

ABSTRACT

Biological And Economic Analysis Of The Developing Longline Fishery In Grenada

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A small-scale longline fishery began in Grenada in the early 1980's and is now the main fishery on the west coast of the island, involving about 320 fishermen, 110 pirogues (6.0 to 8.5 m long) and seven short-stay (10.9 m long) longliners. The species targeted are yellowfin tuna (Thunnus albacares), Atlantic sailfish (Istiophorus albicans) and blue marlin (Makaira nigricans) which account for 63 %, 23 % and 5 % respectively of the longline catch. In 1991/92 the mean catch per trip for these species was 129 kg and the annual total catch was 466 mt (about 28 % of the island's total fish catch). Annual local abundance of the target species has remained stable, while catch per trip and total catch have increased more than three and 10 fold respectively during fleet development. Yellowfin tuna shows bimodal seasonal abundance with a major peak from March to May and a minor peak in October, while Atlantic sailfish and blue marlin show unimodal seasonality with peak abundance from December to June and November to June respectively. Catches are constrained from July to September by lack of fresh flyingfish bait. A maximum local fishing effort of between 7,273 and 8,182 pirogue longline trips per year is suggested if local depletion of Atlantic sailfish is to be avoided.

For 1991/92, the most profitable boat type was the fibreglass pirogue longliner (EC\$ 449 net profit per trip), the least profitable was the short-stay longliner (EC\$ 1,888 net loss per trip), and the net profit for the entire pirogue longline fleet was EC\$ 612,045. From 1983/84 to 1992/93 the total revenue over total cost almost doubled, while the total revenue over variable cost increased almost 12-fold for the pirogue longline fleet.