



GloLeads and Live Baiting

Australian Fisheries Management Authority and the Australian Antarctic Division

Studies in the live bait sector of the Australian Eastern Tuna and Billfish Fishery (ETBF) show that weights that slide onto (not crimped into) branch lines located close to hooks improve crew safety and reduce the likelihood of seabird capture without affecting the life status of live bait.

The trial investigated the life status of live baits with differing positions of lead weights on the branch lines. Three line weighting regimes were trialed:

1. 60g lead swivel 3.5m from the hook*
2. 60g GloLead 0.5m from the hook
3. 60g GloLead at the hook - no leader

The GloLeads are a new type of lead that has a nylon coating that glows in the dark. GloLeads slide onto and along branch lines – as opposed to being crimped. These are then held in place by screw-tightening onto the monofilament. They are designed to reduce the incidence of dangerous fly backs by sliding off the end of the branch line if it breaks under tension.

Did moving weights closer to the hook effect bait vigour?

There was no detectable difference in the life status of the baits between the three weighting regimes. Bait vigor and survival was influenced by soak time (the length of time baits are in the water), not by the weighting regime. In general, the longer the soak time the lower the survival of the baits.

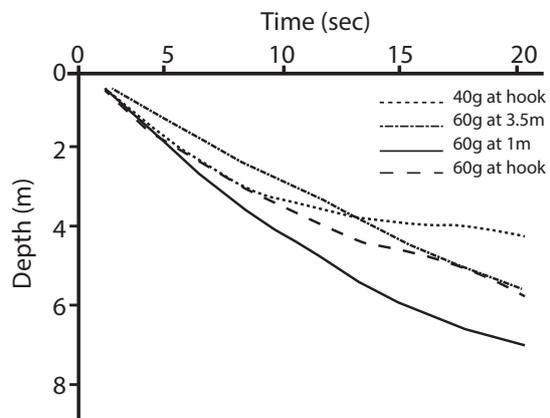
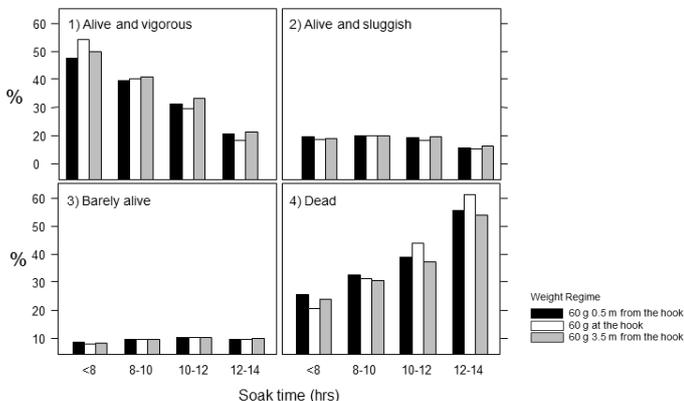
Why is the risk of seabird capture reduced with weight close to the hook?

Line weighting has proven benefits in reducing seabird bycatch in southern hemisphere pelagic longline fisheries.

In the Uruguayan swordfish fishery (day-time sets, no bird scaring line in use) a reduction in leader length from 4.5m to 1m reduced seabird bycatch by 50% without affecting catches of target and non-target fish.

Similarly, in the dead bait sector of the Australian ETBF, weights placed at the hook with no leader had no detectable effect on fish catch rates but delivered sink rates that were far superior to gear with leaders of standard length (3.5m).

In the live bait sector, weight placed at the hook with no leader actually slows sink rates, compared to weight placed on short leaders 0.5m or 1m from hooks. The likely reason for this is that short leaders allow live bait time to swim down the water column – take a look at the graph below.



Trends in bait vigor as a function of line weighting regime and soak time. For all weighting regimes, after 8-10 hours in the water 40% of baits were alive and vigorous, 20% were alive and sluggish, 10% were barely alive and 30% were dead. Weighting regime did not affect bait vigor and survival.

Sink profiles of the three weighting regimes used in the trial. A fourth regime – 40g at the hook – is included for comparison. Of the three regimes with 60 weights, gear with weight 1m from hooks sank the fastest followed by gear with weight at the hook. The slowest was 60g 3.5m from hooks. Gear with the lighter 40g weight was incapable of sinking gear against the swimming capacity of the bait. Overall, the fastest sink rate was achieved with weight 1m from hooks.

* Nominal length only. Actual length varied between 2.8m - 3.5m.



What are the benefits of having GloLeads close to the hook?



Improved crew health and safety

A sliding-type lead weight near the hook improves crew safety by reducing the incidence of dangerous fly-backs. These occur when the branch line breaks or the hook is pulled from a fish under tension.



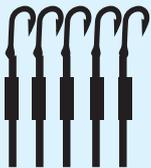
Quicker to build gear

Due to the reduced amount of crimping involved, making up gear with GloLeads is much quicker than making up gear with leaded swivels at 3.5m. This saves time and reduces crew fatigue, particularly at sea when doing repairs between sets.



Easy deployment

Branch lines with weights at or near the hooks are easier to deploy than gear with long leaders. Since the hook, bait and weight are in very close proximity they can be handled and cast in one action, rather than the two separate casting actions needed for gear with long leaders.



Fewer bin tangles

Branchlines with long leaders often become tangled during deployment. GloLeads at or near the hook hang beneath the hooks on the horizontal runners (not mixed in with the branch lines). This greatly reduces line tangles.



Easier inspection and compliance

Proof of compliance with required line weighting regimes is easier with GloLeads at or close to the hooks. Branch lines do not need to be removed from gear bins to record the distance between the weight and the hook.



Fewer interactions with seabirds

GloLeads 0.5-1m from hooks gives optimal sink rates and reduces the chances seabirds will be caught. Fewer seabird captures reduces the likelihood of fishery closure.



Does not affect fish catch

A trial in the dead bait sector of the ETBF, comparing weighted hooks vs. weighted swivels at 3.5m with almost 70,000 hooks observed, showed there was no statistical difference in catch rates between the two weighting regimes.

More information

GloLeads are available from:

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