

Chapter 1: The Shifting Outdoor Recreation Paradigm: Time for Change

Dale J. Blahna, Francisco Valenzuela, Steven Selin, Lee K. Cervený, Mike Schlafmann, and Stephen F. McCool¹

Scientists, just like the rest of humanity, carry out their day-to-day affairs, within a framework of presuppositions about what constitutes a problem, a solution, and a method. Such a background of shared assumptions make up a paradigm, and at any given time a particular scientific community will have a prevailing paradigm that shapes and directs work in the field.

—John L. Casti, *Paradigms Lost: Tackling the Unanswered Mysteries of Modern Science* (1989)

Introduction

Outdoor recreation management on public lands is at a crossroads both at home and abroad. The number of visitors is increasing in the United States, and visitor expenditures are creating economic benefits exceeding those of any other resource production contributions for the national economy and for many rural communities near public lands (Rosenberger 2018, Rosenberger et al. 2017, White et al. 2016). Open space and recreation access provided by federal lands are key population and development drivers in rural communities (Headwaters Economics 2019, White et al. 2016). A deepening recognition of the personal and community benefits of human contact with nature are spawning burgeoning new areas of research and practice, such as “cultural ecosystem services” in economics (Chan et al. 2012), “nature’s contributions to people” in biology (Diaz et al. 2018), and “parks prescriptions” in medicine (Frumkin et al. 2017, Rosenberger and Dunn 2018, Williams 2017). Yet, the National Park Service and U.S. Forest Service each have multi-billion-dollar backlogs of deferred recreation maintenance (Kilmer and Nordstrom 2019, USDA OIG 2017). Agency budgets and appropriated funding for national forest recreation have steadily decreased over time (Cervený et al. 2019, Selin 2018). Field managers, nongovernmental organizations, and local and state

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¹ Dale J. Blahna and Lee K. Cervený are research social scientists, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, 400 N 34th Street, Suite 201, Seattle, WA 98103; Francisco Valenzuela is director of Recreation, Heritage, and Wilderness Resources, U.S. Department of Agriculture, Forest Service, Southwestern Region, 333 Broadway SE, Albuquerque, NM 87102; Steven Selin is a professor, West Virginia University, Division of Forestry and Natural Resources, Recreation, Parks, and Tourism, PO Box 6125, Morgantown, WV 26506-6125; Mike Schlafmann is a public services staff officer, U.S. Department of Agriculture, Forest Service, Mount Baker–Snoqualmie National Forest, 2930 Wetmore Avenue, Suite 3A, Everett, WA 98201; Stephen F. McCool is a professor emeritus, University of Montana, Wildland Recreation Management, 32 Campus Drive, Missoula, MT 59812.

governments all have identified inconsistencies between the many and diverse public values and impacts of outdoor recreation and existing policies and funding for recreation management on public lands.

These and other anomalies discussed throughout this report reflect a significant disconnection between public recreation needs and existing land management policies and practices. This introductory chapter describes the current and emerging paradigms of outdoor recreation and a few key assumptions and barriers that will influence adoption of a new paradigm. Although our focus is on outdoor recreation research and practice in the United States, we believe the ideas apply internationally, as many countries look to American universities and agencies as leaders in outdoor recreation and protected area management. We do not consider this chapter to be a definitive statement on the subject; our intent is to present a set of ideas that we hope will serve as a springboard to reinvigorate future practice and research in outdoor recreation.

What Is a “Paradigm Shift?”

Paradigms are broad and widely accepted beliefs about the way the world works. They are based on generally accepted rules and assumptions originating from existing beliefs and evidence during a particular period. But paradigms and the assumptions on which they are based are culturally constructed, especially in social science, economics, and public policy (Blyth 2013). Paradigms are built on combinations of selected factual knowledge, institutional traditions, personal beliefs, and dominant cultural values. Assumptions gradually change over time to better reflect inconsistent observations or “anomalies” that emerge and do not fit, or seem to contradict, the existing paradigm, and cultural values often change before institutions and traditions. When enough evidence emerges, assumptions change and a “paradigm shift” occurs that establishes a foundation for a new way of thinking about the topic. A classic example of a paradigm shift was the rejection of the geocentric (earth-centered) solar system in favor of the heliocentric (sun-centered) solar system. Once the heliocentric approach was widely accepted, it changed the way people conceptualized their world. Kuhn (1970) referred to such large-scale and science-based paradigm shifts as “scientific revolutions.” New paradigms emerge in all fields of research and practice, such as germ theory in medicine, democracy and private property rights in public administration, and borrowing on credit in economics, which literally enabled Europeans to conquer the world in the 15th and 16th centuries (Harari 2015).

Although most paradigm shifts are not that dramatic, they still have significant impacts, especially within specific fields of study or management. In natural resources, for example, decades of evidence of the ecological benefits of fire, along

with mounting economic and political consequences of fire suppression, led to a paradigm shift from forest fire being defined as “evil,” and extinguishing all fires as the only acceptable management practice, to the science of fire ecology, which led to dramatic changes in fire management practices. Likewise, research showing that ecological collapses, such as one on the Kaibab Plateau in Arizona that resulted from deer management practices, led to the shift from “game management,” which focuses on single preferred species, to “wildlife ecology and management,” which focuses on the wildlife and ecological integrity of entire ecosystems (Bolen and Robinson 2003).

In outdoor recreation, however, a much different type of paradigm shift occurred. In general, the outdoor recreation paradigm tended to focus narrowly on the social science of visitor experiences, satisfaction, and economic values, while recreation ecology focused on the environmental impacts of recreation. A few integrative models were developed, such as VERP (visitor experience and resource protection) and LAC (limits of acceptable change), but these tools tend to be used rarely (Cervený et al. 2011) and they never grew or evolved into landscape-level models that could play key roles in decisionmaking or management planning like forest growth and yield, wildlife habitat, and fire spread models. Despite its central role in social-ecological systems, outdoor recreation never really broadened as a landscape-level, integrative, systems-oriented field of study like other natural resource disciplines (see, for example, Hammit and Cole 1998, Manning 2010).

Finally, paradigm shifts are inherently political, and require both societal demand and institutional recognition and support (Blyth 2013, Brown and Harris 1992). Many scientists and land managers recognize the need for change to reflect changes in society, and they are advancing some creative and innovative approaches to outdoor recreation planning and management, but these tend to be ad hoc efforts that have not yet become part of the dominant institutional paradigm. It is time to recognize and embrace the shifting outdoor recreation paradigm.

Current Outdoor Recreation Paradigm

Outdoor recreation is generally viewed as outdoor activities that occur during discretionary time, conducted primarily for one’s intrinsic enjoyment (Driver and Tocher 1970). The role of the recreation resource manager is to provide opportunities to access high-quality settings and to manage visitor behavior and environmental impacts (Hammit and Cole 1998, Moore and Driver 2005). This management paradigm emerged as part of the resource production era of the 1960s and 1970s (Brown and Harris 1992, Collins and Brown 2007). It replaced the original paradigm of encouraging touring and recreational access and use of public lands, laissez-faire

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management practices, and little to no research. During this “custodial era” (1900–1950) of natural resource management in the United States, there was little active management, and lands were primarily set aside to protect them from highly exploitive uses such as poaching, overfishing, and destructive logging and grazing (fig. 1.1).

After World War II, recreational use of public lands grew exponentially. It was fueled by rapid economic growth and increased discretionary income and leisure time, the rise of the automobile and interstate highway system, new types of recreational equipment, urban and suburban population growth, standardized vacations, and other social dynamics (McLean et al. 2005, Rutkow 2012). Visitors sought outdoor areas to enjoy a variety of activities in natural settings. It came as a shock to land managers, who were accustomed to relatively few visitors who hunted, fished, and camped on public lands. Analysts called this the “recreation boom era.” Visits to federal lands rose from 10 million in 1945 to 90 million in 1960, a ninefold increase, while the nation’s population increased only 35 percent. Historian Eric Rutkow (2012: 293) referred to the recreation growth as “a horde of leisure-seeking locusts.” There was also a dramatic increase in public support and

Custodial Era

(1910s–1950s)

- Lands set aside to protect from destructive uses (e.g., logging, poaching)
- Traditional outdoor activities: hunting, fishing, trapping, camping, touring
- Encourage touring and visitation (Civilian Conservation Corps, Mission 66, Operation Outdoors)
- Laissez-faire management
- Strong rural connections

Active Resource Use and Management Era

(1960s–1990s)

- Active management and multiple uses
- Increase in visitation “recreation boom”
- Sustainable land/resource uses
- Diversifying activities: backpacking, camping, mountain biking, paddling, climbing
- Expanding urban and rural connections
- Managing visitors and settings

Emerging Era of People and Land Interactions

(2000s–present)

- Integrated resource management
- Environmental protection
- Collaboration and partnerships
- Diversifying connections: spiritual, social, heritage, harvest, cultural
- Engaging underserved communities
- Social-ecological systems

Figure 1.1—Key themes of resource management and outdoor recreation paradigms.

funding for recreation management as well as new laws to designate and protect areas for recreation such as the Wilderness Act, National Trails Act, and Wild and Scenic Rivers Act.

Although the number and interests of visitors increased dramatically, participants actually represented a very narrow slice of White, middle-class Americans whose recreational interests tended to focus on individual or small-group activities aimed at experiencing natural conditions and undeveloped, primitive landscapes. Agency goals that evolved as a result of the recreation “boom” focused on managing settings and visitor behavior and maintaining desired experiences, primarily focusing on traditional uses (e.g., fishing, hunting, camping) and emerging activities of the period (e.g., backpacking, river rafting, snowmobiling). Research supported by the agencies emphasized visitor use numbers, classifying types of recreation experiences, and managing for social acceptability and visitor satisfaction (Manning 2010). Applications of research led to management practices and tools addressing perceived threats of the recreation boom such as crowding perceptions, visitor conflicts, environmental impacts, visitor education, and changing visitor behavior (Cervený et al. 2011).

Most practitioners in management and research still view outdoor recreation through the cultural lens of the 1970s when the underlying assumptions about the “proper” relationship between people and nature were that (1) increasing visitation is an outdoor recreation **problem**, (2) a nature experience requires seeing few other people, (3) human use is an ecological disturbance factor, and (4) legitimate recreation experiences revolve around a narrow range of outdoor activities. These assumptions manifest a deeper, increasingly problematic outlook on the role of humans as separate and not integrated in natural landscapes, and reinforce stereotypical beliefs such as that popular recreation areas are ecological “sacrifice zones,” that increasing use levels results in “loving our lands to death,” that an appropriate number of people can be identified for many sites via crowding perceptions, and that it is impossible to meet the “dual mandate” to both encourage use **and** protect the environment.

Emerging Paradigm of Outdoor Recreation

Since the 1970s, there have been many social, cultural, and economic changes in the United States that influence leisure and outdoor preferences. Federal land visits tend to be shorter and closer to home, primarily to developed sites near major travel routes (White et al. 2016). Advances in digital technology, recreational equipment, and social media have influenced both recreation use patterns and research opportunities (Sachdeva 2019, Valenzuela 2019). Urbanization, ethnic diversity, and income disparities are all increasing in the United States, but this diversity is not reflected in public land visitation, which stubbornly remains predominantly White and middle

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class (Flores et al. 2018, Sanchez et al. 2019, Selin 2018). Many rural communities are declining, and others are converting from resource-dependent economies to service-, and recreation-, and tourism-based economies. American Indian traditional uses and co-management rights have been supported by courts throughout the nation. Environmental and recreation nonprofit organizations and outdoor industry partners are successfully collaborating with managers in all land management agencies.

Agency leaders, conservancy groups, and commercial recreation providers have acknowledged these cultural changes and identified initiatives to **increase** public access and visitor diversity, engage urban residents, work closely with tribes, and integrate management with local community and regional development (Collins and Brown 2007, Forestry Source 2018, Selin 2018). These initiatives are reflected in new agency goals for outdoor recreation such as the National Park Service's "A Call to Action" (USDI NPS 2013) and U.S. Forest Service's "Sustainable Recreation Framework" (USDA FS 2010), which include initiatives for "reconnecting Americans to the outdoors," taking "parks to the people," "all lands" approaches, and "shared stewardship." Virtually all federal and state land management agencies recognize the need to step up efforts to address social equity and environmental justice disparities, encourage citizen science, and use public lands to **proactively** address public health and well-being (Wolf et al. 2019). These initiatives, however, are based on an emerging set of underlying assumptions that are vastly different from those embedded in the previous five decades of research and management.

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The emerging paradigm of outdoor recreation recognizes that humans are part of natural systems and that connecting with natural settings provides a broad range of human values and benefits that are not otherwise available, affirming these values and benefits to be essential for human health and well-being (Williams 2017, Wilson 1993). As such, it is the responsibility of outdoor recreation professionals and agencies to increase public access and visitor diversity and expand the types of visitor experiences, opportunities, and benefits that people obtain from public lands, while simultaneously protecting the natural environment (Keough and Blahna 2006, USDA FS 2016). Thus, the paradigm shift that is occurring in outdoor recreation has both a societal/conceptual component and an agency/practice component, and both require integrating social and environmental factors.

The emerging paradigm recognizes a wider variety of human activities, connections, and subtle interactions with public lands than is traditionally recognized by outdoor recreation management and research (Blahna et al. 2020a). Sense of place, spiritual connections, historical and lifestyle traditions, existence values, and interactional relationships are not directly addressed in the current visitor opportunity-experience-satisfaction paradigm. The same is true for key **outcomes** of recreation

like rural community resilience, social equity, environmental justice, and human physical and mental health. The literature on these values is expanding dramatically but is not well integrated in current recreation management tools and practices.

Research is needed to help build bridges from the existing to the emerging paradigm. Some recreation planning tools developed in the 1970s and 1980s are outdated, rarely used, and have relatively little impact on agency decisionmaking (Cervený et al. 2011, Stankey 1999). Emerging goals can be met only by using interdisciplinary, integrative, systems thinking and analytic approaches to outdoor recreation planning and management (Blahna et al. 2020b, McCool and Kline 2020). Given declining agency budgets and staff levels, improving recreation capacity, planning methods, and management efficiency are also critical research and policy goals (Cervený et al. 2020, Selin et al. 2020). This effort goes beyond appropriated funding, however, and calls for placing greater emphasis on shared stewardship approaches like collaborative management, partnerships, and co-management with tribes and private conservancy organizations. Essentially, it is to evaluate concepts and practices of social-ecological systems and sustainability sciences and apply them to outdoor recreation management on public lands (Berkes et al. 2003, Sayer and Campbell 2004).

Challenges for Paradigm Shift

The biggest challenge to shifting the outdoor recreation paradigm will be individual and organizational resistance to major change (Brown and Harris 1992, Selin 2018, Selin et al. 2020, Wilson 1989). The tendency will be to tweak current practices a bit in an effort to address anomalies, without recognizing the fundamental nature of the changes needed in underlying assumptions and practices. In fact, land management agencies have been trying this approach for decades in efforts to increase the diversity of visitors to, and support for, public lands—but to no avail (Collins and Brown 2007, Flores et al. 2018, Sanchez et al. 2020). Currently, the most obvious barriers to expanding recreation’s role in public land management appear to be declining fiscal resources and agency capacity. But it is too simple and probably erroneous to say that added capacity is “the answer.” In fact, it could be argued that dedicating additional funding before explicitly identifying and evaluating new assumptions could actually perpetuate an outdated system.

Beliefs underlying previous paradigms are strongly held, and there is significant discomfort and resistance to organizational culture change (Margolis 1993, Wilson 1989). Shifting paradigms is difficult for many practitioners and scientists when they are deeply invested in the current paradigm and view the new thinking as a personal attack on their work, beliefs, and even material well-being (e.g., research

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grants, agency funding lines, power structures). It is easier to do things the way they have always been done. Organizational structures can act to reinforce and even reify current paradigms, even if existing assumptions and practices provide only modest insights and practical value (Wilson 1989). In both the fire and wildlife examples above, agencies were slow to adopt the shifting paradigm. Even today there is residual resistance to some policies and practices (e.g., “prescribed natural fire” and “management indicator species” in the Endangered Species Act), but existing differences are about details of policies and practices, not about the general paradigm of integrated systems. Organizational cultural change is essential for paradigm shift.

The reticence to change is understandable but unfortunate. Shifting paradigms does not mean that all previous scientific work or management practices are incorrect and need to be replaced. Rather, paradigm shift can spawn creative new research questions and innovative policies and planning and management tools and, essentially, reinvigorate fields of study and practice (Kuhn 1970, Margolis 1993). The logic of paradigm shift is most easily seen after the fact; a generation after paradigm shift, the new assumptions and paradigm become the standard, and the need to shift the previous paradigm painfully obvious.

Another challenge is that, at this point, we cannot describe details of the new paradigm explicitly. Saying that outdoor recreation is essential to human well-being, and that public land agencies have the responsibility to treat expanding access and use as a primary goal in policy, planning, and decisionmaking, is easy to understand in the abstract, but very complex in practice. Blyth (2013) has pointed out that paradigm shifts in the social and policy realms can be more difficult than in natural sciences because desired goals and outcomes upon which “truth” is based is a matter of contention among all people “allowed to participate in the discourse” (Walker 2015). As for the scientific basis of the shift, E.O. Wilson (1999) argued that the research methods and explanation for social science phenomena are more difficult and complex than for physical and biological phenomena. Addressing this challenge will require a more equitable balance between the social and natural sciences than currently exists in land management agencies and university environmental programs (Blahna and Kruger 2007, Jacobson and Duff 1998).

The final challenge for shifting the outdoor recreation paradigm is that paradigms are mental constructions and, like ecological phenomena, are part of a nested hierarchy of lower and higher levels of understanding. Wildlife ecology and fire ecology both emerged after Tansley’s refutation of Clement’s long-held paradigm of the role of individual species in plant community succession to one of system dynamics reflected in the new ecosystem paradigm in ecology (Keller and Golley

2000). The new recreation paradigm, with its greater emphasis on system dynamics and thinking (McCool and Kline 2020), is a similar shift, but in a more dominantly social system. But if ecology is to include humans as more than disturbance factors in ecosystems, that shift is not only logical, it is necessary. Furthermore, Clement's notion of competition and succession had roots in Platonic metaphysics. Does that mean we need to go back to ancient Greek and Eastern science philosophies to create paradigm shift? Of course not, but it does mean that we need to bound our niche in the broader social-ecological system and address the gathering storm of anomalies. Continuing the status quo would be a disservice to current and potential public land visitors everywhere.

Conclusions

Dated recreation planning tools, a downward trajectory for appropriated government funding, and shifting societal values and growing diversity all lend urgency to the need for new ways of thinking about our profession and new practices in recreation management. Outdoor recreation is still viewed as a secondary consideration in decisionmaking by federal land management agencies, with resource production and environmental protection values dominant (Selin 2017, 2018). Ironically, recreation access and use are the primary ways that Americans connect with public lands, and public lands could be viewed as an essential component of the nation's health infrastructure. We need to act now for three reasons: (1) natural systems will benefit from a better relationship with human society, (2) there is an immediate need for increased government support for recreation management and infrastructure, and (3) public lands require consistent and more public support if they are to continue to exist as a valued component of our well-being.

Why do we assert that these cultural shifts, agency initiatives, and visitation patterns require a paradigm shift? The anomalies and emerging agency initiatives are the **converse** of the assumptions underlying the current paradigm. Although solitude, remoteness, traditional uses, counting visitors, and reducing onsite conflicts will always be important parts of public lands recreation management, they are not and should not be the primary focus of the new and emerging goals of sustainable recreation. Recognizing different cultural beliefs and expectations regarding human-nature interactions, expanding understanding and measurement of the diversity of benefits of human-nature contacts, and creating an outdoor recreation ecosystem science will require significant changes for both recreation research and agency management, not unlike the scientific revolutions in fire and wildlife ecology in the 20th century. The chapters in this report suggest some pathways forward for public land management agencies.

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