

Conservation Outcomes and Social Relations: A Comparative Study of Private Ranchland Conservation Easements

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Conservation easements have increased dramatically but their social and ecological outcomes are largely unknown. To examine the influence of social relations and institutional structure on easement design and conservation outcomes, we compared two regions where land trusts hold conservation easements protecting large areas of private rangeland: Lassen Foothills, California, and Malpai Borderlands, Arizona and New Mexico. We conducted interviews with landowners, land trust staff, and public agency employees, and analyzed easement documents and monitoring reports. Social relations and organization goals influenced easement terms and their direct effects on land use. Furthermore, easements had important indirect conservation-relevant outcomes resulting from increased land management resources, financial incentives, and altered relations among landowners, government agencies, and non-governmental organizations (NGOs). Easements entail a combination of collaborative and regulatory approaches, and their embedded social relations are important for conservation outcome assessment. These findings have significant implications for how conservation programs are designed, monitored, enforced, and evaluated.

Keywords collaboration, conservation effectiveness, evaluation, grazing, non-profit organizations, policy outcomes, policy outputs, private land conservation, property rights, regulation

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Institutional design and social relations are increasingly recognized as important to the effectiveness of conservation initiatives (Ostrom 1991; West et al. 2006). Yet many analyses of conservation programs neglect social and institutional dynamics (Brechin et al. 2002). The proliferation of conservation organizations, goals, tools, and funding sources increases the importance of integrated assessments of conservation programs. We explore the linkages between social relations and conservation effectiveness by comparing two cases of conservation easements held by nonprofit organizations.

The increase in private land protected by conservation easements has been remarkable. In the United States, the amount of land in easements held by local and regional land trusts more than doubled between 2000 and 2005 (Alliance 2006). The National Conservation Easement Database has documented over 135,000 conservation easements on 12.4 million hectares (R. Macleod, personal communication 2011). Conservation easements, sometimes known as conservation covenants, are also becoming more common globally, particularly in Latin America and Australia (Kabii and Horwitz 2006). The use of easements by the growing land trust “movement” reflects the increasing devolution of governance over natural resources to local and nongovernmental organizations (NGOs) (Welsh 2004; Fairfax et al. 2005).

Private lands are recognized as critical to the protection of ecological and cultural landscapes (Scott et al. 2001; Brunson and Huntsinger 2008). Despite the widespread use of conservation easements, their conservation outcomes for private lands are relatively unknown (Merenlender et al. 2004). Conservation easements have begun to be evaluated for their effectiveness in limiting development (Byrd et al. 2009), providing cost-effective conservation (Armsworth and Sanchirico 2008), and allowing for adaptation over time (Rissman 2010). Assessment of easements held by The Nature Conservancy in eight states found that 85% permitted new structures, residential or commercial use, or subdivision of the property (Rissman et al. 2007), and that while compliance monitoring was common, biological monitoring was uncommon and unsystematic.

Measuring the effects of conservation easements is difficult because easements are highly varied in goals and restrictions, information about them is not easily obtained by the public, and they typically *prevent* change rather than cause it, which can be more difficult to measure. Merenlender et al. (2004, 67, 72) called for an interdisciplinary research strategy “to look closely at easements and the organizations that hold them,” in order among other things “to understand how easements fit into the complex of private and public institutions already involved in the use and management of agricultural land.” Large-scale quantitative assessments can identify broad patterns in conservation easements. More detailed studies using qualitative methods are necessary “in order to understand what (if any) impacts easements are actually having on landowner views about stewardship responsibilities” and changing land uses (Morris 2008). Rather than attempting to identify what conservation easements generally or necessarily do, such research reveals what easements can do in different institutional and ecological contexts and helps identify mechanisms of change (Sayre 2004).

Evaluating environmental policy interventions involves an assessment of policy outputs (laws, agreements, contracts), outcomes (actors’ behavior), and impacts (changing social or environmental conditions) resulting from the policymaking process (Young and Levy 1999). In this analysis we examine outputs such as conservation easement terms, and outcomes such as changed landowner management.

We do not expressly measure environmental impacts such as species diversity and abundance. All three dimensions of conservation easements—outputs, outcomes, and impacts—may be affected by the social relations in which they unfold, especially those between landowners and easement holders. Although some conservation easements are exacted through regulatory authority (Lippmann 2006), most are voluntary and compensated, and they are often promoted as a collaborative tool for landowners to protect their land from development, in partnership with land trusts or government easement holders (Brewer 2003; Anella and Wright 2004). The slogan of the Land Trust Alliance—“together, conserving the places you love” (Alliance 2006)—reflects this collaborative ethos. Collaboration typically entails voluntary participation, shared goals, pooled resources, and situations in which no party has the power to command the behavior of others (Gray 1985; Wondolleck and Yaffee 2000).

Once established, however, easements involve monitoring and enforcement suggestive of a less collaborative relationship between landowners and easement holders. Conservation easements constitute partial property rights, and some scholars have characterized them as land use restrictions that create a site-specific regulatory regime on private land (Cheever 1995). Enforcing conservation easements may involve mediation, arbitration, or litigation. In a broad sense, regulation can be defined as controlling individual or organizational behavior through rules, restrictions, or mandates. Regulation is conventionally considered the prerogative of government (Doremus 2003), but decentralized governance systems may also involve outsourcing regulation to nonprofit organizations (O’Rourke 2003). The relationship between easement holders and landowners contains both collaborative and adversarial potentialities, which are reflected in, but not exhausted by, the legal agreement that the easement formalizes. Parties to the easement negotiate its terms—including purposes, permitted uses, and prohibited uses—with the aim of balancing the landowner’s interests with the protection of public conservation benefits (Byers and Ponte 2005).

Conservation easement holders are an increasingly diverse set of organizations with varying missions, histories, and capacities. Depending on their goals and relationships with private landowners, easement holders are expected to vary in their approaches to negotiating, monitoring, interpreting, revising, and enforcing easement restrictions under changing social, economic, and environmental conditions. Easement holders may be tasked with monitoring and resolving issues related to buildings and roads, commercial uses, and the management of forest, range, water, or wildlife resources.

Since conservation easements are negotiated agreements, contract theory and agency theory predict that where goal conflict between landowners and easement holders is low, easement terms will be less specific, compliance with the easement will be behavior-based rather than performance-based, incentives will be lower, and monitoring requirements will be less stringent (Eisenhardt 1989; Shapiro 2005). Conversely, we expect that where landowners and easement holders have greater differences in goals, easement terms will be more specific, compliance terms will be performance-based rather than behavior-based, incentives will be higher, and monitoring of landowner behavior will be more stringent. Thus, the landowner–easement holder relationship, broadly construed, may be a strong determinant of how conservation easements actually influence land management on the ground (Ellickson 1991). Although legal scholarship on conservation easements is abundant,

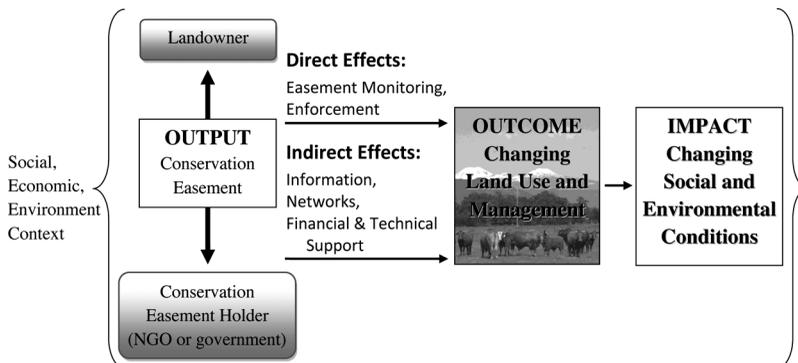


Figure 1. A social relations and output–outcome–impact framework for understanding conservation easement effects. State enabling statutes, IRS regulations for tax-deductible easements, approval from funders, and other factors may also influence conservation easement terms.

empirical analysis of the social relations surrounding conservation easements is lacking. These relations may be particularly complex if landowners are themselves members, staff, or founders of land trusts.

Here we link the outputs–outcomes–impacts assessment framework with a detailed study of the social relations in and through which conservation easement initiatives take place. Do social relations between landowners and easement holders influence conservation easement terms and their direct and indirect management outcomes for rangelands? Are social relations, in turn, affected by easements, especially given their dual character as both collaborative and regulatory instruments? We examined conservation easement agreements and monitoring and enforcement reports, and we interviewed landowners and land trust staff, in two regions where private nonprofit land trusts hold easements protecting large areas (>30,000 ha) of private land used for livestock ranching: the Malpai Borderlands in Arizona and New Mexico, and the Lassen Foothills in northern California. We found that conservation easements have the potential to influence land management both directly through requirements in the easement agreement and indirectly through mechanisms external to, but affected by, the easement (Figure 1).

Study Areas

The two study areas were selected to compare the use of rangeland conservation easements in different social and institutional contexts. Both regions are relatively unfragmented rural ranching landscapes, comparable in size, land use, and the number and age of conservation easements. They differ in their institutional contexts, particularly the involvement of landowners in land trust governance and the degree of intermixing of public and private land ownership (Table 1). In the first case, a local, landowner-driven land trust, the Malpai Borderlands Group, holds easements on private lands that are intermixed with leased state and federal grazing lands. In the second case, the land trust in question—The Nature Conservancy—is extra-local and private land predominates.

Table 1. Case study characteristics

Lassen Foothills (LF)	Malpai Borderlands Group (MBG)
Easement holder is The Nature Conservancy (TNC); international organization, local office	Easement holder is Malpai Borderlands Group (MBG); local organization
Landowners may be TNC donors or members, but most are not	MBG controlled by landowners
Grazing primary land use	Grazing primary land use
Dispersed public and private land grazing leases	Private lands intermixed with adjacent, leased private lands
364,000 ha region	324,000 ha region
32,300 ha easements	34,400 ha easements
22 easements	14 easements on 12 ranches
Most easements purchased with public and private funds; several donated by landowners	Most easements purchased with private funds, one donated; four funded through grassbank

Malpai Borderlands Group

The Malpai Borderlands Group (MBG) is a landowner-driven nonprofit organization dedicated to conserving ranching and rangelands in a region covering 324,000 ha in extreme southeastern Arizona and southwestern New Mexico. The organization originated in 1994 from a unique confluence of people and organizations, including ranchers, scientists, government agencies, The Nature Conservancy, and the private Animas Foundation. This collaboration has been cited as an exemplary case of collaborative conservation (Curtin 2002; Sayre 2005). MBG's board of directors is made up primarily of local private landowners. One of the organization's functions is to hold conservation easements on private ranches in the region. The mission of the organization starts each conservation easement:

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. (MBG 1994)

Between 1995 and 2009, MBG secured 14 easements on 12 ranches, covering more than 34,400 ha of private land. Of the 14 easements, one was donated and 13 were purchased through cash or forage provided primarily by private foundations and individuals and secondarily by public funds. The ranches depend to varying degrees on leases to graze their livestock on adjacent state (Arizona or New Mexico) and/or federal (Forest Service or Bureau of Land Management) land. The Nature Conservancy's national office has provided legal assistance to MBG for conservation easement drafting and interpretation. The MBG hires a local third-party contractor to monitor the conservation easements.

The Nature Conservancy in the Lassen Foothills

The Nature Conservancy (TNC) is the largest nonprofit conservation easement holder in the United States. Its Lassen Foothills (LF) project area covers over 364,000 ha and extends from the peak of Mt. Lassen down in elevation through conifer forests, oak woodlands, and grasslands to the Sacramento River in the Central Valley. The Nature Conservancy seeks to protect the area's unfragmented oak woodlands, vernal pools that support endemic plants and animals, and riparian corridors and creeks that support anadromous fish (TNC 2010). The Conservancy's goal in the LF is "to work with private landowners, local organizations, and the community to ensure the sustainability and economic viability of private land uses and the ongoing health of the area's plants and animals" (TNC 2010). Most conservation easements in the project area are held on privately owned, seasonally grazed rangelands in blue oak woodlands and grasslands. Ranchers truck their cattle to dispersed public and private lands for summer grazing. In the LF project area, TNC acquired 22 conservation easements between 1997 and 2008 on 32,300 ha, with public funding contributing \$12.9 million to their purchase. Of the 22 easements, 16 were purchased with private, state, and federal funds, 2 were partially purchased and partially donated, 2 were donated, and 2 were retained by TNC when it sold the land. State, federal, and private easement funders typically reviewed the easements prior to funding them. Landowners included both long-time ranchers and recent second-home amenity buyers. Many landowners were active in watershed groups created in the 1990s, but those with easements were not organized or active as a group.

Methods

We relied on document analysis of conservation easements and monitoring reports as well as interviews with landowners, staff from easement-holding organizations, and regional conservation and real estate experts. Interviews were conducted between 2008 and 2010. In the MBG case, interviews were also conducted with public land agency employees. Analysis of conservation easement documents involved coding easement terms for their goals and the types of land use restrictions they contained. Analysis of annual monitoring reports revealed each organization's monitoring approach and any findings of violations.

In the LF case, 16 of the 22 landowners with easements responded to requests and were interviewed, which involved 1- to 3.5-hour semistructured interviews conducted in person on or near the ranch, or by phone in three cases where landowners lived outside of the LF area. Three interviews were conducted with TNC staff working directly on LF easements; 16 interviews with TNC scientists, project managers, and attorneys working on rangeland easements outside of the LF provided perspectives on easement policies within TNC's California chapter. Additional context interviews were conducted with government natural resource agency staff, other land trust staff, and a local real estate agent. In the MBG case, each of the 12 easement landowners participated in 1- to 3-hour semistructured interviews conducted in person on their ranches. Sixteen additional interviews (14 by phone, 2 in person) were conducted with staff of state and federal agencies with land management responsibilities in the region, including all those from which ranchers lease grazing privileges. All interview questions in both cases were designed to elicit information about the direct or indirect effects of easements, if any, on land use and ranch management.

Interview notes from the total of 66 interviews were transcribed and coded for references to changing behavior, conservation status, and characterization of relationships between landowners and easement holders and between landowners and leasing agencies in the case of the MBG. Quotes included in this article were selected to represent common as well as unique perspectives.

Results

Conservation Outputs and Outcomes

We compared the two cases focusing on conservation easement goals, terms, compliance monitoring and enforcement, and direct and indirect easement effects on landowners' management practices. In both cases the nongovernmental organization easement holder expressed goals consistent with landowner goals. One TNC staff member stated:

When you get down to it, in the ranching community and also with the new owners that buy these places . . . the long term vision of what they want these places to be, and what we want them to be, is not that different. We'll haggle on terms, but we basically want these properties to look like what they look like right now, with a few properties where we get the right to do restoration.

Conservation easement terms differed between the two cases. The primary differences were related to restrictions on rangeland management and alternative commercial uses. More detailed easement terms are expected to provide greater clarity about restricted and permitted actions and better withstand legal challenges in comparison with vague terms (Rissman 2010). Lassen Foothills conservation easements included detailed grazing management terms. To prevent overgrazing, 80% of LF conservation easements required a minimum level of residual dry matter (RDM, measured in pounds per acre) to be left on the ground at the end of each grazing season. In the comparatively more arid MBG region, easements stated that grazing should not cause rangeland degradation and should be carried out according to best standards and practices, but did not set more specific guidelines or quantitative standards. MBG staff members insisted that the organization had no desire to formally restrict or participate in ranch management decisions, that they would not attempt to dictate grazing practices even if overgrazing was detected, and that easements would not have been possible at all had such terms been included.

When asked to compare their grazing management before and after the easement, most landowners in both cases said they do little to nothing differently. Due to wet winter–dry summer rainfall patterns in California rangelands, standard business practices in the LF involve leaving some grass on the ground when ranchers take their cattle elsewhere for the summer in case they have to bring them back from the mountains before the fall rains start. This serves to reduce the threat of overgrazing. Ranchers in the LF indicated that over the years their grazing had changed due to rents, loss of public land leases, and difficulty finding summer ground, but that the easements didn't change their grazing patterns at all. TNC likewise indicated that easement terms were designed to reflect and perpetuate existing grazing practices, which they judged compatible with—or responsible for—the high native plant diversity in the grasslands. TNC staff thought that improved land management was a

bonus, but not the primary motivating factor for the easements. Ranchers with easements in the MBG region also indicated that their ranch management was unaffected by the direct terms of the easements.

Both LF and MBG easements limited new buildings and subdivision of the property. Interviewees in both regions indicated that there is pressure for increasing development and that lands near the easements have been subdivided for exurban development. Almost all landowners, agency staff, and land trust staff expressed the opinion that the easements have prevented development of private ranch lands. An assessment of projected development growth in the LF region indicates that given low projected population growth through 2050 and small allowances for new development on the conserved ranches, the easements have shifted a small amount of projected development away from the easements and onto other areas nearby and have therefore had a limited effect on reducing development in the region (Byrd et al. 2009). No such assessment has been conducted for the MBG area.

LF landowners most often pointed to two major land uses where the easement had a direct influence on their actions: riparian fencing and rock harvesting. Several easements required fencing to exclude cattle from riparian areas. In some cases this was a requirement from the state easement funder. The easements also restricted removal of rocks from the volcanic LF. Nearly every rancher indicated that if the easement didn't prevent it, they would gladly sell the rocks. Rock harvesting is relatively lucrative, but was considered incompatible with the preservation of native plant and animal diversity in LF grasslands. A few landowners with easements in the deeper soils of the central valley off the volcanic hillsides indicated that they would consider planting orchards or other crops in the existing irrigated pasturelands if the easement did not prevent those uses. Several of the easements required restoration such as removing an old orchard or restoring stream-bank vegetation. Another issue that arose was that windmills are generally prohibited by the easements and at least one landowner indicated (s)he had a potential interest in generating renewable energy as an additional income source. TNC staff indicated that these uses restricted by the easements were fully paid for when the easements were professionally appraised.

In both cases easements were monitored consistently. LF easements were all monitored annually and monitoring reports were uploaded into TNC California's internal password-protected webpage ConservationTrack for statewide reporting on monitoring efforts. In the LF, monitoring RDM requires a fall visit to the property just before winter rains usher in a new grazing season. These monitoring reports revealed that easement terms including minimum RDM levels were nearly always upheld. MBG easements were typically monitored annually or semiannually by a local third-party consultant. In both cases monitoring reports indicated few violations or management issues.

Two enforcement issues that did arise in the monitoring reports reveal solutions-oriented approaches to conflict resolution. In the MBG area, the federal government's activities pursuant to the United States–Mexico border barrier affected private land covered by an easement. Ultimately the MBG board in consultation with TNC attorneys decided to consider the construction activities as consistent with the purposes of the easement to reduce liability for activity they could not control (Sayre and Knight 2010). In the LF one landowner harvested rocks contrary to the easement agreement before the easement was signed but after the terms had been

agreed upon. The landowner stopped the harvest operation after a reminder from TNC that rock harvesting would be prohibited by the easement.

Indirect Outcomes

In both regions, conservation easements had significant indirect outcomes, through the landowner—NGO relationships they created or the broader social relations they affected. In both regions, easements provided significant funding, built closer social networks with government agencies and scientists, and helped to attract support for prescribed fire, restoration, and research. In the MBG case, grassbanking and an easement contingency clause related to public land grazing leases created important indirect effects. In the LF case, the easements influenced landowner turnover and provided newcomers with local social and ecological knowledge.

The large payments for easements, typically between \$100,000 and \$2 million, provided greater financial independence for landowners. Two ranchers in the MBG case and three in the LF used the funds to purchase adjacent properties and consolidate their holdings, with reported benefits to management. At least two MBG easement purchases prevented ranches from defaulting and another allowed a ranch to avoid taking a mortgage, which enabled more flexible stocking rates in response to periodic drought conditions in subsequent years. In at least two other MBG cases, easement payments enabled stocking rate reductions.

The MBG provides financial and administrative support to area ranchers who applied for government cost-sharing programs to improve wildlife habitat and implement conservation-related management practices. Ranches with easements have priority for MBG support, and many have taken advantage of the assistance to improve fences and water systems. Several LF ranchers marketed their cattle as grass-fed or organic, although these sustainability labels were not directly connected to the property-specific conservation easements.

Four of the MBG easements were executed through a grassbank arrangement, in which ranchers were paid in grass on the neighboring Gray Ranch, equivalent in market value to the development rights on their private lands. The MBG reimbursed the Animas Foundation, which owns the Gray Ranch, using funds raised from private donors and foundations. Grassbank ranchers moved their livestock to the Gray Ranch for 3–5 years, allowing their home ranches (including leased public lands) to rest during a severe drought. Three of the four grassbank ranchers reported that the experience significantly changed their perceptions of grazing effects and led them to reduce stocking rates between 30 and 65%. Such reductions were not stipulated in the easements, but constitute major indirect effects of the grassbank-funded easements. One rancher reported higher returns at lower stocking rates due to improved performance of his livestock, suggesting that range conditions had improved.

In both cases easement relations helped strengthen landowner connections with NGOs and government agencies. In the LF, some landowners met TNC staff through local watershed councils, which are an important nexus for landowner links with regional water policy and riparian restoration efforts. The easements further strengthened these relations, providing some landowners a sense of political clout through their alliance with TNC, and indicating to local environmentalists that the ranchers cared about protecting their lands for the long term. Because of the easement, one LF landowner felt less pressure to sell the land to a public agency with holdings nearby. Several Malpai ranchers with easements reported important new

relationships with scientists and NGOs, and all indicated generally positive relationships with public agencies.

The MBG easements appear to have had significant indirect effects on relations with public land agencies. A majority of agency interviewees reported that removing the development potential from private lands affected their perceptions of the conservation opportunities of the ranches as a whole. Knowing that the private lands would remain undeveloped increased their willingness to pursue conservation-related management improvements using public funds, for example. As one Forest Service employee stated:

People who have gone through a conservation easement process tend to be more pro-active, more willing to try more things, more likely to do their own monitoring. I'm not sure about cause and effect, but I do think the process of setting up the easement is part of a long term process of stewardship When first learning of the need to contact a rancher, hearing that they are a conservation easement rancher would give a good impression—you would expect them to be more open-minded and easier to work with.

MBG easements have a unique contingency clause that allows for termination of the easement by mutual agreement of the landowner and the MBG if a ranch loses its public land grazing privileges for reasons “independent of the actions of the parties” to the easement. This clause violates the “in perpetuity” requirement of the IRS code for easements and means that MBG easements cannot be donated for tax deductions. When asked about the contingency clause, most agency employees stated that it does not weaken the conservation effectiveness of the easements. On the contrary, they argued that since leases lost due to mismanagement would not qualify for the contingency, ranchers with easements have even greater incentive to meet high conservation standards. Agency employees know, on the other hand, that lands protected by easements could be developed if leases are terminated for reasons other than mismanagement, and in interviews they unanimously voiced the opinion that development of adjacent private lands would jeopardize the environmental integrity of public lands now used for grazing.

Thus, due to the contingency clause, the easements create leverage in both directions. The agencies perceive that they can work more effectively with easement ranchers to meet conservation goals, and solicit support from the MBG to do so. As one agency employee remarked: “If grazing was abusive and not living up to the ideals of the group in the first place, we would work with the group to try to change the practices before we stopped the grazing; we would work with the group to put pressure on the rancher.” Meanwhile, the ranchers gain *de facto* influence on the agencies' decisions regarding continued grazing on leased allotments.

Additional indirect effects concern ecosystem management, monitoring, and research. In both places, the land trust and the landowners see fire as an ecologically beneficial management practice, one that easements facilitate by preventing housing developments that would make fires difficult or impossible to implement. In both cases, the land trust and landowners have coordinated with state agencies and researchers to conduct prescribed burns and conduct pre- and postburn vegetation monitoring. Both TNC and MBG have been successful in attracting researchers and research funds to their areas. In the Malpai case, research was critical in

obtaining support from the Fish and Wildlife Service for prescribed fires in areas used by endangered species (Sayre 2005). In the LF, ranchers' interest and relationships with TNC determined which ranchers TNC staff felt comfortable approaching for additional ecological research and management beyond easement requirements. TNC staff indicated that these conservation easement properties had more prescribed fires and removal of invasive species, formed the core of a vegetation and avian monitoring effort funded with grants TNC helped secure, and served as important points of access to private land for a vegetation survey of the Sierra Foothills conducted by the California Native Plant Society with private landowner contacts facilitated by TNC staff.

The easement relationship has also influenced newcomers to ranches in the LF. TNC staff attempted to meet with prospective buyers to ensure that new landowners understood the easement in advance. This also served as a screening process for those who might consider buying a ranch to develop it. At least one absentee amenity-buyer landowner planned to stop leasing their property for grazing until TNC encouraged them to continue grazing to reduce standing thatch and enhance plant diversity, support the local economy, and maintain a watchful presence on the property. Several new owners relied on TNC staff for local ecological knowledge and species identification; one landowner "called them because I caught this huge 21-inch fish and I couldn't believe it was a trout, I thought maybe it was a steelhead." One new owner who did not want neighbors accessing the property, but felt uncomfortable navigating local social norms, used the easement to justify limiting access for hunting, fishing, and cutting firewood although the easement terms did not necessarily preclude these activities. Only one easement ranch in the MBG area has changed hands up to this point, so effects on landowner turnover there are unclear.

Collaborative Regulation?

The social relations between landowners and easement holders reflect a complex mix of collaboration, regulation, and property rights relations. Conservation easements are established voluntarily with willing landowners, and compensation for purchases is generally provided in a lump sum payment, as a partial property rights purchase. Compliance monitoring involves an annual property visit to ensure that the terms of the agreement are upheld.

Landowners and NGO staff characterized the easement relationship as "a long-term relationship," "a marriage," "a partnership," and "a contract." One landowner likened it to "a state forester inspecting your timber sale" and thought this was overly intrusive. Another said: "But it's like anything. If people know you're going to do the right thing and you care about it, they'll leave you alone . . . It's like building inspectors. Once they get to know which contractors are gonna do it right and who's gonna cut corners, it's easy to know who they have to watch." TNC California's easement monitoring template states: "A good working relationship with the property owner is an important by-product of compliance monitoring activity."

Personalities and attitudes are important in the quality of the relationship. One LF landowner said: "One of my biggest concerns was, say you like the people you're dealing with now. But say you get someone else, with different personalities and interpretations, and it could be a real pain." The MBG makes a point of hiring local contractors, with previous experience in the area, to monitor its easements. Relations

also influenced landowner turnover and trust, evidenced by this LF landowner's perspective on purchasing a ranch encumbered with an easement: "If the organization holding the conservation easement was a very active and hostile organization we would have wanted to clear up the ambiguities in the [easement] document before we closed. But they're good people and it's a good cause so we were not concerned."

Most landowners indicated they were satisfied with their easement. None of the 12 landowners in the MBG case questioned the easements' legitimacy, although two voiced some complaints about certain details. Of the 16 landowners interviewed in the LF case, two expressed mild to moderate dissatisfaction with constrained land use options and critiqued TNC's motives as an international organization engaged in real estate transactions. One was an original party to the easement transaction and the other purchased the ranch with the easement already in place. One of these landowners claimed to have threatened to contact every Western newspaper in the country if TNC didn't amend a conservation easement to permit a subsequent flood easement and levy setback along a creek. TNC staff in this situation concluded that moving the levy farther from the creek would enhance the conservation values on the property consistent with the existing conservation easement, and would not require an amendment. In practice, easement interpretation and enforcement are driven by organization policy and embedded in local social contexts; evaluations of easement effectiveness will have to take this into account.

Discussion

Social relations and institutional context are keys to understanding the outcomes of easements for conservation and natural resources management. Evaluating conservation efforts requires an integrated understanding of policy outputs, outcomes, and impacts. These are mediated through the social relations between landowners and easement holders, both before and after easements are established. Landowner-NGO social relations directly shape easement requirements as well as monitoring and enforcement. In unexpected ways, these relations also shape ecosystem management and scientific research, social networks, financial constraints and opportunities, and landownership turnover. Relations are unique in each case, depending on goals, personalities, local histories, and the delineation of rights and restrictions in each easement.

We predicted from agency and contract theory that where goal conflict was higher, easements terms would be more specific and performance-based, incentives would be higher, and monitoring requirements would be more stringent. We consider the MBG case to have a greater alignment of organizational and landowner goals because local landowners are the majority members of the MBG board. Consistent with agency theory, we found that LF easements were more detailed than MBG easements and that compliance monitoring such as RDM sampling was more intensive. TNC attempted when possible to introduce performance-oriented terms such as RDM, but most conservation results are largely beyond the control of landowners. For example, landowners cannot be held responsible for producing a certain percent cover of native plants or diversity of birds. Therefore, the easements from both organizations focus on behavior-based terms. Understanding the factors that influence easement terms is needed for improved evaluations of what easements are achieving in different contexts. Overall, the cases have more similarities than differences. Both organizations monitored the properties regularly and found no or few

violations. Incentives were driven by the threat and financial value of development—which everyone involved sought to reduce—rather than by land management practices, where goal conflict was occasionally found. Considerable financial incentives were provided up front, and we do not assess whether direct and indirect outcomes could have been achieved with other tools at lower cost. LF easements had more restrictions and more direct effects on land management, resulting in outcomes such as an increase in riparian fencing and a decrease in rock harvesting. Grazing terms were designed to facilitate existing practices and prevent overgrazing abuses that have occurred elsewhere. MBG easements had fewer specific management stipulations and therefore fewer direct management outcomes.

At the same time, MBG easements occurred within a denser network of social relations—including the MBG itself—and this appears to have facilitated a greater number and degree of indirect easement outcomes on management. The grassbank experience provided a learning opportunity for landowners about the effects of grazing pressure on the land—more so than direct cash payments. The easement contingency clause enhanced landowner and agency staff perceptions of their relationship as mutually beneficial. The grassroots MBG built on and strengthened preexisting connections among landowners, and the easements fostered more collaborative relationships with scientists, environmental groups, private foundations, and government agencies. In both places, trust and personal relationships emerged as central issues in conversations with landowners and NGO staff. Conflicts appeared to be greater with some of the landowners who had goal conflict with the NGO, purchased the property with the easement already in place, or adopted the easement out of urgent financial necessity.

The potential for easements to provide indirect conservation outcomes depends on the capacity and priorities of those involved as well as the institutional structure in which they act. Both TNC and MBG invested in research and land management capacity, whereas many land trusts lack the knowledge or resources to engage in improved land management. Here connections between land trusts and university or agricultural extension could add important benefits.

Another indirect outcome relates to changing landownership. As amenity-driven landowners replace resource-dependent farmers and ranchers (Brunson and Huntsinger 2008), new landowners have been found to alter local economies and challenge boundary practices (Yung and Belsky 2007). We found that easement holders have the potential to mitigate these impacts of rural landownership change by encouraging traditional land management and fostering local ecological knowledge, when these are consistent with the organization's mission.

Where landowners control a land trust board of directors, serious concerns have been raised about conflict of interest; the Land Trust Alliance identifies transactions with organization “insiders” as requiring heightened transparency and accountability to ensure no private inurement or impermissible private benefit (Alliance 2007). In the MBG case the easements emerged from long-time ranchers engaged in a process of local participation in decision making in a landscape strongly influenced by federal land management agencies. The Malpai institutional structure of landowner power is not common among land trusts, and would be difficult to replicate in other contexts. Easement monitoring was conducted by a third party, and strategic third parties including TNC and private foundations helped legitimate the organization as a conservation actor. So far the Malpai Borderlands has not experienced the types of shocks like landowner turnover that can stress local

governance systems (Dietz et al. 2003), although property values have risen and landowners face economic challenges in the beef cattle market. Furthermore, no significant violations have arisen to test the organization's will and ability to enforce restrictions on landowners.

Easements have been envisioned as providing an alternative to government regulation for controlling land use, since they emerge from a property-rights-oriented approach (Lippmann 2006). The fear of regulation and lack of trust in government regulators have been found to impede enrollment even in voluntary resource management programs (Raedeke et al. 2001). In their ongoing implementation, however, easements are not voluntary. In cases of diverging goals and desired land uses, easements require collaboration-oriented NGOs to regulate private landowners. This is one effect of devolved and dispersed governance and the mixing of collaborative and regulatory approaches. Pincetl (2006) suggests that private efforts at collaborative planning represent a new governance approach that relies on cooperation rather than regulation. Others have suggested that conservation easements promote ecosystem management principles of collaboration and transcending jurisdictional boundaries (Hurley et al. 2002). We suggest that conservation easements involve a complex mix of collaboration, regulation, property rights, and contractual obligations with important implications for conservation outcomes.

Many scholars have assumed that because easements rely on private property rights and contract-like agreements, they are less controversial and prone to revision than public law (Duke and Lynch 2006). We argue that easement effectiveness cannot be reduced to the formal delineation of legal rights, no matter how detailed or carefully drafted they may be. Easements formalize only a small portion of the social relations that affect management outcomes and environmental impacts; they are always socially and politically mediated and depend on the broader social (and personal) relations of the people involved. Whether perpetual restrictions on private land use can persist as collaborative, nonconfrontational conservation tools will depend on these larger circumstances. An understanding of social relations is needed to provide a nuanced perspective on the success of conservation strategies.

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