



Australia Catch Reconstruction

Overview

Australia has generally robust fisheries management, but it does not account for all the fish and shellfish taken from its waters. A process known as “catch reconstruction” helps to fill these gaps by collecting information on catch from a variety of sources, including academic literature, industrial fishing statistics, local expert interviews, and other accounts and records. This fact sheet presents estimates (Kleisner et al., 2015) of total catches from 1950 to 2010, including recreational and traditional (i.e., fishing by local indigenous communities) catch, which has been neglected in official accounting. Total catches appear relatively sustainable given the size of Australia’s ocean area, and discards have declined.

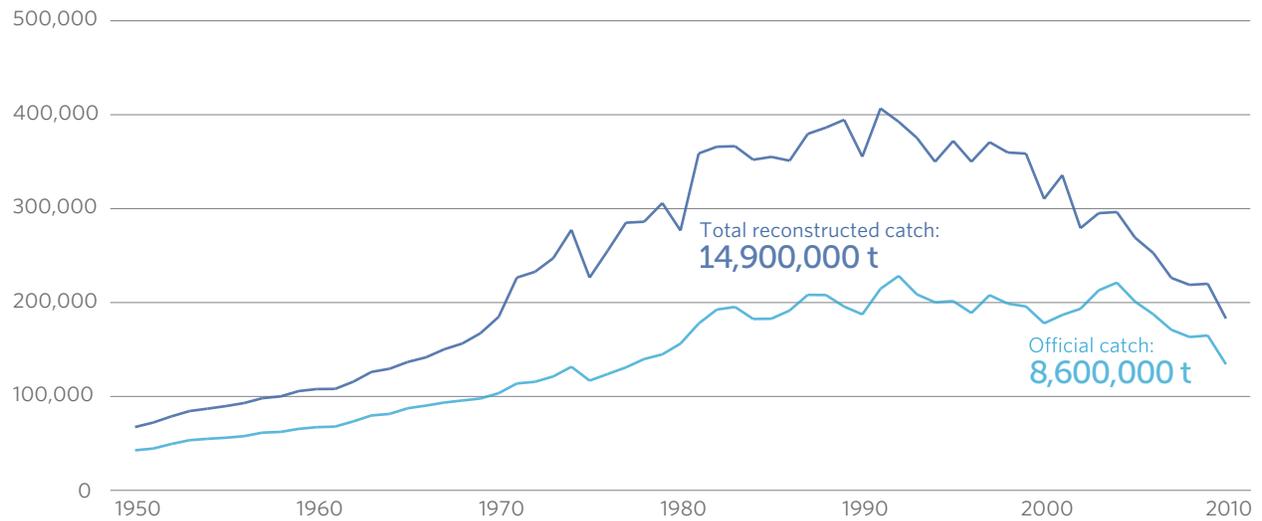




Tuna at the port in Cairns, Australia. Most countries focus their data collection on industrial fishing, in part because small-scale operations can be difficult to track.

Australian Catch Have Been Underreported for More Than 60 Years

Reported versus reconstructed catch, 1950-2010



Reconstructed Catch by Category, in Tonnes, 1950-2010



Source: The Sea Around Us project
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Reconstructed Catch by Category, in Thousands of Tonnes, 1950–2010

Type of fishing	Catch	Data sources
Industrial	5,500	Researchers extracted industrial catch from official data on commercial fishing based on gear types commonly used in large-scale fisheries (e.g., trawling, dredging, and large-scale trap and long line). Reporting was inconsistent in earlier years, so researchers filled in those data using linear extrapolation.
Discards	4,000	Researchers combined statistics for five large trawl fisheries with research on rates of bycatch to calculate discards, which have decreased by an estimated 90 percent in the past 20 years.
Artisanal	3,100	Researchers extracted artisanal catch from official data on commercial fishing based on gear types commonly used in small-scale fisheries (e.g., trap and line, hand diving, and gill net). They supplemented these data with estimates derived using tourism data and assumptions about rates of seafood consumption by tourists.
Recreational	2,200	Researchers based their estimates on coastal population data combined with a government survey in 2000 that estimated the rate of participation in recreational fishing and the amount of fish caught per angler, broken down by species.
Traditional	98	Estimates were based on local population data and on a government survey from 2000 that estimated the rate of participation in recreational fishing and the amount of fish caught per angler, broken down by species. Researchers then combined these projections with a database of the weight of mature fish to calculate a consumption rate of 40 kilograms per person per year. For states not covered by the survey, they used a conservative rate of 20 kilograms.

Source: The Sea Around Us project
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Prawn fishing trawler in the Gulf of Carpentaria, Australia. Catch reconstruction is a promising approach to better capture the scale of fishing.

Reference

K. Kleisner, C. Brennan, A. Garland, S. Lingard, S. Tracey, P. Sahlqvist, A. Tsolos, D. Pauly, and D. Zeller, *Australia: Reconstructing Estimates of Total Fisheries Removal, 1950-2010* (Vancouver: University of British Columbia, 2015), Fisheries Centre working paper No. 2015-02, <http://www.seararoundus.org/about/index.php/working-papers>.



Lobster pots, stacked on a vessel in Tasmania, Australia. The danger in underreporting fish catch is that country officials don't have the data they need to implement effective fisheries management measures.

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SEA AROUND US PROJECT
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The Sea Around Us Project is a scientific collaboration between the University of British Columbia and The Pew Charitable Trusts.

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