

WP. 15
Lawson

FISHERIES STATISTICS SUMMARY
KOSRAE MARINE RESOURCES DIVISION
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

FY 1987-1990

According to the statistics from Fiscal Year 1987, the catch estimates and the number of fishing trips made increased sharply after January 1987, which was the time that distribution of the yellow catamaran boats started. The big increase was mostly related to Trolling. The other fishing methods appeared to be relatively stable.

During the last part of FY 1987 and during FY 1988, the yellowboats were very active, especially in Trolling. The number of trolling trips increased from 1,549 in FY 1987 to 9,088 in FY 1988, and the total catch from Trolling increased from 85,674 kgs in FY 1987 to 692,166 kgs in FY 1988. This was the period during which the yellowboat owners were racing to meet their 12-month catch quotas in order to qualify for boat ownership.

At the same time, during FY 1987, the Effort and Catch survey experienced two problems. First, only a small number of interviews were conducted for each method; and second interviews focused mainly on trips which produced good catches instead of on both good and bad trips. These problems probably led to artificially high calculated average catch rates and estimated catches for that fiscal year.

During FY 1988, the Effort and Catch Survey was improved and as many interviews as possible were conducted. However, the interview still focused primarily on the good or high catches which likely resulted in slightly artificially high calculated catch rates. This, along with a real increase in fishing participation and effort probably led to the tremendous increase seen in estimated catches, especially for Trolling.

During FY 1989 and 1990, numbers of Effort and Catch interviews were standardized to 4 interviews for each month, and were made on both good catches and bad catches. Therefore, the calculated catch rates were much more realistic. Also, the FY 1989 and 1990 Participation Survey showed a decrease in fishing trips because by the time many of the yellowboat owners had completed their catch quotas, many of the boats were no longer active. Thus, the catch estimate computed for FY 1989 was a reasonable weight of 127,971 kgs, and FY 1990 was decreased to 91,691 kgs.

Fisheries Data Collection
Annual Report
Oct. 1986-Sept. 1987

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Department of Conservation & Development

Fishing Catch Rates and Catch

The Methods Below are those most commonly practiced in Kosrae. Approximate Bottomfishing ranges are as follows: "Deep"=150+FM, "Mid-Dept"=50-150 FM, and "Shallow"=1-50 FM, "Hook & Line Fishing" Usually occurs from 0-1 FM. "Reef Gleaning" involves the use of picks, knives, hand nets etc. to harvest Octopus. Clam, fish and other small reef animals.

Fish. Method	Est. No Trip	Avg. KG/ Trip-Hr	Avg. KG/ Gear-Hr	EST. KGS	% Total KGS
Trolling	1549	13.08	8.03	85674	52.7
Pole & Line Fishing	4	16.9	23.0	2858	2.7
Shallow Bottom Fishing	46	2.5	0.9	332	0.3
Hook & Line Fishing	1400	1.6	2.3	8983	7.0
Spear Fishing	193	4.0	2.5	1151	1.3
Gill Nett Fishing	1809	6.2	6.5	37489	27.4
Cast Nett Fishing	295	9.2	7.3	5785	5.1
Reef Gleaning	622	2.3	2.0	3415	3.5
-----Grand Totals-----					
	5920			145,687	100.0

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<u>Fish. Method</u>	<u>Est. No. Trip</u>	<u>Avg. KG/ Trip-Hr</u>	<u>Avg. KG/ Gear-Hr</u>	<u>Est. KGS</u>	<u>% Total KGS</u>
Trolling	9088	21.6	11.2	692166	94.8
Deep Bottom Fishing	0	00.0	00.0	0	0.0
Mid-Dept Bottom Fishing	17	7.2	6.2	1235	0.2
Shallow Bottom Fishing	358	2.6	1.3	9848	1.3
Hook & Line Fishing	514	1.6	1.8	4166	0.6
Spear Fishing	108	4.3	5.7	1538	0.2
Gill Nett Fishing	713	4.6	5.3	13229	1.8
Cast Nett Fishing	778	3.5	3.8	5395	0.7
Reef Gleaning	743	0.9	0.9	2476	0.3
-----GRAND TOTALS-----					
	12321			730,053	100

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FISHING CATCH RATES AND CATCH

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Fish. Method	Est. No. Trip	Avg. KG/ Trip-Hr	Avg. KG/ Gear-Hr	Est. KGS	% Total KGS
Trolling	1678	12.7	10.6	96076	75.1
Hook & Line Fishing	805	1.6	1.2	4540	3.5
Spear Fishing	166	3.8	3.1	2424	1.9
Gill Nett Fishing	678	6.7	9.1	19118	14.9
Cast Nett Fishing	234	8.2	8.7	4282	3.3
Reef Gleaning	319	1.9	0.9	1530	1.2
-----GRAND TOTALS-----					
	3881			127,971	100

OCT. 89 TO SEPT. 90

FISHERIES STATISTICS SUMMARY
KOSRAE MARINE RESOURCES DIVISION
DEPARTMENT OF CONSERVATION AND DEVELOPMENT

FISHING PARTICIPATION AND EFFORT

THE METHODS BELOW ARE THOSE MOST COMMONLY PRACTICED IN KOSRAE. APPROXIMATE BOTTOMFISHING RANGES ARE AS FOLLOWS: "DEEP"- 150+ FM, "MID-DEPTH"- 50-150 FM, AND "SHALLOW"- 1-50 FM. "HOOK & LINE FISHING" USUALLY OCCURS FROM 0-1 FM. "REEF GLEANING" INVOLVES THE USE OF PICKS, KNIVES, HAND NETS ETC. TO HARVEST OCTOPUS, CLAM, FISH AND OTHER SMALL REEF ANIMALS.

FISHING METHOD	AVG. PERSONS /TRIP	AVG. GEAR /TRIP	AVG. HRS. /TRIP	EST. NO. TRIPS	EST. NO. TRIP-HRS.	EST. NO. PERS-HRS.	EST. NO. GEAR-HRS.
TROLLING	2	2	3.8	1011	3840	7680	7074
HOOK & LINE FISHING	1	1	2.7	644	1739	1803	1803
SPEAR FISHING	2	2	3.0	260	779	1377	1325
GILL NETTING	3	1	3.3	830	2738	8630	2738
CAST NETTING	2	1	2.5	263	657	1208	657
REEF GLEANING	1	1	2.6	755	1962	2188	2188
GRAND TOTALS				3761	11715	22887	15786

Table 1. Percent contribution of various fishes to the estimated annual islandwide catch in Kosrae from subsistence and artisanal fishing during Fiscal Years 1987 through 1990. Figures are based on catch weight. Source: Kosrae Marine Resources Division.

Fish	1987	1988	1989	1990	Avg.
Skipjack Tuna	33.7	35.9	26.9	16.3	28.2
Yellowfin Tuna	19.4	32.0	17.0	25.1	23.4
Surgeonfish	8.3	5.8	11.8	7.8	8.4
Rudderfish	11.7	5.5	7.5	4.7	7.4
Wahoo	1.1	0.8	2.1	9.6	3.5
Jacks	2.9	2.9	2.6	2.5	2.7
Parrotfish	3.3	0.8	4.3	1.8	2.6
Snapper	3.0	2.7	2.1	2.8	2.6
Rabbitfish	3.7	1.7	2.9	1.0	2.3
Mullet	2.7	1.9	2.7	1.2	2.1
Emperor	1.6	1.6	2.8	1.8	2.0
Grouper	2.1	2.1	1.2	1.8	1.8
Squirrelfish	2.5	1.7	1.2	1.1	1.6
Goatfish	1.0	0.6	2.7	1.5	1.4
Mahimahi	0.7	2.0	0.3	0.5	0.9
Barracuda	0.7	0.3	0.8	1.7	0.9
Octopus	0.2	0.2	1.8	1.2	0.8
Miscellaneous	1.4	1.5	9.3	17.6	7.4
Total	100.0	100.0	100.0	100.0	100.0

Table 2. Percent contribution of various fishes to the estimated annual trolling catch in Kosrae from subsistence and artisanal fishing during Fiscal Years 1987 through 1990. Figures are based on catch weight. Source: Kosrae Marine Resources Division.

Fish	1987	1988	1989	1990	Avg.
Skipjack Tuna	43.6	50.5	57.7	23.4	43.8
Yellowfin Tuna	47.5	44.9	36.4	36.2	41.2
Wahoo	2.8	1.1	4.5	13.8	5.6
Mahimahi	1.6	2.7	0.6	0.7	1.4
Barracuda	1.8	0.3	0.8	2.4	1.3
Miscellaneous	2.7	0.5	0.0	23.5	6.7
Total	100.0	100.0	100.0	100.0	100.0