Collaborative Stewardship of Arizona's Rangelands

Making a difference in resource management

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Collaboration has become a buzzword in natural resource management. But what does it mean, and how is it affecting what happens on the ground? To answer these questions, we studied collaborative partnerships on Arizona rangelands by 1) contacting resource management professionals to identify as many collaborative partnerships as we could and 2) surveying a selected subset of these collaboratives by telephone. Our objectives were to determine the extent of collaboration on Arizona rangelands, identify the types of collaboratives active in the state, and describe the roles they are playing in the management of Arizona's rangelands. Although we recognized that collaboration is a growing trend in the West, we were stunned when we identified > 100 collaborative partnerships on rangelands alone. We found that Arizona collaboratives are diverse in their purposes and participants and are involved in many facets of rangeland management. They play a significant role in many areas of natural resource management, especially monitoring. However, most groups view their major achievements (and challenges), as organizational development and community capacity building.

Survey Methods

To identify collaboratives in Arizona, we sent letters to 181 people expected to interact with collaborative partnerships in the course of their work. These included federal, state, county, or tribal agency employees, Cooperative Extension agents, and tribal representatives. We asked them to describe any collaborative groups of which they were aware, and to identify contact people that could represent the group. Forty-five respondents identified > 80 collaborative partnerships. More collaborative partnerships were discovered during the course of the interviews, bringing the total number of collaborative resource management partnerships identified in Arizona to 107. We subjectively selected a representative sample of 55 collaborative partnerships and interviewed a spokesperson for each group by telephone with a semistructured questionnaire. The respondents were asked to describe their group's history, goals, membership, organization, activities, progress to date, and challenges faced.

Collaboration is an Increasing Phenomenon

The number of collaborative partnerships helping to manage resources is steadily growing. Eighty-seven percent of the groups interviewed had formed since 1990. In part, this is because of agency initiatives that have promoted collaborative management in recent years. For example, Resource Advisory Councils (RACs) are citizen-based groups established in 1995 to advise the Department of the Interior on public land issues and policy. Coordinated Resource Management Planning (CRMP) groups have become a popular way to address natural resource issues that include > 1 ownership, resource, or resource use that requires information or expertise from > 1 group. The Arizona Game and Fish Department built on a single successful grassroots partnership to develop a statewide program of 15 multistakeholder Habitat Partnership Committees that advise the agency and participate in restoration and monitoring activities. Both citizen-initiated and agency-driven collaborative partnerships are on the rise in Arizona, and collaboration is increasingly becoming a standard approach to planning for some agencies.

Table 1. Land ownerships involved in collaboratives

Land ownership	Surface land ownership in Arizona (%)*	Collaboratives active on this land ownership**	
		No.	%
State	13	37	69
Private	18	42	78
Tribal	27	7	13
Federal	42	46	85

$n = 54$.
*http://www.land.state.az.us/report/Fact.pdf.
**Many collaboratives operate on multiple ownerships, so percents exceed 100 and totals exceed 54.

Types of Collaborative Groups Identified

On the basis of their purpose, membership, and concerns, we identified 8 types of collaborative partnerships working on Arizona rangelands. Like all classification schemes, ours is imperfect. However, it does help make sense of the diversity of collaboratives we identified.

1. Ranch planning teams that bring together ranchers, agency representatives, and the public to discuss management of specific ranch units.
   - Examples: Diablo Trust, Empire-Cienega Biological Planning Team
2. Agency-initiated multistakeholder planning teams that work together to develop official management plans for specific areas.
   - Examples: Muleshoe Ecosystem Management Planning Team, Sonoita Valley Planning Partnership
3. Stakeholder-driven landscape-level groups that focus on coordinating fire planning, grass banking, conservation easements, habitat conservation planning, and local levels of agency actions.
   - Examples: Malpai Borderlands Group, Altar Valley Conservation Alliance
4. Agency advisory groups convened to get input from the public and from interest groups.
   - Examples: Arizona Game and Fish Department Habitat Partnership Committees, Bureau of Land Management (BLM) Rangeland Resource Teams, Natural Resources Conservation Service (NRCS) Environmental Qualitive Incentive Program (EQIP) Local Work Groups
5. Watershed groups that bring together diverse stakeholders to address issues of water supply and quality and riparian restoration.
   - Example: Gila Watershed Partnership
6. Weed management groups that involve multiple agencies and citizens in mapping, monitoring, and controlling invasive, nonnative plant infestations and educating the public about the threats posed by invasive plants.
   - Examples: Tonto Weed Management Area, Sweet Resinbush and Karoo Bush Weed Management Area
7. Interagency coordinating groups that enhance coordination and communication among agencies on countywide, statewide, or regional management issues.
   - Examples: CRMP groups, The Southwest Strategy
8. Policy-oriented groups that discuss, propose, and comment on government policies.
   - Examples: Mohave County Public Land Use Committee, Arizona Common Ground Roundtable

Figure 1. *The Quivira Coalition hosts field days such as this one for ranchers and others to learn about rangeland ecology and management.*

Table 2. Comparison of stakeholder-initiated and agency-initiated collaborative groups

	Total (%)	Stakeholder-initiated (%)	Agency-initiated (%)
Who initiated the collaborative?		52	48
Why did the collaborative start?			
Sociopolitical issues	65	59	76
Resource base issues	63	72	48
What is the collaborative's mission statement?			
Affect management, policy, or public understanding	76	63	77
Improve the resource	64	78	50
What kind of projects and activities does the collaborative undertake?			
On-the-ground activities	86	94	74
Discusses or influences policy	47	39	55
Education and outreach	67	76	52
Is the collaborative based on a model?			
Based on a model	57	46	71
Does the collaborative's project area include private land, or agriculture?			
Includes private land	78	91	73
Includes agriculture	44	55	30
What are the collaborative's sources of funding?			
Receives grant funds	56	76	26
Receives private contributions	47	52	42
Receives federal or state agency allocations	53	36	77

In addition to these 8 types of groups, our inventory of collaborative partnerships also included a few simple cooperative agreements between two parties, such as a landowner and an agency or between two agencies.

Collaborative Groups are Widespread and Diverse

Collaboratives occur on every landscape and vegetation type throughout Arizona's 15 counties. The areas stewarded by these groups range from 40 acres to 8.6 million acres. Membership ranges from 3 to 900 participants. Most collaboratives are on the lower end of these ranges, with half stewarding 130,000 acres or less and claiming no more than 20 members. It is not uncommon for membership or area to overlap. One individual might belong to two or more partnerships, and two or more partnerships might address different concerns on the same piece of land.

The majority of groups (83%) are place-based, operating in just 1 or 2 counties, although a few agencies have initiated statewide partnerships. A few (16%) operate solely on land owned by 1 entity, but most partnerships operate on some combination of private, state, tribal, or federal lands. The federal government is the largest landowner in Arizona, and 85% of the collaboratives surveyed include federal land in their project areas. State and federal agencies, nongovernmental organizations, and local citizens are involved in most groups.

Figure 2. *The Empire-Cienega Biological Planning Team meets twice a year in the field to discuss rangeland conditions, grazing management, and other concerns on the BLM-managed Las Cienegas National Conservation Area.*

Collaboratives' annual budgets range from $0 to > $500,000. Almost half (44%) employ paid staff. They meet as frequently as twice a week to only once a year. Decision-making by consensus is a fundamental element of many coordinated resource management partnerships and is the most popular process mentioned by respondents (35%). In other groups, decisions are made by majority vote (20%); agency leadership (17%); or the landowner, director, or board (28%). In most groups, a group member facilitates meetings (44%), whereas others use a federal agency representative (28%), a trained facilitator (15%), or no formal facilitation at all (17%).

Looking for information on how to make collaboration work?

Here are some resources.

Organizations and databases:

Community-Based Collaboratives Research Consortium
www.cbcrc.org

University of Michigan Ecosystem Management Initiative
www.snre.umich.edu/emi/information.htm

Redlodge Clearinghouse
www.redlodgeclearinghouse.org

Resources for Community Collaboration
www.rccproject.org

Books:

Making Collaboration Work: Lessons from Innovation in Natural Resource Management by Julia Wondolleck and Steven Yaffee. Published by Island Press, 2000.

Working Through Environmental Conflict by Steven Daniels and Greg Walker. Published by Praeger, 2001.

Across the Great Divide: Explorations in Collaborative Conservation in the American West by Philip Brick, Donald Snow, and Sarah van de Wetering. Published by Island Press, 2001.

Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands by Barb Cestero. Published by The Sonoran Institute, 1999.

Collaboration: A Handbook for Environmental Advocates by Franklin Dukes and Karen Firehock. Published by the University of Virginia, Institute for Environmental Negotiation, 2001.

Resource and Sociopolitical Issues Drive Group Formation

Collaboratives form for a variety of reasons and can be grouped into two broad categories: resource issues and sociopolitical issues. Resource and sociopolitical reasons were equally common in the formation of the collaborative groups we surveyed. These two types of reasons for forming are not mutually exclusive, and many collaboratives cite reasons from both categories in describing their origins.

Examples of sociopolitical issues include:

- Stakeholders feel ignored and desire a greater voice in agency decisions.
- Development pressures threaten working ranch landscapes and livelihoods.
- Disagreements occur concerning grazing permit allocation on public land.
- A lack of communication exists between agencies and ranchers.
- A lack of consistent protocols among agencies makes compliance difficult for ranchers.
- Complex regulatory requirements (eg, National Environmental Policy Act [NEPA], water quality regulations, etc).

Examples of resource-based issues include:

- Fire suppression leading to a build-up of fuel and loss of forage production.
- Spreading weed infestations.
- Booming elk populations competing with cattle for forage.
- Overgrazing by cattle, wild burros, and horses.
- Drought.
- Declining water quantity and quality.
- Unstable streambanks and poor riparian habitat quality.

Stakeholder-Initiated vs Agency-Initiated Partnerships

Stakeholders initiated roughly half of the collaboratives, and half were initiated by a federal, state, county, or tribal agency. Stakeholder-initiated partnerships are more likely to have formed in response to a resource issue, and to participate in on-the-ground activities, education, and outreach (Table 2). Agency-initiated partnerships are more likely to have formed in response to sociopolitical issues and

to focus on affecting policy. Stakeholder-initiated partnerships are more likely to rely on grant funds, to include private land in their project area, and to encompass land uses that occur on private land, such as agriculture. Most of these partnerships are not modeled after an existing collaborative effort. Agency-initiated partnerships are often based on an existing collaborative model, and most are supported by agency dollars.

On-the-Ground Activities Emphasize Monitoring

Most collaborative efforts (86%) undertake on-the-ground activities, such as recreation management, restoration activities, prescribed fires, thinning, habitat enhancement, wildlife management (e.g., species reintroduction or drinker enhancement), establishing grazing exclosures, or implementing grazing systems (Table 3). Most of the groups interviewed are involved in monitoring resources (93%). Resource attributes monitored by collaborative groups included:

- water quality (salinity, toxin levels);
- water quantity and riparian health (sediment movement, duration of surface flows, height of water table, riparian vegetation);
- vegetation (frequency, cover, density, biomass, utilization);
- wildlife (presence, frequency, habitat requirements);
- soils (temperature, salinity, fungal and bacterial concentrations);
- weeds (extent of infestation, effectiveness of control measures); and
- recreation impacts (degradation of vegetation and archaeological sites).

Organizational Capacity and Trust-Building are Major Challenges

When asked what their greatest challenges were, many partnerships mentioned the difficulty of keeping the partnership together (67%). These difficulties included:

- Getting and keeping volunteers. "I realize there is a fine line between the magic volunteers bring and making things sustainable. As is, it just isn't sustainable. When it gets hot, when the mud is slinging, it's easy to lose faith when you are a volunteer, to say, 'to hell with it,' and go back to your own life."
- Finding the funding and time to develop and implement projects. "We've had a very difficult time gaining support from banks and lending organizations because they're interested in other things (ie, higher returns), and those things come from development projects not conservation projects."
- A lack of organizational capacity or well-defined roles within the partnership. "We are a small group and overworked, and unfortunately we have no committee for fund-raising."
- Understanding agency bureaucracy. "Educating ranchers so that they understand that letting fire take its place in the landscape isn't as easy as lighting a match and walking away, that there are a lot of rules: state laws, the Department of Environmental Quality and EPA regulations, US Fish and Wildlife Service (USFWS) concerns about threatened and endangered species, etc."
- Reduced agency budgets, budgets not being passed, and the high rate of turnover in the federal agencies were all sources of frustration. "Continuing government support is another challenge. I'm the only government person associated with the project who hasn't changed since it began. It becomes overwhelming for a local

Figure 3. *The Sif Oidak Livestock Committee on the Tohono O'odham Nation worked collaboratively with the University of Arizona Cooperative Extension, the NRCS, the Tohono O'odham Natural Resources Department, and the Tohono O'odham Soil and Water Conservation District to develop a pilot rangeland management plan for their district using a participatory, community-based planning approach.*

Table 3. Kinds of projects and activities collaboratives undertake

	Collaboratives involved	
	No.	%
On-the-ground activities		
Recreation management	16	34
Restoration	31	66
Prescribed fire	20	43
Thinning	10	21
Habitat enhancement	28	60
Wildlife management	19	40
Species reintroduction	7	15
Drinker enhancement	9	19
Other wildlife management	3	6
Grazing exclosures	17	36
Grazing systems	23	49
Performs 1 or more of the on-the-ground activities listed above	47	86
Develops or implements management plans	33	60
Discusses, proposes, implements, or affects policy	47	86
Outreach or education	37	67
Scientific research	18	33
Resource monitoring	51	93

$n = 55$.

group to rebuild/educate new regional foresters/state conservationists, etc, and regain their support."

The actual collaboration also proved challenging, as mentioned by 47% of respondents. Difficulties reported were:

- Building and maintaining trust between ranchers and agencies or environmentalists and ranchers. "It's been a challenge, overcoming mistrust, the suspicion of the government. We say, 'We're from the government and we're here to help you,' and they say 'yeah right, get away.' "
- Uniting stakeholders into a common purpose.
- Looking at others' points of view. "[Our] greatest challenge is to be sure we share the perspectives of different groups. When someone is not in the room, that doesn't mean their concerns aren't valid."
- Reaching agreement on the many issues involved.
- Creating plans that satisfy everyone involved. "Deciding between water quality issues and recreation use [is a challenge]. Doing what's necessary to improve water quality may mean limiting public use of the area. A lot of people want to continue using the area."
- Educating the public about the importance of the projects the partnership is undertaking.

A smaller number of groups (16%) mentioned human-caused land degradation, such as garbage, off-highway vehicle (OHV) use, recreation use affecting water quality, proposed developments, water extraction, and depletion of the water table as challenges. Natural disasters, such as drought or flood, delaying projects or causing technical failures were also mentioned by some partnerships (12%).

Collaborative Groups Build Community Capacity

Despite the numerous challenges, the majority of collaborative groups (76%) describe their progress as good to very good. In describing their most important outcomes, many felt they had made headway in addressing their greatest challenges. Said one participant: "We've made a lot of progress in overcoming fears. It's been a challenge, overcoming mistrust, the suspicion of government." Community capacity building was mentioned by 67% of the respondents as their greatest achievement. This category includes such things as:

- Increasing trust. "It's so gratifying after all of these years of building consensus, overcoming hurdles and mistrust. The ranchers were all concerned we were trying to put them out of business, but when we go and put in 3 miles of fence, it makes [it] clear we're trying to partner with the rancher for the long term, because that fence isn't for wildlife. After all these years, it's great to see ranchers initiating projects."
- Increasing participation. "[We have a] high level of participation. Twenty to 30 people attend each meeting. That's a good number, considering that ranchers have to drive [some distance] and pay their own way."
- Developing a "rural voice." "There is a strong rural voice developing. We are working to make a positive change in our environment so that we can keep our rural way of life and still have positive growth (ecologically and economically) and keep our economy strong."

- Broadening awareness and attention. "Awareness by the governor's offices and legislature that noxious weeds are a problem [is an important outcome]."
- Viewing the landscape on a regional level for a better understanding of how to manage large-scale collaboration between the many agencies and landowners. "By collaborating with neighboring land owners, we can develop a whole ecosystem perspective. This is important because wildlife doesn't recognize our human-created boundaries."
- Keeping issues in the public and political eye. "Keeping the public lands issues in front of the board of supervisors so they know and can plan."
- Gaining political recognition. "It is rewarding to see how well-known this group is."
- Running educational programs for the public.
- Obtaining grants.
- Increased dialogue and flow of information.
- Cooperative behavior. "This group has become amazing [as far as] cooperative behavior between landowners and sportsmen. Very positive. They treat each other very respectfully. When they meet in town, they act like friends."
- Respecting concerns of various interests. "[An important outcome is] that the environmentalists, forest users, agencies, and community members [have] all sat at the same table productively for 6 years now. We protect everyone's seat at the table and there is no attacking other people's position. People feel comfortable and safe to share their opinions, views, and ideas."

A quarter of the groups (26%) saw influencing management as an important achievement of their collaboration. Changes in management brought about by collaboration include the creation and implementation of management plans, establishing management policies, developing maps to aid in management, and challenging paradigms in order to change the way management is done.

Slightly less than a quarter of the groups (22%) mentioned improved health of the land as an important achievement of their collaborative effort. Improved land health included:

- decreased rates of erosion and sedimentation levels,
- increased native grass cover,
- increased wildlife and insect populations,
- increased water quality or quantity,
- restoration of wetlands habitat or riparian areas, and
- conservation of endangered rivers.

Although many groups (86%) were involved in implementing on-the-ground projects, few (11%) reported this as a major achievement. Similarly, only a few groups (4%) mentioned improved science or the purchase of conservation easements (6%) as an important outcome.

Conclusions

The number of collaborative partnerships on rangelands has expanded rapidly in Arizona in the last decade, and it appears that collaboration is becoming more accepted and institutionalized as a way of doing business in some natural resource agencies. Collaboratives take many forms and serve a variety of purposes. They can be grassroots or agency-initiated efforts. A majority of the groups we surveyed were involved in on-the-ground activities, especially resource monitoring. Although they face significant challenges, especially in the area of organizational capacity, the collaboratives we interviewed believe they are making a difference in community capacity, resource management paradigms and practices, and ecological conditions. Nearly 3 times as many collaboratives cited increased community capacity as an important achievement as referred to improved management or ecological conditions. This finding suggests that the social effects of collaboration might be greater than the resource management effects, at least in the short term. If collaboration builds community capacity by transforming relationships among stakeholders and encouraging civic involvement, these outcomes could have far-reaching effects when participants in one collaborative effort transfer their skills to other groups and social arenas in their communities. As collaboration continues to increase and evolve, more critical studies of collaborative partnerships are needed to document the ecological and social outcomes and the costs and benefits of collaboration in different situations.

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