

UVM ScholarWorks

Studying human behavior for species conservation

Item Type	editorial;article
Authors	Byerly, Hilary;Fisher, Brendan
Citation	Byerly H, Fisher B. Studying human behavior for species conservation. <i>Frontiers in Ecology and the Environment</i> . 2017 Oct;15(8):419-.
DOI	10.1002/fee.1536
Rights	© The Ecological Society of America; http://rightsstatements.org/vocab/InC/1.0/
Download date	2026-06-11 11:05:34
Link to Item	https://hdl.handle.net/20.500.14849/7036

Studying human behavior for species conservation

Research tells us that marsh tits in the UK provide the best information to blue and great tits on where to find particularly tasty food. In Finland, collared flycatchers trust great tits to identify the best places to nest. Across taxa, individual species observe the behaviors of other species and individuals to obtain credible information. But not everyone is trustworthy, so the identity of this information source, or messenger, is important for making the best decisions.

Humans behave in similar ways; we trust some messengers more than others. For instance, people are more likely to donate to a charity when the person making the request is perceived as attractive. Female farmers are more accepting of new farming practices when the extension agent is also female. So tits, flycatchers, humans, and a long list of other species are susceptible to this so-called “messenger effect” – the characteristics of the information-provider matter. The messenger effect is just one of a whole suite of idiosyncratic phenomena suggesting that human decision making is often an unconscious and automatic process. Behavioral economics studies such processes and offers insights into why people make decisions that at times seem irrational. These include short-term impatience, concern over the behavior and expectations of others, and biases and rules of thumb that bypass deliberate, rational thinking. Studying these oddities of human decision making has helped to develop new strategies to advance social welfare, such as choosing settings to automatically increase retirement contributions from one’s paycheck, and using social norms to improve water conservation. Such strategies have the benefits of preserving the freedom of choice and (usually) being relatively low-cost to employ.

While conservation scientists have long recognized the importance of integrating human behavior into research and program design, we are still in the early days of examining the nuances of our decision making and experimenting with decision-making contexts to further conservation goals. Meanwhile, advances in our understanding of decision processes, strategies to influence those processes, and evidence regarding their impact and cost-effectiveness have greatly influenced other public policy domains, including public health and education programs. Conservation science needs to follow suit.

To date, the limited tests of behavioral insights in biodiversity and ecosystem conservation have shown encouraging results. In Tanzania, drawing attention to the value of community and volunteerism was more effective in engaging people in reforestation efforts than paying them to participate. Likewise, in Bonaire and Curaçao, using the price of beer as a reference point enabled fishermen to think more long-term (a potential mechanism for increasing acceptance of marine reserve regulations). And in the US, changing the baseline cost-share amount on conservation contracts with farmers affected their willingness to pay for conservation actions.

We believe that findings such as these warrant greater integration of behavioral economics into conservation programs that target landowners, consumers, and people whose livelihoods are based on natural resource extraction. Programs focused on forest management, conservation agriculture, sustainable fisheries, and ending poaching are just a few that lend themselves readily to studying how human behavior can be shifted to have potentially major impacts on conservation outcomes. And we desperately need a larger evidence base to find out which strategies work, how well, and at what cost.

There are practical reasons why conservation science has conducted only limited testing of behavioral insights in the field. Human behaviors that directly affect the health of ecosystems and biodiversity can be hard to measure – especially if they are related to illicit activities – and it may take years to observe outcomes. Because of these difficulties, scientists and practitioners need to engage in deep and long-term collaborations. Fortunately, such relationships between behavioral scientists and conservation organizations are beginning to develop. The Center for Behavioral and Experimental Agri-Environmental Research (CBEAR) brings behavioral science to advance evidence-based policy for the US Department of Agriculture (USDA). The Nature Conservancy has a team working on behavioral science, and the World Wildlife Fund’s 2017 Fuller Symposium is on “The science of influencing behavior”. These are important steps toward a conservation science that targets and leverages the realities of human behavior.

Given that the future of species and ecosystems around the world depends largely on the decisions humans make, we believe that more explicitly studying human decision making in conservation settings is vital. And while the great tit might help us find a good habitat to nest in, a deeper understanding of human decision making might help us conserve the habitats upon which we all depend.



Hilary Byerly
Gund Institute for
Environment, University of
Vermont, Burlington, VT



Brendan Fisher
Environmental Program,
Gund Institute for
Environment, University of
Vermont, Burlington, VT