research highlights

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SUSTAINABLE FISHING Hope for fish on the high seas Proc. Natl Acad. Sci. USA 117, 2218-2224 (2020)

Overfishing has been a problem since the 1970s. In the decades leading up to 1994, when the United Nations Convention on the Law of the Sea came into effect, the number of fish available in the Atlantic, around Newfoundland and Peru, was in noticeably steep decline. Accurate global sea fish stock data has been difficult to obtain. Therefore, Ray Hilborn and colleagues have collated the largest dataset of global fishery catches to date and assessed the status of fish stocks and management strategies that are having positive effects on fish stock repopulation.

The authors put together the RAM Legacy Stock Assessment Database, which contains the stock assessment results for global commercially exploited marine populations up until 2016. Their assessment pointed to a number of important conclusions. Where fish biomass is low and fishing pressure is low, fish stocks are increasing. In the places where fish stocks are increasing, the increase is slower than expected, at around 5% per year from 2006–2015, which is why current biomass targets may not have been met. Management strategies are crucial to increasing fish stocks, with legislation introductions and strict enforcement being key to improving stocks. Importantly, Hilborn and colleagues highlight gaps in our current knowledge, noting that data for reef and mangrove fishing, which is important for regional food security in some of the world's lowest income areas, are currently lacking and need urgent attention.

The paper represents a comprehensive assessment on previous fish stock analyses, where around two and a half times as much catch and five times as many stocks have been assessed, including major stocks in Peru, Chile, Japan, Russia, the Mediterranean and Black seas, and Northwest Africa. Excess fishing pressure now accounts for about 3-5% loss of potential yield from the stocks from around 50% of the world's potential catch. Although the intricacies of how stocks can be rebuilt while still providing food security are complex, further exploration will allow sea fishing to once again become an important source of global food security.

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