

## Report on the Tetiara Fishery for 2020

Tetiara Society Rangers have been monitoring fishing and charter boat activity on Tetiara for several years. From anecdotal evidence from Rangers, Teihotu Brando, and the fishermen themselves, it seems that fishing pressure in 2020 was at an all-time high (fish fewer in numbers, harder to find common species, etc.). For the first time though, in 2020 the Rangers began to get systematic data on fishing pressure from both inside and outside the reef. Without similar data from preceding years however we can't look back, but this report will serve as a baseline for years to come.

### Methods

Data was collected during this monitoring process in three ways:

The Rangers approached fishing boats on Tetiara and asked to take pictures of the catch.

Photos were taken when fishing boats returned from Tetiara to the dock in Tahiti.

Some fishermen provided photos and weight of catch.

Photos were collected from social media posts by fishermen advertising their catch.

Photos then were analyzed to count individual fish, identify species, and assign a weight to each fish and estimate total weight.

From observations of how many fishing boats visit Tetiara per day (both inside and outside the lagoon), and how many boats were monitored, it is estimated that TS Rangers were monitoring about 40% of the fishing activity on Tetiara.

### Results

Totals per month in kilograms:

Janvier	Février	Mars	Avril	Mai	Juin	Juillet	Aout	Sept	Oct	Nov	Déc
407	611	163	1383	2223	783	724	282	187	994	315	769

Total for the year: 8840 kg (estimated from 40% of boats observed)

Fishing days on Tetiara: 181 days for the 8840 kg

### Preferred Fish

Fish were grouped into similar types

*Naso* and other surgeon = 46.4% (4101 kg)

Parrotfish and wrasses (including Napoleon) = 13.3% (1176 kg)

Soldierfish, Squirrelfish, "Mata ana ana" (*Pempheris*) = 14.9% (1317 kg)

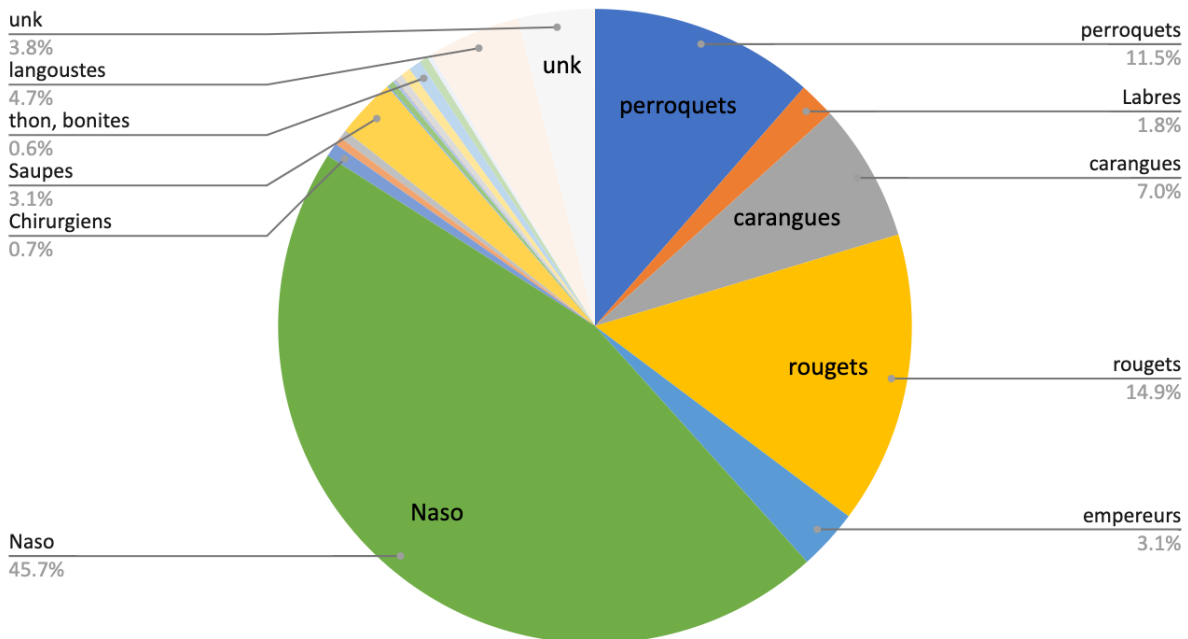
Trevally = 7%

Batfish, groupers, mullet, triggerfish, barracudas, snappers = 3.5% *Kyphosus pacificus* = 3%

Tropical sea bream and emperor = 3%



## Répartitions des groupes de poissons dans les pêches de 2020.



Fishermen are obviously targeting 3 groups of species, which are the most sought after in the local market. With nearly 46%, the Naso (“Ume”) are the main target of fishermen. Second are re “red fish” (Squirrel or "i'ihii", Soldierfish or "apa'i", and *Pempheri* or "mata ana ana") with nearly 15% of the catches and closely followed by Parrotfish ("uhu", "pa'ati", "pahoro ") With 13.3%.

### Fishing Methods

95% of reef fishing around and in Tetiara is done by spearfishing. The remaining 5% includes pole fishing, and hand trapping lobster and varo. More than 90% of fishing time is spent outside the reef. Boats entering the lagoon often do so just to rest, wait for nightfall and fish less elusive fish. We estimate that less than 5% of the total catch listed comes from the lagoon. However a reduction of the total fishery would also affect the lagoon stock.

The majority of boats coming to fish around the atoll are Poti Marara, both professionals (permitted for coastal fishing) and pleasure boaters. The more experienced enter the lagoon via the small pass on the eastern side of the atoll. Fishermen who intend to sell their fish for profit fish exclusively at night and over several days (2 to 3 days). Now, it is not uncommon to see boats arrive around 5:00 p.m. to fish all night before leaving at dawn.

The following phot and table are an example of one boat fishing one night on Tetiara.



# TETIAROA SOCIETY

SUSTAINABILITY IN ACTION

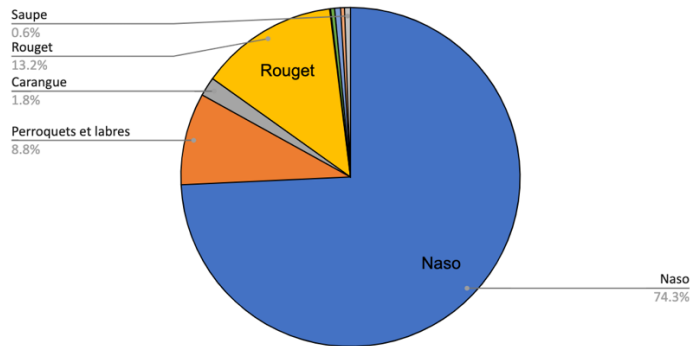


naso	unicornis	50	120kg
naso	hexacanthus	51	102kg
naso	annulatus	1	3.6kg
naso	brachycentron	1	3kg
cheilinus	undulatus	1	9kg
caranx	lugubris	2	2kg
caranx	melampygus	1	1.8kg
myripristis	unk	126	31kg
Heteropriacanthus	cruentatus	28	8.5kg
Acanthurus	xanthopterus	4	4.4kg
crenimugil	crenilabis	1	0.3kg
lutjanus	gibbus	3	1.2kg
monotaxis	grandoculis	3	1.8kg
Parupeneus	insularis	3	1.2kg
kyphosus	pacificus	3	1.8kg
Elagatis	bipinnulata	3	1.8kg
sargosentron	spiniferum	4	1.8kg
naso	lituratus	9	2.7kg
naso	brevirostris	3	0.9kg
Hipposcarus	longiceps	5	4.25kg
chlorurus	frontalis	9	5.85kg
chlorurus	microrhinos	1	1kg
scarus	rubroviolaceus	2	1.5kg
scarus	rubroviolaceus	5	3.5kg
scarus	globiceps	2	0.6kg
scarus	forsteni	2	1.5kg
chlorurus	spilurus	3	1kg

In this photo, we can clearly see the attraction for naso (top of photo) and red mullet in red. This fisherman is a regular at Tetiara, has an offshore fishing license and usually comes with 2 fishermen specifically to fish the reef and lagoon up to 5-6 times in a single month. These catches vary between 180 and 350 kg of lagoon fish.



**Représentation des groupes d'espèces dans la pêche de 318.45kg.**



### Fishing Frequency

There are boats fishing on Tetiara on virtually every day that the weather permits. Fishing pressure increases as well on weekends and holidays. The following chart shows the observed frequency of boats per month. Some of the boats stay more than one day. Numbers on the second row are observations of boats that are 15-19 ft, which are in Tetiara illegally since their licenses do not allow them to go more than 5 nautical miles from shore.

Janvier	Février	Mars	Avril	Mai	Juin	Juillet	Aout	Sept	Oct	Nov	Déc
8	11	7	23	30	9	17	13	14	20	27	39
2	4	1	1	9		3	3	5	6	4	8

The boat that fishes most frequently on Tetiara comes on average 3-4 times a month. This boat takes about 527kg per month. Then there are three other boats that come between 1 to 2 times a month and they vary in their catch from 20 to 240 kilos a month. Other boats are less frequent.

### Discussion

The total catch we estimated of 8,840 kg for 2020 is a low number, potentially half or less of what is actually caught.

It is worth also noting that the vast bulk of the fish taken from Tetiara are not taken as subsistence fishing. The boats we observed taking the largest catches were owned by salaried professionals that are supplementing their income by fishing (or hiring people to fish with their boats). Laws regarding professional fishing licenses and offshore boating are regularly being broken by those fishing on Tetiara.

### Note on this report

The data for this report was gathered and analyzed by Teva Beguet with assistance from Luciano Kolikolangi and other TS staff, volunteers, and collaborators in Arue. The report was prepared by Teva Beguet and Frank Murphy. A version of this report will be sent to The Mairie of Arue, the DRMM, and the Gendarmerie for further discussions on managing the fishery on Tetiara.