new research by Smith and Baird indicates an increase in the strike rate is appropriate at this time and recommends the rate of 5.81% is applied. ECO supports 100% observer coverage in the fishery to determine whether there is any bias in strike rate related to observer coverage.

42 SeaFIC submits that the two proposed strike rates, 5.3% and 5.8% are calculated based on the mean strike rate estimated from observed tows for 1997 – 2003 and 2000 – 2004 respectively. SeaFIC notes that the appropriate number of years over which to estimate the strike rate. SeaFIC also submits that a better method to estimate strike rate may be to base it on the median of observed tows as opposed to the mean. Finally, SeaFIC believes that there may be suitable alternatives available to using a predetermined strike rate and consider these alternatives could be investigated as part of a revised management strategy evaluation.

Sea lion exclusion devices (SLEDs)

43 Forest & Bird does not consider SLEDs are an adequate avoidance and mitigation measure and believes the devices cause internal injuries to sea lions. Forest & Bird also believes the escape hatch permit injured sea lions to escape and such injuries go unreported meaning mortality estimates are uncertain.

44 Forest & Bird considers the calculations for the SLED discount factor are statistically unreliable and that tows using SLEDs are continuing to catch a significant number of sea lions. Forest & Bird also note that during the 2005-06 fishing season not all vessels that received the SLED discount were fully compliant with the SLED specifications. Given these factors, Forest & Bird does not consider the use of a SLED discount factor justifiable.

45 Audrey Eagle does not support the proposed SLED discount rate. She submits that the less obvious injuries that result from sea lion/SLED interactions remain

unknown. She further submits that using a SLED actually hides how many sea lions are caught in the gear.

46 DWG considers the IPP summary of SLED issues is lacking in substance and the references made to the AEWG on this issue are incorrect. DWG believes that MFish should have presented a range of discount options in the IPP given the information relating to this issue is uncertain. DWG believes that a discount rate of 20% is too low because:

- a) Recent autopsy results have suggested that over 80% of sea lions which have escaped from nets fitted with a SLED are unlikely to sustain trauma that would compromise their survival.
- b) Expert evidence suggests that the sea lions are resilient marine mammals and the blunt trauma experienced by the sea lions and described in autopsy report would probably not compromise survival.
- c) The survivability analyses made in previous autopsy reports is overly pessimistic.

47 Further DWG argues that the Court of Appeal in 2004 considered that the 20% allowance for the use of SLEDs was reasonably conservative considering the information that was available to the Minister.

48 DWG disagrees with the claims made in the IPP that the AEWG did not consider there were sufficient changes to the SLED design, nor new information to support a change to the discount factor at this time. DWG submits that the discount factor was not on the agenda at the AEWG meeting and the working group did not consider if there was merit in changing the discount factors for SLEDs. DWG notes that the statements in the IPP are not reflected in the draft AEWG meeting notes.

49 As part of their submission, DWG included a DVD (and a covering note from Martin Cawthron) showing footage of seals and sea lions interacting with SLEDs in New Zealand and Australian fisheries. The DWG submits that this footage lends support to the view that SLEDs in the SQU6T fishery are more effective than the 20% discount rate recommended by MFish.

50 DWG would like to bring to the attention of the Minister the considerable effort in terms of time and money made on the part of industry in designing, developing, testing, constructing, analysing and refining SLEDs. This work is discussed in detail in their submission.

51 DWG recommends that the Minister adopts a 50% discount to the predetermined strike rate for vessels deploying a SLED. DWG considers that such a discount would be precautionary.

52 ECO does not support the application of a discount rate to vessels deploying SLEDs because there is much uncertainty over the type of SLED used and their efficacy. ECO believes that until comprehensive research into the efficacy of SLEDs has been undertaken, it is inappropriate for the Minister to apply any SLED discount rate. ECO does not support an industry-run working group to assess SLED efficacy and believes that such a working group should be run by MFish and DOC.

53 SeaFIC has expressed some concerns with the way the use of SLEDs has been described in the IPP. SeaFIC believes the discount factor applied to vessels deploying approved SLEDs should reflect the rate of escapement and survival of sea lions from these vessels. SeaFIC considers this rate is greater than 20% and therefore the current discount rate of 20% is too conservative.

Review of the Breen-Kim model

54 Liz Slooten has raised concerns that the Breen-Kim model does not take into consideration mainland sea lion populations and therefore the impact fishing activity will have on the recovery of the total sea lion population.

55 Liz Slooten considers a fundamental flaw with the Breen-Kim model is that it relies on a reliable estimate of the sea lion population carrying capacity (K). Liz Slooten believes there is insufficient information to provide a reliable estimate of K and therefore the model makes a flawed assumption. She further considers that using a more complex model is not necessarily the best approach to manage sea lion population decline. A more complex model that uses species-specific data is only an improvement over simpler models if both the data is reliable and the model structure is appropriate; Liz Slooten suggests that neither condition is met in this instance.

56 Forest & Bird is concerned that there are serious issues with the Breen-Kim model which were highlighted by Paul Breen during the AEWG meeting in September 2006. Forest & Bird believes these issues mean the model does not provide the best available information at this time and requires further work before it can be considered as such. Therefore Forest & Bird supports the recommendation in the IPP to review and update the Breen-Kim model in time for the 2007-08 fishing year.

57 Forest & Bird also notes that during the AEWG in September 2006 it was revealed that the Cusp Rule was no longer valid as it did not meet the sustainability criteria.

58 Forest & Bird also notes that since the Breen-Kim model has been adopted the increase in the FRML has coincided with an observed pattern of decline in the sea lion population.

59 Forest & Bird does not support the claim made in paragraph 93 of the IPP that 'in the absence of other modelling it is reasonable to use the Breen and Kim model'. Forest & Bird considers a PBR approach, used to set the FRML before the advent of the Breen-Kim model, is the best approach.

60 DWG submits that the evaluation criteria used in the Breen-Kim model are very conservative. DWG also accepts there are uncertainties associated with the Breen-Kim model but that while some of these uncertainties render the model optimistic, others render it pessimistic.

61 ECO also comment on uncertainties with the Breen-Kim model and sets out the issues with the model as presented by Paul Breen at the AEWG meeting in September. ECO believes these issues mean many of the higher rules are underestimating mortality limits.

62 In their submission, ECO also discusses their concerns with the Breen-Kim model outlined in the review by Daniel Goodman in 2003.³ These concerns question the robustness of the Breen-Kim model in comparison to the previously-used Wade rule that is based on the PBR approach.

63 ECO also does not support the assumption that the Breen-Kim model is able to predict the current sea lion population in relation to its carrying capacity.

64 SeaFIC in its submission does not consider the IPP correctly interprets the bycatch control rules. SeaFIC submits that the 2003 modelling by Breen and Kim was intended as a management strategy evaluation (MSE) exercise. Typically under an MSE approach, following the evaluation of potential control rules, a rule that meets the various performance criteria is chosen and is then adhered to for a specified period, usually 5 years. Once this period has expired, the evaluation exercise is repeated and the operating model is updated to take account of new data.

65 SeaFIC submits that this approach has failed in the SQU6T fishery because an agreed rule for setting the FRML for a specified period has not occurred. Rather, the choice of rule and the resulting FRML is made on an annual basis. SeaFIC acknowledges that a key reason why the choice of a single FRML setting rule has not been easy is that almost all the rules evaluated meet the primary management criteria. The exception is unconstrained fishing which only narrowly failed to meet these criteria. SeaFIC claims that the IPP perpetuates the view that it is reasonable to pick a FRML rule on an annual basis. However, SeaFIC consider the reality is that the Breen-Kim model results only give confidence that the management objective will be met when the rule is followed on a continuous long-term basis.

66 SeaFIC also supports the decision to review and update the Breen-Kim model.. SeaFIC agrees that it should be done without delay but that it is important that sufficient time is allowed to complete the work. SeaFIC recommends that once the model is updated it is then used to implement a fixed FRML rule for a longer-term period.

Alternative models

67 Forest & Bird supports the use of a PBR approach because this approach is based on data readily available when minimal demographic information is available, and it has been tested sufficiently to ensure its robustness. Forest & Bird notes that the Breen-Kim model is able to use all available data but the actual availability of this data is minimal at the present time. Forest & Bird considers this to be a key limitation with the Breen-Kim model. In contrast, the PBR approach is designed to be robust even in data-poor situations. Forest & Bird concludes that the PBR approach is the best approach at this time because the Breen-Kim model is inadequate in its current form.

68 ECO submits that the Minister should consider alternative models to ensure he is fulfilling the requirements under section 10 of the Act. In particular, ECO believes that the Minister should use a PBR approach.

³ Review of Breen & Kim model for Auckland Islands Hooker Sea lion population interaction with squid trawl fishery', Daniel Goodman, Director of the Environmental Statistics Group, Montana State University

69 Liz Slooten supports the use of the PBR method for setting the management options in the 2006-07 season. She claims that this method is highly robust and unlike the Breen-Kim model, has population recovery as one of its specific performance standards.

Tow duration

70 Forest & Bird is concerned by the recent increase in tow duration in the squid fishery. It makes reference to two independent studies which show that tow duration is an important factor contributing to the bycatch of sea lions, particularly females. Forest and Bird believes levels of permitted sea lion bycatch are compromised by this increased tow duration. Forest & Bird considers management measures should be imposed to research and regulate these factors.

71 DWG submits that the issue of increased tow length and the relationship this has with strike rates is a matter which may need further analysis but has little relevance to the Ministers decision in setting the 2006-07 operational plan. DWG claims that MFish presented some anecdotal information on tow length at the AEWG meeting in September 2006 despite this issue not appearing on the agenda. The AEWG discussed whether any increase in tow length would have implications in terms of sea lion strike rates but concluded that it was unclear given the variability in strike rates.

72 ECO is also concerned by the recent increase in tow length and believes that the risk of a sea lion being caught in each tow has now increased. ECO believes this is another reason why an increase in the strike rate from 5.3% to 5.81% is appropriate for the 2006-07 fishing season.

73 SeaFIC considers the relationship between tow length and the application of an appropriate strike rate requires further study before the strike rate should be adjusted.

Monitoring

74 Forest & Bird supports an increase in observer coverage in the SQU6T fishery. It also recommends that pound grids should be required on all vessels operating in the fishery to improve observer's ability to accurately record the location of sea lion capture in the net and further address efficacy of the SLEDs.

75 ECO supports 100% observer coverage across all fisheries where sea lion bycatch is an issue.

76 DWG accepts that there were issues in how the discount rate was applied to vessels in the 2005-06 fishing seasons in terms of vessels using compliant SLEDs and providing appropriate notification of departure. DWG is taking the following steps in the current fishing season to improve management of the fishery in accordance with the Operational Plan.

- a) Vessels will carry standardised SLEDs of the Mk3/13 specification.
- b) DWG will hold a pre season briefing/training day for all vessels intending to operate in the SQU6T fishery in the current season.

- c) DWG will take responsibility for managing operational processes in the fishery including educating and informing all operators of the requirements of the operational plan.

Jigging versus trawling in the squid fishery

77 Liz Slooten, ECO, Audrey Eagle and Forest & Bird all recommend that jigging becomes the primary harvest method in the SQU6T fishery because it is considered a safer method of fishing that decreases the risk of interaction with marine mammals and seabirds. Liz Slooten does not support the view expressed in the IPP that the Minister does not have the power to control fishing methods. She refers to section 15 (5) of the Act which sets out that the Minister can, by gazette notice, prohibit all or any fishing methods in the area.

78 Forest & Bird does not support industry claims that jigging is not possible around the Auckland Islands because weather conditions make it too hazardous. Evidence suggests that squid jigging has been and continues to be possible in the SQU6T fishery. Forest & Bird also notes that correspondence, obtained under an OIA request, indicates that industry are also considering the possibilities of squid jigging.

79 ECO also does not support the view that jiggers are unsafe to use in New Zealand waters for the following reasons:

- a) A squid jigger is a stable platform and uses a marine parachute for stability.
- b) Conditions where a jigger could not operate are similar to the conditions where a trawler cannot operate.
- c) Automated jig machines reduce the risk of jig lines tangling.
- d) It is possible to jig for squid during the day.

80 Liz Slooten also recommends that an economic analysis be undertaken to investigate the impact on earnings from switching from trawling to jigging.

Issues with the IPP and the operation of the AEWG

81 DWG has raised some concerns over what it considers is MFish's misuse and misreporting of the AEWG's discussions. In particular DWG claims that MFish attempted, at the conclusion of the AEWG meeting in September, to have the AEWG rubber stamp a list of management measures for inclusion in the IPP. According to DWG the AEWG does not have a process or mandate to produce a consensus working group report. Rather, the role of the group is to review and summarise the results of research projects in relation to impacts of fishing on the aquatic environment.

82 DWG raised these concerns with the Chair of the AEWG and received confirmation that the AEWG did not reach consensus on the IPP issues. However, DWG submits that MFish has misreported what the AEWG discussed and agreed to in the IPP.

83 DWG has requested that MFish review the AEWG mandate and processes to ensure there is not a repeat of events which occurred at the September meeting.

84 SeaFIC also acknowledges the issues raised by the DWG with regards to how the AEWG has operated.

85 Both SeaFIC and DWG disagree with the claim made in the IPP that while the AEWG concluded that the Breen-Kim model was the best available information for the 2006-07 fishing seasons, the uncertainties surrounding the model meant a higher level of caution was warranted than in previous years. SeaFIC submits that these uncertainties are not new issues and therefore do not require a higher level of caution.

86 SeaFIC also considers the IPP fails to adequately list the concerns with the Breen-Kim model that were presented at the AEWG by Paul Breen. Both Forest & Bird and ECO have also detailed the issues raised by Paul Breen in their submissions. SeaFIC considers the following are the key issues with the model:

- a) High numbered rules may not deliver the desired management strategy.
- b) Current population size may not be well estimated.
- c) Other issues make the model optimistic.
- d) Model can also be highly pessimistic.

87 Forest & Bird does not support the claim made in paragraph 79 of the IPP that the Breen-Kim model, despite areas of uncertainty, is the best available approach. Forest & Bird claims there was no detailed discussion of this issue and no consensus was reached during the September AEWG meeting. Forest & Bird has requested that the minutes from the AEWG be amended to reflect the lack of consensus.

Marine Mammal Sanctuary

88 Forest & Bird has raised concerns that the Marine Mammal Sanctuary (MMS) around the Auckland Islands is not large enough to protect foraging sea lions. Audrey Eagle and Forest & Bird recommend the MMS be extended to 100 km. No trawling would be permitted in this area although other forms of squid targeted fishing methods (presumably jigging) could be permitted.

Other issues raised

89 Forest & Bird notes that squid trawl vessels are also potentially threatening a wide diversity of marine habitats and species such as coral, seabirds and other marine mammals.

90 Forest & Bird does not support mid season increases to the FRML. It notes that the Minister made the commitment when the in-season FRML increase was granted in the 2005-06 fishing year that it was a one-off event.

91 Forest & Bird supports the application of a sea lion FRML across all vessels in fisheries known to have caught sea lions in the last 5 years. In contrast, DWG does not agree with the assertion in the IPP that the small numbers of bycatch from non-squid vessels operating in the SQU6T fishery is an added reason for the exercise of caution in determining the FRML.

92 DWG submits that they are in the process of drafting a fisheries plan for the SQU1T and SQU6T fisheries. DWG believes that industry is best placed to develop

efficient strategies to manage squid trawl fisheries and any adverse effects on the aquatic environment and to enhance the long term value of quota. DWG believes that once this fisheries plan is implemented it will be unnecessary for the Minister to make annual decisions regarding the sea lion bycatch in the SQU6T fishery and it will also be unnecessary for DOC to continue with its population management plan process.

93 ECO has also raised some concerns over how environmental groups' submissions may be treated by the Minister. ECO urges the Minister to keep an open mind on this matter and consider environmental groups' submissions in the same manner as submissions from the fishing industry.

