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Attention: Russell Harding

Submission to Conservation Services Programme / on papers tabled and presented on 21st October 2011, CSP-TWG meeting.

Introduction

The reports discussed here relate to two of the most significant fisheries bycatch issues that New Zealand faces – two endemic species - the black petrel which is considered the most at risk species from New Zealand commercial fisheries and white-capped albatross which is the highest bycaught species in New Zealand.

Our responsibility as a TWG is to query results and require follow up research to confirm results, but also where the implications of the work for the species are clear to suggest appropriate management responses based on our technical expertise. Our report follows that format.

1. **At Sea Distribution of the Black Petrels (*Procellaria parkinsoni*) on Great Barrier Island (Aotea), 2009/10 Part 1. Environmental Variables. Biz Bell et al**

2. **Overlap of black petrel distributions with New Zealand Fisheries. Part 2. Ed Abraham, Yvan Richard**

These results are the culmination of several years of work on black petrel which has produced some excellent results. This paper in particular is extremely valuable in that it will help us in determining the at sea risk posed to black petrel from commercial fisheries especially during the breeding season. We are also aware of the significance of the tight non-breeding distribution off the coast of Ecuador

and north Peru and have already made inquiries with Birdlife contacts over there about the level of black petrel captures in artisanal fisheries.

Ed Abrahams work on the overlap of petrel distributions with commercial effort is a potentially extremely useful tool in that it identifies the high risk times for black petrel, particularly in the snapper and bluenose fisheries where the chick rearing time was identified as the highest overlap of these fisheries with the birds distribution.

Despite the low observer coverage which exists in the snapper and bluenose fisheries, it appears the observed capture rates reflect the level of overlap with the black petrel distribution identified by Ed and Biz.

There is clearly a high level of risk posed to black petrels from snapper and bluenose fishing. I was disappointed when I saw the short video clips that David Goad presented of fishing for bluenose. There was no tori line in sight defending the hooks as they came off the boat and were being attacked by birds, and night setting was obviously not happening. In David's report he also suggests from his discussions with fishers that they don't believe they have a 'bird problem'. We need to know how prevalent this situation is. It's absolutely no use us coming up with management solutions and spending huge amounts of money on research when it appears that even the regulated mitigation is not implemented.

We need detailed information on what mitigation is being used in these fisheries and how effective this is. The CSP Observer reports only give a general indication on this. We suggest we need an analysis of this information from the Observer Reports and have it presented to this group for both snapper and bluenose in FMA 1 and 2, or be included in detail in the next CSP Observer report.

It is clear from the work that Biz and Ed have done and the previously released Dragaonfly report [1] that a management response is required to reduce the level of risk to black petrel. According to this report black petrel are the most at risk species in New Zealand from commercial fishing with an estimated 725-1524 birds potentially killed each year.

Our CSP Technical Working Group should be making recommendations on options to managers, based on the scientific advice we are receiving. There is no other forum for this linking process to occur. One option would be to immediately increase the observer coverage to a high level during the highest risk periods ie during incubation and chick rearing for snapper and bluenose fishing. There also needs to be a clear message sent to fishers in these fisheries that required mitigation must be used throughout the breeding season to protect black petrel.

We are also interested in other possible management options for example closed areas at the most vulnerable times. It may be possible from bycatch locations, particularly around Great Barrier Island to identify potential closed areas where the birds are at highest risk? We would like to see some data presented on this option.

Recommendations:

[1] Yvan Richard, Edward R, Abraham & Dominique Filippi (2011). Assessment of the risk to seabird populations from New Zealand commercial fisheries. Final research report for Ministry of Fisheries projects IPA 2009/19 and IPA2009/20(Unpublished report held by the Ministry of Fisheries, Wellington). 66 pages.

1. Analysis of Observer reports in the snapper and bluenose fisheries to see what mitigation is being implemented and it's effectiveness in preventing bycatch.

2. Increase observer coverage to a high level particularly during incubation and chick rearing

3. Fisheries managers must advise fishers in these fisheries of the results and implication of this work and the need to apply appropriate mitigation to reduce bycatch of this vulnerable species and follow this up with effective compliance.

4. Investigate the potential value in closing areas to fishing during the most vulnerable stages of breeding – incubation and chick rearing. ASK Biz Bell to present some options on this.

3. **MIT2010/01 Development of mitigation strategies: inshore fisheries Draft Research Report D. Goad**.

Also an excellent report with some useful information. We have the following comments:

1. It was useful that David Goad highlighting in his introduction the risk to albatrosses and petrels identified in Richard et el 2011. He also highlights the fact that the degree of compliance with mitigation measures is unknown. Compliance with line weighting requirements in the regulations is difficult to determine. The line weighting reported in Table 5 appears to be mostly under the recommended weight of 4kg/60m which in part may explain the unacceptably slow sink rates.

2. The sink rates achieved fall well short of recommended best practice by Birdlife International and ACAP. The current best practise suggests sink rates of 0.3m/s (=18m/60s)[2] to take the hooks rapidly away from access by birds. 5m at 60s and 100mbehind the vessel is insufficient to protect birds, particularly when the required aerial extent of the tori line is just 50m. 15 m after 120s doesn't occur until 250m behind the vessel which is well beyond any tori lines that may be deployed. The depth to which the lines sink, needs to match the diving range of the species concerned. A conservative estimate for petrels and shearwaters is 10m though it is known they can dive to much greater depths. So the hooks need to be at a minimum of 10m depth, by 50m behind the vessel if that is the effective extent of the tori line. If the aerial extent is longer then the sink rate wont need to be so fast.

3. It would be useful for the report to provide some context for what needs to be achieved to reduce bycatch – ie current regulated aerial extent of tori lines and relationship with sink rates/distance behind vessel. We discussed this at the meeting but no one seemed very clear what the regulated mitigation was and the relationship with this work.

[2] Mitigation Fact Sheets. ACAP web site http://www.acap.aq/mitigation-fact-sheets

4. It was heartening to see the comment that at least some skippers were prepared to forego a fishing opportunity or move elsewhere if birds were present in large numbers or feeding aggressively.

5. Offal and bait management also appears to be very variable, discarding baits at the haul and discharging offal.

6. Knowledge and uptake of mitigation other than tori lines or night setting was low, possibly due to low observer coverage especially with a protected species focus. Improving observer coverage is essential.

7. Figs 16, 17 and 18 – are the x scales supposed to be distance in metres and not time? Fig 17 in particular shows how ineffective the lines are at achieving a depth of 10m within a reasonable distance behind the boat which could be defended by a tori line. In some cases the hooks will still be available up to 800 m behind the boat. This is unrealistic for a tori line and it is clear that sink rates need to improve markedly.

8. David Goad provides some useful recommendations, however I am not sure that the regulated weighting regimes have been adequately tested ie 4kg (metal) per $60m^3$? Skippers are obviously resistant to using greater weights, however unless greater sink rates are achieved to a defended distance at which 10m depth is achieved then seabirds especially petrels will continue to be caught.

9. Why are integrated weighted lines not used in this fishery? Is it possible that their use could get much better sink rates and hence better mitigation for seabirds?

Recommendations:

We suggest that further trials are required using increased line weighting as well as recommendations suggested in the report; reducing weight spacing, trialling float rope extensions to allow lines to sink faster, experimenting with setting speed and line tension, but most especially the major objective of defending the area within which baited hooks are less than 10m depth is critical. Experiments which set out to achieve this objective are needed.

4. Tabled paper. Draft Final Report: A population and distributional study of white-capped albatross (Auckland Islands). David Thompson, Paul Sagar & Leigh Torres.

Once again some excellent work funded through CSP.

Comments.

1. The study population was just 70 nests. The adult survival was estimated to be 0.96 which is what we would expect from an un-impacted population. However I am a little concerned that 70 nests is not a reasonable sample size of the total population and comes from just one small colony and not the largest colony. This small population may have different characteristics to the bulk of the population. I don't think we can be sure that this sample is sufficient to give a true picture of the actual adult survival across the whole population. This is particularly so when you have a look at Biz's

[3] Fisheries (seabird Sustainability Measures – Bottom Longlines) circular 2010 (No. F541)

report also tabled of bycaught birds in the period October 2010-March 2011. All the birds bycaught were adults and most of them were breeding birds. Furthermore Baker et al 2010 report to the Ministry[4] shows an apparent declining trend in the population although this needs further counts to determine if the decline is real.

2. As Thompson et al point out this albatross is the most bycaught species in New Zealand. Richard et al [5] found white capped albatross was the species with the highest number of potential fatalities annually between 4571-5718 (95% c.i.) This level of bycatch amounts to a slaughter and it is unacceptable from any point of view and raises serious questions about adequate fisheries management practices particularly in the squid fishery.

3. It is no surprise but excellent to see the results, confirmed here, the high overlap shown between the white-capped albatross and the main areas of the squid fishery at all stages of breeding. Also for southern bluefin tuna fishery a high overlap during the chick-rearing phase of the birds.

4. The mark-recapture data for the study site suggests a high adult survivorship. Thompson suggests Baker's apparent decline could be a result of birds electing not to breed for reasons that we don't understand. Francis (2010) modelling suggests a large number of birds would need to be killed annually to result in this decline – ie 20,000 birds. We suggest that this figure could be accounted for. Baker et al [6] undertook a review of effort and bycatch rates affecting shy albatrosses in 2007. His results indicated 8,500 may be killed annually, globally, but with low reliability. The figure he put for New Zealand was 621. This we know from Richard et al that this is an order of magnitude too low, with an estimate of over 5000 annually in New Zealand alone for white-capped albatross. It seems possible that estimates given for other fisheries could be equally underestimated.

5. We also suggest that the study population at SW Cape may not be representative of the population as a whole. It is a small population compared to the main population on Disappointment Island and PTT tag data for the two locations show significant differences in their April kernel density distributions with birds from Disappointment Island having a high kernel distribution also around Tasmania which the SW Cape birds don't appear to have, during this chick-rearing stage. (This may be an artefact of low sample size, but suggests there may be a difference in the two populations and hence the adult survivorship is not representative)

Recommendations

1. Continue to undertake colony aerial counts for at least the next 3 years (total of 8 years required for a biennial species) to determine if the declining trend observed by Baker is real.

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[4] Data collection of demographic, distributional and trophic information on white-capped albatross to allow estimation of effects of fishing on population viability – 2010 Field Season

[5] Yvan Richard, Edward R, Abraham & Dominique Filippi (2011). Assessment of the risk to seabird populations from New Zealand commercial fisheries. Final research report for Ministry of Fisheries projects IPA 2009/19 and IPA2009/20(Unpublished report held by the Ministry of Fisheries, Wellington). 66 pages.

[6] A global assessment of the impact of fisheries-related mortality on shy and white-capped albatrosses: Conservation Implications. 2007 G. Barry Baker et al in Biological Conservation 137: 319-333

2. Explore Francis's adult survival model with data from Baker's population estimates, adult survival values, breeding success, breeding frequency etc to explore the effect of removing different numbers of adults and/or juvenile pre-breeders. This may result in a different set of adult survival estimates.

3. The high overlap of white-capped albatross particularly with the squid fishery and the high bycatch of the species in that fishery suggest an urgent management response is required. There are two issues here. First, irrespective of the impact on the population the high capture rate of this species amounts to a slaughter and is unacceptable. 2. We still don't know if the population is being detrimentally affected by the level of bycatch both within NZ and globally. Introduction of better methods to manage bycatch of this species particularly in the squid fishery are urgently needed. The most recent CSP Observer reports available[7] show this fishery continues to have the highest rate of bird capture of any of the middle depth fisheries. We need an analysis of the mitigation being implemented including offal management (batching) and net cleaning, bird scaring devices etc, to see if proper implementation of these techniques will be sufficient to bring the capture rates down significantly or another management response is required such as switching to jigging.

5. New Zealand sea lions – Proposed Auckland Islands population study 2011/12

Forest & Bird supports the proposed methodology tabled.

Karen Baird

[7] Conservation Services Programme Observer Report: 1 July 2008-30 June 2009 and 1 July 2009-30 June 2010. Kris Ramm (Drafts)