

Man will have smaller fish to fry, biologists warn

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Fishermen sell fish on December 27, 2012 on Marseille's old harbor in France. As fish get smaller under Man's environmental impact, they become more exposed to predators, which means a crucial food source will become more endangered than thought, scientists said on Wednesday.

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Previous research has found that some key [fish species](#) dwindle in size as larger specimens are trawled out and [climate change](#) starts to affect the food chain.

But, until now, the broader impact of this shrinkage has not been explored.

A team from Australia and Finland used computers to predict what would happen when five species of fish decline in average length over a 50-year period.

The shrinkage was quite small, up to four percent. Yet mortality from predators increased by as much as 50 percent, they found.

The repercussions for catches are significant.

Total biomass for four of the five species declined by as much as 35 percent, and catches by the same margin, the researchers wrote in a paper published in the Royal Society journal *Biology Letters*.

"Even small decreases in the body size of fish species can have large effects on their natural mortality," the team wrote.

The researchers looked at five southeast Australian trawl fisheries species—the jackass morwong, the tiger flathead, silver warehou, blue grenadier and pink ling.

Species biomass decreased for all but the grenadier, which also shrank in size but whose numbers actually rose by up to 10 percent as the fish moved to more coastal areas where it was less vulnerable to predators, according to the simulation.

Man is changing [marine ecosystems](#) worldwide—directly through fishing

and indirectly through global warming, the researchers wrote.

"[Fisheries management](#) practices that ignore contemporary life-history changes are likely to overestimate long-term yields and can lead to overfishing," they warned.

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