

# Radical solution could avoid depletion of natural resources

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A radical approach to managing natural resources could target the problem of their over-exploitation, such as in forests or fisheries, according to a new study.

Researchers say policies that decide how society uses natural resources could be inspired by nature, which creates sustainable ecosystems amid intense competition between species for [limited resources](#).

Human competition for resources can encourage a race for new technologies to be developed and lead to [environmental degradation](#) and loss or decline of species.

However, the new research suggests that man's impact on the environment could be tempered by policies that encourage commercial use of selected parts of the limited resource. Such an approach would mimic the way that wild species develop narrow ecological niches, for instance when songbirds share forests by feeding and nesting at distinctive heights in the trees.

The findings support policies that would partition ecosystems according to different harvesting niches. For example, individual fishing fleets could specialise in efficiently catching either plaice and sole, cod and whiting, or prawns. This would enable technology to advance for each specialism, leading eventually to harvesting of single fish species with little or no by-catch.

Enabling operators to take a specialised catch with greater efficiency would avoid competition, overharvesting, or domination of a single user, researchers say. Such a system could enable higher sustainable quotas to be set than is possible currently, leading to productive, sustainable industrial systems.

Martyn Murray, of the University of Edinburgh's School of Biological Sciences, who led the study, said: "History is littered with examples where local resources and entire ecosystems have failed from overuse, from the collapse of North Sea herring fishing in the 1970s to over-exploited wildlife populations today.

"Better management of resources could help protect against many environmental problems, such as shrinking forests, disappearing lakes and rivers, empty seas, and overgrazed pastures, together with their aftermath of poverty, conflict and hostilities."

The study was published in the journal *Ecological Applications*.

**More information:** *Ecological Applications*.,  
[dx.doi.org/10.1890/14-1156](https://doi.org/10.1890/14-1156)

Provided by University of Edinburgh

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