

A lifetime in fisheries science

Tim Pankhurst



Ray Hilborn, charting the lower environmental impact of seafood production.

Ray Hilborn, tall and lean with an unwavering eye, is the seafood industry's favourite gunslinger.

His weapons are science and logic, with a relentless approach to corralling data and evidence.

His targets are anti-commercial fishing NGOs and academics and their media followers who would lock the oceans up and deprive the world of livelihoods and a source of healthy protein.

There is little or no equivocation in Hilborn's world.

The world's oceans are not being emptied of fish; sustainable fisheries can and are being well managed; fish is the perfect protein; fishing has far less environmental impact than terrestrial farming; marine protected areas do not rebuild fish stocks.

He delivers his findings in a commanding, confident manner. There is no room for ums and ahs in Hilborn's confident delivery beneath a bristling walrus moustache.

As a professor at the School of Aquatic and Fishery Sciences at the University of Washington, Hilborn has written or co-authored around 300 scientific papers, written three books and at the age of 75 continues to supervise graduate students.

His enduring fascination with fish is on three levels. He started his academic career studying population dynamics and turned to assessing fish stocks. And he is fascinated with fish as things of beauty, wondrous in their own right. His third motivation is more practical – he loves eating fish.

His opponents skew the science, trade on unfounded fears to raise money and in some cases are duplicitous or downright stupid, he says.

"The international advocate for sustainable fishing is the Food and Agriculture Organisation of the United Nations. They represent all the countries that are members, which is pretty much all of the world. They can't talk about how any country is doing, they have to talk in bigger terms.

"Their mission is to reduce hunger and nutritional deprivation. They are saying we can and do sustainably harvest fish. Where we're not, we need to improve. I'm not the only one saying that.

"FAO is saying 30 percent of the world's fish stocks are over-exploited. That says 70 percent are not over-exploited and we need to fix those 30 percent."

He rattles through a summary of fishing nations and stocks. Norway, Iceland, Canada, the US, New Zealand and

Australia remain the top countries with well-managed stocks.

"The EU has made a lot of progress in the Atlantic, reducing their fishing pressure and seeing stocks start to rebuild. South Africa's industrial fishing has got quite a good track record. Peru is doing very well in its largest fishery, the biggest fishery in the world – the anchoveta at five million tonnes a year. Chile had a lot of overfishing but is rapidly moving to more of a science-based system.

"Japan has been seeing its catch decline considerably, as it used to rely largely on overseas fishing. It has updated its laws to mandate management by maximum sustainable yield, which it didn't have before.

"Internationally, tuna fisheries are generally doing quite well. Pacific bluefin and southern bluefin are still classified as overfished but are rebuilding. Atlantic bluefin is booming. Some of it has received Marine Stewardship Council (MSC) certification.

"Atlantic bluefin was an orange roughy-type story, advertised as a disaster of fisheries management, and it's totally turned around in the last 15 or 20 years."

On the downside, the Mediterranean is overfished "and is not a pretty picture," the Adriatic is very heavily trawled and there is a dearth of information on southeast Asia, China, Thailand, Indonesia, and India stocks.

"Fishing pressure in south and southeast Asia is enormous."

In 2012 Hilborn published *Overfishing*, the thrust of which was the world's overall fish stocks are not collapsing, as many claim or believe, and some have shown a remarkable recovery.

A decade on, he says that remains the case, although that is not the popular narrative.

"The oceans are largely unchanged by fishing," he says. "It's what the science says.

"But you don't raise money with the public by saying that, you raise money by saying the oceans are being emptied of fish."

He continues to refute that.

He and his wife Ulrike have friends on the Kapiti coast north of Wellington and holiday and work from there. He wrote both recent books there.

"I can write very fast but it's very rough and my wife over the following months turns it into more acceptable prose."

The couple is slowly working on another book, to be titled *The Environmental Cost of Dinner*, that compares the production impacts of various protein sources including beef, pork, chicken and fish, along with crops.

He says seafood production has lower environmental impacts than almost all other forms of food production as measured by greenhouse gas emissions; carbon footprints; usage of water; pesticides, herbicides and

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antibiotics; soil erosion and biodiversity loss.

He stresses that does not make him anti-farming.

In the summer of love in 1967 when the long-haired, post-war generation was revelling in free love and psychedelia in San Francisco, young Hilborn was working in the dust and heat on a Jolly Green Giant pea harvester.

Ulrike was an organic farmer selling her produce at a local market and the Hilborns' son is a dairy and crop farmer.

"We need all forms of food production," he says.

It does not bother him that he is the face on the anti-fishing NGO dartboards and is happy to retaliate.

One prominent opponent is Sylvia Earle, an ocean explorer backed by National Geographic, a long-time advocate of closing the oceans to fishing.

"I was at a World Bank workshop on the oceans with people from all over the world including the Pacific Islands, and she said they should stop eating fish, just eat more coconuts."

Hilborn's globetrotting includes spending half of each summer in Alaska studying the sockeye salmon fishery, which is thousands of years old.

"As soon as native people came to North America they started catching this abundant resource," he says.

"It's been an industrial resource since the late 19th century. This year they had 60 million fish processed in three weeks, the biggest run in recorded history. It's certainly benefitted from climate change because it's a population right on the northern edge of the range.

"At the same time, the snow crab fishery has completely collapsed. Climate change is driving everything at the moment.

"For coastal fisheries like snapper and tarakihi, the two big drivers are climate change and terrestrial impacts. It's not fishing."

He is long familiar with the New Zealand fishery, estimating he has made 50 visits here since 1985.

When Hilborn first visited New Zealand, the QMS was about to be introduced but without an understanding of the fishery.

"They did not have a science programme to say what's the trend in your fish stocks? What's the abundance?"

"John McKoy, then the director of the Greta Point lab, said we have to set an allowable catch every year and we haven't done the science to even understand how many fish there are.

"It took a long time for the Government to catch up with the science they needed to do it well. That happened in the 90s, developing the capacity to assess the stocks."

He says New Zealand has done well since in ensuring the sustainability of the resource, gaining MSC certification of all the major deepwater fisheries.

The QMS is not perfect though, in his opinion.

"There are problems. One is you get aggregation of ownership. It drifts away from the fishermen to investors or processors, or a few fishermen aggregate the quota. That is one of the unresolved issues of the New Zealand-style QMS.

"In many countries maintaining small-scale fisheries is an explicit social objective. Many of the big industrial firms that fished in Alaska are now partially or majority-owned by the local communities.

"It's not an objective in the New Zealand Fisheries Act. That makes New Zealand fisheries somewhat unique in global fisheries. The system was put in largely by economists. The economic theory is you will maximise the economic value of your fishery."

However, he sees the increasing degree of Māori ownership of the fishery as "the biggest protector from the Green movement".

He continues to take a keen interest in the New Zealand fisheries development and shows no signs of slowing down in his eighth decade.

"It's what I do. It gives my life meaning."

