

Achieving sustainable resource use attainable through science of cooperation

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Cooperation matters in managing the environment. Credit: Matteo Vistocco on Unsplash

A new theory explains how societies can achieve environmental sustainability by nurturing cooperation. It is detailed in a series of articles recently published in a special issue of the journal *Sustainability Science*.

The theory was developed by Tim Waring, associate professor in the School of Economics and the Senator George J. Mitchell Center for Sustainability Solutions at the University of Maine, and colleagues.

"Sustainability is serious, but [sustainability science](#) is not yet a serious science. Right now, to build sustainable solutions we are reinventing the wheel every time. To avoid that, we need a theoretical framework that allows us to compare cases and accumulate insight so we can get to better solutions faster," Waring says.

Achieving sustainable resource use is almost never a win-win situation. More often, it requires individuals to accept some kind of personal cost such as reducing consumption, changing habits, or contributing extra effort. This is [cooperation](#).

"We know cooperation matters in managing the environment," Waring says. "We also know that institutions can make cooperation easier. This new research shows where both factors emerge and why."

The new research detailed in *Sustainability Science* examines cases of environmental management from around the world to discover common patterns that help cooperation and [sustainable solutions](#) grow. The special issue includes two iconic examples from Maine that show how cooperation makes a difference—lobsters and blueberries.

In the lobster industry, competition between groups of lobstermen gave rise to strongly defended territories and encouraged [group](#) members to restrict their harvests. This restraint is a type of cooperation, and it helped lobstermen maintain their lobster populations and livelihoods.

Cooperation saved the Maine blueberry industry, too. Blueberry growers never needed to cooperate until a major pest outbreak and economic crisis forced their hands. In a landmark effort, the [blueberry](#) industry

agreed to tax themselves to support crop research and avoid future crises—a cooperative [solution](#) that has worked well.

Despite their differences, blueberries and lobsters tell a similar story.

"In both cases, the stakes for failure were high, the costs fell most heavily on groups, and those groups learned from other successful groups allowing sustainable practices to spread," Waring says. "This is why theory matters. By testing and refining the theory we can become better at nurturing cooperation and building sustainable societies."

What is the best recipe for growing environmental cooperation?

Waring says his "ingredients" for growing environmental cooperation include "a population of tight-knit groups, under high pressure to preserve resources, who have the power to manage them, and who learn from each other's successes and failures."

Provided by University of Maine

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