

# Economic monitoring study: The fisheries sector in New Caledonia

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## The importance of fish in New Caledonia

Seafood products account for more than 40% of the protein intake of people in New Caledonia, with lagoon fish, which is mainly sold through “unofficial channels”<sup>1</sup>, being the main source of protein (see Fig. 1).

Fishing in New Caledonia is characterised by the co-existence of artisanal fisheries — which are fairly informal and so are poorly documented, largely unsupervised and subject to little control — and semi-industrial

fisheries, which are based on fleets using different operating methods and with various levels of knowledge about the resources they target.

In New Caledonia, subsistence fisheries account for 78% of all lagoon fish catches and 30% of all offshore catches. This fishery is extremely important to Melanesian communities because it provides a vital source of protein. The subsistence portion of lagoon fisheries accounts for as much as 80% of production in the Northern Province, and even more in the Loyalty Islands. It also provides additional income. Many fishers work at a variety of jobs.

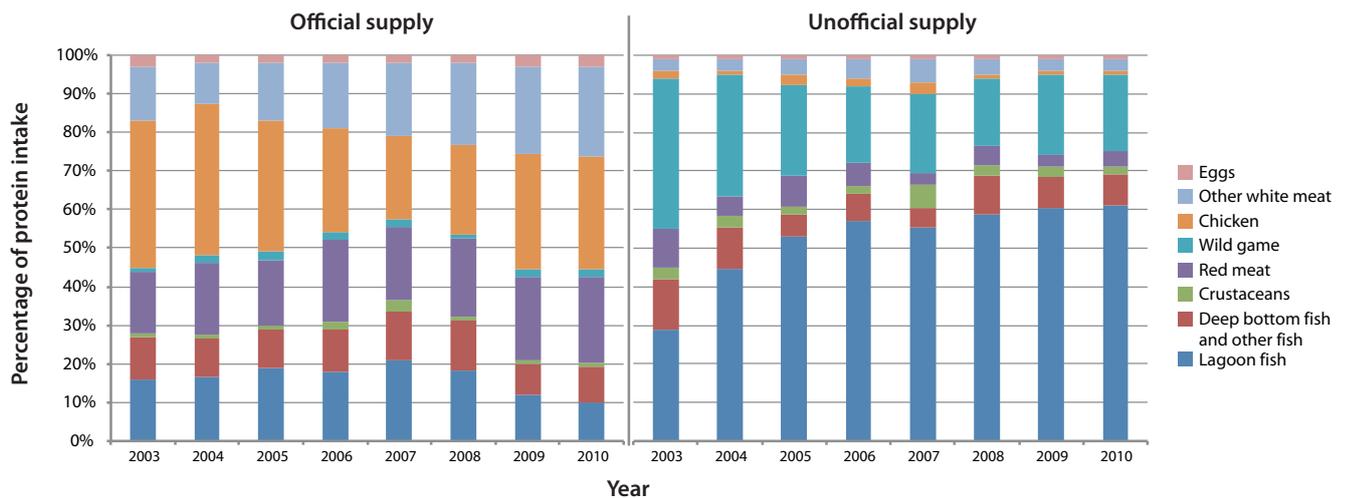


Figure 1. Contribution of various foods to the protein intake of New Caledonian population. Source: TNS, 2010.

## Economic data

In 2010, the fisheries sector had a reported revenue<sup>1</sup> at first sale of XPF<sup>2</sup> 1.85 billion, which put it at the top of the agriculture and fisheries sector, ahead of both the beef and poultry sectors, which each had a revenue of XPF 1.5 billion, and were followed by the aquaculture sector at XPF 1.2 billion.

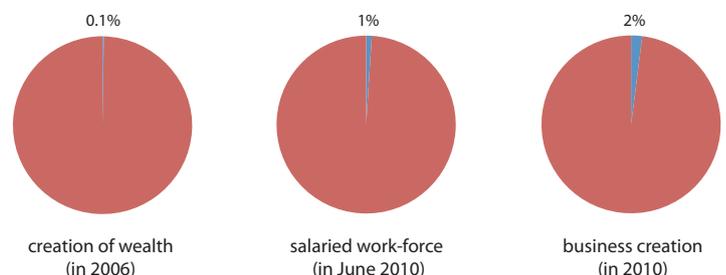


Figure 2. The significance of New Caledonia's fisheries and aquaculture sectors in the creation of wealth, salaried work force and the creation of businesses. Source: Institut de la Statistique et des Études Économiques (ISEE).

<sup>1</sup> An “unofficial channel” refers to non-licensed fishermen who sell their catch to neighbours, restaurants and shops, and includes all of the subsistence catch that is self-consumed or distributed. An “official channel” refers to licensed fishermen who are the only ones allowed to sell their catch, and all of their sales must be reported (yearly). Official, therefore, refers to the professional fishing sector.

<sup>2</sup> The figure for this revenue is before the cost of fuel, wages and other expenses are taken into consideration.

<sup>3</sup> XPF 100 = USD 1.10 as of September 2013.

## Commercial fisheries

Commercial fisheries consist of fishing activities carried out on vessels that have yearly commercial fishing permits issued by one of the provinces. There are three types of commercial fisheries in New Caledonia (Table 1):

- Offshore fisheries** take place within the exclusive economic zone, which extends from 12–200 nautical miles out from the reef into international waters, and which target tuna species using horizontal longlines. The Japanese introduced this fishing technique to New Caledonia in the early 1960s. On average, fishing trips last from 10–12 days.
- Coastal fisheries** are carried out by multi-purpose vessels outside the lagoon, and up to 12 nautical miles from the reef. This type of fishery targets deep-sea fish such as snappers and pelagic species. Fishing trips last from one to several days and catches are sold at the local market.
- Lagoon fisheries** are carried out on foot or in vessels less than 10 metres long. The gear used by this fishery includes nets, lines, and cages to catch finfish, crustaceans (crabs and rock lobsters) cephalopods (octopus, squid, cuttlefish) and shellfish. This is generally done at a subsistence level. The part of the catch that is not eaten is redistributed to family members and the surplus sold. Catches for export involve sea cucumbers and trochus shell (about 70 tonnes a year) that are sold to make buttons and jewellery.

It should be noted that in many fisheries economic reports, coastal and lagoon fisheries are placed into a single category (i.e. reef and lagoon fisheries).

## The fleet

In 2010, the commercial fishing fleet consisted of 332 registered vessels: 311 for reef and lagoon fishing with vessels weighing less than five tonnes, and 21 for offshore fisheries with ships more than 20 metres long.

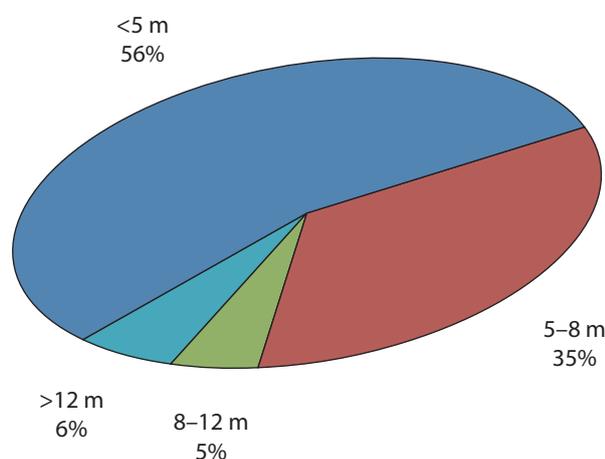


Figure 3. Composition of New Caledonia's fishing fleet by vessel size. Source: Service de la Marine Marchande et des Pêches Maritimes, 2009.

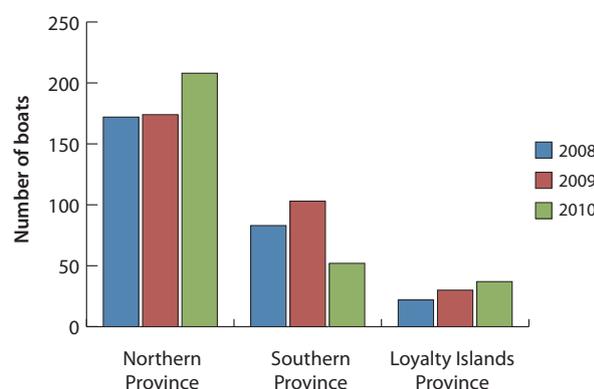


Figure 4. Number of boats in the lagoon fishery.

Table 1. The three types of commercial fisheries in New Caledonia.

	Fishing zone	Technique(s) used	Fishing trip length	Vessel characteristics	Main species caught	Marketing
<b>Offshore fisheries</b>	Exclusive economic zone	Longlining	1–2 weeks	Ships 16–29 m long; target fresh fish	Tuna and related species	Tuna: 50% exported, 50% sold locally
<b>Coastal fisheries</b>	Outside the lagoon, up to 12 nm from the reef	Trolling, longlining, reel, fishing around FADs	1 day to 1 week	Multi-purpose vessels with an average gross tonnage of 16 tonnes	Coastal deep-sea and pelagic species	Sold locally
<b>Lagoon fisheries</b>	Inside the lagoon (barrier reef included)	Gill netting, trolling, handlining	1 day	Less than 10 m, with outboard motors	Reef fish, trochus, sea cucumbers	Sold locally, except for sea cucumbers and trochus, which are exported

Source: Institut de la Statistique et des Études Économiques (ISEE), 2005.

## Processing units

The five large industrial fish processing plants mostly process offshore catches.

- **Pescana** — Produces loins and fillets from offshore species destined for the local market and for Europe.
- **Pêcheries du Nord** — The unit is not currently operating. A large range of offshore products were cut from this unit (e.g. loins, prime filets, cubes, steaks, most of which were destined for the local market, including wholesalers and caterers). A significant portion of the modified-air-packaged fresh loins was exported to Europe. The future of this processing unit is currently under discussion.
- **Pacific Tuna** — This unit, which was built by Navimon<sup>4</sup> in 2006, was initially used by Pêcheries de Nouvelle-Calédonie (PNC) to process deep-sea fish. In 2007, PNC stopped using this unit. The unit was completely renovated in 2008–2009 and now currently produces mainly fresh products from initial processing and some frozen products for the local market.
- **Sodefish** — Exclusively supplies the local market with fresh cuts from both offshore and lagoon catches. In 2010 and 2011 it was the largest producer of frozen tuna steaks.
- **Albacore** — Operates a factory ship that meets European standards and which, up to this year, produced frozen loins destined for local and European markets. An onshore processing unit was created in 2011 on the wharves of the port in Nouville, which will soon begin processing offshore catches for the local market.

There are also several small units (such as Kiwada, Grand Large, La Cigogne) that mainly process offshore products (e.g. loining, filleting, smoking, breading).

## Jobs and training

In 2010, 767 commercial fishing crew members were recorded in New Caledonia: 613 for artisanal fisheries and 154 for offshore fisheries.

The “fisheries processing and marketing” sector employed 67 people in 2010 in the units that process offshore catches, and 18 people who worked for wholesalers.

There were an estimated 28 subcontractors working in the sector on a daily basis and another 8 people involved in economic and scientific monitoring.

The number of indirect jobs in 2010 was estimated at nearly 200 by New Caledonia’s l’Observatoire économique, which monitors the economic evolution of various economic sectors within the country.

Table 2. Number of jobs related to New Caledonia’s commercial fisheries sector.

Employment area job	Number of people employed
Registered fisher	767
Processing unit	67
Marketing	18
Subcontractor	28
Economic and scientific monitoring	8
<b>Subtotal</b>	<b>888</b>
Indirect jobs	200
<b>TOTAL direct &amp; indirect</b>	<b>1088</b>

Source: Institut de la Statistique et des Études Économiques (ISEE), 2010.

The fisheries sector’s current labour force has the following characteristics:

- Comprises mostly men with an average age of 36.5.
- The majority of salaried employees work in the Southern Province.
- Most companies (70%) have one to four salaried employees.
- Most companies have the legal status of “sole trader”, indicating the high percentage of self-employed fishers.
- The offshore fisheries sector experiences very high employee turnover, particularly of trained people.

### Characteristics by sector (DFPC<sup>5</sup> study)

Commercial offshore sector:

- 98% salaried employees
- 88% of salaried employees have open-ended contracts
- 93% of employees work full time
- The average age of employees is 35 (excluding managers) with 2.6 years of seniority on average
- Just over 70% of employees have qualifications.

<sup>4</sup>. Navimon is a domestic tuna longline fishing company.

<sup>5</sup>. DFPC : Direction de la formation professionnelle continue (Directorate of continuous training for professionals)

Artisanal lagoon and coastal sector:

- 94% of employees are self-employed skippers, 6% are salaried employees
- Salaried employees have open-ended contracts
- 68% of employees work part time,
- The average age of employees is 46 (excluding managers) with 8.5 years of seniority on average
- About 10% of employees have qualifications.

Average annual staffing needs of the fisheries sector are about 50 positions, a full 30 of which are for crew (including needs linked to turnover).

On all boats, crew members are supposed to have seafaring qualifications. Currently, the exemptions that maritime authorities have granted to companies allow them to operate, but the result is a lack of qualified labour (e.g. deckhands, engine room and officers).

In New Caledonia there is no “collective agreement” for the fisheries sector that sets specific rules regarding contracts, wages, or hours worked although a draft agreement is being studied.

## Fisheries training programmes

The Fisheries Training Institute (École des métiers de la mer) is the only marine training agency in the country, and is run by the government. In 2011, the Institute hosted 250 trainees and offered 67,000 class hours of certified courses, with a 92% success rate in the sectors of business, fisheries and recreational boating.

## Production and marketing

### Reef and lagoon production

The reported production for reef and lagoon fisheries for 2010 was 526 tonnes (as compared to 554 in 2009, which was a record year). This figure does not cover all catches because it is simply the total of the reported catch figures. The 2011 figures were not available at the time this report was written. On average, each ship offloads slightly less than 1.2 tonnes of reef and lagoon fish each year.

Unofficial fisheries also account for a very large share of fish consumption in New Caledonia. Some studies estimate that they account for several thousand tonnes each year, most of which is sold through unofficial channels in direct competition with commercial fisheries.

Reported data have shown that parrotfish catches are increasing (31 tonnes reported in 2010, or +37%). Mullet, emperor and grouper catches have also reached

record levels (14–20 tonnes above the average for the period 2005–2010). In contrast, Spanish mackerel (*Scomberomorus commerson*), mackerel, unicornfish (*Naso unicornis*), deep bottom snapper (Etelidae) and yellow-banded snapper (*Lutjanus adetii*) catches have decreased.

In terms of crustacean harvests, reported production increased from 15 tonnes in 2005 to 112 tonnes in 2010, with the majority of harvests consisting of crabs.

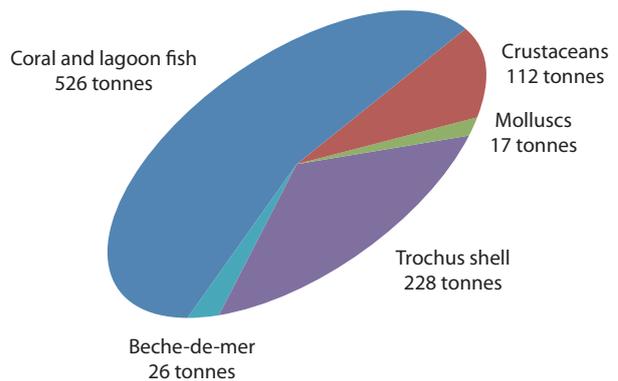


Figure 5. Reef and lagoon catches in 2010.

Reef and lagoon fisheries are a very important source of economic activity outside the Noumea urban area and in the outer islands, accounting for a reported revenue of XPF 555 million in 2010.

### Marketing reef and lagoon products

Several features of lagoon fisheries product marketing in New Caledonia can be noted:

- Landing areas are scattered throughout the territory.
- There is no fish auction or other place where production is sent to be sold.
- Middlemen play a significant role in the “official” channel, making it difficult for many fishers to gain direct access to the market.

The distribution circuit of the lagoon fisheries products (imports and exports not included) is detailed in Figure 6.

### Offshore fisheries production

The species caught by offshore fisheries include the following:

- Albacore tuna (*Thunnus alalunga*), which accounts for more than 60% of all catches, are sold on the local

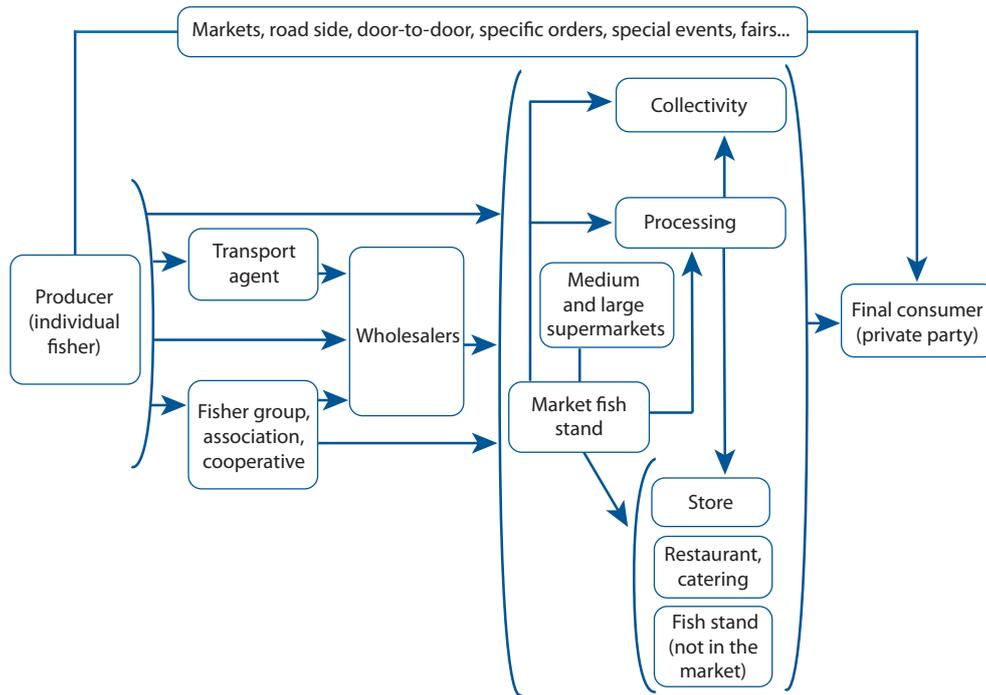


Figure 6. Distribution circuit of the lagoon fisheries products (imports and exports not included).  
Source: Marty et al. 2005.

market or sent fresh, by airfreight, to metropolitan France and Japan or as frozen cargo to canneries in American Samoa. Scientists consider that this resource is not overexploited.

- Yellowfin tuna (*Thunnus albacares*), which accounts for about 20% of all catches, are mainly sold on the local market. The best-quality fish are airfreighted fresh to the Japanese sashimi market.
- Bigeye tuna (*Thunnus obesus*) are sold in part on the local market. This is the least common tuna species in New Caledonian waters and the one that is the best selling in Japan, where high-quality specimens are exported fresh by airfreight for the sashimi market.
- Other species, including marlin, swordfish and mako sharks are seasonally and almost exclusively sold on the local market. A few marlins are exported to Japan.

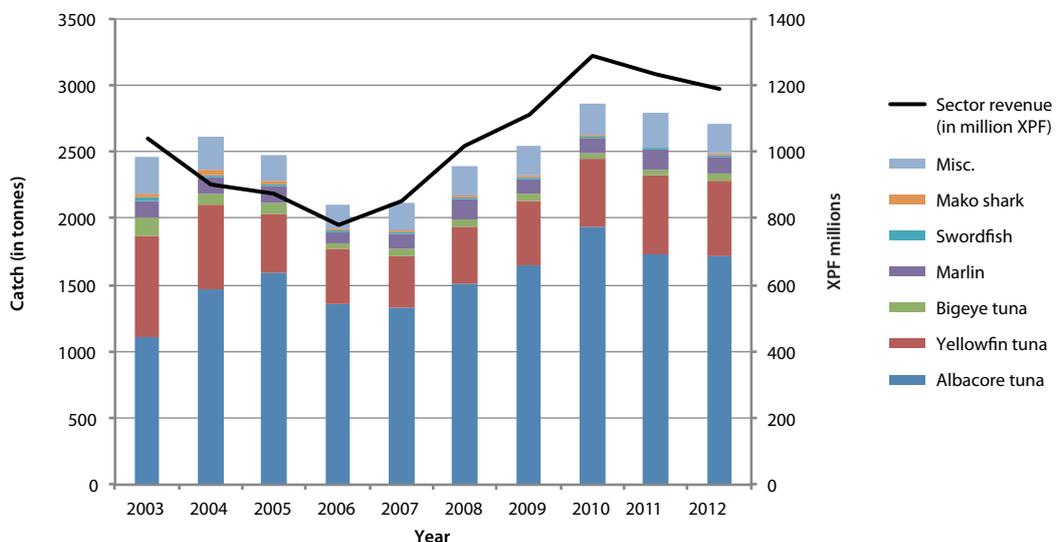


Figure 7. Catch trends by species and revenue for the offshore fisheries sector.

In contrast to some Pacific Island countries and territories, New Caledonia has under-utilised the exploitable resources and the logistical infrastructure that are available. According to scientists at the Secretariat of the Pacific Community, catches for those species that can be taken with longlines could increase to 10,000 tonnes without overfishing the resource.

**Marketing offshore fisheries products**

**Albacore tuna (70% of the catches)**

Nearly 1,900 tonnes of albacore tuna were caught and sold in 2010. About 1,200 tonnes were sold on the local market via the channels described in Figure 8.

The remaining 700 tonnes were sold for the export market, and distributed as follows:

- 100 tonnes of whole fresh fish were air freighted to Japan. This market has benefited lately from a favourable yen exchange rate and the recognised quality of New Caledonian products.
- 100 tonnes (whole fish equivalent) were divided between frozen and fresh loins; this has increased in terms of the prices offered but volumes are still quite low and logistics are very complex.
- 300–500 tonnes were sent to destinations such as canneries in Samoa and Thailand.

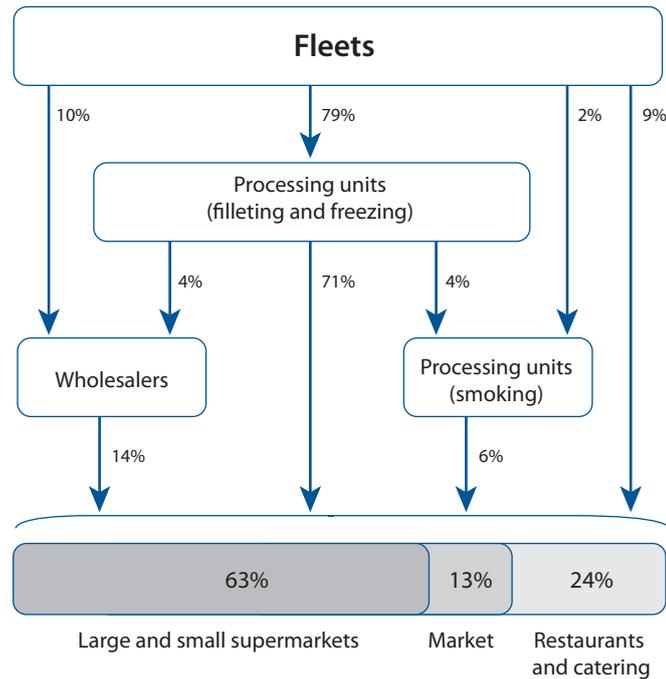


Figure 8. Marketing of the offshore fisheries products in the greater Noumea area. Source: Institut de la Statistique et des Études Économiques (ISEE), 2005.

Efforts made since 2009 to develop the local market via fish processing, with ERPA's assistance, has made it possible to both maintain the balance of the local fresh fish market (stable sales prices), and to "limit" exports to canneries (Figure 9).

The analyses conducted by New Caledonia's l'Observatoire économique (ISEE) for this sector in 2010 seem to confirm a trend towards improved economic outcomes, which began in 2007.

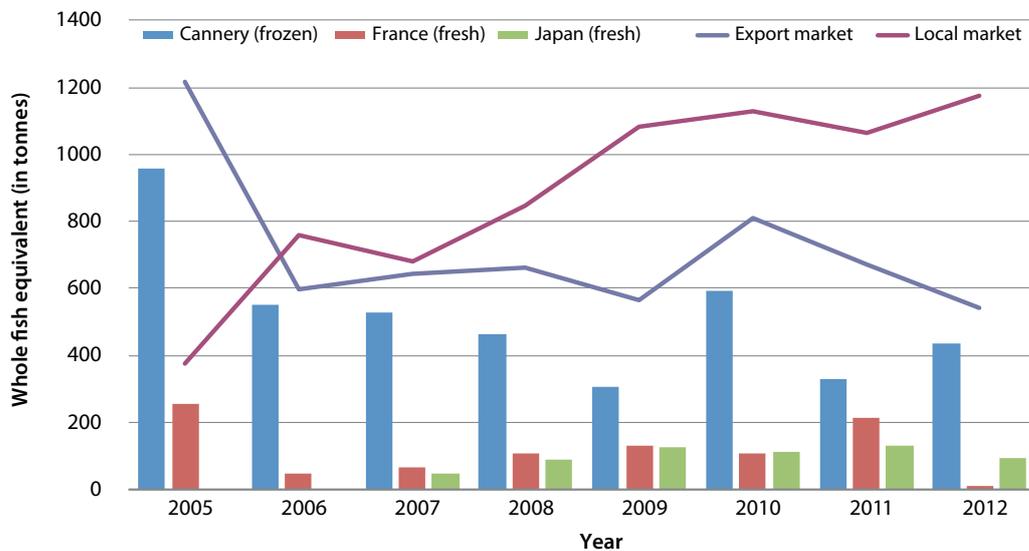


Figure 9. Albacore tuna market trends. Source: ERPA, using New Caledonia Customs data.

## Shrimp production

New Caledonia's shrimp production sector is a key factor in the country's social and economic development. Shrimp farms employ roughly 300 workers, which is significant for a relatively small country. In addition, the shrimp farms are situated in somewhat remote areas where employment is scarce, thereby helping to balance the economic development between the developed and less-developed areas of New Caledonia. The shrimp production sector is organised as described in Figure 10.

### Jobs

This sector provides jobs for 880 people, including 278 permanent jobs and 602 seasonal jobs (Table 3).

Table 3. Jobs in the shrimp production sector.

Job area	Permanent jobs	Casual jobs
Farm	130	220
Processing units	63	370
Feed suppliers	30	12
Research	27	
Hatcheries	23	
Groups & associations	5	
<b>Total</b>	<b>278</b>	<b>602</b>

### Production

Production has fluctuated a great deal over the past few years, with sharp drops in production for four consecutive harvesting periods, followed by increasing production in 2011 and 2012 (Fig. 11).

The observed decrease can be explained, in part, by deficits in post-larval production, which seriously penalised grow-out farm production. Some tanks remained empty and others were seeded at low densities. At the same time, a gradual drop in farm productivity was noted with lower yields and survival rates.

In fiscal year 2010/2011, the volumes produced increased by 29% with a production of 1,476 tonnes as compared with 1,147 tonnes in fiscal year 2009/2010. This increase can, in large, be part explained by improved yields in tonnes per million of seeded post-larvae (MSPV), which went from 9.2 tonnes per MSPV in 2009/2010 to 11.7 tonnes per MSPV in 2010/2011 (+27%). On the other hand, for the fifth consecutive harvest period, significant difficulties in post-larvae production were noted at the hatcheries (deficit estimated at 42 million post-larvae, or 25% of the initial need), which had a strong impact on the sector's production level.

In fiscal year 2011/2012, in spite of correct post-larvae production levels and higher volumes, production levels remained below theoretical objectives (low survival, decreased growth rates and a very high feed-conversion index). This did not allow the sector to reach financial equilibrium, even though deficits were more acceptable than in previous harvesting periods.

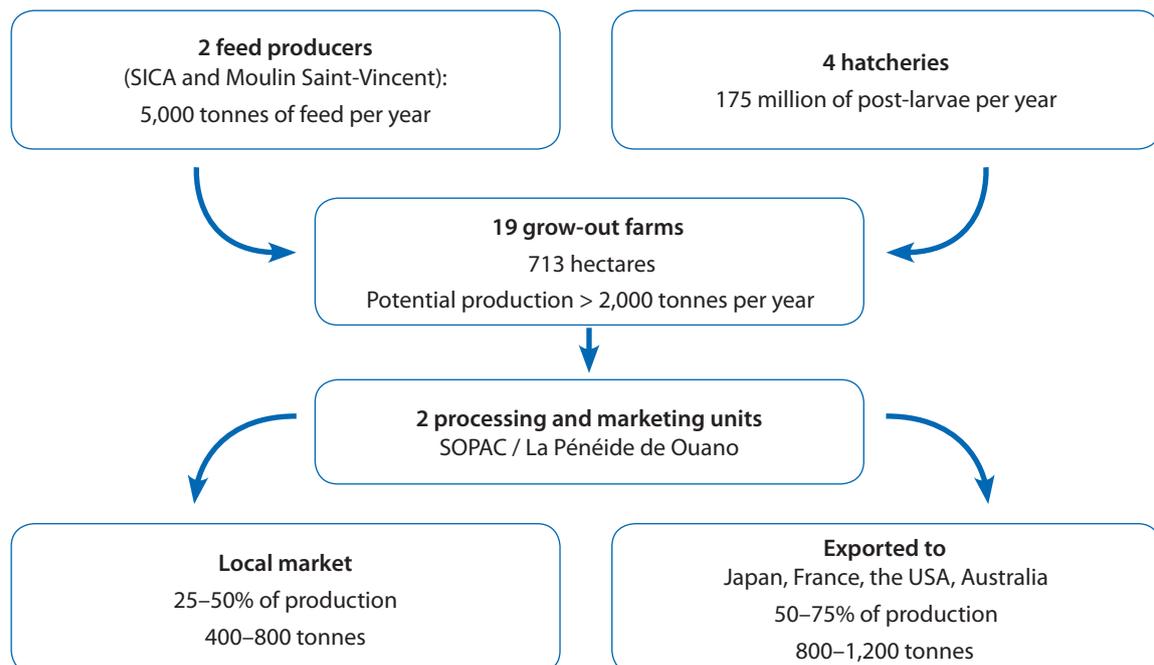


Figure 10. Organisation of New Caledonia's shrimp production sector.

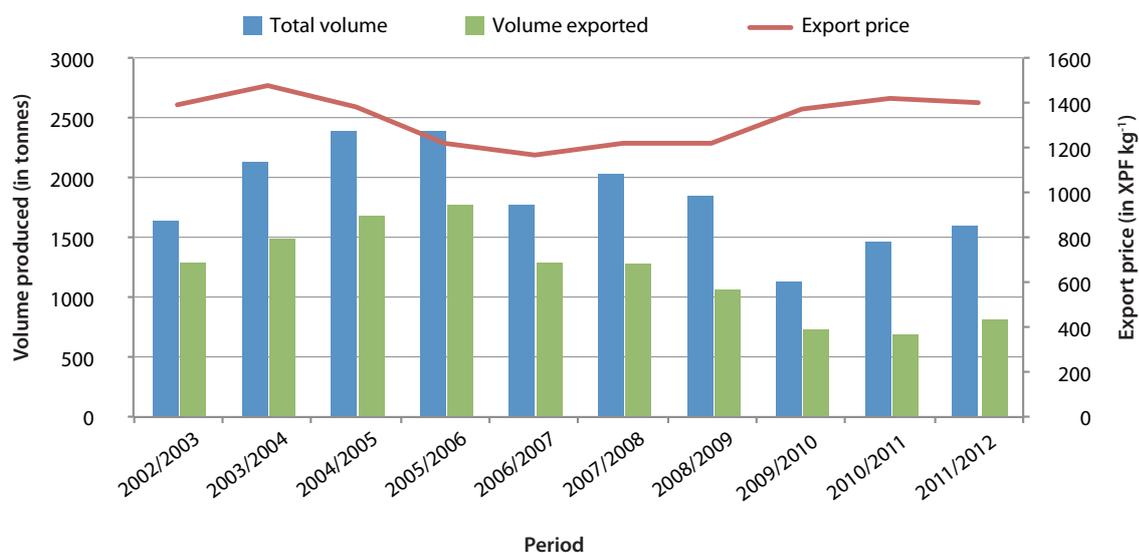


Figure 11. New Caledonia's shrimp production and export trends.

## Markets

Due to very high production costs, the New Caledonia shrimp sector tries, wherever possible, to go outside standard pricing by targeting very well-defined niche markets (e.g. Japan, top-end restaurants in Europe). Following the sharp decrease in production, export volumes have dropped significantly over the past few years (713 tonnes exported in 2011 compared with 1,785 tonnes in 2006) but the average export sales price has increased (XPF 1,421 per kilo in 2011 as compared with XPF 1,219 per kilo in 2006), encouraging exports to the highest-paying markets.

The local market is very attractive for the sector given its significantly lower marketing costs. Each year it absorbs 700–800 tonnes of shrimp, placing New Caledonians among the largest consumers of shrimp in the world.

## Prospects

ERPA funded an overall audit of the sector in late 2011, which made it possible to implement a plan to reactivate the sector so as to allow it to return to financial equilibrium and have prospects for development over the next five years. Today, the sector is still receiving considerable support from public agencies, particularly through ERPA, which provides significant assistance to exports to allow the sector to keep its very exacting niche markets for some of the most expensive farmed shrimp in the world.

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