

## OBITUARY

# Ransom Aldrich Myers (1952–2007)

Chronicler of declining fish populations.

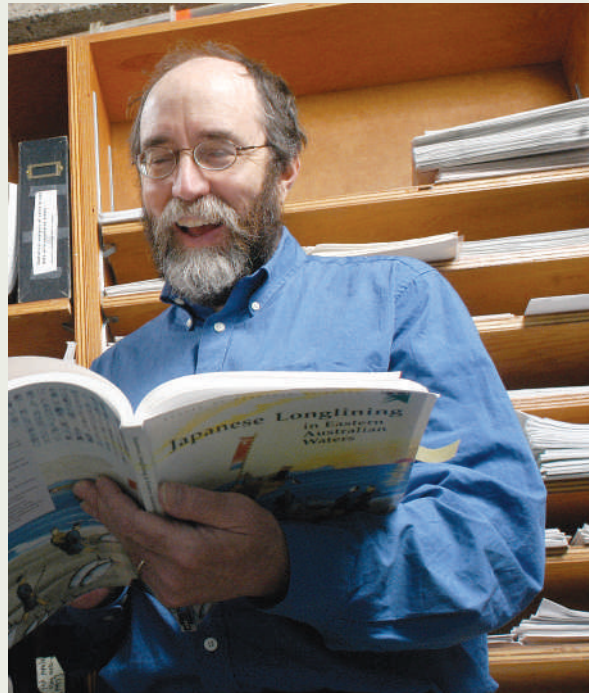
Ransom Myers's life as a working scientist spanned the period during which classical fisheries science lost its way. Founded a century ago as an applied discipline, it was essentially devoted to assisting the fishing industry in locating and monitoring fish stocks and optimizing catches. The concept of 'sustainability' was tacked on only much later, as successive fish stocks collapsed. Today, fisheries scientists are a divided lot, torn between those loyal to the interests of the fishing industry and those who see their role as studying marine biodiversity, and so protecting it from the largest remaining hunt on the planet.

Myers was a leader among those who caused this rift. In passing away so soon, he will not see it heal, as it inevitably must.

He began his career in 1984 innocuously enough. Armed with a freshly minted PhD from Dalhousie University in Halifax, Canada, he took work — like most of the world's fisheries scientists — in a government laboratory, in this case one belonging to Canada's Department of Fisheries and Oceans (DFO) in St John's, Newfoundland. As was usual, he was involved in assessing the local, commercially important fish stocks. Equally typically, as a sideline he joined the search for an answer to the greatest mystery of fisheries science: what is it that determines the number of young fish that enter an adult population, given a parental stock that releases immense quantities of tiny eggs into the vagaries of a turbulent ocean?

Myers's attack on this 'stock recruitment' problem was atypical in that he eschewed the correlational studies that had been favoured up to that time. Such studies link recruitment variability to some environmental parameter, and invariably fail the year after they are published. Rather, his attack on the problem used the formidable mathematical skills he had acquired through his earlier degrees: a BSc in physics from Rice University in Houston, Texas, and an MSc in mathematics from Dalhousie.

Rather than relying on data from a single species — the bane of much work in the area — Myers constructed a meta-analysis of more than 500 time-series of spawning-stock sizes and subsequent recruitment in a vast number of commercially exploited species. Together with a few colleagues, he had painstakingly collected these time-series



from hundreds of reports of fisheries agencies throughout the world.

Myers succeeded in renormalizing the data in the spawning-stock and recruitment series so that they could be expressed in comparable units within each stock and between stocks and species. In this way, he was able to show that, at low population sizes, the females of most commercial marine fishes produce only three to five viable young a year, in spite of the millions of eggs they may shed and that are fertilized in the process. Until then, most fisheries scientists had believed that overexploited populations could easily rebound from depletion induced by fishing — a belief now known as the millions-of-eggs fallacy. With this result, published in 1999, Myers disposed of one of the central reasons why fisheries scientists had underestimated the impact of fishing and provided fisheries managers with over-optimistic advice.

Meanwhile, the stock of northern cod off Canada's Atlantic province of Newfoundland and Labrador, managed under the auspices of the DFO, had collapsed. A moratorium on its commercial exploitation was imposed in 1992. It had been one of the most important fish stocks in the North Atlantic, commercially and culturally important to Canada, and was supposedly one of the best studied and managed fish stocks in the world.

Myers did not go along with the voracious seals, cold temperatures and other excuses invented by an agency that, by caving in to

industry pressure, had failed to protect this vital resource and the province that depended on it. He was a leader among the handful of DFO scientists who published evidence that excessive fishing was the sole cause of the stock's collapse.

Unsurprisingly, given the press and public reaction to these papers, Myers was reprimanded by his superiors. He took refuge in academia, taking in 1997 the Killam Chair in Ocean Studies at Dalhousie. From there, aided by colleagues and several brilliant graduate students, he published a series of papers showing that politically motivated, slothful optimism had masked the systematic destruction of marine resources, and marine biodiversity in general — not just in Canada and its marine jurisdictions, but the world over.

These papers, again based on judicious analysis of existing time-series data, documented the worldwide depletion, through industrial fishing,

of skate, sharks, large bottom fishes and, finally, large pelagic fishes such as marlin and tuna. Each new paper baited the staff of yet another agency into angry rebuttals. Myers had the thick skin required for such acrimonious debates. Once, when asked about the controversy that one of his papers had generated, his response was simply: "They are wrong, and I am right!"

In the process, Myers helped to found fisheries conservation biology. This discipline is devoted to identifying exploited fish populations and species threatened with extinction, and suggesting measures for rebuilding them, along with the ecosystems in which they are embedded. Correspondingly, its primary clients are not the owners of trawlers, longliners, purse seiners and other industrial vessels, but national and international agencies mandated with maintaining marine biodiversity and ecosystems, and the many benefits they provide for society as a whole.

If fisheries conservation biology and its guiding philosophy thrive, it will be because of the energies of the likes of RAM — as Myers, who died of brain cancer on 27 March this year, liked to be called. RAM is survived by his wife Rita and five children.

## Daniel Pauly

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