

# Opinion: Science of our fisheries study is robust

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**Research has uncovered decades-long, large-scale fish dumping, now let's work together on correcting this.**



The Niwa discard rates do not tell us how much is dumped or in what harbour.

Last week, our findings of widescale under-reporting and dumping of marine fish in New Zealand waters went public. Our study, part of a decade-long worldwide project to assess the total global marine catch, found six decades of under-reporting and put the true catch at 2.7 times official figures.

Why such a difference? Overwhelmingly, it is unreported commercial catch and fish dumped at sea. Internal reports by the Ministry for Primary Industries show the ministry has known for more than a decade about substantial misreporting and dumping, and in some cases did not pursue prosecutions, allegedly because of the lack of evidence.

This matters. Our catch reconstruction, which provides the best estimate to date of what's really occurring at sea, indicates that more than half of the fish caught in our waters by commercial fishers is not reported. That's a massive waste in itself, and New Zealand could earn money from those fish. It's also a bad look. And crucially, it undermines the Quota Management

System (QMS), because catch (and effort) data is critical for determining the amount of fish that can be caught each year.

We are not saying the QMS is the cause of the problem. We are saying that the QMS doesn't solve all the problems, and introduces new ones. This is an opportunity for all stakeholders (government, industry, iwi, NGOs, scientists and universities) to devise a smarter way of managing our fisheries.

Instead, Niwa, the ministry and Seafood New Zealand have argued our study's methods were flawed. Fisheries science is complex and it's easy to misrepresent and muddy the waters. Now's a good time to settle those criticisms and steer the conversation towards workable solutions.

- **Claim: "Niwa research shows discards are only 6.6 per cent of total catch."**

During our data collection, we met Seafood New Zealand and they pointed us to Niwa discards estimates. We incorporated these estimates into our study. But it's very misleading to suggest they are representative of all fisheries and vessels. They're based on about a fifth of the fishing trips in only six of the 628 QMS fisheries between 1991 and 2013, and only include observed vessels.

It is well-known that observed vessels fish and report quite differently to unobserved vessels. Think about how carefully you drive when being followed by a police car. Scientists call this the observer effect.

The Niwa discard rates do not tell us how much was dumped when the observer was asleep or not on board the other 81 per cent of fishing trips. Nor do they tell us how much of the catch was high-graded (lower value fish dumped and replaced with higher value fish), or whether the licensed fish receiver understated the catch received, or how much a trawler in Auckland's waters dumped. Our study does.

- **Claim: "Concerns about methodology and conclusions".**

The New Zealand study used the same methodology as all 247 studies that form this global project. The global findings were published in *Nature Communications*, one of the world's top three scientific journals. The methodology was blind peer-reviewed before it was accepted for publication. In fact, our findings are supported by MPI's own investigations, such as Operation Achilles.

- **Claim: "Estimates are based on historic anecdotes from interviews that are inevitably biased".**

There is no 100 per cent reliable, complete source of information on total catch - that's why we did this reconstruction. Interviews were corroborated by scientific reports, other documents, photographic and video evidence. We did not extrapolate directly from the interviews. We gathered as many statistical estimates of the same situation as possible, and combined those using proven statistical tools, as in any rigorous empirical investigation. Then, we interviewed participants and witnesses - combining forensic data, witness testimony and expert knowledge.

- **Claim: "Abundance, not catch data, is the measure of sustainability".**

Abundance - the size of fish stocks - is what we must monitor to make sure catches can be sustained. Independent estimates of abundance (e.g. trawl surveys) are extremely costly and difficult to estimate. New Zealand carries out very few: the last one in Auckland's snapper fishery was about 15 years ago. But we need abundance estimates to determine annual quotas. So, scientists infer as much as possible from catch trends.

So, what could we do about the problems identified in our report? The announcement of MPI's review of Operations Achilles and Hippocamp is but a first step. We should also consider:

- A comprehensive review of the QMS that considers other countries' successful systems e.g. Canada enforces 100 per cent independent observer coverage; Iceland enforces the landing of all catches and waste.
- Assessing other jurisdictions' approaches to sustainability in fisheries e.g. dealing with by-catch, high-grading, waste and misreporting.
- A Productivity Commission investigation of the fishing industry since the introduction of the QMS, focusing on the sustainability of fish stocks and the industry's economic performance.
- The creation of a stand-alone government agency for fisheries, with stronger oversight by both ministers and the Government's oversight agencies.

Everyone who eats or catches fish in New Zealand has an interest in getting this right.

*Glenn Simmons, Hugh Whittaker, Nigel Haworth, Daniel Pauly and Dirk Zeller are researchers at the Universities of Auckland, Oxford and British Columbia.*

*Debate on this article is now closed.*

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