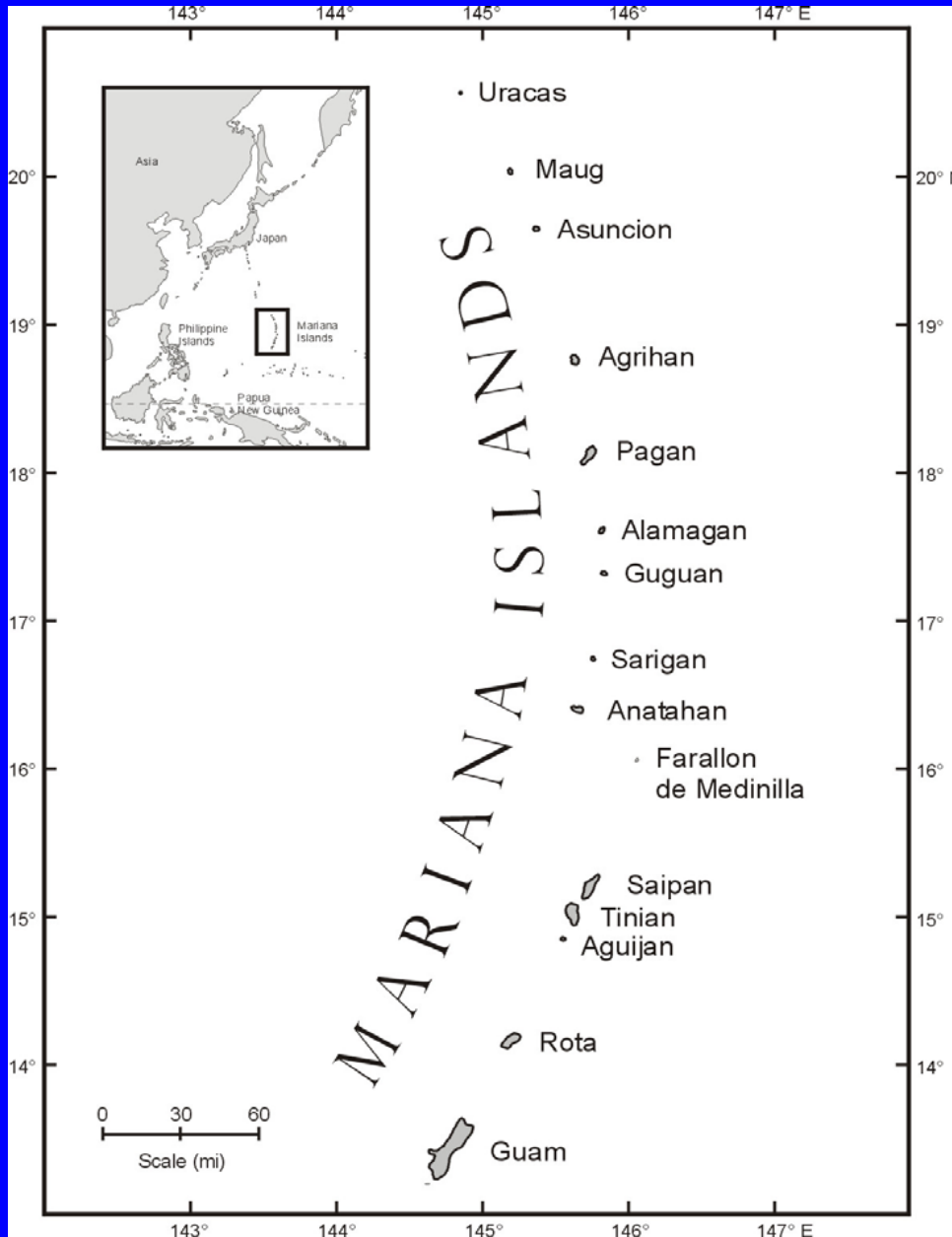


ARCHAEOLOGICAL AND
HISTORICAL DATA ON PELAGIC
FISHERIES IN GUAM AND THE
NORTHERN MARIANA ISLANDS

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SOUTHERN ARC VS. NORTHERN ARC

Southern Arc Islands

- Larger
- Older
- Raised limestone islands
- Extinct volcanoes
- Well developed coral reefs and reef flats

Northern Arc Islands

- Smaller
- Younger
- High volcanic islands
- Active volcanoes
- Volcanic rock, steep slopes and limited coral development



Spoehr's Broad Phases of Marianas Prehistory

- PRE-LATTE PHASE

(approximately 1500 BC to AD 800 or 1000)

- LATTE PHASE

(approximately AD 800 or 1000 to 1521)

Pelagic Fish Remains from Pagat, Guam (Pre-Latte and Latte Phases)

<u>Family</u>	<u>MNI</u>	<u>Percent</u> <u>MNI</u>
Coryphaenidae (mahimahi)	8	4
Istiophoridae (marlins and sailfishes)	2	1

Pelagic Fish Remains from Mochong, Rota (Pre-Latte and Latte Phases)

<u>Family</u>	<u>MNI</u>	<u>Percent MNI</u>
Coryphaenidae (mahimahi)	37	11.8
Istiophoridae/Xiphiidae (marlins,sailfishes, swordfishes)	10	3.2
Scombridae (tunas)	2	0.6

Pelagic Fish Remains from Rota Airport Project (Pre-Latte and Latte Phases)

<u>Family</u>	<u>MNI</u>	<u>Percent MNI</u>
Coryphaenidae (mahimahi)	30	16.3
Istiophoridae/Xiphiidae (marlins, sailfishes, swordfishes)	17	9.2
Scombridae (tunas)	12	6.5

This PFRP project has enabled us to send the fishbone from two early sites on the east coast of Guam to Dr. Foss Leach of New Zealand for analysis.

Historic Period in the Marianas

Guam

Spanish Period

(AD 1521-1898)

First American Period

(1898-1941)

Japanese Period

(1941-1944)

Second American Period

(1944-present)

CNMI

Spanish Period

(AD 1521-1899)

German Period

(1899-1914)

Japanese Period

(1914-1944)

American Period

(1944-present)

Magellan “discovered” the Marianas in 1521.

- Magellan’s historian Pigafetta said, “The pastime of the men and women of that country and their sport is to go in their boats to catch those flying fish with hooks made of fishbones.”
- If they were catching flying fish, it is likely they were also catching mahimahi, and we know from the archaeological remains that they were.

Pelagic fishing in the Marianas during the Prehistoric Period and the early Spanish Period depended on the “flying proa.”

More than 400 proas surrounded Legazpi’s ships when they anchored at Guam in 1565. Father Martin Rada described the proas as very well made, very light and swift. “It certainly is something to see how fast they sail and how easily they change direction.” Rada also described a boat house in the village of Umatac that would hold 200 men.

In 1602 Fray Juan Pobre on Rota was visited by another Spaniard from Guam who told a great fish story.

The Spaniard told how his Chamorro master Sunama went fishing far out to sea. He ate the first flying fish and baited his hook with the second. He hooked a blue marlin and was cautiously playing it, when the marlin was attacked by a shark. Sunama dove into the water, fought off the shark, landed the marlin and sailed home flying a banner!

During the Spanish-Chamorro Wars (1670-1695), the Spaniards burned Chamorro villages and canoes. Subsequently the Spaniards put a stop to inter-island travel and required the people of the Marianas to reside in certain villages on Guam.

- The last voyager to describe the “flying proa” was Crozet in 1772, but Haddon and Hornell think his description was copied from Anson’s 1742 description.
- The ocean-going canoes and pelagic fishing by the Chamorros had virtually come to an end by 1700 or 1800.

Freycinet, who visited Guam in 1819, described fishing for *hachuman* (*Decapterus* or *opelu*).

- The fishing took place August-October, about 1-10 nautical miles offshore, using a *poio* (fishing stone) as a chumming device.
- The fish were fed daily for 15-60 days, with the stone being raised little by little until the fish were at a depth of one fathom.
- Then the fish were netted with a large net.

De la Corte, who was governor from 1855-1866, also described the *hachuman* fishing.

- He quantified the catch at “more than a ton a day.”
- However, he added that no one practiced that kind of fishing in his day.
- Apparently he did not see catches of more than a ton a day, but he had been told that was the size of the catch in the past.

Pelagic fishing in the Marianas was resumed in the 1920s by the Japanese.

- According to the *Annual Reports to the League of Nations on the Administration of the South Sea Islands under Japanese Mandate*, catches off Saipan varied from 13 mt to 52 mt between 1924 and 1929.
- Skipjack accounted for 69-86 % of the catch, and yellowfin for 4-12%. The two together accounted for 77-91% of the catch.



Another source citing Japanese data reported by the US Navy shows much higher catch rates in the 1930s.

- In 1937, the catch of the commercial fishing industry in Saipan District was 3,960 mt.
- 93% was skipjack and 2% was yellowfin.

This PFRP project has enabled us to send a Japanese-speaking researcher to Japan to gather data on the Japanese pre-war and post-war pole-and-line or bait boat fishing.

Meanwhile in Guam, the US Navy started a school to teach the Chamorros how to fish.

- The fishing school was begun in 1933 and continued until 1937 “to establish fishing beyond the reef.”
- Twelve men from each village trained for 3 months at a time. For safety’s sake, instruction was given within view of a fishing lookout at Orote Point and boats carried homing pigeons trained to bring back messages.

World War II intervened and the Japanese fishing boats in Saipan were either sunk in the harbor or beached and burned when the Americans took Saipan in 1944.

- Immediately after the American taking of Saipan, four sunken hulls were raised and reconstructed by Japanese and Okinawan carpenters before the Asians were repatriated in 1946.
- Three boats fished from Garapan, Saipan and one from Tinian until that island was left uninhabited by the repatriation.

The Saipan Fishing Company, a Carolinian cooperative, operated from 1946-1950.

- The pole-and-line fishery begun by the Japanese was carried on by the Carolinians, but with less success.
- While the 1937 commercial catch was almost 4,000 mt, the 1948 catch was 81 mt.
- In the first 9 months of 1950 only 11 mt were caught.



This PFRP project is enabling us to interview pelagic fishermen on Guam, Rota, Tinian, and Saipan.

After the war, as the economy improved, local fishermen began to buy boats and troll for pelagic species.

Five species make up 90-95 % of the trolling catch in the Marianas:

- Mahimahi (*Coryphaena hippurus*)
- Bonita or skipjack (*Katsuwonus pelamis*)
- Wahoo (*Acanthocybium solandri*)
- Yellowfin (*Thunnus albacares*)
- Blue marlin (*Makaira nigricans*)

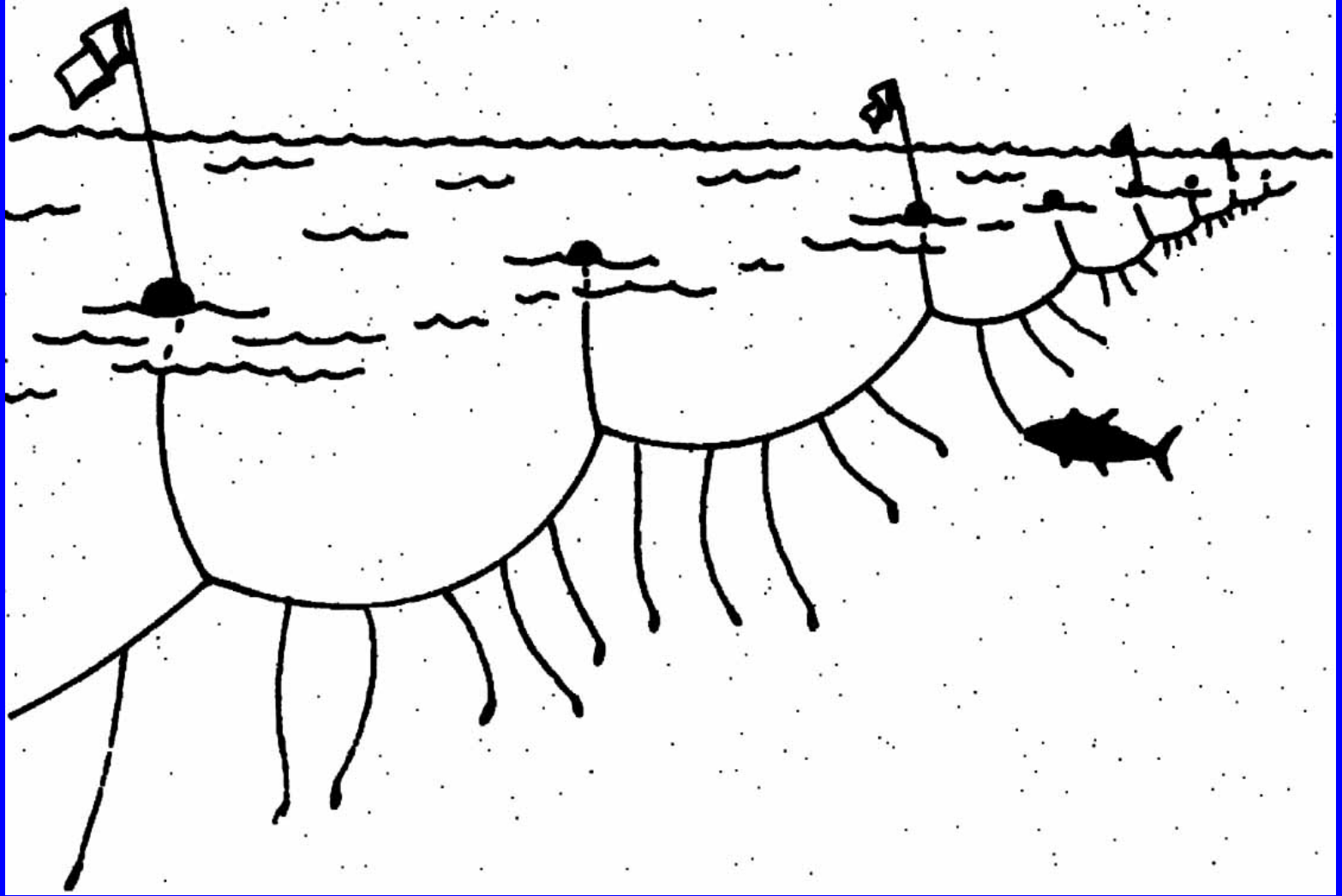
The trolling catch in the Marianas is about 200-300 mt per year in Guam and about 100 mt per year in the CNMI.

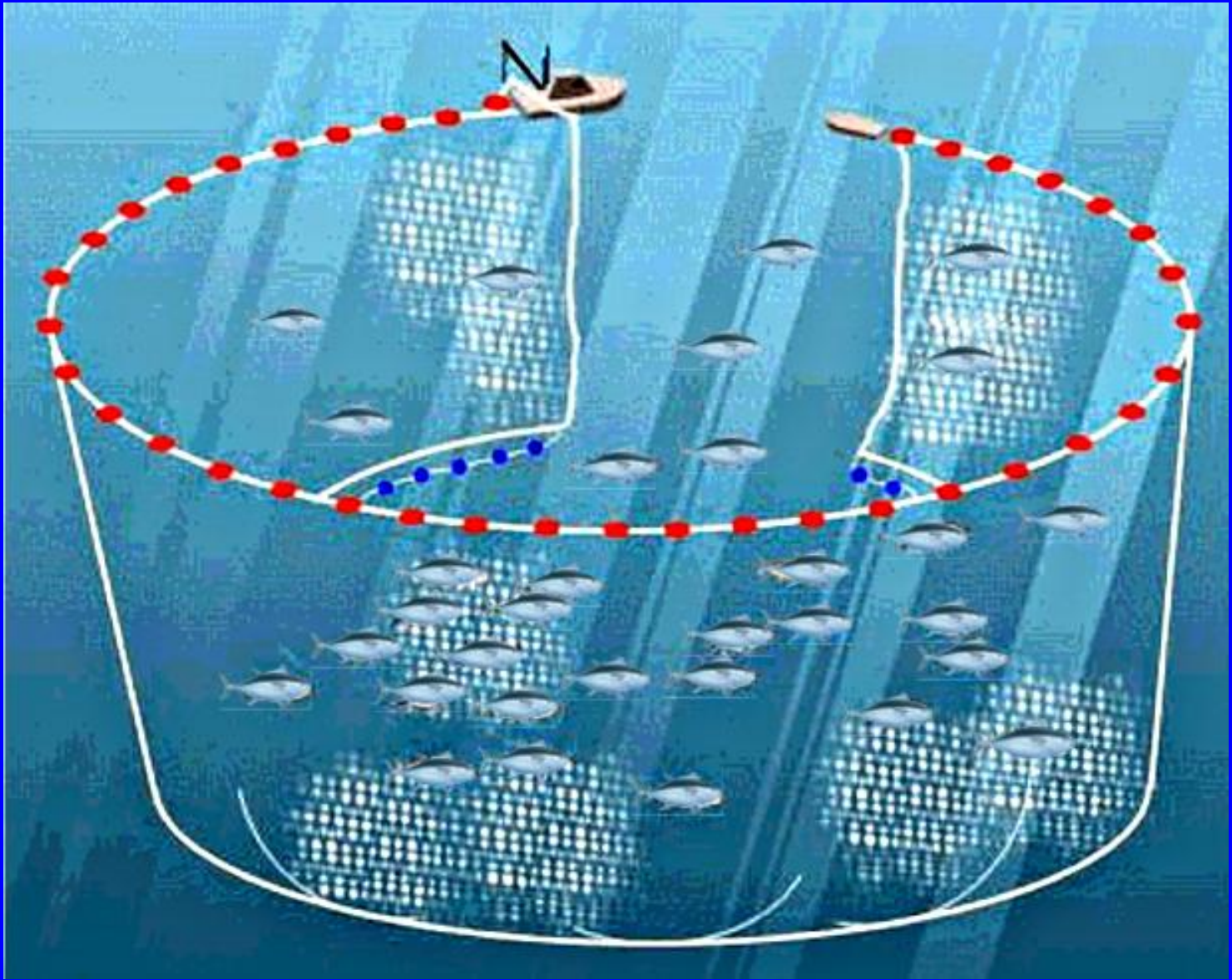
Also, after the war, the Japanese pole-and-line fleet resumed fishing in the waters around the Marianas.

We are collecting data on the post-war pole-and-line fishery.

In recent decades, two additional methods of pelagic fishing have been employed around the Marianas—longlining and purse seining.

The Pacific Islands Fisheries Science Center has the data on longlining and purse seining. We will not cover those methods in this report.





Our thanks to the pelagic fishermen of the Marianas who perpetuate the practices of their pre-contact ancestors and to PFRP for making this research possible.