

Misinformed, misguided, and downright unsustainable!

By David Cook
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If Australia's fisheries are supposed to be amongst the best managed in the world, how come it is so hard to catch a decent sized fish in our estuaries or off our beaches these days, in comparison to say 15 years ago?

From what we discussed in last month's article in these columns, we must conclude gillnetting in our east coast inshore finfish fishery (the ECIF) is surely be one of the worst managed fisheries in the country. Despite government assurances that the fishery is sustainable, all the indicators point towards the very opposite being the case.

By law, under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* the federal government *must certify* that all fisheries from which product is exported is "... *managed in an ecologically sustainable way*". Today we examine how on earth Brisbane and Canberra can possibly be so misinformed and misguided as to get it all so wrong.

The saying 'you can fool some of the people all of the time, and all of the people some of the time, but not all of the people all of the time' springs to mind. And you'll be familiar with another old saying: 'set a thief to catch a thief'.

Well I have worked in various aspects of tropical fisheries research, development and management for over 25 years for various government and other fisheries agencies. I have also fished some of the most un-fished and overfished regions of the world. I have come to know only too well the political pressures on bureaucrats and the mistakes they can make when assessing the health of a fishery.

Let us take a look at the pitfalls the bureaucrats must avoid when considering the ECIF in the future, provided they are backed by the political will to do a proper job. If the political will is lacking then why don't we create it?

I shall also take the opportunity to explain here some important fisheries management jargon for crucial but simple fisheries management concepts.

Dodgy Data

No jargon here and there are also no incentives, no carrots and no sticks, no checks and no balances in the ECIF to ensure fishers accurately report their catches. To make matters worse little or no effort is made by the authorities to validate logbook records.

The result is that logbook data is considered by many both in authority and industry alike to be of such poor quality as to be misleading. Inside

sources claim many logbooks have a remarkable level of under-reporting whilst in other cases there may even be over-reporting.

A classic illustration of this was a couple of years ago at a public meeting in Mossman, when an offshore gillnetter warned us not to close the inshore waters to netting of grey mackerel. He predicted that if we did, a number of other netters would simply enter false figures in their logbooks and demand compensation. That is how "flexible" some in industry consider their data!

Effort Creep

This, the first real bit of jargon, covers the type of difference experienced between a night's catch by say, a one-man dinghy, using hand-hauled nets in the old days and his catches today after he has up-graded to say a much larger more powerful live-aboard boat.

He may now be using 600m of hydraulically hauled nets and, thanks to the effort saving haulers, can work them more effectively and for 24 hrs a day rather than just overnight. Much better, more effective, less labour-intensive technology results in higher catches for less effort - this is known as *effort creep*.

Over the years catches have been reported as catches/boat/day. No allowance was made for size of boat or the ever-increasing use of a wide range of ever-improving technologies. Whilst some well-meaning netters may be returning good data, effort creep is another reason why it is fatuous to directly compare modern day logbook data with older data.

Catch per Unit Effort (CPUE) and hyperstability

When accurately compiled, the records just mentioned are known as CPUE. You would be forgiven for assuming that good CPUE could help indicate whether fish numbers are relatively constant or declining. Certainly some authorities appear to make this assumption.

Be warned, as fisheries managers of countless collapsed stocks throughout the world have witnessed, managing fish based on this assumption can prove disastrous if the fish are netted as they gather in schools to breed. This is because of the often overlooked risk known in fisheries jargon as *hyper-stability*.

Hyperstability is the *misleading appearance of stability* in target fish populations as suggested by steady annual catches before an eventual sudden collapse. It is like taking the same amount of money out of your fixed bank deposit every year when your withdrawal is more than the interest earned for the year.

How long you can keep withdrawing that same amount of cash will

depend upon the starting size of your deposit and the size of your withdrawal. One thing is for sure: you cannot sustain the same withdrawals forever and will certainly run out of cash one day.

Those of our inshore species that can be netted during spawning (and that's just about all of them, other than barra) are susceptible to this type of a collapse. Grey mackerel and king threadfin may be especially vulnerable when fished by the big drum netters such as the ones shown here.

Serial Stock depletion

This is more fisheries jargon for another very simple concept. A fishery may be recording fairly consistent catches from year to year, (*and remember the figures may be wildly out, closer to garbage than scientific data*) whilst the big netters moving from area to area report 'steady' catches. There is no way of knowing if they are systematically fishing down a series of different stocks to depleted levels before moving on, resulting in *serial stock depletion*. This is hardly sustainable management.

Use of previously discarded species

One grey mackerel netter told me that he, like several other boats fishing in the same area, discarded and dumped about five tonnes of dead Queenfish in a beach cave during one season alone, back in the late 1990's. In those days no-one bothered to keep queenfish so it was all wasted and went unrecorded.

Nowadays when netters can't fill up with barra, threadfin or greys, they keep all species they catch, including previously discarded queenfish and other lesser-known fish. These often go unrecorded at the species level but now contribute to total tonnage recorded when previously they did not. This may mask the real level of decline in some species.

When is unsustainable 'sustainable'?

Because of *dodgy data and effort creep*, comparing the catches of yesterday with those of today is providing *misinformation*. Because of the risks of *serial depletion, hyperstability and dodgy data*, any assumption that reports of steady annual catches indicate evidence of a sustainable fishery is simply *misguided*.

When a fishery that is clearly unsustainable to those who know their stuff, but is mistakenly assessed by authorities as sustainable, if it is not politics then it is presumably a case of *'garbage in garbage out'*.

Scientific proof

By now I can hear certain advocates for the industry bleating the inevitable "Oh but you cannot say it is *unsustainable without solid scientific proof*".

Our reply is that we can and we do.



Effort creep is when there is an unrecorded increase in efficiency of operations, e.g. by upgrading from a dinghy to a live aboard drum netter, such as this one.

Both the industry and the authorities have shot themselves in the foot by failing to record data of the quality necessary for scientific purposes, e.g. for establishing baseline levels for the fishery and subsequent trends in fish numbers.

There is insufficient knowledge of the sizes of different stocks, how many species are separated into discrete stocks and the locations of their boundaries. We do not have sufficient indicators of the relative abundance of different populations of various species and no long term CPUE data uncorrupted by effort creep. This is all of real concern.

When scientific data are lacking, the precautionary principle requires us to use the next best available information for fishery management purposes. Some of this lies in the records and memories of those who have, over the years, witnessed firsthand the decline in abundance of inshore fish.

We must never let the authorities or industry dismiss the observations of experienced senior recreational fishers as "*anecdotal and therefore worthless*". It is the best ammunition we have so you must keep firing it. The authorities must eventually give due consideration to such community observations.

We also need to point out that the boot should be on the other foot. To continue operating, the industry should be required to demonstrate,

as for example in the USA, that it is making good progress towards being "*managed in an ecologically sustainable way*". In addition the public has the option of demanding this by refusing to buy fish that is not certified by an independent authority such as the Marine Stewardship Council, as being sustainably caught.

Additional information

The Department of Sustainability, Environment, Water, Population and Communities holds the outcomes of all fisheries assessments carried out under the EPBC Act; available at: www.environment.gov.au/coasts/fisheries, select 'Queensland Managed Fisheries'. Further information can be obtained from: The Director, Sustainable Fisheries Section, DSEWPAC, Canberra; email: sustainable-fisheries@environment.gov.au; Tel: (02) 6274 1917.

If you are interested in the technicalities of deciding whether a given fishery is sustainable or not, visit the Marine Stewardship Council at www.msc.org. Under "Documents" you can find their '*MSC Fishery Standard: Principles and Criteria for Sustainable Fishing*'.

Finally for more information on the matters raised in this series of articles or to support the campaign to stop gillnetting of grey mackerel, visit Fishers for Conservation at www.ffc.org.au/Grey_Mackerel.html.

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Regulations permit netting of grey mackerel by large boats throughout their spawning season, inviting serial stock depletion with declining numbers masked by hyperstability.