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## 'Blue frontier' is decimated

*By Charles Crosby*

Dalhousie biologist Ransom Myers has discovered that there are not "too many fish in the sea" after all.

In the May 15, 2003 cover story of *Nature*, Myers revealed a startling fact: Only 10 per cent of all large fish are left in the world's oceans.

Myers and co-author Boris Worm of the University of Kiel, Germany and Dalhousie say that both open ocean species (including tuna, swordfish, marlin) and large groundfish (such as cod, halibut, skate and flounder) are in steady decline.

"From giant blue marlin to mighty bluefin tuna, and from tropical groupers to Antarctic cod, industrial fishing has scoured the global ocean. There is no blue frontier left," says Myers, a leading fisheries biologist. "Since 1950, with the onset of industrialized fisheries, we have rapidly reduced the resource base to less than 10 per cent — not just in some areas, not just for some stocks, but for entire communities of these large fish species from the tropics to the poles."

Myers and Worm sent their findings to many of the top fisheries scientists in the world for review. "We found there was acceptance of the overall pattern of rapid depletion of communities, but there was more controversy when it came to the current status of individual species, particularly with respect to tuna," says Myers. "Understandably, some fisheries managers find it very hard to accept."

"Numbers dropped fastest during the first years, as fisheries moved into new areas — often before any fisheries management protocols were in place and before anyone was looking," says Worm. As a result, managers today are working to stabilize the last 10 per cent — often unaware that the virgin biomass of their fishery was once ten times greater.



Ransom Myers

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There is some good news in the story, too. "In most regions, we saw increases in faster-growing species which seemed to fill in for overfished stocks. This points to the recovery potential for the community at large," Worm says. "Unfortunately, we often switch fishing pressure to species that are doing well and drive them down in turn. This sabotages recovery."

The solution to this global problem is simple but hard to execute in practice, say the scientists. It involves overall reduction of fishing mortality (percentage of fish killed each year) that involves reducing quotas, reducing overall effort, cutting subsidies, reducing by catch and putting in marine reserves. Myers says that, "A minimum reduction of 50 per cent of fishing mortality may be necessary to avoid further declines of particularly sensitive species." He adds, "If stocks were restored to higher abundance we could get just as much fish out of the ocean by putting in only one-third to one-tenth of the effort. It would be difficult for fishermen initially, but they will see gains in the long run."

This startling study received huge global attention. Myers' and Worm's paper was featured in the media from Australia to South Africa. It was a lead story on all four major US television networks and the Cable News Network (CNN).

Across Canada, the study prompted heated debate as it appeared prominently in the media in every region of the country.

*Charles Crosby is the new Media Relations Manager in the Dalhousie Public Relations Department.*



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