

## Some questions that pop up every now and then in people's minds.

### a). Can anyone catch a tuna?

Some Coastal Communities have specific methods for catching tuna. But for most the hook and line method can be used. Small hand - hauled longlines of 10 - 100 hooks can be used. The line can either be attached to the canoe and the fishermen wait and drift with the line or attach the line to a floater with a flag for the purpose of locating the line for retrieving. The villager can also use drop lining, which uses a single line. Hooks on the single line can be more than one. In order to sink the hooks to the required depth, some sort of weight is attached to the end of the line. Villagers can also troll from canoes and dinghies using two or more lines.

### b). Explain bycatch from fishing vessels.

Commercial tuna vessels fish specifically for tuna. Any fish caught along with the tuna is not intentionally caught. These unintentionally caught fish are referred to as bycatch.

The common fish caught as bycatch by **purse - seine vessels** are Rainbow runners, Mackerel scad, Ocean triggerfish, Dolphin fish and Sharks. Sometimes a lot of small size tunas are caught too. The small tunas in most cases are also taken and used for fish - meal.

The other bycatch are either deposited at sea or if there is available space, taken for sale or consumption. The nature of fish is such that there are many young ones than the older ones but most of the young ones die any way from predation and other natural death. So the taking of some young fish only utilizes some fish that would eventually die while young.

Common bycatches of the **longline vessels** include, Dolphin fish, Barracuda, Sharks, Marlin, Spanish Mackerel, Sword fish, Moonfish and Wahoo.

### c). Is it possible for a tuna vessel to have grouper or red emperor as bycatch?

Groupers and red emperor are fish that are found near reefs or close to shore. Tuna vessels fish outside of 6nm from any reef, island or from shore. It is highly unlikely for a tuna vessel to have groupers or red emperors as bycatch, if they are complying with licence conditions. Unless they are fishing on sea mounts.

In general the Tuna Fishery has little or no impact on inshore fishing and resources.

### d). Where do tunas spawn?

Spawning areas of tuna is not restricted to a specific area. Current knowledge shows that tunas spawn all over the Pacific.

### e). Do Tunas remain in one place? How do they behave?

Tunas are highly migratory species. This means that they can move from place to place and some individuals travel very long distances. Because of this, it is important that management measures are co-ordinated across the region. Tagging studies have shown, however, that a high proportion of tuna tagged in PNG waters are recaptured in our Exclusive Economic Zone (EEZ).

### f). What is the government's policy on tuna fishing?

The government's policy on tuna fishing is one geared towards domestication and onshore investment.

How to get a Tuna Fishing License.

In general, only commercial fishing vessels require licences. Small - scale operations do not.

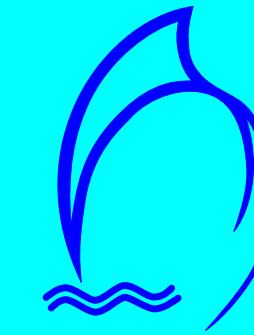
To get a fishing license for tuna, the applicant has to submit a fishing project proposal to the National Fisheries Authority along with a fishing license application form. The proposal is then circulated withing the NFA to the relevant person for comments. It then goes before the License Review Committee for consideration. The committee recommends whether the application should go to the National Fisheries Board for endorsement or returned to the applicant for more information and than re-submitted. If it goes to the Board, the Board either approves or rejects the application. If it is approved, the license is issued. On the other hand, if it is rejected the applicant is advised. Before a license can be approved, there are requirements that must be met. The vessel has to be inspected and must meet Department of Transport requirements. For storage and factory licenses, NFA Inspection and Audit Unit has to inspect and certify the premises.

**Information on the NFA requirements for the license application is given to the applicant along with the application form. To speed up the process of licensing the applicant should:**

1. Give all the information and documents needed at the start and pay the application fee. The process does not start until these are received.
2. Be flexible in arranging times for audits or inspection of premises if required.
3. Use the standard name or names of the species to be targeted.
4. Respond promptly to queries from NFA.

How can fishermen with limited financial resources be involved in the Tuna Fishery?

This is not easy. Fishing is a 'high - risk' business, and lending agencies are reluctant to support operators that do not have a successful track record in the industry. One option is to 'Start Small'. The individuals or groups could fish using dinghies or canoes and sell fish to the exporters, provided the quality is good and that there is understanding between the exporter and the fishermen. The individuals do not need to have a fishing license in this case. Off course, tuna from small - scale fishing operators is already sold at local markets around PNG, but prices are often low due to large catches made at times.



**NATIONAL  
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# Papua New Guinea Tuna Fishery



• See folded back inside for species names as numbered.

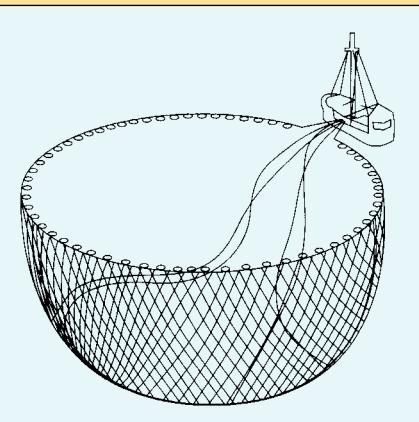
## **Managing the Tuna Fishery and the provision of the Tuna Management Plan with emphasis on the sustainable development and attainment of maximum economic benefit from the fishery.**

The Tuna Fishery covers all tuna like fishes. Tunas occupy a range of depths from surface to 400 metres and more. Skipjack, juvenile yellowfin and juvenile bigeye are found in the top 100 metres of the water column. Large yellowfin and bigeye are found mainly during the day in depths of 200-400 metres but can be found close to surface at night. Albacore prefer cooler waters.

The main tuna species being fished commercially in PNG are: skipjack (*Katsuwonus pelamis*), yellowfin (*Thunnus albacares*), bigeye tuna (*Thunnus obesus*) and albacore (*Thunnus alalunga*). The most highly priced species is the bigeye tuna and then the yellowfin tuna for the sashimi market.

There are two main methods used in harvesting these fish species in Papua New Guinea.

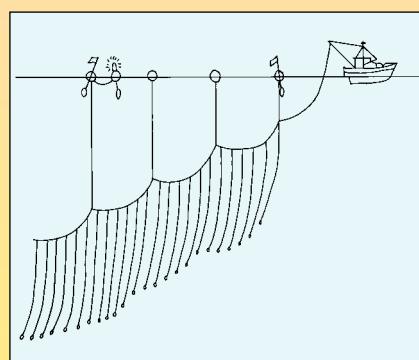
1. The purse – seine method.
2. The longline method.



**The Pole and Line Method**

There are currently 178 licensed tuna vessels in PNG of which 57 are domestic vessels.

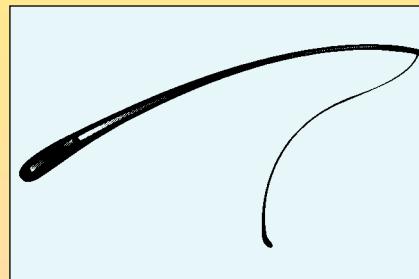
Average catch over the period 1996 – 2000 averaged a little under 200,000 metric tonnes



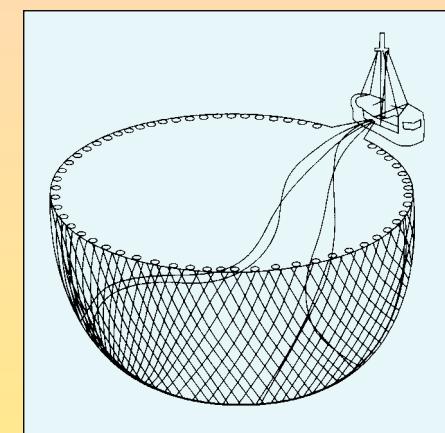
**Purse** – *seine method uses big nets to encircle free – swimming schools of fish, mainly skipjack and young yellowfins that are found near the surface of the sea and under Fish Aggregating Devices (FADs).*

*The longline methods targets deep – water tunas, mainly adult yellowfin, bigeye and albacore. Billfishes and sharks are also caught using this Longline method.*

### **The Tuna Fishing Methods**



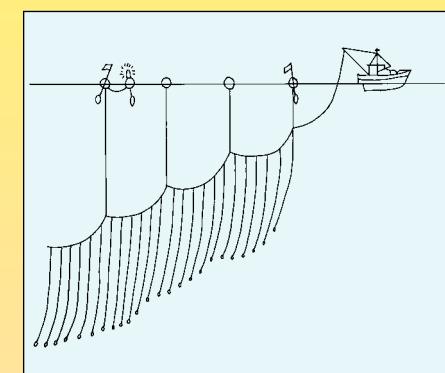
(mt) per year for PNG waters. The total allowable catch (TAC) under the Tuna Management Plan is 368,000 mt year for PNG waters.



**The Purse Seine Method**

The stock status of the major tuna species is healthy at present except for bigeye tuna, which is perhaps being overfished and calls for a regional management measures to control effort.

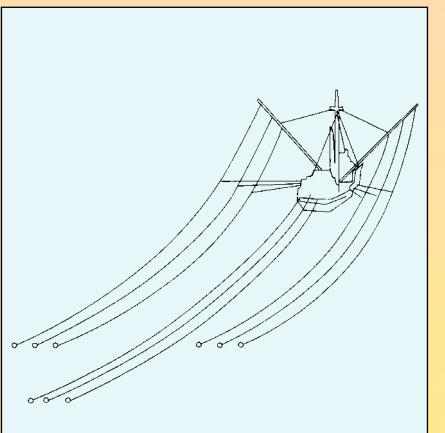
The Tuna Fishery is managed under the Tuna Management Plan.



**The Longline Method**

The largest fishery in both catch quantity and economic terms is the Tuna Fishery, primarily skipjack and yellowfin with smaller quantities of bigeye, albacore and other species. Catch is usually 130,000 to 200,000 metric tonnes a year but it is estimated that the resource can sustain higher annual

catch of 250,000 to 300,000 metric tonnes with a potential market value of K850 million depending on the commodity price.



**The Troll Method**

Tunas are found in the tropical and sub-tropical regions of the world's oceans but are particularly abundant in tropical regions. They are found throughout the PNG fisheries zone but mainly to the north (even though much fishing is to the East). In Papua New Guinea Tunas are found in all areas year round except the Gulf of Papua where tunas are not so abundant due to poor water clarity.

As tuna is a migratory group of species moving from area to area depending on climatic and environmental conditions, the quantity found in the PNG zone may vary significantly from year to year. A regional approach to managing tuna is important and PNG is party to a number of bilateral and regional multilateral arrangements for this purpose. Foreign purse seine vessels catch most tuna. Access agreements are currently in force with Taiwan, Korea, Philippines and China on

annual basis. A multilateral agreement exists with USA. This establishes the number of vessels allowed to enter the fishery and the access fee payable. Usually about 100 foreign purse seine vessels fish PNG water each year. Frozen fish is transhipped in port to carrier vessels and is usually sent to canneries in the Philippines and Taiwan.

A small but growing domestic longline fishery has also been established. One hundred licences are available with around half currently issued and catching around 3,000 to 4,000 metric tonnes a year. Most longline caught fish is exported fresh – chilled to the valuable Japanese tuna auction markets. Prices is highly dependent on species and quality.

Some concessionary licences have been granted in conjunction with onshore investment in canneries in Madang and the proposed loining plant and cannery in Wewak. These allow foreign purse seiners to operate as domestic vessels to supply tuna to the cannery. Another cannery in Lae cans imported mackerel. Canned product exports are USD10 to 15 million a year and provide over 2,000 jobs.

The extensive fishing area for tuna makes effective surveillance of activities and control of illegal fishing very difficult and remains one of the biggest challenges facing NFA. Development of this fishery also remains on the greatest opportunities to increase economic returns to PNG.

## **Market for Tuna**

Sashimi – Catches from longline vessels are exported as fresh chilled tuna mainly to Japan for the Sashimi.

Canned Products – Canned tuna is exported to Germany, USA and others.

Fish Meal – Fish meal is exported to Australia, Philippines and New Zealand.

Fishing Areas – Current fishing area for the locally based pursed – seine vessels are the Bismarck Sea (Bismarck Archipelago), Solomon Sea and the seas between the Federated States of Micronesia (FSM) and PNG. Foreign access vessels are only permitted to fish outside archipelagic waters. The Longline Vessels fish in the Coral Sea, Solomon Sea and the Bismarck Sea.

1. Black Marlin (*Makaira indica*)
2. Indo-Pacific Blue Marlin (*Makaira mazara*)
3. Short Bill Spearfish (*Tetrapturus angustirostris*)
4. Stripped Marlin (*Tetrapturus audax*)
5. Indo-Pacific Sailfish (*Istiophorus platypterus*)
6. Swordfish (*Xiphias gladius*)
7. Albacore (*Thunnus alalunga*)
8. Yellowfin Tuna (*Thunnus albacares*)
9. Bigeye Tuna (*Thunnus obesus*)
10. Southern Bluefin Tuna (*Thunnus maccoyii*)
11. Northern Bluefin Tuna (*Thunnus tongol*)
12. Skipjack Tuna (*Katsuwonus pelamis*)