

Land trust defense and enforcement of conserved areas

Adena R. Rissman & Van Butsic

Department of Forest and Wildlife Ecology, University of Wisconsin-Madison, 1630 Linden Drive, Madison, WI 53706, USA

Keywords

Administrative discretion; conservation defense; conservation easements; legal challenges; nonprofit management; private land conservation; protected areas

Correspondence

Adena R. Rissman, Department of Forest and Wildlife Ecology, University of Wisconsin, 1630 Linden Drive, Madison, WI 53706, USA. Tel: 608-263-4356; fax: 608-262-9922. E-mail: arissman@wisc.edu

Received

25 February 2010

Accepted

6 July 2010

Editor

Arun Agrawal

doi: 10.1111/j.1755-263X.2010.00136.x

Abstract

Achieving conservation goals in protected areas hinges on continual monitoring, enforcement, and legal defense. In an era of devolved governance, nonprofit land trusts have become increasingly important. Yet, their approaches to legal defense of conserved areas are relatively unknown. A national survey of 205 land trusts provides the first quantitative data on the types, costs, and outcomes of major legal challenges. Half of land trusts reported a legal challenge, and one-quarter of those land trusts were hindered by financial barriers in pursuing a legal challenge. Interviews with land trust staff revealed the necessary conditions for pursuing legal defense including organizational capacity, community support, and persuasive property claims. Results indicate the importance of stewardship endowments and the need for greater land trust capacity and accountability. Donors, agency funders, and the public should support thoughtful, contextually appropriate, and powerful enforcement actions to ensure conservation objectives over the long term.

Introduction

Institutions for environmental governance are increasingly recognized as critical for environmental protection (Gibson *et al.* 2000). In an era of devolution and dispersion of authority, nonprofit land trusts have become important practitioners of land conservation in the United States and globally (Press 2002; Merenlender *et al.* 2004). The literature on protected area planning and optimal investment focuses primarily on the initial acquisition decision (Pressey *et al.* 1993; Wilson *et al.* 2006; Armsworth & Sanchirico 2008). However, long-term management, compliance monitoring, and legal enforcement are important for the effectiveness of conservation strategies (Hockings 2003; Naughton-Treves *et al.* 2005; Hilborn *et al.* 2006; Chhatre & Agrawal 2008). Enforcement in particular has been described as underappreciated in the conservation community (Nie 2008).

Once land or property interests are acquired, they are monitored and defended in social, political, and legal contexts (Lippmann 2004; King & Fairfax 2006). Steward-

ship and protection rest on decades of negotiated relationships with landowners, neighbors, and local communities (Jay 1999). Yet, the success of land trusts in defending conserved properties is largely undocumented (Merenlender *et al.* 2004; Daniels & Lapping 2005). Persistence of ecosystem services, biological diversity, open space, and scenic resources on conserved land relies on administrative and legal systems and on the capacity, willingness, and legitimacy of governments, nonprofit organizations, and local communities in maintaining these conservation values (Chhatre & Agrawal 2008).

Land trusts include over 1,600 nonprofit organizations in the United States that acquire and steward land and conservation easements (Land Trust Alliance 2006). Land trusts emphasize a promise of perpetual protection, forever (McLaughlin 2007). Their success in pursuing legal challenges is particularly significant given large and growing public and private investments in land trusts (McLaughlin 2001). Anecdotal evidence indicates that land trust legal challenges are increasing, and at least one legal challenge cost one million dollars to resolve (Land

Trust Alliance 2009). Thus far, no quantitative analysis of land trust legal challenges, costs, and outcomes has been undertaken.

To provide a more systematic understanding of land trust legal challenges and their implications for land conservation and devolved environmental governance, this article reports the types, costs, and outcomes of legal challenges from a national survey of local and regional land trusts. We expected to find an increase in legal challenges over time (Jay 1999). Scholars have predicted a “troubled future” for conservation easements in particular as land trusts transition from voluntary acquisition to monitoring and enforcement (Cheever 1995). We also expected legal challenges to be more frequent and expensive for conservation easements than fully owned properties, and where landowners were not the original parties to the conservation easement (Cheever 1995; Parker 2004). Organizational capacity is a critical issue of concern for local non-profit organizations (Fredericksen & London 2000). Land trusts with greater organizational capacity per property were expected to report more frequent and expensive legal challenges and violations, due to greater potential for monitoring and enforcement. We therefore expected legal challenges to be greater for natural areas than mixed-use property types. Finally, we conducted in-depth interviews to reveal land trust decision processes and the administrative, social, and political context for enforcement of property rights. This work provides the first quantitative national measures of land trust legal challenges and contextualizes these findings through qualitative analysis of property conflicts.

Methods

A random sample of 311 Land Trust Alliance member land trusts was selected and 205 responded to the survey, a 66% response rate. The national survey was conducted by the Land Trust Alliance and the University of Wisconsin Survey Center in Summer 2008 using a computer-assisted telephone interviewing system (CASES 4.3.7). Land trusts were asked if they had ever experienced a legal challenge or violation. Detailed information was collected on the major legal challenges and violations that cost each organization more than \$5,000 in nonstaff expenses.

A two sample *t*-test and a two sample Kolmogorov–Smirnov (KS) test examined differences between the underlying covariates of respondents and nonrespondents (hectares owned, hectares in conservation easements, annual budget, and number of employees). The *t*-test compared means assuming a constant variance, while the KS test compared the distribution of covariates nonparamet-

rically. In each case, we failed to reject the null hypothesis that the two groups are equal ($P < 0.05$) with the exception of the KS test for the size of the budget. Thus, we are confident that we can generalize statements about the respondents to the population of Land Trust Alliance member land trusts.

To compare the cost of legal challenges involving conservation easements and fully owned properties, we used a median test assuming unequal variances ($n = 43$ legal challenges). A logit model tested whether measures of land trust capacity (stewardship endowment dollars per property and annual budget per property) predicted which land trusts were hindered by financial constraints in pursuing legal challenges. Number of staff and annual budget were correlated; capacity measures are reported for annual budget but not number of staff. We employed a two-step Heckman model (Heckman 1979), which corrects for the presence of sample selection bias, to determine how land trust capacity influenced the cost and frequency of major legal challenges (over \$5,000). The Heckman model first uses a probit model to uncover if capacity influences the occurrence of major legal challenges ($n = 205$), and second, if a legal challenge occurs, determines how the cost and frequency of total land trust legal challenges relate to land trust capacity ($n = 23$). We also examined whether budget and endowment per property influenced the cost of individual major legal challenges ($n = 43$). Finally, we tested the relationship between cost of major legal issues and the primary conservation purpose of the property, with analysis of variance (ANOVA).

To contextualize survey results, we conducted follow-up semi-structured phone interviews in 2009 with land trusts that reported major legal challenges or violations over \$5,000. Phone interviews were conducted with 14 of 23 land trusts regarding 25 of 43 reported legal issues. Phone interviews ranged from 30 minutes to 3 hours.

Results

Survey results

Nearly half of surveyed land trusts (47%, 97 of 205) reported at least one legal challenge or violation of any size or significance. Of these 97 land trusts, 17 prevailed in court at least once and 15 recovered expenses in negotiation out of court. Notably, one-quarter (27%, 26 of 97) of the land trusts that ever experienced a legal challenge or violation would have considered pursuing legal action if greater funding had been available, in at least one instance.

The number of major legal challenges or violations with over \$5,000 in legal or other nonstaff expenses has increased over time (Figure 1). Only 11% of land

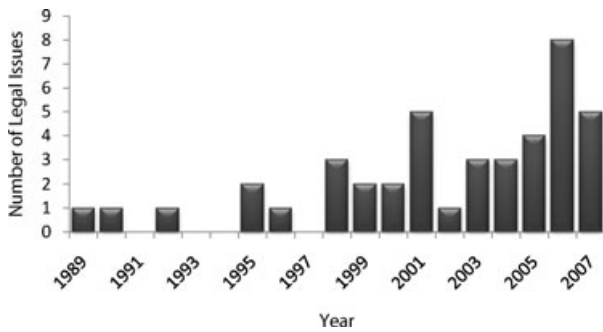


Figure 1 Major legal challenges have increased over time ($n = 43$).

trusts (23 of 205) reported major legal challenges or violations. In total 43 major challenges and violations were reported, with a total cost to land trusts of \$1.6 million (Figure 2). Major legal challenges or violations occurred in natural areas (20); working farms or ranches (14); scenic, open space, and recreation areas (8); and historic preservation sites (1). For issues over \$5,000, the average legal or nonstaff cost incurred by land trusts was \$37,700, but one dispute cost over \$400,000 and two were between \$100,000 and \$300,000. These costs are underestimates since they do not include staff time or pro-bono legal work. Nonstaff costs included outside attorney fees (37%), other legal costs (38%), and other costs (25%, includes restoration, boundary surveys, and third-party monitoring). There was an average of 7 years between when properties were first conserved and when the land trust first became aware of major legal challenges or violations. Of resolved cases, most (53%) were resolved within 2 years, while 15% lasted 5 years or more.

While conservation easements were 58% of the major disputes, they were responsible for only 25% of reported costs. Median costs were higher for legal challenges on fully owned land (\$25,300) than conservation easements (\$14,500) (Median test, $Z = 2.57$, $P = 0.01$). The majority (16 of 25) of conservation easement legal

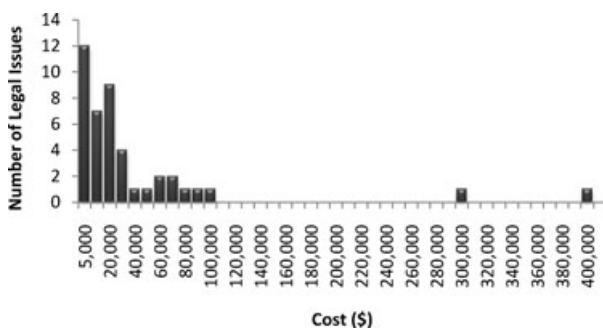


Figure 2 Legal costs and other nonstaff costs of major legal challenges (\$5,000 and over, $n = 43$).

challenges involved second-generation landowners who were not original parties to the conservation easement. Major legal challenges were reported on one per 174 land trust-owned properties (24 ha average owned property size), compared with one per 279 conservation easements (54 ha average size).

Land trusts faced a wide variety of legal challenges that threatened properties' conservation purposes (Figure 3). Land trust staff reported that they won 14 disputes, settled 21, lost 1, and that 11 were unresolved. Some legal challenges posed threats to the existence or boundaries of the conserved area. Others involved incompatible land uses such as development, timber harvest, and mining. A few threatened public recreation access or historic building preservation.

Land trust capacity varied greatly, with a median annual budget of \$60,000 (range from \$0 to \$10,000,000), median of 1.5 staff (37% were entirely volunteer-run), and mean stewardship endowment of \$155,560 (64% had no endowment). There was no difference in land trust capacity (budget or endowment per property) between land trusts who might have pursued additional legal challenges if funding had been available and land trusts who experienced any legal challenge and were not hindered by financial barriers (logit model, $\chi^2 = 0.93$, $P = 0.63$, $r^2 = 0.008$, $n = 99$). Capacity did not predict the likelihood of experiencing a major legal challenge, and when trusts faced a legal challenge, capacity also did not predict the total cost or frequency of these challenges (Table 1 reports cost analysis; frequency results were very similar and also nonsignificant). However, the cost of individual legal challenges was positively correlated with the size of the stewardship endowment (Table 2). We found no significant relationship between conservation purpose and log cost of legal challenges (ANOVA, F ratio = 1.72, $P = 0.18$, adjusted $r^2 = 0.05$, $n = 43$).

Interviews

In-depth interviews revealed the administrative, social, and political context of property rights defense. Diligent documentation and monitoring were consistently described as necessary for enforcing conservation agreements and pursuing legal challenges. Land trusts recommended timely communication through a graduated dispute resolution process. Watchful neighbors and local and state governments were often involved in monitoring, detecting violations, and pursuing legal challenges (King & Fairfax 2006). Land trust staff provided numerous rationales for pursuing defense and enforcement including upholding the organization's mission, setting precedent to avoid future challenges, and earning the

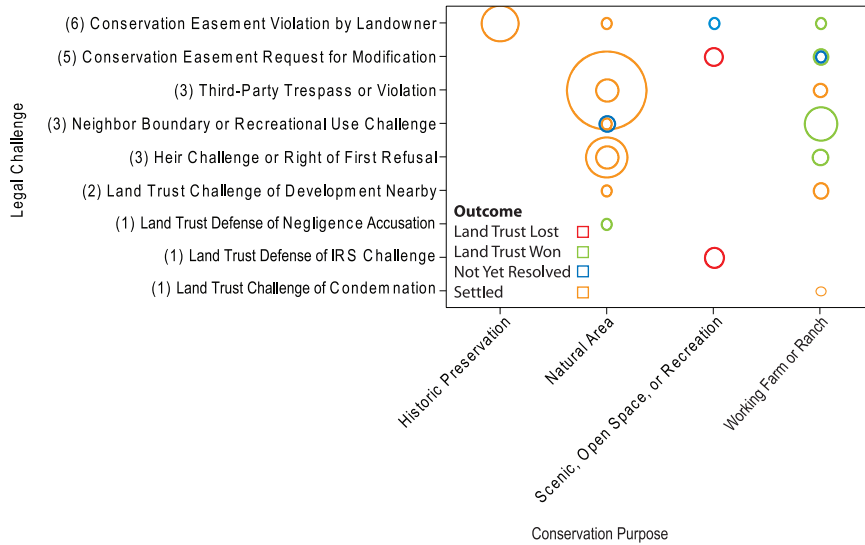


Figure 3 Type, cost, and outcome of major legal challenges by primary conservation purpose of the property ($n = 25$ from follow-up interviews). Each bubble represents one legal challenge. Bubble size refers to cost (minimum of \$5,000 and maximum of \$300,000). The number of legal challenges of each type is summarized in parentheses.

respect of donors and the community. Staff also indicated barriers to pursuing legal challenges and violations including cost, capacity, political support, desire to maintain positive landowner and community relations, and changing conditions. Approval of easement amendments set precedents, and some land trusts were challenged by their lack of consistent policies for interpreting or amending easement agreements. Staff suggested that decisions on whether to pursue conservation easement violations included a calculation of what it would cost to enforce the agreement, what they expected to win with an enforcement effort, and how far they were willing to push. One staff member summarized, “often non-enforcement is the answer you come up with.”

We highlight two cases with significant conservation implications to characterize two of the common legal challenges found in the survey: conservation easement request for modification and third-party trespass.

Conservation easement request for modification

This case of repeated requests for conservation easement amendments and approvals demonstrates the importance of process and consistency in handling requests, the need for professional board training, and the challenges of rapidly changing socioeconomic landscapes. A 2,000 acre amenity-rich rangeland conservation easement was purchased by a local land trust. The ranching family then

Table 1 Results of Heckman two-step regression. The selection equation was specified as a probit model where the dependent variable is whether a major legal challenge has taken place. The dependent variable of the outcome equation is the log of total cost of all legal challenges, given a land trust has been involved in a major legal challenge

	Coefficient	Standard error	t-statistic	P-value
Selection equation				
Endowment/property	-5.88×10^{-06}	1.08×10^{-05}	-0.55	0.58
Budget/property	4.89×10^{-06}	3.62×10^{-06}	1.35	0.17
Paid staff (staff>0)	0.20	0.27	0.76	0.45
Constant	-1.50	0.22	-6.74	<0.001
Outcome equation				
Endowment/property	-2.9×10^{-05}	1.02×10^{-04}	-0.28	0.77
Budget/property	-8.61×10^{-06}	3.82×10^{-05}	-0.23	0.82
Inverse Mill's ratio	18.17	14.33	1.27	0.20

Total $n = 205$, uncensored $n = 23$.

Table 2 Multiple linear regression of the relationship between capacity measures and log cost of individual legal challenges and violations ($n = 43$)

	Coefficient	Standard error	t-statistic	P-value
Endowment/property	3.57×10^{-05}	1.22×10^{-05}	2.92	0.006
Budget/property	-9.8×10^{-05}	2.63×10^{-4}	-0.37	0.71
Intercept	4.11	0.08	51.72	<0.001

sold the ranch to a “conservation buyer” approved by all parties including funders. A few years later, this second-generation landowner proposed a new road providing access to an adjacent parcel for subdivision development. The land trust denied this request on the basis of inconsistency with the easement and impermissible private benefit, estimated at millions of dollars. The landowner then attempted to persuade board members individually. When this failed, he sold the property. Several years later, a nearby yet unrelated conservation easement with a “deep-pocket” second-generation landowner was in the initial stages of being defended by the land trust from requests resulting in significant impermissible private benefits. This easement was ultimately transferred to another organization perceived by the landowner as more lenient with easement interpretation. After learning of this, the third-generation landowner of the initial 2,000-acre ranch approached the land trust with a similar request to significantly expand a residence, resulting in impermissible private benefit estimated at over \$1 million. The landowner was furious when this amendment—and subsequent request to transfer the easement—was denied. A year later, the landowner returned with a proposal for a smaller residence that appeared to be consistent with the easement. The local land trust expended \$15,000 on legal and staff expenses on one property in evaluating and responding to amendment requests and dealing with the pressures on staff and board members, including a board training session with a psychologist to understand landowners’ motivations, manipulations, and aggressive behavior. The land trust director concluded, “just because you say no doesn’t mean the conversation stops.”

Third-party trespass

Here, a third-party surface mining case illustrates the importance of diligent monitoring, watchful neighbors, and ready access to legal counsel. A land trust received a donation of 2,000 forested acres without the subsurface mineral rights, severed long before. At the time of the donation, the land trust was informed that coal and other valuable minerals had already been removed. However, in the mid-2000s companies began buying the mineral rights to harvest subsurface rocks and boulders for residential dimensional stone without obtaining surface

owner approval. The land trust stewardship coordinator conducted weekly monitoring visits on Thursdays to watch for trespass and maintain community connections. One Friday, he was informed by a friend that someone had applied for a culvert permit near a land trust property and workers were out moving rocks. The land trust’s attorney filed an injunction the same day. In court the judge sided with the land trust, finding that part of the rock removal was a trespass into an area where the mining company did not hold the mineral rights. In the area where the company did hold the mineral rights, a different appeals court, in a separate case to which the land trust was a party, ruled that rocks were not grouped with other minerals and had to be specifically mentioned in the subsurface mineral deed, which they were not in this case. In a settlement, the land trust allowed for 10 acres of rock harvest in exchange for 700 acres of mineral rights and restoration of the 10 harvested acres. The land trust selected the 10-acre site to avoid impacts to a rare plant.

Discussion

Land trust legal defense and enforcement challenges are common, varied, and increasing. Legal challenges have significant implications for protected area effectiveness. Expensive legal challenges and the need for greater funding to address these challenges were experienced throughout the land trust movement nationwide, independent of land trust capacity.

Conservation easement amendment requests and violations were the most common legal challenges, while challenges to fully owned properties had a higher median cost. Costs reported in this survey are underestimates since they do not include ongoing monitoring, nonlegal staff time, or pro-bono work. The majority of easement legal challenges involved landowners who were not the original parties to the agreement, portending greater conflict as ownership changes. As the case studies highlight, acquisition decisions for purchased and donated properties should account for projected monitoring and enforcement costs. The conservation easement case emphasizes the importance of consistent land trust policies for conservation easement modification. The third-party trespass case highlights the importance of watchful neighbors and access to legal counsel.

Statistically, we found only weak indicators that measures of land trust capacity such as budget and stewardship endowment predicted the pursuit, cost, or occurrence of legal challenges. We offer three explanations for this result. First, land trusts with large budgets, staff, and endowments may have more capacity to pursue legal challenges, while also having the resources to prevent legal challenges from taking place through clear and consistent communication, documentation, and monitoring. Thus, capacity may have a mixed effect on the number and cost of legal challenges consistent with our null result. Second, expensive legal challenges may be rare, somewhat random events that can occur regardless of land trust capacity. Third, interviews indicated that land trust capacity was important but extends beyond simple measures of budgets, staff, and endowment to include a clear mission and vision, informed board of directors, consistent policies and procedures, financial support, trained staff and officers, and ability to access reliable and affordable legal assistance.

Programs for increasing organizational capacity include the Land Trust Accreditation Commission, an independent program of the Land Trust Alliance, and a proposed conservation defense insurance program for land trust legal expenses (Land Trust Alliance 2008, Land Trust Alliance 2009). Under this insurance program, land trusts would pay a premium of about \$60 per easement or parcel for coverage of legal fees up to \$500,000. To provide additional accountability, governments can seek third-party enforcement powers to provide legal defense assistance to land trusts or enforce agreements if land trusts choose not to enforce them (Lippmann 2004). Funders and government agencies could require that land trusts be accredited to receive funding or tax deductions, and governments could propose a mandatory oversight system (Pidot 2005). These efforts can improve land trust capacity and benefit the land trust movement as a whole since individual land trust actions have larger ripple effects in setting legal precedent and influencing public perceptions of land trust trustworthiness.

Legal challenges and violations reported in this study reflect the legal issues land trusts have chosen to pursue at significant expense. Financial, administrative, legal, and political barriers can diminish land trust conservation defense. Land trusts are keenly aware that their missions may be politically challenging. Some donors and communities support strong enforcement actions; however, enforcement may also compromise land trusts' ability to broker new agreements with willing landowners. In these cases, greater transparency may provide a countervailing pressure to encourage enforcement. Future research should examine the frequency and significance of violations or legal challenges land trusts did not pursue.

Land trust transactions have been described as a voluntary, nonconfrontational approach to conservation (Brewer 2003). While this characterization may describe the initial acquisition from a willing seller, ongoing conservation defense evokes a different relationship and reveals the complex dynamic between collaborative and regulatory approaches (Nie 2008). For both land ownership and conservation easements, property rights are defended against the actions of heirs, neighbors, and other parties with alternate claims to lands or natural resources (Jacoby 2001). For conservation easements, land trusts also monitor and enforce land use restrictions on private property and must respond to increasing calls for easement reinterpretation, amendment, termination, and transfer to allow for expanded land use. The power relations among landowners, neighbors, land trusts, and communities will shape the social and ecological impacts of protected areas (West *et al.* 2006).

Our analysis reveals the need for a broader rethinking of conservation property relations. Social conflict is inherent in property rights since "property is persuasion" (Rose 1994; Jacobs 1998). Land trust enforcement is dependent on the political will and sufficient resources to enforce. The rise of land trusts since the 1980s is part of a shift toward devolved environmental governance and a greater role for nonprofit organizations (Milward & Provan 2000). This is not a privatized vision of conservation but a context of interwoven public and private spheres (Freyfogle 2006). Land trust staff who pursued legal challenges felt a particular responsibility to their mission, donors, members, and the public at large to defend their conservation lands. Donors, agency funders, and the public should support and demand the kind of thoughtful, contextually appropriate, and powerful enforcement actions necessary to ensure conservation objectives over the long term. The existence of institutions with the capacity, political will, and community support for monitoring and enforcing conservation agreements is critical to the success of conservation initiatives.

Acknowledgments

We thank the Land Trust Alliance for funding the land trust survey and sharing the UW Survey Center data. Leslie Ratley-Beach, Conservation Defense Director for the Land Trust Alliance, deserves particular recognition for committing her time and attention to the research effort. Many thanks to all the land trust staff who provided us with their insights on land trust legal challenges. The opinions expressed in this article are solely those of the authors. This research was partially funded by the University of Wisconsin-Madison.

References

- Armsworth, P.R., Sanchirico J.N. (2008) The effectiveness of buying easements as a conservation strategy. *Conserv Lett* **1**, 182–189.
- Brewer, R. (2003) Conservancy: the land trust movement in America. University Press of New England, Lebanon, NH.
- Cheever, F. (1995) Public good and private magic in the law of land trusts and conservation easements: a happy present and a troubled future. *Denver Univ Law Rev* **73**, 1077–1102.
- Chhatre, A., Agrawal A. (2008) Forest commons and local enforcement. *Proc Natl Acad Sci* **105**, 13286–13291.
- Daniels, T., Lapping M. (2005) Land preservation: an essential ingredient in smart growth. *J Plann Lit* **19**, 316–329.
- Fredericksen, P., London R. (2000) Disconnect in the hollow state: the pivotal role of organizational capacity in community-based development organizations. *Public Adm Rev* **60**, 230–239.
- Freyogle, E.T. (2006) Goodbye to the public-private divide. *Environ Law* **36**, 7–24.
- Gibson, C.C., McKean M.A., Ostrom E. (2000) People and forests: communities, institutions, and governance. The MIT Press, Cambridge, MA.
- Heckman, J.J. (1979) Sample selection bias as a specification error. *Econometrica* **47**, 153–161.
- Hilborn, R., Arcese P., Borner M. *et al.* (2006) Effective enforcement in a conservation area. *Science* **314**, 1266.
- Hockings, M. (2003) Systems for assessing the effectiveness of management in protected areas. *Bioscience* **53**, 823–832.
- Jacobs, H.M. (1998) Who owns America? Social conflict over property rights. University of Wisconsin Press, Madison, WI.
- Jacoby, K. (2001) Crimes against nature: squatters, poachers, thieves, and the hidden history of American conservation. University of California Press, Berkeley and Los Angeles, CA.
- Jay, J.E. (1999) Land trust risk management of legal defense and enforcement of conservation easements: potential solutions. *Environ Lawyer* **6**, 441–501.
- King, M.A., Fairfax S.K. (2006) Public accountability and conservation easements: learning from the Uniform Conservation Easement Act debates. *Nat Resour J* **46**, 65–130.
- Land Trust Alliance. (2006) 2005 land trust census. Land Trust Alliance, Washington, DC.
- Land Trust Alliance. (2008) Land trust accreditation commission annual report. Land Trust Alliance, Washington, DC.
- Land Trust Alliance. (2009) Exploring conservation defense insurance: considerations for board members. Land Trust Alliance, Washington, DC.
- Lippmann, J.O. (2004) Exacted conservation easements: the hard case of endangered species protection. *J Environ Law Litigation* **19**, 293–355.
- McLaughlin, N.A. (2001) The role of land trusts in biodiversity conservation on private land. *Idaho Law Rev* **38**, 453–472.
- McLaughlin, N.A. (2007) Conservation easements: perpetuity and beyond. *Ecol Law Q* **34**, 673–712.
- Merenlender, A.M., Huntsinger L., Guthey G., Fairfax S.K. (2004) Land trusts and conservation easements: who is conserving what for whom? *Conserv Biol* **18**, 65–76.
- Milward, H.B., Provan K.G. (2000) Governing the hollow state. *J Public Adm Res Theory* **10**, 359–379.
- Naughton-Treves L., Holland M.B., Brandon K. (2005) The role of protected areas in conserving biodiversity and sustaining local livelihoods. *Annu Rev Environ Resour* **30**, 219–252.
- Nie, M. (2008) The underappreciated role of regulatory enforcement in natural resource conservation. *Policy Sci* **41**, 139–164.
- Parker, D.P. (2004) Land trusts and the choice to conserve land with full ownership or conservation easements. *Nat Resour J* **44**, 483–518.
- Pidot, J. (2005) Reinventing conservation easements: a critical examination and ideas for reform. Lincoln Institute of Land Policy, Cambridge, MA.
- Press, D. (2002) Saving open space: the politics of local preservation in California. University of California Press, Berkeley and Los Angeles, CA.
- Pressey, R.L., Humphries C.J., Margules C.R., Vane-Wright R.I., Williams P.H. (1993) Beyond opportunism: key principles for systematic reserve selection. *Trends Ecol Evol* **8**, 124–128.
- Rose, C.M. (1994) Property and persuasion: essays on the history, theory, and rhetoric of ownership. Westview Press, Boulder, CO.
- West, P., Igoe J., Brockington D. (2006) Parks and peoples: the social impact of protected areas. *Annu Rev Anthropol* **35**, 251–277.
- Wilson, K.A., McBride M.F., Bode M., Possingham H.P. (2006) Prioritizing global conservation efforts. *Nature* **440**, 337–340.