



Agreement on the Conservation of Albatrosses and Petrels

Third Meeting of the Seabird Bycatch Working Group

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At-sea trials to test the effectiveness of bait pods in reducing seabird bycatch in pelagic longline fisheries

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PROJECT REPORT TO THE ADVISORY COMMITTEE



Project Title:
At-sea trials to test the effectiveness of bait pods in reducing seabird bycatch in pelagic longline fisheries.

Project initiated by: BirdLife International Global Seabird Programme

Project Manager: Ben Sullivan

Summary of project activities (max 300 words)

In December 2009, Dr. Ben Sullivan (BirdLife International Global Seabird Programme) and Oliver Yates (BirdLife Albatross Task Force) undertook at-sea trials to test the operational effectiveness of the current bait pod prototype. These trials were conducted in the Australian Eastern Tuna and Billfish Fishery (ETBF) fishery from the port of Nelson Bay (New South Wales) with the support of Markwell Fisheries, and the captain and crew of *FV Strike Force*.

We trialled three techniques to identify the most effective and efficient method for stowing the pods in the setting bin in a manner that was quick, safe and easy to achieve during the haul and also facilitated a quick and smooth setting operation. The simplest way to store the pods was to put the hook through the swivel (bait pod adjacent) then slot the hook into the top section of the clip (see Figure 1). This technique is the most commonly used method in many South American pelagic longline fisheries (e.g. Brasil and Chile). This worked very well and the crew commented that it possibly made the setting operation easier than their traditional method of throwing the swivel, pulling out 2-3 arm lengths of monofilament then baiting up and casting the baited hook (see Figure 2).

Project outcomes (detailed by objective) (max 300 words)

- In total, 401 bait pods were set and 95.5% released as expected. Seventeen of the 18 pods that did not release (i.e. were hauled with the hook still enclosed) were in a position next to a 'bubble', which suggests that they did not reach the depth required to release.
- We incorporated a 60g lead weight into the pod, which means that for the first 10m+ baited hook have 60g on the hook. TDR data (n=12) indicated that the baited hook inside the pod sank to two metres at 0.4725 m/sec, which is around twice the speed of the 'standard' gear (0.2400 m/sec), and to five metres at slightly less than twice the speed of the 'standard' gear (0.5083 m/sec vs 0.3120 m/sec). This means that not only is the barb and point of the hook covered by the pod, but that the baited hook sink close to the stern of the vessel at a rate that makes it difficult for most birds to access.
- These findings are considered very promising and we are confident that we can overcome the technical difficulties discussed above and have a new prototype for testing in mid 2010; that has the potential to be a very effective mitigation measure for reducing seabird bycatch in pelagic longline fisheries.

Were the funds spent in accordance with the original budget? (max 100 words)

In total AUS\$8,408 were spent on the December 2009 at-sea trials. This includes vessel hire (AUS\$5,695) and equipment and subsistence (AUS\$2,713).

We have discussed with AC Chair (Marco Favero) about the possibility of temporarily using the remaining AUS\$11, 592 to conduct further on-shore development of the pod to address the technical modifications required to conduct further at-sea trials, which are scheduled for August-October 2010. If ACAP funds can temporarily be used to fund development work, we then back-fill ACAP funds as other money comes on-line in April/May, to ensure that ACAP money is used to fund bait at-sea trials. Without this temporary re-allocation of funds our development work will be stalled and we may not be in a position to conduct further at-sea trials in 2010.

Were there any unforeseen difficulties with the project? (max 300 words)

It has taken longer to develop the pod than we had expected, but this is usually the case for new and emerging mitigation measures. Technical issues that require further on-shore development are outlined below. Although we identify some technical issues that require further on-shore development, we were extremely pleased with the results of the at-sea trials. We are slowly becoming more confident that we have identified a promising mitigation measures that is both operationally simple to use and cost effective. Results from trials conducted in 2010 will hopefully refine any operational issues with the use of the pod and give us our first insight into how effective the pods are at reducing seabird interactions and mortality.

Have you identified any questions or issues that need to be addressed further? (max 300 words)

As expected we identified several technical issues that require further research and development prior to conducting further at-sea trials in the second half on 2010.

- Develop final prototype release mechanism to ensure a reliable and durable release (that lasts several hundred sets) at a predictable depth
- Incorporate some cushioning (possibly rubber ridges), or strengthen the plastic around girth (thinnest part) of the pod where the release clips are situated, to prevent breakages; 7 broke during the haul when they slammed against the side of the vessel.
- Develop a more robust collar to attach to the branchline (monofilament)



Figure 1. Bait pods in a setting bin. This technique of hooking the swivel over the hook then slotting the hook into the top of the snap was an effective and efficient way to stack, store and set the gear.



Figure 2. A bait pod *in situ* with an eye hooked slimy mackerel