

# The use of circle hooks to improve hook selectivity, while reducing mortality of target and non-target fish species

- Location:** South Australian coastline
- Region:** All seven SA coastal regions
- Industry:** Fishing
- Group:** South Australian Fishing Industry Council Inc.
- Issue:** High fish mortality and bycatch from using traditional J hooks
- Key Outcomes**
- Validate claims of reduced bycatch rates and fish injury from use of circle hooks
  - Improve the uptake of circle hook technology for use by commercial and recreational fishers

## Background

Circle hooks work on the principle that they catch in the corner of a fish's mouth, so are less likely to be swallowed than traditional 'J' hooks. This means that released fish are less likely to suffer internal damage and die from infection. However this new technology has not been taken up well by the industry or recreational sector due to a lack of rigorous scientific sampling in Australia. Partners in this project include the Marine Scalefish Fishery, the South Australian Fishing Industry Council and SeaNet Environmental Extension Service.

## The Project

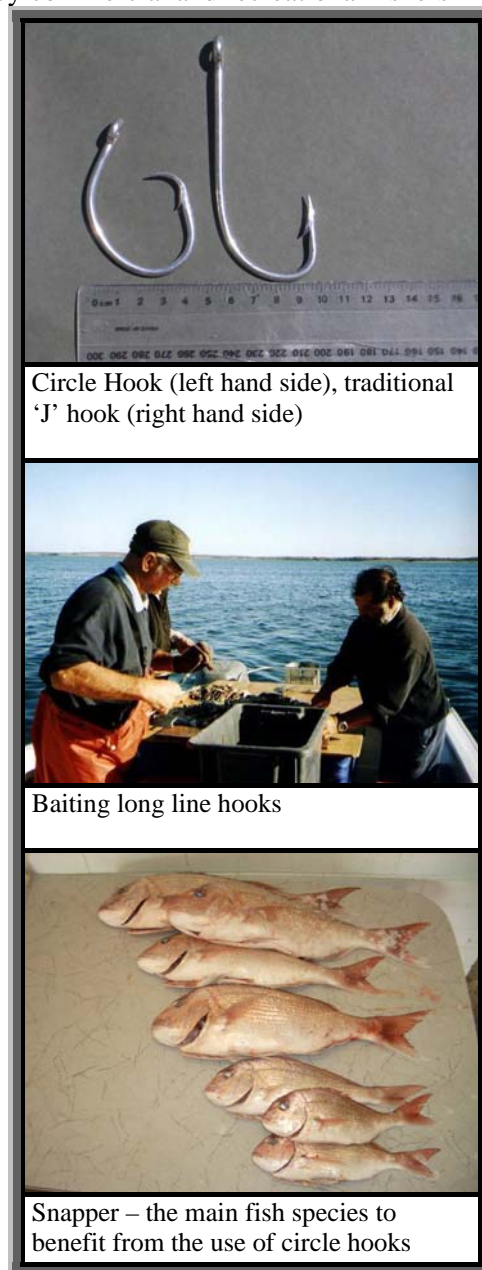
The project is comparing the benefits of circle hooks and 'J' hooks in commercial fishing. Licensed commercial hook fishers are being asked to trial circle hooks as a part of their normal fishing operations and record information on the number and condition of fish caught. This information will be analysed by an independent scientist. SeaNet - a national environmental extension service to the commercial fishing industry - has been engaged to help the trial, and has established strong links with the regional Coast and Marine NRM officers and state NRM facilitators. The project will be profiled in regional workshops, as updates in NRM newsletters, regional newspapers and through the NRM coast and marine officers.

## Outcomes

The trial will provide a better understanding of how the two hook styles differ in relation to fish handling time, hooking location and species selectivity. Overseas studies suggest that that circle hooks reduce fish handling time, ensuring that the fish are released back into the water as rapidly as possible. Circle hooks may also reduce the impact of fishing on bycatch or non-target species, helping maintain marine biodiversity. They have also been shown to retain a hooked fish better than traditional hooks if the correct size and pattern is used. If the technology proves beneficial in SA, it is hoped that it will be taken up by both the commercial and recreational fishing sectors.

## The Future

All the trials or modifications conducted as a part of this project will potentially be used in the commercial Marine Scalefish Fishery following the completion of this project. Therefore, all trial activities will meet the legislative requirements of the Fisheries Act 1982. The results of the trial have the potential to greatly reduce the impact of hook fishing on wild fish populations and encourage sustainable use of the fish resources in the oceans surrounding Australia.



Photos: Claire van der Geest



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