

Giant squid trials in the Cook Islands

Fishing trials were carried out in July to determine whether giant squid are present in the waters of the Cook Islands. This revelation could provide small-scale fishermen an alternative offshore fishing activity, besides tuna fishing around FADs and offshore, which could help ease the pressure on reef and lagoon resources. The project was a follow up to trials that were carried out in New Caledonia in 2012.

SPC's fisheries development officer, William Sokimi, of the Nearshore Fisheries Development Section worked with the Cook Islands Ministry of Marine Resources (MMR) to train two MMR staff, Captain Saiasi Sarau and Richard Story, and a local tuna longline masterfisherman, Mark Baxter, in the fishing method used to catch various species of giant squid.

The primary target species was the diamondback squid, *Thysanoteuthis rhombus*, which has a mantle length of up to 100 cm and can weigh as much as 30 kg, although the average weight is around 20 kg. The secondary target species was the neon flying squid, *Ommastrephes bartramii*. This is a smaller squid with a mantle length of up to 70 cm and weight ranging from 5–18 kg. Both species are believed to be present throughout tropical and sub-tropical waters.

During the trials, bad weather restricted fishing efforts and affected catch results. Instead of carrying out eight days of fishing trials as planned, only four fishing days were achieved. Fishing could only be carried out on the west (leeward) side of Aitutaki Island. Plans to continue fishing off Rarotonga were scrapped because it was unsafe to make the crossing from Aitutaki to Rarotonga. Even still, the final outcome of the trials was satisfactory and sufficient enough to confirm that diamondback and neon flying squids are present in Cook Islands' waters.

The fishing gear used was a vertical longline with a blue light and four lures set at a depth of 500 m. Several longlines were set above the 2,000-m contour although they drifted between shallower and deeper depths of 800–3,000 m. Setting was carried out from between 05:00 to 07:00 and usually took one and a half hours. Hauling started between 13:00 and 15:00 and took four hours.

During the trials, 45 vertical longlines were set during four fishing days, with a total of 180 hooks set. The final catch resulted in 14 giant squid: 7 diamondback squid and 7 neon flying squid. The catch consisted of 119.5 kg of diamondback squid and 53.5 kg of neon flying squid, or 173 kg in total. However, when counting tentacles and the mangled remains of squid left on the hook, there were actually 28 hook-ups; double what was caught. The most probable cause of squid being ripped off the hooks was attributed to the rough seas and sudden high swells. Even though the drag of the reel was set as low as possible, it was still insufficient to counter the sudden upsurge when



Mark Baxter (left) and William Sokimi with freshly caught diamondback squid.

a high swell passed. Swordfish were observed attacking three of the squid that were eventually landed.

Because this is a new fishery to the Cook Islands and the region, considerable promotion needs to be carried out to trigger demand for the product and create a local market. Preliminary work was already done in Aitutaki and Rarotonga to promote both squid species. A booklet with 53 recipes, authored by Mitsuhiro Ishida, produced by the Japan International Cooperation Agency, and published by the Dominica Fisheries Division, was distributed along with chunks of squid samples to local restaurants and hotels to try out and to comment on.

It will be necessary to determine how best to manage this new fishery. The diamondback squid in particular needs to be managed carefully. Unlike other squid, diamondbacks pair up and live as a couple. Further development of the fishery can only benefit the fishermen in the long term if it is carried out sustainably.

For more information:

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