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Hearing Every Voice in the Room: Social Science for Public Engagement During Forest Planning

When forest planners at New Mexico's Gila National Forest began to revise their 1986 forest plan, they knew they'd have to incorporate feedback and suggestions from a variety of stakeholders. As the nation's sixth-largest National Forest, the Gila encompasses a wide range of resources, including designated wilderness areas, hot springs, and a world-renowned stargazing area. These resources all have associated stakeholders—including the public—and the Forest Service's 2012 Planning Rule requires that planning teams provide for a transparent, collaborative process that allows effective public participation.

But when the loudest voice in the room is often the one that's heard the clearest, how do forest planning teams ensure that every voice is not only heard but also analyzed in what the Planning Rule calls "the best available science"? This is the topic of a recent Rocky Mountain Research Station General Technical Report titled, *Protocol for Social Vulnerability Assessment to Support National Forest Planning and Management: A Technical Manual for Engaging the Public to Understand Ecosystem Service Tradeoffs and Drivers of Change.*

Understanding Social Vulnerability

According to Chris Armatas, the report's cowriter and a Rocky Mountain Research Station scientist in Missoula, Montana, there's a need for understanding social vulnerability as it relates to natural resources. Social vulnerability, Armatas explains, is generally "the inability of people, organizations, and societies to withstand adverse impacts from multiple stressors. Specifically, we think about how human well-being is supported by various ecosystem services, and how drivers of change might influence the provision of these services."

For a National Forest, social vulnerability can relate to recreation, scenery, cultural resources, research, education, access, forest products, clean air and water, forage for grazing, production of energy and minerals,

During a public meeting in Las Cruces, New Mexico, Gila National Forest stakeholders complete the Q methodology protocol to help guide the forest plan revision process. (Photo: Chris Armatas, USDA Forest Service.)

cultural and heritage resources conservation, physical and mental health, and a connection to the land. Balancing all these factors can be a tall order.

At the Gila National Forest and elsewhere, Armatas and his coworkers have implemented a public engagement protocol based on a social science information-gathering approach known as Q methodology. Invented in 1935 but recently adapted and peer-reviewed for Forest Service use, Q methodology is a structured analysis of personal opinions on a given topic. It requires participants to complete something called a Q sort, where tradeoffs are elicited and natural resource benefits are prioritized. Participants also identify drivers of change—such as management actions and climate change impacts—that are most concerning to them. Information can be collected in less than an hour, participants generally find the hands-on process to be thought-provoking and fun, and the final results include an understandable and engaging representation of a diverse range of perspectives. It's a practical approach that helps forest planning teams evaluate and understand social vulnerability.

Setting a Tone for Land Management Planning

During the Gila National Forest stakeholder meetings, Q methodology helped to identify four perspectives: environmental (biodiversity, connectivity, and water quality), utilitarian (grazing, materials for personal use, hunting/fishing, and timber production), water (quality/quantity, erosion control, and irrigation), and motorized recreation (solitude, access, recreation, and scenery). "In the case of the Gila," Armatas says, "the protocol helped to identify ecosystem service tradeoffs and areas of common ground, such as the importance of public access. This knowledge directly supported the revised planning documents."

So far, Q methodology has been used by several National Forest planning groups and others have expressed interest. Armatas is also working with a collaborator to develop a web-based application so stakeholders can enter responses from home. While some basic statistical analysis is required, Armatas and other Forest Service statisticians can help forest planners navigate the approach. And although some scientists and land managers may not have training or experience in public collaboration, Armatas explains, "We're not asking people technical questions; we're asking about how they connect with the land and the resources. Having this information shows that you've engaged with the public in a meaningful way and it can help line officers feel comfortable with land management decisions."

Further Reading

Armatas, Christopher A.; Borrie, William T.; Watson, Alan E. 2019. Protocol for social vulnerability assessment to support national forest planning and management: a technical manual for engaging the public to understand ecosystem service tradeoffs and drivers of change. Gen. Tech. Rep. RMRS-GTR-396. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 52 p. https://www.fs.usda.gov/rmrs/publications/protocol-social-vulnerability-assessment-support-national-forest-planning-and

Management Implications

- The 2012 Planning Rule requires that National Forest planning teams provide for a transparent, collaborative process that allows effective public participation, but there is no roadmap for how to be successful.
- A recent General Technical Report describes how Q methodology can collect stakeholder input in a way that is engaging, thorough, and scientifically rigorous.
- This process can help forest planners identify different perspectives as well as areas of agreement by stakeholders, including the public.

LEAD SCIENTIST

Chris Armatas is a research social scientist who focuses on human-nature relationships, social-ecological systems, and processes to better integrate social science into management and planning. His profile web page can be found at www.fs.usda.gov/rmrs/people/christopher.armatas.

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