

27 March 2017

Mr L Sanson
Department of Conservation
PO Box 10 420
Wellington 6143

Dear Mr Sanson

**SUPPLEMENTARY COMMENTS ON THE PROPOSED
CONSERVATION SERVICES PROGRAMME
PROJECTS FOR 2017/18**

1. We have already provided comments on the proposed CSP projects but take the opportunity to comment further on those projects reported to the 16 March CSP meeting. Our views have not changed from those expressed in our submission of 14 March but we feel that additional comments in response to the presentations are warranted.

INT4 Post Release survival of white pointer sharks

2. The project is provisionally scored by CSP as being the 6th equal highest ranking project.
3. While we have not seen the report and recommendations from INT2016-03, we opposed the project in 2016 on the basis of there being no adverse effect and the operational impracticalities of the project, in particular the vast amount of technician time required at sea to tag a suitable sample size of live sharks. Our earlier submission this year did not support the project for those same reasons. We see no reason to change our opinion on those matters.
4. In the shark risk assessment, great white sharks were assessed as having risk score of 12, equal to the lowest ranking QMS sharks species (blue shark) and 34th equal of all 85 species assessed. In their conclusions of the assessment¹, the expert panel stated:

“No consequence score greater than 4.5 was allocated (out of a maximum possible of 6) because available information did not suggest that commercial fishing is currently causing, or in the near future could cause, serious unsustainable impacts (the description of a score of 5 for total consequence)”.
5. The panel achieved consensus on the scoring but were not entirely confident that all captures were reported. We do not consider that commercial fishing poses an adverse effect, or risk thereof, to great white sharks.

¹ Ford, R.B.; Galland, A.; Clark, M.R.; Crozier, P.; Duffy, C.A.J.; Dunn, M.R.; Francis, M.P., Wells, R. (2015). Qualitative (Level 1) Risk Assessment of the impact of commercial fishing on New Zealand Chondrichthyans. New Zealand Aquatic Environment and Biodiversity Report No. 157. 111 p.

6. We are not convinced as to the practicality of the research, in particular, establishing the number of tagging events needed to provide robust estimates of survivability across a representative sample of captured sharks and their degree of “liveliness on release”, the likelihood of and time needed to achieve the required level of tagging of live sharks, and the information requirements to understand shark survivability. Until that project design has been established and reviewed, it is not possible to provide reasonable estimates of the likely project cost. This project must be robustly and scientifically defensible – poor quality research is not acceptable. Maui and Hector’s dolphin observation programmes have shown the time and cost that can be expended to record rare and uncommon events. We cannot accept that the costs of this project will provide cost effective conservation outcomes.
7. We are not of the view that CSP activity should in any way be influenced by or be related to the NPOA sharks. Although the NPOA contains a request for additional shark research, that request needs to be conditioned by the existence of adverse effect and the need for the work from a fisheries management perspective. Neither of those factors necessitates the work being undertaken by CSP.
8. We consider that a more appropriate response to the risk assessment would be to ensure quality reporting and then assess the need for any further research, such as survival rates. Moving to research survival rates at this time is premature.

POP6 Indirect Effects on seabirds in North East North Island

9. Three reports were presented to the working group on 16 March 2017:
 - a. Freya Hjørvarasdóttir - fisheries relevant to Buller's shearwater and red-billed gull prey availability in North Eastern North Island - Draft Report;
 - b. Peter Frost - Population Status and trends of selected seabirds – draft report; and
 - c. Chris Gaskin - Procellariiformes associating with shoaling fish schools - northern New Zealand - Draft Report.
10. We include comments on these reports:

Freya Hjørvarasdóttir - fisheries relevant to Buller's shearwater and red-billed gull prey availability in North Eastern North Island - Draft Report
11. The paper appears to be a characterisation of the fish-stocks which have relevance to the availability of seabird prey in north eastern North Island. However, we are concerned with the quality of the paper and consider the paper is nothing more than a speculative opinion piece:
 - a. based on assertions with a lack of references to research to support them;
 - b. not giving credence to other potential drivers to changes in availability of prey species; and
 - c. lacking objectivity and in doing so demonstrating a biased approach to the matter.
12. The paper is in general simplistic. It consists of extracts from the stock assessment plenary, does not contain additional analyses as to fishing activity and does not contain all the relevant material from the Plenary. The assertions as to the indirect effects of fishing and the underlying presumption that any decrease in the number of “boil-ups” results from reduced numbers of predatory fish are baseless.

Peter Frost - Population Status and trends of selected seabirds

13. This report focuses on the non procellariiform seabirds that are associated with shoaling fish schools, eg. gannets, red-billed gulls, terns and shags. The aims of the project were to :
 - a. identify the breeding sites for these species in the northern half of the North Island, from Cape Egmont on the west to East Cape in the east;
 - b. collate the available information on population numbers and any trends through time, both at individual sites and overall within the region of interest, over at least the past 75 years;
 - c. summarise what is known about each species' breeding biology—timing of breeding cycle, incubation shifts and length and chick rearing period—and what is known about the birds' diet during chick rearing; and
 - d. assemble any other relevant information on the diet and foraging ecology of these species.
14. The report focuses on those aims and recognises that there are many factors likely to be impacting on the abundance of seabirds, including climatic variations; availability of prey; competition with commercial fisheries; added mortality caused by fishing gear, pollution, and alien invasive predators; habitat degradation; and human disturbance. The presentation noted that there is little by way of reliable population monitoring that allows trends to be identified based on a consistent data series. The report advocates for monitoring of populations, monitoring foraging patterns and improving knowledge of diets.

Chris Gaskin - Procellariiformes associating with shoaling fish schools - northern New Zealand

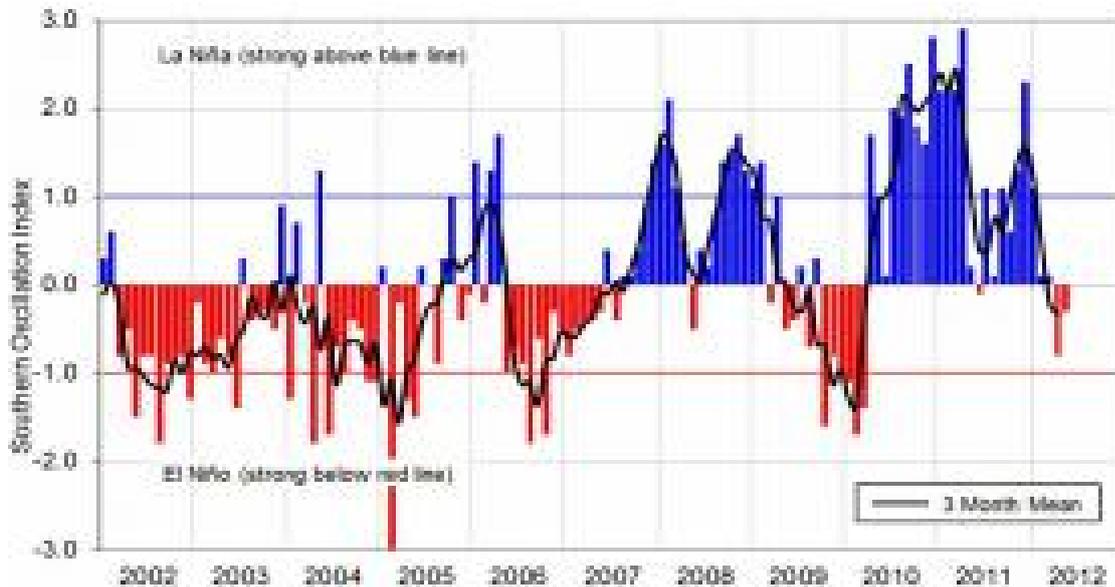
15. The Gaskin report provides the same information as the Frost report but for Procellariiformes – the shearwaters and the petrels.
16. The recommendations are similar to the Frost report.
17. The Frost and Gaskin reports indicate that the causes of variations in seabird populations are complex, uncertain and no particular factor can be ascribed to be dominant.

Additional Information

18. We have contacted fishers and processors who fish for anchovies, pilchards, sprats and other bait fish species and for kahawai, trevally and kingfish, the fish species at interest in the review. Those discussions indicate that there have been significant changes in the availability of the bait species, possibly connected with the Southern Oscillation phases, and changes to the coastal, harbour, gulf and estuary habitats used and frequented by the baitfish.
19. The abundance of baitfish appears to have decreased in the prolonged La Nina weather conditions of recent years. The decline appears to be dependent on the length of the La Nina phase - the longer the phase the more significant the decline. There appears to be recruitment issues with smaller fish becoming less common in catches. Fishers have noted the reduction in boil-ups but attribute it to decreased abundance of baitfish rather than decreases in pelagic fish such as trevally, kingfish and kahawai and a change in baitfish behaviour to avoid habitat changes. Catches have reduced since 2000 and catches are currently around 250 tonnes, approximately 10% of the TACC.
20. We recognise that the availability of baitfish and krill is vital to the health and wellbeing of seabirds and seabird populations and may reflect in poor breeding success and reduced adult survival. Our readings indicate that the weather patterns of the recent past with a predominance of La Nina conditions may be having significant effects on the productivity and

availability of many small pelagic fish species and krill species that are the principal diets of many seabirds.

Monthly values of the Southern Oscillation Index (SOI)²



21. The impact of La Nina weather is reflected in the Plenary statement on pilchards:

“Pilchard is abundant in some New Zealand regions. However, it is unlikely that the biomass is comparable to the very large stocks of pilchard (sardine) in some world oceans where strong upwelling promotes high productivity. It is more likely that the New Zealand pilchard comprises abundant but localised coastal populations, comparable to those of southern Australia. They appear to be adaptable feeders, able to utilise food items from organic detritus through phytoplankton to zooplankton. East Northland is a region where under neutral to El Niño conditions moderately productive upwelling predominates, but in La Niña years downwelling and oceanic water incursion will limit recruitment and may affect adult condition and survival.

In those regions of the world where small pelagic fishes are particularly abundant and have been well studied, there is often a reciprocal relationship between the stock size of pilchard and anchovy, as well as great variability in their overall abundance. Many pilchard/anchovy fisheries have undergone boom and-bust cycles. “

22. We are aware of scientific reviews of climate effects on fisheries resources, see Hurst R J et al (2012)³, and Dunn et al (2009)⁴. While those reviews have in general found no correlations, it should be noted that they were focused on larger fish, higher up the food chain where the effects on plankton of climatic change will take time to be reflected and the reviews were based on a research period that did not contain the more recent La Nina patterns. A low correlation could be expected as a consequence.

² <https://www.niwa.co.nz/climate/faq/what-is-the-southern-oscillation>

³ Hurst, R.J.; Renwick, J.A.; Sutton, P.J.H; Uddstrom, M.J.; Kennan, S.C.; Law, C.S.; Rickard, G.J.; Korpela, A.; Stewart, C.; Evans J. (2012). Climate and ocean trends of potential relevance to fisheries in the New Zealand region. New Zealand Aquatic Environment and Biodiversity Report No. 90

⁴ Dunn, M.R.; Hurst, R.J. Renwick, J.; Francis, R.I.C.C.; Devine, J.; McKenzie, A. (2009). Fish abundance and climate trends in New Zealand. New Zealand Aquatic Environment and Biodiversity Report No. 31.

23. Recent research into species such as sardines, see Zwolinski J P (2012)⁵ inter alia has shown the linkages between abundance and the Southern Oscillation or the Pacific Decadal Oscillation. The work of Robinson et al (2015)⁶ investigated the link between sardine abundance and penguin populations and closed with the following word of caution:

“Perhaps, the main guidance emanating from this work is to caution that marine ecosystem interactions are not necessarily straightforward, so that the temptation to jump to such conclusions before conducting careful and desirably quantitative analyses should be avoided”.

Indirect Effects of Fishing Not Proven Adverse

24. The indirect effects of fishing activity on seabird populations and in particular dietary impacts is becoming widely advocated as a source of concern and the basis for research proposals. However, we have yet to see any robust or authoritative research linking fishing activity and dietary impacts that substantiate the claims and there are documented examples where such hypotheses have been disproved. Until that linkage is proven, we oppose the claim that an adverse effect exists and that such projects should be cost recovered.
25. We are not persuaded by the argument that the project should be cost recovered in that industry would benefit from any finding that indirect effects are not proven. We have spent millions over the past five years to ensure the L2 risk assessment produces robust estimates of risk for commercial fishing. Those assessments indicate that the risk of commercial fishing to seabirds is lower than previously believed with only a limited number of species assessed as being at significant risk.
26. We have no desire to embark on expensive research to prove that fishing does not pose adverse effects on seabirds through indirect effects. The Government Auditor’s reports in 2002 and 2005 required CSP to demonstrate the likelihood of adverse effects or the risks of such effects before cost recovery was warranted. There is no such evidence to support the CSP claims of indirect effects.
27. However, if DOC considers that such projects are appropriate and necessary to underpin their management of seabirds, then it is entirely appropriate that they should fund the research from the appropriation to Natural Heritage.
28. We would prefer CSP investigate the nutritional linkages to the Southern Oscillation impacts as a wider explanation of seabird stress rather than a fruitless and expensive attempt to prove indirect fishing effects. We would be prepared to allow CSP funding to be spent on that research without cost recovery. Access to funding to research the issue is imperative.
29. While the research is not cost recoverable, we would welcome an engagement in the development of the research in the wider public good.

POP1 Chatham Islands Seabirds Research

30. A report was provided at the 16 March 2017 TAG meeting on the 2016-17 Chatham Islands seabird research project. The report indicated that only the Northern Royal albatross showed a significantly lower count than previous years and that the other seabirds – Pitt Island shag, Chatham Island shag, Chatham Island albatross, Northern Buller’s albatross and Northern Giant

⁵ Zwolinski, J., and D. Demer (2012), A cold oceanographic regime with high exploitation rates in the northeast Pacific forecasts a collapse of the sardine stock, *Proc. Natl. Acad. Sci. U. S. A.*, 109, 4175–4180

⁶ Robinson, W. M. L., Butterworth, D. S., and Plaga’nyi, E. E. Quantifying the projected impact of the South African sardine fishery on the Robben Island penguin colony. – *ICES Journal of Marine Science*, doi: 10.1093/icesjms/fsv035

Petrel – had generally stable populations and no evidence of demographic issues. The report noted the lack of consistency in the methods used to estimate abundance and the uncertainty that those changes have created. Research had not been able to be undertaken on Rangitahi Island, which has a breeding colony of, inter alia, Northern Royal albatross and Northern Giant Petrel.

31. CSP proposes to return to the Chatham Islands to complete the abundance counts of Northern Royal albatross and Northern Giant Petrel on Rangitahi Island and obtain additional re-sighting data on Chatham Islands albatross to inform the L3 risk assessment for that species.
32. We can see there is some value in the project if and only if the Rangitahi Island work can be undertaken. We would welcome any additional discussion with CSP as to how that will be achieved.
33. However, before the project proceeds, DOC needs to review past abundance surveys to determine whether an estimate of the Rangitahi Island population is necessary to gain a robust abundance estimate for the population of Northern Royals or whether that can be obtained by scaling the existing information. We cannot support the project until that research is undertaken.