

METHODOLOGY AND METHODS

In order to assess whether catch-share fisheries were more likely to meet management targets than other approaches, authors used multiple metrics and models.


For **345** fish stocks of **158** species from **11** regions worldwide,
authors examined **3 RATIOS**:

Quota compliance
(total catch/
total quota)



Exploitation
(exploitation rate/
target exploitation rate)

Population biomass
(biomass/
target biomass)



USING 4 METRICS:

1 5-year mean

The average ratio value under the different types of management systems (e.g., biomass ratios of stocks under catch shares compared with biomass ratios of stocks under other management systems).

2 Variation around target

The variation of the ratios around a specific management target.

3 Exceedance of minor undesirable threshold

The frequency with which the response ratios exceeded a threshold of 10 percent quota overages, overfishing or biomass depletion.

4 Exceedance of major undesirable threshold

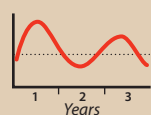
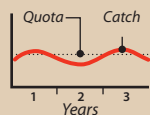
The frequency with which the response ratios exceeded a threshold of 25 or 50 percent.

AND FINDINGS INCLUDED:

Finding: Fisheries under catch shares met target catches more consistently.

With catch shares

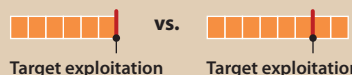
Without catch shares



Finding: When considering major overfishing, fisheries using catch shares were overexploited less frequently than non-catch share fisheries.

Catch shares

Non-catch shares



Finding: There was no significant difference in biomass among management types.

Catch shares

Non-catch shares



Melnychuk, M.C., T.E. Essington, T.A. Branch, S.S. Heppell, O.P. Jensen, J.S. Link, S.J.D. Martell, A.M. Parma, J.G. Pope, and A.D.M. Smith. 2011. Can catch share fisheries better track management targets? *Fish and Fisheries*. DOI: 10.1111/j.1467-2979.2011.00429.x



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