

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p><b>Eighth Meeting of the Seabird Bycatch Working Group</b></p> <p><i>Wellington, New Zealand, 4 – 6 September 2017</i></p> <p><b>Encouraging uptake of mitigation measures in a disparate small vessel fleet</b></p> <p><b><i>Dave Goad &amp; Kris Ramm</i></b></p>
---	--

### SUMMARY

This paper provides an example of a programme of engagement with fishermen from one fishing fleet posing particular bycatch risk to seabirds in New Zealand. Similar approaches are also being taken in other fisheries.

A seabird liaison officer role was implemented in the north eastern New Zealand demersal longline fishery in 2010. Fishers have been contacted during summer months, when at risk birds are breeding in New Zealand. The role has worked largely outside of a regulatory framework and focussed on engaging with fishers directly to support improvements in mitigation measures.

Documenting individual vessels' approaches to reducing interactions in 'Seabird Management Plans' has provided detailed information for fisheries managers and encouraged the use of mitigation measures. Over the course of the project mitigation measures and their uptake have improved, and observed capture rates have declined.

This model of engaging with a disparate fleet on a vessel by vessel basis may provide a useful example when considering approaches to implement in similar fisheries.

### INTRODUCTION

This paper summaries work conducted over several years, focussed on improving the uptake of mitigation measures and reducing interactions with seabirds in the north-eastern longline fishery.

The characteristics of the demersal longline fleet under consideration have been reported in detail elsewhere (e.g. Goad et al. 2010, Pierre et al. 2013) and a brief summary is provided here.

All vessels are under 20 m in length and set hand-baited hooks, individually clipped onto a monofilament longline. The fleet can be split into two groups based on gear type:

'Snapper' vessels typically fish up to 6000 hooks per day, employing size 16-18R 'Tainawa' hooks on a 60 cm snood, clipped onto a 1.2 - 2.5 mm monofilament backbone at intervals of 2.4 – 4 m. Depths fished are generally less than 200m.

'Bluenose' vessels typically work up to 4000 hooks a day and use Mustad 'Ezibaiter' or 10 - 12/0 circle hooks on a 40 cm 1.8 mm diameter snood clipped onto a 5–6 mm diameter backbone. Snood monofilament is often protected by fluorescent tubing. Depths fished are generally greater than 200 m and the longline is often suspended above the seabed by adding floats between weights.

Vessels are mostly owner-operated and land in at least 13 different ports. Some vessels participate in the fishery year-round whilst others fish in different areas or with different methods for part of the year. Despite landing to only two fish receivers the fleet and skippers can be considered disconnected and do not have a unified organisation for representation at stakeholder meetings.

## **THE LIAISON ROLE**

The liaison role has been in place with the snapper fleet in north east New Zealand since 2010, and with the bluenose fleet since 2011. To date between one and three liaison officers have engaged with fishers each season. Management and reporting has occurred through various combinations of the Department of Conservation (DOC), Ministry for Primary Industries (MPI) and a separate coordinator.

The role works alongside other initiatives such as Southern Seabird Solutions Trust seabird smart training workshops, and actions driven through the implementation of the National Plan of Action for Seabirds (NPOA-seabirds) (MPI 2013), such as the development of an action plan for black petrel and flesh-footed shearwater. Support has also come from organisations within the fishing industry including quota holders and local fisher organisations.

The liaison program has concentrated on improving mitigation and engaging with fishers. Vessel specific documents were introduced in 2014 and these provide details of the approach to reducing seabird interactions on each vessel. More recently, the focus has been on reviewing and auditing these 'Seabird Management Plans' (SMPs) to check whether they are representative of fishing practices and reducing interactions. Independent reviews of adherence to plans are also undertaken by government fisheries observers.

The approach taken by liaison officers has been consistent over time, and can be summarised as a 'bottom up approach'. Liaison officers have worked with skippers and deckhands, often at sea, to refine and improve mitigation. The whole fishing operation including gear setup, setting speed, offal and returned bait management has been considered with respect to its influence on seabird interactions. Fishers have been encouraged to apply appropriate mitigation both proactively and reactively in response to instances of increased risk.

Approaches to reducing interactions with seabirds have been discussed elsewhere (e.g. Løkkeborg 2011), and the Agreement for the Conservation of Albatrosses and Petrels (ACAP) provide recommendations on international best practice. Measures most important/applicable to the New Zealand inshore demersal longline fleet include:

- Minimising overlap with birds spatially and/or temporally
- Line weighting
- Setting speed
- Use of tori lines and other bird deterrents
- Bait type and bait dye

- Contained lighting
- Altering gear setup
- Offal and used bait management
- Choosing not to fish or stopping setting

In practice, the liaison role has involved a large amount of listening to experienced skippers who have developed mitigation over many years. The role has provided a conduit to share this knowledge between skippers. Conversations with fishers also provide an opportunity to keep them up to date with mitigation developments and best practice advice, as well as pass on concerns to fisheries managers about other fishery related matters. Engagement with skippers, especially in person and at sea, has been focused on increasing the priority of avoiding seabird captures. Similarly involving deckhands, who are often responsible for mitigation, has proved an important part of the process.

## **SEABIRD MANAGEMENT PLANS**

Seabird management plans (SMPs) begin with a short introductory paragraph explaining the purpose of the document and the liaison role. The cover page also includes the vessel and skipper details. The second page details the vessel's mitigation approach, initially describing line setting and the combination of line weighting and setting speed. This largely dictates the distance that baited hooks are available to birds behind the vessel. Other aspects of mitigation are described under the headings of tori lines, other measures, and reactive mitigation. Hauling mitigation is covered under a separate section.

Whilst each plan is vessel specific, several common sentences are employed including:

“We commit to using a tori line, of an appropriate design to the vessel, for all setting activity where the conditions allow.”

We will use more weight in response to bird activity.

If all measures above have been employed and are visibly not working, i.e. birds are continually overcoming the tori line, the vessel will stop setting.

Other sections in the seabird management plans cover ongoing developments, reporting of captures, information sharing between fishers, training, and audit. A hard copy was provided to each vessel in a waterproof folder along with current ACAP tori line advice, and some notes and advice around birds and tori lines written by liaison officers. A separate sticker for display in the wheelhouse summarises the mitigation section of the SMP.

## **OUTCOMES**

The fleet has shown increased awareness of seabirds over time and mitigation measures such as line weighting and tori line use have improved. Details of specific metrics for tracking progress and improvements over time can be found in annual reports (Goad 2016, Goad & Williamson 2015, Pierre et al. 2013, Goad 2011, Goad et al. 2010). These reports also contain detail of audits of SMPs, using government fisheries observers. Briefing and debriefing of observers and review of data collected has allowed for an independent review and verification of SMPs. To date these reviews indicate that SMPs are representative of at-sea practice and have contributed to lower seabird capture rates.

Reporting has been on several levels: A 'real time' activity spreadsheet was maintained online, detailing liaison officer movements and outcomes of meetings with skippers. This data was compiled monthly into progress reports, including summaries of observer-collected data. Annual reports to government provided a complete set of detailed information on a vessel by vessel basis. Finally, summary reports, excluding individual vessel identifiers, were prepared for distribution to a wider audience including industry representatives, fishers, and NGOs.

## LOOKING FORWARDS

Maintaining and improving mitigation performance, and continuing to reduce capture rates requires constant attention and provision of ongoing support to the fleet. Important areas in which to focus efforts are spending time at sea with new skippers/vessels entering the fishery, and addressing changes in the fishery resulting in greater overlap with seabirds.

Increased levels of observer coverage and the implementation of electronic monitoring are likely to provide greater support to the liaison role in the future.

The model for engaging with a disparate fleet described here has proved successful and may provide a useful example when considering the development of similar approaches with similar fleets.

## REFERENCES

Goad, D., 2016. Review of Seabird Management Plans (SMPs) for bottom longline vessels operating in Area 1. Report prepared for the Department of Conservation, Wellington. Available at [www.doc.govt.nz/our-work/conservation-services-programme/csp-reports/2016-17/seabird-bycatch-reduction-small-vessel-longline-fisheries-2016-17/](http://www.doc.govt.nz/our-work/conservation-services-programme/csp-reports/2016-17/seabird-bycatch-reduction-small-vessel-longline-fisheries-2016-17/)

Goad, D. 2011. Development of mitigation strategies: Inshore fisheries. Conservation Services Programme project MIT2010-01. Report prepared for the Department of Conservation, Wellington. Available at: <http://www.doc.govt.nz/our-work/conservation-services-programme/meetings-and-project-updates/21-october-2011/>

Goad, D., Temple, S., and Williamson, J. 2010. MIT 2009/01 Development of mitigation strategies: Inshore fisheries. Report prepared for the Department of Conservation, Wellington. Available at: <http://www.doc.govt.nz/our-work/conservation-services-programme/csp-reports/archive/2009-2010/development-of-mitigation-strategies-for-inshore-fisheries/>

Goad, D., and Williamson, J. 2015. Improving and documenting seabird bycatch mitigation practices in the North Eastern New Zealand longline fishery. Report prepared for the Department of Conservation, Wellington. Available at <http://www.doc.govt.nz/our-work/conservation-services-programme/csp-reports/2014-15/improving-and-documenting-seabird-bycatch-mitigation-practices-in-the-north-eastern-new-zealand-longline-fishery/>

Løkkeborg, S. 2011. Best practices to mitigate seabird bycatch in longline, trawl and gillnet fisheries-efficiency and practical applicability. *Marine Ecology Progress Series* 435: 285-303.

MPI 2013. National Plan of Action – 2013 to reduce the incidental catch of seabirds in New Zealand Fisheries. Produced by the Ministry for Primary Industries, Wellington. Available at : <http://www.mpi.govt.nz/document-vault/3962>

Pierre, J.P., Goad, D.W., Thompson, F.N. and Abraham, E.R. 2013. Reducing seabird bycatch in bottom-longline fisheries. Final Research Report prepared for the Department of Conservation, Wellington. Available at: <http://www.doc.govt.nz/Documents/conservation/marine-and-coastal/marine-conservation-services/mit2012-01-reducing-seabird-bycatch-in-bottom-longline-fisheries.pdf>