



Agreement on the Conservation of Albatrosses and Petrels

Third Meeting of Seabird Bycatch Working Group

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Seabird Interactions with Trawl Fishing in Australian Waters

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In recognition of the significance of trawl fishing bycatch, the Australian Government environment agency contracted the Tasmanian state government (DPIPWE) to undertake a preliminary investigation of the interactions between seabird trawl interactions within the Australian Fishing Zone. Although the project is still ongoing, this paper reports on early findings that indicate seabird interactions with trawl fisheries, particularly warp wires, is a significant issue in Australia and urgently requires further investigation.

Background to the trawl fishery.

The Commonwealth Australian Fisheries Management Authority (AFMA) manages trawl fishing in Australian waters extending from the 3nm to 200nm offshore. The trawl fishery is primarily demersal otter board trawling targeting a diverse range of fish species. There is some midwater trawl, predominantly targeting blue grenadier, and a smaller amount of Danish seine. Only one or two factory trawl vessels are in operation in a given year, smaller 50-60 wet boats. In 2008, there were 60 active fishing vessels with 79, 140 bottom time fishing hours and fishing effort was concentrated on continental shelf edge, see Figure 1 (Wilson et al 2009). AFMA fishery observer coverage (not tasked with specific seabird observations) was approximately 3-4% of total hours.

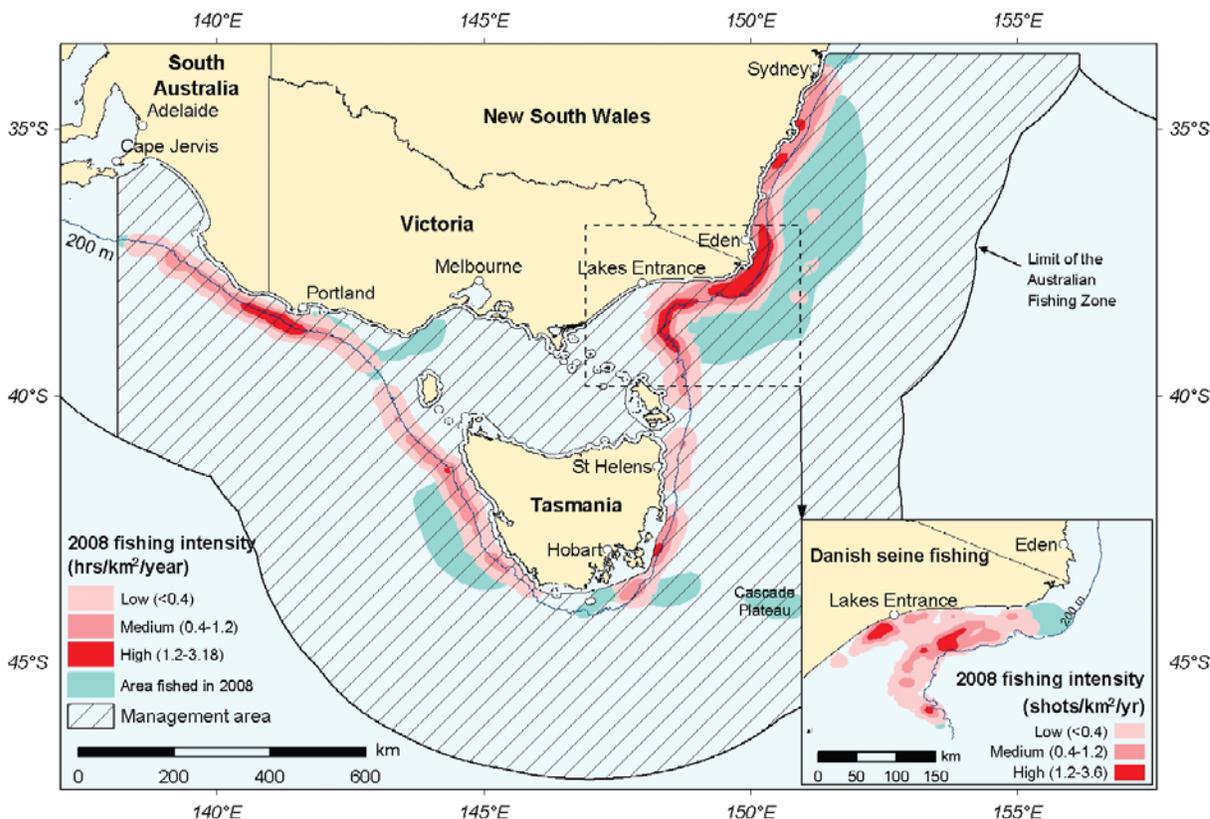


Figure 1.

Rationale for the project

Anecdotal evidence from observers, fishermen and fisheries managers indicated that fatal interactions between trawl vessels and seabirds were occurring. Isolated band returns and a limited number of seabird carcasses returned from trawl vessels with contracted fisheries observers (not tasked specifically with seabird observations) indicated that Shy albatross were the most common species interacting with trawl vessels.

In addition, long term population monitoring of Shy albatross on Albatross Island in the Bass Strait (Figure 1), shows the population has stabilised in recent years and even shown some indication of decline at less than half the historical population. Given the substantial overlap between the at sea distribution of shy albatross and trawl fishing effort, the possibility that trawl related mortality is responsible was an important consideration.

At-sea observations to date

AFMA was asked to assist by facilitating access to trawl fishing vessels. The vessel owners' involvement was voluntary. To date, two demersal trawl vessels have permitted dedicated seabird observers on board; a total of 24 tows across two trips (c. 160 hours of bottom time), have been observed.

Both vessels were attended by large numbers of seabirds, up to an estimated 300 at times, overwhelmingly dominated by *Thalassarche*, predominantly Shy, albatross. Large numbers of white-chinned petrels were also in attendance with occasional large albatross, shearwaters and petrel species.

Net interactions

Seabirds interacted with the net on every observed haul, however no entanglements were observed, presumably a combination of the small mesh size used across the demersal trawl fleet and the limited surface time of the nets. However, as indicated above, carcasses have been returned and net captures clearly do occur.

Warp interactions

In contrast with net interactions, warp strike is significant. Contact with the warp was observed at the beginning of every tow whenever discards or by-catch was being discarded whilst the net was in the water. One bird (probable shy albatross) was confirmed dead, observed stuck on a warp splice, but it was not retained. Numerous, i.e. >20, 'heavy' contacts were observed in which the bird became tangled on the warp wire and was dragged under the surface. It is believed, but not possible to confirm, that most of these birds eventually surfaced. Video footage is still being quantified. Conversations with fishermen indicate warp mortality is relatively common.

Conclusions/Recommendations

Demersal trawl fishing appears to present limited risk to seabirds of fatal net interactions, however it is known that net captures do occasionally occur, and there is evidence to suggest they are a greater risk on midwater trawl vessels. We are aiming to conduct dedicated seabird observations on midwater trawl vessels in the near future.

The numerous 'heavy' interactions between seabirds and warp cables, including the one confirmed fatality, observed on only two vessels is indicative of a much larger, systematic by-catch problem. The risk is greatest for Australia's endemic shy albatross that overlap extensively with trawl fishing year round. More extensive quantification of seabird trawl interactions is urgently needed.

Reference

Wilson D., Curtotti R., Begg G., & Phillips K. (eds) 2009, Fishery status reports 2008: status of fish stocks and fisheries Managed by the Australian government, Bureau of Rural Sciences & Australian Bureau of Agricultural and Resource Economics.