

## Australian Antarctic Division: Leading Australia's Antarctic Program

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### Deepening understanding of the Antarctic toothfish gene pool

An international team of scientists is investigating the gene pool of Antarctic toothfish in an effort to better conserve the species.

As part of a collaborative project, scientists from nine countries will collect tissue samples from toothfish in the Southern Ocean, which will be analysed using the latest DNA genotyping techniques at the Australian Antarctic Division.

The Antarctic Division's fisheries research assistant, Dale Maschette, spent two months in the Southern Ocean earlier this year, on a fishing vessel operated by Australian Longline Pty Ltd.



Antarctic toothfish can exceed 100 kg in weight and live for over 50 years. (Photo: AFMA)

He collected tissue samples and recorded the weight, sex and maturity of some 2800 toothfish, from the research catch allocated to the Australian vessel.

“Antarctic toothfish in the Ross Sea, Amundsen Sea and East Antarctica are often thought to be from different gene pools, but no one has examined, in the detail that we will, where the fish stock boundaries are,” Mr Maschette said.

“DNA genotyping of the samples will allow us to identify hundreds of genetic markers, which means we'll be able to determine the population structure of the toothfish around the Antarctic continent.

“From a fisheries management perspective, it's important to know the make-up of the different stocks. This will help to ensure that the approach by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) to managing these fisheries is ecologically sustainable in the long term.”

CCAMLR takes a precautionary approach to setting catch limits and the East Antarctic fishery currently has a catch limit of 587 tonnes.

The research is supported by funding from the Fisheries Research and Development Corporation on behalf of the Australian Government and commercial fishing company, Australian Longline Pty Ltd,

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