

TUNA PURSE SEINE FISHERY IN EASTERN TROPICAL ATLANTIC

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Since the 1950's, a surface fishery for tunas has been carried on in the eastern tropical Atlantic, principally in the Gulf of Guinea and southward. The Gulf of Guinea fleet, originally almost all French, has been augmented by a few vessels from other countries in recent years. In 1967, three American seiners made successful trips to the area and, in 1968, eight American and four Canadian seiners fished in the area during the second half of the year with good results.

In addition to the Gulf of Guinea fishery, now carried on most of the year, there is a less important winter-spring pole-and-line fishery by small French "ice boats" from Dakar. This fishery ranges from 5° N. to 10° N., not more than 250 miles from the coast and around the Cape Verde Islands.

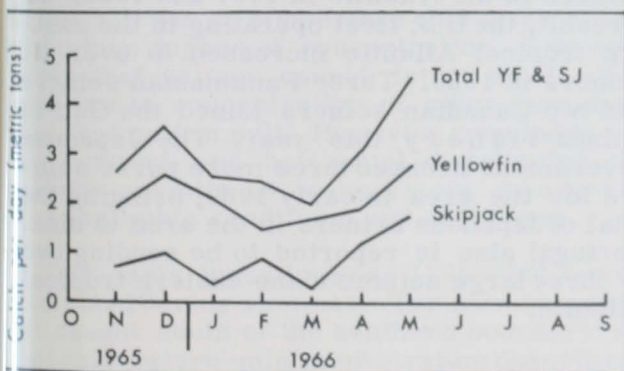


Fig. 1 - Catch per day at sea, Dakar ice boats (1965-66 season).

In the early years of the Gulf of Guinea fishery, almost all of the fishing was done by pole-and-line, but the recent tendency has been for seiners to enter the fishery and for the bait boats to change over to seining. In 1967, seiners made up nearly half of the fleet landing at Pointe-Noire--18 seiners vs. 21 bait boats. (Many of the seiners use live bait to hold the schools while the net is being set.)

The Pointe-Noire fleet, mostly French, concentrates on yellowfin tuna, but there has been a tendency in recent years to land more

skipjack tuna. Landings in 1967 and 1968 ran about 85 percent yellowfin, with the remainder almost entirely skipjack. This fleet is supplying a selective market, however, and the landings do not necessarily reflect the distribution of catchable fish. American seiners fishing in the same general areas in 1967 and 1968 landed about 35 percent skipjack.

A clear picture of the distribution of good fishing areas is emerging. This is attributable to the cooperation of the skippers of the U.S. and foreign fleets, and of the French fishery scientists in west Africa who have analyzed the landings data from the fleet that lands at Pointe-Noire. On the basis of the results of the Pointe-Noire fleet in 1967, and the U.S. and Canadian fleets in 1967 and 1968, the best yellowfin tuna seining areas from June to November are:

June	0° - 1° S.	6° - 7° E.
July	1° N. - 1° S.	7° - 9° E.
August	1° N. - 1° S. 0° - 2° S.	4° - 6° E. 7° - 9° E.
September	1° N. - 2° S. 0° - 2° S. 1° S. - 2° S. 2° S. - 4° S. 7° S. - 8° S.	8° - 9° E. 7° - 8° E. 5° - 6° E. 7° - 10° E. 11° - 13° E.
October	4° S. - 5° S. 7° S. - 8° S. 7° S. - 10° S.	10° - 11° E. 10° - 12° E. 12° - 13° E.
November	7° S. - 9° S. 7° S. - 11° S.	11° - 12° E. 12° - 13° E.

Abundance of pole-caught yellowfin tuna in the area increases steadily from February until August, then declines again until February. In some years the peak has been in September, or even as late as October.

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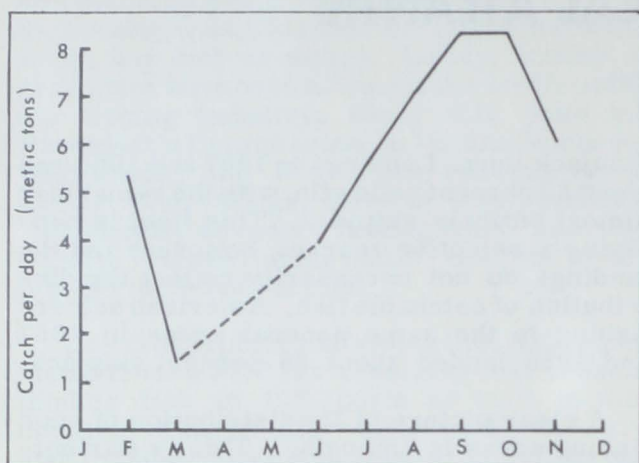


Fig. 2 - Catch per day fishing, seiners landing at Pointe-Noire (1967).

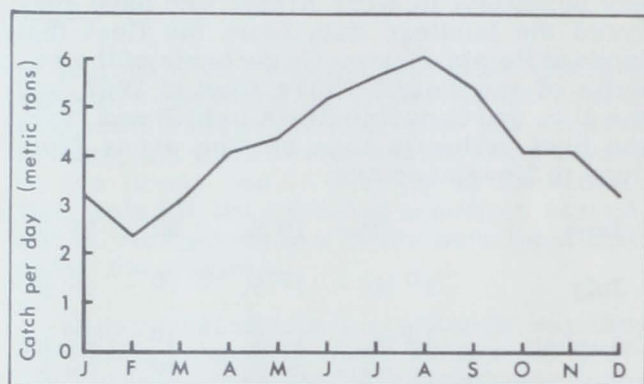


Fig. 3 - Catch per day fishing, live-bait boats landing at Pointe-Noire (1964-67 smoothed average).

A comparison of the good west African fishing areas with the average surface temperatures shows an apparent relation between the areas of good fishing and the 24°C . and 25°C . (roughly 75°F .- 77°F .) isotherms. The relation is consistent with reports of the French researchers at Pointe-Noire (Congo). They have mentioned frequently that the

"Berrit Front," identified with the 24°C . isotherm moving from just south of the equator in July to about 13°S . in January, appears to be a concentrating mechanism for tunas.

The Tropical Atlantic Biological Laboratory, a research unit of the Bureau of Commercial Fisheries, has been carrying on studies of tuna biology and oceanography in the eastern tropical Atlantic since 1963. In 1968, the research vessel 'Undaunted' made two cruises to the area (January-May and August-December). We were particularly interested in the distribution and abundance of tuna schools and the relation of tuna to such factors as thermocline depth and water temperature. Some of the information gathered on these cruises is included in this report.

Interest by the U.S. tuna fleet in the eastern tropical Atlantic surface fishery heightened in the summer of 1969. This was due to the closure of the eastern tropical Pacific fishery in mid-April, and the success of U.S. seiners in the Atlantic in 1967 and 1968. As a result, the U.S. fleet operating in the eastern tropical Atlantic increased to over 20 seiners in 1969. Three Panamanian seiners and two Canadian seiners joined the Gulf of Guinea fishery this year. The Japanese government licensed three more purse seiners for the area in early 1969, bringing the total of Japanese seiners in the area to nine. Portugal also is reported to be sending two or three large seiners to the eastern tropical Atlantic.

TABL Data Summary No. 7, which contains more detail on the eastern tropical Atlantic purse seine fishery, is available from the Tropical Atlantic Biological Laboratory, Miami, Florida 33149.

