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Integrating the human dimensions into fish and wildlife management depends on increasing managers' social science fluency

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ABSTRACT

It is a common experience in human dimensions to hear people say, “wildlife management is people management.” Good people management requires the full integration of the human dimensions into natural resources work. This means going beyond *conducting* human dimensions research to *understanding and applying* lessons learned from social science. A key step here is building managers' fluency in social science concepts so they can more easily relate existing literature to their own practical questions. I use three example issues from human-wildlife conflict – calibrating trust, managing anger, and fostering autonomy – to illustrate how increased fluency in psychology could inform conflict management in the context of larger sociopolitical discourses. I conclude with ideas for how organizations and scientists could help managers build this integrative capacity in order to better achieve a shared objective of a wildlife management profession that works well with people for the good of humans and wildlife.



KEYWORDS

Anger; autonomy; conservation social science; human-wildlife conflict; psychology; trust

Fish and Wildlife Management is People Management: An Ongoing Reckoning

It is a common saying that “wildlife management is people management.” Wildlife managers (and fisheries managers) recognize that they need to understand more than how the wildlife behave and why – they also need to know why people sometimes behave in ways that harm wildlife. For instance, why is it that some groups can live alongside carnivores, like wolves, elephants or leopards, with low levels of retaliatory killing, while other communities try to extirpate them? Such questions have generated substantial human dimensions research, also known as conservation social science (Bennett et al., 2017; Manfredi et al., 1995).

Human dimensions research on its own, however, is insufficient. To truly inform daily practice, wildlife managers need to build fluency in social science concepts. For many managers, human dimensions fields are a second (or third, or fourth) disciplinary language they learn, in addition to their vocational training in conservation biology or other allied natural science fields (Dayer & Mengak, 2020). Increasing fluency can lead to more

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opportunities for deeper connections with others, and ultimately to thinking in and co-creating new ideas in that language.

Early definitions of the human dimensions of wildlife emphasized the need for knowledge implementation (i.e., fluency) to accompany knowledge creation. One framework described this as acquiring “sound information that explains human thought and action regarding wildlife using the concepts and methods of social science” while also “determining how to use that information” (Manfredo et al., 1995, p. 17). Yet from a manager’s perspective, gaining fluency in many social science “languages” might feel overwhelming, if not impossible. Broadly speaking, branches of human dimensions scholarship include “political science, anthropology, economics, psychology, sociology, geography, [and] legal studies” (Mascia et al., 2003, p. 649), history, education, communication, development, philosophy, humanities, arts, science and technology studies, and more (Bennett et al., 2017). As a conservation social scientist in an applied research position, I am often asked by wildlife managers to translate social science into practical recommendations for how to better communicate with stakeholder groups and engaged communities. My own experience is that the questions managers ask, as knowledge implementors, are framed differently enough from questions explored in peer-reviewed human dimensions research that it is often unclear how that scholarship ought to shape their practice.

One step toward resolving this breakdown, where it exists, is to build managers’ fluency in asking questions from the perspective of conservation social science. Using a discipline I am familiar with, psychology, and a topic I have studied (human-wildlife conflict) I use this essay to walk through three examples of how to: 1) frame a problem from a management point of view, 2) reframe the problem from a social psychological point of view, illustrating how that reframe illuminates potential actions for managers to take, and 3) bring in the wider human dimensions literature to contextualize these interactions within larger social and political processes.

Integrating Psychological Concepts into Human-Wildlife Conflict Management

The Context

Human-wildlife conflict can take many forms, from local people killing elephants in retaliation for elephants raiding their crops or killing their children (Gulati et al., 2021) to urban residents feeding deer, leading to aggressive does kicking dogs and dogwalkers to protect their fawns (ODFW, 2022). This conflict is characterized by the presence or risk of some sort of harm to people and/or wildlife, most seriously injury or death, and is often accompanied by social conflict about what actions constitute appropriate prevention and response. Often wildlife managers must act *now* to defuse the situation and keep all parties safe.

Issue 1: Trust

Many wildlife managers recognize that trust is important for navigating human-wildlife conflict, and there is an extensive literature on how trust affect natural resource management (for a practitioners’ guide on trust and wildfire, see Shindler et al., 2014). However, wildlife managers often get brought into human-wildlife conflicts when something has already gone wrong (the cougar is on someone’s porch, the village is about to engage in

a lion hunt). In these situations, wildlife managers act as emergency responders, who need to manage delicate social dynamics where people may be stressed, uncertain, scared, defensive, upset, or angry. In a crisis situation like this, managers might need to be able to draw on what is known as “swift trust” (Meyerson et al., 1995). Swift trust involves people being willing to be vulnerable based on a belief that the other party will do certain necessary actions, and has been found to help people work together in emergencies like disaster response (Curnin et al., 2015).

To calibrate trust swiftly, research suggests managers can foster closeness with affected groups and create space for reciprocity. As little as two minutes of interpersonal contact has been found to improve trust judgments, and in-person contact is better than verbal or visual contact alone (Schilke & Huang, 2018). Wildlife managers can help build swift trust by meeting with the affected people during a crisis, even briefly, and in-person if possible. In these interactions managers might build on a related finding, that “other-focused perspective-taking” enhances swift trust accuracy. Other-focused perspective-taking is when people imagine the situation from another’s point of view, including how they might be feeling, thinking, or wanting to act (Schilke & Huang, 2018). Perspective-taking with other humans who are affected by an environmental issue has found to increase environmental concern (Pahl & Bauer, 2013), so managers’ efforts to take other parties’ perspectives (and encourage others to do the same) may have several benefits.

An important caveat is that swift trust exists in the context of what might be called slow trust. Wildlife managers’ work is often affected by loss of trust, or buildup of distrust, over time. Broader political struggles over wildlife governance, groups’ past conflicts with management institutions, and cultural divides over animals welfare may all inform others’ propensity to trust managers, and managers’ willingness to trust others (Manfredo et al., 2017). To do good “people management” outside of emergencies, managers may need to gain deeper fluency in the nuanced scholarship about long-term relationships of trust and distrust (Erickson et al., 2022).

Issue 2: Anger

“Human-wildlife conflict” is often shorthand for situations where people are upset about a specific wildlife encounter, wildlife-caused damages, or how wildlife managers handled a human-wildlife interaction (Epstein & Hobson Haggerty, 2022). Managers might wish that people not get angry with them – understandably, since anger is usually seen as a negative emotion, and being the target of anger can be distressing or even unsafe (Williams, 2017). However, if managers understand the science of anger, they may learn new strategies for navigating tense situations. Psychology research suggests anger is an activating or mobilizing emotion (Turner, 2007; Williams, 2017). That is, if people are angry, they are engaging with the issue, rather than apathetic or uncaring. Research suggests further that anger is often a reaction to perceived injustice (Miller, 2001; Zhang et al., 2019). People get angry because a situation feels unfair, particularly when a power imbalance inhibits their ability to address this unfairness.

When people are angry, wildlife managers could look to emotions research to reframe that anger as opportunity to engage people, and to identify what those people feel is unjust. First, wildlife manager can demonstrate empathy for the other person (Kansky & Maassarani, 2022; Radu et al., 2019). For instance, local residents may be upset that

a bear is going to be euthanized for getting into someone's trash one too many times, but believe it isn't the bear's fault that people keep leaving trash unsecured. Drawing on the concept of nonviolent communication (Kansky & Maassarani, 2022), an empathic response might include noting that a) the injustice is real – “I agree, it's not the bear's fault” and b) the situation is painful – “and you're right, it's awful that we have to put the bear down.” Apologies are another kind of empathetic gesture. Saying “I'm sorry this has happened” has been called, in a medical context, an “apology of sympathy” (McDavid, 2015), which differs from an apology of responsibility that implies the speaker is at fault (e.g. “I'm sorry I/we let this happen”). Such an empathetic response might be useful elsewhere, such as if someone's child has been killed by a leopard, or their calf by a wolf.

Strong emotions such as anger are an inevitable part of human-wildlife conflict, and can be important signals of deep-seated issues. Drawing on emotion management studies, managers might use anger and other “moral emotions” as cues for longer-term efforts to address community members' moral and ethical concerns. Managers might try to offer genuine assurance that they or others are taking action to reduce the chance the incident perceived as unjust will reoccur (Radu et al., 2019). In a human-wildlife context, this might involve partnering with local community programs, such as those to reduce attractants for bears, to visibly invest in risk reduction efforts.

Issue 3: Autonomy

Finally, wildlife managers responding to human-wildlife conflicts may encounter people taking the opposite action from what regulation intends, such as illegally killing protected wildlife (e.g., “shoot, shovel and shut up;” Liberg et al., 2011). This is related to “psychological reactance,” a negative motivational state oriented toward recovering freedom to act in ways of one's own choosing (Brehm, 1966). Reactance occurs in response to a threat to autonomy, one of three universal human needs posited by self-determination theory (the others are competence and relatedness; Deci & Ryan, 2000). People may feel frustrated that a law takes away their ability to manage something important, like livestock or land, as they see fit.

Where possible, communication around human-wildlife conflict could emphasize the control that other parties still retain in a given situation. Research on persuasive communication has shown people can be resistant to controlling language that threatens their psychological freedom (Jenkins & Dragojevic, 2013; Rosenberg & Siegel, 2018). Managers might draw on experimental studies from health research that have suggested reactance can be reduced by pre- and postscripts to restore autonomy, such as by reminding people, “You know what is best for yourself” and “The choice is yours. You're free to decide for yourself” (Richards et al., 2020). If a new regulation is put in place (e.g. a community ordinance requiring bear-resistant garbage containers) managers could stress other areas (e.g. bird-feeders and fruit trees) where residents' behavior is still fully voluntary, noting what consequences that voluntary behavior might have.

Another strategy here is to create opportunities for advice-giving by the people whose choices are being undermined. In one study of academic achievement, students had better grades several months after they wrote a letter of advice *to* another student than after they had read a letter of advice written *from* another student (Eskreis-Winkler et al., 2019). Many conservation programs include peer exchanges or peer-to-peer learning, such as to support

more wildlife-friendly crop fencing (Chang'a et al., 2016), which might be modified to include advice giving exercises led by program recipients. Being the advice-giver may remind people affected by a program that they are not helpless, and in fact have lots of ideas about choices they could make.

For managers looking to go deeper into the psychology of autonomy, cross-cultural research has suggested that expressions of self-determination needs are somewhat culturally mediated (Ryan & Deci, 2006), and reactance may interact with other sociopolitical beliefs, such as social domination orientation (Stanley et al., 2019). Longer-term engagement here might offer managers opportunities to (re)design conservation programs to protect land-owners' autonomy (Sorice et al., 2013), or employ collaborative approaches reinforcing how successful wildlife management is dependent upon the choices of on-the-ground stakeholders (Pittman, 2019).

Scaling Up the Integration of the Human Dimensions into Practice

As in these three examples taken from human-wildlife conflict, the social scientific concepts that might most help managers depend largely on the guiding problem. Other social sciences besides psychology have different insights to offer, which might be most useful at other scales of interaction. For instance, practitioners may wish to develop market mechanisms or financial incentives to reduce human-wildlife conflict, create new or adapt old governance institutions, navigate the effects of partisan politics, or refine conflict mitigation programs to account for new social movements or deep-rooted inequities. Fluency in sociology, political science, economics, geography and other disciplines may be more useful here (Bennett et al., 2017). Nor should we forget disciplines such as ethnic and gender studies, which have untapped potential for wildlife management, as well as transdisciplinary social science and Indigenous scholarship beyond Western knowledge systems (Gadgil et al., 1993; Steger et al., 2021).

All members of the natural resource management sector can cultivate practitioners' social science fluency. Wildlife managers can hone their own skills by seeking out trainings, seminars, or popular social science books and podcasts. Wildlife agencies and conservation nonprofits can invest in staff by working with conservation social science consultancies to offer professional development training in areas like conflict management, social marketing, facilitation, and science communication, or by hiring people with these competencies (Elliott et al., 2018). Professional societies can foster creative co-design and cross-pollination between social science and management through more interactive activities. Fish, wildlife, and conservation biology degree programs can add more social sciences into their curricula (Dayer & Mengak, 2020).

Conservation social scientists can help at every stage of this process. They can connect wildlife managers to resources for self-teaching, or suggest capacity development focal areas for organizations, and even conduct rigorous assessments of organizational capacity to inform those recommendations (Porzecanski et al., 2022). They can start or work for consultancies that provide much-needed training, or be leaders in professional societies to create solution-oriented, bridge-building spaces between managers, natural scientists, and social scientists (Mascia et al., 2003). They can also reach out to other social scientists who may be more disconnected from applied wildlife management spaces (for instance, creating linkages

to sustainability psychologists) and continue doing science communication about their own research, with a focus on the application of their findings (Bennett et al., 2017). Through this holistic approach, the integration of human dimensions can support conservation professionals to become more fluent in disciplines such as psychology and issues such as trust, anger and autonomy, in order to more effectively work together – and with communities – for the benefit of people and wildlife.

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