

## Balancing the needs Industrial versus artisanal tuna fisheries

*In 2011, the delivered value of the industrial tuna catch from the waters of Pacific Island countries and territories (PICTs) was around USD 3 billion.*

*PICTs gain up to USD 150 million a year by selling licences to foreign fishing fleets to operate in their national waters and fleets based in PICT waters contributed over USD 300 million to Gross Domestic Product in the region.*

*At the same time, urban and rural communities rely on small-scale local or 'artisanal'<sup>1</sup> fisheries for food security and livelihoods, and there is a growing risk of a clash between the interests of these artisanal fishers and industrial operations.*

### Industrial tuna fishing is increasing and competing with artisanal fisheries

The total industrial catch of all tropical Pacific tuna species has increased by around 60 per cent since the early 1990s.

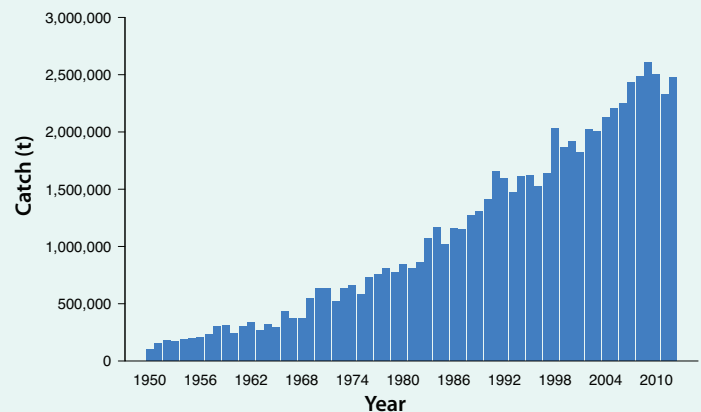
This increase in catch has largely taken place within the exclusive economic zones (EEZs) of the PICTs. The catch in these waters has increased by 150 per cent since 1990 (Figure 1).

An important proportion of the catch within the EEZs is taken quite close to the shores of individual countries – less than 100 nautical miles from the low-water mark. This amounts to between about 5 per cent and 25 per cent of the total industrial catch, according to a Secretariat of the Pacific Community (SPC) study undertaken in seven PICTs.

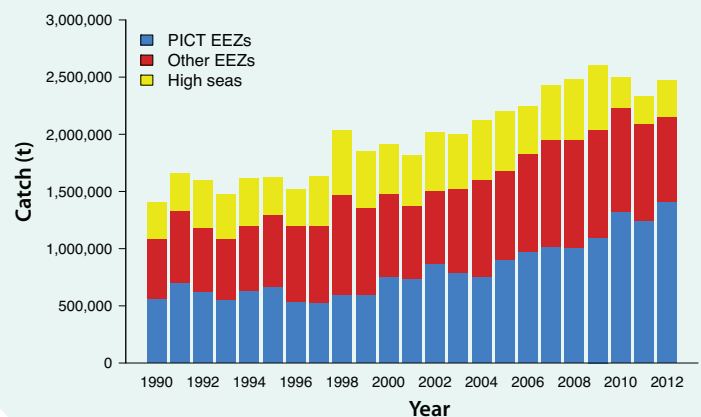
**This can bring industrial fishing operations directly into competition with artisanal operations.**

Figure 1.

Long-term (1950–2012) tuna catches in the western and central Pacific Ocean



Recent (1990–2012) tuna catches in the western and central Pacific Ocean by area



<sup>1</sup> Pacific Island governments refer to local tuna fisheries in different ways, such as 'artisanal', 'small-scale' or 'nearshore'. In this brief we use the terms 'artisanal' and 'small-scale' to distinguish fishing by small, semi-commercial or non-commercial vessels. In contrast, industrial fisheries are fully commercial, using vessels capable of staying at sea for weeks or months. For more information on definitions, see the Food and Agriculture Organization of the United Nations publication International Guidelines for Securing Sustainable Small-Scale Fisheries, at [www.fao.org/fishery/ssf/guidelines/en](http://www.fao.org/fishery/ssf/guidelines/en).

## Industrial tuna fishing reduces stocks needed by artisanal fisheries

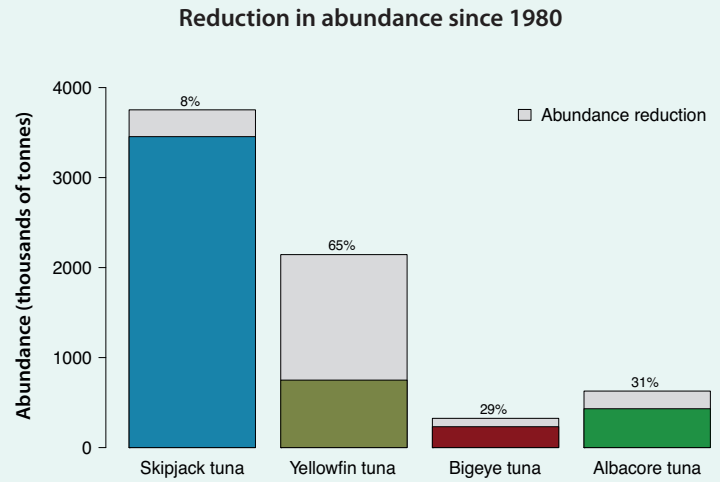
In tropical waters, industrial and artisanal fishers may compete over the tuna species targeted by purse-seine vessels (skipjack and yellowfin tuna). The use of floating fish aggregating devices by industrial fleets also results in bycatch of some species important to artisanal fisheries, such as mahi mahi, wahoo and rainbow runner.

In subtropical areas, the competition mainly involves species caught as bycatch by industrial longline vessels targeting albacore tuna – particularly yellowfin tuna and wahoo.

Tuna numbers in the Pacific Ocean are much smaller than they were 30 years ago. This is primarily due to industrial fishing. The declines range from 8 per cent (skipjack tuna) to 65 per cent (yellowfin tuna), as seen in Figure 2.

All tuna stocks are estimated to be above the levels required to support the maximum sustainable yield and are therefore deemed 'biologically healthy'. However, these reduced populations may not be sufficient to sustain the necessary catches and catch rates required by artisanal fisheries. Furthermore, while industrial fleets are highly mobile and can follow the remaining fish, artisanal fleets do not have this mobility.

Figure 2.



They normally operate within a range of 50 kilometres from their base and are therefore vulnerable to localised depletion of fish stocks.





## Meeting the challenges

Industrial tuna fishing poses three challenges for artisanal fisheries:

- 1) There are fewer tuna in the water to catch.
- 2) More tuna are being caught than ever before by the industrial fleet.
- 3) More of the industrial catch is being taken closer to artisanal fishing grounds than ever before.

In some countries, where industrial and artisanal fishers compete for the same fish in the same areas at the same time, the challenges are more acute.

In deciding on actions to take, each country will need to analyse how its waters are used by industrial and artisanal fishers.

Figure 3 illustrates the increasing risk of impact by industrial fishing on artisanal fisheries depending on how many factors are found to be significant. If the artisanal and industrial fisheries take different species in different areas or seasons, there is likely to be little impact from industrial fishing on artisanal fisheries. But if industrial fisheries take large amounts of a species that is important to artisanal fisheries, particularly from the same area, there is a much higher risk of negative impacts on artisanal fisheries and a greater need for precautionary action.

## Possible solutions

The appropriate solution will not be the same for every country and territory in the Pacific, and will depend on the nature and extent of likely impacts from industrial fisheries.

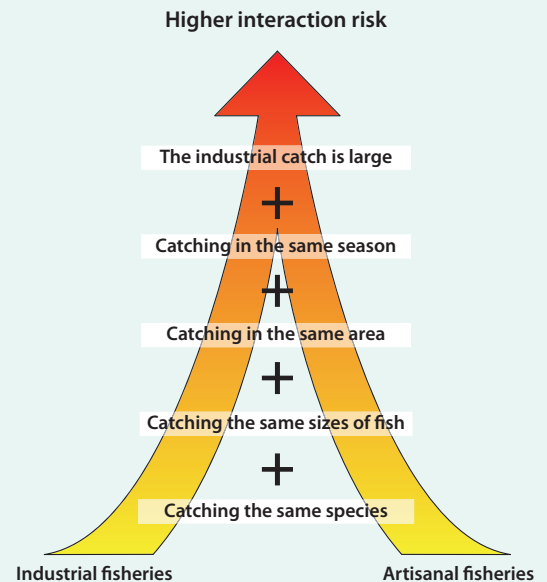
Knowledge of the contributions of artisanal fisheries to food security and livelihoods is critical for identifying the best way to manage national tuna resources and allocate them between industrial and artisanal fisheries. Such analysis needs to look at both socio-economic and biological factors (for example, trends in the abundance of fish and their mobility).

Managers can take the following actions, when appropriate:

- Establish industrial fishing exclusion zones to reduce direct competition between industrial and small-scale fisheries.
- Install nearshore anchored fish aggregating devices to increase the accessibility of tuna and other oceanic fish species for artisanal fisheries and help mitigate declines in local fish populations.
- Improve national knowledge about the catch and catch rates from small-scale fisheries and, particularly, how these change over time.
- Strengthen small-scale fishers' associations and increase their participation in national tuna management planning forums.

**Figure 3.**

**Important factors influencing the nature and extent of impacts from industrial fisheries on artisanal fisheries**



- Promote management measures through the Western and Central Pacific Fisheries Commission that account for the special needs of artisanal fisheries, particularly those where local communities are dependent on such fisheries for their food and livelihoods.

## How SPC will help

SPC will work with each PICT on an individual basis to identify the extent of the challenge to its industrial and artisanal fisheries. We will also work with other relevant regional organisations to determine a set of management actions to address the impacts of industrial fishing on artisanal fisheries.

## Further reading

- Harley S.J., Williams P.G., Nicol S. and Hampton J. 2013. The western and central Pacific tuna fishery: 2011 overview and status of stocks. Noumea, New Caledonia: Secretariat of the Pacific Community. [www.spc.int/DigitalLibrary/Doc/FAME/Reports/Harley\\_13\\_Western\\_Tuna\\_2011\\_overview.pdf](http://www.spc.int/DigitalLibrary/Doc/FAME/Reports/Harley_13_Western_Tuna_2011_overview.pdf)
- SPC. 2009. Fish and food security. SPC Policy Brief 1/2008. Noumea, New Caledonia: Secretariat of the Pacific Community.
- SPC. 2012. Fish aggregating devices (FADs). SPC Policy Brief 19/2012. Noumea, New Caledonia: Secretariat of the Pacific Community.



## More information



### Mike Batty

*Director, Division of Fisheries, Aquaculture and Marine Ecosystems*

Secretariat of the Pacific Community  
BP D5, 98848 Noumea Cedex, New Caledonia  
Phone: +687 262 000  
Email: [MikeB@spc.int](mailto:MikeB@spc.int)  
[www.spc.int/FAME](http://www.spc.int/FAME)

