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**Private-Public Collaborations in Natural Resource Management: Forging
Shared Action Arenas Between Heterogeneous Actors**

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Private-Public Collaborations in Natural Resource Management: Forging Shared Action Arenas Between Heterogeneous Actors

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Abstract:

Resource managers have become increasingly cognizant of the value of integrating stakeholders into decision-making processes. Considering the strong relationship between stakeholder activities and ecological services, it is worthwhile to think about how stakeholders can be engaged to advance management goals, rather than just viewed as “users” that must be managed or restricted to protect the target resource. In his 1993 National Performance Review, Vice-President Gore directed federal resource management agencies to implement landscape-level “ecosystem management” strategies, including inter-agency coordination and citizen participatory management. However, actual successes remained elusive, as no one actually knew what these arrangements should look like or how to construct them. Frustrated by years of counter-productive conflicts between government land managers, conservation groups, and private stakeholders, a group of ranchers in Arizona and New Mexico formed a cooperative to find an alternative path out of the rangeland conflicts by bringing together ranchers, environmentalists, and research scientists.

This paper examines the story of the Malpai Borderlands Group, its formation, and a few key struggles that they faced to become one of the leading examples of public-private collaborations in the US. This paper will argue that both the scope and key features of their success is best understood within the institutional context of the rangelands and its complex regulatory landscape. The significant political and institutional obstacles the ranchers faced was a heritage of the complex institutional arrangements of the Western Range and the many interests that attempt to manage and control its delicate ecosystems. The group succeeded through an iterative process of making small but critical changes to the action situations they faced, and their experience suggests to us that by constructing spaces for respectful dialog, it may be possible for opponents to reach a common ground of shared values and goals.

Keywords:

wildfire management, rangeland management, cattle ranching, ecosystem management, private-public partnerships, consensus-based partnerships

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Introduction

In 1991, a wildfire on a ranch in the Malpai Borderlands of southeastern Arizona and southwestern New Mexico ignited ranch owners in solidarity against political and biophysical processes that threatened their livelihood. The fire didn't inspire the ranchers to collective action because the fire caused damage to property. Quite the opposite, several ranchers welcomed the fire as a natural and beneficial process (Sayre, 2005, p. 160; Dagget, 1995, p. 20). The ranch owner asked the responding fire management agency to allow the fire to burn out naturally, as the ranching group had come to the conclusion that natural fires could help restore the ecology of the landscape and should be allowed to burn whenever they posed no danger to their neighbors (Dagget, 1995, p. 22). Even though the ranch owner recognized conditions were favorable for the fire to safely proceed, the agency refused the ranchers' request and initiated its standard fire suppression protocol. Despite aggressive suppression efforts, the fire burned exactly as the landowner had expected, and the community was chagrined at feeling brushed aside by a bureaucracy that appeared to discount their concerns and desire to collaborate (Sayre, 2005, p. 161).

Known as the Geronimo Trail Fire, the fire and the conflict between local ecological knowledge and agency policy capped years of frustration and counter-productive conflicts between government land managers, non-governmental conservation groups, and private stakeholders (Sayre, 2005, p. 22). Area ranchers had come to the realization that fire could bring many ecological benefits to the landscape, simultaneously as internal discussions within the agencies were also recognizing the benefits of fire (Sayre, 2005, p.39; Grumbine, 1994, p.28). Having observed the beneficial effects on the biodiversity of post-burn land, the landowners wanted to work out suitable management arrangements to allow these fires to happen (Sayre, 2005, p. 44).

And yet, the ranchers found numerous obstacles to achieving productive collaboration. Today, many examples of collaborative resource management initiatives can be located in the literature. However, in 1992 collaborative and consensus-based management was untested, little more than a policy idea on paper. In his 1993 National Performance Review, Vice-President Gore directed federal resource management agencies to implement landscape-level "ecosystem management" strategies, including inter-agency coordination and citizen participatory management (Stein & Gelburd, 1998, p. 74). The goal was to integrate new scientific research concerning the complexities of ecosystems, taking into account the interrelationships between the biophysical and social systems (Yaffee, 1996, p. 726). Managers in the USFS, BLM, and other agencies had begun recognizing the value of implementing adaptive management strategies and cross-border cooperation, and policy reports from the period reflect this growing awareness (Rosenkrance et al., 1996; Stein & Gelburd, 1998). However, actual implementations remained elusive, as no one actually knew what

these arrangements should look like (Sayre, 2005, p. 96). Ecosystem management was a transformational shift in policy and resource management, but its success depended upon resolving vague definitions and incompatible differences in operational implementations between agencies (Cortner & Moote, 1999).

The story of the Malpai Borderlands Group is one about a few key individuals stubbornly fighting to gain a voice in ecological management decisions that impacted their lands and livelihoods. Through a combination of determination, advantageous social connections, and fortuitous events, this small group of ranchers succeeded in forging a collaborative partnership with government agencies, research scientists, and environmental organizations, which demonstrated a mechanism for constructing such partnerships. Their work has resulted in peer-reviewed research on rangeland ecological processes and has inspired replications in other regions of the US (Gripne, 2005; Stein & Gelburd, 1998).

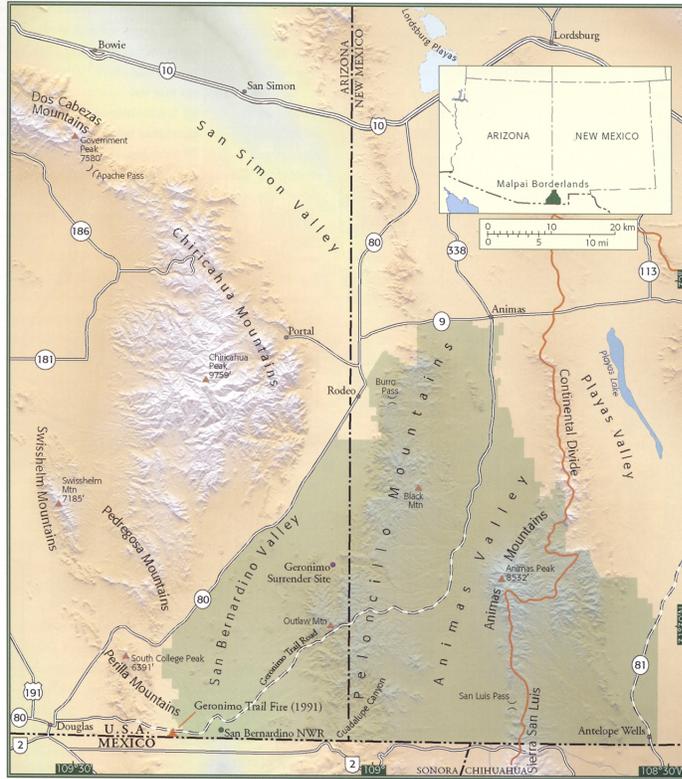
The story of the Malpai group is also one of iterated successes that revealed new obstacles. Each step required another transformation of action arenas, a reframing of the collective action problem, in order to open cracks in the dilemma to achieve consensus and shared goals. Each step was built upon the lessons learned previously.

This paper will examine this story and will argue that the success of the Malpai Borderlands Group is highlighted by the institutional context of the Malpai rangelands and its complex regulatory landscape and that this complex and contested environment was composed of multiple overlapping or even contradictory action arenas. The significant political and institutional obstacles the ranchers faced was a heritage of the complex institutional arrangements of the Western Range and the many interests that attempt to manage and control its delicate ecosystems. For decades this environment has produced rivalries, arguments, internecine legal battles, and even physical violence. These rivalrous action arenas were an obstacle to productive conversations, much less collaboration, and the Malpai Borderlands Group succeeded in their aims by bridging these different action arenas and working diligently to forge a unified arena in which the willing parties could appreciate the different aims and rules governing the others, while focusing on the desired outcomes all shared in common. Some lessons to be learned from the ongoing experiment that is the Malpai Borderlands Group, is that successful collaboration must focus on shared aims, while recognizing that a collaborative space, a deliberate action arena, must be constructed in order for all to achieve the desired outcomes within the context of the rules that the partners carry with them into that space.

The Malpai Borderlands

The Malpai Borderlands covers almost 1,000,000 acres in southeastern Arizona and southwestern New Mexico (See Figure 1.) Topographically, the area consists of rugged, forested mountain ranges and broad intervening grassland valleys. Rainfall varies from 12 to 25 inches annually (Gottfried et al., 2009, p. 87). The rainfall is highly variable with up to 50 percent of it falling July through September and another 30 percent in winter storms. Within a single season, periods of intense thunderstorms alternate with dry periods (Service & Lehman, 2008, p. 12). Because of the aridity and climatic variability, grasses and grazing plant life are limited in availability, but the region nonetheless possesses tremendous biological diversity. The Peloncillo Mountains, along the border between Arizona and New Mexico, contain over 879 species of plants and 318 species of birds (Gottfried et al., 2009, p. 87).

Historically, fire has been an integral ecological process in the Malpai Borderlands. Fires were ignited by lightning or set by local Native American groups (Gottfried et al., 2009, p. 87). Tree ring records show that fire frequency has declined from the mid-1800s and essentially ceased



Map 1. Location of Malpai Borderlands Group planning area. From Sayre (2005), p. 36.

past the early 20th century (Gottfried et al., 2009, p. 87). These declines have been connected to droughts and heavy overgrazing from the cattle boom in the 1880s and 1890s, but the aggressive fire suppression policies of the 20th century has been the primary cause behind the reduction of fire frequency in recent decades (Gottfried et al., 2009, p. 87).

The Cattle Rush of the 1880s and the Creation of the Western Range

During the settlement expansion into the American West in the mid-1800s, the expansive grasslands became a tempting target for cattle speculators who saw a profitable opportunity by raising cattle for sale. Under the homesteading laws, settlers claimed small parcels of land for free, and these homesteads tended to cluster around available water sources. Outside these scattered parcels, wide expanses of open grassland remained unclaimed and unused (Sayre, 2005, p. 22). Cattle speculation exploded across the Western Range:

“Every man was seized with the desire to make the most that was possible out of his opportunities while they lasted. He reasoned that there was more grass than his own cows could possibly eat. There was plenty of stock water for five times as many cows as were now on the range. There was no rent to pay, and not much in the way of taxes, and while these conditions lasted every stockman thought it well to avail himself of them. Therefore all bought cows to full extent of their credit on a rising market and at high rates of interest.” (H.L Bentley, 1898, from Nathan Sayre, 2005, p. 22).

In Arizona, an estimated 50,000 head of cattle in 1870 increased to 1.5 million head in 1891 (Sayre, 2005, p. 72).

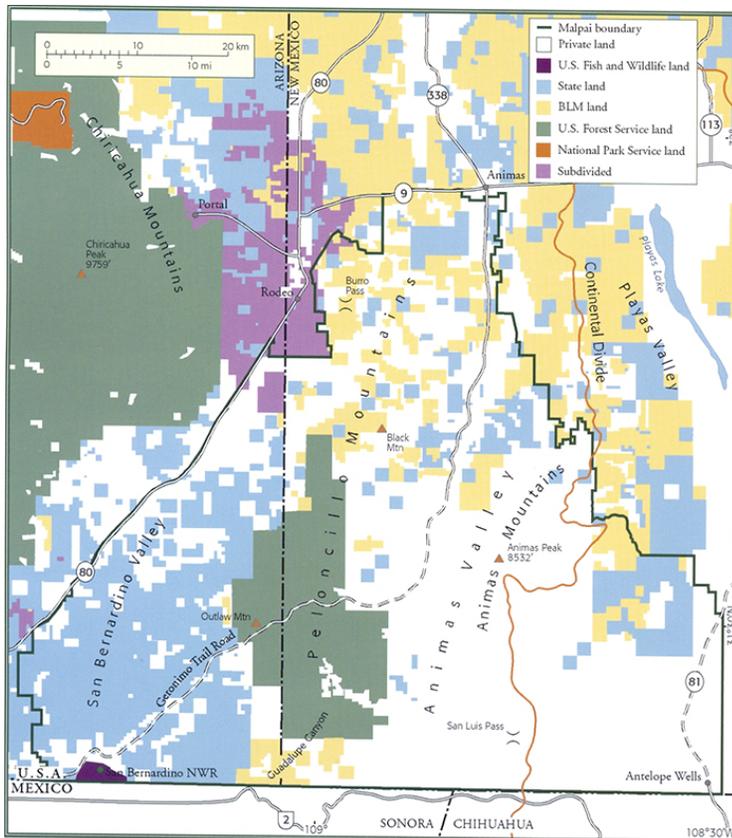


Figure 2. Land ownership in the Malpai Borderlands Group planning area. From Sayre (2005), p. 35.

The explosion of cattle populations on western rangelands led to severe overgrazing and disastrous degradation of the grass ecology of the landscape. The boom collapsed in the aftermath of the blizzards of the Great Plains in the 1880s, followed by severe droughts in the Southwest in the 1890s. The vast herds led to “towering piles” of bones of the deceased livestock (Sayre, 2005, p. 22). Reformation of the laws governing usage of the rangelands finally took place through the Taylor Grazing Act of 1934, which formalized the legal and regulatory framework for livestock production on unclaimed federal rangelands: the system becoming known as the Western Range (Sayre, 2005, p. 23).

The Taylor Act fixed the physical and political landscape of the Western Range, a heritage felt even today. Those private holdings already established became legally fixed, unclaimed land at higher elevations became national forests, scattered elsewhere across the landscape were state trust lands, parks, and Indian reservations, with all remaining land assigned to BLM (Sayre, 2005, p. 37). Today, the federal government owns 88% of Nevada, 42% of Arizona, and 36% of New Mexico (Sayre, 2005, p.21) (See Figure 2.) Under the Act, public land was organized into public grazing allotments and assigned carrying capacities for organized grazing permits, which would be issued to cattle ranchers.

The premise of the Western Range was that “without foreseeable alternative land uses, the value of ranches would be a function of their productivity for livestock. Provided with secure tenure to enough grazing land to make a living, the rancher’s self-interest would therefore align with the public’s interest in healthy rangelands” (Sayre, 2005, p.25). But with the mosaic of jurisdictions and organizations responsible for managing public lands, the Western Range became a maze of

bureaucracy and legal confusion that “ensured that politics would be different there, and more difficult, than elsewhere in the US” (Sayre, 2005, p.25).

The Politics of Ranching in the 1990s

Through the 20th century however, the idea of the Western Range and the health of the range became the focus of intense disagreement and political conflict. In 1947, Bernard De Voto wrote, “Nothing in history suggests that the states are adequate to protect their own resources, or even want to, or suggest that cattlemen and sheepmen are capable of regulating themselves even for their own benefit, still less the public’s” (Sayre, 2005, p.25). Later he wrote, “Cattlemen and sheepmen, I repeat, want to shovel most of the West into its rivers” (Sayre, 2005, p. 25).

The consensus within rangeland management throughout much of this period held that the rangelands were only productively useful for its grasses and cattle ranching potential. In order to maintain a sustainable level of productivity from these lands, grazing permits, typically for ten year terms, were issued to private landowners to permit limited access for their cattle herds. However, by the 1980s, the rangelands remained in poor condition and ranchers and their critics were at each other’s throats.

Environmental groups were pushing a national campaign to end public land grazing: “Cattle Free by ‘93” (Sayre, 2005, p. 39). Ranches were being purchased in order to shut them down and remove their livestock. Meanwhile, environmentalists were derided as communists and undertaking a vast socio-cultural conspiracy to erode the minds and livelihoods of families (Sayre, 2005, p. 39). Ranching coalitions formed to take action at the legislative level and in the courts (Sayre, 2005, p. 26). The ranching coalitions pushed for legislation and pursued their claims in the courts to devolve regulatory authority down to the state and local levels, arguing the bureaucratic complexity of land management made the system obtuse and inefficient, resulting in sub-optimal outcomes (Sayre, 2005, p. 26). Legal gains made by one party were followed by gains by the opposition, resulting in a never-ending tug-of-war.

Frustrated with the antagonism, legal stalemates, and continued declines in the health of the rangelands, rancher Drum Hadley drew on acquaintances in his wider social circle to contact a representative from the conservation group, The Nature Conservancy, and a rangeland scientist to come to a meeting with a select group of local ranchers. Drum hoped they could hold a careful and respectful discussion about the stalemate and how the group might overcome their differences through their shared concern for the health of the landscape (Sayre, 2005, p. 40). Meeting periodically in the home of one of the ranchers, the group discovered that underlying their disagreements on the needed actions to change the situation, they all shared similar concerns and goals about the health of the landscape. They agreed that historical over-grazing had caused significant declines in the health of the grasslands and the grasslands continued to decline due to an ongoing land-cover transformation from the absence of natural fires (McDonald, 1996, p. 290). Having identified this common ground and the importance of figuring out how to solve these challenges, the group drafted “The Malpai Agenda for Grazing in the Sonoran and Chihuahuan Bioregions”, laying out clearly the common ground and the complexities involved in reversing or preventing the negative outcomes the group had identified (Sayre, 2005, p. 42). The Malpai Agenda established a shared mission:

Our goal is to restore and maintain the natural processes that create and protect a healthy, unfragmented landscape to support a diverse, flourishing community of human, plant, and animal life in our Borderlands Region. Together, we will accomplish this by working to encourage profitable ranching and other traditional livelihoods, which will sustain the open-space nature of our land for generations to come. (Group & Lehman, 2008, p.2)

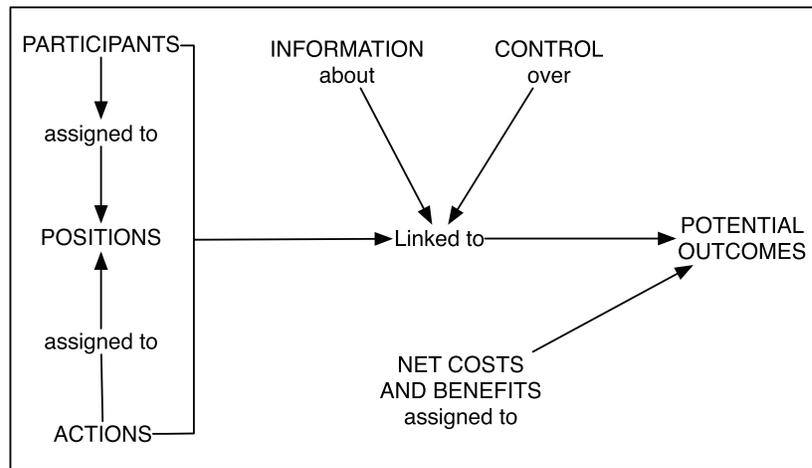


Figure 3. The internal structure of an action situation with rules as exogenous variables affecting the elements of the situation. From Ostrom (2005), p. 189.

During this period, as the ranchers learned how fire had once played an important ecological role in restoring and maintaining the grasslands, a fire broke out on one of the ranches. Interested in acting on their growing knowledge, the ranch owners asked the fire responders from the US Forest Service to allow the fire to burn out naturally (Dagget, 1995, p. 22). They argued wind conditions and the topography presented no risk to other neighbors, but the agency refused the ranchers' request and initiated its standard fire suppression protocol. Despite aggressive suppression efforts, the fire burned exactly as the landowner had expected (Sayre, 2005, p.161).

Frustrated by the response of the Forest Service and encouraged by the successful discussions in the group, the group realized a new course of action was needed to move the Malpai Agenda forward. The complexity of public land management and the rules administered by the patchwork of agencies needed to be faced. The discussion group met for the final time in July 1992 with a plan to reorganize in order tackle fire management (Sayre, 2005, p. 40). In March 1993, a larger group of ranchers—30 individuals from 19 ranches in the region—gathered to draft a formal statement of intention to develop a fire management plan and request the assistance of the relevant agencies tasked with fire management in neighboring public lands (Sayre, 2005, p. 45). Solving the fire problem turned into a far more complicated and intensive endeavor any anticipated. Each step taken revealed new challenges and costly measures to be undertaken. Fortunately, each new obstacle came in the wake of a prior achievement and lesson in collaboration, permitting the group and their partners to take the process a step at a time. This iterative process will now be explored utilizing Elinor Ostrom's Institutional Analysis and Design (IAD) framework for action arenas.

Competing Agendas, Competing Action Arenas

The Institutional Analysis and Development (IAD) framework developed by institutional scholars, like Elinor Ostrom provides a well-tested and proven model to “map” the structure and variables that affect the incentives and decisions of individuals in situations involving collective

action and shared outcomes (Ostrom, 2005, p. 9). When two or more individuals interact to produce an outcome that all must share, this is called an action situation or action arena (Ostrom, 2005, p. 13) (See Figure 3.) Action arenas can be found in many places: in the home, in government councils, corporate boardrooms, and between nations. Ostrom points out that while individual action arenas can be large, complex arrangements involving many participants and complex chains of actions, social reality is often composed of multiple action arenas linked together (Ostrom, 2005, p.55).

An action arena contains the collective action *decision* which is to be made, the actors participating in the shared action decision, and the resulting outcome of the collective action event. The defining feature of the action situation is the coupled decision-making between all the actors in the situation. They must choose the specific action out of the set of possible actions available, and the resulting outcome derives from all action decisions by the actors. Each actor possesses preferences concerning the possible outcomes from the situation—net cost and benefits associated with the potential outcomes, but only has control over their own action decisions, not over those of the other actors in the situation.

In a given situation, the amount of information each actor can access concerning the situation—both on the linkage between potential actions and potential outcomes as well as what the other actors know, can do, or are doing—can and will vary and is likely to be limited in scope depending on the actor's position (Ostrom, 2005, p. 50). Likewise, the amount of control an actor will have in a situation will vary and depend on their position as well as the structure of the situation itself (including any aggregation rules specifying how decisions are to be made in the situation—i.e. must a decision for action be made through consensus of all participants?)

In order to understand the difficulties the Malpai ranchers had to overcome, we will attempt to map out the main features of the action arenas they operated within prior to the formation of the discussion group, as well as some key changes they had to make to their action arenas at junctures in the group's organizational process.

Structure of Action Arenas Pre-MBG (Prior ca. 1990)

Grazing on Public Lands

In the Borderlands, prior to the MBG, the interactions between ranchers and environmentalists were focused on the ranchers' herds on the range lands, particularly on public range lands, and the access rules that governed ranchers' ability to use the public lands for grazing their herds. Ranchers report that during the height of these tensions, the Cattle Wars of the 1980s and 1990s, tensions sometimes turned physically violent, with pets being killed as warnings (Sayre, 2005, p. 39). Descriptions of this period report that these conflicts more often than not ended up in the courts as ranching coalitions and environmental groups fought for legal advantage (Sheridan, 2007, p. 131). For the issue of permitting cattle on public lands, the two groups most frequently ended up in court fighting to achieve their preferred outcomes: secure grazing rights for ranchers, restoring the rangelands for conservationists (Sheridan, 2007, p. 131).

Using Ostrom's diagram for mapping the structure of an action arena, Figure 4 shows a possible diagram of this situation between ranchers and environmentalists. In this diagram, the institutional features associated with each group are indicated by a leading C or R, for the conservationists and ranchers, respectively. Both parties were concerned over the potential outcome of grazing access: maintaining current grazing levels or a reduced or eliminated level of access (Sayre, 2005, p. 29). However, each possessed distinct opinions and preferences over those two outcomes, and these differing opinions were driven in part by the differing information each party possessed about the relationship between grazing activities and landscape health outcomes.

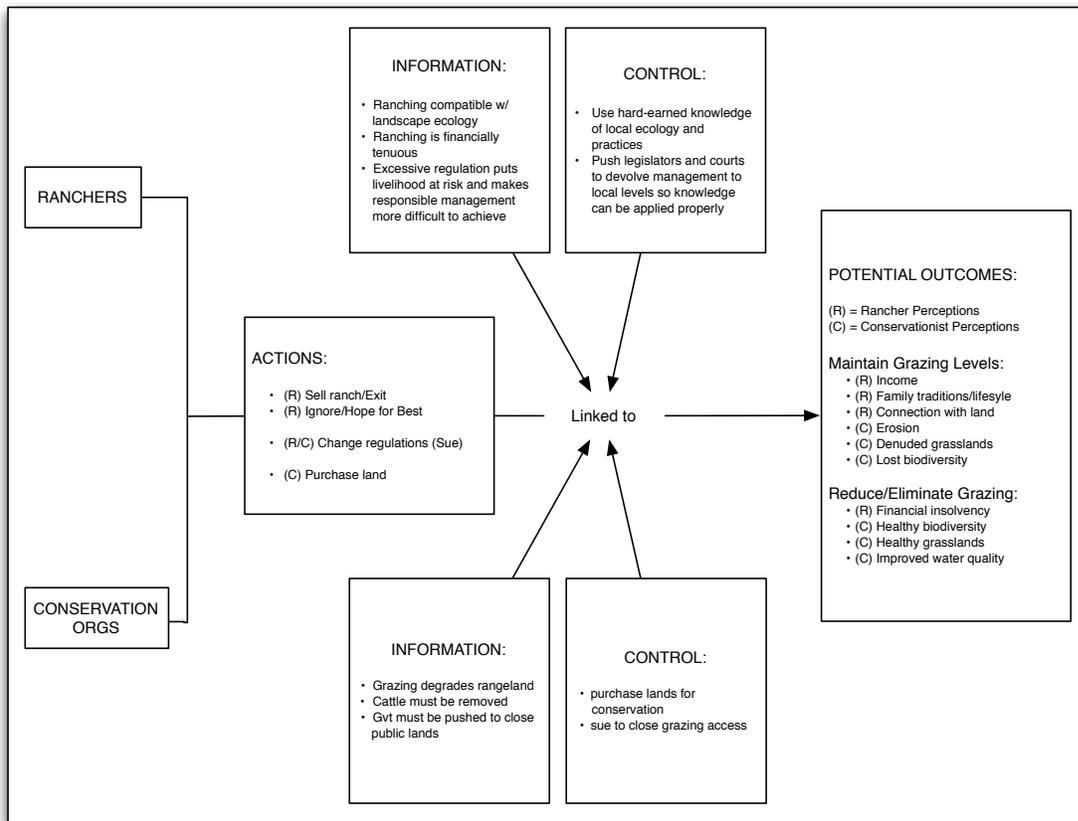


Figure 4. A snapshot of rancher-conservationist-agency interactions over cattle grazing on public lands.

The conservation organizations pointed to the history of over-grazing and the current mixed ecological conditions of the rangelands to argue that cattle ranching was incompatible with ecological health of the rangelands (Sheridan, 2001, p. 144). For ranchers, cattle represented a threatened source of income and traditions for their families (Sheridan, 2007, p. 130). Thomas Sheridan calculates the carrying capacity of the grasslands in Arizona is approximately 42 acres per cattle unit (mother-calf pair) (Sheridan, 2007, p. 130). Access to large sections of grasslands are absolutely vital to the success of a ranch. Consequently, the value of a ranch is not just based upon the deeded property itself but also those grazing permits attached to the property granting access to public lands (Sheridan, 2001, p. 144). Permit renewal records report great attention given to how ranchers manage the public land allotments granted to them. Ranchers view ranching as a lifestyle that is not only compatible with sustainable ecological management program but can even be an important tool in furthering that goal (Sayre, 2005, p. 92). Because ranching is a financially marginal activity for many, the rigors of meeting the demands of rules and regulations managed by different agencies at different governance levels can often be demanding (Sayre, 2005, p. 128). Consequently, ranchers often argue that efficiency would be gained by devolving public lands management to the local and state levels, simplifying the oversight and permitting processes (Sheridan, 2007, p. 131).

Historical and eyewitness reports focus on a small set of key actions each party tended to focus on (McDonald, 1996; Sayre, 2005). As a default, by taking no action, ranchers could choose to ignore the situation, work their ranch as best as they could manage and hope for the best. For many, off-ranch sources of income become a necessity to supplement the limited income provided

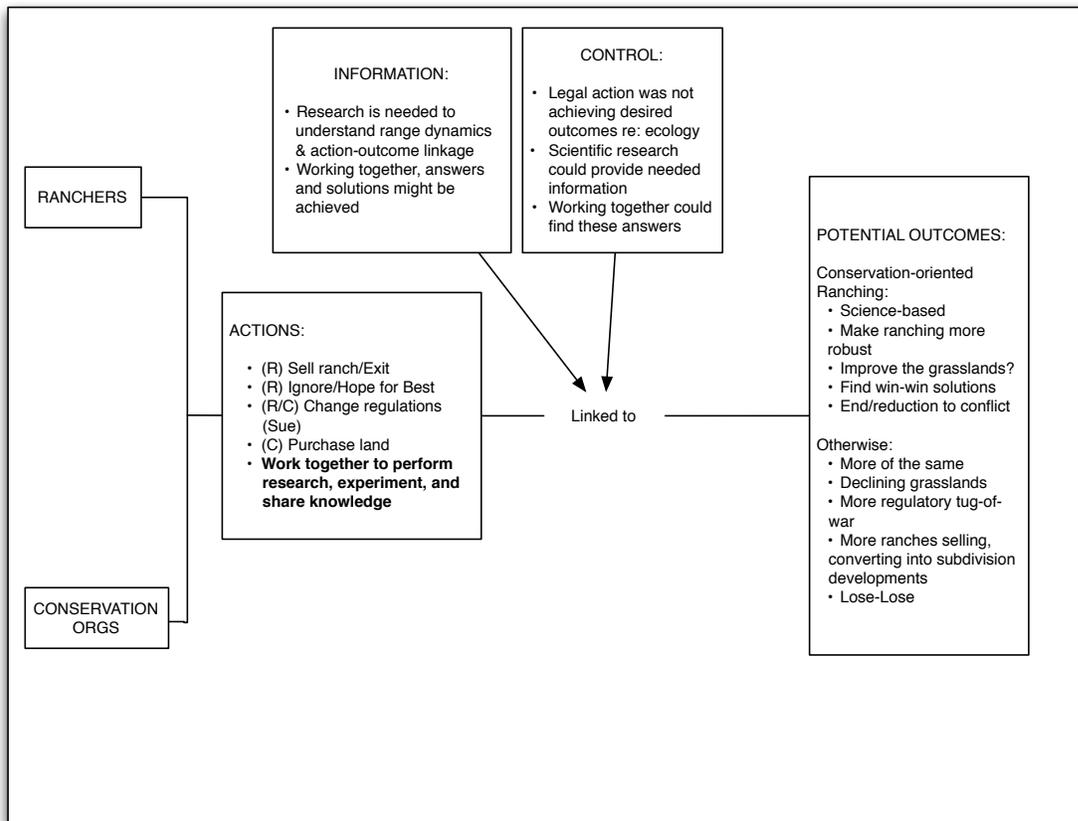


Figure 5. A snapshot of rancher-conservationist-agency interactions over cattle grazing on public lands.

by cattle (Sayre, 2005, p. 136). Otherwise, if the situation became untenable, they could choose to sell the ranch and exit the situation (Sheridan, 2007, p. 130). For some, rather than doing nothing or quitting, organizing into political coalitions appeared to be the only option to change conditions. This last option, involved taking to the courts and suing to change the regulatory environment—often to seek shifting regulatory control to local-level governance.

Viewing cattle as an unacceptable disturbance to the natural ecology of the grass lands, conservation groups focused on the one intermediate outcome capable of achieving their ultimate goal of restoring the ecology of the grasslands: remove cattle from the range. To achieve this goal, conservation groups tended to focus on two different strategies: 1) close public lands to grazing by suing the relevant public land management agencies and change their access rules and 2) purchase private ranches so the cattle on their private properties could be removed (Sayre, 2005, p. 58).

Step 1: Transform Rancher-Environmentalism Interactions—The Malpai discussion group (1990 - 1992)

When the Malpai discussion group began meeting in the homes of local ranchers, the discussions focused on the problems the members perceived as pressing. The discussions centered on three central issues:

- fragmentation of the landscape
- the declining productivity and health of the grasslands

- increasing government regulation didn't appear to be a solution

The group realized they shared the same concerns over the health of the landscape. Just as important, the ranchers and the representative from TNC realized neither party actually discounted the negative outcomes the other party sought to prevent. The ranchers were not unmindful of the ecological burdens cattle placed on grass lands, nor did TNC desire ranchers to lose their livelihoods. An alternative path never seemed available.

The group decided to focus on the goals and priorities that everyone shared and try to figure out what courses of action might help them to achieve those shared goals. They realized that there was a great deal of uncertainty about the actual connections between proposed solutions and the possible outcomes. The historical role of fire became a focus of significant interest for the group. Anecdotally, some members had observed beneficial regrowth on properties that had experienced fire in the past, and they learned that fire had once played a significant role historically.

With the group coalescing around a set of shared concerns and goals, they drafted a document to articulate those core issues—this document was the Malpai Agenda. “The Malpai Agenda for Grazing in the Sonoran and Chihuahuan Bioregions” laid out clearly the common ground and the complexities involved in reversing or preventing the negative outcomes the group had identified (Sayre, 2005, p. 42).

Our goal is to restore and maintain the natural processes that create and protect a healthy, unfragmented landscape to support a diverse, flourishing community of human, plant, and animal life in our Borderlands Region. Together, we will accomplish this by working to encourage profitable ranching and other traditional livelihoods, which will sustain the open-space nature of our land for generations to come. (Group & Lehman, 2008, p. 2)

The group identified it needed good science to develop effective actions that reinforced a strong conservation ethic (McDonald, 1996, p. 290). These solutions needed to be economically feasible and initiated and led by the private sector with public agencies as partners.

The group had succeeded in the miraculous, uniting ranchers with environmentalists into forming a consensus. And yet this consensus didn't aim for more than the group could reasonably hope to achieve in a first step. The action situation had been modified in subtle ways. The parties now shared a common base of understanding about the nature of the situation and the need for scientific practice to illuminate the linkages that they did not have information about (Figure 44.) They reached a consensus on the benefits and costs each side would experience from success or failure. Crucially, the set of actions available to each actor remained in place. Only now, a new action opportunity was available for choosing: work together to learn and find a win-win solution.

Through this process of dialog, the group had succeeded in transforming the old action arena, from a dilemma that had incentivized actors to pursue legal conflict (Figure 4) into an action arena that permitted an alternative: collaboration (Figure 5.) Through their discussions, each position had shared its concerns and goals, and they focused on those commonalities that they shared. The set of potential outcomes was refracted through that shared perception, and the information the group possessed and lacked about the linkage between the potential activities they could take to achieve their goals.

With a growing excitement over the possibility of taking positive action to improve the situation, fire became a focal point for the group. When the Geronimo Trail Fire took place, it was a fortuitous opportunity to put the agenda into practice, allow the fire to burn safely and see its effects on the land. It was also a source of tremendous frustration when the group realized they needed to take their ideas and requests to a higher level than the fire response teams. Realizing that the landowners in the region might have differing preferences regarding fire, the Malpai discussion

group met with the their neighbors and drew up a map detailing those preferences by property: (1) suppress immediately, (2) consult with the land owner, and (3) make a decision at time of incident (Allen, 2006, p. 18). Armed with this master fire map, the group arranged to meet with representatives from the agencies.

Upheaval in Fire Management

The regulatory and management environment for fire management was a more complicated puzzle to navigate for agency managers as well as private stakeholders. With significant overlap in responsibilities, the jurisdictional complexities presented many challenges for managers in these departments in coordinating activities and desirable outcomes. Fire management is a clear example of the difficulty in achieving coordination in mixed management environments. Prior to 1988, agencies were largely responsible for interpreting and fulfilling their responsibilities for fire management on their own land (Philpot et al., 1988, p. 10). Each agency implemented fire management differently, resulting confusion over appropriate suppression strategies and coordinating across jurisdictional boundaries. Following severe fire seasons in 1988, a federal fire management review was organized to examine how fire management was being implemented across the federal government and to what outcomes this led (Philpot et al., 1988, p. i). This patchwork approach presented difficulties to land managers operating within these agencies, outsiders found navigating the bureaucracy mystifying. As the Malpai ranchers discovered when they attempted to craft a fire strategy on their lands.

Maps of public lands reveal the mosaic of interests and management arrangements from federal agencies, like the US Forest Service (USFS) and Bureau of Land Management (BLM) to state trust lands (See Figure 2.) Although these organizations often are subject to the same laws governing certain activities, like the Endangered Species Act (1973), each agency is also subject to its own institutional history, including its mission which establishes the priorities of its activities on the land it manages.

Two examples: US Forest Service and Bureau of Land Management

The USFS was established in 1897 through the Organic Administration Act of 1897 as an agency within the Department of Agriculture, and it was formed to manage the country's national forests. In order to fulfill this mandate, the Forest Service pursued a strategy that was consistent with the general direction of the Progressive Conservation Movement (Busenberg, 2004, p. 148). In essence, the Forest Service sought to promote the efficient use of natural resources through coordinated, centrally directed decisions made by forestry professionals. An early focus of this strategy was to protect natural resources from damages caused by wildfires. Congress subsequently gave the Forest Service the fiscal and legal means to pursue wildfire suppression on a national scale. (Busenberg, 2004, p. 149).

Located within the Department of the Interior, the basic authority for BLM is based on the Federal Land Policy and Management Act of 1976, which established that public lands under federal ownership were to be used for management, protection, development, and enhancement under the multiple uses, sustained yields principles (Meissner, 1999, p. 14).

The Forest Service has a forest and rangeland research organization, which the BLM does not have (Meissner, 1999, p. 57). The Forest Service also has a nationwide forestry organization for assisting state and private forestry parties. BLM is responsible for administering mineral resources on public lands, including those managed by BLM, the USFS and other federal agencies. BLM maintains mining law administration operations, which the USFS does not.

The USFS has long permitted lightning-ignited fires to burn under specific conditions in certain areas of the land managed by the Service (Meissner, 1999, p. 8). In 1978, authority for

approving wilderness plans was delegated to Regional Foresters, allowing them flexibility to provide for “well-planned and executed fire protection and fire use programs that are cost-effective and responsive to land and resource management goals and objectives” (Meissner, 1999, p. 8). In contrast, BLM rules regarding fires generally disallowed any natural fires on their lands. Almost all prescribed fires were ignited, not natural fires, with the only exception being fires that occurred naturally on land adjacent to wilderness managed by other agencies (Meissner, 1999, p. 9).

Both organizations have practically identical missions with many of the same goals. By law, each agency must manage its lands according to multiple-use, sustained yield, and many of the same top-level environmental and land-use laws apply to both: for example, the National Environmental Policy Act, the Clean Air Act, and the Endangered Species Act (Meissner, 1999, p. 49). Yet, at the very same time, *how* those missions are interpreted and implemented can at times appear quite different. Each organization has different internal rules as well as priorities concerning activities. Though the two organizations perform many identical services, they “use different administrative processes, charge different user fees for similar services, and take different approaches to customer service” where confusion can arise for the general public and resources may be wasted (Meissner, 1999, p. 57).

Fire Management Policy in 1993

During the period of time when the Malpai ranchers began meeting and drafting the Malpai Agenda, federal wildland fire policies were under heavy scrutiny. Prior to 1988, agencies were largely responsible for interpreting and fulfilling their responsibilities for fire management on their own lands. Each agency implemented fire management slightly differently, resulting in confusion over appropriate suppression strategies and coordinating across jurisdictional boundaries. Following severe fire seasons in 1988, a federal fire management review was organized to examine how fire management was being implemented across all federal agencies and to what outcomes this led (Philpot et al., 1988, p. 1).

The 1988 Fire Management Policy Review concluded that variations in how agency employees interpreted federal fire policy in conjunction with the institutional priorities had led to many natural fires being allowed without any prescriptions (Philpot et al., 1988, p. 10). Some employees were placing “naturalness” above other priorities and allowing fires to exceed policy guidelines (Philpot et al., 1988, p. 11). The review team recommended agencies strengthen their policies and develop regional fire management organizations (Philpot et al., 1988, p. 16).

In the midst of this policy flux, the Malpai ranchers were realizing that fire was an important ecological process that could aid in restoring grasslands in the region, and yet agencies were under heavy pressure to not exceed their authority in their fire plans. Reports from review committees reinforced the importance of consistency in application of management strategies across agencies, yet guidelines remained vague and distinct between units (Philpot et al., 1988, p. 17). The policy uncertainty and increased pressure on agency managers to not exceed broad guidelines, made collaboration between stakeholders and agencies a challenging issue. Any agency openness to find mutually beneficial options for allowing fire back onto the range was now superseded by the new policy realities for unified and carefully regulated implementations. This is the environment the Malpai ranchers found themselves when they contacted the local agency regional offices to meet to discuss fire in the Malpai Borderlands.

The ranchers’ plan and fire map was immediately rejected by the agency representatives (Sayre, 2005, p. 89). In principle, the representatives were open to the idea of using fire as an ecological restoration tool, but fire could not be permitted to happen accidentally. This could have been the end of the matter. However, flush with the momentum from the success and potential

that deliberative collaboration had achieved so far, the ranchers committed themselves to work with the agencies come up with a solution: they would collaborate to develop an approved fire plan for a prescribed burn (Sayre, 2005, p. 89). Realizing this new challenge would demand a more focused and organized approach, the Malpai discussion group met for the last time in July 1992 in order to begin organizing a new group that could collaborate with the agencies as a partner (Sayre, 2005, p. 89). In March 1993, the Malpai Borderlands Group was formed with the goal to develop an approved fire plan for a prescribed burn in the region.

Step 2: Create an Action Arena for Fire Management (1993 - 2008)

As its first project, the MBG met with agency representatives to identify what steps were needed to implement controlled fires in the region. To permit a fire on private or public land, the fire had to meet specific prescription features. Once a land unit had been selected for the pilot prescribed burn, the Malpai group worked with the US Forest Service to develop a plan that defined the parameters of the burn: how much land would be burnt, the weather conditions under which the burn would be initiated, the condition of the land to be burned including its fuel loads and projected burn patterns based on fuel and topography (Sayre, 2005, p. 114). Finally the fire plan detailed contingency plans to ensure the fire remained under control and did not pose a risk to property and human life, both residents and fire control teams. At that time, the Forest Service decided to not consult with the Fish & Wildlife Service regarding potential impacts on endangered species, which allowed the fire plan to proceed quickly to implementation in 1995 (Sayre, 2005, p. 114). This planned burn was called the Baker I burn.

Encouraged by the success of the Baker I fire, the group and USFS planned and implemented another fire, Maverick, in 1997. This time, the USFS did consult with the Fish & Wildlife Service on potential negative impacts, the “incidental takes,” on a list of 11 protected species, which led to a series of meetings from March 1996 to March 1997, involving the USFS, US Fish & Wildlife Service, Arizona and New Mexico Game & Fish Departments, the Natural Resource Conservation Service, the Malpai group, and The Nature Conservancy (Sayre, 2005, p. 114). Concerns over the “incidental take” that fire might cause necessitated studies on the affected species. Once the groups settled on the need for a scientific analysis, the USF&WS completed a review and issued its authorization for the fire plan (Sayre, 2005, p. 115).

Questions about the appropriate standards and methods for collecting empirical evidence continued to build, and disagreements between the groups, particularly between some biologists and the USFS project managers led to a “breakdown in trust,” nearly derailing the entire process, and passage of competing regulations through the US Fish & Wildlife Service that potentially blocked any future fire prescriptions (Sayre, 2005, p. 120). After five years of planning and debate, the Baker II burn was successfully approved and implemented in 2003. However, Baker II had demonstrated the fragility of inter-agency and multi-actor collaboration. With the increased awareness of the presence of species that could be potentially impacted by any ecological restoration projects, parties were now invested in ensuring that laws were properly fulfilled, requiring comprehensive research and planning to minimize or justify any negative impacts, and this entailed every project would need a properly researched and approved “Incidental Take Permit” (ITP) (Group & Lehman, 2008, p. 9). The Malpai group faced a new challenge to the ultimate success of their mission. Even if the group could persuade ranch owners that these projects were worthwhile and beneficial for the ranch as well as the landscape, if that rancher had to invest in the planning, research, and filing for an ITP in order to participate, the cost could scare them off.

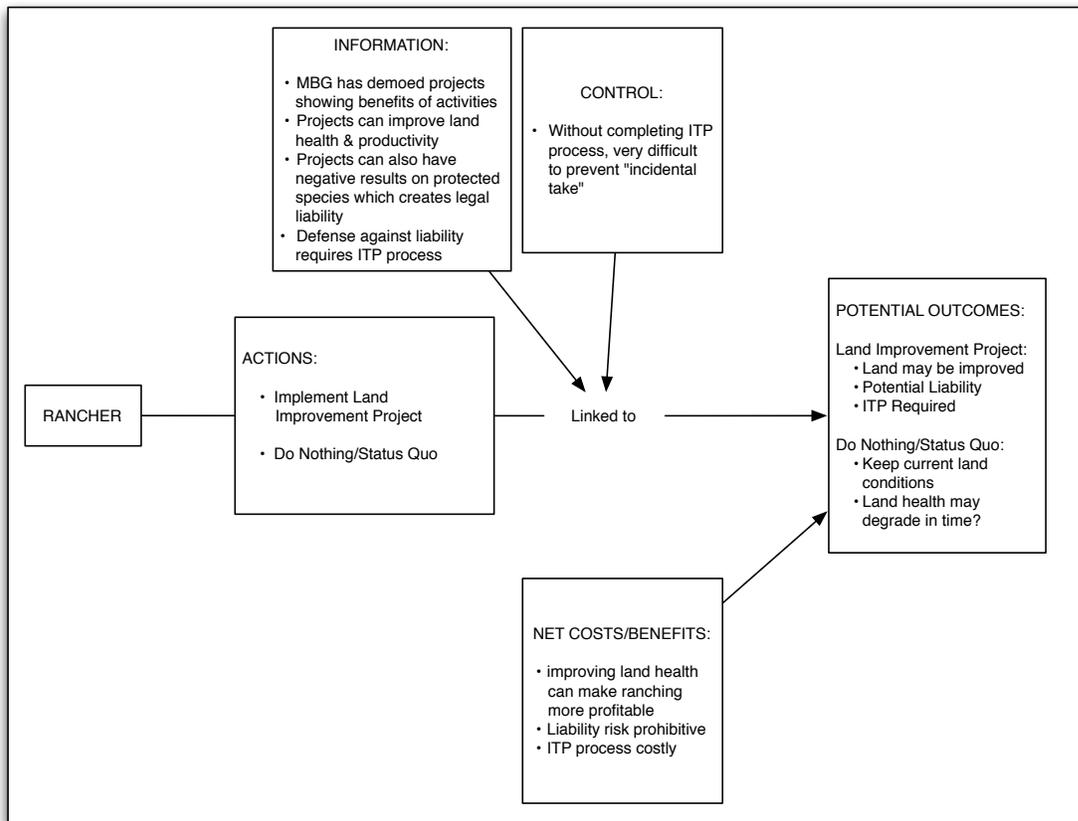


Figure 6. A rancher's action situation when deciding whether to participate in a landscape improvement project.

The MBG: Today and Future

With the lessons gained from addressing the incidental take issues raised by the Baker 2 fire, the MBG realized the ITP planning and permit process was too steep a cost to expect individual ranches to cover. The action situation facing a ranch considering participating in landscape improvement activities looked like Figure 6. The potential costs and risks would have been overwhelming for any except the most dedicated or committed individuals.

Fortunately, federal regulations provided for a solution. A full ITP could be waived for a given activity if an overarching master Habitat Conservation Plan was previously developed, providing the results of research and analysis for specific classes of activities designed in advance (Sayre, 2005, p. 150). A Habitat Conservation Plan (HCP) can be authorized by the Fish & Wildlife Service to grant Safe Harbor coverage to individuals seeking to undertake activities detailed by previously approved HCPs (Group & Lehman, 2008, p. 9). The HCP specifies activities that can impact a protected species and how that impact will be minimized or mitigated (Group & Lehman, 2008, p. 9). With the approved HCP and its Safe Harbor agreement, an individual rancher can apply to participate in one of the approved activities under the aegis of the MBG without the standard requirement of a standalone ITP.

In 2008, the MBG completed its HCP. With this plan approved, the MBG had once again transformed an action dilemma for individuals by making the investment in the time and expense of acquiring the needed legal permitting so individual ranches did not have to cover that transaction

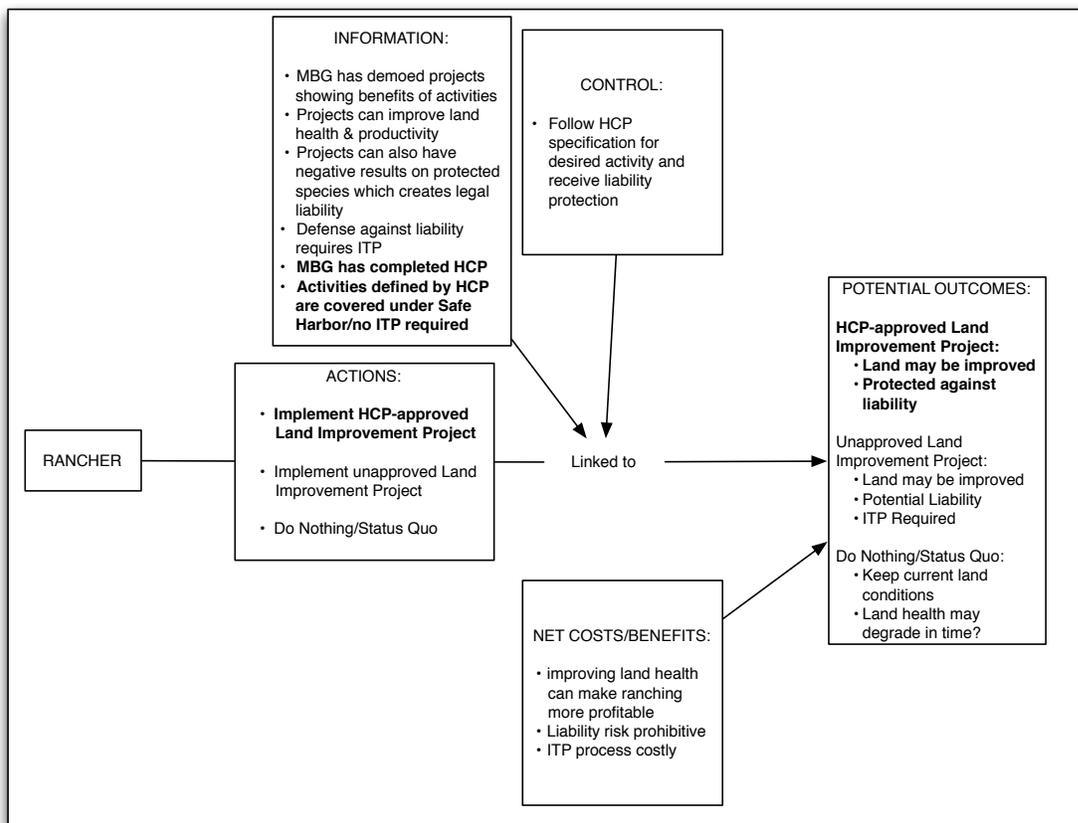


Figure 7. Rancher's action situation with MBG's Habitat Conservation Plan providing liability protection for specified landscape improvement projects.

cost themselves (Figure 7.) The change in a rancher's decision was small but crucial (seen with the figure's items in **bold**.) The rancher now had an action option that provided provided the same potential benefits as before but with the addition of Safe Harbor from liability. The lessons and experience earned from the original discussion group through the first prescribed burn had laid the groundwork for this success.

Lessons and Conclusion

Land management researchers and policymakers have been become increasingly cognizant of the value of integrating stakeholders in the management process (Conley & Moote, 2003; Wondolleck & Yaffee, 2000). Considering the strong relationship between stakeholder activities and ecological services, it is worthwhile to think about how stakeholders can be engaged to further overall ecological service goals, rather than be viewed as "users" that must be managed or restricted to protect the desired service. As the Malpai ranchers demonstrated, private stakeholders can possess strong motivations to protect and conserve the natural resources on which their livelihoods depend. The challenge for policy makers and resource managers is determining how to integrate stakeholders into the decision making process. The Malpai example shows one case of such a partnership getting off the ground, driven "bottom-up" by the landowners, though there is no reason to suppose that this is the only method to success. However, by taking lessons from the Malpai, and combining with analyses of other similar private-public partnerships elsewhere in the country, it might be possible

to identify common keys to success.

The advantage by starting our study with the Malpai Borderlands Group, we can identify features that appear to stand out in their successes and difficulties, and compare those features to the other projects and see where and when those features also appear elsewhere. The Malpai experience suggests to us that by constructing spaces for dialog, sharing desires and goals, as well as fears, it may be possible to bring antagonists together to find a shared space of values. This is not to suggest that the Malpai blueprint is a panacea that can solve all multi-actor conflicts over resources—See Ostrom et. al’s relevant warnings about falling into the “panacea trap” (Ostrom, Janssen, & Anderies, 2007). Every action situation brings with it its own context, history, and array of action situational components. The Malpai group did not achieve all its successes overnight. The success of developing the Habitat Conservation Plan was built on the success and stumbles of previous group projects—Baker I and II fires—and the successful implementation of the first planned fire built on the deliberative and respectful discussions of the first Malpai group meetings. Perhaps the most powerful lesson of the Malpai ranchers is that transforming action situations requires small steps taken in order, over and over.

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