

An Overview of the History of Fish Aggregating Devices (FADS) in Dominica

Michele Horner

Dominica 2011

Professors: Dr. Lacher and Dr. Woolley

Abstract:

The following report is a summary of the history of Fish Aggregating Devices (FADs) used in Dominica. The report contains an overview of the design changes, interviews with two different people involved in two different aspects of fisheries and a review of previously published reports. A FAD is a man-made device deployed in the water to attract fish to a certain location. The FADs in Dominica are used mostly to attract migratory pelagic fish species like Yellowfin Tuna, Bluefin Tuna, Marlin and Dolphin Fish (Mahi Mahi) (Defoe 2004). FADs have in recent years become a very important aspect of the fishing industry in Dominica and have even sparked international interest leading to funding assistance from the Japan International Cooperation Agency (JICA) to construct new design for FADs.

Background:

The Commonwealth of Dominica is located in the Eastern Caribbean and in the middle of the Lesser Antilles Islands. The economy in Dominica is mostly based on agriculture and eco-tourism. The fishing industry in Dominica is for island consumption only. There is no record of exporting any fish; however the island does import some canned seafood, salted cod and small amounts of frozen fish (Sebastian 2002).

To improve the quantity of landings by fishermen, the practice of using fish aggregating devices (FADs) has been established on the island of Dominica. A FAD is a man-made device deployed in the water to attract fish to a certain area. FADs were first introduced to the island of Dominica back in 1987 by Master Fisherman Richard Mounsey and Clive Jacknick, Fisheries Development Officer (Norris 1999). The original materials used to make a FAD consisted of a concrete anchor, usually a 55 gallon drum, ropes, some form of attractant and a surface buoy. After interviewing Norman Norris of the Dominican Fisheries Division I have learned that the design of a FAD has drastically changed. Through funding assistance from JICA (Japan International Cooperation Agency) the Fisheries Division of Dominica has

developed an experimental FAD design that is much more elaborate and more reliable. There are currently six FADs deployed by the Fisheries Division around the island that are completely funded and maintained by the government and JICA. The funding from JICA supports the Caribbean Regional Fisheries Management Program that is currently operating in 13 countries.

Methods:

To gather information from Dominica for my research project I interviewed two men involved in the fishing industry in Dominica. One of the men I interviewed was Norman Norris; who works for the Fisheries Development Division. The Fisheries Division headquarters are located in Roseau in a two story building connected to the Roseau Fish Market. The second person I interviewed is a fisherman with the National Association of Fishermen's Co-Operation (NAFCOOP) named John Riviere. I interviewed Mr. Riviere at the NAFCOOP headquarters which is on the first floor of the Fisheries Building.

For the conduct of each interview, I had questions already prepared. For my meeting with Norman Norris I focused my questions on the FADs themselves and the regulation and rules aspects. Mr. Norris informed me that the regulations and the rules of the FADs had been handed over to the NACOOP and that the government would be in charge of deployment and maintenance of the experimental FADs. Deployment of FADs is based on the number of FAD fishing licenses bought in a certain region. There have to be at least 10 licenses sold in a region for a FAD to be considered for deployment. In addition to FAD fishing licenses, boats must be registered and contain a FAD license sticker. Dominica is broken down into 12 cooperative regions each containing at least one major landing site. 9 employees of the Fisheries Division called Data Collectors visit 13 landing sites and collect data on the dolphin fish and tuna caught off the FADs by registered FAD fishermen.

My interview with John Riviere was less formal than my meeting with Norman Norris. I met with Mr. Riviere outside of the freezer area of the fish market at the cooperative headquarters. The questions

I asked were more geared towards the fish and the practice of using FADs as a fishing tool.

Approximately 50 fishermen currently hold FAD fishing licenses and are allowed to fish off of the experimental FADs. Many of the fishermen in Dominica have switched to an emphasis on FAD fishing instead of the traditional longline fishing techniques.

Results/Discussion:

Norman Norris presented a powerpoint presentation of the current “Masterplan” Project focusing on Migratory Pelagic Fish being funded by the government and JICA. In addition to the Masterplan project there is also a revolving fund created to cover the cost of repair for the experimental FADs. The presentation covered how the design of a FAD has changed dramatically. The original FAD design is very simple; just a concrete anchor, ropes, an attractant, and a surface buoy (Figure 1). The current experimental design being used in the Masterplan project consists of the same concept but with different materials. Instead of a concrete anchor made out of a 55 gallon drum, around 10 large sandbags with 50-60kg of sand in each are used as anchors. The sandbags are better equipped for the seafloor bottom because they do not inflict as much damage as a concrete anchor and they are stationary in the current whereas a concrete anchor can tumble and roll away. One of the issues with FADs is that the ropes are being cut by boat propellers that are unaware that a FAD is in the vicinity. To compensate for that problem the new design now has additional lines of polysteel or nylon between the surface float and the rope attached to the sandbags below the water suspended by submerged floatations, usually plastic water bottles mixed with sand and water, at depths deep enough to avoid boat propellers. The additional lines and buoys also help keep the surface float from being taken underwater due to the sometimes strong currents. The attractants have changed slightly. Instead of one large tarp as an attractant, the tarps on the new design are now the same size as a large tarp but only ripped into smaller strips. Beacons and or flags mark the location of the FADs.

In addition to the six experimental FADs deployed by the Fisheries Division, numerous other FADS are located in the waters surrounding Dominica. In the summer of 2009 there was four known active FADs off the coast of San Sauveur, a fishing port on the central east side of the island (Alvard 2010). Since making and deploying a FAD can be quite expensive, many fishermen in a community work together to make and deploy the FAD and those fishermen who assisted or provide funds are allowed to know the location of the FAD and fish there. Since more and more FADs have been deployed, there has become an increased problem with pirating of FADs. Pirating of FADs refers to the fishing of a FAD that the fisherman did not contribute either time or money to help, which the fishermen of that particular FAD view as stealing of their property. The pirate fishermen are one of the major factors in determining where a FAD will be located (Defoe 2004). The experimental FADs are located about 10 miles off the coast of Dominica. Most FADs are located between 15 to 40 miles off the coast; however some FADs are located 100+ miles off the coast to avoid being fished by pirate fishermen. There are a number of reasons to place FADs closer to the coast. It cuts down on the amount of time spent looking for the fish which in turn cuts down on fuel cost. The typically fish caught and sold at the fish market in Roseau using FADs are dolphin fish (Mahi Mahi), yellowfin tuna, bluefin tuna, marlin, skipjack, blue runner, and red snapper. Table 1 shows the average weights of fish sold at the Roseau Fish Market.

FAD fishing has become a very important aspect to the fishing industry in Dominica and many other countries across the world. There are more benefits to placing emphasis on FAD fishing than sticking to traditional techniques. As FAD fishing is becoming more recognized as a reliable fishing technique, the original design will undergo even more changes to accommodate new technologies, the growing popularity and the changing times.

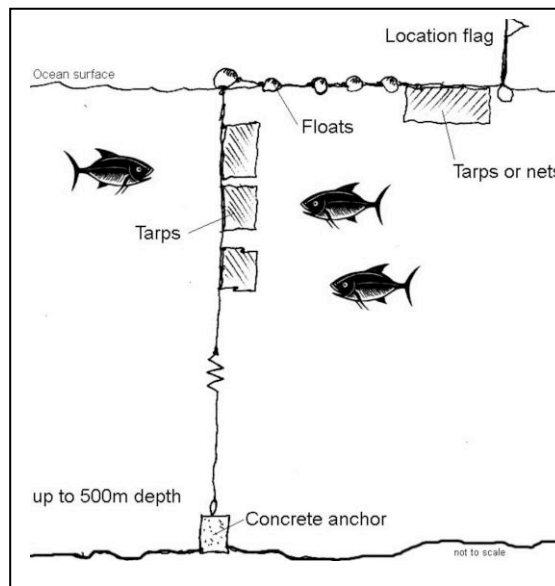


Figure 1: Typical Dominican FAD
Taken from Alvard 2010

Table 1: Average Weights	
Type of Fish	Weight (lbs)
Tuna	60-140
Marlin	70-220
SkipJack	6-35
Dolphin Fish (Maui Maui)	15-60
Blue Runner	1-20
Red Snapper	3-15
Salmon	3-15

Acknowledgements:

I would like to thank Dr. Lacher and Dr. Woolley for taking the time and effort and helping me complete this project. In addition, I would like to thank Dr. Alvard for providing me with valuable literature useful to my research. Also, I would like to thank John Riviere for taking the time to meet with me and answering some of my questions. Lastly, I would personally like to thank Norman Norris for all of his incredible help and all the information he passed along.

Work cited:

Alvard, Michael. "Preliminary report of research activities in San Sauveur, Dominica (June 9, 2009 – May 31, 2010 (Licence Number RP – 07/12 FIS – 1)". 26 June 2010.

Defoe, J. National report of Dominica in: Second meeting of the WECAFC ad hoc working group on sustainable moored fad fishing, Guadeloupe, 5–10 July 2004, 3 p. FAO Fisheries Report N° 683. Suppl. Rome, FAO.

Norris, Norman. "REPORT ON FISHERIES DEVELOPMENT DIVISION: FAD DEVELOPMENT PROJECT IN SAN SAUVEUR PERIOD APRIL TO OCTOBER, 1999". October 1999.

Sebastian, Riviere. "National report of the Commonwealth of Dominica" FAO Corporate Document Repository. 2002.