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Landscape Conservation Cooperatives: Building a Network to Help Fulfill Public Trust Obligations

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The Landscape Conservation Cooperative (LCC) network (Network), comprised of 22 conservation partnerships spanning North America and U.S. Islands, is uniquely positioned to assist government members in fulfilling their public trust obligations to sustain natural and cultural resources for current and future generations by (a) ensuring inclusivity of broad stakeholder participation in conservation decision-making, and (b) building capacity for public trust to work in conservation, thus increasing the chance for successful and lasting conservation outcomes. In this article, we discuss the vision for the Network; challenges individual LCCs and the Network face in achieving the vision of sustaining natural and cultural resources for the benefit of current and future generations, a public trust obligation of most of the members; and ways in which member LCCs are making progress in this regard. We offer recommendations for the Network to consider to improve its ability to meet public trust obligations.

Keywords Landscape Conservation Cooperatives, public trust doctrine, collaboration, natural resources, network

Introduction

Under the public trust doctrine (PTD), policy makers and government agencies (i.e., trust administrators) have legal responsibilities to ensure that natural resources are sustained for the benefit of current and future generations (Batcheller et al., 2010; Smith, 2011). As conservation of natural resources becomes increasingly challenging (e.g., due to habitat fragmentation and degradation, climate change impacts, invasive species, disease), the need for policy makers and government agencies to become more effective and efficient to successfully meet their public trust obligations has never been clearer (Jacobson, Organ, Decker, Batcheller, & Carpenter, 2010; McKinney, Scarlett, & Kemmis, 2010). McKinney et al. (2010) stress that natural resources agencies need to initiate conservation from a broader perspective, starting at ecologically meaningful scales, work on comprehensive versus narrowly focused issues, and collaborate habitually across jurisdictional and organizational boundaries. Impediments to such change include diversity in natural resource agency or political mandates, missions, jurisdictions, funding sources, and constituency interest, which can result in duplicative or even adversarial efforts which ultimately compromise achievement of public trust obligations (Jacobson & Robertson,

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2012). To address these seemingly insurmountable issues that impair healthy, sustainable landscapes and the natural resources that depend on them requires a commitment from government agencies to transcend jurisdictional boundaries to maximize their ability to meet collaboratively identified conservation goals in the interest of the public they serve.

In 2010, the United States Department of Interior initiated Landscape Conservation Cooperatives (LCCs), a network of 22 public–private, international conservation partnerships. The LCC partnerships individually and collectively emphasize two PTD principles highlighted by Decker, Forstchen, Jacobson, Smith, and Organ (2013): they help (a) ensure inclusivity of broad stakeholder participation in conservation decision-making and (b) build capacity for public trust to work in conservation by promoting meaningful integration of social–ecological considerations. The LCC network (Network) holds great promise to help fulfill these public trust principles for natural resources by providing an adaptive co-governance framework (Jacobson & Robertson, 2012) that relies on broad and diverse stakeholder participation to achieve the vision of “landscapes capable of sustaining natural and cultural resources for current and future generations” (<http://lccnetwork.org/About>), a vision congruent with public trust obligations of government member agencies. Specifically, the Network is a bridging entity that provides structure and process to broaden the stakeholder forum for governance (i.e., via collaboration regarding identification of goals and conservation actions) of natural and cultural resources and can help raise awareness among members and their constituencies about these resources as public trust assets and related obligations. Further, the Network can build capacity for public trust to work in conservation by promoting meaningful integration of social–ecological considerations, necessary for successful implementation of landscape-scale actions.

In this article, we discuss the vision for the Network; challenges individual LCCs and the Network face in achieving the vision of sustaining natural and cultural resources for the benefit of current and future generations, a public trust obligation of most of the members; and ways in which member LCCs are making progress in this regard. We conclude by offering suggestions for the Network to consider to improve its ability to meet public trust obligations.

LCCs: A Paradigm Transformation for Conservation

Public trust administrators are obligated to sustain natural resources in the interests of the public, both current and future generations. Most natural resources professionals (Austen, 2011; Chapin et al., 2009; Jacobson & Robertson, 2012; Millard et al., 2012) would agree that given the challenges and demands facing natural resources, conservation can no longer be done effectively at small scales without consideration of surrounding landscapes, if focused narrowly (e.g., on single sites, species), without the integration of societal interests and trends, and absent meaningful collaboration with partners. Conservation will be successful only if: conducted at ecologically meaningful scales necessary to ensure system resilience and adaptive capacity (Chapin et al., 2009; Millard et al., 2012), it embraces uncertainty and results in decisions that are evaluated and flexible to changing circumstances (Reed, 2008), and it incorporates social and ecological considerations necessary to facilitate conservation in the best interest of society (Chapin et al., 2009; Folke, Hahn, Olsson, & Norberg, 2005). Although most conservation professionals would likely agree on the importance of these principles, a systematic approach to applying them does not currently exist in North America (Austen, 2011). We suggest that without a paradigm

transformation resulting in a comprehensive, outcomes-driven, strategic approach to conservation, healthy and sustainable landscapes and the resources they support will most certainly continue to be compromised (Chapin et al., 2009).

The LCCs, modeled after the North American Migratory Bird Joint Ventures, were born out of the recognition that effective conservation needs to start at larger spatial scales and consider the interests of all partners as well as the general public in identifying conservation goals and objectives (Millard et al., 2012). Not all LCC member organizations are government agencies with public trust responsibilities related to natural resources, but as part of a conservation network, they all share the common interest of achieving the vision of landscapes capable of sustaining natural and cultural resources for current and future generations. Each LCC has its own steering committee comprised of a diversity of members, including state, federal, nongovernmental organizations (NGOs), tribal, industry, local government, academic, and other partners. Recently, the role of the newly chartered international LCC Council was identified as (a) overarching coordination of LCC efforts, (b) consistency between LCCs for coordination and communication to support a cohesive purpose, (c) articulation of shared outcomes, (d) support for collaboration across geographies, and (e) advocacy for LCCs (LCC Council, 2013, p. i). Through both the Council and individual steering committees, the Network convenes various governmental entities in cooperative arrangements to identify and achieve outcomes desirable to all partners, thus minimizing potential antagonism over recommended actions resulting from less collaborative efforts (Hrezo & Hrezo, 1985). Similar to Foster and Barnes' (2012, p. 273) definition of regional governance, the individual LCC partnerships represent "deliberate efforts by multiple actors to achieve goals in multijurisdiction environments." The authors note that regional governance transcends jurisdictional, sectoral (e.g., government versus NGOs), and functional boundaries; institutional arrangements; and purposes and goals of individual agencies. Austen (2011) stresses that, although the concept of collaborative landscape conservation is not new and is being practiced with demonstrable success in some areas, a coordinated network to identify and achieve desired conservation outcomes did not exist prior to LCCs. Collaborative cogovernance partnerships, such as those inherent in the LCC model, help facilitate shared understanding, social learning and relationship building among diverse and multijurisdictional participants (Folke et al., 2005), typically leading to outcomes supported at minimum by the partnership and often by the constituents that partner members represent.

At landscape scales, with more stakeholders and social–ecological complexities than at smaller scales, it is even more important to understand the myriad of "interacting human and natural processes operating on the landscape over a continuum of spatial and temporal scales" (Parrott & Meyer, 2012, p. 382) and to incorporate the diversity of social and ecological considerations as part of a cogovernance process. For issues such as land acquisition or water diversions impacting large numbers of people, for example, there is likely to be strong public interest in potential alternatives. Information such as demographic projections and public attitudes is critical to inform identification of plausible conservation actions. Because of their emphasis on collaborative partnerships, LCCs have the potential to facilitate social learning and true integration of public input—both in terms of systematically collected social science data and input gained via collaborative processes—with ecological considerations (Endter-Wada, Blahna, Krannich, & Brunson, 1998; Luz, 2000; Reed, 2008). Without such integration, landscape conservation and management, especially in heavily human dominated systems, is destined for failure (Alberti et al., 2003).

Public Trust Obligations: LCCs' Role and Challenges

The PTD holds that certain natural resources are held in trust for public beneficiaries, both current and future generations (Geist & Organ, 2004). Hundreds of years of case law in the United States place primary fish and wildlife trust responsibility with the states, with some exceptions for federally regulated species under laws such as the Endangered Species Act and Migratory Bird Treaty Act (Batcheller et al., 2010). Some contend, however, that the PTD refers solely to navigable waters and argue against an expansion of PTD to include wildlife and other natural resources. Their concerns include possible infringement on private property rights or that the application of PTD is economically more costly than alternative approaches to natural resource management (Brewer & Libecap, 2009; Delgado, 1991). As with all governmental actions, applying the PTD principles to natural resources conservation can, but does not have to, be costly and controversial compared to other approaches. By applying principles consistent with the PTD (e.g., administrators seeking to understand the public it represents, fostering of good governance practices) (Decker et al., *in press*), the likelihood of conflict regarding decision outcomes can be minimized.

By serving as bridging entities, the Network can help fulfill public trust obligations by ensuring inclusivity via large scale, diverse, and meaningful collaborations leading to social learning and conservation outcomes to benefit current and future generations, and by building capacity for public trust to work in conservation by facilitating integration of social and ecological considerations, thus increasing the chance for successful and lasting conservation outcomes.

Ensure Inclusivity of Broad Stakeholder Participation in Cogovernance of Natural and Cultural Resources

The Network can ensure inclusivity of broad stakeholder participation in conservation decision-making resulting in implementable conservation outcomes by (a) serving as a champion and convener of broad stakeholder collaborations that facilitate social learning and (b) providing forums for establishing and achieving shared conservation goals. Millard et al. (2012) describe LCCs as regional multistakeholder collaborations to improve conservation delivery through an adaptive framework that facilitates use of the best available tools and information. Although the LCC steering committees are not policymaking bodies, they are comprised of many trust administrators whose agencies regularly implement policy and management actions. By providing an inclusive environment for collaborative social learning and adaptive problem solving using the best available data, the LCC process offers trust administrators the holistic and balanced perspective recommended by Decker et al. (*in press*) to help them fulfill their public trust obligations.

A key challenge for multiorganization, multistate, and multicountry LCCs may be that each governmental member has its own laws, regulations, and policies, only some of which specifically cite public trust responsibilities. The legal foundation for PTD as it relates to fish and wildlife is even less consistent in Canadian provinces (Batcheller et al., 2010). In addition, multiple jurisdictions can have authority over natural and cultural resources as they traverse state, tribal, federal, and international boundaries. Many of these resources have been managed with different objectives depending on the needs or political structure within each state, tribe, or nation. These situations can create interagency issues and conflict across international and state/province boundaries concerning what natural resources have precedence or how they should be managed. Strong commitment to

reframing regional governance around capacity (i.e., resources needed to achieve shared conservation goals) and purpose versus established institutional structures and processes (Foster & Barnes, 2012) is necessary to address the conservation challenges impacting natural resources. Foster and Barnes (2012, p. 274) note that actors participating in regional governance frameworks often have disparate missions but are committed to “navigating differences in addressing problems or opportunities.” LCCs can help serve as bridging entities among multiple jurisdictions to establish shared conservation goals that help align partners’ interests (Jacobson & Robertson, 2012). However, LCCs will not always be the most appropriate or productive avenue to help governmental organizations to meet their public trust obligations. When LCCs were first introduced, some states expressed concern about potential over-reach, and one state has declined to participate in two LCCs within their boundary partially due to concerns about the scope and potential involvement of NGOs. By providing forums for social learning through information sharing and dialogue, LCCs can help establish common understanding and appreciation of members’ public trust obligations—including jurisdictional differences—among the various partners. We discuss two examples here and offer recommendations based on each.

Southeast Conservation Adaptation Strategy: Facilitating Inclusiveness

Six LCCs in the southeast, along with State Wildlife Action Plan coordinators from 15 states and Puerto Rico and the Southeast Climate Science Center, are collaborating in an innovative approach with traditional and nontraditional partners to develop the Southeast Conservation Adaptation Strategy (SECAS). The focus of SECAS is to build on existing efforts and develop a collaborative approach to incorporating traditional conservation and other (e.g., development) interests to ensure a future for fish and wildlife. State and federal wildlife agencies, existing partnerships (e.g., Joint Ventures, the Southeast Aquatic Resources Partnership, and the South Atlantic Marine Fisheries Commission), NGOs with diverse interests, and other agencies such as the U.S. Environmental Protection Agency are collaborating for the first time to develop a common vision in this diverse geography with a large variety of stakeholders and interests. This effort is significantly broadening the stakeholder base for participating states and federal agencies, and because it is forward looking, it is considering future beneficiaries as contemplated by the PTD. LCCs and other partners participating in SECAS acknowledge that in order to adapt to landscape stressors in the future, there will have to be transformational change from organizations competing for resources to a model of sharing resources and coordinating conservation (SECAS, 2014). The states and other agencies involved in SECAS have embraced the need to include a broader base of stakeholders in this effort.

Recommendations for the Network to Facilitate Inclusivity

Other LCCs are making efforts to engage a broad diversity of stakeholders, but generally the Network needs to broaden even further to begin to effectively address the conservation challenges facing landscapes. For example, nontraditional interests such as private landowners, local governments, and industry, need to become a more integral part of the Network. Without these and other interests represented, implementation of recommended actions will be compromised. To achieve balanced and implementable outcomes, LCC partnerships should regularly evaluate gaps in stakeholder participation and take steps to fill them.

Northwest Boreal LCC: Developing Shared Conservation Goals

The Northwest Boreal (NWB) LCC falls within the boreal forest biomes of Alaska, Yukon, British Columbia, and Northwest Territories covering an area over 330 million acres. Partners include 10 US federal agencies or bureaus; representatives from seven Canadian provincial or territorial government agencies; and numerous environmental NGOs, tribal/First Nations, and research institutions from both countries. In spite of separate jurisdictional mandates, partners in the NWB LCC have found common ground in establishing the vision of “a landscape that sustains functioning, resilient boreal ecosystems and associated cultural resources in perpetuity” (<http://nwblcc.org/>). In order to build trust among partners, early efforts of the NWB LCC focused on identifying commonalities and shared resource information needs. Partners from multiple jurisdictions realized that issues and challenges facing conservation are similar across this vast and rapidly changing region. Once relationships were formed and strengthened among partner organizations, the NWB LCC partnership began moving forward to identify shared goals, objectives, and priorities that will serve as a basis to develop a framework for landscape conservation involving multiple jurisdictions. Collectively, in spite of differing governmental mandates or interpretation of obligations under the PTD, 35 organizations from this international collaborative are defining what it means to have a functioning, resilient boreal landscape and what can be done to ensure this vision is attained.

Recommendations for the Network to Develop Shared Conservation Goals

The Network, in its nascent stages, has largely been undergoing the early group development processes in the model proposed by Tuckman (1965) of “forming,” “storming,” and “norming,” which can be described as a process that groups work through in order to develop norms and work collectively toward common goals. The fourth component of Tuckman’s model is “performing,” which the Network is beginning to do in some regions as it works to define its niche in advancing conservation. Most LCCs have started to identify priorities but still need to refine those and develop goals and objectives to ensure that they are working toward achieving outcomes desired by all member organizations and in the best interest of society. We encourage individual LCCs and the Network to continue to work toward that end. Through development of shared objectives and conservation goals, LCCs can help overcome the concern of Batcheller et al. (2010) leading to conflict across political boundaries due to lack of consistent PTD adoption.

Build Capacity for Public Trust to Work in Conservation

Although the importance of social science to inform natural resources management has been emphasized for decades, it is often not incorporated habitually into decision-making processes of policy makers or agencies responsible for fulfilling public trust responsibilities (Luz, 2000; Wortley, Hero, & Howes, 2013). Decker et al. (2013) stress that trust administrators must understand the public’s interest—including future generations—to be able to balance and integrate them into decision making. LCC partnerships, too, must continually seek and integrate both social and ecological information as part of their adaptive comanagement process (Jacobson & Robertson, 2012). Only through integration of social–ecological considerations will the LCC partnerships gain the comprehensive perspective necessary to begin to understand the complexity of conservation issues, identify socially acceptable and subsequently implementable (and sustainable into the future)

actions to address those challenges (Folke et al., 2005; Raymond & Knight, 2013). We offer an example and recommendations based on that example.

North Pacific LCC: Integrating Social and Ecological Information

The North Pacific LCC is an international partnership, extending along the Pacific coast from south central Alaska through Canada to northwest California and like other LCCs, provides a forum for evolving broad-based collaboration. Their primary goal is to “maximize the ability of partners to make informed decisions with respect to conservation and sustainable resource management of priority natural and cultural resources subject to climate change and related large scale stressors in the NPLCC region” (<http://www.northpacificlcc.org/About>). As described in their strategy, the North Pacific LCC has placed emphasis on better understanding and incorporating Traditional Ecological Knowledge (TEK) of Tribes and First Nations into conservation decisions (North Pacific LCC, 2012). The strategy is reflective of the public trust principles. For example, the strategy focuses on: (a) helping managers understand the availability and effectiveness of adaptation and mitigation response actions (providing and integrating social and ecological science to inform decision-making); (b) facilitating coordination, collaboration, and capacity-building, and on developing or assisting with tools to assist decision-makers (forum for collaboration and coordination); (c) identifying and promoting opportunities to use TEK to inform partner and stakeholder decisions (facilitating an inclusive process); and (d) promoting and facilitating consideration of the connections and interactions between ecosystems (providing and integrating social and ecological science). Considerable resources have been invested in TEK to help inform natural and resource cultural management. Considering TEK expands both social and ecological understanding by consulting with and incorporating tribal expertise. While a few LCCs have invested in understanding and incorporating TEK, the majority have not.

Recommendations for the Network to Integrate Social and Ecological Science

While the Network has demonstrated some progress toward integration of social–ecological considerations, there is much room for growth in this area. Several LCCs have conducted some social science research (e.g., Gascoigne, Hoag, Johnson, & Koontz, 2013) or have cultural working groups; one (Gulf Coast Prairie LCC) has convened a human dimensions science advisory group. The Network has not implemented broad-based social science research to determine public attitudes nor has the Network via the LCC Council, for example, yet formalized social science research as a priority (e.g., appointed a committee to address, conducted a Network-wide study). Instead, the Network has focused on the importance of establishing standing partnerships comprised of key stakeholders but has not systematically invested to this point in incorporating existing or collecting new social, political, or economic data. Endter-Wada et al. (1998) warned that ecosystem management cannot be successful without true integration of public input, analysis of social and ecosystem science.

Increasing Awareness of Public Trust

The broad LCC partnerships are not bound by the PTD, although many individual members are; however, they can provide an avenue for increasing awareness among trust beneficiaries about their natural and cultural resources as encouraged by Geist and Organ (2004) and

Smith (2011). Through participation in steering committees and work groups, numerous organizations and individuals engage in discussions about natural and cultural resources. Although their effectiveness has not yet been evaluated, the websites, social media outlets, newsletters, and annual reports for the 22 individual LCCs, the Network and the LCC Council serve as a vehicle for communicating with an even broader audience of decision-makers who impact conservation and could be used to make those audiences aware of the importance of the PTD and their role in ensuring that PTD obligations are being met. To date, the LCCs have not served as a conduit for information about the public trust doctrine or governmental member agency responsibilities. We suggest the LCC Council consider incorporating PTD as a fundamental foundation and unifying concept for the Network.

Conclusion

Never before has there been such an expansive, coordinated conservation collaboration as the LCC Network. This international partnership has the potential to help transform the prevalent conservation paradigm to help ensure that public trust obligations are met. As bridging entities, LCCs convene diverse partnerships nested in an international conservation network, and as such have great potential to align the conservation community toward achieving outcomes that will benefit current and future generations. That alignment can only be achieved via established and enduring conservation partnerships that together are able to think broadly and proactively about achieving conservation outcomes at ecologically meaningful scales while leveraging the considerable resources and political capital needed to strategically address those challenges. LCCs are inherently collaborative, but true inclusivity necessary to understand public needs and concerns and identify and achieve lasting conservation outcomes on landscapes, is an area in which growth is needed. The Network is being evaluated internally (e.g., performance measures to evaluate individual LCCs and the Network based on how well they are achieving the original intent) and externally (e.g., National Academy of Sciences review). As the Network evolves, it will become more apparent whether this transformative change is successful in aiding trust administrators in fulfilling their public trust obligations.

Instead of working in jurisdictional silos, the LCC structure can help ensure conservation success through coordination, sharing of information, and leveraging resources. The Network is not a panacea for ensuring that public trust obligations are met, but with careful attention from Network coordinators, steering committees and the LCC Council, LCCs can serve as an important means to help achieve and maintain the public trust of natural and cultural resources. We encourage the Network to avoid the mistakes of conservation past by institutionalizing a fully integrated approach to understanding, planning, and conserving social-ecological systems in the interest of current and future generations of all of the species on this planet.

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