Community-based Stewardship; a Model for Applied Science

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Introduction:

For the last seven years I've been working on the very idea that brings us together at this meeting; that science needs to be better connected to, and used by, citizens and communities if it going to have much of an effect on solving the many challenges we face now and into the future. Much of my work has been with citizens and communities of place which, I believe, explains why I was invited to speak here today.

To prepare for this presentation, I called a number of people with whom I've worked (or have otherwise come to know during those years) to get their views on this matter. Basically, I wanted to know whether or not science was being used by people and the community. And, if not, why? I also asked for their thoughts on what could be done to make science more widely understood and used by people and communities in the course of their making choices and decisions.

The Disconnect Between People and Science:

Let me begin by sharing with you what people feel are the problems. Armed with that information, perhaps we can better understand how to proceed in the future. Keep in mind that the following views come from the West where the public lands play a much larger role in people's lives. Views from other areas of the country may be different from these.

The following is a summary of what I heard:

- When people hear about science, it's frequently in a negative context. Many people believe that science will only be used against them.
- Negative stories concerning science often abound in the local culture (e.g., spending large sums of money studying "useless" things, using science and information to take away or diminish what they view as constitutional rights [private lands, grazing "rights"], etc.).
- People think that science is politically driven and nonobjective. There's always a purpose behind it that serves someone else's agenda, someone who doesn't live in their community.
- Because of the polarity over environmental and land use issues in the last 30 years or so, that agenda is typically suspected to be an environmental one. Across much of the rural West, science is viewed as seldom, if ever, serving the well being of the local people.

[1] The Aurora Partnership is a collaboration among scientific, educational, and governmental institutions and individuals working toward the delivery of scientific expertise and information to support place-based decision making.

More often, it represents a threat to them.

- There's a sense that all science and information are done to support authority and regulation, little if anything is done to help people to understand and/or solve problems themselves.
- Locals are highly suspicious of government initiated studies and surveys. They're particularly suspicious of remote sensing. These activities invigorate and give credibility to the "black helicopter and one world government crowd." Mis-information flourishes when people are not well informed. Once it is in place it's very difficult to overcome.
- Most locals see scientists as living in such "different worlds" that they can neither understand nor relate to the needs of average people.
- Scientists tend not to involve people effectively as scientific findings and information are released. People generally learn the results from local/regional news services. The information is often met with suspicion, refuted, and labeled as "bad science."
- Scientists come across as elitists. They're not in touch with the local people; they don't involve the locals nor listen to their concerns or input.
- People don't like to feel that scientists are there to educate them.
- People don't see the different agencies of government working together. It's widely held that the BLM and FS don't use the same information, procedures, or policies for their science. Now, people don't see how the USGS fits into the picture, particularly concerning the "biological sciences.".
- More and more, people go to sources other than government agencies for their science and information.

I could go on, but I think this feedback paints a very clear picture of why "they" don't use "our" information? But the news isn't all bad. I also got some very encouraging feedback. Here are some examples:

- I talked to a county commissioner in Idaho who thought that the Columbia River Ecosystem Management Project had been a failure because it was not a "community-based project." However, when I asked him if he thought there was any good that came from that project his response was, "Yes, the science. But for it to be applied it needs to be brought down to the community level and adapted to the local situation."
- A person in Elko, Nevada answered my question about science essentially this way, "When people in a community are pulled together and empowered to solve natural resource problems they naturally begin to look for sources of expertise and information. If they think the information is objective and useful, they will use it."

This feedback tells me that under the right circumstance people view science as important and will make an effort to put it to use. So the question before us today perhaps should be thought of a little differently. Maybe we should be inquiring into what we can do to help foster a social <u>environment</u> at the community/citizen level that supports the application of science. In my view, we're faced with a social challenge, not a technical one.

Community-based Stewardship, a Paradigm Shift:

In effect, we should be looking for a new relationship between government, science, and citizens that supports stewardship by people, rather than looking for more regulatory and decision-making powers in government. The future can be much brighter if we learn to work with people. In fact, there are those who believe that the only way that many future problems can be effectively resolved is through people and community of place, that other course of action simply won't lead to sustainable solutions. I believe that. I think that many of you in attendance at this meeting do too.

So, what would such an environment, or social setting, look like relative to science? Well, it might look something like this:

- People would become actively and constructively involved in understanding science and its implications
- People would gain a sense of ownership and responsibility over science and information, especially that which is important to them locally.
- People would apply science and information to solving problems and in making decisions and choices

Of these statements, the most important is the one containing the word "ownership." If we could approach this interface of science and community in a way that resulted in people having a sense of ownership, the other outcomes would have an excellent chance of materializing, naturally so. I believe, that if people are to have ownership they must be "empowered." I really think that it's as simple and, at the same time, as complex as that.

When people feel dis-empowered, disenfranchise, or otherwise threatened, they have the choice of ignoring, refuting, or even demonizing the science that comes their way. Their power (at least within their own social circles) comes from doing just that. As one person told me, "If the locals don't consider it important, it just isn't going to happen." I think that person is telling us that we can complete all the studies, assessments, reports, and decision support models we want. By themselves, these things are not going to really change anything. We need to work for the trust, understanding, ownership and responsibility of people if science is to be effectively applied on the ground.

There is a process for creating such an environment. I call it "Community-based Stewardship." Now, there are lots of terms being thrown around these days, "collaboration," "partnerships," "collaborative stewardship," etc. What I'm talking about is a process of empowering people, particularly people in place based, or community, settings. It is not simply a process for getting people, or representatives of special interests, together to talk for the purpose of finding "common ground." We're talking about a place-based, community-based, in fact, community-led process for stewarding landscapes, watershed, and ecosystems.

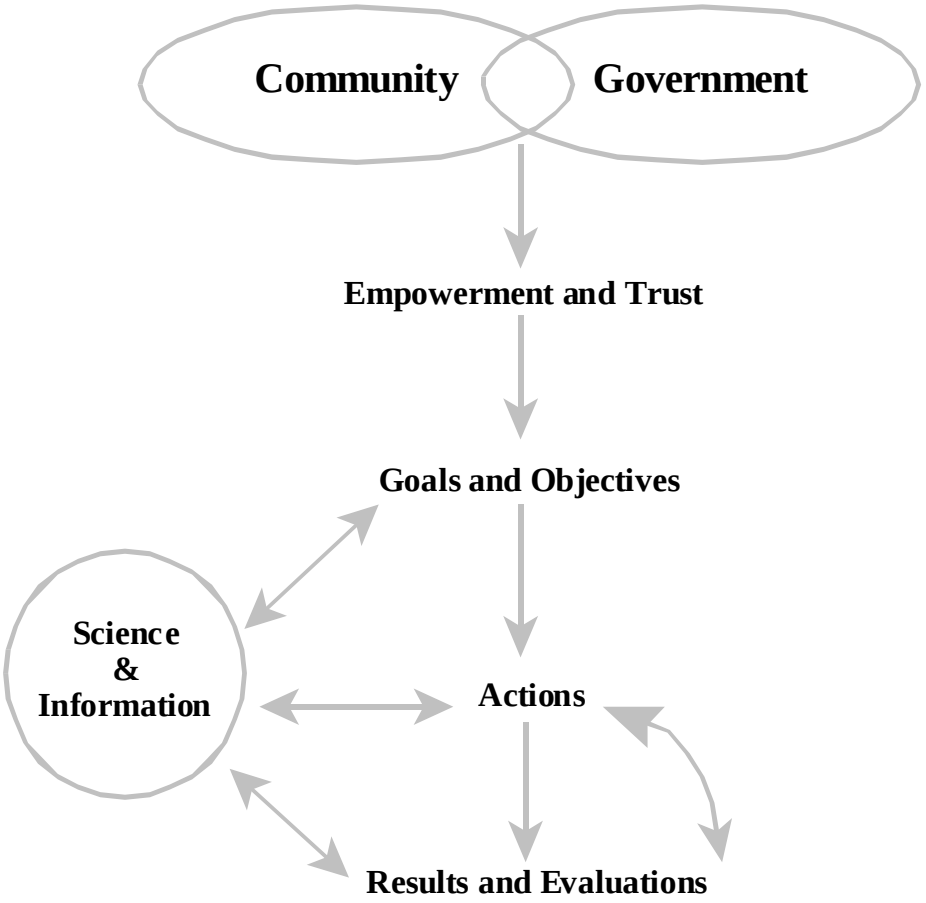
It is local people living in a community who have the attachment to the surrounding landscapes needed for lasting, sustainable stewardship. My sociologist friends have convinced me that there is always a cultural setting that defines the interrelationship of people to land. That culture may

not presently contain all the knowledge, or even the right land ethic, needed to steward the land in the greater interest of society, but all that can change through a process aimed at incorporating science into local knowledge and wisdom. That's our challenge.

Imagine a future in which a majority of the community holds, practices, and teaches land and environmental ethics that are scientifically sound and inclusive of the larger interests of society. Imagine further that the role of government and scientists has largely shifted from regulation and formal decision-making to that of supporting citizen-based, citizen-led solutions to many environmental issues, at least those that lend themselves to solving at that level. In my mind, that's the future that we need to work toward. A fantasy? Perhaps, but I do see us moving in that direction.

Given the space and support for doing so, the process I speak of seems to come together and evolve almost naturally. Although it doesn't readily lend itself to modeling or text book descriptions, the following diagram serves as a visual reference to help our discussions here today.

COMMUNITY-BASED STEWARDSHIP



The relationship between community and government, as implied by this model, primarily depends upon those agencies that have a local presence in the community, such as the U.S. Forest Service, the Bureau of Land Management, the National Park Service, or the Fish and Wildlife Service. Typically, a lot of front end work is needed between the community and these (and other) agencies to make community-based stewardship operational. It's not our purpose here today to talk about that relationship. However, I do want to again emphasize the importance of "Trust and Empowerment." In my opinion, community-based stewardship cannot be made operational without these qualities of human interrelationships. Empowerment, in all its complexity and subtlety, also affects the role of science in this model, and certainly its effectiveness.

Fundamental Changes are Needed:

So, let's see what the people I interviewed had to say concerning what needs to be done for science to become more effectively involved in the community. Here is some of what I heard:

- We need to have scientists available to us; they need to demonstrate that they care about us and have a first hand knowledge of, and concern for, where we live
- Scientists need to be close enough, or available enough, to gain credibility. They need to be more than just someone who occasionally shows up to explain or present something.
- Scientist need to be out on the ground and talking with people to gain credibility
- Scientist need to listen to us as well, learning is not a one way street
- Scientific information needs to be brought down to the local scale and communicated through local language and culture for it to be effective.
- Scientists need to respect the local knowledge.
- Before starting major surveys, work with local people to help them understand what's going on, and why. After that, stay involved with them. If ground truthing is needed, get the locals involved.
- Similarly, get local people involved in monitoring; help them to feel that you and they are working with common purpose.

In short, all this says to me that science needs to have a "face put on it" at the local level. If I may, I would like to leave you today with some recommendations on how to do that.

1. Train scientists to work effectively in a community context (i.e., establishing credibility, gaining trust, and helping people to become more a part of the science that should be considered important to them and the area they live in). Most people I interviewed indicated a need to have more local contact with scientists, not less. They want to bring that knowledge and expertise down to the local level and they want to feel that the scientists involved are truly concerned and knowledgeable about them or the area they live in. While there are ways of attaining these goals, they often are disallowed by agency and/or professional protocol. Having key people regularly sitting in community gathering places, drinking coffee, and discussing matters of local interest is not often considered productive work. Nor is it viewed as a way of getting the "important" reportable work out. Yet, that may be exactly what is called for if we are to become effective as

change agents on the ground, where, in my opinion, it counts the most. There is now training available on how to work effectively in a community setting. I would hope that in the near future the importance of this kind of work becomes better understood and accepted, and that a part of the workforce becomes committed to working for trust and credibility at the local level.

2. Staff the culture. To be even more effective in gaining confidence and application of science at the local level, we should think about permanently locating scientists within communities and expect them to become active members of the community, both locally and more regionally. This is not without precedent. At least some, and perhaps most, of the scientist who came to USGS from different agencies to staff biological services remain in their former duty stations. In one such case that I'm familiar with, the scientist is well known and respected throughout the region she works. At the same time, I know this person to be deeply committed to the ecology of this particular area. Here is an example that appears to be meeting many of the conditions people are asking for. She is also proving that you do not have to compromise your values to be effective in this role. In fact, I believe the opposite is true; you lose respect if you do compromise yourself. Fairness, objectivity, and caring are, however, mandatory prerequisites.

3. Form "regional science teams" and work toward establishing their regional credibility. There are examples of regional science teams already in existence in various parts of the country. But, in my opinion, they're being formed mostly for the wrong reasons - typically to put the best possible science together to advise agency administrators and support formal, government-led decision-making processes. These are the very actions that people are telling us only promote suspicion and distrust for science from government sources. The idea that such teams could support community-based stewardship across the area they cover is mostly absent from the thinking behind their formation. The concept of local empowerment and trust is missing. Regional science teams, if set up to serve community-based stewardship, could be extremely effective in getting science applied on the ground. If oriented to gaining people's confidence and trust, and if effectively connected to communities as discussed above, they could become recognized sources of expertise and information for the region. This could grow to be even more true over time. As the county commissioner in Idaho said, "Yes, the science is good, but if it's going to make a difference it needs to be brought down to the local level and delivered in a way that gains people's confidence."