

## 02. Pelagic fish and fishing

The Raphaëla Le Gouvello education packet - Windsurfing solo across the Indian Ocean

<http://www.respectocean.com>



### Wildlife / biodiversity

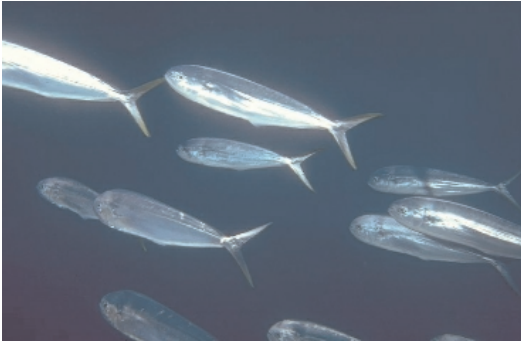


Photo credit: Marc Taquet.



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Fish that travel in schools far from the coastline in open seas are called **pelagics**.

Some species of pelagics range in length from a few millimeters to several meters. The smallest species form part of the zooplankton, as you saw in the chapter "A diverse marine world; the food chain." These animals cannot swim and are simply carried by the marine currents.

The smaller pelagic fish include the herring, the Atlantic mackerel, the horse mackerel, and many more. The larger pelagics include tuna, mahi-mahi and certain sharks. These are good swimmers. Some of them stay in the deep during the day for safety, hunting and feeding on surface phytoplankton at night.

### Safety in numbers

Pelagic fish move about in schools to reduce the risk of attack by predators. Moving in a synchronized, undulating mass keeps the predators at a safer distance, and having all those pairs of eyes on the lookout for trouble affords the smaller fish much greater protection than if each fish were isolated.

### Activity

Choose one of the large pelagic fish mentioned above and write a description of it. In five lines, explain how it reproduces.



Mahi-mahi.

Photo credit: Marc Taquet.

### An example: the mahi-mahi (dorado, or *coryphaena hippurus*)

The mahi-mahi is **epipelagic**, that is, it lives only in the surface waters, and inhabits all tropical or subtropical waters. The males are easy to distinguish from the females by their prominent bony crests.

The mahi-mahi lives in schools of a few dozen fish and hunts in surface waters, eating different species of small fish. It can grow to 1.6 meters in length and has a lifespan of four years.

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### What is a FAD?

It has been noticed that one of the main behavioral features of pelagic fish is their instinctive grouping around floating objects, as if they were drawn to them.

These objects can be natural or artificial. Natural objects such as algae or branches float on the surface of the water. Artificial objects of human origin include trash, fishing equipment debris - or even Raphaëla's windsurfing board, for example.

For this reason, fishermen have developed fish aggregating devices, FADs, which are sort of floating beacons thrown into the sea to attract fish and capture them more easily.



### Activities

- ▶ Can you name a few marine species being raised on fish farms in France today? In other countries?
- ▶ Do some research on fishing:
  1. in Portugal
  2. Ireland
  3. France
- ▶ Find out which fishing technique is the most common in each of these countries. Name fishing techniques that are no longer used, if any, and explain why this is so.

### Fishing: a vital resource

The oceans provide food for people, and 200 million people around the world make their living from fishing. 80 million tons of fish are caught each year (source: Food and Agriculture Organization). By the time you are grown, there will be 10 billion people on Earth, and we will need even more fish!

### Aquaculture, a supplement to fishing

Natural ocean resources must be carefully monitored, because some oceans are producing fewer and fewer fish. This is due to several factors, among them over-fishing and changes in the environment (pollution, global warming). Some countries are developing aquaculture, that is, farms that raise fish, shellfish, and crustaceans to meet the growing demand for seafood products and to make up for declining or exhausted natural resources.

### Fishing has greatly evolved as techniques have improved.

The type of boat and equipment used varies depending on the type of fish being caught. For example:

- ▶ The **trawl** is the name of a net pulled by a trawler. Fishermen use ultrasound-emitting depth finders on board the trawler to locate schools of fish and determine the depth at which the nets must be dragged to capture them. The trawl is used in the Atlantic to catch cod, pollack, monkfish, shrimp, etc.
- ▶ The **seine** is a net that surrounds the fish and is pulled shut at its base by a purse line. Large seine boats capture tuna in the subtropics; small seine boats in the Bay of Biscay fish for sardines and anchovies.
- ▶ **Line fishing** uses hooks baited with something for the fish to swallow. One or more fishing lines can be dragged behind a boat, or numerous hooks can be placed on a very long line and left in the water for several hours: this is called a longline. Bass, swordfish and certain Atlantic tuna are caught this way.