

Concerns raised over EU ban on ditching unwanted fish

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New rules banning fishermen from throwing away unwanted fish they have caught could harm wildlife – and fail to improve fish stocks, a University of Strathclyde report has found.

The study, published in the journal *Nature Communications*, suggests new reforms to the European Union's Common Fisheries Policy (CFP) – ending the practice of throwing away unwanted [fish](#) caught at sea – may have unintended consequences. The new CFP took effect on 1 January 2014 and will phase out the discarding of fish between 2015 and 2019.

The aim is to improve fish stocks – but Professor Mike Heath, who led the research team from Strathclyde's Department of Mathematics and Statistics, said this outcome was uncertain.

Professor Heath said: "Wildlife everywhere capitalises on waste from human activity, and discarded fish are food for a wide range of seabirds, marine mammals, seabed animals and other fish. Therefore, banning discards of fish could have unintended effects on the ecosystem."

The team developed a computer simulation model of the North Sea marine ecosystem and used it to investigate the effects of changes in the fishing pressure and the proportion of fishery catch which is discarded at sea. Forcing vessels to land fish which are currently discarded leads to adverse effects on seabirds and marine mammals – and on seabed animals – but without any improvements in fish stocks, the study found.

In contrast, changing fishing practices – so that unwanted fish are no longer captured – had dramatic effects in the model which affected the entire [food web](#), with major benefits for birds, mammals, and [fish stocks](#). This could be achieved by "improved selectivity", through the use of fishing gear designed to avoid unwanted catches and judicious timing and location of fishing.

Although both approaches to eliminating discarding satisfy the societal demand for reductions in waste of natural resources, the conservation benefits are quite different, the study authors found.

Dr Robin Cook, who also worked on the research, said: "Our results highlight the importance of considering the broader ecosystem consequences of fishery management. Policy changes to reduce discards affect the food web and, without careful consideration, may dissipate or negate intended benefits.

"Inflating landing quotas to accommodate the entire catch is an inadequate solution with few conservation benefits. On the other hand, the effective reductions in harvest rates resulting from changes in fishing practices to eliminate the capture of unwanted fish can deliver conservation benefits, especially in heavily exploited systems.

"These ecological effects need to be considered alongside the practical, societal and economic issues in developing a sustainable policy."

Discarding of undersize and low-value fish by commercial fisheries is not a new problem. UK Parliamentary debates in the 1890s condemned the quantities of plaice thrown away by fishing fleets in the North Sea because they were too small to be sold.

Today, the waste of living resources due to discarding is considered unacceptable. For this reason, the EU has reformed the Common

Fisheries Policy in an effort to eradicate the practice by obliging fishing vessels to land all of their catch.

The key issue for the policy is the extent to which the landing obligation is compensated by an increase in quotas. The Strathclyde research shows that full compensation, in which quotas are raised by an amount equivalent to the quantity of fish currently discarded, negates any conservation benefits. On the other hand, forcing improvements in the selectivity of fisheries by offering no compensation has dramatic conservation benefits; hence there is a trade-off between practicality and ecological benefit.

Provided by University of Strathclyde, Glasgow

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