

# South Pacific Commission



Community Health  
Services

SOUTH  
PACIFIC  
FOODS

Leaflet  
1992

18

## Seafoods

### Riches from the sea

Highly prized for their delicious flavours, many seafoods are eaten daily in snacks or meals. Others are eaten mainly as a delicacy or on special occasions. They have always been a popular food for Pacific Islanders because of their availability, abundance, excellent flavours and high nutritional value.

Pacific seafoods range from huge sharks to delicious shellfish such as oysters, clams, lobsters, and the tiny edible sea-shells which can be found on sandy beaches. Whatever their size and wherever they are, seafoods offer an unforgettable meal for all the family.

### Seafood variety

In this leaflet, the term 'seafoods' refers to anything edible obtained from the sea, apart from fish. It includes different types of shellfish, beche-de-mer or sea cucumbers, marine mammals, turtles and seaweeds.

**Shellfish** can be divided into two groups: molluscs and crustaceans. Molluscs make up the largest group of marine animals. It includes oysters, mussels, clams, octopus and squids. Some of these, such as clams, mussels and oysters, are filter feeders. This means they get their food by filtering the surrounding water and retaining any microscopic plants and animals. Crustaceans include crabs, crayfish, lobsters, shrimps and prawns. Nowadays there are many man-made wastes and rubbish in the sea, especially in lagoon areas. Therefore, shellfish must be thoroughly



cleaned and kept cold or alive, or cooked, before being eaten. They should be collected from waters that are clean and free from pollution. Some shellfish (e.g. oysters and mussels) can be farmed. This ensures a high-quality, clean, safe supply throughout the year.

**Sea cucumbers**, also known as *beche-de-mer*, live in reef areas. They can be collected at low tide or by diving. When processed by smoke-drying, they are considered by the Chinese to be a food delicacy. They are also used in many Micronesian and Polynesian dishes.

**Sea mammals** include dugongs (sea-cows), porpoises and — largest of all — whales. The smaller sea mammals have traditionally been

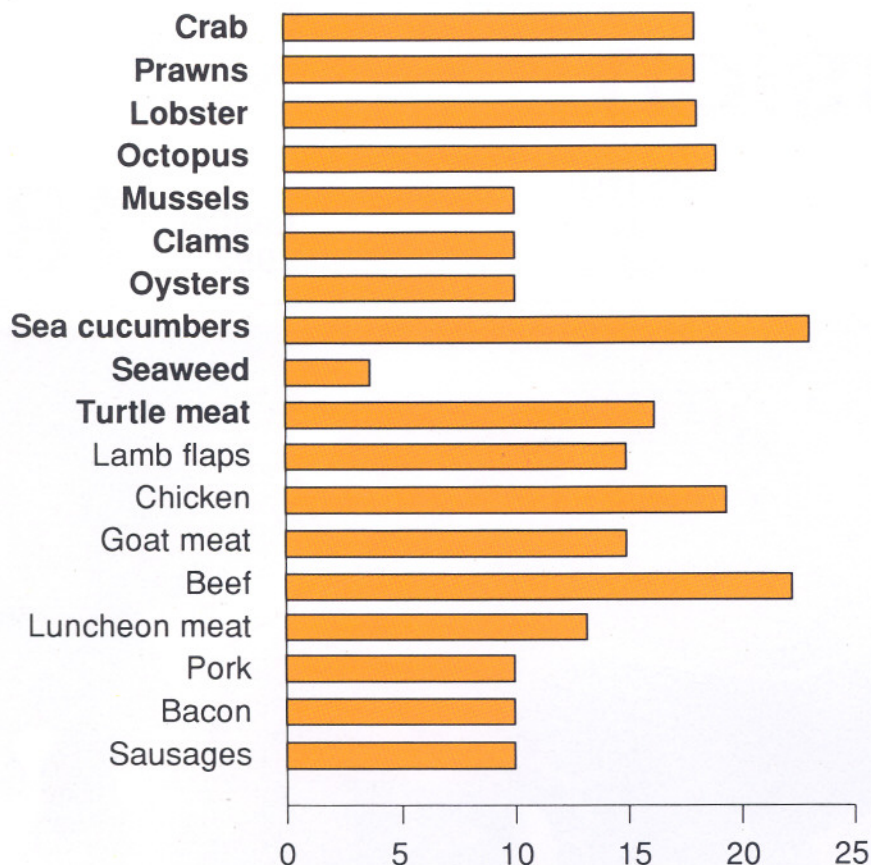
used by Pacific Islanders for food and other purposes.

**Turtles** used to be a popular food in the Pacific, and still are in some islands. They were often caught when they came up to the beach to lay their eggs. Like sea-mammals, turtles are becoming less common in some Pacific Island countries.

**Seaweeds** are the 'green leaves' of the sea. There are different edible varieties that are popular with Pacific Islanders. Some are green with tiny bubbles along their stems. Others are dark greenish-brown with long soft strands joined together. They are easily collected when the tide is low.



## Good source of protein



Protein content of seafoods per average serving (3—4 oz or 100 g) compared with meat. This will provide more than half the daily requirement for children 1 - 10 years of age.)

### Look after our seafoods

In some Pacific Island countries, certain kinds of seafoods (including sea mammals and turtles) are becoming hard to find. This is partly because traditional laws controlling their capture are no longer respected, and partly because there is a big demand for certain kinds of seafoods (such as lobsters and crabs) from shops and hotels. Some countries have laws which tell us that we should only take seafoods of a particular size, or at a particular time of year, or for special customary reasons. We should respect these laws if we want our children to be able to eat these delicious, healthy foods.

For more information on seafoods in your country, please contact your local fishery officer.

### Seafood collection

Collecting seafoods is an art in the Pacific. Women and children are often the main collectors. Certain cultures have their own specialised skills in this kind of activity, such as diving for clams or turtles. These skills are normally shared between members of the family or a particular group. Other activities, such as collecting shells in lagoons or on the reef, do not need a lot of traditional knowledge.

### Seafoods for health

Seafoods are excellent sources of **protein, vitamins and minerals**. They are generally very low in **fat**.

#### Protein in seafoods

Protein is needed for building up tissues and repairing the body. Compared with other meat prod-

ucts, seafoods are easier to digest because they have softer muscle fibres.

Seafoods are particularly important for those who do not eat meat. This is because seafoods provide protein, minerals and vitamins. Seafoods mixed with vegetables such as legumes and green leaves provide a good healthy nutritious meal.

#### Fats in seafoods

Seafoods contain small amounts of fats and oils of a type that is thought to protect against heart disease. These oils assist in lowering blood cholesterol, the type of fat that contributes to heart disease.

Although certain molluscs (clams, oysters and mussels) were once thought to be high in cholesterol, it is now known that this is not true. They contain certain types of plant fat (sterols), once analysed as cholesterol. The presence of these sterols may actually reduce the amount of cholesterol by interfering with the movement of cholesterol within the body.

#### Vitamins in seafoods

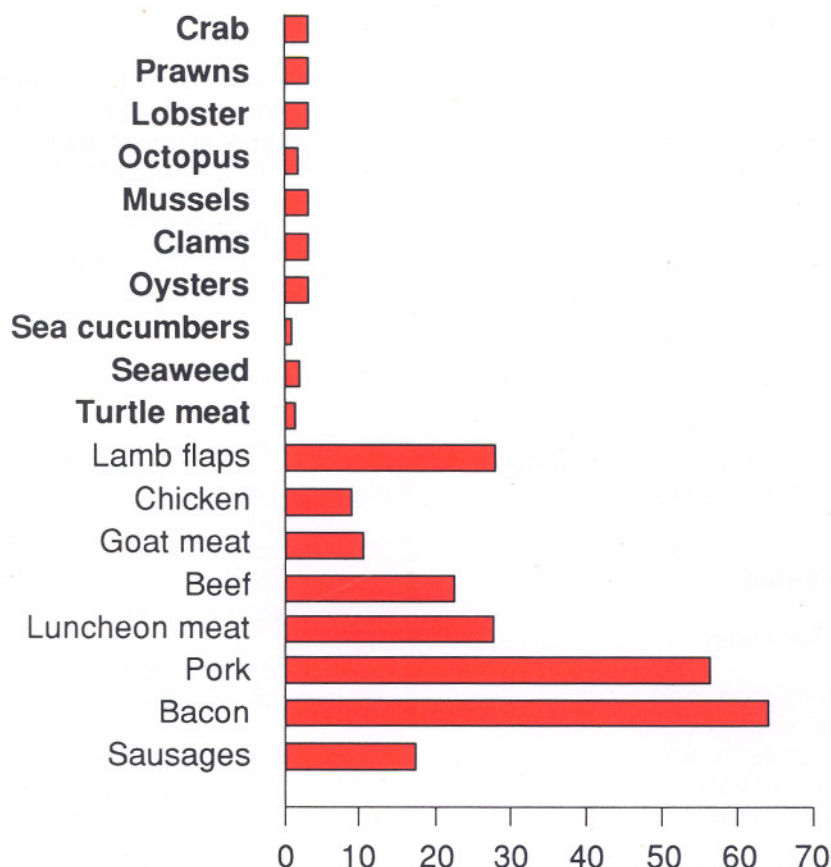
Seafoods are an important source of the **Vitamin B** complex. They are rich in a type of B vitamin called *pyridoxine* which helps the body to make proper use of protein. They are also a good source of **niacin**, the vitamin that helps release energy from carbohydrate foods.

#### Minerals in seafoods

Seafoods, especially molluscs such as clams, mussels and oysters, are good sources of **iron**. Iron is often low in the diet of young women and children. It is needed for healthy blood. Seafoods, particularly molluscs and crustaceans, are also good sources of many trace mineral elements that the body needs in very small amounts, such as **zinc, selenium, fluoride and iodine**. Zinc is an essential component of enzymes involved in the release of energy in the body and helps with tissue repair after injury. Selenium assists with certain chemical reactions in the body and helps reduce the toxic effects of some chemicals in the body. Fluoride helps prevent tooth decay, and iodine prevents goitre, a disease of the thyroid gland.



## Low in fat



Fat content of seafoods per average serving (3—4 oz or 100 g) compared with other meat.

### Buying seafoods

Seafoods are sold in many forms. They are best bought fresh. In areas where fresh seafoods are not available, they are sold frozen, canned, dried, smoked or in other preserved forms. Whether fresh, cooked or preserved, they must have the right colour. Frozen seafoods should be thawed and carefully checked before cooking to find out if the flesh is fresh.

To retain flavour and texture, some seafoods, such as oysters, mussels and crabs, must be sold live. A good way of checking if shellfish are alive is by tapping their shells. They should close tightly when tapped. Avoid those that do not close quickly. They should also open quickly when steamed or cooked, if they are fresh.

The appearance of fresh seafoods should be bright. The flesh must be translucent or white, firm and springy to the touch. It should not be soft or mushy in texture.

Smell is also a good reliable guide to the quality of seafoods. Fresh seafoods have a mild and distinctive seaweed odour. Their taste should be pleasant and the flavour mild.

### Preparing and cooking seafoods

There are many ways of preparing seafoods. Almost all are quick and easy. It is best to slightly under-cook seafoods so that they remain tender and moist. Some seafoods, such as seaweed and some varieties of shellfish, can be eaten fresh. However, we should be aware of the possible dangers associated with raw seafoods, particularly the filter feeders such as oysters and mussels. If shellfish grow in areas where there is human or animal sewage, they may contain large numbers of harmful viruses and bacteria which could cause food poisoning. Most of the harmful viruses and bacteria are destroyed by normal cooking.

Most seafoods can be steamed whole, baked, barbecued, grilled or fried. Because they have a low fat and high water content, they can easily be overcooked. Overcooking dries out and toughens the meat. It also destroys much of the flavour. Extra care must be taken when grilling or barbecuing low-fat seafoods such as lobsters, so as not to overcook them.

### Molluscs

- Wash thoroughly to remove dirt and slime.
- Boil with their shells or remove flesh and steam or boil in coconut cream.
- Remove flesh, season, wrap in soft banana leaves, and then steam in the pot, bake in the earth oven or grill on hot charcoal. Serve with lemon juice.
- Remove flesh and boil with coconut cream and green leafy vegetables
- Remove half the shell and boil with coconut cream and chopped onions.
- Remove flesh, lightly grill and serve with lemon juice or coconut sauce.

### Octopus and squids

- Wash thoroughly to remove dirt and blue-black ink
- Add sufficient water to boil until tender.
- Serve sliced, with thick coconut cream and lemon juice.
- Raw octopus can be softened by beating with a stick. If octopus has been frozen, this is not necessary. You can also leave the meat wrapped in pawpaw leaves for 30 minutes before boiling it, or put one or two clean bottle-corks in the cooking water (remove them before serving!)

#### *Steamed octopus wrapped in leaves*

- Place sliced, boiled or smoked octopus in softened banana leaves.
- Tie the parcel and steam for 40 minutes to one hour. Serve with cooked taro and boiled green leafy vegetables.

#### *Smoked octopus*

- Octopus to be dried or smoked should be prepared by beating or pounding with a stick or by freezing for a few days.
- Hang about three feet (one metre) from the ground.



- Make a smoky fire under the meat. The fire should not be too hot.
- Leave the meat until it is evenly smoked and cooked.
- Store in a cool place away from flies. It keeps for about two days.
- Slice and serve with coconut sauce (thick coconut cream and lemon juice), or boil with coconut cream, chopped onions, tomatoes and little curry powder (if desired). Simmer till octopus is tender.

### Crabs, crayfish, lobsters, prawns

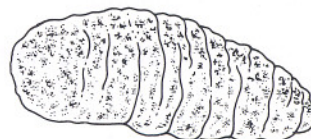
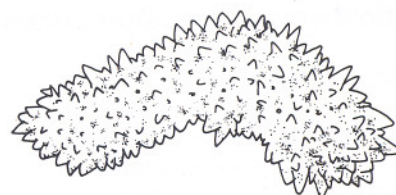
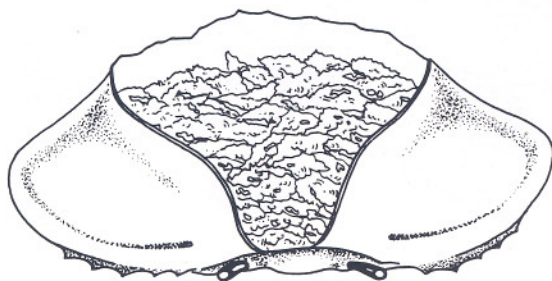
- Clean and scrub thoroughly to remove dirt and mud.
- Place in a pot of slightly salted boiling water.
- Bring back to boil, and then simmer until the claws come off easily when pulled slightly. (Crabs from mangrove swamps near towns and villages need to be cooked longer to kill germs.)
- Serve with lemon juice or coconut sauce (coconut cream flavoured with lemon juice).
- Boiled crabs can be shelled. Remove the flesh without breaking the top of the shell. Clean the shell carefully. Mix the crab meat with chopped onion, salt, tomatoes, and enough thick coconut cream to moisten the mixture. Fill the shells with the mixture and either boil using thin coconut cream or bake for about 30 minutes in a drum oven or a modern oven.
- Boil crab meat with coconut cream, chopped onion and tomatoes. Serve with lemon juice and parboiled green leaves such as fern, or edible hibiscus leaves (*bele*, Fiji; *aibika*, PNG; *pele*, Tonga; *kabis aelan*, Vanuatu).
- Cook crabs or prawns in coconut cream with chopped onions and a teaspoon of curry powder. Simmer until ready (when the claws come off easily with a slight pull).

### Sea cucumber

- Clean thoroughly to remove any dirt or slime.
- Drop into a saucepan of boiling water and boil for 5—15 minutes. At this stage, they will swell up and, if left too long, will burst, so watch them carefully.
- Cut open lengthwise and clean the inside.
- Clean the surface by rubbing lightly on a grater, or scrape with a shell until the sandy layer is removed.
- Boil again for 3—4 hours until tender.
- Store in plastic bags or clean plastic containers, in a refrigerator or a cool dry place, and use as required. They will keep for a long time if stored correctly.

#### *Sea cucumber in lemon juice or coconut cream*

- Arrange boiled sea cucumber in a saucepan.
- Add lemon juice or coconut cream, salt and chopped onion.
- Bring to boil and cook gently until tender.



### Turtle meat

- Clean turtle meat thoroughly to remove dirt.
- Cut meat into cubes (the same size as for stewing)
- Chop onion and chilli (if desired)
- Heat oil and fry chopped onion and chilli.
- Add turtle meat and fry until all juice has dried out.
- Season with salt to taste.
- Place the fried mixture in softened banana leaves carefully so that the leaves do not tear. Add two or three tablespoons of water.
- Wrap and tie well.
- Steam for one approximately one hour.

### Seaweeds

- Clean thoroughly by washing several times in clean fresh water to remove all dirt and sand.
- Leave seaweed to soak in a basin of water for about half an hour, then pour off water. This helps remove sand.
- Arrange neatly on a dish and serve with lemon juice and chopped onions, or fermented grated coconut (*kora*, Fijian), lemon juice and salt to taste. Adding a small tin of fish or the chopped flesh of cooked or raw shellfish will improve the protein content and flavour of the dish.

For more information on seafood preparation, please refer to the South Pacific Community Nutrition Training Book on: Preparation of Pacific Island Foods.



## Seafood salad with avocado dressing

*Four servings:*

500 grams cooked prawns  
2 tablespoons lime juice  
1 tablespoon chopped fresh shallots  
125 grams white fish fillets, sliced  
125 grams scallops  
125 grams mussel meat  
4 small tomatoes  
1 small lettuce

### *Avocado dressing*

1 medium avocado  
1 small onion, chopped  
1½ tablespoons lime juice  
2 teaspoons oil

1. Shell prawns, leaving tails intact.
2. Combine lime juice and shallots in small frying-pan, bring to boil, reduce heat, add fish, scallops and mussels. Simmer for about 2 minutes or until seafood is just cooked.
3. Drain (discard liquid) and keep covered in cool place or in refrigerator before completing salad.
4. Prepare avocado dressing by blending all ingredients until smooth.
5. Combine seafood, chopped tomatoes and lettuce in bowl, toss lightly, top with dressing just before serving.

## Seafood salad

3 cups shellfish meat (any shell fish)  
Juice of 1 lemon  
Juice of 1 orange  
Parsley (chopped)  
1/2 cup oil  
1/2 cup vinegar  
2 tablespoons chopped red pepper  
1 onion (diced)

1. Cook shellfish.
2. Mix rest of ingredients together in a bowl and add the shellfish meat.
3. Leave in bowl for half an hour.
4. Drain off excess liquid.
5. Serve with chopped lettuce and tomatoes.

## Crab salad

*Four servings:*

1 cup cooked crab meat  
3 cups sliced English cabbage  
1 cup grated carrots  
1/2 cup mayonnaise  
8 lettuce leaves

1. Mix together crab meat and prepared vegetables.
2. Add mayonnaise
3. Mix thoroughly and serve on lettuce leaves.

Serve as a side dish or as a main course.

## Bun soup

*Four servings:*

10 to 20 'bun'  
Water

1. Clean weed off the 'bun' shells.
2. Soak in clean water (preferably seawater) overnight.
3. Open and remove flesh from shells.
4. Place in saucepan, add water.
5. Simmer over low heat until 'bun' are tender.

## Seafood kedgeree

*Two servings:*

2 cups shellfish meat (any shellfish)  
2 tablespoons oil  
1 onion (sliced)  
1 clove garlic (crushed)  
2 cups rice  
1 hard-boiled egg (chopped)  
1 tablespoon soya sauce

1. Lightly cook shellfish.
2. Heat oil in a saucepan, add onion, garlic and shellfish meat. Lightly fry for one minute, then add cooked rice and chopped hard-boiled egg.
3. Add soya sauce and mix thoroughly until hot.
4. Serve hot with cooked green leaves or salad.

*Note:* A good dish when there is left-over rice or cooked shellfish meat in the house.

This leaflet is the eighteenth of a series devoted to the uses of local Pacific foods. Other leaflets available in this series are:

Leaflet 1 – Taro  
Leaflet 2 – Pawpaw  
Leaflet 3 – Mango  
Leaflet 4 – Guava  
Leaflet 5 – Cassava  
Leaflet 6 – Green leaves  
Leaflet 7 – Banana  
Leaflet 8 – Coconut  
Leaflet 9 – Breadfruit  
Leaflet 10 – Pineapple  
Leaflet 11 – Citrus fruits  
Leaflet 12 – Pumpkin  
Leaflet 13 – Sweet potato  
Leaflet 14 – Yam  
Leaflet 15 – Nuts and seeds  
Leaflet 16 – Legumes  
Leaflet 17 – Fish  
Leaflet 18 – Seafoods

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## Shellfish with coconut cream

Six servings:

Approx. 1/2 bucket cockles,  
mussels or scallops  
2 cups coconut cream  
1 tablespoon oil  
1 onion (sliced)  
1 clove garlic (crushed)  
1 teaspoon coriander (crushed)  
Salt and pepper (optional)

1. Clean shellfish with their half-shells and place in a pot.
2. Pour coconut cream over clams and cook for 10 minutes.
3. Fry onion, garlic and coriander in oil.
4. Pour over clams and cook gently for 10—20 minutes or until the liquid starts to boil.
5. Serve hot with boiled taro or sweet potato.

### Variation:

At Step 4, add 1/2 teaspoon minced fresh ginger, 1/2 teaspoon turmeric, and 1 teaspoon soya sauce for a spicier flavour.

## Shellfish salad

Four servings:

2 cups cooked shellfish  
3 cups chopped potatoes (cooked)  
2 cloves garlic  
1 teaspoon pepper  
2/3 cup oil  
1/3 cup vinegar  
1/2 cup chopped parsley  
3 tomatoes (chopped)  
1 onion (chopped)  
6 lettuce leaves  
2 lemons

1. Prepare dressing in a bowl by mixing crushed garlic, pepper, oil and vinegar with a fork until well blended.
2. Line a bowl with the lettuce leaves. Mix cooked shellfish with potatoes and the remaining ingredients and place in bowl. Add prepared dressing.
3. Serve topped with slices of lemon.

## Seafood pancakes

Six servings:

### Filling

3 cups cooked shrimps or prawns (without shells)  
1 cup thick coconut cream  
1 tablespoon oil  
1 medium-sized green pepper (diced)  
1 small onion (chopped)  
1 cup cooked meat of scallops or other shells  
Grated cheese

### Pancakes

1 egg  
1 cup milk  
2 cups wholemeal flour  
3—4 tablespoons oil

1. Cut the cooked seafood into small pieces.
2. Combine with coconut cream.
3. Lightly fry onions and then add diced green peppers and the seafood mixture. Stir fry for one minute. Leave aside.
4. Beat the egg in a bowl, add the milk and then gradually add to the flour and mix until you have a smooth batter. Leave for half an hour.
5. Add 1 tablespoon of oil. Keep rest for frying.
6. Heat an omelette pan, add just enough oil to coat the base, and then add just enough batter to thinly coat the bottom of the pan.
7. Allow to cook for a few seconds until lightly browned on the bottom.
8. Turn the pancake and brown the other side.
9. Spoon filling on top of pancake, leaving about two inches around the edge.
10. Sprinkle with cheese. Roll into cigar shapes and serve.

Makes approximately 12 pancakes.

