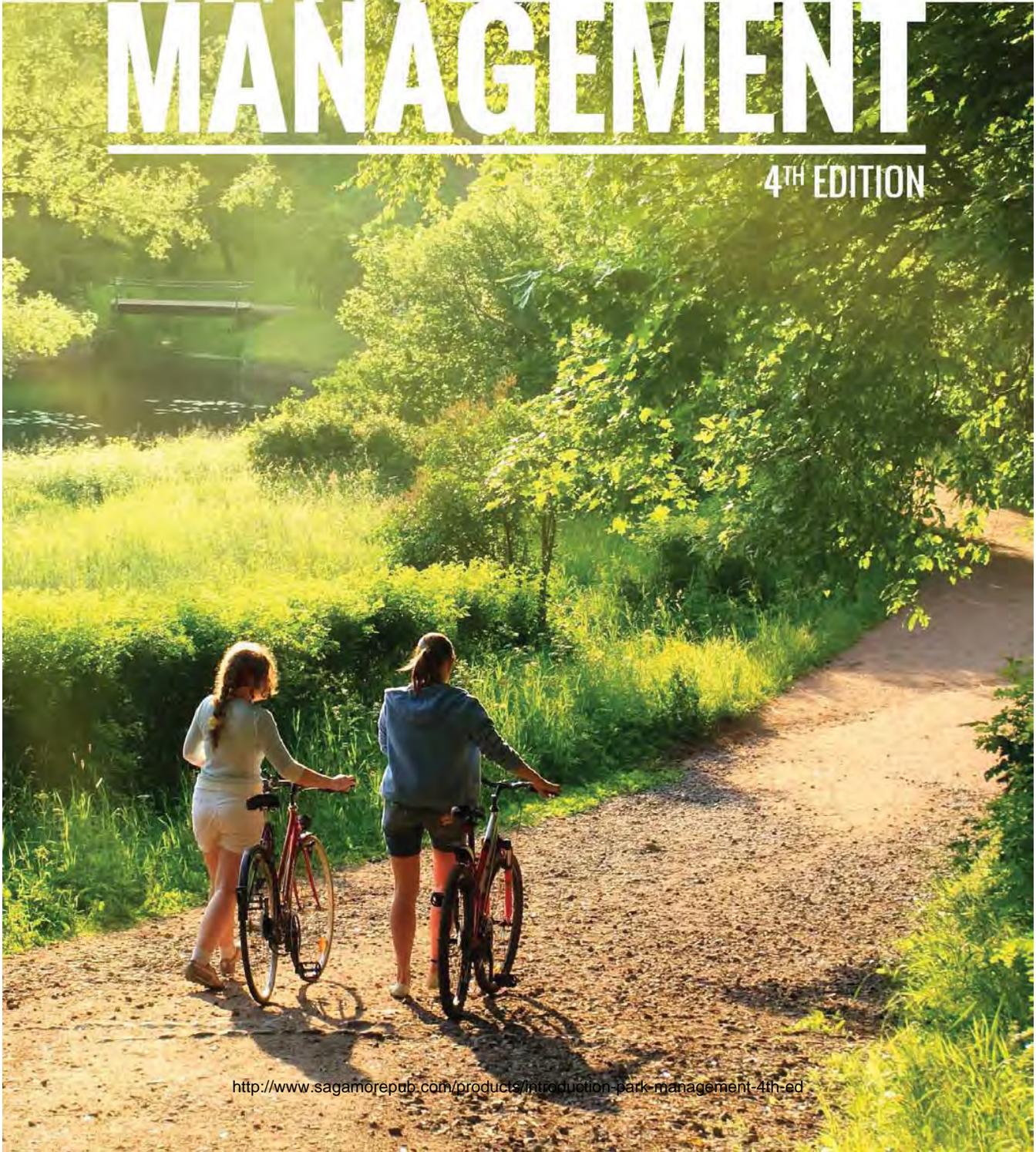


Samuel V. Lankford · Jill K. Lankford · Daniel A. Wheeler

An Introduction to

PARK MANAGEMENT

4TH EDITION



An Introduction to PARK MANAGEMENT

Fourth Edition

**Samuel V. Lankford
Jill K. Lankford
Daniel A. Wheeler**

SAGAMORE  VENTURE

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*We dedicate this book to all the park and recreation professionals
who strive to make our communities better places in which to live.*

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Sam and Jill Lankford

Thanks to my co-authors for this opportunity, and thanks to the people who have been my leaders and mentors for their enthusiasm and concern for wise use of our natural and scenic resources. I owe my enthusiasm to them.

Dan Wheeler

Preface

The fourth edition of *An Introduction to Park Management* is intended for university students who may have an interest in becoming employed in the parks profession. The book explores the responsibilities of staff and the problems and challenges associated with managing parks in the 21st century. Particular attention is paid to the structure of park organizations, planning, decision making, and politics that ultimately influence the way parks are managed.

Part I provides an overview of parks and park management. Historical aspects of the development of parks are reviewed and detailed. Part II specifically addresses the multitude of park administrative functions, such as organizational structures, park policies, laws and risk management, funding, personnel, and concludes with maintenance and safety concerns. Part III provides information on resource planning and management of the resources through citizen involvement, planning, facilities, and environmental management issues. Part IV is an overview of visitor use issues and protection of parks. Topics include visitor conflicts, vandalism, law enforcement, fire management, interpretation, and visitor management services. Finally, Part V provides a broad overview and examples of sustainable practices in park management, including tools such as ROS, LAC, and VERP and possible solutions to the numerous challenges that park managers must address. It is our belief that sustainable management practices and planning practices designed with environmental management and visitor management are the keys to successful park operations.

Similar to the 3rd edition, the 4th edition utilizes where applicable the practical and sage advice of Grant W. Sharpe, Charles H. Odegaard, and Wenonah Finch Sharpe in the earlier editions of this book. We have retained the essence of the material, and the broad topics that those authors provided as a framework for park management. Readers will note that some references are older. We retained references that have historical significance and have been overlooked in the current literature, which are included at the end of each chapter under "General References." Some of these ideas are currently accepted as common knowledge; however, we all can benefit from understanding the origin of ideas that have influenced park management.

Samuel V. Lankford
Jill K. Lankford
Daniel A. Wheeler

About the Authors

Samuel V. Lankford is professor and chair, Department of Recreation Administration at Fresno State. Formerly he served as professor, graduate coordinator, and doctoral intensive study area coordinator, and director of the Sustainable Tourism and the Environment Program at the University of Northern Iowa. He also taught at the University of Hawaii in the School of Travel Industry Management, and was the Coordinator of the Recreation and Leisure Science degree program from 1990-2001. He has conducted training workshops in the U.S., Canada, The Netherlands, Japan, and Vietnam. He has a PhD with a focus in community tourism and recreation planning and development, and a master of Urban and Regional Planning degree from the University of Oregon. He holds a master of arts in recreation and park planning and a BA in geography/community and regional planning from CSU-Chico. Dr. Lankford has been a practicing planner in both staff and consulting roles in California, Oregon, Washington, Iowa, Hawaii, and Canada. He has conducted park and recreation masterplanning projects, needs assessments, community impact studies, carrying capacity studies, and market research in those states and other countries. He specializes in tourism, park and recreation development.

Jill K. Lankford has worked with communities in their park and recreation planning and design efforts with a particular focus on community character and development. She has a BA and MA in landscape architecture and a masters of urban and regional planning (MURP) from the University of Oregon. Jill has a BA in recreation administration from CSU Chico. She has held staff and leadership positions in parks and recreation. She was the coordinator of the Sustainable Tourism and Environment Program at the University of Hawaii and the University of Northern Iowa, where she completed community development projects with students for community and regional agencies and organizations. She has considerable experience in park and recreation master planning, open space planning, and trail planning. Jill continues her work in Fresno, focusing on community park and recreation planning and water-wise design. Presently, she is the coordinator of the Sustainable Park and Recreation Community Initiative (SPARCI) at Fresno State.

Daniel A. Wheeler holds a doctorate in leisure studies and services. He has worked in the field in many positions, teaching swimming, canoeing, backpacking, and survival skills in activities courses and as camp director and river guide in Idaho and Utah, with excursions to Korea. He has taught in theory and philosophy recreation courses and recreation marketing in several universities. His main emphasis has been management of recreation delivery systems and the recreation experience. Presently retired, he is beginning a recreation business on an island in the Pacific Northwest.

PART I INTRODUCTION

1

An Overview of Park Management

“The nation behaves well if it treats its natural resources as assets which it must turn over to the next generation increased, and not impaired, in value.”

—Theodore Roosevelt

Learning Objectives

After studying this chapter, the reader will be able to do the following:

- Understand the role of the park lands in terms of sustainability
- Identify the range of ecosystem functions and services that park lands can support if managed appropriately
- Identify the range of areas considered as parks and who manages these areas
- Understand the origins of park management

The demand on outdoor recreation areas of every kind has been increasing faster than the supply of lands and facilities can accommodate. Budgets are perennially inadequate, and recreation land acquisition probably could not feasibly support all user demands or perceived “needs.” As ecosystems within park lands deteriorate and visitor numbers and the types of uses they demand multiply, a fundamental shift in our approach to managing park lands is occurring. This shift requires moving from a perspective of serving diverse demands to one of “tending” a productive landscape within a regional context. How do we define and measure a productive landscape? How do we interpret and understand the regional context?

The last 50 years have provided a foundation for a shift in the interface between parks and society. This shift requires changes in park policy and management practices that recognize principles of sustainability and the benefits of ecosystem functions and services. Looking through this lens assists in defining “productive” landscapes

to recognize present and future generations. This perspective, which includes future generations, those without voice, is a fundamental tenet of sustainability. Ecosystem functions are needed to purify air and water and provide the service of clean water and air. They are needed to detoxify and decompose wastes or moderate weather extremes for us and other life forms with which we share the planet and for future generations. This provides a platform to expand park policy to address more than the immediate needs or desires of a population that currently invests in the resource.

Inherent in many park lands is a suite of ecosystem functions and services that provide long-term benefits to society. This suite of services is often referred to as natural capital, capital to which it is difficult to ascribe economic value and is typically undervalued. Ecosystem functions and services can be specific to a region and also contribute to global sustainability. The difficulty in ascribing a particular value is inherent in the difficulty in segregating functions and services. It is often the relationships between resources that provide service. The Millennium Ecosystem Assessment (2005 p. 155), a four-year United Nations assessment of the condition and trends of the world's ecosystems, categorizes ecosystem services as the following:

- **Provisioning services**, or the provision of food, fresh water, fuel, fiber, and other goods
- **Regulating services**, such as climate, water, and disease regulation as well as pollination
- **Supporting services**, such as soil formation and nutrient cycling
- **Cultural services** such as educational, aesthetic, and cultural heritage values as well as recreation and tourism (USDA, n.d.).

Our public landscape sits within a regional context with physical, social, cultural, and economic dimensions. A regional approach to landscape management is based on a genuine understanding of regional connections. Our public lands are not “island ecosystems,” regardless the scale of the area. They are surrounded by a variety of land uses, such as agriculture or urbanized areas, which invariably influence the ecology of the park. Park managers must use an array of strategies to successfully steward the resources of a park and these strategies must reflect regional influences.

Ecotrust, a nonprofit organization working with individuals, organizations, businesses, agencies, and tribes within the bioregion of the Pacific Northwest has created a model of “Reliable Prosperity,” a term coined by the late Jane Jacobs. Reliable prosperity recognizes that equity, ecology, and economics are all important dimensions to prosperity. The model in Figure 1.1 illustrates the components of each dimension and provides a framework within which to define and measure a productive landscape. Ecotrust's mission is to inspire fresh thinking that creates economic opportunity, social equity, and environmental well-being.

Public lands are an important piece in a regional approach to metropolitan design. Phil Lewis, a landscape architect and director of the Marshall Erdmand Academy of Sustainable Design in Madison, exemplifies this approach with the “Circle City” concept surrounding the Driftless Area, the majority of which is located in southwestern Wisconsin. The “Circle City” concept grew out of an analysis of the urban development

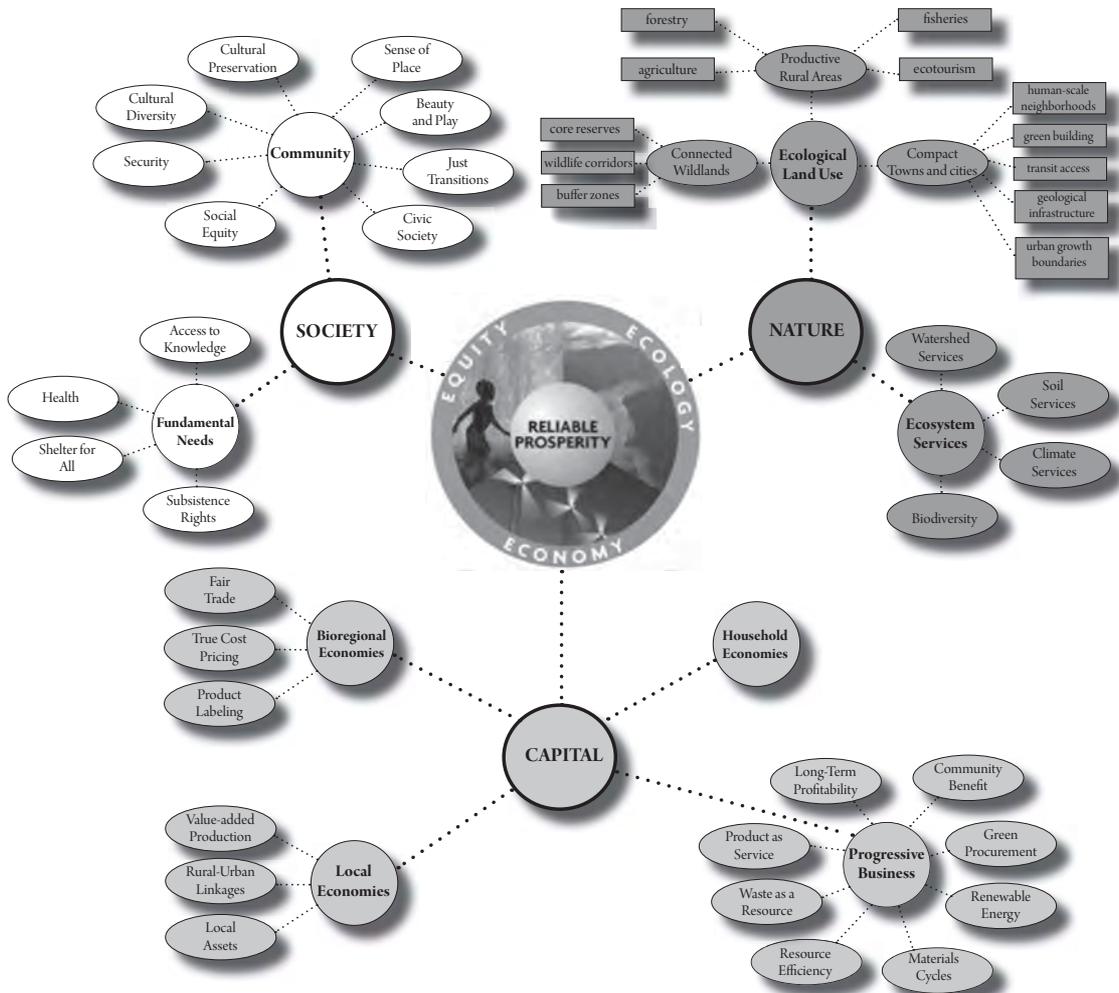


Figure 1.1. Model of Reliable Prosperity. (www.reliableprosperity.net, Reprinted with permission from Ecotrust)

pattern in the upper Midwest region in relation to the geology of the region. The urban centers of Chicago; Milwaukee and Madison; Minneapolis and St. Paul; and Mason City, Cedar Rapids, Davenport in Iowa, create an urbanized ring around the Driftless Area, the only pre-glacial landscape in the upper Midwest. Lewis describes how this landscape form, which the glaciers moved around, can serve as a “central park” to a metropolitan ring.

This regional approach is occurring at many scales from the municipal watershed park planning efforts of Woodlands Texas to the efforts of the Peace Park Foundation working toward a network of protected areas that link ecosystems across international borders. There are 32 Peace Parks established on the African continent in an effort to support centuries-old migration routes that support diverse and healthy populations of large mammals—elephants, lions, giraffes, rhinoceros, and the multitude of large game with whom the African people share the continent.

Regional landscape management is not a modern invention. Indigenous people have practiced resource management or actually tended the landscape for millennia. Their practices encouraged productivity of the materials needed to support their

lives. Management practices, including burning, pruning and coppicing, sowing, transplanting, tilling, weeding, and selective harvesting created highly productive landscapes in California. As Kat Anderson (2005) notes in *Tending the Wild*, this abundance was hard earned; a product of careful observation, experimentation, and a long-term relationship with the plants and animals of a region. This knowledge, relationship, and resulting abundance was not unique to California but was similarly expressed in many landscapes throughout the world.

Park managers must understand the resources being managed and be able to answer fundamental questions about that resource. What is the ecological value of the park within the regional landscape? What is the historic and cultural value of the park within the current social context? What role does the park play to the local economy? Addressing these questions enables managers to address issues of sustainability and formulate policy, partnerships, education and interpretive programs, volunteer programs, and maintenance practices that work toward a coordinated effort to effectively steward park resources. This chapter provides a brief background of the historical context through which parks developed and the development of park management as a discipline.

What is a Park?

Each person carries his or her own image of what the word park means based on personal experience. The word *park* eludes precise definition because it has so many uses. Historically, a park has meant such diverse things as a place to bathe, a hunting preserve, a formal garden, places decorated with statuary, a tournament field, an estate of the nobility, an exhibition site for theaters and other entertainment, a common space for tethering livestock prior to bartering, and, in some countries, a place for exercising, walking, and nature viewing. Today we even hear the word used in connection with nonrecreational uses. A cluster of industrial buildings may be called an industrial park, or a cemetery may be referred to as a mortuary park. Park, in the context of this book, is a generic term we used for all recreational lands.

Parks come in all shapes and sizes and have a variety of names. What is known as a park in one location may be known as a recreation area in another. Other names include the more formal designations of parkways, greenways, monuments, and historic sites. There are also designations for parks indicating the governmental level administering the area, such as neighborhood and community parks, metropolitan parks, county parks, regional parks, state and provincial parks, interstate parks, national-capital parks, national parks, and international parks. Sometimes names of parks indicate their predominant purpose, feature, or activity, such as wildlife parks, motorcycle parks, tree farm parks, boat parks, ball parks, and museum parks.

Parks commonly accommodate a range of outdoor recreation activities from organized sports to bird watching. Often, recreation professionals categorize parks based on the types of activities supported. Categorizing parks by use narrows the management focus but also minimizes a more holistic approach to park management. Two common categories used to describe recreation areas are activity-oriented structured recreation, or resource-oriented non-structured recreation. However, one does not necessarily preclude the other. The inclusion of activities in a park is largely a function of size or acreage, proximity to an urban population, and the size of that population. Historical,

cultural, and natural features or conditions also determine the way in which a park is developed. The Blueberry Park master plan (Figure 1.2) illustrates a range of activity-oriented facilities such as the play area with equipment and play fields, while retaining historic features such as the blueberry patch and restoring natural features such as the wetland area. This park also illustrates a number of low-impact development features such as the porous paving for parking drained to rain gardens to address storm water run-off.

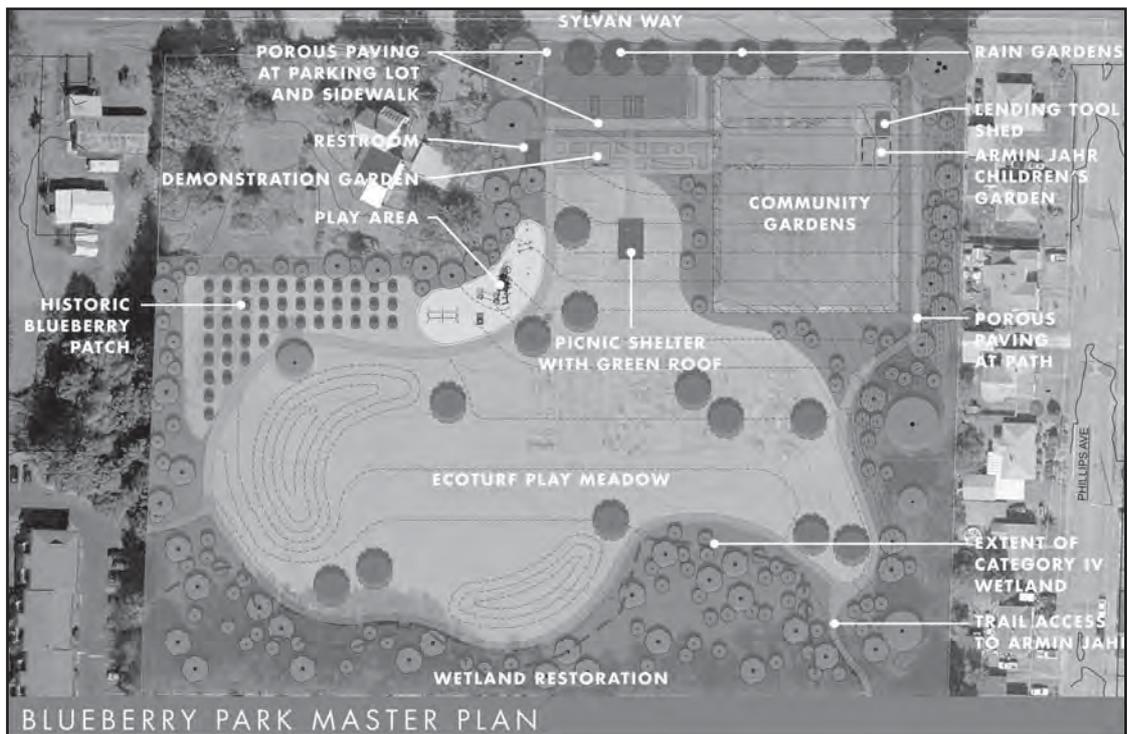


Figure 1.2. Blueberry Park Master Plan From City of Bremerton Parks and Recreation Department Blueberry Park Masterplan, 2008. Reprinted with permission.

Activity-oriented, structured recreation relies on specialized facilities that are typically located in urban or suburban parks such as playfields, courts, or swimming pools. These facilities support a mix of indoor and outdoor recreation activities, including various sports, games, arts, and crafts. They generally require the supervisory or instructional services of park personnel. Even when they do not, there is an organized formal structure imposed by the facility and specific rules that characterize this kind of recreation; tennis and horseshoes are two examples. Some spectator sports, such as baseball and soccer at the amateur level, may also be accommodated in these park areas. In 1987, the President's Commission on Americans Outdoors inventoried municipal and regional parks. There were approximately 67,700 local or municipal parks containing 3,000,000 acres, 17,000 county parks containing over 5,000,000 acres, and 2,780 regional parks containing 500,000 acres in the United States primarily oriented toward urban recreation (President's Commission on Americans Outdoors, 1987).

Resource-oriented nonstructured recreation typically relies on a particular natural resource or a combination of natural resources that may include lakes, rivers, seashores, meadows, deserts, forests, hills, and mountains. These land or water resources shape the type of activities pursued, and park personnel function primarily as safety conscious hosts and guardians of the resources. The term *outdoor recreation* is commonly used to describe this category also. In contrast to the urban or suburban location of game- or activity-oriented recreation, this sort of recreation is most often found at some distance from population concentrations. However, some cities have either historically been endowed or recently acquired large tracts of relatively unmodified areas. These areas are often structured by landscape features such as rivers or streams, ridgelines, buttes, or dunes. Bidwell Park, a 3,618-acre municipal park in Chico, California, was given to the city by the founding family in 1905 and includes natural features such as creeks and ridgelines. Bidwell Park supports both structured and nonstructured recreational activities in addition to a range of ecosystem services.

This text addresses resource-oriented outdoor recreation management. The lands that support these pursuits are usually managed by some government agency—metropolitan, county, provincial, state, or federal. The areas dealt with here may be known as beaches, reserves, scenic areas, forests, refuges, natural areas, parks, cultural sites, or recreation areas. Initially, when the first tracts of land were designated for public use and enjoyment, no governmental organization existed to support the management and maintenance of these areas. This organization developed over time dependent on the qualities of the resource to be preserved or conserved.

Federal Land Management Agencies in the U.S.

Many agencies organized under the federal government have the responsibility for managing and maintain public lands and resources. The following outlines the roles and responsibilities of the federal land management agencies in the U.S.

- **The Mission of the Bureau of Land Management** is to sustain the health, diversity, and productivity of the Nation's public lands for the use and enjoyment of present and future generations.
- **The Mission of the Fish and Wildlife Service** is to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people.
- **The Mission of the National Park Service** is to preserve, unimpaired, the natural and cultural resources and values of the national park system for the enjoyment, education and inspiration of this and future generations. The NPS cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.
- **The Mission of the Forest Service** is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.

The following three conservation objectives, stemming from the Department of Interior's Strategic Plan (FY 2003–2008), outline the mission responsibilities and

ultimate conservation objectives of the various agencies (USFS, BLM, FWS, NPS). These conservation objectives are as follows (DOI-USDA, 2005):

1. **Resource protection.** Protect the Nation’s natural, cultural, and heritage resources;
2. **Recreation.** Provide recreation opportunities for America; and
3. **Serving communities.** Safeguard lives, property and assets, advance scientific knowledge, and improve the quality of life for communities served.

The federal government “owns” 635–640 million acres, which represent 28% of the land in the US. Four agencies administer 609 million acres, or approximately 95% of all federal lands in the U.S. These agencies include the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), the U.S. Fish and Wildlife Service (FWS), and the National Park Service (NPS). Table 1.1 displays the total acres administered by five federal agencies in the U.S.

Table 1.1

Area Administered by United States Federal Agencies in Acres

Agency	BLM	USFS	NPS	FWS	DOD
U.S. Total	247,859,076	192,880,840	79,691,484	88,948,699	19,421,540
Territories	0	28,581	14,869	25,116	93,401
Marine Areas	0	0	0	211,223,490	0
Agency Total	247,859,076	192,909,421	79,706,353	300,197,306	19,514,941

The majority of land managed by the federal government is located in 12 western states. In Alaska, 62% is managed by the federal government. In the remaining western states, 47% is managed by the federal government, compared to 4% in the remaining states (Congressional Research Service, 2014). The U.S. Congress addresses many federal land management issues including whether to increase, decrease, or maintain current holdings and what management practices are appropriate for the resources being managed. The missions of each land management agency share commonalities, but their focus varies according to the specific agency.

The Bureau of Land Management (BLM) manages about one-eighth of the total land in the United States, the largest area (247.3 million acres) managed by one federal agency (Congressional Research Service, 2014). The BLM was formed in 1946 with the consolidation of two agencies, one of which focused on grazing and the other on land “disposal.” Due to this historical background, the BLM generally focuses on grazing land. The Federal Land Policy and Management Act of 1976 (Public Law 94-579), recognized the value of the public lands by declaring that these lands would generally remain in long-term public ownership and recognized the importance of the multiple-use management of these public lands. The BLM also manages 700 million acres of federal surface ownerships and privately owned surface for minerals and mining located in

special management units. During fiscal year (FY) 2012, the BLM's management of public lands contributed more than \$126 billion to the national economy and supported more than 635,000 jobs through extractive uses and nonextractive (primarily recreational) uses of public lands. There were nearly 58 million visits to BLM-managed lands and water in FY 2012. Visitors to BLM-managed areas are significant to the economies of local communities and contributed more than \$7 billion to the national economy (U.S. Department of Interior, 2014).

Table 1.2 shows the type, number, and size of areas managed by the Bureau of Land Management (2015), and demonstrates the diversity of the BLM responsibilities and the need for a multi-use mandate as provided in The Federal Land Policy and Management Act of 1976.

Table 1.2

Type, Number, and Size of Area Managed by BLM

BLM Special Management Area	No. of Units	Area / Distance
National Monuments	19	5,089,863 acres
National Conservation Areas	16	3,671,572 acres
Wilderness Areas	221	8,710,657 acres
Wilderness Study Areas	530	12,766,472 acres
National Wild & Scenic Rivers	69	1,001,303 acres
ACEC Areas	907	12,939,368 acres
National Natural Landmarks	45	417,429 acres
Research Natural Areas	184	426,566 acres
Herd Management Areas	206	29,649,100 acres
National Historic Trails	13	5,078 miles
National Scenic Trails	5	683 miles
National Recreation Trails	29	441 miles
National Backcountry Byways	56	3,028 miles

The U.S. Forest Service (USFS) manages nearly 193 million acres of land. The purposes of the National Forests have been set out in various Acts of Congress, beginning with the Organic Act of 1898 (P.L. 84-979), which established four basic purposes of Forest Reserves (now called National Forests) to do the following:

1. Improve and protect the forests
2. Secure favorable conditions of water flows
3. Furnish a continuous supply of timber
4. Open the forest reserves for development and use

Other legislation broadened the mission of the Forest Service by providing for the following:

- Acquisition of lands needed for the regulation of water flow of navigable streams or for the production of timber
- Establishment and administration for outdoor recreation, range, timber, watershed, and wildlife and fish purposes
- Multiple uses in the combination that will best meet the needs of the American people
- Control of soil erosion, reforestation, preservation of natural resources, protection of fish and wildlife, development and protection of recreation facilities, mitigation of floods, prevention of impairment to dams and reservoirs, development of energy resources, conservation of surface and subsurface moisture, protection of the watersheds of navigable streams, and protection of the public lands health, safety, and welfare
- Acquisition of lands as Research and Experimental Areas for the purpose of conducting research relating to the protection, management, utilization, and conservation of renewable resources on forests and rangelands
- Designation of special areas such as wilderness, wild and scenic rivers, recreation areas, trails, and scenic areas

Table 1.3 displays the type and number of systems or areas managed by the U.S. Forest Service with the number of acres in each category (DOI-USDA, 2005).

Table 1.3

Type, Number, and Size of Area Managed by NFS

National Forest System	No. of Units	Area (acres)	Acres not administered by NFS within boundaries (inholdings)
National forest	155	188,240,056	37,352,594
Purchase units	59	388,312	1,903,356
National grasslands	20	3,837,470	626,887
Land utilization project	5	847	0
Research and experimental areas	19	64,727	8,282
Other areas	37	300,182	63,216
National preserves	1	89,716	0
Total	296	192,921,310	39,954,335

The U.S. Fish and Wildlife Service (FWS) manages migratory bird populations, restores interjurisdictional fisheries, conserves and restores wildlife habitat, administers the Endangered Species Act (P.L. 93–205), and assists foreign governments with their conservation efforts. Its lands provide essential habitat for numerous wildlife species,

recreational opportunities for the public, and a variety of benefits to local communities. FWS manages over 150.3 million acres of land and water and interests in land and water. In addition the FWS manages over 418.3 million acres of submerged lands and waters outside refuge boundaries (USFWS, 2014). In 2012, 47 million visits were made to FWS managed areas. A survey by the FWS identified spending by outdoor sportspersons on public and private lands across the U.S. Expenditures by 90 million hunters, anglers and wildlife recreationists equaled \$145 billion in 2011 (USFWS, 2012).

The National Park Service (NPS) manages land in accordance with the individual unit's mission and goals, and provides visitor access where appropriate for education and recreation purposes. Over the past 10 years, 25 new units have been established by Congress. These range from the Flight 93 National Memorial to the Cedar Creek and Belle Grove National Historical Park.

The National Park Service manages over 192 million acres of lands, which is an increase of 16 million acres since 1987 (President's Commission on Americans Outdoors, 1987). However, there are a number of ways in which these acres are considered. The DOI-USDA (2005) report to congress on acquisition, reports 192 million acres. The *2000-2010 National Park Service Statistical Abstracts* (2009) report 79,706,435 million acres under direct management. When adding the non-federal lands to the management system (restrictions, deeds, leases etc.) we see a figure of 84,378,872 million acres under NPS management. Table 1.4 displays the type, number, and size of area managed by the National Park Service.

Table 1.4

Type, Number, and Size of Area Managed by NPS

NPS Land Classification	Number	Acres
National Battlefield	24	71,502.49
National Battlefield Park, National Military Park, and National Battlefield Site		
National Historical Park	123	211,260.60
National Historic Site, and International Historic Site		
National Lakeshore	4	228,995.14
National Memorial	27	10,588.45
National Monument	74	2,027,864.58
National Park	58	52,095,045.71
National Parkway	4	177,339.69
National Preserve and Reserve	20	24,191,311.63
National Recreation Area	18	3,700,277.20
National River and National Wild and Scenic River and Riverways	15	746,262.99
National Scenic Trail	3	239,659.27
National Seashore	10	595,013.55
Other Designations (National Mall And others)	11	36,826.96
Totals	391	44,331,948.26

The National Park Service had 285,579,941 million visits in 2009 (National Park Service, 2010) to all of the 17 sites managed by the Park Service. National parks alone accounted for over 62 million of these visitations, which is 22% of the total. National Recreation Areas accounted for 18% of the total visits at over 50 million visits. National Memorials received 11% of the visits (over 30 million visits), followed by National Historical Sites with 10% (over 28 million visits) of the visits. Figure 1.3 presents the number of visits by unit administered (National Park Service, 2009).

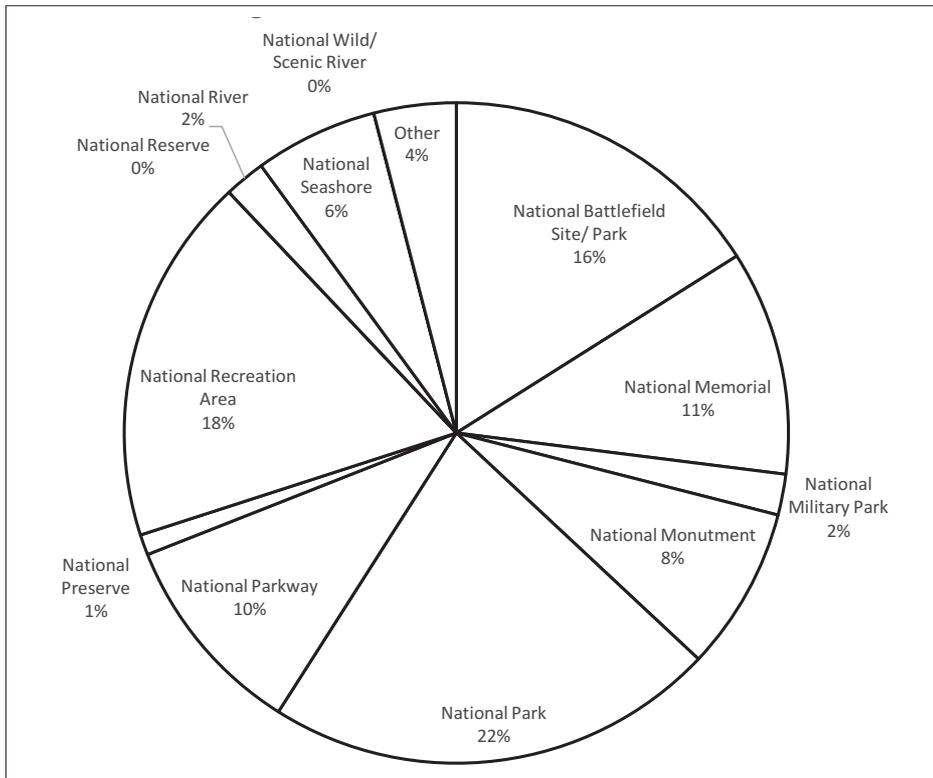


Figure 1.3. Percent Visits to NPS Unit

America’s State Parks

America’s state parks were acquired for many of the same reasons as the nation’s national parks, including resource protection, preservation of scenic qualities, or recognition of cultural or historic values. The development of the state park system paralleled the development of the national park system. Each system was shaped by the history, political, and economic climate of the time, influential people and the types of within the national/state landscape.

The desire to protect or set aside important areas preceded the organization to do so. Like the federal government, state governments were not organized to support the management and maintenance of the state’s natural, cultural, and historic resources. Setting aside the Mariposa Tract in the Yosemite Valley exposed this lack of organization. The tract was first placed within state jurisdiction (1864) and later transferred to federal jurisdiction (1905). Yosemite was noted for its exceptional scenic qualities. The

foundation for Georgia's Indian Springs State Park was based on the use and value placed on the spring water of the area. Landrum (2004) notes that the area was ceded to the State of Georgia in 1825 under treaty, with Creek Chief William McIntosh. Although the understanding behind the treaty may be in question, the conception of preserving the area for public use began prior to 1825 and was officially dedicated a state park a century later in 1925. Niagra Falls is the first official state park and was designated a park in 1885. Colorado was the last state to designate an area as a state park and set aside Cherry Creek in 1959.

Currently all 50 states maintain a state park system complementing the federal lands systems. State parks are areas managed by state government. The equivalent term in Canada is provincial parks. Generally state or provincial parks are smaller than national parks and located closer to population centers. Proximity to population centers and the number of established park areas explains why state parks in the U.S. receive over 725 million visits annually. According to the National Association of State Park Directors (2015), there are a total of 7,804 state park units generating more than \$20 billion in economic impact to surrounding communities.

As federal land areas have many designations, state park agencies also have a range of designated areas including parks, recreation areas, natural areas, historical areas, environmental education areas, scientific areas, forests, fish and wildlife areas and other miscellaneous areas. According to a survey of state park directors, there are 8,465 areas managed and maintained by state park agencies representing more than 15 million acres in the U.S. (Leung, Smith, Miller, & Serenari, 2014). State or provincial park systems also include long distance trails with a reported 38,383 miles in the U.S. under state management.

State parks are affiliated with different types of agencies within the state government whose focus may range from natural resource conservation, habitat protection, or environmental protection to tourism and economic development. This organization is the result of factors which may be related to historical events, political trends or inter-governmental relationships. There is no uniform organization across the U.S.

Most importantly, state parks are located to protect and provide access to state natural resource areas and provide a variety of recreation opportunities accessible to urban population centers. The range of recreation opportunities provided in state park lands also varies according to state resources and local culture and may include picnicking, hiking, biking, camping, swimming, fishing, and boating. In addition more developed facilities include overnight lodges/resorts, golf courses, and interpretive centers. There are 13.7 million acres in the state park system (National Association of State Park Directors, 2010). Table 1.5 outlines statistics for state parks throughout the U.S. (America's State Parks, <http://www.stateparks.org/>).

Table 1.5*Facts About America's State Parks*

Total Park Visits	727 million per year
Number of state park units	7,804
Total economic impact on communities	More than \$20 billion
Percent of visitors with children	64%
Miles of trails	38,383
Number of campsites	221,101
Number of cabins and lodges	8,095

To summarize, the term *park* may be interpreted many different ways. In the context of this book, parks are tracts of tax-supported land and water established primarily for the benefit and enjoyment of the public and maintained for the integrity of its natural systems to the benefit of future generations. All lands used for outdoor recreation, whether they are classified as forest, refuge, or in some other way, will be termed parks.

The use of the word *park* can also be a policy matter. The Forest Service, in the U.S. Department of Agriculture, administers almost 193 million acres of land and annually provides over 170 million visitors with recreational opportunities, but it does not use the word *park*. It uses terms such as *forest campgrounds* and *natural areas*, but these areas could be classified as parks, and indeed this is what they are frequently called by visitors.

Visitors and *users* are the terms we will use for the people who come to parks, those who own them, who love them, and who, if not carefully directed, might well destroy them. Throughout this book, the term *manager* represents the person in charge of the park, thus making it synonymous with superintendent, supervisor, chief, director, ranger, warden, and park attendant.

Parks, especially national parks, may have begun as an effort to prevent private exploitation, as a way of showing our European critics that we in North America had a sense of national identity, or as a lure for tourists. But the rationale behind the creation and maintenance of parks represents more than the sum of these. Parks, especially if the entire spectrum of resource-oriented park lands is considered, have become the focus of even more complicated desires and emotions; however, these are difficult to define with any degree of precision. Again, each person has his or her own perception of a park. Some might say, "Parks are places to play." Others might say, "Parks are everybody's inheritance of intact ecosystems," or "They're a place to get away, a refuge." Playgrounds, historical repositories, sanctuaries, the evolving park idea encompasses and exceeds all of these definitions.

Of course, the definition also depends on the size and location of the park. Local picnicking grounds evoke a different response than do Yellowstone and Banff. On the other hand, if a family lives near a national park, they regard it as a "local park" no matter

if it is a place frequented by national and international visitors. Park access, whether local or international, and the uses introduced through that access, will influence park management.

What is Park Management?

Management of a resource-oriented park means, among other things, providing safe access for visitors while protecting the resource. In some parks or areas of parks, access is intentionally denied to limit disturbance. Often, areas of parks are intensively developed to concentrate visitor use to a specific area with a higher capacity for use. Some visitors will occasionally want to use parks in a way that depreciates values, while others will sometimes urge protection to a degree that preempts legitimate use. Policies on use and protection may be formulated at agency headquarters, but the manager is on site and must interpret and enforce the policies to the current investors in the park—the taxpaying public. Just as each person carries a unique perception of a park, each individual also holds a unique perception of how a park should be managed. Accordingly, assumptions regarding appropriate use and appropriate management often lead to problems for park managers. Some of these assumptions are based on “historic” use. Historic use might represent 30 years or it might represent 3,000 years. Invariably there are differences between time frames.

Origins of Park Management—The Yosemite Grant

Preserving large tracts of land from private exploitation and recognizing the scenic and recreation value for public benefit provides the foundation for national and state parks in North America. This foundation is 150 years old if we equate its genesis with the establishment of the Yosemite Grant in California in 1864. This grant included two separate areas in the Sierra Nevada Mountain Range: Yosemite Valley with its spectacular granite walls and waterfalls, and the nearby Mariposa Grove of Big Trees. The grant contained the first extensive area of “wild” land to be set aside primarily for the nonutilitarian purpose of public recreation and enjoyment of scenery. This land was considered worthless with only three percent of the tract that could be “cultivated.” Although the land initially was in federal ownership, the federal government had no policy on outdoor recreation matters, so protection of the land was transferred to the state of California. This land thus became the first state park in the United States.

... the said State shall accept this grant upon the express conditions that the premises shall be held for public use, resort, and recreation; shall be inalienable for all time.

Frederick Law Olmsted, who was working at the time near Yosemite Valley, chaired the board of commissioners of the Yosemite Grant. The board asked Olmsted to prepare a report defining the policy that should govern management of the grant and make recommendations for its implementation. This report would be distributed to the California legislature. Olmsted, who had previously collaborated with Calvert

Vaux on the design of Central Park, extended the principles applied to Central Park to the designation and management of Yosemite. These principles addressed access, that all classes should be afforded the opportunity to enjoy the scenic beauty of the area in perpetuity. “The establishment by government of great public grounds for the free enjoyment of the people under certain circumstances, is thus justified and enforced as a political duty” (Olmsted, 1952, p. 21). Above all, Olmsted underscored the “preservation and maintenance as exactly as is possible of the natural scenery” as the most important asset available to the public. He forewarned of the impacts of visitor use over time.

What many did not realize was that this “natural scenery,” imagined as a great wilderness, was largely a tended landscape that had been managed for productive harvests for hundreds of years. Galen Clark, also a member of the board of commissioners for the Yosemite Grant, was appointed the first “guardian” of the grant. He recognized how management practices of the native tribes shaped the landscape and influenced productivity and the scenery. Ten years after his tenure as guardian, Clark wrote to the commissioners of Yosemite Valley (Anderson, 2005):

My first visit to Yosemite was in the summer of 1855. At that time, there was no undergrowth of young trees to obstruct clear, open views in any part of the Valley from one side of the Merced River across to the base of the opposite wall. The area of clear, open meadow ground, with abundance of luxuriant native grasses and flowering plants was at least four times as large as at the present time. The Valley had then been exclusively under the care and management of the Indians, probably for many centuries. Their policy of management for their own protection and self-interests, as told by some of the survivors who were boys when the Valley was first visited by whites in 1851, was to annually start fires in the dry season of the year and let them spread over the whole valley to kill young trees just sprouted and keep the forest groves open and clear of all underbrush, also as to have no obscure thickets for a hiding place, or an ambush for any invading hostile foes, and to have clear grounds for hunting and gathering acorns. When the fires did not thoroughly burn over the moist meadows, all the young willows and cottonwoods were pulled up by hand. ... Since Yosemite has been under the care of the State of California, it was for many years the policy of its manager to protect the Valley as much as possible from the ravages of fires and to preserve all the young trees from destruction. This constant vigilant care for the preservation of Yosemite has resulted in the whole Valley being overrun with dense thickets of young forest trees, shrubbery and underbrush, and an accumulation of a vast amount of highly combustible material, which in the event of accidental fires, is a fearful menace to the safety of property and the beauty of the landscape scenery... (p. 157)

Galen’s letter demonstrates the relatively short period of time for both the memory and the actual appearance of a landscape to change. Galen’s letter also exemplifies the lack of understanding between management practice, productivity, and appearance, and yet the scenery was the motivating force behind preservation. Linda Greene, in the historic resource study, *Yosemite: The Park and its Resources*, notes that the boundaries

specified to preserve the Mariposa Grove of Giant Sequoia were based on scenic qualities rather than an ecological framework (Greene, 1987).

There were some difficulties from the start. The twin problems of inadequate funding and ill-defined policy made intelligent management of the two units impossible. The California state legislature voted little money for facilities and often neglected to appropriate Galen Clark's \$500 per year salary. When in 1890, a larger encompassing area was set aside as Yosemite National Park, local communities complained bitterly as many new inholdings were created.

In 1891, the U.S. Cavalry was dispatched to protect the newly established Yosemite National Park lands and the two original units of the Yosemite Grant. Early park management problems included dealing with the ranchers outside the park. Cavalry troopers sought to keep livestock out of the new park. Ranchers had been running cattle and sheep there since pioneer days, and now the park was off limits to them. When the first intruders were taken into custody, it was found there were no penalties for the infraction of park rules, so each herder was escorted to a remote section of the park and released; his sheep at the same time were driven out of the park in the opposite direction. By the time the herder located his animals, the losses were as great or greater than if a fine had been imposed. After several years of this practice, the ranchers learned to keep their stock out of the park (Russell, 1947). The troopers left each year in November and returned in May, being replaced during the winter by civilian rangers, such as Galen Clark. By 1914, with the permanent withdrawal of the cavalry, the park rangers or guardians carried on the work of protection.

Yellowstone National Park

The first direct federal involvement in the management of a park in the United States started after the establishment of Yellowstone National Park in 1872. Starting around 1800 and continuing over a period of 70 years, fur traders and other parties noted the unusual beauty of the Yellowstone region. Before a bill could be passed, however, Congress had to be convinced that this area of public domain did not have economic potential (mineral wealth) and therefore could be set aside as a "public park or pleasuring ground" because of its geysers, waterfalls, and canyons. There was no state to turn the land over to in this instance, because the area was in Wyoming Territory. The chief proponents of the park were for the most part residents of the territory of Montana who wanted legislation formed along the lines of the Yosemite Grant. Unfortunately for them, the land lay in Wyoming Territory rather than in Montana Territory and was thus politically out of reach. Also, because California was having difficulty administering the Yosemite Grant, Congress was convinced federal ownership was best for Yellowstone. The bill was similar in many ways to the bill establishing the Yosemite Grant. Beyond the fact of setting the land aside, the legislation left much to be desired.

The area was reserved "from settlement, occupancy, or sale under the laws of the United States, and dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people." The regulations provided "for the preservation from injury or spoilage of all timber, mineral deposits, natural curiosities, or wonders within the said park, and their retention in their natural condition" (S. 392 42nd Congress). The money for management and enforcement needed to protect this area

was completely lacking. Unfortunately, in order to get the park established, a promise had to be made not to ask Congress for an appropriation for several years. Thus, the park was established without funds to protect it (a dilemma that was to become familiar in parks throughout all agency levels); but at least a beginning had been made. Despite its shortcomings, the Yellowstone Act would one day become a matter of great pride for Americans and would, in time, bring international acclaim and respect to the United States for its leadership in establishing the world's first national park.

In order for Yellowstone to gain recognition as an area worthy of park status at a time when exploitation was unquestioned on frontier lands, its splendors were well publicized in newspapers and magazines. Consequently, soon after it was established, visitors began to arrive, although there was no official provision made for them. The scenic wonders and chance to bathe in the hot mineral springs (then thought medically effective for a variety of ailments) drew as many as 500 people a year between 1873 and 1877.

Trappers and hunters, who had been using the area for some time, continued their activities because no management restraints were possible. Hide hunters in one spring killed an estimated 4,000 elk in the vicinity of Mammoth Hot Springs (Haines, 1977). Bison heads, selling for \$300 each, were being collected in the park. Early park visitors, not able to bring all their supplies with them were living off the land by shooting wildlife. Stagecoaches were held up by robbers. Cattle were driven into the park for grazing. Hostile Native Americans were encountered by visitors. Squatters moved into the park to stake claims and take up residence. Soap was poured into the thermal springs to induce eruptions. Anything loose was thrown into the geysers to see how high it would be ejected during the next eruption. Specimens of encrustations from the hot springs were collected for souvenirs. As the Suttons point out, an entire geyser cone was removed and placed on display at the Smithsonian Institution in Washington, D.C. (Sutton & Sutton, 1972).

The first superintendent of Yellowstone, Nathaniel P. Langford, was expected to work without a salary. Without funds, there was no staff, and without a staff, no law enforcement. Mr. Langford was forced to be an absentee administrator, visiting the park only twice during his five years as superintendent. In any case, what could one person do to oversee and protect a mountainous area three times the size of the state of Rhode Island?

Private enterprise provided rough transportation and Spartan quarters, but Langford refused to grant road rights until Congress could be induced to establish concession and entry policies. The vandalism in the hot springs area, as well as the slaughter of the game, drew comment. The publicity thus generated exerted pressure on Congress.

An appropriation of \$10,000 was made in 1877, but to do what? Park personnel had no authority to make an arrest, to punish, or to evict anyone from the park (Sutton & Sutton, 1972). The Interior Department eventually asked Wyoming Territory to administer the area, but this arrangement was short lived. Pressures to build a railroad across the park and to open the park to mining increased. Wildlife and timber were still being removed illegally from the park. Later superintendents abused their office by attempting to obtain land within the park for their own use. The funds that were appropriated could not begin to solve the problems of distance, isolation, and established

use. In desperation, the Secretary of the Interior turned to the Secretary of War for assistance.

The park was finally placed under the protection of the U.S. Army, whose cavalry and engineers successfully managed it from 1885 to 1918, putting an end to the illegal uses of the park. The soldiers were able to enforce the regulations and alter the habits of those who felt free to take what they wanted. “They removed squatters, captured lawbreakers, hunted down poachers, burned illegal dwellings, and confiscated guns and traps.” As noted earlier, Yosemite’s problems with illegal grazing and poaching were cured in the same manner. It took “armed intervention” to establish park management in our first national park.

Yellowstone was the first national park, but it is now generally accepted that the Yosemite Grant played a very strong role in the establishment of Yellowstone National Park. Yosemite’s publicity and fame helped secure public acceptance for later setting aside large areas of federal land for public recreation. We see this in the following account by Russell. Although Yellowstone became the first national park by name, the “. . .concept that there are places of beauty and of scientific interest which individuals or private interests have no right to appropriate onto themselves, began with the establishment of the Yosemite Grant” (Russell, 1964).

Huth (1948) echoed these sentiments when he wrote:

Contrary to the usual assumption, it was not the establishment of Yellowstone but rather the setting apart of the Yosemite which was preeminent in the basic conditioning of opinion. Yosemite is the point of departure from which a new idea began to gain momentum.

The Canadian Experience

Following the reservation of Yosemite as a state park and Yellowstone as a national park, the movement spread rapidly. In 1885, Canada established a 10-square-mile reserve around the hot springs at Banff in Alberta and named it Rocky Mountain National Park (later renamed Banff National Park).

The creation of a scenic recreational area and a wildlife sanctuary at Banff was not envisioned by the Canadian government at that time. Parliament and party leaders saw the hot mineral springs at Banff as a source of revenue, a way to bring passengers onto the Canadian Pacific Railway (CPR). The CPR was deeply involved with the Canadian government in attempting to tie the western lands to the rest of Canada, and there was a strong desire to make the mountain section “pay.” The prospect of a drawing card rivaling the Hot Springs Reserve in Arkansas was welcome in both quarters. The Banff mineral springs, discovered by railway employees, was envisioned as a national sanitarium of “sanitary advantage” to the public for the treatment of rheumatism and other ailments. Traveling to spas was an occupation of the wealthy in North America and Europe, and this area seemed a good location for a CPR hotel. Canada sought a way to keep Canadian tourist dollars at home and perhaps attract some additional income from the United States and abroad.

Although during the debates some mention was made of the spectacular scenery surrounding Banff townsite, the original reserve was only 10 acres, and even this acreage

had to be wrested from the railway employees who had already set up a bath business. The early bathhouse facilities were soon upgraded; hotels were built at several of the hot springs. Unlike the Yellowstone experience, where the concentration of natural wonders and scenery stimulated Congress to set aside a large area to make sure nothing was overlooked, the Banff reserve was originally conceived of as a whistle-stop spa, with the surrounding ranges left out because they might well contain valuable mineral resources. Yellowstone had the advantage of an aura of mystery. Banff was not as remote as Yellowstone; railway survey and construction had already taken place.

In time, as people and governments began to realize what riches the area's scenic and recreational resources represented, most of the Rocky Mountains' upper reaches were designated as Dominion Parks, becoming Jasper, Yoho, Glacier, Mount Revelstoke, Kootenay, and Waterton Lakes. To this day, as in the Rocky Mountain parks of the United States, the absence of supporting lowlands is sorely felt, and the discontinuity of ecological areas presents many management problems, especially with wildlife. Today, Canada has established 38 National Parks and National Park Reserves totaling 222,700.9 area square kilometers across the nation. The most recent park (1996) agreed upon was the Tuktut Nogait in the Northwest Territories. Another 73,552.0 area square kilometers have been set aside to future development.

Townsites within the parks were provided for from the start, thus launching the federal government on an endless sea of troubles as it attempted to regulate the activities of the inhabitants.

Hunting, mining, grazing, and logging were accepted uses well into the 20th century. Canadian officials closely watched the contest in the United States between utilitarian conservationists, represented by Gifford Pinchot, and the aesthetic preservationists, represented by John Muir. Those in power saw Pinchot's ideas as closer to their own. No Canadian equivalent of Muir rose up, and no northern transcendentalism nurtured possessive feelings about wild lands at that juncture. The small numbers of people and the vastness of the land must have seemed protection enough.

Park Expansion

By the turn of the century, there were five national parks in the United States: Yellowstone, Sequoia, General Grant (later incorporated into Kings Canyon), Yosemite (which surrounded the state-controlled Yosemite Grant), and Mount Rainer. Reserves were also being established throughout the world in South America, Africa, and Australia. Most had problems like those encountered in Yellowstone; indeed, most areas of the world still encounter similar difficulties in park establishment and subsequent management.

In the early years of the 20th century, park expansion continued at the federal level in both the United States and Canada. The areas being set aside were, for the most part, large, nationally significant areas possessing features that held interest for people nationwide and even internationally. The U.S. National Park Service, established in 1916, helped establish federal area standards and began the encoding of park management guidelines.

Certainly, the United States government, supported by several citizens' groups, rapidly developed the concept of parks at a national level. George Hartzog, former

director of the National Park Service, ranked the export of this concept very highly (1988):

Perhaps second only to liberty itself, the national park idea is the finest contribution of the United States to world culture. These parklands are more than physical resources. They are the delicate strands of nature and culture that bond generation to generation. They are, moreover, the benchmarks of our heritage by which we may chart a new course of human and corporate behavior in our nation so essential to the society. (p. xvi)

A few states established parks prior to 1900, such as Adirondack and Catskill in New York in 1885, Itaska in Minnesota in 1893, Palisades in New York and New Jersey in 1895, and Greylock in Massachusetts in 1898, with more states following suit by the early part of the 20th century. However, only the wealthier states could participate, and thus park expansion at the national level continued to be important.

Soon after the establishment of the U.S. National Park Service in 1916, there was a flurry of park proposals. States not represented wanted their potential park lands to receive national recognition. Most did not possess the outstanding attractions required for national park status, and to have included them would have lessened the value of the total system. On the other hand, many of the areas did contain features worthy of protection or suitable for inclusion in a state park system. Unfortunately, only about 19 states had state parks at the time.

To stimulate interest in preserving these state-significant areas, Stephen T. Mather, the first director of the National Park Service, convened a group in 1921 in Des Moines, Iowa, known as the National Conference on State Parks (now the National Society for Park Resources), to discuss state park system expansion. Mather envisioned a creation of state recreation areas within each state comparable in purpose to the National Park Service. The idea was well received, and today all 50 states have state park systems under many kinds of administrative structures.

According to the National Association of Park Directors, there are nearly 5,000 individual state park areas containing approximately 24 million acres. These, too, have a variety of names: parks, monuments, natural areas, recreation areas, beaches, parkways, and historical areas. In the United States, there are also many types of state areas in such categories as state forests and wildlife refuges administered by other state agencies. Over the years, some of these areas have been transferred to the state park agency to manage, and some are transferred to the National Park Service.

Canada was actually the first to set up a government organization devoted solely to the management and development of parks through the institution of its Parks Branch in 1911 (Foster, 1978). However, provincial cooperation with federal authorities in the matter of national parks was not fully achieved until 1930. Provinces were jealous of their considerable powers and did not wish to see mineral and water resources within the national park boundaries denied them. Many of the original national parks were created prior to the western territories being granted provincial status. Until 1930, the federal government retained jurisdiction over the natural resources of the railway belt extending from Manitoba through British Columbia and thus was free to create national

parks within this area even after provincial status was established (Nicol, 1968). Just as in the United States, the eastern part of the country, where most of the population was concentrated, lacked proportional national park acreage.

Canadians cannot be accused of being unmindful of the claims of extractive industries, utilities, or business enterprises on their natural resources. Yet lands for provincial parks, admittedly not always well protected from entry for certain national or provincial purposes, were set aside.

Ontario was the first province to develop its own park system with the establishment of Niagara Falls Provincial Park in 1888 and Algonquin Provincial Park in 1893. The rationale for this latter reserve stressed maintenance of the water supply, the desirability of government-regulated logging and wildlife protection, and the potential for hotel and cottage-style vacationing. In 1894, Rondeau Provincial Park was established—a comparatively small area—close to population centers (Morrison, 1979). Until the 1950s, provincial parks were viewed as financial liabilities, and few were established (Nash, 1968). In 1980, Ontario had 127 operational parks, which represented considerable growth over 25 years.

Early Park Managers

A problem facing early park management was a lack of qualified personnel. There were no college-trained people in the beginning years of park management. The early rangers or wardens were adventurous types, often products of the local mining or logging camp, who could survive in isolated areas. Many of these men continued to work winters in the parks during the years the Army was still in charge, as the troops were not always kept there at that season. From this group, there developed a cadre of very dedicated, capable people who undertook the job of protecting the resources from outside exploitation.

Later rangers, wardens, and managers obtained their positions by various means, including political appointments made by local congressmen and other politicians. “Who do you know?” was sometimes more important than “What do you know?” In some agencies, every time there was a change of political administration, there was a change of park personnel from the director down to the stable boy. In time, park employees were hired from civil service rosters, and this aspect of the political spoils system came to a halt, or was at least alleviated. On the other hand, present civil service standards are such that people with no natural resources background can often qualify for park positions.

In the Canadian parks, the regulations as amended in 1909 made provision for the appointment of game guardians. This was the genesis of the Park Warden Service.

The university graduate entering park work today comes into a system that has gone through many years of adjustment. When the first college-trained people vied for park jobs and were successful in landing them, they were looked on as “babes in the woods” and had to prove themselves capable of handling the challenge.

Persons today attempting to rise within the park organization will find it difficult if not impossible to compete with university-trained park managers. The complexities of

the job require a thorough understanding of the principles of managing people having fun. It is no longer enough to simply protect the resource. Today's managers must also provide visitors the opportunity to enjoy themselves without undue hazard and without serious annoyance to other visitors.

Chapter Questions

1. How has the definition of park changed over the years?
2. What are the federal land management agencies in the U.S., and what is their importance?
3. What was an early problem facing park managers? How has this problem been overcome?
4. What are the four categories of ecosystem services as defined by the United Nations in the Millennium Ecosystem Assessment and how can recognition of these services affect park management policy and practice?
5. Describe the differences among federal land management agencies as expressed through their mission statement?
6. How has the historical development of the park influenced park management today?

Useful Websites

<http://www.fs.fed.us/land/staff/LWCF/Final%20DOIUSDA%20Land%20Acquisition%20Report%20to%20Congress.pdf>
<http://www.ecotrust.org/>
<http://www.naspd.org/>
<http://www.nature.nps.gov/stats/abstracts/abst2009.pdf>
<http://corpslakes.usace.army.mil/nrm.cfm>
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