



New Zealand Orange Roughy

Orange roughy is a slow-growing fish species that can live for up to 130 years. They are found in deep water around New Zealand at depths of 700 to 1500 metres and grow to a maximum of 50 cm long and weigh about 3.5 kgs when fully grown. They mature late, reaching adulthood when they are between 25 and 35 years old.

Orange roughy fishing in New Zealand takes place over areas of flat seabed and on the slopes of underwater hills and mountains. Catches peak between late June and early August when orange roughy come together in large schools to breed.

Fishing history

The oldest and largest orange roughy fishery in the world operates on the Chatham Rise, to the east of New Zealand's South Island. Fishing began in the late 1970s, with the largest annual catches of over 50,000 tonnes taken in the late 1980s.

In the early years, catch limits were set considerably higher than they are today. The management strategy at the time was to "fish down" the orange roughy population to a level which would ensure that, as long as the population remained near this level, the fisheries would be healthy in the future.

This was difficult to achieve with accuracy and in some orange roughy fisheries there was too much fishing in the early years. A range of steps were taken to ensure that orange roughy fisheries would be sustainable. Measures included closing three orange roughy fisheries to allow the numbers of fish to increase at the maximum possible rate, and reducing the catch limits in the remaining fisheries

How are orange roughy fish stocks managed?

The Government has carried out scientific research on orange roughy for over 30 years. All research is carefully reviewed by expert scientists, with active participation by fisheries managers and representatives of environmental and commercial fishing interests.

The primary use for this research is to set annual catch limits to ensure fishers do not catch too much orange roughy in any one year.





If the scientific research shows there has been an increase in the abundance of orange roughy, catch limits may be increased. If estimated fish numbers have reduced, then catch limits may be reduced.

Acoustic surveys using new technology allow scientists to more accurately estimate the population of orange roughy. These surveys have shown that populations have increased in at least three fisheries which previously had very low catch limits. As a result, new stock assessments completed in 2014 indicated that orange roughy populations were rebuilding.

Catch limits were subsequently increased in these fisheries in 2014 from a total of 3600 tonnes to just under 6000 tonnes. The populations will continue to be monitored with regular surveys and assessments of the population status every three years.

How do we manage the impact that orange roughy fishing has on the marine environment?

Fishing, like any human activity, almost always has an impact on the environment. MPI monitors orange roughy fishing to ensure this impact stays within acceptable levels. If this is not the case, the Ministry works closely with the fishing industry to alter fishing practices so that impacts are reduced.

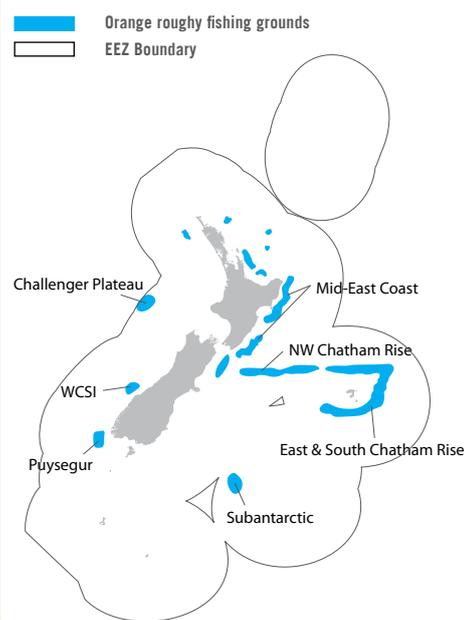
Fishers sometimes catch fish other than the species they are targeting – this is called bycatch. Orange roughy fishing catches only a small amount of bycatch, with 96 percent of the catch consisting of either orange roughy or other valuable quota species such as oreo. Orange roughy fishing vessels catch few seabirds or marine mammals. The larger orange roughy fishing vessels (over 28 metres in length) are legally required to use bird scaring devices to keep birds away from the fishing gear. Fishing vessels must also be careful when they put fish waste into the sea because this attracts marine mammals and seabirds to the fishing gear.

Orange roughy is fished by bottom trawling, a fishing method that can damage corals and other marine animals that live on the seabed. Current fishing activity is largely limited to areas that have been fished before and this helps to minimise additional damage that may occur.

More than 90 percent of New Zealand's offshore waters have never been bottom trawled or dredged. In addition, large areas of the seabed are completely closed to bottom trawling of any kind. These closed areas, called benthic protection areas, form one of the largest closures of marine space to bottom trawling within any exclusive economic zone (EEZ) in the world.

More about how New Zealand manages the impacts of bottom trawling can be found in the information sheet *Protecting New Zealand's seabed from the impacts of bottom trawling*.

Main orange roughy fishing grounds



Did you know:

- Orange roughy can live for up to 130 years.
- New Zealand has the largest and oldest orange roughy fishery in the world.
- Orange roughy quota across all fisheries was estimated in 2009 to be worth \$282 million.
- In 2014, orange roughy exports generated \$36 million for the New Zealand economy.
- The majority of orange roughy processed in New Zealand is exported as frozen fillets with 80 percent (by volume) exported to the USA and 14 percent to Australia.