

# Our Snapper: Nobody's Fault, Everybody's Problem

by Karen Field



Snapper is the most important fish in northern New Zealand. Kiwis love to eat it, catch it and look at it. And, as a “keystone” species it is ecologically important because its presence or absence can change the make-up of our inshore ecosystems(1). Without large snapper feeding on the kina, luxuriant kelp forests become kina barrens, where even the kina are starving!

Our snapper in the Bay of Islands belong to the East Northland Stock(2) which ranges from about North Cape to Waipu. So, while the fish we see in the Bay are directly impacted by local activities, their numbers are also determined by the health of the broader fish-stock to which they belong. And, the East Northland Stock is not doing so well. In fact, it is currently down to just a quarter of its natural abundance(2).

## A Growing Population Grieves

So why do I say it's “nobody's fault”? Clearly, we all contributed to the decline in the snapper population, we ate it, caught it, exported it, dredged and trawled its habitat, and polluted the waters it lives in. I am saying “nobody's fault” because we did all this in the context of our own population growing so rapidly, that our view of ourselves and the iconic kiwi lifestyle we enjoyed in “Gods Own Country” couldn't keep up with the impact our increasing numbers were having. I was born in 1962, and in my lifetime our population has nearly doubled from 2.5 million to now, just under 4.7 million.

Our ever-growing population requires a different way of living, both with each other and the environment, we can no longer all have everything. And this is what makes it everybody's problem. We are not accustomed to heavy regulation, and we are not practiced at the conversations required to work out how to share what is available in a reasonable way. And what is reasonable will require us to greatly refine our values about what we collectively consider important.

I believe that New Zealand wide we are in a grief process about the effects of our growing population. What our higher population means for what we can and can't do, can and can't have. The stages of grief follow *denial, bargaining, anger, depression, acceptance*. With regards to snapper I think we are mostly out of denial –



we know that snapper is way less abundant and heaps smaller than they used to be. So we are now sitting around in the bargaining and anger stages. In these stages we know there's a problem but tend to engage in lots of magical thinking that we can fix the problem without really changing anything, or that only the other group will have to change. There's a lot of finger pointing. Talk is peppered with lots of "if-only" and "yes-but". We feel angry when solutions are proposed that require us to change.

No longer can everyone who enjoys snapper get all that they want without affecting other groups who also want some. Many Maori are pretty annoyed that so many of us have taken so much, especially because we signed a Treaty in which Maori were "guaranteed the full, exclusive and undisturbed possession of their fisheries".

Recreational fishers have a tendency to blame it on the commercial fleet, in spite of the fact that the East Northland recreational catch of snapper reached about 80% of the commercial catch in 2012(3), and the commercial sector are calling for an effective limit on the total recreational harvest and a requirement for recreational fishers to report what they catch. Meanwhile, those who get pleasure from snorkelling or diving to

marvel at the beauty of our underwater environment are unhappy that those who fish have emptied the sea – kina barrens are rather boring to gaze upon. And those who simply believe it is important that our sea life is flourishing, are dismayed by the extent to which snapper has been fished down to such low abundance, with the flow on loss of biodiversity.

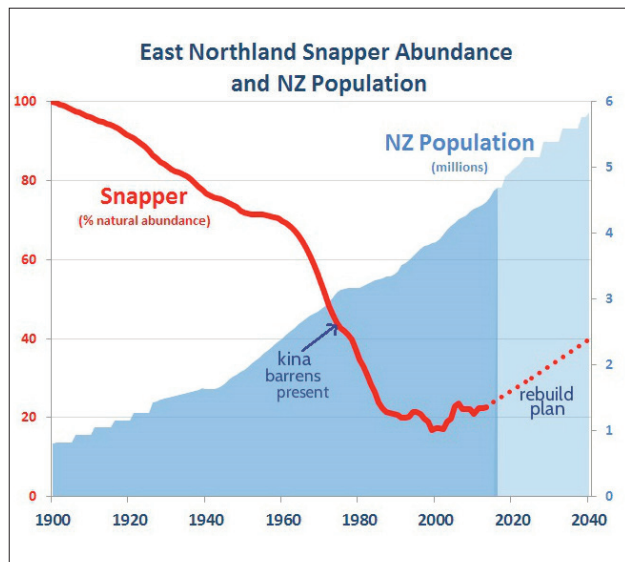
### **Fisheries Management**

This is where the picture for our local snapper gets bigger. Our East Northland stock is managed, along with the Hauraki Gulf-Bay of Plenty stock, in an area called SNA1 which stretches from North Cape to Cape Runaway (near East Cape). In SNA1 the commercial catch limit is 4500 t, and another 3050 t is allocated to recreational fishers(3). However, the recreational catch is not actually limited and in some years the allocation is exceeded, e.g. in 2012 surveys showed the recreational catch was about 3800 t(2). There is also a nominal allocation of 50 t for the customary catch (fish taken by Maori for events like tangi), but at present there is insufficient data to know what the actual customary catch is.

Current government policy is to actively manage

snapper stocks so they fluctuate around a *target*(4) of 40% of what we think the natural un-fished abundance would be(2). When snapper abundance falls below what's called its *soft limit*(4) of 20% natural abundance, then a “formal, time constrained rebuilding plan” is supposed to be put in place to bring the stock back to the 40% abundance target.

Both snapper stocks have taken a hammering over the decades. For the past 30 years the East Northland stock has been fluctuating around 20% of natural abundance, while the Hauraki Gulf- Bay of Plenty stock got as low as 10%(3).



*East Northland snapper abundance declined as our own population grew.  
Sourced from reference (3) and (10).*

### SNA1 Strategy Group

By 2013 there was so much discord in response to a government review(5) of ways to improve the snapper situation, that the Ministry for Primary Industries (MPI) set up the SNA1 Strategy Group. The Group was made up of 9 representatives from the customary, recreational and commercial fishing sectors(6). Unfortunately, no underwater tourism reps, no amateur snorkelling/diving reps, no conservation reps, and nobody representing the general community were included. This oversight meant that the Strategy Group's primary focus was on how to improve the snapper fishery for those who like to fish and did not set out to address the concerns of those who are interested in the health of the snapper populations from a non-fishing standpoint.

The Strategy Group came up with 107 recommendations. Critically, they recommended that we take until 2040 to rebuild the SNA1 snapper stocks to the 40% target(6). They also recommended no change to the current catch limits. This is in spite of MPI's Inshore Fisheries Science Working Group concluding in May this year that there was more than 90% chance that the current catch level would continue to cause overfishing of the snapper in SNA1(3).

Another recommendation was for an ongoing SNA1 Advisory Group, comprising the 9 fishing sector representatives, plus a single member of the public to be approved by the fishing reps(6). This recommendation overlooks the importance of snapper to non-extractive stakeholders and the valuable knowledge they would bring to a balanced advisory group.



### So why should you care?

Obviously, if you like catching fish, how many snapper are out there and how big they are will make a big difference to your fishing trip. We know from early northern middens that the average size of snapper in the pre-European harvests(7) was about 50cm or 2.5kg! Even since the increase in the minimum legal size to 30cm the average size of snapper in the East Northland recreational catch is still only about 40cm or 1.3kg (NIWA unpublished data).

And we need those big snapper to eat the kina. More large snapper means fewer kina barrens which get replaced by kelp forests harbouring all sorts of sponges, bryozoans, shellfish, crabs and shrimps(1). Other species of fish return, the ecosystem is restored, and people who love to snorkel or dive are happy too.

### How high should we aim?

Currently, the East Northland Stock is at about 24% of natural abundance. The SNA1 Strategy Group has proposed taking 25 years to get it back to just 40% of natural abundance(6), which is about 1980 levels. This is a very long time to get the abundance not very high. Kina barrens were already well established by the late 1970s(1,9), indicating that it's unlikely the 40% target will fully restore our inshore ecosystem.

If we want to see snapper with the size and abundance of our childhoods, then there are essentially two options. Raising the overall snapper abundance to say 75% of natural levels – which is about where the East Northland Stock was when I was a child in the 1960s – or have large enough *no-take areas*, that once established, will provide flourishing marine communities inside them,

and good fishing at the boundaries. Of course, we can combine these strategies.



*When did you last catch snapper like this with a hand-line off your local rocks?*

*(Photo: Maori woman with a catch of fish, Northland, circa 1910. Northwood brothers: Photographs of Northland. Ref: 1/1-006322-G. Alexander Turnbull Library, Wellington)*

If we decide to choose a strategy of high overall snapper abundance, the key challenge once abundance is restored, is to keep it there. There will be more snapper and bigger snapper. However, our own population will also have grown – projections are that by 2040 there will be another million people here(10) – and so it is unlikely that a higher abundance of snapper will lead to much higher catch limits per person.

Permanent *no-take areas* provide for a number of uses. For people who like to look, or simply want to know our sea life is flourishing, they become areas of both high abundance of fish and the diversity of marine life that comes with them. And for those who like to fish, as all those who have a local *no-take reserve* know, after a few years the boundary fishing is the easiest place to catch your limit. It's like having a savings account which pays interest in fish, each week you can fish the boundary for an easy feed.

To improve snapper abundance, we need to not only attend to the numerous avenues for reducing the effects of fishing and fishing methods on both snapper and its habitat, we also need to find ways to reduce the significant land-based sources of pollution on the marine environment. Excessive sediments, pollutants and nutrients all lower the carrying capacity of the sea our snapper inhabit. Cleaning up inflows into our streams and rivers will improve the productivity of our near-shore ecosystems. This increase in productivity will offer the potential to catch a larger proportion of the snapper stock each year, while maintaining a higher overall abundance.

We can have large and abundant snapper, and we can have the flourishing in-shore marine ecosystem that

goes with them. However, there is no magic wand. No option for rejuvenating our snapper stocks will take us back to a time when everyone could have everything on land or at sea. Accepting that reality, will allow us to move on with making the significant changes needed to restore our marine environment.

## References

1. Leleu, K., Remy-Zephir, B., Grace, R., Costello, M.J. 2012. Mappin habitats in a marine reserve showed how a 30-year trophic cascade altered ecosystem structure. *Biological Conservation* 155: 193-201.
2. Francis, R.I.C.C. and McKenzie, J.R. (2015). Assessment of the SNA1 Stocks in 2013. NZ Fisheries Assessment Report 2015/76. Ministry for Primary Industries, New Zealand.
3. Ministry for Primary Industries. 2016. Fisheries Assessment Plenary, May 2016: stock assessments and stock status. Compiled by the Fisheries Science Group, Ministry for Primary Industries, Wellington, New Zealand.
4. Ministry of Fisheries. (2008). Harvest Strategy Standard for New Zealand Fisheries. Ministry of Fisheries, New Zealand.
5. Inshore Fisheries Management Team. (2013). Review of sustainability and other management controls for snapper 1 (SNA1). Ministry for Primary Industries, New Zealand.
6. SNA1 Strategy Group. (2016). Snapper (SNA1) Management Plan. Ministry for Primary Industries, New Zealand.
7. Leach, F. (2006). Fishing in pre-European New Zealand. *Archaeofauna* 15.
8. Hartill, B. and Davey, N. (2015). Mean weight estimates for recreational fisheries in 2011-12. NZ Fisheries Assessment Report 2015/25. Ministry for Primary Industries, New Zealand.
9. Booth, J. (2016). Wrecked reefs: Just where does the buck stop for shallow-reef kelp loss in the Bay of Islands? Russell Review 2016-17
10. NZ Statistics. National Population Projections, by age and sex, 2016(base)-2068. <http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7542>
11. Dickey, D. (2016). Silverlining squandered as Astrolabe reef decimated again after Rena. <http://www.stuff.co.nz/environment/84382558/Silverlining-squandered-as-Astrolabe-reef-decimated-again-after-Rena>