Wild Capture Fisheries

Global fish stocks are becoming increasingly depleted, which prevents fisheries from living up to their full potential. The economic and environmental costs of reducing stocks are high, but a comprehensive understanding of possible solutions is starting to develop. If managed sustainably, fisheries can generate important economic and societal benefits into the future.

Overview
Marine ecosystems provide food and micronutrients to more than 3 billion people around the world. They are also a significant driver of economic development. Fish and fishery products are among the most widely-traded food commodities, with exports rising to US$146 billion in 2014. Unfortunately, the state of the ocean is declining in the face of unprecedented stress from climate change, pollution, habitat destruction, disease, invasive species and – as argued by many to be the largest single source of pressure – overfishing.

Trends in marine fisheries
Wild capture volumes increased substantially during the post-war period, peaking around 1996, and declining since then. Total reported wild catch from marine waters is currently around 81 million tonnes, although a recent study estimated that the total annual global marine catch is closer to 130 million tonnes per year, when unreported catch and discards are accounted for.

Despite an escalation in global fishing effort and the introduction of new fisheries every year, global catch
Rebuilding fisheries – new insights

There is a growing recognition and good empirical evidence that reducing fishing efforts in the short term can have substantial and long-term benefits for target species, associated ecosystems and the oceans as a whole⁹. A recent scientific scenario, incorporating data from stocks representing more than three-quarters of global reported catch, indicated that 88% of stocks will be overfished by 2050 assuming business as usual management regimes. By contrast, improved fisheries management was predicted to generate annual revenues equivalent to US$53 billion per year in 2050, and an annual increase exceeding 16 million metric tonnes of fish caught³.

Status of the world’s fish stocks

The overall status of the world’s fish stocks is a central topic in discussions among scientists, hampered by the fact that most stocks remain formally unassessed. Data reported by the UN Food and Agriculture Organization on large industrial fisheries (capturing 70-80% of global catch) indicate that the percentage of fish stocks within biologically sustainable levels declined from 90% in 1974 to 68.6% in 2013. Almost a third of all stocks (31.4%) are fished at unsustainable levels, while only 10.5% are not exploited to their full potential¹.

Impacts of unsustainable fishing

Large-scale overexploitation of commercial fish stocks, together with other pressures such as climate change, has led to stock depletion and chain reactions throughout the ecosystems⁶,⁷. These “regime shifts” can cause a substantial fall in the productivity of fisheries where fish populations fail to regenerate despite reduced fishing pressure. Notable examples are from the Baltic and Black Seas, and in Newfoundland, where cod populations are only now starting to show signs of recovery after two decades of fishery closures⁸.

Unselective fishing gear or practices can have adverse effects on globally-threatened seabirds, mammals, sharks and turtles, or on slow-growing and vulnerable deep-sea species, as well as on habitats. Human rights abuses are also increasingly recognised as being associated with forced labour and Illegal, Unreported and Unregulated (IUU) fisheries, particularly in the developing world and the global High Seas.
Ending IUU fishing has become a major focus of marine governance. Estimates suggest that economic losses resulting from IUU fishing range between US$10 and $25 billion annually, with direct implications for biodiversity and food security in many countries.

Data from 1980 and 2012 depicting the percentage of >4700 fisheries assessed by Costello et al. 2016 [3] that remain close to target biomass (blue bars) and generate profits (red bars). Future scenarios for 2050 depict fishery status and profit under business as usual (BAU), or rights-based fisheries management (RBFM).

Modified from Worm 2016 [16].

Fishing companies can play a key role in ensuring greater sustainability, in particular by reducing IUU fishing, or by becoming stewards of the oceans through active leadership in sustainability initiatives. Notable examples include the International Seafood Sustainability Foundation (ISSF) and the Coalition of Legal Toothfish Operators (COLTO). Such commitments by globally-operating seafood companies could result in cascading effects throughout the entire industry, enabling ecosystems to recover, livelihoods to improve, and financial opportunities to flourish.
References


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Acknowledgements: The authors acknowledge long-term support from the Global Economic Dynamics and the Biosphere Program, funded by the Erling Persson Family Foundation, the Nereus – predicting the future oceans program, funded by the Nippon Foundation, the Baltic Ecosystem Adaptive Management Program, the Beijer Institute of the Royal Swedish Academy of Sciences, the GRaID program, funded by the Swedish International Development Agency (SIDA), and Mistra, providing a core grant to the Stockholm Resilience Centre

Graphics and layout: Jerker Lokrantz/Azote

Printed on FSC certified paper

A Stockholm Resilience Centre event supported by Forum for the Future and the Soneva Foundation. Funded by the Walton Family Foundation and the David and Lucile Packard Foundation.