

Plenty of fish in the sea? Not necessarily, as history shows

October 4 2017, by Anna Clark



Ern McQuillan, Tuna Fishing at Eden, New South Wales, 1960. Credit: National Library of Australia

Australia has had tens of thousands of years of fisheries exploitation. That history reveals a staggering natural bounty, which has been alarmingly fragile without proper management. The current debate over the federal government's new draft marine park plans is the latest chapter of this story.

Early accounts described what we can only read today as some sort of fishing Eden. The sea floor off the west coast of Tasmania was carpeted red with crayfish. Extraordinary schools of Australian salmon swelled the beaches of southern Australia—from Albany right around to Port Macquarie. Mountains of mullet migrated annually up the east coast of the continent.

Colonial writers described huge hauls of fish, caught using nets they had brought over on the First Fleet. One catch in 1788 was so large, wrote David Collins, the colony's newly minted Judge-Advocate, that it actually broke the net. Collins speculated that if the haul had been landed, the entire catch could "have served the settlement [of over 1000] for a day".

Like colonial fishers on the coast, inland explorers such as John Oxley were struck by the paradox of Australia's natural world. The land seemed barren and unsuited for pastoralism, he observed in 1817, yet the water teemed with life. In less than an hour, one of his party "caught 18 large fish, one of which was a curiosity from its immense size and the beauty of its colours," wrote Oxley. "It weighed entire 70 pounds [31kg]."

Indigenous fishing knowledge

For Indigenous people, seasonal mobility had both signalled and prescribed the times for fishing and its availability, forming a vital part of their management of local fisheries.



Joseph Lycett, Aborigines Spearing Fish, Others Diving for Crayfish, c.1817.
Credit: National Library of Australia

For the Yolngu in Arnhem Land, flowering stringybark trees coincided with the shrinking of waterholes, where fish could be more readily netted and speared, or poisoned. When the D'harawal people of the Shoalhaven region in southern New South Wales saw the golden wattle flowers of the Kai'arrewan (*Acacia binervia*), they knew the fish would be running in the rivers and prawns would be schooling in estuarine shallows.

In Queensland, the movement and population of particular fish species had their own corresponding sign on land. The extent of the annual sea mullet run in the cool winter months could apparently be predicted by

the numbers of rainbow lorikeets in late autumn. If black magpies were scarce in winter, numbers of luderick would also be low. When the bush was ablaze with the fragrant sunny blooms of coastal wattle in early spring, surging schools of tailor could be expected just offshore.

A diversity of Indigenous fishing practices developed to capitalise on this. In the Gadigal nation (where Sydney is situated), Eora fisherwomen hand-lined for snapper, dory and mullet. At the end of their lines, elegant fishhooks made from carved abalone or turban shells were dropped over the side of their canoes.

These canoes, known as *nowies*, were "nothing more than a large piece of bark tied up at both ends with vines", described the British officer Watkin Tench. Despite their apparent flimsiness, the fisherwomen were master skippers, paddling across the bays and offshore, waves slapping at the sides of their precarious vessels.

When the water was calm and clear enough, Aboriginal men around Sydney Harbour and Botany Bay were frequently seen lying across their *nowies*, faces fully submerged, peering through the cool blue with a spear at the ready. They "do this with such certainty," wrote John Clark in 1813, that they "rarely miss their aim".

Yet the growth of stationary colonial settlements soon saw those fisheries put under enormous pressure.



A Catch of Sea Garfish (*Hemirhamphus*) at Thompson's Beach, near Sydney, N.S.W. 1911, plate II in *The Future of Commercial Marine Fishing in New South Wales* by David George Stead. Credit: National Library of Australia

Over-fishing concerns by the 1880s

By the mid-1800s, local fisheries near rapidly-growing cities such as Port Jackson and Botany Bay were already seeing the effects of [over-fishing](#). Practices such as "stalling" netted off entire tidal flats at high tide, and trapped everything behind a thin layer of fine mesh when the water retreated. Fishers picked out the larger fish such as bream, whiting and flathead for market, but piles of small fish were simply left to rot.

While the "net of the fishermen gradually increased in length", noted Alexander Oliver, who was appointed to the 1880 Commission of Inquiry into the NSW fisheries, the "meshes decreased in width, so that nothing escaped, and bushels upon bushels of small fry—the young of the very best fishes—were left on the beaches".

There were calls for greater regulation and [fisheries management](#) by the mid-19th century. Fish "are followed up every creek and cranny by their relentless human enemies", and "perpetually harassed and hunted", reported the 1880 Commission, which had been convened to investigate the poor state of the local fishing industry. It revealed an anxiety over stocks and sustainability that sounds eerily familiar today.

The fine-line between commercial exploitation and sustainability has been gingerly walked throughout Australia's fishing history, sometimes catastrophically.

In the late 1920s, tiger flathead stocks south of Sydney completely collapsed - less than a decade after the introduction of ocean trawl fishing. In 1919, takings on the Botany Grounds had totalled 2.3 million tons. In 1928, flattie stocks crashed, and by 1937 only 0.2 million tons were hauled up by the trawling fleet.



Julie Fourter and Ruth Maddison, Guy Robert on Osprey IV Climbing Mound of Orange Roughy, a Deep Sea Fish, Portland, Victoria, 1988. Credit: Ruth Maddison

That stocks are still only 40% of pre-1915 levels, nearly a century after their initial collapse, shows just how much longer it takes fish populations to recover after plunder.

In the 1970s and 1980s, the same cycle of boom-to-bust played out with southern blue-fin tuna and orange roughy.

In response, marine parks were introduced from the 1980s, as well as national regulations that enforced catch sizes, fishing zones and seasons,

and even the mesh size of nets.

Fisheries management have responded to declining stocks by introducing wide-ranging legislation across the recreational and commercial sectors. But they're in an unenviable position, essentially forced to make laws in response to fishing practices sometimes over a century old (such as the excessive by-catch of trawlers), while simultaneously "balancing" the contemporary demands of conservationists, recreational and commercial fishers.

To be fair, that quest for "balance" isn't easy. Yet we also know from history that this is a zero-sum game: there are plenty of [fish](#) in the sea—until there aren't.

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