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A Case for Integrating the Arts and Humanities into *Ocean Literacy and Stewardship*

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Harnessing a multilevel environmental stewardship framework: A bare necessity for parks and protected areas

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Papers from the 2020
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"Systemic threats to parks and protected areas"

Abstract

In parks and protected area conservation, research is underway to understand the elements and mechanisms of environmental stewardship and to evaluate its effectiveness as a management tool for conservation. Across the country, protected area managers, scientists, concerned citizens and communities are trying to harness stewardship actions to mitigate systemic threats to parks and other protected areas. Through developing and engaging with a stewardship framework approach (i.e., an organized, collaboratively supported, and enduring system of stewardship actions), protected area managers can engage a variety of motivated people to collaboratively care for a protected area, creating a win–win solution for park resource users and managers. Recent advances in sustainability science and environmental stewardship address the development of stewardship mechanisms through novel analytical frameworks. Collectively, the framework approach can help protected area managers make actions and initiatives more effective and meaningful to the individuals or communities involved by helping to unravel the multifaceted nature of environmental stewardship. Specifically, we seek to advance the understanding, relevance, and utility of the Bennett et al. (2018) and Enqvist et al. (2018) stewardship frameworks for park and protected area management and conservation efforts. In doing so, we also offer potentially new, interdisciplinary perspectives and management considerations for leveraging actions that serve to bolster environmental stewardship as a concept, practice, and research focus for parks and protected areas.

Introduction

In the present paper we seek to advance the understanding, relevance, and utility of stewardship frameworks presented by Bennett et al. (2018) and Enqvist et al. (2018) for park and protected area conservation efforts. We have two primary objectives: (1) describe the context of how individuals and communities are motivated to be stewards of their environment, and (2) offer new perspectives and management considerations for leveraging environmental stewardship mechanisms within parks and protected areas. Our higher-level aspiration is to bolster the collective resilience and long-term vision of parks and protected areas across the United States for the benefit of all people.

This paper came out of an interdisciplinary collaboration following the George Wright Society Virtual Student Summit on "Systemic Threats to Parks and Protected Areas" in April 2020. Though the authors have diverse backgrounds and perspectives, we all consider environmental stewardship to be a chief mechanism in mounting a response to systemic threats to parks and protected areas.

What is environmental stewardship?

At a basic level, "environmental stewardship" is a human expression of care for the natural world. In general, environmental stewardship is defined as a variety

of "actions taken by individuals, groups or networks of actors, with various motivations and levels of capacity, to protect, care for or responsibly use the environment…" (Bennett et al. 2018: 597). In parks and protected area conservation, research is underway to understand the elements and mechanisms of stewardship and to evaluate its effectiveness as a management tool for conservation (Bennett et al. 2018: 597; Enqvist et al. 2018: 17). Across the country, managers, scientists, and concerned citizens and communities are trying to harness stewardship efforts to mitigate systemic threats to parks and other protected areas. These threats include increasing demand on natural resources, climate change, social inequity, and biodiversity loss. Engaging in stewardship actions can shield protected areas from these threats, establish richer connections to place, and promote a sense of ownership and responsibility for the collective care-taking of parks and protected areas. Stewardship actions can also augment the often limited resources of park managers. In the context of the United States and the National Park Service (NPS), environmental stewardship is considered an "enduring responsibility shared by all Americans" (Colwell et al. 2012: 16), so expanding stewardship initiatives should be a top priority.

Relevance of stewardship to parks and protected areas

Managing a protected area is a complicated logistical and financial endeavor. Resource managers are equipped with limited financial resources to cover diverse areas such as maintenance, staffing, visitor safety and risk management, wildlife management, scientific research, and educational outreach. Yet management budgets required to perform these tasks are often insufficient and volatile, as they are frequently subject to changing leadership and political resolutions. These fluctuations can be addressed and remedied by harnessing a multifaceted stewardship framework: an organized, collaboratively supported, and enduring system of stewardship actions that underlies protected area management and remains constant no matter what changes in the larger political context. Through stewardship frameworks, managers can develop tailored approaches to engage a variety of motivated people (e.g., visitors, volunteers, recreationists, local and regional communities) to collaboratively care for a protected area, creating a win–win solution. Within such frameworks, effective stewardship initiatives could be designed to aid in the protection of ecological integrity, cultural and historical authenticity, and transformative experiences within parks and protected areas—which happen to be key priorities for the national park system (Colwell et al. 2012: 18). As stated in the 2006 NPS Management Policies, managers are encouraged to foster stewardship within the agency as well as in partnership with the public to establish resiliency. To develop environmental stewardship into an effective management tool for a variety of parks and protected areas, each with its own unique management challenges, further investigation is needed. Recent advances reported in the environmental stewardship literature address some of these challenges through using novel analytical frameworks that help navigate stewardship as a concept, practice, and research focus.

Harnessing a stewardship framework

In 2018, two important environmental stewardship frameworks were published: Bennett et al. (Figure 1) and Enqvist et al. (Figure 2). Both sets of authors synthesized previous academic literature on environ-

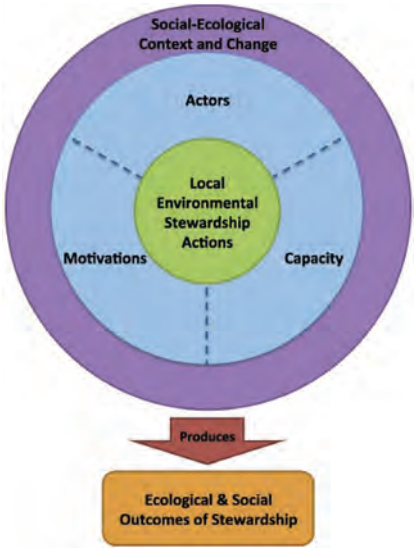

FIGURE 1. A conceptual framework for local environmental stewardship (from Bennett et al. 2018).

FIGURE 2. The notions of "care," "knowledge," and "agency" help relate the different meanings of stewardship (from Enqvist et al. 2018).

Bennett et al. (2018)	Enqvist et al. (2018)
Developed contemporary definition of "environmental stewardship" as a concept, and proposed a novel, integrative analytical framework of stewardship elements.	Conducted a qualitative systematic review of the environmental stewardship literature, mapping out distinct meanings within research domains (e.g., social and natural sciences).
Focused on stewardship as a local, action-based response to care for the environment, which may produce social–ecological outcomes.	Navigated stewardship themes used within the research literature and identified stewardship meanings as based in ethics, motivations, actions, or outcomes. Several figures illustrated the summarized results of various stewardship meanings found within distinct research fields.
Proposed that for successful stewardship actions to manifest, three core elements—actors, motivations, and capacity—must combine within a specific social–ecological context and scale.	Constructed a multidimensional stewardship framework where the core elements of care, knowledge, and agency must combine to produce stewardship actions and outcomes.
Provided comprehensive details on each core element (i.e., actors, motivations, capacity), their dimensions, and how each can be interpreted within the context of environmental stewardship.	Acknowledged stewardship as a "boundary object" to allow flexibility and openness to interdisciplinary and transdisciplinary approaches to stewardship understanding.
Outlined leverage points and successive steps to implement and research local environmental stewardship.	Highlighted the dimension of care and the need for empirical and practical developments to understanding stewardship through the construct of care.
Sought to elevate environmental stewardship as a genuine and holistic approach to designing effective and valuable initiatives to establish and improve relations with the environment.	Provided an outlet and mapping device to ease the tensions of stewardship interpretations within the sustainability sciences with the hope of encouraging a shared language of stewardship in theory, method, and practice.

TABLE 1. Summary comparison of Bennett and Enqvist frameworks.

mental stewardship and offered their own conceptual frameworks to advance stewardship research and practice. These frameworks are critical to supporting the communication of "the stewardship concept across the broad range of disciplines engaged in landscape and sustainability science" (Enqvist et al. 2018: 18). While research on stewardship has a long tradition, the combination of holistic, systematic, and practical elements offered in these two specific frameworks inspired the following perspectives on promoting stewardship in parks and protected areas. This article attempts to incorporate language shared by the Bennett and Enqvist frameworks. We recommend further investigation of both to fully grasp their breadth and depth, however, the basic tenets are explained and illustrated in this paper (see Table 1).

In reviewing the frameworks, we start by focusing on their shared notion of environmental stewardship as either a direct (e.g., planting a tree) or indirect (e.g., casting a vote for forest canopy preservation) action with the intention of creating environmental or social change. In other words, direct or indirect actions are the central pillar to directly engaging in environmental stewardship. Without actions, stewardship is just an idea. Furthermore, stewardship actions can be highly variable across contexts and are often accompanied by an end goal or objective to benefit the environment in response to a social–ecological problem (Bennett et al. 2018: 597; Enqvist et al. 2018: 17). They can range from simple and low cost (e.g., river trash clean-ups, signing an online petition), to more complex and costly (e.g., stream or trail restoration projects, invasive species removal, or volunteering on a co-management board).

Environmental stewardship results from elements of motivation, knowledge, care, and capacity (e.g., agency). Motivations, a major component of the drive for stewardship actions, rely partly on the intrinsic (e.g. pleasure and self-actualization) and extrinsic (e.g. external stimuli, costs and benefits, rewards) motivations of various actors (e.g., individuals, groups, and communities) (Bennett et al. 2018: 601). Motivations are described by Bennett et al. as the "rationale and will for stewardship" (2018: 601). Understanding this, protected area managers can encourage effective stewardship actions and outcomes by focusing on the reasons why people engage in stewardship. For example, a stewardship intervention to restore native habitat at a local park may involve a youth program hoping to educate and engage children with the environment, a spiritual-based organization seeking to give back to and highlight divine creation, a recreationist wanting to "get dirty" and improve the recreation experience, or a joint working group of community members hoping to engage with park staff to show their support. Managers should be aware that stewardship means different things to different people; accordingly, "knowing your audience" is beneficial to managers when trying to target or tailor a specific stewardship initiative.

Collectively, the stewardship analytical framework elements (e.g., action, motivation, care, capacity, etc.) proposed by Enqvist and Bennett are important because they give protected area managers a compass to locate leverage points to make stewardship initiatives more effective and meaningful to the individuals or communities involved. The following thought pieces shape our objectives and offer novel contributions to understanding the mechanisms of environmental stewardship.

Environmental socialization: The need for frequent, recurring, and expanding experiences to develop emotional connections with nature

Emotional connections with nature are the foundation for developing an ethic of care, which can lead to long-term stewardship of parks and protected areas (Jones, Shipley, and Ul-Hasan 2017: 45). Enqvist and colleagues define "care for the environment" as a cluster of "personal values, aesthetic ideals, identity, emotions, and collective notions of morality and ideology" (2018: 24). However, how do emotional connections with nature arise? One framework that is helpful for understanding the types of experiences that are necessary for developing emotional connections with nature is *environmental socialization*. Research on environmental socialization (James, Bixler, and Vadala 2010: 231) suggests that frequent, recurring, expanding, meaningful, and immediate childhood experiences with nature contribute most to developing an emotional interest in the natural world later in life. The related concept, *place attachment,* is understood as an emotional connection to a place, such as a home, city, park, or protected area (see Miller et al. 2020: 233), which is formed through the accumulation of experiences over time. Hence, developing an emotional connection with nature is a long-term process that consists of repeated interrelated and interconnected experiences. It is through these experiences that people come to care for nature and places, serving the basis for motivated actions to steward parks and protected areas.

For a manager of a park or protected area, the traits of experiences identified by research on environmental socialization provide insight into the types of experiences that should be nurtured and leveraged. However, an important first step that managers should consider is expanding the conception of what constitutes an "experience." Classical views of experiences hold that they are direct, such as physically visiting a park; but managers should consider alternative experiences and programs that can take place outside park boundaries, such as virtual or interactive videos, which are more accessible to an increasingly urban society. Since frequent and recurring experiences are vital for socialization and developing emotional connections, there is a critical need to encourage experiences beyond a single visit to an iconic national park. One practical suggestion is to enhance and raise the visibility of other, lesser-known national parks, exemplified by programs such as the Find Your Park initiative. This initiative should be expanded to include mechanisms that connect people to other federal, state, regional, county, and local parks and nature centers, where people can have more frequent outdoor experiences close to home.

We would also like to challenge managers and stewardship programmers to consider ways to expand current programs to include dimensions of self-discovery or fun, such as gamifying stewardship to act as the initial hook or foray into perpetual stewardship actions. We encourage managers to focus on efforts that build the motivation of stewardship through the development of emotional connections to places that arise from frequent, recurring, and meaningful experiences within protected areas.

The spiritual dimension of stewardship

It is also important for managers to understand how spirituality can act as a conduit to emotional connections with nature, and hence as a driver for stewardship. Spirituality can serve as a pillar in individuals' lives that influences how they choose to care for and

interact with the natural world. Additionally, spirituality often involves the belief in a higher deity that serves as a foundational source of guidance within the detailed dimensions of life (e.g., decisions, behaviors, attitudes, or perceptions; Newman 2004: 102). Spiritually motivated visitors of parks and protected areas may possess a heightened level of compassion and stewardship, potentially due to their beliefs (Enqvist et al. 2018: 18; Heintzman 2010: 72). Individuals may be more inclined to act as environmental stewards based on their devotion to care for a natural resource they consider to be divine or sacred, or as an outlet to express their reverence towards the deity they believe in (Heintzman 2010: 74). Sensitivity to spirituality as a motivator for stewardship actions can foster richer steward–manager relationships and result in the establishment of positive feedback loops for future initiatives.

Collaboratively working with spiritual groups can also be a way to include new and diverse actors or organizations with whom protected area managers may have not considered engaging before (Bennett et al. 2018: 607). Connecting with groups motivated by a variety of belief systems can promote inclusion and respectful environments for parks and protected areas. To further explore stewardship and the influence of spiritual motivations, empirical research (e.g., qualitative focused studies) could provide new managerial insight into how spirituality influences specific stewardship actions and behaviors within parks and protected areas. An increased understanding of the spiritual beliefs that influence potential stewardship engagement with parks and protected areas can also be a gateway to engaging with other user groups, such as outdoor recreationists.

Recreational stewardship: The new frontier of outdoor recreation

Parks and protected areas are the playgrounds of recreationists—a key user group and management focus as the demand for and diversity of recreational activities and opportunities expand. Through the growth of the outdoor industry and economy, technological advancements, recognition of health benefits, and increased leisure time, among other factors, recreationists are finding new reasons, new ways, and new places to get out-of-doors. Mountain trails are traversed on foot, bike, board, or horse; cliffs are climbed, ice-axed, or revered; rivers and seascapes are floated, canoed, kayaked, rafted, SUPed; caves are spelunked or scuba-dived; forests and the backcountry are hunted, fished, camped in, geotagged, or explored; and local parks or nature centers are where families gather, people bird-watch, or workers escape to at mid-day to find solitude. Given the immense variety of collective human impacts these activities can have on the environment, recreationists and environmental groups are exploring a new frontier of outdoor recreation opportunities focused on giving back and stewarding their playgrounds. Recreational stewardship, or stewardship as a form of recreation, is an emerging model for conservation that can serve as a major leverage point for protected area managers. Miller and colleagues highlighted the symbiotic relations between stewardship and recreation, describing recreationists and their potential stewardship actions as an integral element in the overall sustainability and preservation of outdoor recreation resources (2020: 232).

"Recreational stewardship" is a simple concept that the authors define as "engaging in a recreation activity for the purpose of conducting stewardship actions." For example, a local riverkeeper organization may leverage the motivation, knowledge, and resources of a network of kayakers to maintain river access points, clean up the river, document illegal activities, or monitor water quality when out paddling. Recreational stewardship typically entails organized initiatives with goals or desired outcomes, though these can be loosely defined and are seldom evaluated. Recreational stewardship can be a social event or organized trip (i.e., outing), such as when stewardship actions for a park or river section are celebrated with food and beverage donations from local restaurants, free entertainment (e.g., local bands), free swag (i.e., outdoor gear), and educational programs (Figure 3). There is some evidence that such events may promote stewardship via people simply wanting to belong to a certain social or recreational group (Bennett et al. 2018: 602). Recreational stewardship can also spur new conservation approaches and federal designations, such as the National Water Trail System. This system highlights exemplary river trails in which stewards (e.g., paddlers) and surrounding communities are instrumental in the river's protection and development of recreational opportunities.

Managers wanting to leverage recreational stewardship mechanisms should be visible to and engaged with all forms of recreation occurring within their resource area to lay the future groundwork of collaboration in organizing stewardship initiatives. We suggest the development of outdoor recreation stewardship specialist positions for parks and protected area management. These individuals should be knowledgeable and proficient in the various forms of recreation occurring within their park as well as understand the associated resource needs particular to each form of recreation. The establishment and visibility of these specialists

FIGURE 3. The Georgia Conservancy, one of the state's oldest environmental non-profits, hosts a unique and robust trips program focused on recreational stewardship.

within day-to-day operations will serve as a beacon to recreationists that the park acknowledges recreation as a core management objective, and may allow for authentic, synergetic stewardship efforts between park managers and recreational users. Other potential opportunities for managers to engage with include alternative spring break programs for schools and universities, university outdoor recreation programs and clubs, and environmental non-profits with recreational stewardship trip programs (e.g., those of the Georgia Conservancy). Overall, tremendous stewardship potential remains dormant within recreationists, an abundant human capital asset to parks just waiting to be uncorked. For recreational stewardship to become a "sustainable symbiosis," managers are encouraged to develop ways of making stewardship an essential part of every recreational experience (Miller et al. 2020: 227).

Creating a system of stewardship

Within communities surrounding parks and protected areas, managers have an opportunity to promote stewardship by increasing both motivation and agency. Communities can be found across many scales, from park border towns to annual park visitors across the country. Often, we think about the management relationship between parks and communities as one directional, yet sustainable park management should be a shared responsibility between communities and government. Parks and neighboring communities share transboundary resources that are part of larger systems with environmental, socioeconomic, and cultural dimensions. Protected area management decisions can affect communities as much as community decisions (both locally and nationally) can affect parks. Communities can access distinct forms of knowledge that agency managers may not possess, which uniquely positions a community to contribute to resource management goals outside of park boundaries. To gain enduring support, managers need to understand the motivations of communities around them and communities should understand management goals and constraints. Thinking about stewardship through communities increases the potential to magnify and harmonize individual actions for the greatest benefit to the shared goal of protected area conservation.

Like individuals, communities will take care of what they care about. To a large degree, communities care about that which they perceive as benefitting them. Therefore, one of the first steps is to understand how communities benefit, or would like to benefit, from protected areas. The benefits people receive could be environmental, socioeconomic, physical, cultural, or spiritual in nature. Knowing these benefits will allow agencies and communities to identify shared stewardship goals that will motivate communities to care about the environment through a sense of ownership, responsibility, and pride. Managers should consider initiatives that increase the benefits people receive, while reducing the costs they have to pay to participate, such as time and finances.

Communities are also more likely to become stewards if they are given agency to participate in decisionmaking and management activities as recognized owners, or co-owners, of a resource. One feasible management approach to accomplishing this is by consistently involving a community in scientific monitoring, such as through a citizen science initiative or recreational stewardship activities mentioned above. These activities can also aid in environmental socialization, which can deepen connections with place and increase stewardship motivations. Involving communities in developing and establishing rules (e.g., hunting seasons, entry permits, etc.), is also important since people within a community are more likely to adhere to rules they helped establish. Strengthening community-level stewardship through these initial ideas is not a simple or minor endeavor, and may even seem like too much trouble, yet drawing from best practices of managing shared resources from around the world can yield important benefits (Ostrom 1990).

Without the support of communities, the actions protected area managers take might also not be accepted over the long term due to competing values and changing leadership. This is especially important for gateway communities near a protected area where support and mutual respect are important to manage contentious issues such as predator management, human–wildlife conflict, or traffic and waste management. Identifying shared goals should be a first step to developing stewardship initiatives, yet it may seem impossible in contexts where managers and community members appear to have disparate priorities. However, some NPS managers are exploring new strategies for effective community engagement. For example, Theodore Roosevelt National Park managers recently worked with researchers to produce a strategic plan that included a community engagement study with three of the park's gateway communities (see Joyner, Lackey, and Bricker 2019). Despite apparent differences in economic interests, numerous shared goals were identified that could serve as a strong foundation for future collaboration. Ultimately, a systems-level approach to stewardship, increases opportunities for collaboration, leverages support for park priorities and minimizes the burdens on already over-taxed managers.

Conclusion

Visitors to parks and protected areas and surrounding communities can perhaps feel overwhelmed by the complexity and breadth of environmental change occurring on a global scale. In such cases the most impactful way to make a change and respond to environmental threats is often through applying care, knowledge, motivation, and resources to environmental stewardship initiatives at a local scale (Bennett et al. 2018: 598). Protected area managers must therefore work collaboratively with resource users to identify and build upon stewardship motivations, nurture these connections, and leverage them to propel stewardship actions and larger-scale initiatives. By applying and working through a stewardship framework to understand how individuals and communities can engage in stewardship actions, managers can enhance overall engagement. Developing strategic and holistic processes to empower individuals, communities, and managers to collectively participate in and share the active caring for or stewardship of protected areas is the most effective way to preserve resources. Once an ethic of care for a protected area is established, it can be an enduring and sustainable source of stewardship actions that potentially do not require financial incentives to tap into. With an expanded network of environmental stewards (e.g., community organizations, recreational groups, spiritual-based entities, etc.) working with park managers to support shared goals, some of the barriers and threats managers are up against can be overcome. Crucial to the widespread acceptance and application of park and protected area stewardship models will be sound, scientific research that can effectively monitor and evaluate the success or failure of environmental stewardship initiatives and interventions. Through utilizing the lessons learned from the Bennett and Enqvist frameworks, resource managers and researchers can make great strides in collaborative efforts to systematically investigate stewardship to bolster theory and produce guidelines for best practices within parks and protected areas. We recognize that some of the ideas expressed in this article are incomplete and aspirational, yet we hope this can spur critical discourse. To end with the words of Colwell and colleagues:

> The American people—including but not limited to visitors and residents of communities near parks—must be recruited as 'co-stewards' of the national parks. The public must be made aware of the challenges facing the national park system and urged and empowered to take action to preserve and protect these resources as part of their enduring responsibility as citizens (2012: 19).

References

Bennett, Nathan J., Tara S. Whitty, Elena Finkbeiner, Jeremy Pittman, Hannah Bassett, Stefan Gelcich, and Edward H. Allison. 2018. Environmental stewardship: A conceptual review and analytical framework. *Environmental Management* 61(4): 597–614.

Colwell, Rita, Susan Avery, Joel Berger, Gary E. Davis, Healy Hamilton, Thomas Lovejoy, Shirley Malcom, et al. 2012. *Revisiting Leopold: Resource Stewardship in the National Parks.* Washington, DC: National Park System Advisory Board Science Committee.

Enqvist, Johan Peçanha, Simon West, Vanessa A. Masterson, L. Jamila Haider, Uno Svedin, and Maria Tengö. 2018. Stewardship as a boundary object for sustainability research: Linking care, knowledge and agency. *Landscape and Urban Planning* 179: 17–37.

Heintzman, Paul. 2009. Nature-based recreation and spirituality: A complex relationship. *Leisure Sciences* 32(1): 72–89.

James, J. Joy, Robert D. Bixler, and Carin E. Vadala. From play in nature, to recreation then vocation: A developmental model for natural history-oriented environmental professionals. 2010. *Children Youth and Environments* 20(1): 231–256.

Jones, Cassidy, Nate Shipley, and Sabah Ul-Hasan. Bringing parks back to the people: Revisiting The dual mandate and core values of the National Park Service. 2017. *The George Wright Forum* 34(1): 45–52.

Joyner, Leah, N. Qwynne Lackey, and Kelly S. Bricker. 2019. Community engagement: An appreciative inquiry case study with Theodore Roosevelt National Park gateway communities. 2019. *Sustainability* 11(24): 1–17.

Miller, Anna B., Lincoln R. Larson, Jeremy Wimpey, and Nathan Reigner. Outdoor recreation and environmental stewardship: The sustainable symbiosis. 2020. In Steven Selin, Lee K. Cerveny, Dale J. Blahna, and Anna B. Miller, eds. *Igniting Research for Outdoor Recreation: Linking Science, Policy, and Action*. General Technical Report PNW-GTR-987. Portland, OR: US Department of Agriculture–Forest Service, Pacific Northwest Research Station, 227–244.

Newman, L.L. 2004. Faith, spirituality, and religion: A model for understanding the differences. *College Student Affairs Journal* 23(2): 102–110.

Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.