PREDATOR CONSERVATION RELIES ON UNDERSTANDING HUMAN PSYCHOLOGY

May 2, 2014 | *Conservation This Week* | *2 Comment*

The world's predators – mammals such as gray wolves, jaguars, tigers, African lions, European lynx, wolverines, and black and brown bears, along with sharks – are declining at an alarming rate. While those species are suffering for a variety of reasons, one of the main sources of mortality is human in origin. It's a bit counterintuitive, since predators are some of the more charismatic of species. And charismatic critters are the easiest ones about which to convince people to care.

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It would seem as if the best way to ensure the success of conservation programs aimed at preserving these most iconic of species would be to turn humans from enemies into allies. In other words, humans have to become more tolerant of predators. The problem, according to researchers Adrian Treves and Jeremy Bruskotter, is that we don't know very much about what makes people tolerant of some predators and intolerant of others. In an article in this week's issue of *Science Magazine,* they argue that wildlife conservation efforts ought to account for human psychology.

One of the primary assumptions driving research in conservation psychology is that intolerance toward predators, whether in the form of sanctioned eradication programs or culls (like gray wolves in the US or bears in parts of Europe or sharks in Australia) or in the form of illegal poaching, is driven mainly by the real or imagined need to retaliate against losses of livelihood, usually due to livestock predation. "Under this assumption," Treves and Bruskotter write, "governments and private organizations aiming to protect predators have implemented economic incentives to reduce the perceived costs of predator conservation and raise tolerance for predators."

One such program is implemented in Sweden. The government pays indigenous reindeer herders called Sami to tolerate the occasional loss of livestock to predators, and it seems to be effective for wolverines, brown bears, and lynxes. Each time a predator successfully reproduces, the Sami herders are paid.

But that strategy is only effective insofar as the source of predator intolerance is economic. That might work for some predators, but not for others. Fifty-one percent of Sweden's wolves died from poaching between 1998 and 2009. The Swedish program has so far failed to protect gray wolves because the Sami perceive the costs of tolerance as weightier than the benefits. At present, wolves are effectively extirpated from parts of the country where reindeer graze.

An adjustment of social norms may succeed, however, where economic incentives fail. In Kenya, Maasai herders are not just compensated when lions kill their livestock; some community members are trained to warn villagers when lions approach, and monitor their movements. It reflects a different strategy, one of cautious coexistence driven by altered social norms rather than rigid defensiveness driven by externally imposed economic remuneration.

A similar effort is implemented in Brazil, for ranchers whose livestock graze near jaguar territories. In one study, researchers interviewed 268 cattle ranchers about their tolerance for jaguars, and found that perceived social norms were far more influential than economic disincentives when it came to determining any individual rancher's likelihood to kill a jaguar. In other words, if ranchers thought that their neighboring ranchers killed jaguars, or if they thought that their neighbors would expect them to kill jaguars, they were more likely to do it. It's the very same peer pressure that plays out in high schools across America, superimposed onto

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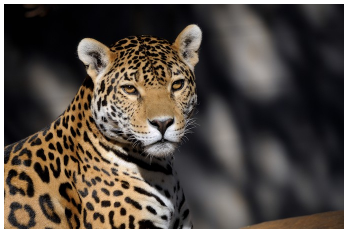

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Brazilian rainforests. “The social facilitation that results in areas where poaching is common and accepted can create predator-free zones as neighbors and associates coordinate their actions explicitly or tacitly,” write Treves and Bruskotter.

Things aren’t so different in the industrialized West, where sport hunters are often thought of as valuable partners in conservation. The reasoning goes that since hunters at one time helped to conserve game species (like deer and ducks), then hunters would also help conserve predators who are designated as legal game. One program in Wisconsin was designed explicitly to increase tolerance for wolves by allowing 43 of the endangered canids to be killed each year. And yet while the program was in place, researchers found a decrease in tolerance and in increase in the desire to kill wolves. Legalizing the hunting of predators, even in a restricted way, didn’t have the intended outcome.

Wisconsin’s wolf hunting program wasn’t a controlled experiment, so the interpretation of the results is necessarily limited. However, some researchers did organize a controlled experiment to see how various approaches might improve tolerance for American black bears. The researchers discovered that providing people with information about the benefits derived from bears along with information about how to reduce the risks of negative bear encounters increased peoples’ tolerance for the animals. On the other hand, information about how to reduce risks alone, without the additional information about benefits, actually reduced their tolerance. Treves and Bruskotter suspect that’s because the risks were made more salient without the buffering effect of the bears’ benefits on local ecosystems. Similar results were seen for studies investigating the tolerance of tigers in Nepal.

Taken together, Treves and Bruskotter argue that while monetary incentives can be successful tools in the conservationist’s toolbox, poaching is influenced more strongly by social and cultural factors. “We therefore recommend caution in legalizing the killing of predators,” they say. They further argue that the best way to move forward in understanding when economic and social incentives are more or less effective is through explicit experimental manipulation, rather than through the haphazard patchwork of trial and error that has in many cases characterized predator conservation efforts. **– Jason G. Goldman | 2 May 2014**

Source: Treves A. & Bruskotter J. (2014). Tolerance for Predatory Wildlife, *Science, 344* 476-477. DOI: 10.1126/science.1252690

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2 Comments

Paidamoyo Chihambakwe May 2, 2014 at 12:07 pm

This is a very interesting method to minimize poaching of predators across the world. My question is if the only way to increase peoples' tolerance towards poaching animals is through providing incentives will governments be willing to implement such a system. In particular, looking more into third world countries in Africa which are suffering from economic strain, what strategies do you think we can apply to get predator conservation as one of the governments main concerns, seeing as that most predators on the African continent are becoming

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endangered due to poaching.

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Snowy Owl May 7, 2014 at 12:51 pm

Fifty years ago, The Conservancy (British) studied methods to effectively ‘close a trail.’
They stationed an observer, and tried full-on gates and other barrier types. Each with a “Trail Closed.” sign attached. Various percentages of visitors usurped the various barriers; others were turned away.
The most successful barrier in their study was a thick length of string across the closed trail. However, the signage added a simple reason for the closure.

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