



Ministry of Marine Resources
TU'ANGA O TE PAE MOANA
COOK ISLANDS

Fish aggregating devices (FADs) of the Cook Islands Let's take care of our FADs!

The introduction of artisanal FADs has increased the catch of pelagic species for food security and livelihoods. The Ministry of Marine Resources will continue to support the FAD program in the Cook Islands.

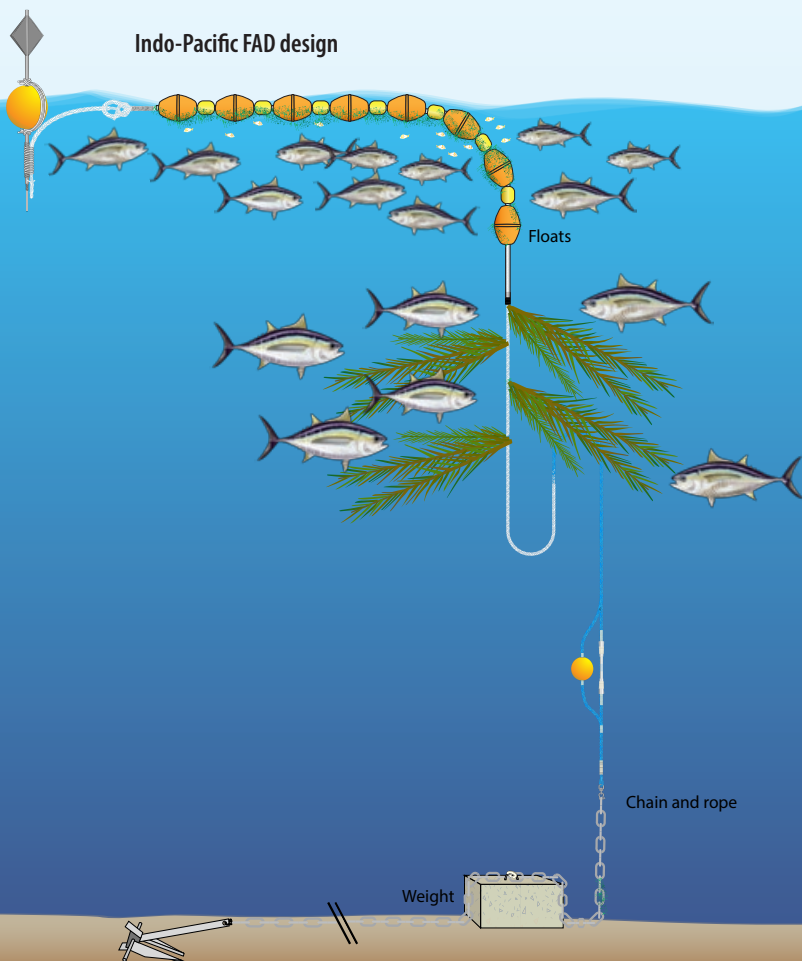


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? What is a FAD?

A 'fish aggregating device' (FAD) is made up of a large concrete weight attached to a length of chain and rope that stretches to the surface with floats attached at the end. FADs were first introduced in the early 1980s and have become an important part of artisanal fisheries in the Cook Islands. They were launched to help local fishers catch pelagic fish in greater quantities, safely and more easily.



? How do FADs work?

It is thought that FADs helps aggregate fish.

- 1) Algae and small organisms floating in the ocean settle on FADs and this attracts small fish. The small fish in turn attract bigger fish, hence the name, 'fish aggregating device'.
- 2) A FAD acts as a fixed reference point where fish can remain until similar sized fish join to form a school big enough to move away.

What are the main benefits for our communities?

Food security

FADs are deployed to support food security and the livelihoods of fishers and their households in most islands around the Cooks as they improve the catch rate.

Vessel efficiency

Fishers can reduce search time and save on fuel by going to just one location of a single FAD. In the more populated islands such as Rarotonga, more FADs are deployed due to the higher number of fishers and boats.

Tourism

With tour charter fishing, FADs play an important role in the tourism industry in both Rarotonga and Aitutaki.



A general code of conduct

We can all contribute to the success of the FAD program by doing the following:



Protect FADs: Do not tamper as they are put in place for the benefit of all fishers and the local community.

If you add drifting **debris to FADs**, please notify Fisheries Officers.



Be conscious of other FAD users: When fishing, don't deploy your gear/s too close to the FAD and mooring line.

Record your catch: Catch and effort data is information that helps everyone understand the social and economic value of FADs. Catch and effort information submitted to MMR will be reported back to fishers.



Report any issues on the FADs: If any FADs have been tampered with, report this to Fisheries Officers. This will assist the Ministry of Marine Resources to effectively manage and maintain the FADs.

? What designs are used for FADs in the Cook Islands?

Several designs have been used in the Cook Islands with varying degrees of success. The first float systems constructed were one to four, foam-filled 200 litre plastic or steel drums lashed together or welded in steel frames. This was followed by the use of aluminium catamarans. These designs were too sensitive to wind and current, rotating in all directions. The main FAD design deployed in the Cook Islands today is the Indo-Pacific FAD design.

? What is the lifespan of a FAD?

From the late 1980s to the late 1990s, a FAD generally lasted about 9 months. Improvements to the system used allowed to extend the lifespan to 18 months, with some FADs being on site for 3–5 years. FADs can be lost through ship collisions, cyclones, sliding off reef slopes, strong currents taking shallow FADs towards the reef, fishing gear entangling on FADs, deployment errors, increased drag due to fishers adding drifting objects to anchored FADs, and general wear and tear. Today however, FADs generally last three to five years.

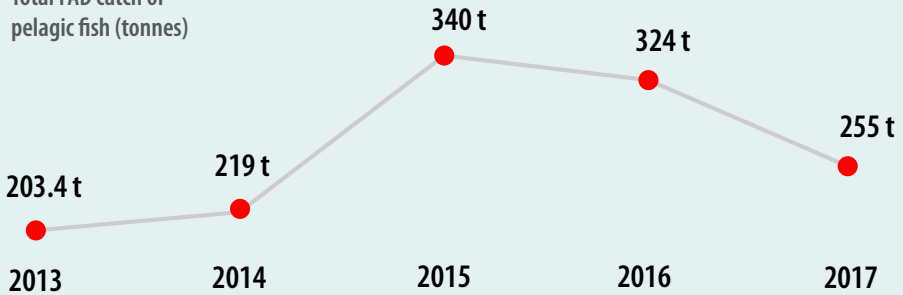
Traditional and modern fishing methods around FADs

Since their introduction, FAD fishers have used traditional and modern fishing methods including troll, drop-stone, palu-ahi, float-drift drop-stone, vertical and horizontal longline, jig, live-bait, bait netting, in-water spearfishing and harpooning.

Records of catch from artisanal fishery

Since the establishment of FADs in the Cook Islands, there has been a steady increase in the local catch of pelagic fish, reaching over 200 t per year since 2013.

Total FAD catch of pelagic fish (tonnes)



In light of this, there is also a need for further improvements in data collection. There are constant information gaps and catch data will help the Ministry of Marine Resources determine FAD production and allow to a better understanding of the socio-economic value of our FADs.



\$ The average cost for deployment

The cost of a FAD can be very high as it includes the supply of materials, freight, buiding and deployment costs. In Rarotonga, it depends on the type of FAD and the deployment location and ranges from NZD 1,300 for a shallow-water FAD to NZD 3,000 for a deep-water FAD. For outer islands the cost is significantly higher; for the southern group, the current cost is NZD 7,800 and for the northern group, it is NZD 9,500.

Finance has been through aid programmes and the Ministry of Marine Resources' operational budget. Fishing clubs and organisations also help with FAD deployment and maintenance.

The Ministry of Marine Resources will continue to implement the FAD program to support recreational and subsistence fishers, as FADs support food security and the livelihoods of fishers in almost all islands around the Cook Islands.

