



 back



The Antarctic toothfish earns big money but it's yet another environmental battleground. Some say we are killing too many. Others say it is being managed properly. But how can you tell when the toothfish live 2km under the Antarctic seas? JOHN McCRONE reports.

Plenty fish in the sea?

Here we go again. Who is telling the truth? The greenies or the industry? The Ross Sea off Antarctica is the world's last intact marine ecosystem, a place where whales, seals and other top predators, like the gargantuan Antarctic toothfish, can still be found in their natural number.

Think of it. A whole planet and this is now about the only place scientists can go to study the intricate web of life in all its undisturbed glory?

Yet for about a decade, under the guise of an "exploratory" research fishing operation, the New Zealand fishing fleet has been down there quietly making a mint. The toothfish – a gourmet dish so expensive it is only served in the restaurants of New York, Tokyo and Paris – is being hauled out of the frigid waters by the tonne.

Slow to reproduce, the toothfish takes 10 years just to reach a size where it is able to spawn. The adults that end up on the slab, caught by trailing 20,000 squid-baited hooks at ocean depths of up to 2km, are man-sized monsters which can live more than 40 years. However, some 100,000 fish are being taken from the water in an eight-week season.

"It's the conservation crime of the century," exclaims Christchurch documentary maker and wildlife campaigner Peter Young.

"It's crazy to fish a species that takes so long to replace itself. And they're destroying this great natural asset, not for the sake of feeding thousands, but to feed a very wealthy and select few."

Antarctic scientists have reason to think the toothfish population could be on the brink of a collapse.

Art DeVries of the University of Illinois – "Mr Toothfish", who has been

catching, measuring and tagging toothfish through holes drilled in the ice of McMurdo Sound since the 1960s – says he used to be able to pull out big adult fish by the handful anywhere.

"We would catch a few hundred. "And 50 to 55kg fish were common. "There were even bigger, but they could straighten out our hooks."

But the past few years? "Nothing," says DeVries. This summer, he and Auckland University marine biologist Clive Evans put out a line for three weeks. The bait was not even touched.

Evans says they believe the toothfish population has contracted to the ocean slopes further out to sea.

"We're fishing at the edge of their range in the shallower water and their best feeding grounds are out where the fishing vessels find them. As you reduce the central population, you reduce the competition and so they must have all retreated back there."

 back



Young says this could be the red flag warning of an imminent population collapse. Young says we criticise the Japanese for their “scientific” whaling in Antarctic waters. Killing whales is almost universally regarded as immoral.

Yet, perhaps because the toothfish is so ugly – it does look like a slimy blue cod on steroids – and also because it is earning our country useful export dollars, we are turning a blind eye to our own environmental misdeeds.

Young is working on an independent documentary, *The Last Ocean*, which he hopes will prick the public conscience if he can get it before world-wide film festival audiences later this year.

The last bit of taping will be a trip overseas to confront customers with the truth of what they are eating, he says.

And with New Zealand’s Sealord and other companies applying for an official “sustainable fishery” stamp, paving the way for even greater exploitation of toothfish, Young feels the word has to get out before it is too late.

But what is the truth of the story? Whether it is inshore fishing and Hector’s dolphins, cow barns on the Mackenzie Basin, wind farms on Otago’s Lammermoor Range, or coal mining and the land snails of Happy Valley, we seem to be getting more and more polarised clashes between conservationists and commercial interests.

So here we go again. Just how threatened is the Antarctic toothfish really?



It started with the Patagonian toothfish.

In the early 1990s, some marketing whiz had the clever idea of renaming this warmer-water relative of the Antarctic toothfish the Chilean sea bass. Given a more appealing name, the Patagonian toothfish became an immediate hit with the yuppie restaurant trade.

Sealord’s international fishing

manager, Ross Tocker, says the flesh of either toothfish is quite bland. However, being particularly oily and moist, the meat picks up the flavours in cooking, making it prized by chefs and the highest priced white fish on foreign menus.

Just to buy toothfish from a New York fishmonger might set you back NZ\$55 a kilo, which is why it is virtually unheard of on the Kiwi dinner table.

With such good returns from the Patagonian toothfish, the New Zealand fishing fleet naturally cast its eyes toward the almost identical species found further south.

Fishing off Antarctica is a challenge. With the icebergs, the -10 degree Celsius summer temperatures, and the week-long journey just to get there, it demands special boats and a lot of fuel. It is said to take a tonne of diesel to catch a tonne of toothfish.

The boats have machines which can bait four hooks a second. But with 20,000 hooks and 13km lines to tow, it can take seven hours to make a single haul. And the biggest toothfish weigh up to 150kg, so line tangles are common.

However, with the potential catch easily justifying the multi-million dollar investment, the only question was whether the fishing would be allowed.

Under international law, New Zealand owns the fishing rights up to 200 nautical miles out from its coastline, including the Chathams and other off-shore islands.

To ensure a sustainable harvest from our fisheries, the Government uses a quota system where the annual catch for each fish species is determined by current population numbers.

National Institute of Water and Atmospheric Research (Niwa) fisheries researcher Stuart Hanchet says this does mean some species are fished quite hard. Hoki, for example, is allowed to be fished down to a third of its natural numbers.

But Hanchet says this has been modelled as the level that will produce the best biomass yield. “The fish will be

faster growing because there is less competition for food.

They will also be able to put more energy into

reproduction.”

It is a farming approach applied to the high seas. And despite some quota system disasters like the orange roughy, generally even fishing industry critics like former Forest and Bird expert Barry Weeber say the New Zealand regime has proved “the least worst”.

Unlike New Zealand’s 200-mile zone, the waters of the Antarctic are technically unowned. New Zealand in fact has a historic claim to the Ross Sea as part of the Ross Dependency, a chunk of Antarctica we once stuck a flag in. Many feel if the area is anyone’s, it is ours.

But all such territorial claims to the Antarctic region have been set aside since the 1960s and the region is administered by international committees like the Hobart-based Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

With the backing of the New Zealand Government, which was keen to develop the \$1 billion a year fishing industry, a permit request was put in to CCAMLR. Weeber says the New Zealand fishing companies were smart enough to promise to fish on a precautionary basis, starting small-scale and doing their own tagging-and-release research to establish fish numbers.

It was also argued a New Zealand presence would prevent the Ross Sea being taken over by pirate fishing vessels, which had already pushed unpatrolled parts of the Patagonia toothfish range to near collapse.

The first boat went out in 1997 and the Antarctic toothfishery quickly grew to four vessels, two owned by Sanford and operating out of Timaru, another two jointly-owned by Sealord and Talley’s, based in Nelson. But soon



 back



other countries arrived, with CCAMLR granting season licences to boats from Russia, Britain, Uruguay, Spain and this year, four new vessels from Korea.

Sealord's Tocker says the fishery is run on an olympic system – a set quota and an annual race until the limit is reached, which makes it highly competitive.

Yet all the boats operate under the strictest environmental regulations, he says. "I have a stack of paperwork on my desk a foot high."

Tocker says each New Zealand boat carries two Ministry of Fisheries observers who alternate 12-hour shifts. Lines have to be laid so they sink fast enough to avoid snaring hungry seabirds (and the fleet has a proud record of not a single seabird death, he says). Fish offal and ship waste must be brought out of Antarctic waters before being dumped.

"The environmental footprint of the toothfishing fleet – this year, there were 12 boats down there – is absolutely minuscule. And New Zealand has led the way in getting these very stringent measures adopted by CCAMLR," Tocker says.

But the crucial question is whether Antarctic toothfishing is sustainable. And Weeber says this all comes down to how much can really be known about fish numbers when your "flock" lives not in a paddock, but several kilometres down at the bottom of the sea.

Niwa's Hanchet says the fishing model agreed by CCAMLR is conservative, allowing Antarctic toothfish stocks to be fished down to half its original size over time.

So 50 per cent. And Hanchet says according to the numbers based on tagging – where the proportion of fish caught a second time gives a measure of the total population – we are nowhere near that as the stock stands at around 80 per cent.

On this score, says Hanchet, there would be no reason to be concerned about the reports of fish disappearing from McMurdo Sound. There could be some local explanation like a few colder winters making the area more icebound. Hanchet says it has also been noted that a new runway for the US Antarctic base had forced scientists to fish in different areas. Besides, there are other reassuring facts, he says. The fishing fleet is reporting the number of fish caught per hook has stayed constant, as has the general size

of the fish.



On the basis of the tagging information and successful regulation, the New Zealand fishing industry is now applying to have the Antarctic toothfishery officially certified as sustainable by the international industry body, the Marine Stewardship Council (MSC). With murmurings beginning about the viability of the "Chilean sea bass" in overseas markets, Tocker says it will be good to have a sticker on the packet to assure consumers of the greenness of the resource. At a political level, the New Zealand fleet is also hoping to persuade CCAMLR to move to a full quota system. Because New Zealand pioneered Antarctic toothfishing, and also has the historical connection with the Ross Dependency, there is an expectation Kiwi boats would be granted the lion's share of any permanent toothfishing rights. So there is a lot to play for. But the pressure is also mounting. Angered by the prospect of an expansion of Antarctic toothfishing, conservationists have stepped up the attack.

Antarctic penguin researcher David Ainley has formed the lobby group Friends of the Ross Sea Ecosystem (Forse). Documentary maker Young runs The Last Ocean, a Christchurch-based charitable trust. Both are trying to bring public attention to the issue. And now the Antarctic and Southern Ocean Coalition (Asoc), the major Antarctic conservation group, has filed an objection to the industry's MSC application.

Weeber, Asoc's New Zealand representative, says many just do not believe the fishing industry's rosy population figures. He says the 80 per cent stock level is based on a tagging system which is too easy to fudge. A systematic under-reporting of tags – tags not getting counted – would suggest the existence of far many more fish than there are.

There is also the evidence of the fish which have disappeared from McMurdo. DeVries says the change is just too dramatic not to ring alarm bells. DeVries adds that not enough is yet known about the toothfish's breeding habits for sound quota modelling. But it is certainly long-lived and slow growing, which means if the population does crash, it could find it tough to recover, he says.

"Commercial enthusiasm has been allowed to take over from responsible fishing," DeVries growls. "The modelling is all very hand-wavy. We just haven't got the science to be confident."

Young says there is another argument entirely. Just as with Japanese whaling, our exploitation of Antarctica is really a moral question. The long term goal of many conservationists is to have the waters around the continent declared an international marine reserve. The toothfish are a key part of the food chain, Young says, supporting the wealth of seals, whales and other life found there. So fishing the numbers down to 50 per cent could be devastating.

"The ecosystem of the Ross Sea is so precious, there should be no fishing. It doesn't matter whether it is sustainable or not. It is just a very special place. New Zealand led the charge down there, and we should be leading the charge out," Young says.

Hanchet agrees the reserve question is a different matter. "It's like the Japanese scientific whaling. The Japanese are taking 1000 animals a year out of a half million population, so sustainability is not the issue. Our objections to it are purely moral."

So the question is first whether to fish at all, and then whether the fishery is sustainable. The moral choice might be simpler, because when it comes to the sustainability question the trouble is, as usual, that both the greens and the industry seem to have all the facts on their side.

*Just to buy
toothfish from a
New York
fishmonger might
set you back
NZ\$55 a kilo,
which is why it is
virtually unheard
of on the Kiwi
dinner table.*

back



Ugly debate: Are we wiping out the Antarctic toothfish or protecting it?



On ice: A longline toothfishing ship in its hunting grounds in Antarctica.

Photo: NEW ZEALAND AIR FORCE

back



Cold fish: American animal biologist Art DeVries with a toothfish in one of the Crary Lab tanks at McMurdo. He warns their population could be collapsing. Photo: FAIRFAX

Commercial enthusiasm has been allowed to take over from responsible fishing . . . We just haven't got the science to be confident.

Art DeVries
Biologist



An Antarctic toothfish:
Its oily moist flesh is prized by chefs, and it's the dearest white fish on menus. Photo: FAIRFAX